

Territorial distribution of burnout in higher education in Mexico



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Abstract

The work dynamics experienced by Covid-19 is unprecedented, so that the changes and adaptations made throughout the period between March 2020 and August 2021 were a great challenge to cope with higher education, at the same time as personal life, family and health. Therefore, the aim of this article is to analyze the relationship between the sociodemographic conditions of university teachers and the development of professional burnout during socio-educational confinement in Mexico, through the territorialization of these conditions. The research is quantitative, with a descriptive and correlational approach of the sociodemographic variables as a function of professional teacher burnout. The total sample consisted of 2563 teachers from different Higher Education Institutions (HEI) in the country, whose results showed that the maximum level of burnout is related to some socioeconomic conditions such as: gender, marital status, and area of knowledge. Likewise, it is concluded that

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some socio-demographic conditions determine the magnitude of professional burnout in higher education teachers, in addition to other possible reasons that affect the level of burnout differentiated by federal entity.

Keywords: Burnout, Covid-19, higher education, sociodemographic conditions, Mexico

Resumen

La dinámica laboral experimentada por la Covid-19, no tiene precedentes, por lo que los cambios y adaptaciones realizadas a lo largo del periodo comprendido entre marzo de 2020 y agosto de 2021, fueron un gran desafío para sobrellevar la educación superior, al mismo tiempo que la vida personal, familiar y la salud. Por ello, el objetivo del presente artículo es analizar la relación que guardaron las condiciones sociodemográficas de las y los docentes universitarios con el desarrollo de agotamiento profesional durante el confinamiento socioeducativo en México, a través de la territorialización de dichas condiciones. La investigación es de corte cuantitativa, con un enfoque descriptivo y correlacional de las variables sociodemográficas en función del agotamiento profesional docente. La muestra total fue de 2563 docentes de las distintas Instituciones de Educación Superior (IES) en el país, cuyos resultados arrojaron que el nivel máximo de agotamiento está relacionado con algunas condiciones socioeconómicas como: género, estado civil, y área de conocimiento. Asimismo, se concluye que algunas condicionantes sociodemográficas determinan la magnitud del agotamiento profesional en docentes de educación superior, además de otras posibles razones que inciden en el nivel de agotamiento diferenciados por entidad federativa.

Palabras clave: Burnout, Covid-19, educación superior, condiciones sociodemográficas, México

Introduction

The confinement caused by Covid-19 has highlighted the challenges and horizons of education systems at the international level in terms of their capacity to act and react to changes in the educational modality at all levels of training that constitute them. However, these challenges and horizons have fallen heavily on the professional

practice of teaching in higher education, as this level is the most important in the training and formation of human capital for the development of countries, as is the case of the Mexican education system (National Development Plan 2019-2024 [PND 2019-2024]); this situation resulted in training scenarios marked by uncertainty (Acuña-Gamboa, 2022) during and after the end of the syndemic caused by the new coronavirus (Horton, 2021).

This socio-professional uncertainty in higher education has been related to problems that restructure the profession of academia, as well as the work, personal and family conditions that these educational actors have had to deal with as part of the reconfiguration of their profession, such as stress, stress, sleep disorders and digestive psychosomatic disorders, depression, anxiety, insomnia, as well as the increased workload, extended workdays without economic remuneration and the lack of time for leisure, recreation and family coexistence that meant the change of educational modality, turning these labor educational scenarios into symbolic fields of dispute (Gil Antón, 2018; Méndez López, 2017) for the permanence, on many occasions, in jobs and in systems of economic stimuli that seek to improve teachers' salaries.

For the case of the present research, it is of special interest to investigate the professional burnout that Mexican higher education academics developed during their professional practice in confinement; based on this, the present review of the state of the question takes up as a corpus of interest, the national and international works developed in the following analytical categories: 1) Covid-19 and higher education; 2) Professional burnout, higher education and Covid-19; and finally, 3) Professional burnout, sociodemographic conditions and Covid-19.

Regarding the first category of analysis, Covid-19 and higher education, several papers emphasize the challenges posed by the abrupt transfer of face-to-face higher education to virtual and distance modalities during the confinement by Covid-19, a situation that generated problems in the teaching and student community for the achievement of school cycles, problems such as little or no development of digital competencies for the development of synchronous and asynchronous activities as part of the teaching and learning processes (Coronateaching) (Díaz Vera, Ruiz Ramírez and

Egüez Cevallos, 2021; IESALC, 2020; Umaña-Mata, 2020), with the understanding that the incorporation of technology in the development and evolution of higher education in the near future is highly probable and promising (Aslam, Abid and Parveen, 2023; Imran et al., 2023; Schwab, 2017).

On the other hand, there is evidence in other research that working hours were intensified and extended excessively up to more than 50 hours a week to meet work commitments in a timely manner, and eliminate leisure and family time among academics (Irigoyen Padilla and Martínez Alcántara, 2015; Martínez López, Martínez Alcántara and Méndez Ramírez, 2015; Portillo Peñuelas et al., 2020). From another perspective, some authors evidence that the confinement by Covid-19 allowed the development of interpersonal skills necessary for the healthy achievement of academic activities virtually or at a distance between students and teachers, as well as the fact that it opens new areas of opportunity for higher education in virtual contexts of teaching and learning (Adarkwah and Agyemang, 2022; Lytras et al., 2022; Luthra and Mackenzie, 2020).

Regarding the second category, Professional burnout, higher education and Covid-19, there are authors who converge on the fact that socio-educational confinement has caused very high levels of professional burnout and stress, as well as problems to physical and mental health, which translated into feelings of loneliness, abandonment, lack of a sense of collaborative work and low levels of development of self-taught teaching and learning processes by the academic community worldwide (Bruggeman et al., 2022; Camacho, Gaspar, and Rivas, 2021; Lytras et al, 2022; Negrete Cetina et al., 2023; Quraishi, 2023); on the other hand, some works emphasize the fact that the confinement by Covid-19 opens scenarios to think and rethink the emotional stability of teaching professionals in direct relation to their work performance, which forces the realization of introspective exercises whose purpose is the creation of emotional education programs for the academic community (Cortez-Silva et al., 2021; Pacheco Peralta et al., 2023; Romero Oliva et al., 2022; Said-Hung et al., 2021).

Finally, in the third category of analysis, Professional burnout, socio-demographic conditions and Covid-19, although studies are incipient, they assert that teaching and student populations with greater socioeconomic and educational inequality gaps have

developed greater physical (diseases associated or not with Covid-19) and emotional (burnout and work and/or educational stress) problems, in turn, the reconfiguration of academic, family and personal environments have been key in the poor results of academic achievement in higher education (Acuña Gamboa, 2020; Altbach and de Wit, 2020; Armitage and Nellums, 2020; Ferrer et al., 2023; Selvam et al., 2023; Tibber et al., 2023). In contrast, some authors argue that high levels of professional burnout are not necessarily related to dissatisfaction in the lives of academics, since they have found improvements in physical activity and self-care during confinement (De Sola et al., 2022; Pillaca, 2021).

Based on the above, it is relevant to analyze the relationship between the sociodemographic conditions of university teachers and the development of professional burnout during socio-educational confinement in Mexico, the object of study that supports this research article.

Materials and methods

This research uses as support the descriptive and correlational research design, from the quantitative approach. The above determination is supported by the arguments put forward by Niño Rojas (2019) and Arias González and Covinos Gallardo (2021) in which the importance of performing correlation analyses between variables, from which to determine the impact that certain attributes have on the subjects of study, is exposed.

The non-probabilistic method of purposive sampling was used to select the study population. An essential characteristic of the population is that the study subjects work in the higher education sector, both in private and public institutions in Mexico. In total, the sample is composed of 2563 academics.

To collect the information for the sample, we collaborated with the company SocialLightMX, a collection process that covered a period of approximately three and a half months. This company used different processes to reach the study population, such as agendas with educational authorities, local education secretariats, specialized agencies, among others.

The data collection instrument consisted of a questionnaire divided into three categories: Burnout and Syndemic, Teacher Incentive

System and Work Well-Being. This questionnaire was designed, among other purposes, to estimate the professional burnout and work stress that the Teaching Incentive Systems generate in the academics who participated during the Covid-19 pandemic, including sociodemographic and academic aspects.

This is made up of 44 items distributed in nine dimensions, using multiple-choice items and ordinal scales, since it is essential to establish the reliability and validity of the data collection instrument in order to be certain of the deductions made from them. Due to the above, the reliability analysis was carried out by means of Cronbach's Alpha (Rodríguez Rodríguez and Reguant Álvarez, 2020) using SPSS statistical software in its version 28, obtaining an index of .782, a value that is within the acceptable reliability range. Once the information was collected, we proceeded to a primary analysis of the data, using descriptive statistics such as: mean, standard deviation, frequency tables and Pearson's and Fisher's asymmetry coefficients. Subsequently, an analysis of the behavior of the variables of interest was carried out, taking as a reference the variable that collected the opinion of professional burnout, through the Chi-Square test to determine the significance of the associations between the study variables, as shown in Table 1. Likewise, the Cramer's V test analysis was applied to measure the strength of this association, and the uncertainty coefficient as a precision test, to map the most representative information.

Table 1. *Chi-square tests performed between professional burnout and area of specialization.*

	Value	df	Asymptotic significance (bilateral)
Pearson's Chi-square	83.234 ^a	16	.000
Likelihood ratio	81.300	16	.000
Linear by linear association	26.550	1	.000
N of valid cases	2563		

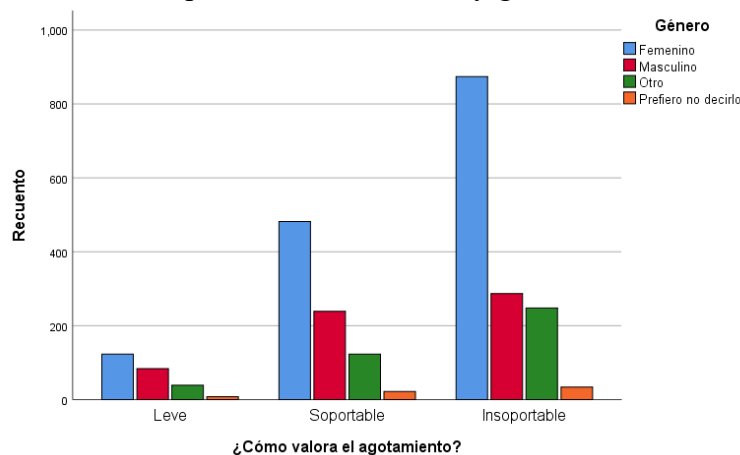
Source: Own elaboration.

Results

Regarding the sociodemographic characteristics of the academics who participated in the survey, the following results were obtained, once the quantitative analysis was carried out using SPSS, on which the variable of professional burnout was analyzed from three levels of interest: mild, bearable and unbearable.

The levels of exhaustion provoked by the incentive systems during the Covid-19 pandemic were more representative in the female population in its three levels, being the most representative the unbearable, where more than 800 academic women expressed feeling extremely exhausted during the exercise of their professional duties in confinement. This result infers diverse activities that women carry out in their daily lives, in addition to the challenges of professional development, where sometimes it is a challenge to carry out all the responsibilities of their gender. In this sense, the results of the analysis of association between variables stand out, one of them was the behavior of burnout due to gender, in this association significance values of 0 were obtained from Pearson's chi-squared test, thus indicating an ideal concordance between the observed and expected frequencies. Within this association it was observed that the tendency to a higher level of exhaustion or classified as unbearable is more prevalent in women than in men. The percentage count of this association is shown in Figure 1.

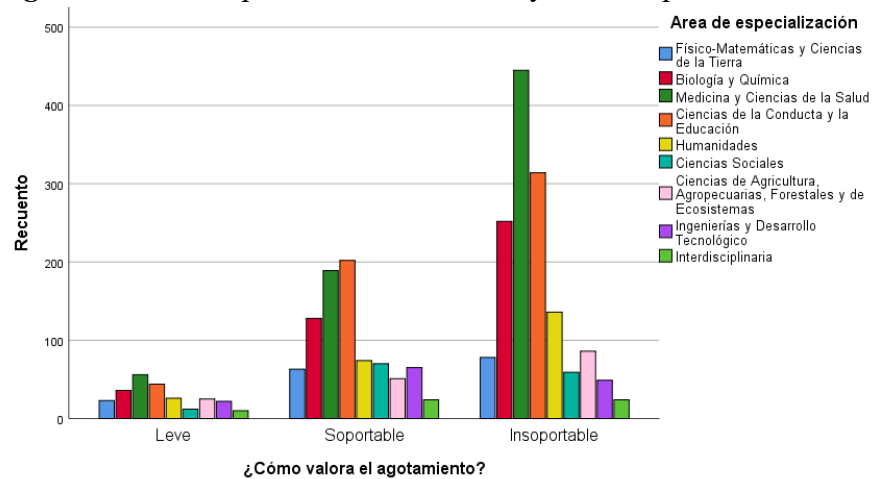
Figure 1. Level of professional burnout by gender.



Source: Own elaboration.

Another association analysis was the level of professional burnout of academics due to their area of specialization, and as in the previous case, the Pearson chi-squared test showed a significance of 0, indicating once again an ideal concordance between the observed and expected frequencies. It is worth mentioning that, in the case of Mexico, the areas recognized by the National Council of Science and Technology (Conacyt) are currently nine. The area of specialization that reported the highest count of burnout level classified as unbearable was Medicine and Health Sciences with a representation of more than 450 participants, followed by Behavioral Sciences and Education with a little more than 300 professionals, and in third place the area of Biology and Chemistry with more than 250 people located in this area. It is worth mentioning that the same three areas of knowledge were the ones that stood out in the remaining levels (bearable and mild), as can be seen in Figure 2. Through these results, the analysis of association between variables by means of the chi-square, it is obtained that $p = 0.000$, as the significance is less than 0.05, which means that the level of burnout has a close relationship with the area of specialization.

Figure 2. Level of professional burnout by area of specialization.



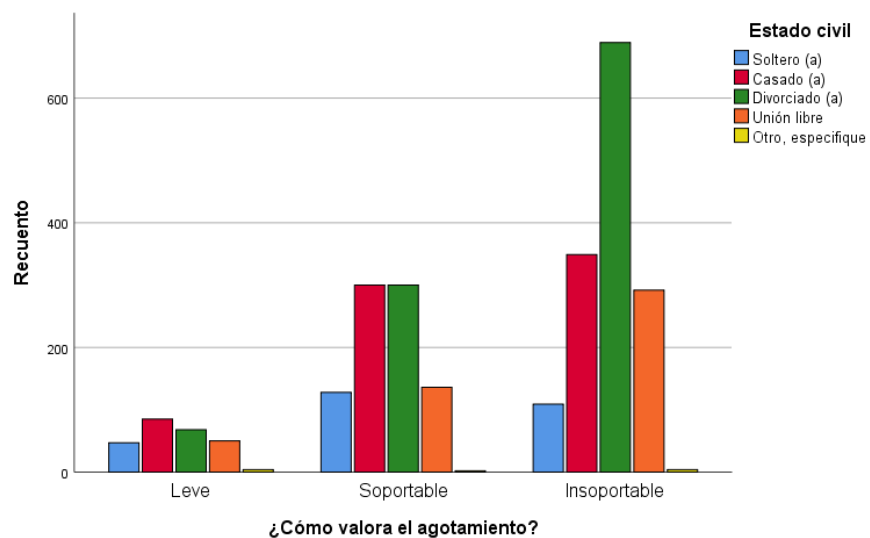
Source: Own elaboration.

With regard to territorial conditions, in terms of the type of locality (rural and urban), no correlation level was obtained to explain the condition of the level of professional burnout as a function of the characteristics of the locality of origin. From the analysis of the

association between variables by means of chi-square, it is obtained that the level of burnout has no relationship with the type of locality. Based on this result, it can be inferred that the academic population that decides to participate in some means of economic incentives looks for different alternatives to cover productivity, being the original place of origin in many occasions a situation that is solved with a change of residence or the conditions in the whole Mexican territory are so diverse that they go unnoticed in this area.

In the case of the marital status of the academic population, the three levels of burnout show that divorced and/or married people are those who experience the highest levels, a very different condition for the single population, whose levels of burnout are expressed in a lower proportion ($n < 200$). It is important to highlight the high percentage of divorced participants, value referred to their marital status, where almost half of the population is in this position, a total of 41.2% ($n=1057$).

Figure 3. Level of professional burnout by marital status.



Source: Own elaboration.

In general sociodemographic descriptive terms, the distribution of sex is predominantly female with 57.7% ($n=1479$), while 23.8% is male ($n=610$), the rest identified with another sex or preferred not to

say. Regarding the locality of the participants, 84.7% worked in urban areas and 15.3% in rural areas.

In terms of age, the most representative group corresponds to those between 36 and 45 years of age, with 45.9% (n=1178); on the other hand, the least representative groups are those under 30 and over 60 years of age, with 4.5% and 3.3%, respectively.

With respect to the highest level of studies, the Master's and Doctorate degrees are the most represented with 33.6% and 30.2% respectively. Of these, the highest percentage of the academics surveyed work as subject or hourly teachers (50%).

As for the distribution of professional burnout of higher education academic personnel, it was carried out according to the highest representativeness of the level, as follows: in the slight level, the one with the lowest presence in the national territory, only four states of the Mexican Republic were found, being the territories of Baja California Sur, San Luis Potosí, Morelos and Tabasco, which are shown in green. In second place are the states of Baja California, Sonora, Chihuahua, Coahuila, Tamaulipas, Veracruz, Campeche, Colima, Guerrero, Oaxaca, Guanajuato, Hidalgo, Puebla and Tlaxcala (14 of the 32 states that make up the Mexican state), represented with yellow, where the majority of participants referred to a bearable level based on the economic incentives to which they have access from their different categories and work positions. The territorial behavior of this level of professional burnout shows that the conditions that the state organization, through the different Institutions of Higher Education (IES), offer a series of economic incentive programs to their teachers, in order to make the academic production of their states more efficient, in addition to the economic incentives at the national level. Finally, and with the same number of entities in the bearable level, are those states that reported having an unbearable level of professional burnout, where the central-western and southern zone of the country stands out with the red color, with the states of Aguascalientes, Chiapas, Mexico City, Durango, State of Mexico, Jalisco, Michoacán, Nayarit, Nuevo León, Querétaro, Quintana Roo, Sinaloa, Yucatán and Zacatecas (see Figure 4).

Figure 4. Distribution of Professional Burnout by Entity federative



Source: Own elaboration.

Discussion

The present research presents as main findings the relationship between some of the sociodemographic conditions that the faculty of Higher Education Institutions experienced during the Covid-19 pandemic, as part of the uncertainty that such an event implied in different areas: personal, family, educational and mainly in individual and collective health (Acuña-Gamboa, 2022).

While it is true that Covid-19 marked a before and after in the form and pace of the development of daily activities, the issue of higher education was no exception, since it came to reconfigure the educational models based on virtuality, where structural and technological inequalities were manifested taking as a reference the age of the teaching staff, widening the digital divide between the same teaching and student population.

One of the most relevant socio-demographic conditions is the correlation between professional teacher burnout and the gender of the participating population, where the highest levels were found in the female population, a condition that, despite the efforts in terms

of gender equity, daily practices continue to show broad inequalities between men and women, a condition that exposes a reality that must be addressed from the different territorial areas, as well as in the parameters of evaluation of academic performance. In Mexico, Conacyt has recognized the unequal condition between men and women who participate in the National System of Researchers, for which reason there are deadlines and complementary support for the female population to prevent any impact on the performance of academic activities; however, despite such efforts, it is important to recognize that there is still a long way to go to confront the vicissitudes that women are going through.

In terms of hiring categories, the academic subject is the one who experiences professional burnout to a greater extent, since, being in a constant job uncertainty, he/she potentiates professional burnout in addition to the activities that the economic incentive systems entail. The territorial distribution of professional teacher burnout presents multiple nuances, due to the representativeness in each of the states, however, it was shown that 28 states of the republic suffer bearable and unbearable levels, where the states with the highest level present territorial problems typical of the center of the country and of greater population concentration (Mexico City, Puebla, Jalisco, Nuevo Leon), where time and the cost of living are added factors to professional burnout.

Lastly, Covid-19, in addition to strengthening the conditions of inequality that already exist in many areas of human, economic and social development, revealed the new labor dynamics, many of which have become professional patterns that contravene the emotional health of higher education academics.

References

- Acuña-Gamboa, L.A. (2022). Uncertainty-Based Learning: Constructing Post-Covid Educational Scenarios in Mexico. *Journal of Research in Education* 20 (2): 127-139. Accessed March 02, 2023. <https://doi.org/10.35869/reined.v20i2.4220>.
- _____. (2020). Covid-19, burnout and education: The unseen face. *Future Education*, April 21. <http://www.educacionfutura.org/Covid-19-burnout-y-educacion-el-rostro-que-no-se-ve/>.

- Adarkwah, M. A. & Agyemang E. (2022). Forgotten frontline workers in higher education: Aiding Ghana in the COVID-19 recovery process. *Physics and Chemistry of the Earth* 127:1-9. Accessed July 19, 2023. <https://doi.org/10.1016/j.pce.2022.103202>.
- Altbach, P. G. and De Wit, H. (2020). The impact of coronavirus on higher education. *Nexus. Distance for Times. Education Blog*, March 25. <https://educacion.nexos.com.mx/?p=2221>.
<https://educacion.nexos.com.mx/?p=2221>
- Arias González, J. L. & Covinos Gallardo, M. (2021). *Research Design and Methodology*. Enfoques Consulting Eirl
- Armitage, R. & Nellums, L. B. (2020). Correspondence. Considering inequalities in the school closure response to Covid-19. *The Lancet Global Health* 8 (5): e644. Accessed February 16, 2023. [https://doi.org/10.1016/S2214-109X\(20\)30116-9](https://doi.org/10.1016/S2214-109X(20)30116-9).
- Aslam, S., Abid, N. & Parveen, K. (2023). Academic arena and survival: INSIGHTS on remote working and learning in higher education during the recurrence of COVID-19. *Medical Education* 24: 1-12. Accessed July 21, 2023. <https://doi.org/10.1016/j.edumed.2023.100838>.
- Bruggeman, B., Garone, A., Struyven, K, Pynoo, B. & Tondeur, J. (2022). Exploring university teachers' online education during COVID-19: Tensions between enthusiasm and stress. *Computers and Education Open* 3: 1-13. Accessed July 22, 2023. <https://doi.org/10.1016/j.caeo.2022.100095>.
- Camacho, R., Gaspar, M. & Rivas, C. (2021). Burnout syndrome and job stress by Covid-19 in Ecuadorian university teachers. *Revista del Grupo de Investigación en Comunidad y Salud* 6 (4): 166-176. Accessed July 29, 2023. <https://bit.ly/44S0a1A>.
- Cortez-Silva, D. M., Campana Mendoza, N., Huayama Tocto, N., & Aranda Turpo, J. (2021). Job satisfaction and burnout syndrome in teachers during COVID-19 pandemic confinement. *Purposes and Representations*, 9(3), e812. <https://doi.org/10.20511/pyr2021.v9n3.812>.
<https://doi.org/10.20511/pyr2021.v9n3.812>
- De Sola, H., Salazar, A., Palomo-Osuna, J., Dueñas, M., Failde, I., & Moral-Munoz, J. A. (2022). Understanding the impact of the COVID-19-related lockdown in university workers. Identifying

- groups through cluster analysis. *Heliyon*, 8(12).
<https://doi.org/10.1016/j.heliyon.2022.e12483>
- Díaz Vera, J. P., Ruiz Ramírez, A. K., & Egüez Cevallos, C. (2021). Impact of ICT: challenges and opportunities for Higher Education in the face of COVID-19. *Revista Científica UISRAEL*, 8(2), 113-134.
<https://doi.org/10.35290/rcui.v8n2.2021.448>
- Ferrer, J., Iglesias, E., Blanco-Gutiérrez, I. & Estavillo, J. (2023). Analyzing the impact of COVID-19 on the grades of university education: A case study with economics students. *Social Sciences & Humanities Open* 7: 1-8.
<https://doi.org/10.1016/j.ssaho.2023.100428>
- Gil Antón, Manuel (2018, November 17). national system of publishers? *El Universal*. <https://bit.ly/3wglPBc>
- Horton, R. (2021). Offline: COVID-19 is not a pandemic. *The Lancet* 396: 874. [https://doi.org/10.1016/S0140-6736\(20\)32000-6](https://doi.org/10.1016/S0140-6736(20)32000-6).
- IESALC (International Institute for Higher Education in Latin America and the Caribbean) (2020). *COVID-19 and higher education: From immediate effects to the day after. Análisis de impactos, respuestas políticas y recomendaciones*. Caracas: UNESCO.
- Imran, R., Fatima, A., Salem, I. E., & Allil, K. (2023). Teaching and learning delivery modes in higher education: Looking back to move forward post-COVID-19 era. *The International Journal of Management Education*, 21(2), 100805.
- Irigoyen Padilla, F. D. & Martínez Alcántara, S. (2020). Economic stimuli, productivity and health in teachers of the Universidad Autónoma Benito Juárez de Oaxaca. *Salud de los Trabajadores* 23 (2): 127-136. <https://bit.ly/3DpMnn2>.
- Lytras, M. D., Serban, A. C., Ruiz, M. J. T., Ntanos, S., & Sarirete, A. (2022). Translating knowledge into innovation capability: An exploratory study investigating the perceptions on distance learning in higher education during the COVID-19 pandemic-the case of Mexico. *Journal of Innovation & Knowledge*, 7(4), 1-15.
<https://doi.org/10.1016/j.jik.2022.100258>.
<https://doi.org/10.1016/j.jik.2022.100258>.
- Méndez López, M. G. (2017). Labor intensification and emotions of Mexican language teachers: A case study. *Innovación Educativa* 17 (75): 31-48. Accessed January 10, 2023. <https://bit.ly/3BM81RF>.

- Luthra, P. & Mackenzie, S. (2020, March 30). 4 ways Covid-19 could change how we educate future generations. *World Economic Forum*. <https://bit.ly/3DrkkU2>
- Martínez López, C. R., Martínez Alcántara, S. & Méndez Ramírez, I. (2015). Economic stimuli, work demands and health in Mexican university academics. *Salud de los Trabajadores* 23 (1): 5-18. <https://bit.ly/3c59qJJ>
- Negrete Cetina, M., Dzay-Chulim, F. & Cabañas Victoria, V. (2023). Emotions and virtual pedagogy of university faculty in the face of the COVID-19 pandemic. *Edähi Boletín Científico de Ciencias Sociales y Humanidades del ICSHu* 11 (22): 1-11. <https://doi.org/10.29057/icshu.v11i22.10484>.
- Niño Rojas, V. M. (2019). *Research methodology*. Ediciones de la U.
- Pacheco Peralta, N. E., Viteri Chiriboga, E. A., Aroni Caicedo, E.V., & Peralta Merelo, C. M. (2023). Well-being at work in teachers of a Higher Education Institute, Guayaquil Ecuador. *Polo del Conocimiento* 8 (1): 1210-1226. <https://bit.ly/47iHA4e>
- Pillaca, J. C. (2021). Burnout and life satisfaction in teachers conducting virtual classes in a Covid-19 pandemic context. *PURIQ. Journal of Scientific Research* 3 (1): 104-119. <https://doi.org/10.37073/puriq.3.1.142>.
- National Development Plan 2019-2024 (PND 2019-2024). *Diario Oficial de la Federación of July 12, 2019*. <https://bit.ly/3OmvOP5>
- Portillo Peñuelas, S. A., Castellanos Pierra, L. I., Reynoso González, O. U. & Gavotto Nogales, O. U. (2020). Emergency remote teaching in the face of the Covid-19 pandemic in middle school and higher education. *Purposes and Representations* 8 (3): e589. <http://dx.doi.org/10.20511/pyr2020.v8nSPE3.589>
- Quraishi, Z. (2023). Addressing mental health, misinformation, & religious tensions among South Asian students across California higher education during the COVID-19 pandemic: A qualitative research study. *Heliyon* 9: 1-18. <https://doi.org/10.1016/j.heliyon.2023.e16396>.
- Romero Oliva, M. F., Heredia Ponce, H., Jiménez Fernández, R. & Gutiérrez Rivero, A. (2022). Challenges in higher education facing new teaching scenarios during the COVID-19 pandemic. *Educação e Pesquisa* 48: 1-25. <https://doi.org/10.1590/S1678-4634202248258278es>

- Rodríguez Rodríguez, J. & Reguant Álvarez, M. (2020). Calculating the reliability of a questionnaire or scale using SPSS: Cronbach's alpha coefficient. *REIRE Revista d'Innovació i Recerca en Educació* 13: 1-13.
- Said-Hung, E., Marcano, B. & Garzón-Clemente, R (2021). Academic anxiety in teachers and Covid-19. Case Higher Education Institutions in Iberoamerica. *Revista Prisma Social* (33): 289-305. <https://bit.ly/3DAqMZb>
- Selvam, D. R., Xavier, S., Kasinathan, P., Wadaan, M. A., Khan, M. F., & David, M. S. K. (2023). Causes of higher levels of stress among students in higher education who used eLearning platforms during the COVID-19 pandemic. *Journal of King Saud University - Science* 35 (4): 1-9. <https://doi.org/10.1016/j.jksus.2023.102653>. <https://doi.org/10.1016/j.jksus.2023.102653>.
- Schwab, K. (2017). *The fourth industrial revolution*. Debate.
- Tibber, M. S., Milne, G., Fonagy, P., Saunders, R., & Dekker, T. M. (2023). The association between sociodemographic inequalities, COVID-related impacts and mental health. *Journal of Affective Disorders* 325: 596-603. <https://doi.org/10.1016/j.jad.2023.01.037>.
- Umaña-Mata, A. C. (2020). Higher education in times of COVID-19: opportunities and challenges of distance education. *Innovaciones Educativas Magazine* 22 (special): 36-49. <https://doi.org/10.22458/ie.v22iespecial.3199>