



ORIGINAL ARTICLE


Academic stress and emotional affectations in high school students

El estrés académico y afectaciones emocionales en estudiantes de nivel superior

El estrés académico y afectaciones emocionales en estudiantes de nivel superior


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KEYWORDS

school dropout, academic stress, pandemic.

ABSTRACT. Due to the confinement caused by the pandemic declared in 2020, educational institutions at various levels implemented strategies to continue activities through virtual means that over time have caused emotional effects and stress in academic communities and that can cause school dropout. At the Autonomous University of the State of Hidalgo, Mexico, the need to know these affectations applied to students who are enrolled in the Bachelor of Tourism educational program is identified, through a non-probabilistic study due to the situation of the pandemic, cross-sectional, of a quantitative nature, with a convenience sample of 280 students applying the partial squares method, whose results show that the confinement caused in the case of exhaustion is considered weak; fear of getting sick from Covid-19 such as moderate school dropout; concluding that these factors can directly or indirectly influence school dropout.

PALABRAS CLAVE

deserción escolar, estrés académico, pandemia.

RESUMEN. Debido al confinamiento originado por la pandemia declarada en el año 2020, las instituciones educativas en los diversos niveles implementaron estrategias para continuar las actividades a través de medios virtuales que al paso del tiempo han provocado afectaciones emocionales y estrés en las comunidades académicas y que puede originar la deserción escolar. En la Universidad Autónoma del Estado de Hidalgo, México se identifica la necesidad de conocer esas afectaciones aplicado en estudiantes que cursan el programa educativo Licenciatura en Turismo, a través de un estudio no probabilístico por la situación de la pandemia, transversal, de índole cuantitativo, con una muestra por conveniencia de 280 estudiantes aplicando el método de cuadrados parciales, cuyo resultados arrojan que el confinamiento provocó en el caso de

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agotamiento se considera débil; el miedo a enfermarse por Covid-19 como la deserción escolar, moderada; concluyendo que estos factores pueden influir directa o indirectamente a la deserción escolar.

PALAVRAS-CHAVE

abandono escolar,
estresse acadêmico,
pandemia.

RESUMO. Devido ao confinamento causado pela pandemia declarada em 2020, as instituições de ensino a vários níveis implementaram estratégias para dar continuidade às atividades por meios virtuais que ao longo do tempo têm causado efeitos emocionais e stress nas comunidades acadêmicas e que podem causar o abandono escolar. Na Universidade Autônoma do Estado de Hidalgo, México, identifica-se a necessidade de conhecer essas afetações aplicadas aos alunos matriculados no programa educacional de Bacharelado em Turismo, por meio de um estudo não probabilístico devido à situação da pandemia, transversal seccional, de natureza quantitativa, com uma amostra de conveniência de 280 alunos aplicando o método dos quadrados parciais, cujos resultados mostram que o confinamento causado em caso de exaustão é considerado fraco; medo de adoecer do Covid-19, como abandono escolar moderado; concluindo que esses fatores podem influenciar direta ou indiretamente a evasão escolar.

1. INTRODUCTION

From the World Health Organization (WHO) pandemic statement in 2020, the severe acute respiratory syndrome (Sars-CoV-2), the world implemented health strategies to stop contagions and possible moorings in the world.

Countries in accordance with their health agencies and based on international recommendations established border closures and limitations in all productive sectors. In the education sector, there were closures of presence activities, establishing virtual and hybrid modalities according to regional health conditions, which caused various impacts in the educational community mainly on academic performance, together with the economic and social impact that this represented.

In the case of Mexico, the Ministry of Public Education reported that at a higher level than in 2020, the country had an upper-level enrollment of 4.5 million students at the undergraduate level and 384,600 at the postgraduate level (SEP, 2020), which modified its modality to avoid contagion avoiding the accumulation of people in institutions as recommended by the International Institute for Higher Education in Latin America and the Caribbean (UNESCO IESALC, 2020:10).

The teaching processes had an emerging transition from the real to the virtual, generating drastic changes in different scenarios from pedagogical with the use of digital tools; to economic situations, such as family, causing anxiety, stress and uncertainty such as fear of contagion and concern about what is to come in the near future (González, 2020).

However, the situation of higher education in Mexico is chronic, prior to the pandemic; one of them is that there is little representation of the rural, indigenous, inhabitant of marginalized areas and disabled people. Geographical inequality, although in Mexico City, the gross coverage rate reaches 95%, in the poorest entities of the country such as Guerrero, Oaxaca and Chiapas, this percentage is barely 20% (Silva and García, 2020).

The aim of this research is to know the feelings of students in tourism training, to know the significant impact due to social distancing and academic performance in teaching and learning processes, in order to identify their emotions from a context of a psychological state where the student is obliged to adapt to this new way of receiving knowledge for their learning process and in which they cannot change this situation, although this can be interpreted hypothetically as student fear that can influence their learning process, from presenting

motivational deficit; that is, in decreasing the learning process; cognitive deficit; or emotional deficit such as uncertainty, stress, fear, anxiety or academic depression (Castañeda et al, 2020).

Under this perspective, the tourism sector faces a series of rethinking important challenges that require them to discover new ways that will involve substantial changes in their projects, structures and processes, as well as a reevaluation of the role played by the actors that integrate them, as the impact of the pandemic by COVID-19 on the competences of future tourism professionals generates uncertainty on the part of students, since it is not known how long they will continue with this new modality and in turn generates doubt as to whether the learning objectives designed for classes are achieved, which is attentive to the mission of the EI, which is to offer their students a qualified and quality education for the current market.

2. CONTEXT

The offer of higher education is geographically concentrated in cities with high levels of population, such as the autonomous universities, which are located in the capitals of the entities, leading to student migration to higher education.

In view of this emerging training shift and with the policy of not losing the forms of the classes, the ESI had to make a series of synchronizations in space, time, activities and feedback, in rigid times considering the same number of contents, learning processes were compromised from home in order to meet students' needs, as a tool mainly the use of the Internet, mobile devices, technological platforms and digital applications, in order to have customized learning anytime, anywhere, this situation changed the transmissive roles of teachers; this principle of safeguarding public health made the overturning in higher education from the face to the virtual (Roman, 2020).

The compulsory suspension of classes at all levels, with the confinement of students and teachers at home, has created a multi-effects network for all actors in the educational process. In the case of universities, they have had to take a number of measures to comply with government directions, while trying to provide teachers and students with the computer and technological infrastructure that will enable them to continue their academic activities at a distance. This obliged situation to travel from the university education and schooling to non-existent modalities, highlighted the institutional needs of infrastructure, especially in order to consider how the transformation and implementation of education, the modification of organizational cultures and new teaching practices are to be, and especially in order to consider how the transformation and implementation of education is to be, the modification of organizational cultures and new teaching practices (Sanchez, 2020).

However, access to the Internet is not always possible and when it is, connectivity often has shortcomings, affects from the socio-motional, labor, even financial spheres, this situation that has been presented in households has led to space adaptations at home; in the case of heads of households they had to reconcile teacher responsibilities with the home (Menéndez, 2020).

In the case of technological inputs; acquisition and equipment with accessories; network infrastructure, mobile with greater capabilities, among others, without considering in some cases that many students mainly in rural communities or lacking technological equipment resulted in school dropout, mainly in vulnerable students; family situations due to unemployment of some of the parents; need to be used to support the family economy, limiting learning, teamwork and efficiency in academic activities (Martin, 2020).

Another factor in the confinement is domestic violence and cyber harassment being the most confessed behavior by victims to be the object of lies and rumors through the mobile (Muñoz Ruiz. A and Muñoz Ruiz. F 2019), as to the physical problems that this has caused in school communities by excessive exposure to screens of devices, sedentarism and consumption of caloric foods have directly impacted academic health and performance, on this situation some authors described COVID-19 confinement in the first half of 2020 as a “perfect storm” for the development of metabolic diseases, adding aspects such as inactivity, boredom or bad mood (Narici, 2020).

Another uncertainty is the time of confinement, as the time of return to classrooms and conditions is unknown, which will surely force institutions and actors to innovate processes and break inertia, reinvent systems and models or remain in pre-pandemic practices (Dussel et al, 2020).

According to the United Nations Educational, Scientific and Cultural Organization (UNESCO) in 2020, 70 per cent of the world's student population was affected in the social, emotional, economic, and social fields that are compounded when the school year is understood to continue. In this regard, the term homeschooling is a home school model that was implemented massively (Gil et al, 2020).

Moreover, The Chronicle of Higher Education (2020), mentions that one of the most important immediate effects is the sudden blow to migrate totally to distance education through technology-mediated education, which currently represents one of the most significant challenges in universities, as very few had the infrastructure to meet the total enrolment in digital media. In this regard, Sanz (2020), explains the unexpected situation facing teachers with family and professional situations, the need for training and updating for the use of technology and platforms, as well as the implementation of innovative strategies that will ensure the learning of their students.

In this sense, virtualization has a special impact on socially and economically disadvantaged students who have only recently benefited from the processes of democratization and massification in admission to higher education and even at other levels, this panorama, independent of the adaptation of digital tools in teaching-learning processes, the implications of academic teleworking and online teaching, undoubtedly “virtualization”, not forgetting the social isolation and skills that these were omitted as a consequence.

Symptoms of anxiety, boredom, anger, uncertainty and fear of contagion (Maunder et. al., 2003) were reported during the outbreak of severe acute respiratory syndrome (SARS). Fear is linked to aspects such as the development of habits, behaviors and stigmas (Badahdah et. al., 2020). Especially the fear associated with personal safety and the psychological burden in a pandemic, can have psychosocial consequences such as absenteeism and dropout of studies (Seale et. al., 2009).

Following these situations, higher education institutions required to ensure the care and well-being of students, through consolidation and in other cases the implementation of support services such as tutoring, counselling and psychological care in order to avoid desertion and lag, where the tutor teacher figure plays a very important role in the formation of the student and especially in pandemic times, in this respect Scorsolini-Comin (2020) who mentions that the experience of virtual tutoring is an important space for the construction of professional identity and that it should promote the sharing of emotions and experiences under a humanized integration line.

Various research has been conducted to learn about academic and emotional impacts in the educational sector, among the main findings indicate the increase in socio-economic differences than in times of crisis, vulnerable



sectors are the most affected, then in the case of students. In this regard, the Mexican Council for Educational Research (COMIE) (2020), states that the technological gap due to the lack of acquiring a computer, mobile or other device to receive their classes; or to have the Internet for living in difficult-to-access geographical areas, bringing family life together; situations that are living as families that one parent has lost employment; domestic violence; adaptation of household spaces in classrooms and offices, among others, which generates strong stress among family members and which falls on students.

To this end, it is important to know some definitions of stress and their affections in academic work, on the subject Lazarus and Folkman (1986) define stress as a set of relationships that are established between assessing a situation and the ability to deal with it. This relationship generates tensions and cognitive, emotional and behavioral manifestations that affect the perception of personal well-being in the same way Lunley and Provenzano (2003), refer that stress can also affect the student's academic development, exercising interference against his will and that alters his behavior in the face of his academic responsibilities such as studying, concentrating and attention.

Barrace (2018), also argues that academic stress is an internal systemic process of the individual characterized by being adaptive and psychological, and that it is precisely developed in the field of education. However, for Castillo et al (2020), academic stress is a complex multifactorial process that reaches its highest degrees at university level and that in order to make effective interventions, it needs valid and reliable instruments to measure it.

Unfortunately, the focus during the pandemic focused on prevention and physical treatment, taking a marginal view of the psychosocial dimension, such as individual fears and stress in different areas such as Ahorsu (2020), on the other hand, according to Ornell's studies, (2020) increases anxiety and stress levels among individuals, which often leads to an inherent stress in school path, in addition to emotional exhaustion (Roberts, 2018) and complementing the previous ideas people's resources are exhausted to current demands of technology, health services, among others, so that they lose interest or ability to give their best in their activities (Gaines and Jermier, 1983).

Another stress-related element is the most remarkable emotional exhaustion of Burnout, is its initial symptom (Maslach et. al., 2001). In the academic environment, it refers to feelings of fatigue, nervousness and frustration by school demands (Schaufeli et. al., 2002). Due to exhaustion, students stop excited about their studies and cannot concentrate on them, as their emotional resources are exhausted (Schaufeli and Bakker, 2004). Studies conducted during the Covid-19 pandemic found that the pandemic increased psychological stress in students, with subsequent emotional exhaustion (Gritsenko et. al., 2020). Facing threats like Covid-19, subjects' people to high levels of psychological pressure that, according to experiences in previous pandemics, results in feelings of fear and panic, impacting on important psychological impacts (Tsamakis et. al., 2020).

Other authors such as Kachel, et al. (2020) indicate that, in the educational environment, prolonged stress can cause cynicism and that this term, the authors consider it as a distant or indifferent attitude towards one's own studies and their potential; in the case of adapting to digital learning, it caused mental health to deteriorate and increase in levels of cynicism (Zis et al 2020). Animism, another aggravating factor is the intention to drop out of school due to feelings of incompetence, lack of personal involvement and indifference to being educated or lack of financial resources. In general terms, it represents the feelings of students regarding their education

(Frostad, et al 2015). Given the above, these constructs are established: emotional exhaustion influences fear of Covid-19; and this leads to school dropout (Jacobo, et al 2021); and therefore, an indifferent attitude and loss of interest in the study, can lead students to consider that it is not important to attend to homework; that lack of meaning then leads to school dropout (Lee et. al., 2020).

Finally, focusing on the study sector, the World Tourism Organization (WTO) has indicated that “The global outbreak of COVID-19 has led the world to its stagnation, and tourism has been the most affected in all major economic sectors, in a framework of exacerbated uncertainty, to have updated and reliable information is more important than ever, for tourists and the sector” (WTO, 2020). The process described has led to a sharp contraction in tourism activity throughout the world.

This is just a new challenge for an economic activity that has already shown, has as its quality of overcoming local and/or global economic crises by accelerating as conditions change. But this time, contingency is international, signed by the global health pandemic, which equates all destinations in the need to make proactive and supervisory decisions, where visitors’ emotions and experiences in destinations are changing, now seeking health safety, hygiene protocols and especially affective schemes in order to have a safe and healthy experience on their holidays.

So, the need to detect the impact of educational stress on students of the Bachelor’s Tourism and the impact they have on their performance is essential for implementing strategies that minimize these problems to ensure students’ learning at the Universidad Autónoma de Hidalgo.

3. METHOD AND MATERIALS

The methodology based was the method of minimum partial squares where one can be experienced through statistical models by means of a theoretical basis of the broader aspects of human behavior and allowing the incorporation of latent or unobservable variables by observable variables or indicators. Among the advantages of the method, it facilitates identification with reduced sample sizes, usually reaching high levels of statistical power with small sample sizes, there is no assumption regarding data distribution as it is a non-parametric method; it is robust in the presence of lost values, provided that these are below a reasonable limit; minimizes the amount of unexplained variance; and values the reliability and validity of measurement models by various criteria (Hair et al 2011).

To this end, the tool for data collection was designed, based on validated scales adapted to the context of students at the Bachelor’s Tourism Institute of Administrative Economic Sciences of UAEH, considering elements such as semester, age and gender; applied at two times: in February and June 2021, which allowed for first instance to define the reference framework for emotional affectations at the beginning of the school cycle and how they impact on academic harnessing at the end of their school cycle.

The participants were determined by a sampling by convenience, due to the condition of the confinement, which was more accessible and within reach (Hernandez-Sampieri and Mendoza, 2018); using an electronic survey using the Google form, which was disseminated through WhatsApp with group heads for each semester-group and hence determined the sample having a total of 280 students from the first to the ninth semester, representing 39.7% of the total enrolment.

The general data was obtained: 53 per cent of the female gender and 47 per cent of the male gender; the average age is 21.5 years; 90 per cent live with parents or family; 97 per cent are single and only 3 per cent live with a couple or have children; 56 per cent live in the metropolitan area of Hidalgo; 18 per cent live in municipalities within Hidalgo state and 26 per cent live in other states. As can be seen in the table below.

Table 1

General data from students of the Bachelor's degree in ICEA Tourism

School cycle	Students	% of the total registration
January - June 2021	280	39.7
Average age	21.5	
Gender	Female 148 pupils 53%	Masculino 132 pupils 47%
Marital status	Single 272	With couple/children 08
Unit	They live with parents or family 252	Independents 28
Residence	Metropolitan area 157	In other municipality/other states 123
School cycle	1st to 4th semester 176	5th to 9th semester 104

Source. Own preparation based on the questionnaire in item 1-6

For the analysis of the variables, a Likert scale with 5 dimensions was considered: 1: never; 2: almost never; 3: sometimes; 4: almost always and 5 always, in order to establish stress constructs, deriving in terms of academic exhaustion and fear of COVID-19 and with the hypothesis if this determines school dropout.

Depletion is valued with items of the Shaubeli, Martínez, Pinto, Salanova and Bakker scale (2002); while fear of Covid-19, with adapted items of Snell Jr. and Finney (1998). As shown in Table 2.

Tabla 2

Escalas utilizadas para medir constructos

Indicator	Dimension
Es1	I get angry easily from unexpected events
Es2	I feel like I can't control things in my personal life as an academic
Es3	I feel like I can't deal with my academic commitments or obligations
Es4	I feel emotionally exhausted
Es5	I'm tired when I start my virtual classes
Es6	Virtual classes tense me

Es7	Since I enrolled in college, I've lost interest in my studies
Es8	I'm scared to get COVID-19
Es9	COVID-19 is a stressful experience for me
Es10	COVID-19 has begun to affect my personal relationships

Source. Self-development

The technique of structural equations with minimum partial squares (PLS-SEM) was used for the analysis of its usefulness in exploring and predicting, testing and validating exploratory models (Henseler et al 2009). The inferential statistical analysis of the data followed two stages: in the first, the psychometric attributes of the measurement model (convergence validity and discriminatory), the second was assessed. Statistical software was Stata 14.

Convergent validity is considered: 1) Cronbach's alpha; 2) extracted variance, 3) factor loads and 4) composite reliability. For the first factor, the cutoff point of 0.70 is considered; for loads, it is stated that it has at least 50% of its variance in common with the indicators, so the model is considered reliable and therefore there is convergence validity in the model; the discriminant validity was also considered from Fornel-Larker, given that values of the mean extracted square root of variance (AVE) of the variables exceed the correlation coefficients between them, which proceeds to build the model for each construct running in order to establish the partial least squares (PLS-SEM). It should be noted that the path coefficient between the variables must have a minimum recommended value of 0.70 (Fornell and Larcker, 1981).

4. RESULTS

In table 3, factorial loads of items are shown showing values between 0.650 [Es10] and 0.785 [Es5], with the items being less than 50% [Es1; Es6], in the eight items having value t exceeding 1.96, and for birds (square root values), it is 0.504.

Table 3

Convergent validity of items

Item	Value load	Value t	Alfa Cronbach	Composed reliability	Middle extracted variance AVE
Es2	0.737	34.33			
Es3	0.760	33.88			
Es4	0.785	18.79			
Es5	0.689	24.189			
Es7	0.741	23.03	0.876	0.812	0.504
Es8	0.712	32.90			
Es9	0.778	19.15			
Es10	0.650	34.96			

Source. Self-development from Stata 14.

Results of the constructs

The discriminatory validity established with heterosgo-monorasgo (HTMT, Heterotrait.Monotrait, Ratio), proposed by Henseler et al. (2015) among the constructs, since values below .90 show appropriate discriminatory validity. For its part, Kline (2011) recommends that the values obtained do not exceed the limit of .85, to ensure the absence of problems in the capacity of discrimination. The results indicate that there is discriminatory validity, as shown in table 4.

Table 4

Discriminant validity

Emotional exhaustion	Afraid to get sick of Covid-19	School desertion
0.071	0.301	0.480

Data analysis

According to the structural model the coefficient of determination R², the results correlate with the criteria used in the social sciences of Hair Jr, Hult, Ringle and Sarstedet (2014), which are as follows, according to table 5.

Table 5

Criteria for determination coefficient

Modelo Estructural	Coficiente de determinación (valor R ²)	=<.75 y 0>0.51 Relevante =<.50 y=>0.26 Moderado =<0.25 débil
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Source. Hair et, al (2014).

In this case, the results that have been produced in this investigation are correlated as follows; in the case of exhaustion, it is considered weak; the fear of being ill by moderate Covid-19 and school dropout is presented as moderate.

5. DISCUSSIONS

The results show that students who graduate from Tourism at the Institute of Economic Sciences Administrative at COVID-19, and the change from classroom scenarios to virtual scenarios, caused stress affectations, mainly by handling their personal problems and addressing their commitments or obligations, fearing contagion and losing their socially related capabilities.

It was also identified that exhaustion leads to cynicism, which coincides with literary history (Kim et. al., 2015; Schaufeli et. al., 2002) that students with emotional exhaustion have greater to develop it and experience low sense of academic achievement, limiting their ability to enter work and thus decreasing their enthusiasm to study, reflecting an ineffective strategy in the pandemic. It was postulated that fear of Covid-19, exhaustion and stress lead to the intention of dropping out.

In comparison with other studies conducted at other universities in the country, in the first quarter of the confinement the suspension of the presence activity had an impact on the physical, psychological and psychological level of the Mexican student sector. Among the first research, the Autonomous University of Guadalajara (2020) reported that 6% of its students requested support or urgent psychological assistance after experiencing deep feelings of sadness, anger and happiness (Sepúlveda, 2020). González-et al (2020) notice depressive traits (4.9%), psychosomatic (5.9%), associability (9.5%), stress (31.92%) and apneas (36.5%) in a sample of 644 Mexican university students. In turn, by June 2020, Guzmán Hernández and a group of students from the Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM), reported an increase in depressive trends (40%), anxiety (35%) and apneas (50%) in their pupils older than 16 years (quoted by García, 2021).

The results are related to a number of factors, as Brooke and collab mentioned. (2020) The associated increase in cases of Posttraumatic Stress Syndrome, confusion and irritability that aggravate mental stability worldwide. Due to various studies, it has been possible to identify that socio-economic conditions, regional social/structural inequalities, and global economic, academic and health uncertainty affect school performance.

So, the results obtained in the educational program in question are consistent with those performed at other universities that have faced the pandemic in isolation that has an impact on low academic performance and stress, together with perception of vulnerability to contagion.

6. CONCLUSIONS

This research allows students to be assessed in the affective context as authors only focus on the challenge of access to digital tools, virtual classes strategies and academic exploitation, without considering the emotional state of pupils; although in the educational sector these emotions are often difficult to quantify, opening an open field to future lines of research environment to generate public educational policies that are relevant to innovate educational systems from the context of education and public policies; since the need to implement a real transformation in educational spaces must be planted as considering an individual's emotional state in the educational context, it generates academic environments with various manifestations from joy to frustration, not forgetting the emotions enhanced by teachers, who equally carry out their work with high levels of stress and personal problems for further studies from this perspective.

In addition to the above, routines in school activities and online classes have impacted personal aspects that cause alterations in mental health, experiencing tiredness, insomnia and frustration due to workloads and adaptation to the new normal.

Therefore, universities such as the Universidad Autónoma del Estado de Hidalgo, should place emphasis on supporting the academic community, in areas of psychological care, mentoring, counseling and the adaptation of models that allow the study programs to be flexible to hybrid scenarios that have fluctuated since the beginning

of the pandemic, ensuring thus the learning of students and the creation of educational scenarios that ensure working conditions and teaching-learning processes without compromising the quality of higher education.

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Angelica Terrazas: conceptualización, curación de datos, análisis formal, adquisición de fondos, investigación, metodología, administración del proyecto, recursos, software, supervisión, validación, visualización, escritura - preparación del borrador original, escritura - revisar & edición.

Judith Velázquez: conceptualización, curación de datos, análisis formal, adquisición de fondos, investigación, metodología, administración del proyecto, recursos, software, supervisión, validación, visualización, escritura - preparación del borrador original, escritura - revisar & edición.

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