

Psychological Impact on University Men and Women of Hidalgo Mexico, on Distance Education during Confinement by the SARS-CoV-2 Pandemic

Impacto Psicológico en Hombres y Mujeres Universitarios de Hidalgo México, en la Educación a Distancia durante el Confinamiento por la Pandemia SARS-CoV-2

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Abstract:

The objective of the research was to evaluate in university students from Hidalgo, México, the psychological impact during distance education, from confinement in the pandemic by the SARS-CoV-2 virus. The research design was non-experimental cross-sectional; Through a non-probabilistic demonstration for convenience, 101 people, 66 women and 35 men participated, with an age range of 17 to 34 years (SD=2.49) (M=21.47), the survey of the information was carried out through a google that include the Symptom Check Inventory -List-90-R of Derogatis so as questions from the ECOVID-ED 2020 Survey. The results show that the temporary cancellation of on-site classes at the educational institution where the young people were studying was related to the presence of psychological symptoms associated with various problems. It was the women, as opposed to the men, who showed greater problems, such as increased perception of bodily discomfort, obsessive thoughts and behaviors, feelings of inferiority and inadequacy, sleep problems, among others, and in the educational area they were the most affected. The COVID-19 pandemic has had a negative impact on the mental health of the population in general, and, on students, who have been one of the most vulnerable groups. Distance classes, lack of economic and technological resources, social distancing, and isolation have intensified the problems, so that adequate attention to the effects or health conditions should be considered when returning to on-site classes.

Keywords:

Psychological Effects, Pandemic containment, Distance learning

Resumen:

El objetivo de esta investigación consistió en evaluar en estudiantes universitarios del estado de Hidalgo, México, el impacto psicológico durante las clases a distancia, a partir del confinamiento por la pandemia por SARS-CoV-2. El diseño de investigación fue no experimental de tipo transversal; a través de un muestreo no probabilístico por conveniencia, participaron 101 personas, 66 mujeres y 35 hombres, con un rango de edad de 17 a 34 años (M=21.47; DE=2.49), el levantamiento de la información se realizó mediante un formulario de Google que incluyó el Inventario Symptom Check-List-90-R de Derogatis; así como, preguntas de la Encuesta para la Medición del Impacto COVID-19 en la Educación ECOVID-ED 2020. Los resultados evidencian que la cancelación de clases presenciales en la institución donde cursaban los jóvenes sus estudios sí presentó relación con la presencia de síntomas psicológicos asociados con diversas problemáticas. Particularmente fueron las mujeres a diferencia de los hombres, quienes tuvieron mayores problemáticas, tales como aumento en la percepción de malestares corporales, pensamientos y comportamientos obsesivos, sentimientos de inferioridad e inadecuación, problemas con el sueño, entre otros; del mismo modo en el área educativa ellas son quienes se mostraron más afectadas. La pandemia por COVID-19 ha repercutido negativamente sobre la salud mental de la población en general, y en particular, de los estudiantes que han sido uno de los grupos más vulnerables. Las clases a distancia, la falta de recursos económicos y tecnológicos, el distanciamiento físico y el aislamiento, han recrudecido las problemáticas, por lo que una adecuada atención por los efectos o condiciones de salud debe considerarse al regreso a clases presenciales.

Palabras Clave:

Efectos Psicológicos, Confinamiento por Pandemia, Educación a Distancia

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INTRODUCTION

On March 11, 2020, the World Health Organization (WHO, 2020) declared the pandemic due to the outbreak of the SARS-COV-2 virus (COVID-19). There was a great impact worldwide, as not only was the response capacity of health systems tested but also a great pressure was exerted on the population, especially in the educational field (Castillo et al., 2021).

Likewise, the education system was undoubtedly one of the most affected by the closure of schools, which involved, among other actions, the hasty use of distance learning strategies through the use of virtual platforms, which led to changes in the dynamics of households, in family and social coexistence, in addition to making the mental health of the population in general, and particularly of students and teachers at all school levels, vulnerable (Franco et al., 2021).

Although the virtual modality was the only option to give continuity to the learning process, particularly for university students this impacted the physical, psychological and emotional levels, Universidad Autonoma de Guadalajara indicated that at least 6% of its students requested support or psychological assistance after experiencing deep feelings of sadness, anger, and boredom (Sepúlveda, 2020). In a sample of 644 Mexican university students note depressive features at 4.9%, psychosomatic at 5.9%, associativity at 9.5%, stress at 31.92%, and apneas at 36.5% (González-Jaimes, et al., 2020)

In Mexico, the picture is not encouraging, since according to the National Institute of Statistics and Geography (INEGI, 2021) in the Survey for the Measurement of Impact COVID-19 in Education (ECOVID-ED) 2020, the pandemic left five million students out of school mainly because of lack of resources to continue their education, 32.9 million students enrolled in the 2020-2021 school year, while 5.2 million did not; The reasons were associated with COVID-19, the lack of economic resources, and the lack of resources for connecting to classes at a distance, such as not having a fixed internet in the home. 26.6% of students considered distance classes to be non-functional for learning, 25.3% said that some of their parents or guardians were out of work, and 21.9% lacked a computer, other devices, or an internet connection.

However, quarantine is the separation and restriction of the movement of people who have been exposed to a highly contagious disease to determine if they become ill, thereby reducing the risk of infecting others. And isolation involves separating people who have been diagnosed with a highly contagious disease, from those who are not sick (Brooks et al., 2020; Chatterjee et al., 2020).ly Both the confinement and isolation that were adopted as preventive measures by health authorities on all continents, in a way brought about the presence of psychological and psychiatric disorders, such as post-traumatic stress, confusion, frustration, depression,

anxiety, panic disorders, and behavioral factors such as separation from the family, in addition to pain, grief, loneliness, shame, guilt, anger, fear. Especially in women the significant presence of high levels of stress, psychosomatic disorders, sleep problems, social dysfunction in daily activity, depressive symptoms, xenophobia, mass hysteria, disinformation in social networks, financial insecurity, stigmatization, and other mental health problems (Ahorsu, et al., 2020; Asmundson et al., 2020; Brooks, et al., 2020; Carrillo et al., 2020; Carvalho, et al., 2020; Espada, et al., 2020; Figueroa Hernández, et al., 2021; González-Jaimes, et al., 2020; Ho, et al., 2020; Moreno, et al., 2020; WHO, 2022; Wang, et al.).

Recently, WHO (2022) reported that in 2020, the prevalence of anxiety and depression increased by 25%.

However, the psychosocial and especially emotional impact involves the subjective experience of the person before an unexpected phenomenon; lived emotions vary depending on the vulnerability of people, having greater consequences in those who present precarious conditions, with limited access to social and health services, added to the repercussions of a fact that must be understood from the relationship between the individual (personal dimension) and the collective (social dimension) (Pan American Health Organization [PAHO], 2016). In this sense, reference is made to the look at the facts taking into account the changes that these events generate both individually, as well as in social support networks, family, and community communication, among other issues (Martín Beristain, 2010). In this sense, students faced complicated emotional states, related to the inordinate increase in tasks to replace academic competitions, which in many cases led to a decrease in school performance, and the ability to respond to tasks of high cognitive demand (Rosario-Rodríguez, et al., 2020; Sepúlveda, 2020).

Undoubtedly, psychosocial factors and educational factors during the COVID-19 pandemic require careful analysis; for this reason, the objective of this study was to evaluate university students in the state of Hidalgo, Mexico, the psychological impact associated with remote classes, from confinement during the pandemic by the SARS-CoV-2 virus.

METHOD

The present research had a nonexperimental, transversal design, with a type of correlative study.

Sampling

The sampling of this research was non-probabilistic for convenience, and constituted a total of 101 participants, who were studying for a degree, in a public institution of higher education in the state of Hidalgo, Mexico. There were 66 women (65.3%) and 35 men (34.7%), with an age range of 17 to 34 years (SD=2.49).

Instruments

Two instruments were used and digitized using a Google form. First, the COVID-19 Impact Measurement Survey on Education 2020 (ECOVID-ED) (INEGI, 2021) was applied, which assesses the impact of distance learning or virtual learning; it is a questionnaire containing 38 questions in total, which allows information to be recorded the total number of persons in the dwelling, availability of technological tools at home (ICT tools and internet availability), as well as information of persons aged 3 to 29 at the time of the interview, and characteristics of their educational situation, in particular the opinion on additional costs, advantages and disadvantages of distance classes. Second, the Symptom Check-List-90-R Inventory (SCL-90-R) by Derogatis (Derogatis, 1994), in the version adapted for the Mexican population, which evaluates psychological symptoms and distress, through 90 items that make up nine primary dimensions: somatizations, obsessions and compulsions, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism; and three global indices: overall severity index, total positive symptoms, and symptomatic positive discomfort index. Each of the 90 items responds based on a five-point Likert scale ranging from "0 to 4" (Caparrós-Caparrós et al., 2007). With alpha reliability of Cronbach and internal consistency for seven of the nine dimensions; as well as an ISG, greater than 0.7 and scores greater than 0.66 (Blas et al., 2005).

Procedure

University students were invited to participate through a call that was disseminated by Facebook and WhatsApp; through Google forms, the instruments already mentioned were applied. The first responding items investigated sociodemographic data, such as sex and age, followed by questions from the instruments. At the end of the study, the contribution was appreciated. The data obtained were analyzed using the IBM-SPSS statistical package in version 21.

Ethical aspects

At the beginning of the Google form, an "Informed Consent" was given describing the purpose of the research, based on the Declaration of Helsinki (World Medical Association, 2017), guaranteeing the anonymity and confidentiality of both participants, and data provided by following per under the Code of Ethics of Psychologists (Mexican Society of Psychology, 2009).

RESULT

Within the results of the application of ECOVID-ED (INEGI, 2021), the most relevant can be seen in Table 1. In terms of housing equipment, approximately 5% of students did not have technological tools, and 8% did not have fixed internet for economic reasons. The majority of participants reported having completed the previous school semester; however, 3% of participants reported that they did not continue their studies, of this percentage the most relevant data showed that 10.9%

indicated causes related to the pandemic; 3.9% did not complete the school year because they considered that distance classes were not functional; 2% left school to work, and 56.4% did not have support from someone from their home in school activities. Concerning the people who did continue their studies, the most relevant thing is that 84% had permanent contact with their teachers once a week; 99% used digital tools to have online classes, 67% used a laptop, and 60% of the computers were home-owned and used exclusively; in addition, 57% had contact with the school through virtual platforms. Concerning the "Opinion" category, 54 percent incurred expenses that were not considered, and 53 percent stated that online classes were kept safe at home, without health risk.

However, to establish the differences by sex of the participants, the chi-square test was performed for independent samples in terms of response frequency data from the application of ECOVID ED, in Table 1 the "p" values are integrated that were obtained in this regard. Thus, in the category "Equipment in housing", significant differences were found, in terms of "Not having a fixed internet for lack of economic resources". In the category "People of Study Age" there were differences: "It did not end the previous semester due to the SARS-CoV-2 pandemic", "They used the laptop as a digital tool", "Your school belongs to the public sector", and "They would attend school this semester according to traffic lights.

In the category "Opinion" no differences were found between male and female students.

As for the application of the Symptom Check-List-90-R Inventory, it can be seen in Table 2 that all the data were close to the theoretical mean (value of 2), which means that these participants did not present data that showed problems in terms of the psychosocial impact of the pandemic; however, the data are revealing, and particularly women obtained higher scores than men.

On the other hand, from the application of the t-test of Student, comparisons were made between men and women, also in Table 2, it can be observed that there were no significant differences by sex in the factors: phobic anxiety (discomfort that alludes to a persistent fear response to specific people, places, objects, situations that is itself irrational and disproportionate to the stimulus that causes it) and paranoid ideation (Thought disorders: projective thinking, suspicion, fear of loss of autonomy).

Table 1

Results of the COVID-19 Education Impact Measurement Survey (ECOVID-ED)

Item	N=101		%	p
	F	per sex		
Equipment in home	M	W		
Does not have technological tools in housing	1	4	4.9	.15
No fixed internet due to a lack of economic resources	5	3	7.9	.02
People of school age				

Concluded the previous semester	34	64	97	.93
Did not end last semester because of the SARS-CoV-2 pandemic	6	5	10.9	.00
They did not complete the school year because they consider that distance classes are not functional	3	1	3.9	.79
They did not finish the semester because he had to work	1	1	1.9	.43
They continued to contact their teachers once a week	33	52	84.2	.07
They used digital tools to continue their classes	34	66	99	.14
They used the laptop as a digital tool	27	37	63.4	.02
They were affected by the pandemic to register for the current semester	4	8	11.9	.83
Your school belongs to the public sector	34	66	99	.00
Did not receive support from someone in your home in school activities	19	38	56.4	.83
They currently use the laptop for their online classes	24	44	67.3	.32
The device they use is owned and operated exclusively	18	43	60.4	.54
Spend six or more hours a day on school activities	8	34	41.6	.07
The mother provides financial support for their studies	20	25	44.6	.13
School informs them about school activities through virtual platforms	17	41	57.4	.15
Would attend school this semester according to traffic light	12	36	47.5	.01
Opinion				
Incurred expenses not considered in distance classes	20	25	54.5	.96
Consider as a disadvantage of online classes that you do not learn or learn less than in person	13	33	42.6	.22
Consider an advantage of online classes that does not put at risk the health of students, stay safe at home	21	33	53.5	.24

Note: Source: Own production

In contrast, there were significant differences, where women had higher scores in the factors: somatization (presence of discomforts that the person perceives related to cardiovascular, gastrointestinal and respiratory body dysfunctions); obsessions and compulsions (including thoughts, actions and impulses that are experienced as impossible to avoid or unwanted); interpersonal sensitivity (presence of feelings of inferiority and inadequacy, especially when a person is compared to his peers); depression (dysphoric mood, lack of motivation, little vital energy, feelings of hopelessness, suicidal ideations); anxiety (presence of nervousness, tension, panic attacks, fears); depression (dysphoric mood, lack of motivation, little vital energy, feelings of hopelessness, suicidal ideations), hostility

(thoughts, feelings and actions characteristic of the presence of negative emotions of anger), psychoticism (symptoms referring to states of loneliness, schizoid lifestyle, hallucinations and thought control), and additional (include: poor appetite, trouble sleeping, thoughts about death or dying, overeating, waking up early, restless sleep, and feelings of guilt).

On the other side, Spearman correlations were established between the data produced by the application of the ECOVID-ED Survey and the factors of the Symptom Check-List-90-R Inventory. These are described below.

Table 2.

Response averages by sex of each factor of Inventory Symptom Check-List-90-R

	Men		Women		p
	Avg	SD	Avg	DE	
Somatization	1.70	.47	2.12	.80	.01
Obsessions and compulsions	1.77	.55	2.17	.91	.00
Interpersonal sensitivity	1.70	.47	1.96	.79	.03
Depression	1.85	.51	2.25	.85	.03
Anxiety	1.70	.54	2.06	.83	.02
Hostility	1.64	.52	2.04	.77	.04
Phobic anxiety	1.47	.48	1.85	.76	.23
Paranoid ideation	1.69	.57	1.91	.75	.56
Psychoticism	1.45	.38	1.75	.76	.04
Additional	1.69	.46	2.08	.87	.02

Note: Source: Own production

a) For men in general, moderate significant correlations were observed (see Table 3), finding direct associations (that is, when one variable increases in value the other also increases), among the item: "Your school belongs to the public sector" and somatization and depression factors ($rs=.37, p < 0.05$; $rs=.33, p < 0.05$, respectively).

The other correlations were moderately significant and indirect (as one variable increases, the further variable decreases); the following are described:

-The item "Continued in contact with their teachers once a week" was associated with somatization, obsession, anxiety, and psychoticism factors ($rs=-.44, p < 0.05$; $rs=-.33, p < 0.05$; $rs=-.40, p < 0.05$; $rs=-.37, p < 0.05$, respectively).

-The item "They used digital tools to continue their classes" was associated with the additional factor ($rs=-.34, p < 0.05$).

-The item "They used the laptop as a digital tool" was related to phobic anxiety ($rs=-.42, p < 0.05$).

-The item "Did not receive support from someone in your home in school activities" was associated with factors: Somatization and phobic anxiety ($rs=-.35, p < 0.05$; $rs=-.37, p < 0.05$ respectively).

-The item "Spend six or more hours a day for school activities" was linked with additional ($rs=-.35, p < 0.05$).

- The item "Consider an advantage of online classes that does not put at risk the health of students, stay safe at home" was related to the somatization factor ($rs=-.37, p < 0.05$).

Table 3

Correlations between ECOVID-ED and Symptom Check-List-90-R in function of Spearman rs per sex (Men)

Item	5	6	7	9	10	12	13	21
Somatization	-.44**		.37*		-.35*			-.37*
Obsession	-.33*							
Depression			.33*					
Anxiety	-.40*							
Hostility						.39*		
Phobic anxiety				-.42*	-.37*			
Psychoticism	-.37*							
Additional		-.34*						-.35*

Note: Reagents: 5= Continued contact with their teachers once a week; 6= Used digital tools to continue their classes; 7= Their school belongs to the public sector; 9=They used the laptop as a digital tool; 10= Did not receive support from someone in your home in school activities;12= The device you use is home-owned and used exclusively; 13= Spend six or more hours a day for school activities; 21= They consider advantage of online classes that do not put the health of students at risk, they are kept safe at home.
Source: Own production.

b) Direct, low and significant associations were found for women in general (see Table 4).

These are described below.

-Between the item: "Continue in contact with your teachers" and the factor depression and ($rs=.31, p < 0.05$).

- the item "The mother provides financial support for their studies" and the obsessive factor ($rs=.25, p < 0.05$);

-The item "Spend six or more hours a day for school activities" and the anxiety factor ($rs=.29, p < 0.05$).

- The item "Will attend school this semester according to traffic light" and anxiety factor and ($rs=.25, p < 0.05$).

-The item "Would attend school this semester according to traffic light" and phobic factor ($rs=.26, p < 0.05$).

- The item "Spend six or more hours a day for school activities" and the additional factor ($rs=.24, p < 0.05$).

- The item "They will attend school this semester according to the traffic light" and the interpersonal sensitivity factor ($rs=.24, p < 0.05$).

The other correlations were low, indirect, and significant, described below.

-The item "Incurred expenses not considered in distance classes" and somatization factors, interpersonal sensitivity, and anxiety ($rs=-.30, p < 0.05$; $rs=-.33, p < 0.05$; $rs=-.28, p < 0.05$, respectively).

-The item "Consider an advantage of online classes that does not put at risk the health of students, stay safe at home" and depression factor ($rs=-.24, p < 0.05$).

Table 4

Correlations between ECOVID-ED and Symptom Check-L 90-R in function of Spearman rs per sex (Men)

Item	5	14	15	16	18	19	21
Somatization							-.30*
Obsession		.25*					
Sensitivity interpersonal					.24*		
Depression	.31*						-.33**
Anxiety				.29*	.24*		-.28*
Phobic anxiety				.26*			
Additional			.24*				

Note: Reagents: 5= Continued contact with their teachers once a week; 14= The mother provides financial support for their studies; 15=Spend 6 or more hours a day for school activities; 16= Attend school this semester according to traffic lights; 18=They will attend school this semester according to traffic lights; 19=They made expenses not considered in distance classes; 21= They consider an advantage of online classes that does not put at risk the health of students, they are kept safe at home.

Source: Own production

**= $p < 0.01$ * = $p < 0.05$

DISCUSSION

The objective of this research was to evaluate in university students of the state of Hidalgo, Mexico, the psychological impact during distance classes, from the confinement by the pandemic by SARS-CoV-2.

Thus, regarding the data from this study in the field of education, similar results were observed to those of INEGI (2021), which suggests that

The COVID-19 pandemic was a reason for not completing the previous semester or not registering for the current semester, due to the lack of economic resources, and the lack of resources for connecting to remote classes. This is also confirmed by what Franco et al., (2021) and Rosario-Rodríguez, et al. (2020), found that in their studies some students lacked the necessary tools, and considered distance classes little functional for learning.

From the results found, women presented higher scores in the presence of psychological symptoms in the same way that in the educational area they were more affected, unlike men who in both cases had lower scores. These results are similar to previous studies such as the study by Wang et al., (2020) which report that women are more affected by psychological well-being and increase their levels of psychosocial stress. Recently, the WHO (March 2, 2022), notes that the impact of COVID-19 on mental health is greater in women than in men, being also the young population more affected.

This shows the importance of mental health care as part of the educational process, since the effects of COVID-19, as already

addressed, are not only due to biological factors, but also to social factors such as confinement that modified the students' routine, the hours they designated for school activities, restriction of social interaction, lack of resources or support, as well as evidencing social inequality, economic, among other things. All these factors as observed in the present study were related to the presence of psychological symptoms such as somatizations, obsessions and compulsions, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, ideation paranoid, and psychoticism because you cannot see the mind and body independently. Students may be subjected to high levels of stress due to the academic burden and the tension resulting from the pandemic, so educational processes should be designed under the perspective of emotional well-being thinking in current conditions.

As in all research limitations may occur and in this study one of the main was the number of participants, although the invitation was made by various means it was difficult to increase the number of people in the sample; More women than men participated. Another limitation was the virtual application of the instruments, which prevented direct observation of the participants.

For future research it is suggested to match the samples so that the subsamples are egalitarian, and to increase the number of applications.

It would also be important to address in future studies measures to mitigate the pandemic effect on mental health, Also, carry out assessments of the educational system to implement new methodologies in learning that are based on the situation of students; In addition to longitudinal investigations to evaluate and monitor the impact of the pandemic at different times.

CONCLUSION

It is concluded that the closing of schools represented changes in routine and coexistence bringing uncertainty to the development of education in the long term. It should be added that although the closure of schools was taken as one of the measures to prevent the spread of the SARS-CoV-2 virus, it should not only safeguard health, it is also important to generate new and better teaching strategies for learning and implement programs for the prevention and reduction of the psychological effects generated during the pandemic by the Covid-19, to ensure the well-being and mental health of university students.

REFERENCES

- Ahorsu, D., Lin, C. Y., Imani, V., Saffari, M., Griffiths, M. D., & Pakpour, A. H. (2020). The Fear of COVID-19 Scale: Development and Initial Validation. *International Journal of Mental Health and Addiction*. <https://psycnet.apa.org/doi/10.1007/s11469-020-00270-8>
- Asmundson, G. J. G. & Taylor, S. (2020). Coronaphobia: Fear and the 2019nCoV outbreak. *Journal of Anxiety Disorders*,

70(February).

<https://doi.org/10.1016/j.janxdis.2020.102196>

- Asociación Médica Mundial. (2017). *Declaración de Helsinki de la AMM-Principios éticos para las investigaciones médicas en seres humanos*. <https://www.wma.net/es/policias-post/declaracion-de-helsinki-de-la-amm-principios-eticos-para-las-investigaciones-medicas-en-seres-humanos/>
- Blas, C., Chávez, R., Cruz, C., & González, L. (2005). Datos sobre la validez y confiabilidad de la Symptom Check List 90 (SCL 90) en una muestra de sujetos mexicanos. *Salud Mental*, 28 (1), 2-10. <http://www.scielo.org.mx/pdf/sm/v28n1/0185-3325-sm-28-01-72.pdf>
- Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S., Greenberg, N., & Rubin, G. J. (2020). The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *The Lancet*, 395(10227), 912–920. [https://doi.org/10.1016/S0140-6736\(20\)30460-8](https://doi.org/10.1016/S0140-6736(20)30460-8)
- Caparrós-Caparrós, B., Villar-Hoz, E., Juan-Ferrer, J., & Viñas-Poch, F (2007). Symptom Check-List-90-R: fiabilidad, datos normativos y estructura factorial en estudiantes universitarios. *International Journal of Clinical and Health Psychology*, 7(3), 781-794. <https://www.redalyc.org/articulo.oa?id=33770314>
- Carrillo Valdez, L., Escamilla Gutiérrez, M. L., & González Bahena, V. (2020). Variables predictoras de las respuestas psicológicas ante Covid-19: Un estudio en México. *Ciencia y Sociedad*, 45 (3), 7-23. <https://doi.org/10.22206/cys.2020.v45i3.pp7-23>
- Carvalho, P. M. de M., Moreira, M. M., de Oliveira, M. N. A., Landim, J. M. M., & Neto, M. L. R. (2020). The psychiatric impact of the novel coronavirus outbreak. *Psychiatry Research*, 286(February), 112902. <https://doi.org/10.1016/j.psychres.2020.112902>
- Castillo, V., Cabezas, N., Toledo, C., & Vera, C. (2021). Ansiedad al aprendizaje en línea: relación con actitud, género, entorno y salud mental en universitarios. *Revista Digital de Investigación en Docencia Universitaria*, 15 (1). http://www.scielo.org.pe/scielo.php?pid=S2223-25162021000100004&script=sci_arttext
- Derogatis, L. (1994). SCL-90-R. *Symptom Checklist-90-R. Administration, Scoring and Procedures Manual*. Minneapolis: National Computer System.
- Espada, J.P., Orgiles, M., Piqueras J.A., & Morales, A. (2020). Las buenas prácticas en la atención psicológica infanto-juvenil ante el COVID19. *Clinica y Salud*, 31 (2). https://scielo.isciii.es/scielo.php?script=sci_arttext&pid=S1130-52742020000200007
- Figueroa Hernández, J. A., Gómez, O., Maldonado Suárez, N., & Santoyo Telles, F. (2021). Características de Riesgo Psicosocial en Población Mexicana ante el COVID-19 Psychosocial Risk Characteristics in the Mexican Population in the Face of COVID-19. *Acta de Investigación Psicológica*, 11(1), 21-39. http://www.psicologia.unam.mx/documentos/pdf/actas_ip/2021/3_covidpsico_vf.pdf

- Franco, D., Gutiérrez, M., Román, E., & Urcid, S. (2021). Adaptaciones socioeducativas: Un nuevo estilo de aprendizaje en jóvenes universitarios durante la pandemia SARS-CoV-2(COVID-19). *Revista electrónica de psicología Iztacala*, 24 (3). <https://www.iztacala.unam.mx/carreras/psicologia/psiclin/vol24num3/Vol24No3Art12.pdf>
- González-Jaimes N, Tejeda-Alcántara A, Méndez, C. M, & Ontiveros-Hernández, Z. (2020) Impacto psicológico en estudiantes universitarios mexicanos por confinamiento durante la pandemia por Covid-19. *Scielo PrePrint*. <https://preprints.scielo.org/index.php/scielo/preprint/view/756/1024>
- Instituto Nacional de Estadística y Geografía. (2021). *Encuesta para la Medición del Impacto COVID-19 en la Educación (ECOVID-ED)*. Diseño muestral. https://www.inegi.org.mx/contenidos/investigacion/ecovided/2020/doc/ecovid_ed_2020_diseno_muestral.pdf
- Instituto Nacional de Estadística y Geografía. (23 de marzo de 2021) *INEGI presenta resultados de la encuesta para la medición del impacto covid-19 en la educación*. https://www.inegi.org.mx/contenidos/saladeprensa/boletine/2021/OtrTemEcon/ECOVID-ED_2021_03.pdf
- Martín Beristain, C. (2010). *Manual sobre perspectiva psicosocial en la investigación de derechos humanos*. Centro por la Justicia y el Derecho Internacional (CEJIL) e Instituto Hegoa de la Universidad del País Vasco UPV/EHU. Bilbao. <https://www.corteidh.or.cr/tablas/27117.pdf>
- Moreno, J., Cestona, I., & Camarena, P. (2020). El impacto emocional de la pandemia por COVID-19. Madrid, España: Madrid Salud. <https://madridsalud.es/wp-content/uploads/2020/06/GuiaImpactopsicologico.pdf>
- Organización Mundial de la Salud. (20 de Marzo de 2020). *Alocución de apertura del Director General de la OMS en la rueda de prensa sobre la COVID-19 celebrada el 11 de marzo de 2020*. Discursos Del Director General de La OMS. <https://www.who.int/es/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020>
- Organización Mundial de la Salud (2 de Marzo de 2022). *COVID-19 pandemic triggers 25% increase in prevalence of anxiety and depression worldwide*. <https://www.who.int/news/item/02-03-2022-covid-19-pandemic-triggers-25-increase-in-prevalence-of-anxiety-and-depression-worldwide>
- Organización Panamericana de la Salud. (2016). *¿Hacia un desastre microbiano? Perspectivas de Salud*. <https://cutt.ly/RIJ6WQp>
- Rosario-Rodríguez, A., González-Rivera, J. A., Cruz-Santos, A., & Rodríguez-Ríos, L. (2020). Demandas tecnológicas, académicas y psicológicas en estudiantes universitarios durante la pandemia por COVID-19. *Revista Caribeña de Psicología*, 4(2), 176-185. <https://doi.org/10.37226/rcp.v4i2.4915>
- Sepúlveda, P. (02 de abril de 2020). *Educación en línea en cuarentena: ¿cómo ser más que un docente que lee diapositivas y entusiasmar a los alumnos?* La tercera. <https://www.latercera.com/que-pasa/noticia/educacion-en-linea-en-cuarentena-como-ser-mas-que-un-docente-que-lee-diapositivas-y-entusiasmar-a-los-alumnos/46DEDZB5JVHKBEENXDWGPT76II/>
- Sociedad Mexicana de Psicología. (2009). *Código Ético del Psicólogo* (4^a ed.). Trillas. https://www.psicologia.unam.mx/documentos/pdf/comite_etica/CODIGO_ETICO_SMP.pdf
- Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., Ho, C. S., & Ho, R. C. (2020). Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. *International Journal of Environmental Research Public Health*, 17 (5), 17-29. <https://www.mdpi.com/1660-4601/17/5/1729>