



## Relationship between Academic Stress, Nutritional Status and Dietary Behavior Patterns in Secondary School Students

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### Abstract

Stress is considered one of the predisposing public health problems today, which does not involve or stipulate any distinction such as: race, age, sex or social stratum; On the contrary, this is a condition that experiences or is imputable in the individual, given mainly in the adolescent.

Therefore, we can define that stress occurs when the person is under some extreme pressure or the interaction of the subject in reference to the environment in which he is involved, this is coadjuvant or disturbing in his emotional balance, in this distinction is centralized in the conditions of the academic environment.

On this situation, we have to establish that adolescents in an age range ranging from 12 to 15 years (age range of the secondary school stage in Mexico), are the population that presents a greater vulnerability in progressive changes in psychological, cognitive and physiological health due to the characteristics of age development.

Therefore, stress in adolescents is one of the main causal factors of the development of eating problems and how they affect the nutritional status that, subsequently, influence unhealthy lifestyles and poor health.

Based on the exposure presented above, high school students end up being the result of the extrinsic stimuli that generate the reactivation of alteration of biological processes. (Physiological, behavioral, cognitive).

Thus, the present study is based on the analysis and determination of the association of academic stress as the main factor responsible for triggering the increase in the consumption of foods with high energy density, as a response to this, favoring the alteration and imbalance of the nutritional status of adolescents in secondary education.

**Keywords:** Stress; Academic Stress; Eating Behavior; Nutritional Status

### Introduction

Nowadays people have a very accelerated lifestyle, influenced by a globalized society, this has become more competitive and demanding, which is why people's health is affected due to several factors, such as stress and poor diet.

Stress today can diversify into multiple branches. One of them is known as academic stress, where the protagonists are the students, the entrance of the university implies being faced with demands and challenges that will demand a significant amount of time, adding to a physical and psychological exhaustion. This par-

ticular situation can generate situations of fatigue, little interest in the face of new demands, experiencing various states of nervousness, and even a possible lack of control in the face of the stressful situation.

The denomination of stress today can be categorized into multiple variants, one of these can be called "academic stress", where the protagonists are the students [1]. In this way, the students of the secondary stage present transversal changes in their stage of life which implies facing demands and challenges that will demand a significant amount of time, adding to a physical and psychological

exhaustion. This particular situation can generate situations of fatigue, little interest in the face of new demands, experience various states of nervousness, and even a possible lack of control in the face of the stressful situation.

During adolescence there are various changes and situations at school that cause stress in students, these stressful situations can imply a deterioration of their eating habits and lead them to establish dietary guidelines that they will maintain for the rest of their lives [2].

Eating habits guided by emotions, leads to consume food in response to these, especially negative ones, when resorting to food when stressed, usually makes people lean towards foods with high caloric content [3].

Among the eating habits frequently found in adolescent students is the omission of meal times, the increase in consumption of fast food rich in calories, fat and sugars, accompanied by consumption of beverages with high caloric value [2].

This type of diet can have harmful effects on health. Some people who suffer from stress tend to eat foods high in fat, sugar, salt and calories becoming an excessive consumption of these. This results not only in the development of overweight and obesity but also the risk of suffering from various pathologies such as hypercholesterolemia, hypertension, hypertriglyceridemia, cardiovascular diseases, muscle problems, increased risk of certain types of cancer, respiratory problems, diabetes, insomnia, among others [4].

### Academic stress and adolescence

For the World Health Organization (WHO), it stipulates that the oscillation of adolescence is the stage that elapses between the defined 11 and 19 years. Being this stage of human transition, there are changes in physiological aspects, eating habits and changes in psychological and personality profile [5].

In this sense, we can define that adolescents are a vulnerable population group that may suffer from stress problems related mainly to academic obligations and their duties; already with the specific tasks of age, social life, eating habits and especially in competent study activities, regarding exams, schedules, responsibility, waiting for grades or uncertainty of their future, etc.

It is necessary to mention that the behavioral patterns of adolescents are comparative to those developed by adults being thus, that the representativeness of stress levels is in adolescence. Giving with it the formation of fundamental pillars for the development of personality and emotional and behavioral independence.

Stress in adolescence not only influences the difficulty of coping with stressful situations or generates emotional problems, but it is the main causal factor of the progress of problems in children. Adolescent eating habits, nutritional status and lifestyle [6].

Stress has a biobehavioral mechanism, that is, there is a close relationship between behavior and the biological processes of the individual; giving way to the promotion of obese or lean eating behaviors and, ultimately, malnutrition. Therefore, it can be established that stress is associated with increased overweight and obesity, and inadequate eating habits in adolescents [7].

The combination of these variables of stress and eating behavior, can trigger indicators of eating disorders, since it also plays an important role, because the index of these is increasing day by day, so that it worries society more and more. Therefore, it is necessary to know the relationship of stress and eating disorders, in order to know how these problems affect adolescents.

Changes in eating habits in adolescents, specifically in the stage of secondary schooling; It is a school context known for the vulnerability in the transitional change of this population group since from the nutritional point of view they tend to develop an incidence of food characterization as: omission of meals, consumption of foods with high caloric intake and inclusion of drug addiction such as alcohol and even the introduction of restrictive diet practices driven by false advertising.

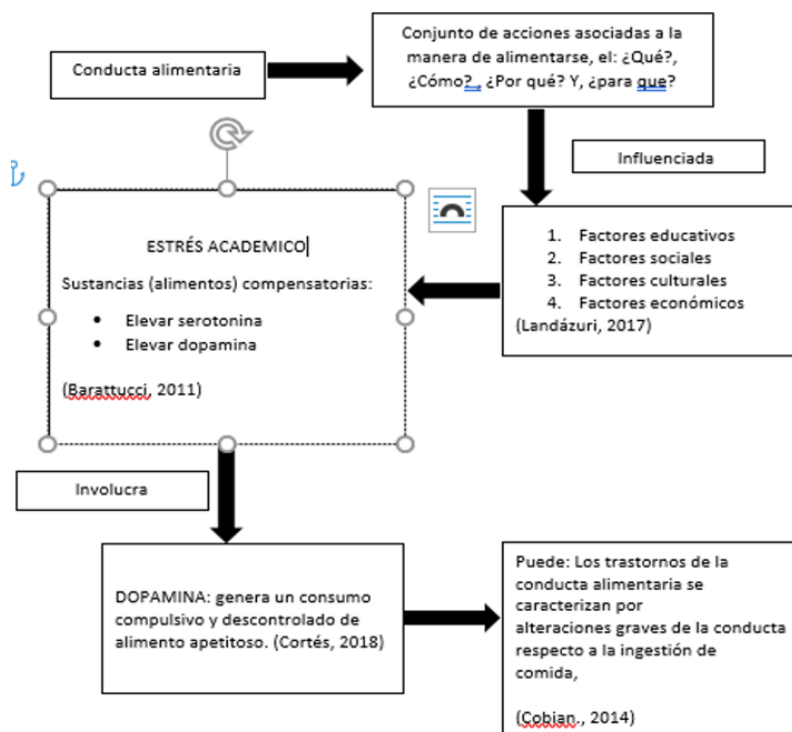
All the above corresponds just with stress since it manages to transform appetite and food conditions in certain academic circumstances, this is how the individual establishes new characters of consumption behavior, generating a perception of food facts in the daily diet and alteration or impact of their nutritional state.

*Own elaboration; "Development of mechanisms of eating behavior and academic stress"*

Stress influences the nutritional status of adolescents because they eat when they feel sad, bored, when they are nervous, have feelings of guilt and eat more to relieve This state, which leads to malnutrition due to excess or deficiency.

### Eating behaviors, eating habits and academic stress.

Eating habits are a set of behaviors acquired by an individual by the repetition of acts regarding the selection, preparation and frequent consumption of food. These habits are mainly related to the social, psychological and economic characteristics of a given popu-



lation, here is the importance of evaluating adolescents [8,9]. The concept of eating behavior is explicitly related to food, understood as a behavioral expression of the human being. Then, we establish that food is influenced by external factors, whether educational, cultural and economic, and therefore can be modified consciously. They involve the search, choice, preparation of food.

The development of eating habits in adolescents are determining and influencing factors in the general state of health. In addition, this triggers the conditioning factors of consumption patterns of foods with high energy density since they have a close and direct relationship with mental health because periods of stress influence the choice, behavior and consumption of unhealthy foods [10].

Therefore, changes in eating habits in adolescents is a well-known argument due to the vulnerability of this group, since, from the nutritional perspective and its characterization by omission of meals, eating between meals without control or attachment to a healthy and correct diet; and, on the contrary, with the tendency to abuse fast food and increase the inclusion of sugary drinks [11,12].

This is where the proportional reference of stress can modify appetite and eating attitudes in certain circumstances, since, due to this context or scenario, they lead to or trigger the behaviors that influence daily eating, reflecting the lack of nutritional status of the adolescent [13].

That said, we can define that the eating habit, refers to the proportional development of the eating pattern that an individual, who performs as he practices daily. Therefore we can exemplify in the following way or assumption

- The choice or preference of foods and times to eat them; Taking into account this definition, it can then be understood as eating behavior to a normal behavior that is related to eating habits.
- In addition, eating behavior is satisfied through the intervention of previous experiences, feelings, needs that the person possesses, and as well as the influences of the environment, whether family, social, cultural, etc. [15].

This results in a tangible fact that in the representativeness of a person feels when consuming a food, which will gain a link not only to the intake but to a memory or experience towards said food; In other words, you are aware of why you do or do not eat a certain type of food.

Thus, risky eating behaviors are considered as a health problem that involves both physical and mental aspects, could be manifestations of subclinical parts or risk factors triggering the onset or development of eating disorders [16]. Therefore, eating behavior has two regulatory systems, one homeostatic located in the hypo-

thalamus and another hedonic, represented by the brain reward system. These systems are modulated by stimulatory (orexigenic) and inhibitory (anorexigenic) signals of appetite, that is, with hunger and satiety.

Given this theoretical question, it is worth mentioning that the sensation of hunger is understood as the condition of need for food aimed at sustaining the functions of the organism. While appetite is defined as the desire or craving for food with particular characteristics, commonly rich in sugar and/or fat.

That is, a situation detected as threatening is represented by physical stressors (fasting, a burn, an infection, etc.), but also by psychological stressors, whose physiological involvement depends considerably on the way in which the individual processes the information, as well as previous experience in this type of circumstances.

Therefore, stress is the main triggering factor that leads adolescents in high school transition to take unhealthy actions and decisions in their eating habits. Encouraging social reasons, they are inclined to certain aesthetic preferences, which lead them to alter their eating behaviors, making them risky for their health, sometimes even leading them to suffer from eating disorders [17].

**Materials and Methods**

For the location of the bibliographic documents, several documentary sources were used. A bibliographic search was carried out in the period January - April of the year 2023, in EBSCO, using the descriptors: scientific writing, review, reviews, concept maps, critical reading. The records obtained ranged between 12 and 30 records after the combination of the different keywords. An internet search was also carried out in the search engine "google scholar" with the same terms. Those documents that reported on the formal aspects that a review should contain, the critical reading of documents, the stages of carrying out a bibliographic review and the elaboration of comparative tables of double entry matrix were selected

**Results and Discussion**

Defining that academic stress has implications that directly impact the mental (psychological) and physical (nutritional status) health of adolescent students in the third grade of secondary school; impacting on their eating habits with inappropriate behaviors that will affect growth and development, also resulting in consumption patterns.

However, there are few studies in adolescents who finish school and prepare for posthumous academic life, where it will affect the

Summarize information about a topic or problem.
Identify known, unknown and controversial relevant aspects of the reviewed topic.
Identify the theoretical approaches developed on the subject.
Know the methodological approaches to the study of the subject.
Identify the variables associated with the study of the topic.
Provide comprehensive information on a topic

**Table 1:** Review objectives.

determination of psychological characteristics in adulthood. In this way we can establish from a deductive paradigmatic position that the relationship of the psychological variable (stress) and nutritional status, as well as eating behavior:

That is why we can define that stress has contributed to the development of eating patterns of adolescents who are in this school transition. Feeding in human studies at different ages due to the type and duration of the stressor, types of meal intake, and adolescent emotional diffidence factors.

In a more particular way, adolescents between 12 and 15 years go through a biological and psychosocial development just when they are in the secondary stage, in this phase they acquire knowledge, skills, behaviors and habits, which when they are adults will determine their professional and work character.

Completing the above and as a reflection on food, the promotion of appropriate habits is especially important at critical ages such as childhood and adolescence, because in addition to affecting the health of the little ones, good eating habits will be the basic pillars for the maintenance of these healthy habits in adulthood.

**Conclusion**

In terms of conclusion, we can determine that a close relationship was found between the variables stress and nutritional status, through the nutritional indicators analyzed as Body mass index, so there is a tendency for adolescents with moderate or severe stress to be overweight.

It was found that eating behaviors are related to the variables stress and eating habits, so there is a tendency that the highest percentage of adolescents with severe stress have an inadequate level of eating habits. And, that the limitations of life experience are traceable to the triggering of inadequate eating patterns based on the context of academic stress.

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