

## RESEARCH ARTICLE

# Burnout and positive suicidal ideation in high school students before university admittance selective examinations

Antonio Fernández-Castillo\*, Nuria Roldán-Molina, Elena V. Vílchez-Fernández

*Department of Developmental and Educational Psychology, Faculty of Education Sciences, Cartuja Campus, University of Granada, 18071 Granada, Spain*

\* **Corresponding author:** Antonio Fernández-Castillo, [afcastil@ugr.es](mailto:afcastil@ugr.es)

## ABSTRACT

**Background:** As in any important exam, selective assessment tests for access to university in Spain are associated with emotional distress, depressive symptoms, and burnout, among other negative aspects in the students who face them. In the present study, we propose to explore the presence of burnout and suicidal ideation in students who take these exams. **Methods:** For this purpose, we worked with a sample of 872 students aged from 17 to 24 of the last course of high school who were going to take the university access evaluation test in Spain. Of them, 476 (55%) were assessed three months before the test, and 390 (45%) were assessed on the days of the examination. **Results:** Our results showed significant levels of burnout in these students as well as positive suicidal ideation. Furthermore, higher levels of burnout are associated with higher levels of suicidal ideation in the participants, having found that the students could present suicidal ideation months before taking the test. **Conclusions:** Our results are novel and highly relevant, bearing in mind that these aspects had not received much attention in our national context, where the selective test is an indispensable requirement for access to university.

**Keywords:** burnout; suicidal thoughts; university access; examinations

## 1. Introduction

Many countries worldwide maintain some system of selective tests or examinations for access to the university, despite the associated controversies and problems<sup>[1-3]</sup>, and Spain is no exception. These tests are usually associated with emotional disorders such as anxiety, depressive symptoms or stress, sustained over long periods and present even months before the test<sup>[4,5]</sup>. These exams are very important because of their implications for the individual, considering that the grade obtained is the main factor that allows not only access to the university but the election of the degree to be studied. This means that the aforementioned emotional disorders are present in students facing these tests, just as they occur in other examinations<sup>[6-10]</sup>.

Academic stress has been considered as a chronic typology of stress that is detected in students with high academic expectations about themselves (self-expectations) or from others such as parents or teachers. They are associated with burnout, similar to other types of stress<sup>[11]</sup>. In fact, burnout has been studied both in university students and other educational levels and has been detected in students preparing their university

### ARTICLE INFO

Received: 20 June 2023 | Accepted: 17 November 2023 | Available online: 12 January 2024

### CITATION

Fernández-Castillo A, Roldán-Molina N, Vílchez-Fernández EV. Burnout and positive suicidal ideation in high school students before university admittance selective examinations. *Environment and Social Psychology* 2024; 9(4): 1833. doi: 10.54517/esp.v9i4.1833

### COPYRIGHT

Copyright © 2024 by author(s). *Environment and Social Psychology* is published by Asia Pacific Academy of Science Pte. Ltd. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<https://creativecommons.org/licenses/by/4.0/>), permitting distribution and reproduction in any medium, provided the original work is cited.

entrance exam<sup>[10,12,13]</sup>.

Burnout has been studied for a long time in work contexts and defined as a state of emotional and physical exhaustion in which feelings of frustration, lack of enthusiasm, reduced productivity or the perception of being exposed to excessive demands are present<sup>[14]</sup>. In 1986, these authors proposed that burnout would be made up of three sets of aspects that would include: (a) emotional and physical fatigue, (b) an attitude of distancing from elements inherent to professional performance, and (c) some level of neglect, reduction of competence and personal commitment and self-confidence<sup>[14,15]</sup>. Faced with this theoretical proposal, other authors have offered alternative one-dimensional conceptualizations<sup>[16]</sup>, in which burnout is considered as a general state of lack of energy or emotional, cognitive and physical exhaustion as a consequence of continuous exposure to stress<sup>[17]</sup>.

The relationship between emotional disorders, stress, and burnout has led different researchers to study the presence of burnout in the educational context, both in teachers and students. In the latter population, the most frequent symptoms include, in addition to the above, psychosomatic symptoms similar to those present in emotional disorders such as sustained stress or anxiety; behavioral symptoms such as absenteeism, procrastination, etc.; and emotional symptoms such as irritability, lack of motivation, low self-esteem or depressive symptoms, among others. All this is an expression of the presence of continued stress and anxiety that could have negative physical and psychological consequences<sup>[18,19]</sup>.

Similarly to work and professional areas, academic burnout is related to continued situations of academic overload and physical, emotional and cognitive exhaustion, lack of personal commitment, low motivation, decrease in academic performance, absenteeism and even dropout from studies and depressive symptoms<sup>[18–23]</sup>. Different studies have related burnout in work contexts to more severe circumstances such as depression and various other mental diagnoses, even suicidal ideation and risk of suicide<sup>[24,25]</sup>.

Suicide is considered a global health problem for both the World Health Organization (WHO) and the national health systems of many countries. Worldwide, about 800,000 people die each year from suicide, which is one person every 40 seconds<sup>[26]</sup>. As regards Spain, suicide is the first external cause of death, reaching 3539 deaths in 2018, (2619 men and 920 women) according to the latest official estimates. This number is almost double that of traffic-accident victims and means that every two and a half hours, a person commits suicide in Spain<sup>[27]</sup>. However, according to other sources, these data could be lower than the real ones<sup>[28]</sup>. According to the WHO<sup>[26]</sup>, for every person who dies by suicide worldwide, there are at least 20 more who attempt suicide, and the number of people who have suicidal ideation is even higher. Some authors have estimated that suicidal ideation could reach about 2.35% in epidemiological samples at any specific time in the past week, or about 10.57% if lifetime suicidal ideation is assessed<sup>[27]</sup>.

Regarding gender differences, although in general (with differences by countries), men have higher rates of consummated suicide than women<sup>[26,27]</sup>, women have higher levels of suicidal ideation<sup>[29]</sup>. In adolescence, some studies have also indicated that girls present higher numbers of suicidal ideation than boys<sup>[30]</sup>.

Suicidal ideation could be considered among the three most important risk factors for death by suicide<sup>[31]</sup>. Some authors have pointed out that young adults and adolescents with previous self-injurious behaviors and thoughts have more than twice the risk of dying from suicide<sup>[32]</sup>. Detecting the presence of these thoughts and knowing how they function is considered essential to develop preventive strategies for suicidal behavior.

Some authors have proposed that suicidal ideation can be understood on a range that goes from passive ideation (i.e., a desire to be dead) to active ideation (i.e., a desire to kill oneself)<sup>[29]</sup>. Other approaches differentiate between negative and positive ideation (a preventive thought or opposite indicator to a previous negative thought)<sup>[33,34]</sup>. Positive suicidal ideation is related to more reasons for living and positive affect<sup>[33]</sup> and

has been associated with a greater perception of psychological well-being and quality of life. Positive suicidal ideation is negatively correlated to pessimistic ideas and thoughts about suicide<sup>[35]</sup>. In fact, it is suggested that more positive thoughts are related to fewer negative thoughts that can threaten it. Along the same lines, it has been found that subjects with a history of suicide attempts obtained low scores for positive thoughts and higher scores for negative suicidal ideation<sup>[33]</sup>.

In the case of the educational context, among others, factors such as low life satisfaction, emotional dysregulation, negative affect, and specifically, anxiety or depression, may be associated with suicide risk in adolescents<sup>[36,37]</sup>. An association between high suicidal ideation and a low level of stress tolerance has also been verified, with a consequential higher risk of real suicide<sup>[38]</sup>.

As regards educational functioning, academic failure and low achievement have been associated with suicide risk and suicidal ideation, as well as a history of school dropout. Therefore, prevention and intervention programs for suicidal behavior and ideation may be effective strategies to reduce these tendencies in educational contexts<sup>[39,40]</sup>.

Some negative aspects of academic functioning such as a possible presence of continued stress or overload, among others, could decrease personal resources, causing dissatisfaction, fatigue, and burnout. If burnout is maintained in students, it could be associated with the onset of disorders, health problems and even suicidal ideation<sup>[41,42]</sup>.

As mentioned, the risk of suicide and depression has also been associated with burnout, both in adults and adolescents<sup>[25,43,44]</sup>, as this syndrome is related to stress and other emotional disorders. Burnout in the educational context could increase the presence of anxiety, depression and suicidal ideation<sup>[11,20,45,46]</sup>.

According to this bibliography, facing the university entrance exam could be considered a special circumstance. In Spain, these students are usually in a situation of emotional distress maintained for months, and the presence of burnout and fatigue has been detected. Hence, the possibility of burnout and suicidal ideation in these students may be real. To date, few studies have investigated the presence of suicidal ideation and burnout and their relationship in the Spanish context.

Therefore, in this work, the following objectives are established. Firstly, to explore the presence of burnout and positive suicidal ideation in last year high school students facing the Spanish university access test, in the entire sample of participants. Secondly, to analyze the association between burnout and positive suicidal ideation in the total sample of participants. Thirdly, to explore differences in positive suicidal ideation by gender taking in mind the entire sample. Fourthly, to detect possible differences in positive suicidal ideation in students who take the exams, differentiating between the situations three months before the test and the levels on the days of the examination. Finally, and fifthly, we propose to determine differential levels in positive suicidal ideation based on students' different levels of burnout in all participants in the study.

## **2. Materials and methods**

### **Study:**

This study was a descriptive, correlational and cross-sectional study.

### **Sample:**

A total of 872 students participated in this study; all of them were students from the last high school course and were about to take the university access evaluation exams. Although this data was not recorded precisely, at least 3% of the subjects who were proposed declined to participate in the study, so the sample was reduced to 872 participants. Their ages ranged from 17 to 24 years ( $M = 17.70$ ,  $SD = 0.90$ ). Concerning gender,

312 were male (35.8%) and 547 were female (62.7%), 3 chose the option “other” (0.3%) and 10 did not report this datum (1.2%). Concerning assessment time, 476 (55%) were evaluated three months before the test, and 390 (45%) were evaluated on the days of the test.

### **Instruments:**

For suicidal ideation assessment, the Spanish version<sup>[35,45]</sup> of the Positive and Negative Suicidal Ideation Inventory was used<sup>[33,34,47]</sup>. This instrument is made up of 14 items, 6 of which (Items 2, 6, 8, 12, 13 and 14) assess positive suicidal ideation or protective factors and 8 (Items 1, 3, 4, 5, 7, 9, 10 and 11) assess negative ideation or risk factors. In our study, only the Positive Ideation subscale was used because it is more indirect, less impactful and can achieve participants’ greater sincerity. This subscale evaluates positive thoughts that protect the individual from ideas about suicide<sup>[35]</sup>. Low levels in this variable are considered as a real presence of suicidal ideation. The five response options range from 0 (never) to 4 (always), which provides a total score ranging from 0 to 24. A higher score implies more positive protective thoughts and lower real suicidal ideation. Regarding psychometric properties, internal consistency was above 0.80 in studies of the original version<sup>[34]</sup>. In our case, where only the Positive subscale was used, Cronbach’s alpha was = 0.73.

For student burnout assessment, the Spanish population-adapted version developed by Fernández-Castillo et al.<sup>[13]</sup> of the one-dimensional scale of student burnout was used<sup>[17,48]</sup>. The instrument provides a unidimensional assessment of burnout. A higher score indicates a higher level of emotional, physical and cognitive exhaustion concerning the studies being carried out (i.e., the university entrance test). The scale is made up of 15 items with four response options ranging from 1 to 4 (never, sometimes, almost always and always). If the full scale is completed, the total score ranges from 15 to 60. The instrument has an evaluative scale which transforms the respondent’s general score into a percentage to determine the level of burnout. Thus, a percentage between 0 and 25% implies no burnout, from 26% to 50% a slight level of burnout, from 51% to 75% a moderate level of burnout, from 76% to 100% a high level of burnout<sup>[48]</sup>. Regarding psychometric properties, internal consistency was .91 in studies of the original version<sup>[17]</sup>. In our case Cronbach’s alpha was = 0.87.

Participants also reported their age and gender.

### **Procedure:**

Data were collected at two times, three months before the university entrance exams (last two weeks of March) or during the days of the tests (about the middle of June). The subjects of the two assessment times were different.

In the first case, the researchers visited different high schools in the city of Granada. In these high schools, the corresponding principals had previously been asked to authorize the participation of students who were in their last year of high school. In their classrooms, participants were informed about the general objectives of the study and the voluntariness and anonymity of their participation. The assessment questionnaires were then completed by the groups, in the presence of the teacher and one of the researchers.

In the second situation, the researchers went to three of the venues where the university access evaluation tests were carried out. The researchers asked students to participate in the study as they left the exams during the breaks. These participants were also informed about the general objectives of the study and the voluntariness and anonymity of their participation. The questionnaires were completed on the street but in the presence of researchers who could supervise the process.

In both cases, the participants were asked to answer taking into account their future or the current completion of the university entrance exam and to try not to leave any questions unanswered. The data were

entered into a database for further analysis. The questionnaires contained no personal data that could allow the identification of the participants.

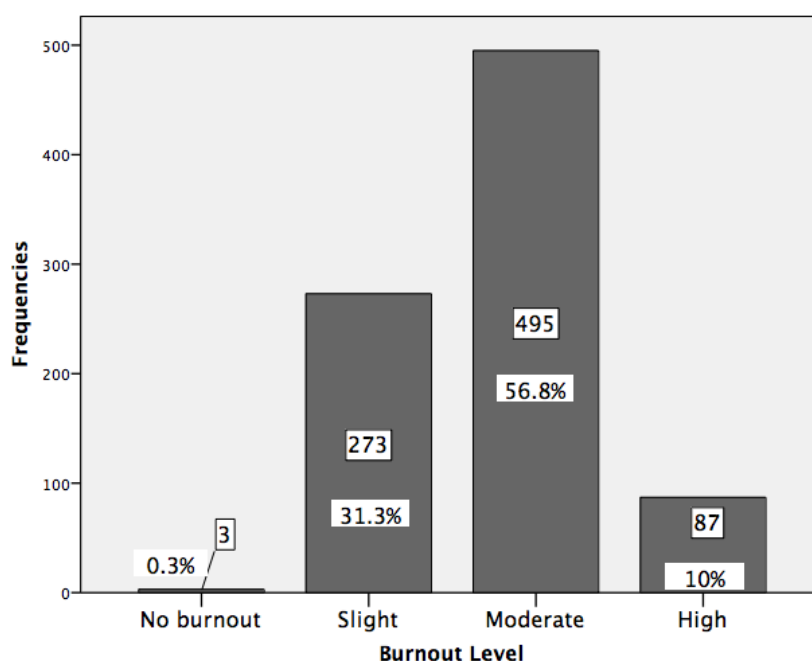
**Data analysis:**

Data analysis included frequency and other descriptive analyses, Pearson’s bivariate correlation analysis, mean comparisons (specifically T-tests and univariate ANOVA), and tests of minimal significant differences (MSD). These tests were carried out with the SPSS statistical software (version 24), and all of them had a significance level of  $p < 0.05$ .

**3. Results**

The first objective of this study was to explore the presence of burnout and positive suicidal ideation in last-course high school students facing the university access evaluation test.

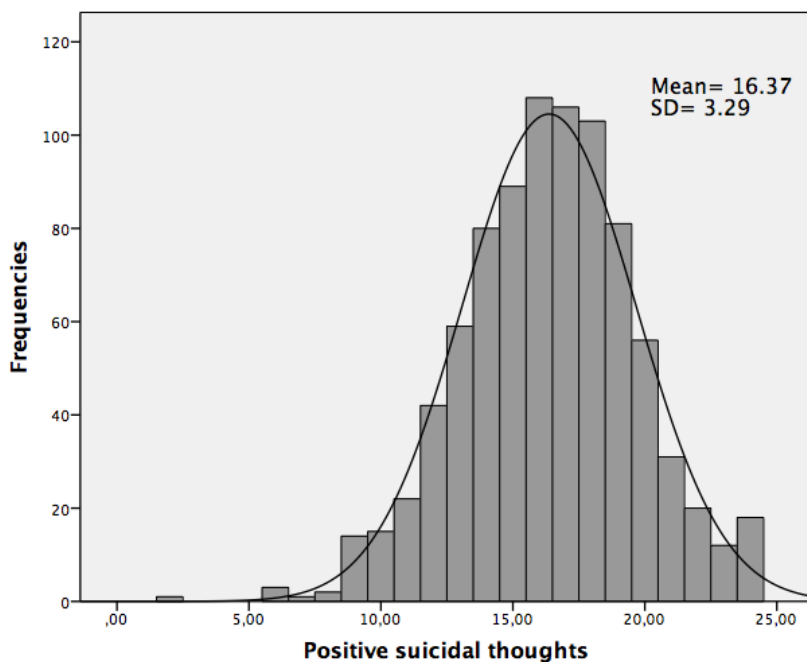
The mean burnout score was 34.75 (SD = 8), median = 34, with a range of scores of 15–60. The descriptive distribution of the scale is shown in **Figure 1**.



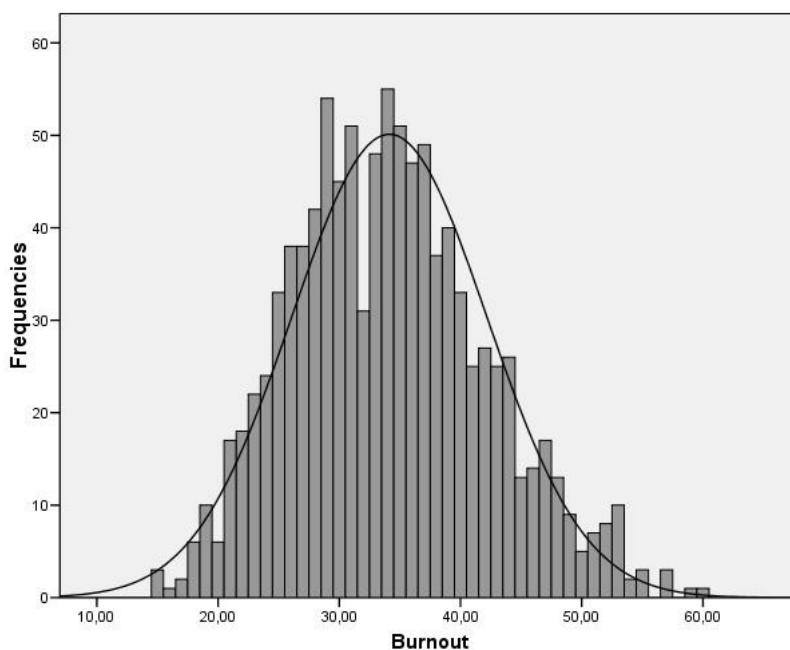
**Figure 1.** Burnout frequencies and percentages according to burnout levels.

The data indicate that 66.8% ( $n = 582$ ) of the students show a burnout level between moderate and high.

The mean score of positive suicidal ideation was 16.37 (SD = 3.29) median = 16 and the range of scores was 2–24. The distribution of positive suicidal ideation is shown in **Figure 2** and the distribution of burnout in **Figure 3**.

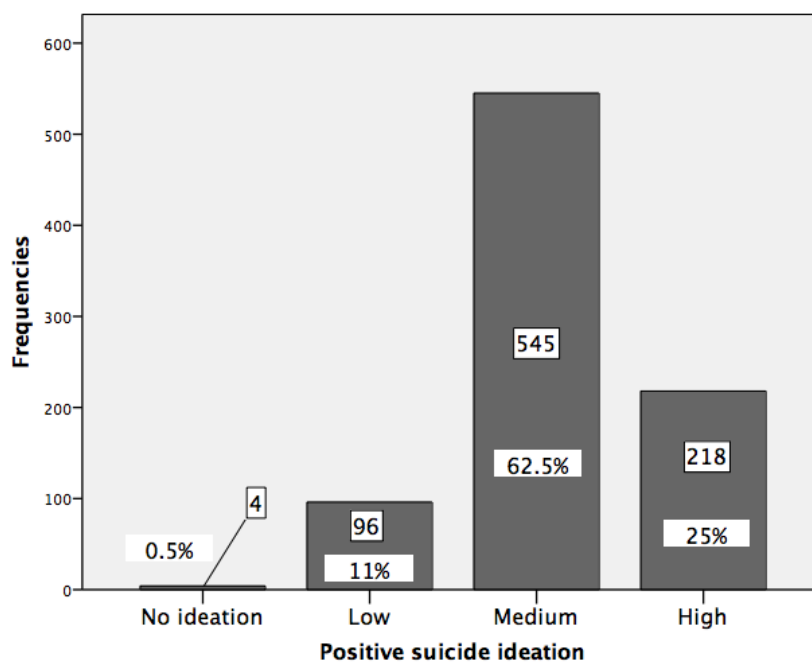


**Figure 2.** Distribution of positive suicidal ideation scores in the sample.



**Figure 3.** Distribution of burnout scores in the sample.

To establish groups according to the level (i.e., direct score) of positive suicidal ideation and the possible range of scores (0–24), four groups were created. Thus, scores above 18 were considered high positive suicidal ideation; scores between 12 and 18 were considered medium ideation; scores between 6 and 12 were classified as low ideation; and finally, scores below 6 were considered very low or non-existent positive suicidal ideation. The frequencies and percentages obtained are shown in **Figure 4**.



**Figure 4.** Positive suicidal ideation frequencies and percentages according to levels.

The trend in our results was for the students to be located at medium or high levels of positive ideation. The sum of participants located at these two levels was 763 (87.5%), whereas 100 (11.5%) participants had low or non-existent levels.

Second, we had planned to analyze the association between burnout and positive suicidal ideation in the sample. The correlation between the two variables reached a significant value of  $-0.31$  ( $p = 0.000$ ). This result indicates that higher levels of burnout are associated with lower levels of positive protective ideas against suicide.

The third goal of this work was to explore a possible difference in positive suicidal ideation according to gender. For this purpose, a mean comparison  $t$ -test was carried out.

The result showed that the difference was significant,  $t = 2.21$  ( $p = 0.03$ ), with the level of positive suicidal ideation being higher in males ( $n = 312$ , 36.3%,  $M = 16.72$ ) than in females ( $n = 547$ , 63.7%,  $M = 16.21$ ). In this comparison, the students who had marked the option “other” in gender were not taken into account because their number ( $n = 3$ ) was not statistically significant for our goal. Obviously, those who did not report this information, which were 10 participants, were not considered in the analysis either.

The fourth goal was to detect possible differences in positive suicidal ideation in the students who face the tests, differentiating between the levels three months before the exams and on the days of the exams.

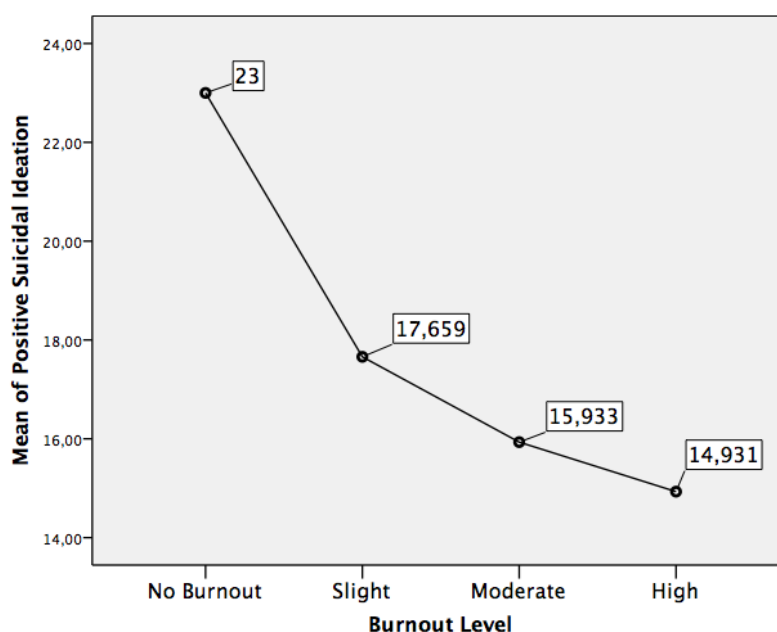
Again a mean comparison  $t$ -test was carried out. In this case, the result yielded no significant differences ( $t = 0.23$ ,  $p = 0.82$ ) between the students who were evaluated three months before ( $n = 476$ ,  $M = 16.42$ ) and those who were taking the test ( $n = 385$ ,  $M = 16.37$ ).

Finally, the fifth goal was to determine differences in positive suicidal ideation based on different levels of burnout in the subjects. For this purpose, a mean comparison test (univariate ANOVA) with MSD contrast was carried out. The result indicated that the differences in positive suicidal ideation based on different levels of burnout were significant,  $F(3, 850) = 27.92$ ,  $p = 0.000$  (see **Table 1**).

**Table 1.** MSD comparison test in positive suicidal ideation according to burnout levels.

(I) Burnout level	(J) Burnout level	Mean differences (I-J)	Sig.
No burnout	Slight	5.34	0.016
	Moderate	7.07	0.001
	High	8.07	0.000
Slight	Moderate	1.73	0.000
	High	2.73	0.000
Moderate	High	1.00	0.006

The means of positive suicidal ideation for each group according to burnout levels are shown in **Figure 5**.



**Figure 5.** Means in positive suicidal ideation according to burnout level.

The results indicate that higher levels of burnout are associated with lower levels of positive suicidal ideation. The group of students who expressed moderate and high levels of burnout reached the lowest levels in positive ideation.

## 4. Discussion

In this research, we aimed to address the study of some psychological aspects that may be present in students facing the evaluation test for access to university in Spain. To date, there had not been much evidence on this issue. Specifically and in the first place, we wanted to explore the presence of burnout and suicidal ideation in these students. Our results indicate, on the one hand, that the level of burnout concerning the university access test is quite high, with more than half of the students showing high levels. We also found that the percentage of students who have no burnout is practically irrelevant. This result is in line with other studies that had reported the presence of burnout in these students concerning other types of exams as well as in other educational contexts subjected to great demands and stress<sup>[10,13]</sup>.

Positive suicidal ideation is an indirect indicator of suicidal thoughts, and the vast majority of the participants in this study showed high levels of positive ideation. However, a relevant percentage (11.5%) showed low levels, which correlates with real suicidal ideation. This percentage is high when compared with



that obtained in other studies that had estimated about 2.35% of suicidal ideation in epidemiological samples at a specific evaluation time<sup>[28]</sup>. However, this comparison must be taken with caution, given the differences in the respective populations, and could be the subject of further study in future research. In any case, this result was not surprising, given the previous evidence indicating that suicidal ideation is present in adolescents and students undergoing circumstances of emotional dysregulation and distress<sup>[36,37]</sup>. It was surprising that 100 (11.5%) students either had no positive suicidal ideation or their levels were low, therefore presenting a real risk of suicidal ideation.

Our results also indicate that higher levels of burnout are associated with lower levels of positive suicidal ideation. This result suggests that students who present higher levels of emotional, cognitive and physical fatigue due to the selective test also express higher indirect levels of suicidal ideation. Other previous studies have already verified the relationship between burnout and thoughts about suicide<sup>[24,25,41,42]</sup>, although very few studies focus on students who are taking the selective exams for university entrance in Spain.

Regarding gender and our third objective, positive and protective suicide ideation was higher in males than in females. This places women at a higher risk by having lower levels of positive or protective ideation. This is in line with sources indicating that, although the level of real suicides is higher in men than in women in most countries, including Spain<sup>[26,27]</sup>, suicide ideation seems to be higher in women than in men<sup>[29,30]</sup>.

In our fourth objective, we aimed to explore a developmental approach to the presence of positive suicidal ideation. Our data yielded no differences in this variable when comparing the situation three months before the test with the levels existing during the test dates. This result also indicates that, as of three months before the exam, students already show a persistent pattern of distress. This pattern could be accompanied by altered mood and emotional disorders that future research could study in depth.

Finally, we explored more specifically a possible variation in positive suicidal ideation, as a function of the burnout levels in the sample. Our results indicate that the groups of subjects with higher levels of burnout or exhaustion associated with the university entrance test are less protected from suicidal ideation, presenting lower levels in its positive or protective expression. We remind readers that positive ideation against suicide is related to positive affect and more reasons for living<sup>[47]</sup>. It has also been associated with a greater perception of psychological well-being and quality of life and has a negative correlation with pessimistic ideas and real thoughts about suicide<sup>[35]</sup>. These positive aspects could be eroded by the burnout associated with the selective university entrance examinations. Previous studies with other samples had already reported a relationship between higher burnout and more suicidal ideation, as well as a greater real risk of suicide<sup>[25,43,44]</sup>. Our results support the idea that burnout in students could be associated with emotional distress and suicidal ideation, and suggest that more positive thoughts that affirm life will be associated with fewer negative thoughts that can threaten it<sup>[11,19,33]</sup>. According to previous evidence<sup>[4,13]</sup>, burnout has been associated with the presence of stress and overload during academic activity, as well as with other psychological and personality factors, a feeling of lack of personal commitment, the tendency to depersonalization and the presence of emotional exhaustion. This is why both attitudinal and behavioral aspects in coping with anxiety and burnout can be considered relevant variables to explain emotional disturbance and suicidal ideation in this population.

All these results and explanatory proposals deserve more attention from future research, which could study suicidal ideation with alternative, more direct and precise instruments, thus examining in greater detail all these relationships in these students. A more direct evaluation instrument would allow contrasting our results, although, in our case, the Positive Suicidal Ideation Inventory was used precisely because it is more indirect, less impactful and can achieve participants' greater sincerity. This subscale has been used in isolation in previous studies in which not only have interesting results been obtained, but the instrument has shown

excellent reliability and validity properties<sup>[49]</sup>.

A possible limitation of our study lies in the sample, which, although sufficient to achieve the proposed objectives, does not allow us to generalize our results to the Spanish population. Considering the large number of students who take the university entrance exam every year, it would be interesting if future studies could have broader and more representative samples of the population. It would have been interesting to determine the origin of the students, differentiating between public and private educational centers. This variable may be of interest to be taken into account in future studies. An additional aspect on which future research can focus is whether a mild or transitory level of burnout could be explained by more behavioral indicators, while perhaps a high degree of burnout could be associated with more stable personality indicators.

Our results are novel and of high interest, bearing in mind that these aspects had not received much attention in our national context, where the selective test is a requirement for access to the public university. Moreover, the grade obtained in this test is one of the fundamental criteria that allow students to choose the degree they will study and, ultimately, determine their professional future.

These students dedicate at least an entire course in Spain to take this assessment test, so knowing all these aspects is crucial, considering that suicidal ideation is one of the critical risk factors associated with suicidal behavior<sup>[31]</sup>. Detecting its presence and knowing how and when it operates and the variables with which it is associated is crucial to develop efficient intervention and prevention strategies for suicidal behavior.

## **Author contributions**

Conceptualization, AFC and NRM; methodology, AFC and NRM; software, AFC and NRM; validation, AFC; formal analysis, AFC; investigation, AFC and NRM; resources, AFC and NRM; data curation, NRM and EVVF; writing—original draft preparation, AFC and EVVF; writing—review and editing, AFC; visualization, AFC; supervision, AFC; project administration, AFC; funding acquisition, AFC. All authors have read and agreed to the published version of the manuscript.

## **Institutional review board statement**

All procedures involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. All participants gave informed consent.

## **Informed consent statement**

Informed consent was obtained from all subjects involved in the study.

## **Data availability statement**

The datasets used and analysed during the current study are available from the corresponding author on reasonable request.

## **Acknowledgments**

We would like to thank all the young people participating in this study.

## **Conflict of interest**

The authors declare no conflict of interest.

## References

1. Farley A, Yang HH. Comparison of Chinese Gaokao and Western university undergraduate admission criteria: Australian ATAR as an example. *Higher Education Research & Development* 2020; 1–15. doi: 10.1080/07294360.2019.1684879
2. García-Laborda J. From the Selectividad to the University Entrance Exam: past, present and a not too distant future (Spanish). *Revista de Educación* 2012; 357: 17–27.
3. Johnston R, Manley D, Jones K, et al. University admissions and the prediction of degree performance: an analysis in the light of changes to the English schools' examination system. *Higher Education Quarterly* 2016; 70(1): 24–42. doi: 10.1111/hequ.12067
4. Fernández-Castillo A. State-anxiety and academic burnout regarding university access selective examinations in Spain during and after the COVID-19 lockdown. *Frontiers Psych.* 2021; 12: 621863. doi: 10.3389/fpsyg.2021.621863
5. Unalan PC, Cifcili S, Dinc D, et al. Test anxiety level, social activities and utilization of counselling services among the students who will take the university entrance exam. *Nobel Medicus* 2017; 13(1): 61–69.
6. Fernández-Castillo A. Anxiety during academic assessment tests: influence of sleep quantity and aggressiveness (Spanish). *Salud Mental* 2009; 32: 479–486.
7. Fernández-Castillo A, Caurcel MJ. State test-anxiety, selective attention and concentration in university students. *International Journal of Psychology* 2015; 50(4): 265–271. doi: 10.1002/ijop.12092
8. Fernandez-Castillo A, Caurcel MJ. Self-esteem, hours of sleep and state-anxiety before academic tests. *Rev. Argent. Clin. Psic.* 2019; 28: 348–355. doi: 10.24205/03276716.2017.1039
9. Kitiş A, Bükür N, Ünal A, Şavkın R. Effects of musculoskeletal system problems on quality of life and depression in students preparing for university entrance exam. *The Korean Journal of Pain* 2017; 30(3): 192–196.
10. Yildirim I. Depression, Test Anxiety and Social Support among Turkish Students Preparing for the University Entrance Examination. *Eurasian Journal of Educational Research* 2007; 29: 171–184.
11. Ang RP, Huan VS. Relationship between academic stress and suicidal ideation: Testing for depression as a mediator using multiple regressions. *Child Psychiatry and Human Development* 2006; 37: 133–143. doi: 10.1007/s10578-006-0023-8
12. Fernández-Castillo A, Fernández-Prados MJ. Burnout, resilience and self-esteem in school teaching university students. *Behavioral Sciences* 2022; 12: 422. doi: 10.3390/bs12110422
13. Fernández-Castillo A, Fernández-Prados MJ, Roldán-Molina N. Factorial Structure and Internal Consistency of the Student Burnout Scale in Spanish Youth Population (Spanish). *Revista Iberoamericana de Diagnóstico y Evaluación – e Avaliação Psicológica. RIDEP* 2022; 65(4): 35–45. doi: 10.21865/RIDEP65.4.03
14. Maslach C, Jackson SE. The measurement of experienced burnout. *Journal of Organizational Behavior* 1981; 2(2): 99–113.
15. Maslach C, Schaufeli WB, Leiter MP. Job burnout. *Annual Review of Psychology* 2001; 52: 397–422.
16. Appels A. Job stress, burnout and illness (Spanish). In: Buendía J (editor). *Estrés laboral y salud*. Biblioteca Nueva; 2006. pp. 119–128.
17. Barraza A. Psychometric validation of the unidimensional scale of student burnout (Spanish). *Revista Intercontinental de Psicología y Educación* 2011; 13(2): 51–74.
18. Rosales Y, Rosales FR. University student burnout. Conceptualization and study (Spanish). *Salud Mental* 2013; 36(4): 337–345.
19. Fiorilli C, De Stasio S, Di Chiacchio C, et al. School burnout, depressive symptoms and engagement: Their combined effect on student achievement. *International Journal of Educational Research* 2017; 84: 1–12. doi: 10.1016/j.ijer.2017.04.001
20. Rahmati Z. The study of academic burnout in students with high and low level of self-efficacy. *Procedia-Social and Behavioral Sciences* 2015; 171: 49–55. doi: 10.1016/j.sbspro.2015.01.087
21. Salmela-Aro K, Read S. Study engagement and burnout profiles among Finnish higher education students. *Burnout Research* 2017; 7: 21–28. doi: 10.1016/j.burn.2017.11.001
22. Yang HJ. Factors affecting student burnout and academic achievement in multiple enrolment programs in Taiwan's technical-vocational colleges. *International Journal of Educational Development* 2004; 24: 283–301. doi: 10.1016/j.ijedudev.2003.12.001
23. Eriksson UB, Engström LG, Starring B, Janson S. Insecure social relations at work and long-term sickness absence due to burnout and other mental diagnoses. *Work* 2011; 38: 319–327. doi: 10.3233/WOR-2011-1135
24. Pompili M, Innamorati M, Narciso V, et al. Burnout, hopelessness and suicide risk in medical doctors. *La Clínica Terapéutica* 2010; 161(6): 511–514.
25. World Health Organization. World health statistics 2019: monitoring health for the SDGs, sustainable development goals. Available online: <https://apps.who.int/iris/bitstream/handle/10665/324835/9789241565707-eng.pdf> (accessed on 15 November 2023).

26. Instituto Nacional de Estadística. Deaths by Cause of Death. Year 2018 (Spanish). Available online: [https://www.ine.es/prensa/edcm\\_2018.pdf](https://www.ine.es/prensa/edcm_2018.pdf) (accessed on 19 december 2023).
27. Giner L, Guija JA. Number of suicides in Spain: differences between data from the National Institute of Statistics and those provided by the Institutes of Legal Medicine (Spanish). *Revista de Psiquiatría y Salud Mental* 2014; 7(3): 139–146. doi: 10.1016/j.rpsm.2014.01.002
28. Liu RT, Bettis AH, Burke TA. Characterizing the phenomenology of passive suicidal ideation: a systematic review and meta-analysis of its prevalence, psychiatric comorbidity, correlates, and comparisons with active suicidal ideation. *Psychological Medicine* 2020; 50(3): 367–383. doi: 10.1017/S003329171900391X
29. Krysinska K, Batterham PJ, Christensen H. Differences in the effectiveness of psychosocial interventions for suicidal ideation and behaviour in women and men: a systematic review of randomised controlled trials. *Archives of Suicide Research* 2017; 21(1): 12–32. doi: 10.1080/13811118.2016.1162246
30. Zhang YY, Lei YT, Song Y, et al. Gender differences in suicidal ideation and health-risk behaviors among high school students in Beijing, China. *Journal of Global Health* 2019; 9(1). doi: 10.7189/jogh.09.010604
31. Franklin JC, Ribeiro JD, Fox KR, et al. Risk factors for suicidal thoughts and behaviors: A meta-analysis of 50 years of research. *Psychological Bulletin* 2017; 143: 187–232. doi: 10.1037/bul0000084
32. Castellví P, Lucas-Romero E, Miranda-Mendizábal A, et al. Longitudinal association between self-injurious thoughts and behaviors and suicidal behavior in adolescents and young adults: A systematic review with meta-analysis. *Journal of Affective Disorders* 2017; 215: 37–48. doi: 10.1016/j.jad.2017.03.035
33. Osman A, Gutierrez PM, Jiandani J, et al. A preliminary validation of the Positive and Negative Suicide Ideation (PANSI) Inventory with normal adolescent samples. *Journal of Clinical Psychology* 2003; 59(4): 493–512.
34. Osman A, Gutierrez PM, Kopper BA, et al. The Positive and Negative Suicide Ideation Inventory: Development and validation. *Psychological Reports* 1998; 82: 783–793.
35. Avendaño-Prieto B, Pérez-Prada M, Vianchá-Pinzón M, et al. Psychometric properties of the positive and negative suicidal ideation inventory PANSI (Spanish). *Evaluar* 2018; 18(1): 27–39. doi: 10.35670/1667-4545.v18.n1.19767
36. Fonseca-Pedrero E, Inchausti F, Pérez-Gutiérrez L, et al. Suicidal ideation in a representative sample of Spanish adolescents (Spanish). *Revista de Psiquiatría y Salud Mental* 2018; 11(2): 76–85. doi: 10.1016/j.rpsm.2017.07.004
37. Gómez-Romero MJ, Limonero JT, Toro Trallero J, et al. Relationship between emotional intelligence, negative affect and suicidal risk in young college students (Spanish). *Ansiedad y Estrés* 2018; 24(1): 18–23. doi: 10.1016/j.anyes.2017.10.007
38. Kratovic L, Smith LJ, Vujanovic AA. PTSD Symptoms, Suicidal Ideation, and Suicide Risk in University Students: The Role of Distress Tolerance. *Journal of Aggression, Maltreatment & Trauma* 2020; 1–19. doi: 10.1080/10926771.2019.1709594
39. Castellví P, Miranda-Mendizábal A, Alayo I, et al. Assessing the Relationship Between School Failure and Suicidal Behavior in Adolescents and Young Adults: A Systematic Review and Meta-analysis of Longitudinal Studies. *School Mental Health*; 2020: 1–13. doi: 10.1007/s12310-020-09363-0
40. Soto-Sanz V, Ivorra-González D, Alonso J, et al. Systematic review of adolescent suicide prevention programs in community population (Spanish). *Revista de Psicología Clínica con Niños y Adolescentes* 2019; 6(3): 62–75.
41. Frajerman A, Morvan Y, Krebs MO, et al. Burnout in medical students before residency: a systematic review and meta-analysis. *European Psychiatry* 2019; 55: 36–42. doi: 10.1016/j.eurpsy.2018.08.006
42. Pospos S, Young IT, Downs N, et al. Web-based tools and mobile applications to mitigate burnout, depression, and suicidality among healthcare students and professionals: a systematic review. *Academic Psychiatry* 2018; 42(1): 109–120. doi: 10.1007/s40596-017-0868-0
43. Jiang Y, Perry DK, Hesser JE. Suicide patterns and association with predictors among Rhode Island public high school student: A latent class analysis. *American Journal of Public Health* 2010; 1000: 1701–1707. doi: 10.2105/AJPH.2009.183483
44. Walburg V. Burnout among high school students: A literature review. *Children and Youth Services Review* 2014; 42: 28–33. doi: 10.1016/j.childyouth.2014.03.020
45. Villalobos FH. Validity and reliability of the Positive and Negative Suicidal Ideation Inventory-PANSI, in Colombian students (Spanish). *Universitas Psychologica* 2010; 9(2): 509–520. doi: 10.11144/Javeriana.upsy9-2.vfii
46. Osman A, Barrios FX, Gutierrez PM, et al. The Positive and Negative Suicide Ideation (PANSI) Inventory: Psychometric evaluation with adolescent psychiatric inpatient samples. *Journal of Personality Assessment* 2002; 79(3): 512–530. doi: 10.1207/s15327752jpa7903\_07
47. Barraza A. Unidimensional Student Burnout Scale (Spanish). *Investigación Educativa Duranguense* 2008; 9: 104–106.
48. Rosales Y. Unidimensional study of burnout syndrome in medical students in Holguin (Spanish). *Revista de la Asociación Española de Neuropsiquiatría* 2012; 32(116): 795–803. doi: 10.4321/S0211-57352012000400009
49. Fernández-Castillo A, Roldán-Molina N. Factors associated with suicidal ideation in last-course high school students facing the university entrance test in Spain. in press.