

# Depression, anxiety disorders and socioeconomic factors affecting university students: review

## Abstract

**Introduction:** The period of graduate education demands an adaptive process of the university students, which can lead to interferences in the physical and mental health of this population. Regarding the emotional health of university students, the authors emphasize the vulnerability and the presence of significant emotional symptoms that, if not evidenced, can become harmful to the academic course and also after university. Symptoms related to depression, anxiety and stress have arisen in this population, in a significant matter when compared to those found in the general population.

**Method:** This is a review study about depression, anxiety disorders and socioeconomic factors affecting university students, these psychic and organic symptoms that consist of sadness, lack of concentration, changes in sleep, weight, appetite and, in the most serious cases, which can result in the death wish, and is also associated with other diseases like stress and anxiety.

**Conclusion:** Data released by health-related entities corroborate the importance of discussing this disease that already affects more than 300 million people around the world, being closely linked to the increase in cases of suicide.

**Keywords:** depression, anxiety, university students, suicide

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## Introduction

Studies have been developed focusing on this public, and these studies provide subsidies for the development of other necessary studies about health of university students. Addressing different variables in the health of students is extremely necessary since the deficits are emphasized both in the physical and emotional health care of this public, noting the relevance of expanding research that reflects on the demands and processes of illness. Nowadays, depression has been much discussed in the various scopes, since it is directly related to the psychic life of each individual and their relations with the environment where they are inserted as family, school/academic, although the discussion on the subject has acquired great repercussion in recent years, depression is a disease that has been affecting various social segments since the middle ages, going through different periods.

Studies that investigate the epidemiological characteristics of people attempting or committing suicide have highlighted the importance of association of this act with the variables like gender and depression. As to gender, Dutra<sup>1</sup> points out that in different cultures the characteristics of people committing suicide are similar, among which we can highlight: male, adult and single individuals, with few countries differing from this standard, including India and China, where the occurrences of voluntary death predominate in females. In contrast, suicide attempts are epidemiologically different from suicide not only in Brazil, but also in many other countries, with women committing more attempts in general.<sup>2,3</sup> The highest number of attempts among female adolescents may be related to the higher rate of depression in this group, since the literature indicates that depression plays an important role in suicidal behavior.<sup>4</sup> Women who attempt suicide commonly are young and single, and the attempts usually occur through over-consumption of medications or poisons.<sup>1,5</sup>

Suicide is the second leading cause of death among people aged 15-29.<sup>6</sup> According to the map of the violence of Waiselfisz<sup>7</sup> the number of cases of self-harm increased in Brazil in an alarming way. Statistics show the increase in the number of cases in the 1980s, 1990s and 2012, with rates of 2.7%, 18.8% and 33.3%, respectively. In the interval between 2002 and 2012, a total of suicides were observed in Brazil, from 7,726 to 10,321, which showed an increase of 33.6% in this period. In comparison to the country's population growth, in the same period, the increase in the number of suicides was higher, of 11.1%, surpassing on a large scale the homicides and the mortality in the transport accidents that obtained growth rates of 2.1% and 24.5%, respectively.<sup>7</sup>

The increase in suicide rates among young people does not only occur in Brazil, but also and especially in first world countries. The United States, for example, a country with significant rates of suicide and suicide attempts, has produced relevant studies on this subject. According to research developed by the Suicide Prevention Resource Center-SPRC (2004), among college students aged 20 to 24, suicide is the third leading cause of death, with homicide as second cause. The advisory services of university campuses have detected an increase in demand for this service by students. The data collected show important prevalence of depression and suicidal ideation among students.

Therefore, in this very same country, a consortium of 36 counseling centers detected among students from various universities increased anxiety, fear, eating disorders, alcohol and other drug abuse, anger and hostility among colleagues. The same study found a significant increase in the impact of violence, family dynamics, increased depression and bi-polar disorders. Demographic studies were developed by Silverman et al.<sup>8</sup> on suicides on American university campuses, with undergraduate and graduate students, between 1980

and 1990. The highest number of suicides occurred among students of 20 to 24 years old (46%), among undergraduate students (32%).

A 13-year study was conducted by researchers at Kansas University (1989-2001), among 13,000 students who had searched for counseling. The researchers noted that students suffered from more stress, more anxiety and more depression than a decade ago. Such increase, the researchers say, was dramatic, as suicide statistics tripled.

Other researchers found that stress among students was related to academic performance. Corroborating this view, Kitzrow's<sup>9</sup> studies have shown that "mental health problems have a negative impact on academic performance, permanence, and completion rates" (p.171).

A study of Barrios et al.<sup>10</sup> showed that there is a relationship between suicide, depression and abuse of alcohol and other drugs. The authors found that those students who reported suicidal ideation were more likely to carry weapons, engage in fights, swim drunks, drive drunk, and rarely wear seat belts. All of these studies, in part or in total, resemble the results found in the research conducted in Brazil in relation to the risk factors. It is observed that depression, drug use, among them alcohol, disaggregated families, etc., have a close relationship with the self-destructive behaviors of university students.

Vieira<sup>11</sup> points to a close relationship between depression and suicide, since suicidal behavior can be considered as one of the symptoms of depressive disorder. Suicidal behavior is characterized as the concern, desire or act that aims to generate damage to the subject, and ideas, suicidal ideation (suicidal ideation), suicidal behaviors without death or even the suicides that have been consumed are part of this item. Suicidal ideation has been pointed out as one of the predictors for the risk assessment for suicide itself, and can reach different populations, including the university students.<sup>12,13</sup>

Cavestre & Rocha<sup>14</sup> consider that from 15% to 25% of university students develop some mental disorder during their academic training period, with depression being one of the most prevalent in this population. Dutra<sup>15</sup> also reports that factors such as the transition in this stage of life as the departure of the parents' home for entry into a university, followed by moving to a non-family, family withdrawal, financial difficulties, new interpersonal environment, pressure and concerns about the future, along with academic requirements could act in triggering depressive symptomatology and suicidal ideation and/or suicide attempts.

Brazil is the fourth growing country of suicide cases in Latin America.<sup>6</sup> Of particular concern is the Northern Region, where suicides increased considerably from 390 to 693, an increase of 77.7% between 1980 and 2012, with the states of Amazonas, Roraima, Acre and Tocantins doubling their numbers.

The Pan American Health Organization (PAHO) defines depression as a mental disorder, which presents as a characteristic, permanent sadness, triggering loss of interest for activities that previously would bring pleasure to the same, as well as inability to perform daily activities. These changes when not treated can lead to serious health problems, resulting depending on their intensity, in the death of the individual.

Data recently released by the World Health Organization (WHO),<sup>16</sup> claim that more than 322 million people worldwide are living with depression, which is the main cause of current health problems, in just

one decade there has been a significant increase of more of 18% of the individuals that present some picture related to the state of depression.

Depression has been affecting several social segments, in different age groups, growing considerably among young people. We can highlight the university students, who since their insertion in the academic environment are endowed with collections/overload, as an example of this we can highlight, the pressure to guarantee through the university entrance examination a vacancy to start their student career, and when inserted in this environment are faced with new challenges and are consequently submitted to new charges. Adewuia et al.<sup>17</sup> reveals that about 15 to 25% of the students present some type of psychiatric disorder during graduation.

Given this context, we must emphasize the importance of being attentive to the individuals with depression, as this has become a public health problem, and is worldwide inserted among population, being responsible for alteration and decrease of performance and quality of life, contributing to the increasing cases of suicides among the individuals affected by it. Identifying the student with depression, analyzing the scale, monitoring, providing subsidies that allow them to explore/expose the symptoms that are affecting their quality of life can contribute to the reduction of the mortality rate among young people.

The high prevalence of depressive symptoms, associated with anxiety and stress in students, is of extreme relevance and worrying factor, psychological mobility, not only implies damages in health, but in the performance in the quality of life of the same, and can affect also the family sphere. Too much pressure only reinforces the need for specific monitoring, intervention and prevention for this problem in the university context.

### **Anxiety disorders as a limiting factor for cognition and learning in university students**

Anxiety is a vague and unpleasant feeling of fear, apprehension, characterized by tension or discomfort derived from anticipation of danger, from something unknown or strange.<sup>18,19</sup> Anxiety and fear become recognized as pathological when they are exaggerated, disproportionate to the stimulus, or qualitatively different from what is observed as normal in that age group and interfere with the individual's quality of life, emotional comfort or daily performance.<sup>18</sup> Such exaggerated reactions to anxiogenic stimulus are more commonly developed in individuals with an inherited neurobiological predisposition.<sup>20,21</sup> Ajuriaguera<sup>22</sup> defines anxiety as characterized by a "sense of eminent danger, coupled with an attitude of expectation that causes a more or less profound disturbance" (607). Schaie and Geiwitz defined anxiety as a state of stimulation characterized by vague fear. Drever describes anxiety as a complex and chronic emotional state, where the most important component is apprehension or fear.<sup>23</sup>

The purpose or function of anxiety is likely to facilitate the detection of potential danger or threat. Some anxious individuals may develop a process of hazard detection that makes them highly hypervigilant and highly exaggerated in the threatening events of the environment. In this way, anxiety becomes a dysfunction.<sup>24</sup>

Anxiety is a diffuse, highly unpleasant, often vague sense of apprehension, accompanied by one or more physical sensations (...).<sup>25</sup> According to Melo<sup>26</sup> "the best students are those who develop anxiety attacks more easily" (...) "because they are the ones who

have higher expectations and put more demands on them “Anxiety is an increasingly frequent feeling among higher education students, as the same author justifies” “The university population ... shows a remarkable dose of anxiety under examination.

After identifying the patient's automatic thoughts and dysfunctional beliefs, the cognitive restructuring must take place and enable the application of problem-solving ability. Cognitively reshaping thoughts and beliefs means, in the case of anxiety disorder, questioning thoughts, seeking evidence for and against evaluations and interpretations of events, of reality. Furthermore, it is necessary to identify the cognitive errors characteristic of anxious patients, such as catastrophizing, mental reading and generalization, and modifying them.<sup>27</sup>

According to Nunes & Giraffa<sup>28</sup> the human cognitive process refers to the study of human information processing, that is, the study of how humans perceive, process, encode, store, retrieve and use information. Human cognitive structure includes three memory systems: sensory memory, short-term memory, and long-term memory, which work together.

Cognition involves individual and distributed cognitive mechanisms inherent in collaborative activities involving perception, attention, memory, language and reasoning, activities whose origins are cultural.<sup>29</sup> According to Sweller<sup>30</sup> learning occurs better when the information process is aligned with the human cognitive process, that is, when the amount of information offered to the student is compatible with the human comprehension capacity. Thus the Cognitive Load Theory, is based on the natural impossibility of the human being to process many information in memory at each moment.

Patients with generalized anxiety disorder appear to exhibit full ability to solve the most common problems. Their difficulties seem to arise from the high levels of excitement (alertness) and anxiety, which end up harming their ability to reason, as well as generating elusiveness, hindering, distancing or procrastinating the solutions of the problems faced.<sup>31</sup>

### **Anxiety disorders related to digital technologies and the effects on cognition**

Teenagers lead the ranking of cell phone and internet usage. According to data from the Brazilian Institute of Geography and Statistics (IBGE), in its last census conducted in 2010, and the Internet Management Committee in Brazil (CGI.Br), in 2014, it was noted that in a set of 34.1 millions of people, between 10 and 19 years old, about 81% access the internet every day. This shows how much the internet is inserted in Brazilian homes and their power of persuasion.

Data from the Internet Steering Committee in Brazil - CGI.Br<sup>21</sup> - indicate that the frequency of use of internet by adolescents for certain activities, such as the exchange of instant messages, for example, is much higher than the use for school searches and the daily use of technology, especially the internet, is much more frequent for instant messaging (75%) and interaction in social networks (56%), via cell phone and computer applications, and school research is on fifth position (21%).

These results evidence that excessive use of these technologies is a worrying factor for cognitive development of adolescents, because it may have consequences, such as social isolation, lack of interest

in studies and anxiety,<sup>32</sup> and influence development changing their cognition.

Hoogeveen<sup>33</sup> states that this potential of digital technology is directly linked to its ability to excite the individual and to stimulate the auditory, visual and emotional systems, which alters their cognitive ability, both beneficial and malefically, depending on the form and intensity with which it is used. Several studies show that regular internet users have increased activity in the pre-frontal regions of the brain involved in decision-making and problem-solving. If this activity continues, as is customary, the user spends the time evaluating connections and making choices, while processing the impact and importance of each new image, video, or banner that appears on the screen. As a result, brain activity is maintained at such a superficial level that it prevents the retention of information. By constantly holding on to the executive functions of the cerebral cortex, cognitive overload appears: information passes in front of our eyes, but is not maintained.<sup>34</sup>

The power that digital technologies exert over adolescents affects their cognition due to the fact that audiovisual and emotional stimuli are at their maximum activity. The large amount of data received by the brain, in the form of text, images and videos, can cause the working memory to become saturated and there is a cognitive overload. According to Cánovas<sup>34</sup> at no time, the brain is allowed to activate its long-term memory. The result is that information does not generate knowledge.

The use of technology indiscriminately by adolescents causes the cognitive imbalance of being. Thus, it potentiates attention disorders, obsessive disorders, anxiety disorders and problems with language and communication, which directly affect learning.<sup>35</sup> According to Rossi<sup>36</sup> while technology makes our life easier, it creates extreme pressure in terms of immediacy, speed of information, and pressure on people. For Vieira Júnior<sup>37</sup> and Perucci<sup>38</sup> “anxiety itself, in fact, in a certain strand, has to do with the impossibility of accessing what one wants”.<sup>38</sup> The person is not anxious when he is moving his cell phone, but when he is in traffic or in the movies. Like any dependency, anxiety does not set when the path of use is unimpeded, that is, the person does not become anxious when using digital technologies, but when they are prevented from using them.

We are not able to deal with the variety of technologies that surround us. Be it in the cinema, theater, office or in traffic, at any time, we are using notebook, tablet, smartphone etc. Such overuse can lead to anxiety disorder and lead to addiction. According to Young & Abreu<sup>32</sup> the problem of excessive use of the internet is relatively new, but has been drawing attention due to the implications it causes in adolescents.

The American Psychological Association has included game and internet addiction in the DSM-VVII appendix, which increases the clinical legitimacy of the disorder and favors scientific understanding of the nature of this dependency.

According to Moraes et al.<sup>39</sup> the first to use the term internet dependence was Goldberg, in 1995, who defined it as a compulsive and pathological diagnostic category. Based on the DSM-V, eight criteria were developed to diagnose internet addiction, namely: excessive preoccupation with the internet, need to increase online time, presence of irritability and / or depression, repeated efforts to



decrease the time of internet use, when internet use is reduced presents emotional liability, stay more connected than scheduled, work and social relationships at risk from overuse and lying to others regarding amount of hours online.<sup>32</sup>

### The social and economic factors faced by university students in Brazil

For Tinto (1975), the individual characteristics of the student when entering the university are factors that reflect the uniqueness of the experience by each student, providing different ways of staying or evasion, and involve:

- a. **Family background:** school, socioeconomic status, values, origin, expectations and support characteristics;
- b. **Individual attributes:** gender, ethnicity, age, abilities, skills, interaction capacity, personality characteristics;
- c. **Previous schooling:** academic performance, previous educational experience, academic and social experiences, as well as providing capacity characteristics, they affect students' perception of their own competence and expectations for the future, which will reflect their commitment to goal to graduate;
- d. **Commitment to the institution and with the objective of graduating:** individual intentions and perception of the possibility of fulfilling its purpose by the institution. These characteristics are influenced by the interaction between individual, family and previous educational experiences. What the author calls "institutional commitment" are important predictors of avoidance, as they consider the student's assessment, frustrations, and satisfactions with academic life and with himself.

### The causes for dropout of university students

The distribution of college education institutions by administrative category is similar to that observed in 2006, with 89% of private institutions and 11% of public institutions, divided between federal (4.6%), state (3.6%) and municipal (2.7%). It is important to point out that these data contain all universities that offer class room and distance courses.<sup>40</sup>

The results of the 2007 Census registered 1,341,987 idle vacancies, 1,311,218 of them in private institutions, and the lowest idle vacancy rate was found in federal institutions, with a total of 3,400.<sup>40</sup> The Lobo Institute for the Development of Education, Science and Technology conducted a study which concluded that the average annual rate of evasion in Brazilian college education in the period mentioned above was 22%, with low oscillation. The annual drop is higher in private universities, whose average rate in the period was 26% versus 12% of public ones.<sup>41</sup>

Based on researches on evasion on graduate education, it can be said that this phenomenon is associated with different aspects, such as factors related to the individual characteristics of the student, internal factors and external to the institutions.<sup>40</sup> Furthermore, some authors point out that, if, on one hand, evasion comes from a student's decision, based on personal motives, on the other hand, it can result from a union of academic, socioeconomic and personal factors, in this case, it is a exclusion rather than evasion. Meaning that it is the institutional conditions (curriculum composition, teachers, HEI organization) that can act as the main factors responsible for the phenomenon, that is, the exclusion of the student from the university.<sup>42</sup>

Several factors influence the degrees of commitment that the student presents in the involvement with the university. Tinto states that two types of commitments are present in the life of the student, namely: commitment to graduate (plans and expectations that the student has to finish his studies in order to obtain a higher education diploma) and commitment (the student's commitment to a particular institution in which he or she assesses the specific characteristics of the institution, whether public or private, location, values, missions, etc.).

The concept of evasion adopted by the Ministry of Education is "the definitive departure of the course of origin without completion, or the difference between the new students and graduates, after a complete generation".<sup>40</sup>

For Schargel & Smink<sup>43</sup> the causes for evasion are related to poor academic performance, poverty, ethnicity, limitation in some disciplines, pregnancy, tracing and geographical location and, therefore, were classified into five categories: psychological (immaturity), sociological (not an isolated fact), organizational (physical structure, location, monthly, teachers, teaching methodology, etc.), international (student behavior and adaptation to university life) and economic, benefit and cost of the course).

The evasion is related to several factors, divided in internal and external. The internal factors are linked to the course, and can be classified in: infrastructure, faculty and socio-educational assistance. External factors are related to the student, such as: vocation, socioeconomic aspects and personal problems.<sup>44</sup>

The transition to the University places great emphasis on students' problems, contributing to the development of strong links with higher levels of anxiety and stress. There is a great variety of problems that students develop at this stage of their lives. First are personal problems like homesickness, loneliness, shyness, limitations in social skills and decision making, sexuality, emotional disturbances. Second are the academic problems, such as difficulties in relationship with teachers and colleagues, study skills, school performance, failure in exams, anxiety and stress in evaluation situation, etc. Third are the financial and management problems of the household with greater emphasis on accommodation and eating habits and problems related to safety.<sup>45</sup>

The living place is a factor that influences the development or not of homesickness. As we anticipated in the initial hypothesis, students who live far from their usual address to study tend to be homesick and often seek out break spaces to return home, which demonstrates some tendency to isolate the group of academic peers and for the removal of extracurricular activities from the university field. This is partly because of personal, personality and / or family issues, but also because of institutional issues such as the low attractiveness of the activities and the training opportunities offered by this field.

These difficulties of adaptation may exceed the emotional management capacity of the student's anxiety, which, reaching pathological levels, leads students with good cognitive ability to obtain very weak academic results and to develop serious psychological problems to the extent of failure.<sup>46-48</sup> Many students have to move to a city where the university is located. In this case, the difficulties to face rent and food expenses cause some to give up the course.<sup>49</sup> Some academics give up because they cannot afford transport, others do not have time for routine travel.<sup>49</sup>

Students with greater socioeconomic needs experience difficulties

in staying in university when there are no assistance programs that also depend on infrastructure offered by the institution, such as: housing, university restaurant, computer rooms with internet access, day care, etc.<sup>50,51</sup> The majority of students who enroll in higher education make their professional choice at a very early age. Research indicates a high dropout rate because of the immature professional decisions made by young people who make their choices based on minimal information, usually distorted and idealized about the course.<sup>52,53</sup> Official data from MEC / INEP (2009) show that, in general, the main reason for evasion is the difficulty of academics in reconciling study and work. Many end up opting for the work that guarantees them survival.<sup>54-60</sup>

## Conclusion

As stated earlier, there is a large dropout of university students in the country, and therefore we still have a high rate of unskilled workers in the labor market. Many point out that the main difficulty for young people to attend and finish college is the financial factor, few places in public universities and few financial resources to have a private university.<sup>61-72</sup> Other studies point to the psychological factor. Many students entering college education go through periods of turbulence inherent of transition from adolescence to adulthood. Thus, many develop problems such as anxiety, depression, eating disorders, drug abuse or even commit suicide. Our young people are becoming ill, and few actions are taken by the state, parents and educators.<sup>73-80</sup>

Kitzrow<sup>9</sup> argues that mental health problems have a negative impact on the academic performance and permanence of students in college education institutions.

With this we have several factors (related or not) to the university student that can interfere in their adherence and performance during the academic period.

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## Conflicts of interest

The authors declare there is no conflict of interest.

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