Covid-19 and the Experience of the Elderly Students: The Case of the University Program for the Elderly of the Nuevo León Autonomous University, Mexico

Luz Amparo Silva Morín Universidad Autónoma de Nuevo León

Luz Alejandra Escalera Silva Universidad Autónoma de Nuevo León

Raúl Eduardo López Estrada Universidad Autónoma de Nuevo León

Covid-19 and the digital experience in education for older adults are analyzed. To this end, we examine those elements that could favor the continuity of distance programs; in this case the UANL University Program for the Elderly was taken as a case study. The UANL University for the Elderly Program was taken as a case study. The conclusion highlights that the digital experience during the pandemic was successful, however in considering a continuity of the program, risk factors associated with environmental factors, technical factors: education and information technology, and interest should be taken into account. in classroom education.

Keywords: education, distance education, elderly, Nuevo Leon, COVID-19.

INTRODUCTION

This research project seeks to analyze **Covid-19 and the digital experience in education for older adults**. For this purpose, the University Program for the Elderly (UANL) will be used as a case study. With this intention, in the following pages we will try to problematize this, which is not only suggestive, but also current, and whose results will allow us to identify and clarify the future of education for the elderly.

It is certain that today the cliché that nothing is the same as the previous situation is clearer: The Covid-19 arrived to change all the scenarios.

At the same time, the changes that have taken place show us that societies have begun to demand that they not be paralyzed by the virus and that they learn how to deal with the pandemic and a still uncertain future. In this context of accelerated transformation in all areas, one sector that was forced to respond to the crisis was education. There is a consensus among its actors that educational training must continue and education systems cannot be stopped or postponed.

Due to this, great efforts and strategies have been deployed to implement virtual education paths in a short time and thus it was necessary to migrate to a non face-to-face education in the last months addressing, new ways of teaching and learning at a distance.

In this situation, Covid-19 urgently forced us to rethink our way of life. From this came questions about how to continue with the educational systems during the pandemic (Ferrante, 2020)

This created great challenges. In view of the closure of educational centers to avoid the spread of the virus, questions were asked about the preparation of actors and institutions for their insertion in distance education (Kemelmajer, 2020).

The current crisis has shown us the great difficulties in the social field and the great digital gaps in relation to access and the absence or fragile digital literacy of a large part of the teachers and students. To this must be added the fact that the virtual is different and must be thought of as another logic (Ferrante, 2020).

Although the rapid spread of Covid-19 forced the adoption of communication technologies and the digitalization of education ceased to be an option and became a necessity for institutions, it is essential to mention that the use of technology in distance education does not imply migration to the virtual model (Atarama, 2020).

To the above, it should be added that teachers and administrations have had to adapt their curricula to distance education, in order to continue with the teaching-learning process (Week, 2020).

Thus, the current situation presents a panorama where new proposals for the actors of education converge (Silva, 2020)

One of the challenges that had to be faced in the face of the unforeseen was to react quickly and implement digital systems to replace what was done in the face to face mode to continue with the educational work (Silva, 2020).

Also, there were other challenges related to the urgent change, among them the possibility of accessing a virtual environment for online education, that is, the possibility that students could connect from other areas (Kemelmajer, 2020). According to the World Economic Forum, only about 60% of the world's population has access to the Internet (Lopez, 2020). Likewise, the confinement forced the adoption of a virtual modality for students and teachers that revealed a digital gap (Lopez, 2020).

This showed that most schools were unprepared to deal with unequal access to the Internet. This situation is only one of the many problems of our educational system on a global level (Lopez, 2020).

In fact, most schools have not implemented virtual systems in a broad sense. What has happened is the implementation of classes mediated by distance technologies. This undoubtedly differs from a didactic of the virtual that implies other styles of teaching learning (Lopez, 2020).

In short, the pandemic crisis is urgently demanding that schools respond to "a challenge that education has been dealing with for years: what to do about this hurricane called digitalization". (Lopez, 2020).

The above statements, which are valid for education during the current pandemic, take on a nuance that is certainly similar to what is happening in the field of education for older adults. In this case, the educational institutions dedicated to the education of the elderly, faced with the crisis situation, had to implement distance education strategies so that the school semester in which they were enrolled would not be lost (Strong, 2020).

This strategy undoubtedly represented a major challenge, especially for this generation that grew up outside of virtual environments characterized by the Internet and virtual technologies (Strong, 2020). This situation is obviously different from that of the current generation who carry out many of their daily actions using new communication and information technologies (Strong, 2020). Hence the question of how older adults have adapted to the challenge of the current pandemic, especially in relation to education programs that in many cases are followed in Universities for the Elderly (Strong, 2020).

In some cases, they have had to close their doors for a few months, although in other cases they have maintained activities during the quarantine through email and digital services through which teaching services have been sustained. One of the cases for which information is available is that of the Universitat

per aMajors (University for the Elderly) of the Universitat Jaume I (UJI), in Castellón de la Plana, Spain (Strong, 2020).

This program continues the same pre-pandemic educational efforts, but now uses remote emergency means for its students over 55 years of age. To this end, the UJI implemented the Senior Virtual Campus, providing a space and continuing the school year virtually. This action guaranteed the accompaniment of the elderly during the health crisis with the participation of the teaching team and student representatives who initiated virtual meetings to meet educational needs related to online teaching through the UJI Virtual Classroom. It is important to add that learning in the Virtual Classroom depends on the student himself, who takes an active role in reproducing the characteristics of the classroom.

At the same time, another significant case of continuity of its educational program is that of the university of the elders offered by the UANL. This program¹ is based on the perspective of successful aging, developed by Engler and Pelaez (2002), represents an academic space to which people of 55 years or more with regular student status at the UANL have access². To date, the UANL program for older adults can be considered a consolidated experience in the promotion of adult education in the international arena³. It is a strategy in the process of being strengthened⁴. (Silva and López, 2014)

These cases were significant, as universities and educational institutions were closed around the world during the pandemic. In this situation, these programs have also had to suspend their face-to-face activities, and with this, one of the pillars of educational programs for older adults (Fuerte, 2020)

In the case of the UANL, there was an explicit intention to continue its academic activities virtually during the Covid-19 pandemic. For this purpose, a technical team was set up to create training sessions for the teaching and administrative staff, for the use of the Zoom platform. These sessions were conducted virtually for teachers and students who wanted to connect during the confinement. Also, with this platform, the administrative managers monitored the academic load and the effectiveness of this system.

These cases are important because the continuity of these programs, even in the face of a global health crisis, is essential to support the rapidly growing older population. Hence, programs for older adults are more important than ever in the coming years.

RESEARCH QUESTION

Taking into account the above, this research sought to answer two central questions: What was the digital experience of older adults in the face of Covid-19? It is important to note that in relation to this program, it is worth asking about the changes that have occurred during the current health crisis. At the same time, it is important to ask, based on the experience, about the possible scenario in the continuity of this program. The results will be extremely useful to foresee possible future scenarios for the education of older adults who follow courses at universities and other educational institutions.

METHODOLOGICAL STRATEGY

In order to address these questions, the experience of the Universidad Autonoma de Nuevo Leon in the education of older adults will be presented, as well as possible future scenarios for this population. At the same time, the knowledge of this experience will allow, from the prospective point of view, to foresee the possible orientation of these programs and with it, to advance actions that should be carried out in the future.

This research will follow a hypothetical deductive approach. For the first question, a cross-sectional, ex-post perspective will be addressed, with a sample covering the entire current generation of University of the Elderly students who have lived through the pandemic, as well as a sample of program faculty.

For this purpose, two surveys included in the Virtual Program Evaluation with 25 reagents each will be applied (included in the annex). The first one was addressed to current Program students; while the second one was administered to teachers. These surveys were conducted during the first week of June 2020.

The research team was constituted by the Director of the Program Luz Amparo Silva Morín, who was responsible for and with the participation of Dr. Luz Alejandra Escalera Silva and Dr. Raúl Eduardo López Estrada, teacher-researchers of the Faculty of Social Work and Human Development of the UANL, who served as research advisors. The information resulting from the research project was processed with the statistical information package: SPSS for the treatment of quantitative data.

Two deliverables of this research were foreseen: an article that can be published in a refereed and indexed journal, where the results of the research are recorded. Likewise, it was considered the realization of a round table for the discussion of the results with the participation of experts, in the facilities of the University for the Elderly of the UANL.

RESULTS: THE DIGITAL EXPERIENCE OF OLDER ADULTS IN THE UNIVERSITY FOR THE ELDERLY PROGRAM OF UANL BEFORE COVID-19

The population interviewed is made up of 61 students from the University Program for the Elderly between the ages of 55 and over 80. The information obtained shows that the largest group represented 41% of the total, with ages between 60 and 64 years; then, the group between 65 and 69 years of age 21% of the cases; then, the group between 55 and 59 years of age grouped 15% of the cases. Together they totaled 77%.

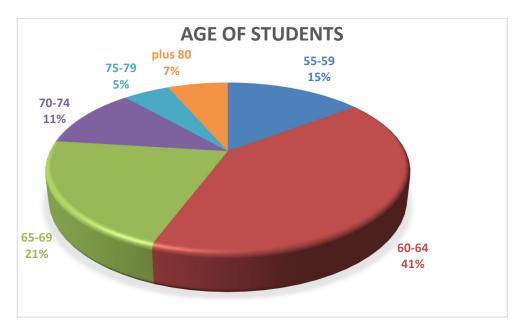
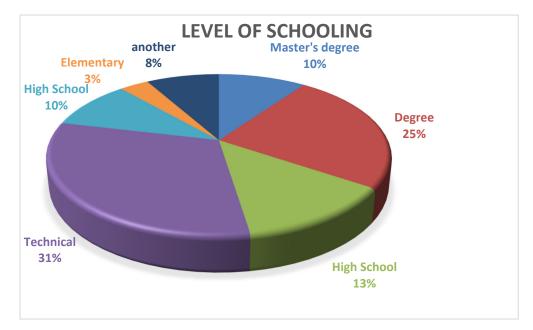


FIGURE 1

In the group interviewed, the high number of years of schooling is notable when compared to the national average of 7 years. In the following graph, it can be seen that the upper middle level made up of High School and Technical Education, represented 44% (12 years of schooling) occupying the most important place; followed by the Bachelor's and Master's degrees 35% (17 and 19 years of schooling at least). More modest positions were occupied by Secondary 10%, another 8% and lastly Primary with 3%.



From the above data, it can be seen that the level of schooling of the students interviewed is very heterogeneous, which in turn indicates the enormous challenge for the institution to offer an education for students of different levels. This is important when face-to-face education is replaced by computer-mediated distance education.

In these results it is surprising how many students live alone (33%). It is also notable in the number of students who only live with their spouse (23%). Other situations indicate broader family relationships: 44% live with a wife and children, children, mother and or siblings.

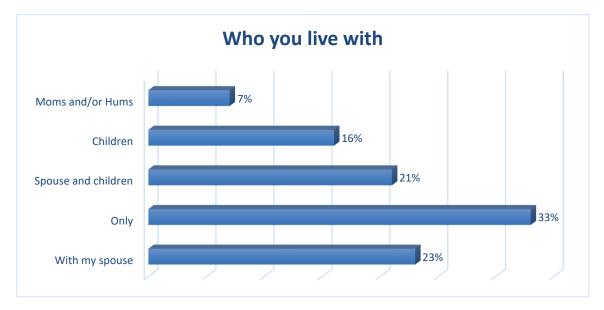
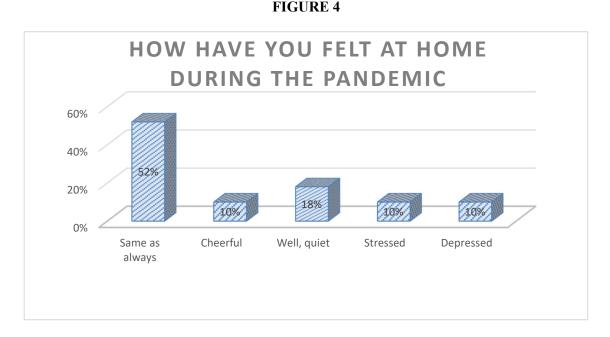


FIGURE 3

Who the older adult lives with is of utmost importance because of the need for help to take their classes virtually. 33% live alone, 23% live with their spouse, 21% live with their spouse and children, 16% live alone with their children, and the remaining 6% live with their mother and/or siblings. In this case, the information obtained shows that the students living alone and with the wife together were more than half.



How You Felt at Home During the Pandemic

In terms of student mood during the pandemic, 52% felt the same, 10% felt happy, 18% felt good, calm, 10% depressed, and 10% stressed. Adding these percentages, 80% of the students felt good at home, the rest had other, less positive, moods.

Mood is an extremely important factor when it comes to face-to-face education, but it is even more important when it comes to distance education for older adults. Several factors should be considered during the stay at home situation during the pandemic: health status (existence of chronic-degenerative diseases, the company of family members, stress and/or depression, among others. In the case at hand, the great majority stated that they felt well and only 20% of those surveyed expressed stress and depression. Despite this data, low compared to the percentage of those who did not manifest problems, it is important to consider that prolonged periods of confinement may have a negative impact and could eventually lead to an increase in this number.

The Time That Students Consider Correct to Have the Digital Sessions

This question was formulated with the intention of obtaining information that would allow the program to be reoriented. In the answers, 83% stated 2 hours, 12% one hour and 5% three hours. Here we must undoubtedly consider the age of the students 41% of the total, with ages between 60 and 64; then, the group between 65 and 69 constituted 21% of the cases; then, the group between 55 and 59 grouped 15% of the cases. Together they totaled 77%.

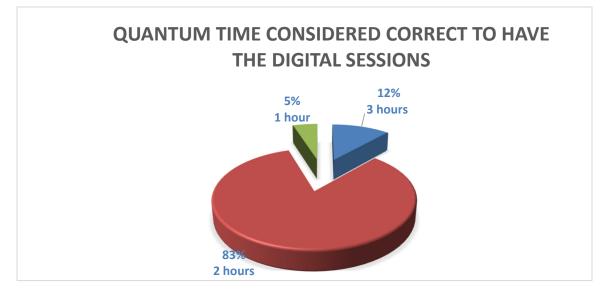
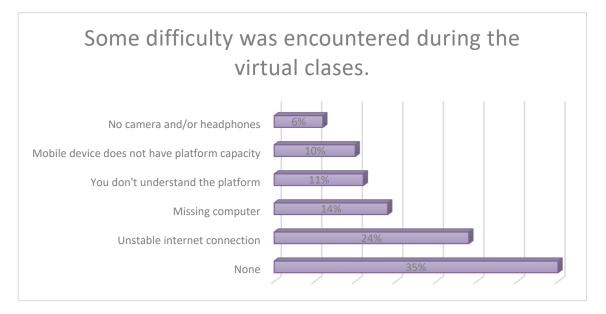
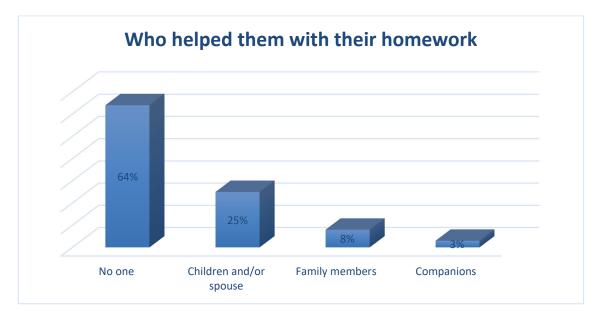


FIGURE 6



The difficulties expressed by the students 54% were of a technical nature, distributed as follows: for 24% the internet connection was unstable, 14% lacked a computer, 10% their mobile device did not have the capacity for the platform and 6% did not have a webcam and/or hearing aids. 35% did not have problems, but 11% do not understand the platform. It is worth mentioning that this figure almost coincides with the 12% who answered that the classes were not carried out in a satisfactory manner. Likewise, when asked if they needed help to enter the virtual classes, 51% of the students said they did not need it.

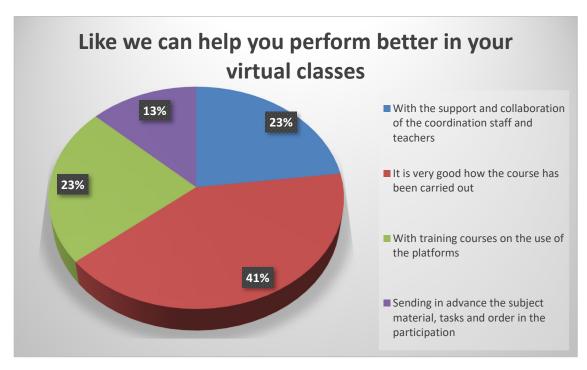




Most of the students stated that they did not need help with homework, those who needed help were supported by family, 25% by children and/or husband and 8% by other family members and only 3 were supported by peers.

High Education





In the question "How could we help you to have a better performance in your virtual classes" the students have expressed that they have felt supported and they want to continue being so because 41% think that it is very good how the course has been carried out, another 23% ask for training courses about the use of the platforms and 13% ask for sending them in advance material about the subject, assignments, presentations, they also ask for more order in the participation of the students during the digital sessions.

Examples of textual responses from students: "These classes were made possible by the collaboration and willingness of the staff," "Your advice has been very helpful," "We have all your support," "The classes are fine. Other answers were "Explain how the platforms work", "Order when participating, time when interacting, don't interrupt your partner", "Close the microphones".

TABLE 1

IF NECESSARY I WOULD BE WILLING TO USE ANOTHER PLATFORM

If you are willing to use another platform (88.5%)	Not willing to use another platform (11.5%)
To keep up with classes and not interrupt the	With the current one we had good results
semester.	I'm already familiar with the current one and I'm
Learn and update.	starting to understand it
As long as it is necessary.	
Be official dispositions.	
Stay active.	
To be trained.	
If another simpler one.	
It's a commitment, we have to adapt to the situation.	

WHAT HAS BEEN YOUR DIGITAL EXPERIENCE DURING COVID-19

88% of students with pleasant experience	12% of students with unpleasant experience
Innovative, rewarding Learning and enriching. Pleasant and entertaining. Quite a challenge. I learned how to use the platforms. No problem.	12% of students with unpleasant experience Battling is difficult. Tired and stressed from not knowing. Sad about not being able to go out, not seeing family. Depressed
Satisfied by the experience.	
New experience.	

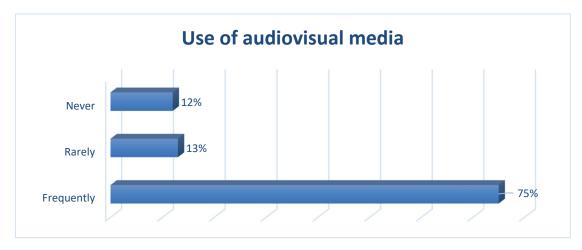
When asked if they thought the virtual class was conducted satisfactorily, 88% said yes.

Professors' Opinion on the Results Obtained in the January-June 2020 Semester

The survey was applied to second semester teachers who teach the subjects Of: Nutrition in adulthood; Afternoons in the museums of Nuevo Leon; History and Geography of Nuevo Leon. Four fourth semester professors also participated with the subjects of Literature; Successful aging: the new art of living in the third age; Learning to see architectural styles, and Human Development.

100% of the teachers said that the students are interested in the subject they have been taught. In relation to the level of knowledge of the group on each subject was considered sufficient for 75% of the teachers and high for the remaining 25%.

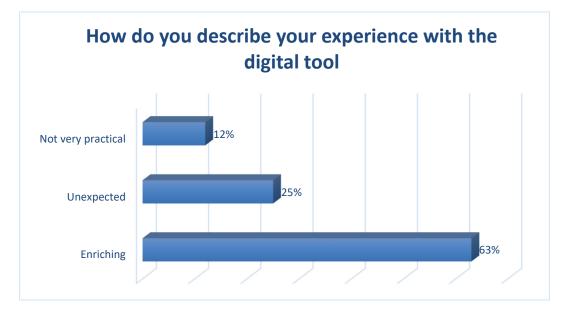
To the question: during the class he invites the students to discuss the issues explained. 87.5% responded that they frequently and 12.5% said that they rarely.



When asked if he uses audiovisual media such as slides, videos, audios, etc. to teach his subject. The teachers answered as follows: 75% use it frequently, 13% rarely and 12% never. All the professors (100%) think that the student follows the explanations easily, therefore all of them consider that they do not need a higher previous training to continue with the classes and that the students have integrated themselves adequately to the university.

He considers that the virtual classes were given in a satisfactory manner: 88% of the teachers said that they were. The teachers expressed that the reason to give this answer about the virtual classes where they looked for accessible strategies to teach the subject, in addition to the motivation and the commitment of the students to carry out the programmed activities, to review the material in Power Point, to look for information about the subject and thus to fulfill the tasks. They also used email, video phone called closed face book groups and whats app.

Regarding the opinion about the virtual classes by Zoom, most of the teachers said that it was good, very good, excellent, friendly, interactive and pleasant. 100% of the teachers are willing to use another platform to continue the virtual classes while the contingency lasts. They expressed that as teachers they are willing to use any tool and update themselves, stay active and move forward, to be in constant communication with the students.



The experience by the use of the digital tool was expressed by the teachers as follows: For 62.5% it is enriching, for 25% unexpected and for 12.5% impractical.

As for the objectives established in the programs of each subject, 75% of the teachers stated that they were met and for the remaining 25% some were met.

DISCUSSION

In the following pages we will initially address the digital experience in education for older adults versus Covid-19 in the case of the University for the Elderly of the UANL. Later, we will examine those elements that could favour the continuity of this programme by virtual and distance means.

In relation to the digital experience, the information obtained from the 61 students interviewed reported that the age of the largest group ranged between 60 and 64 years (41% of the total), this almost coincided with the level of schooling which was 44% upper secondary education. In addition to this situation, it was also notable that another part of the group has a Bachelor's and Master's degree, 35% (17 and 19 years of schooling at least). From this we can see that this is a group with a high level of schooling, a situation that reinforces what has been said, if we compare it with the national average which is 7 years.

When asked about who they live with, the number of students who live alone is surprising (33%). Also notable is the number of students who only live with their spouse (23%). Together they were more than half. Other situations indicate broader family relationships: 44% live with a wife and children, mother and or siblings. These data are very important because of the need for help to attend their classes virtually.

As for the mood of students during the pandemic, the vast majority maintained a good mood at home. This is a very important factor when it comes to face-to-face education, but it is even more important when it comes to distance education for older adults. Several factors should be considered during the stay at home during the pandemic: health status (existence of chronic-degenerative diseases, the company of family members, stress and/or depression, among others. In the present case, only one-fifth of respondents reported stress and depression. Despite this data, low compared to the percentage of those who did not manifest problems, it is important to consider that prolonged periods of confinement may have a negative impact and could eventually lead to an increase in this number.

Considering the experience during the pandemic, it is important to know how long students think it is appropriate to have the digital sessions. This question was asked in order to obtain information that would allow reorienting the program in the event that this modality is continued. In this regard, most indicated 2 hours, response in which should be considered the age of students that is largely in the interval of 60 and 64 years, but also their personal occupations at home. Likewise, a considerable element is the nature of the Program that originally only provided for courses in the classroom mode.

A key factor in understanding the digital experience during the Covid-19 pandemic was the difficulty students had in following their courses online. In this regard, a little more than half of the students expressed that the problems were related to technical aspects: unstable internet connection; lack of computer; their mobile device without platform capability and unavailability of webcam and/or headphones. At the same time, a third of the group said they had no problems, however, some of them had difficulty understanding the platform. Coincidentally, this group stated that the classes were not conducted in a satisfactory manner.

Faced with this problem, it is necessary to clarify the amazing fact that a little more than half expressed that they did not need help to enter the virtual classes and send the assignments. However, those who assumed they needed help were helped by a third of the family and others by various relatives and colleagues of the graduate. One situation that could explain why the first group did not require help was the high schooling of the students.

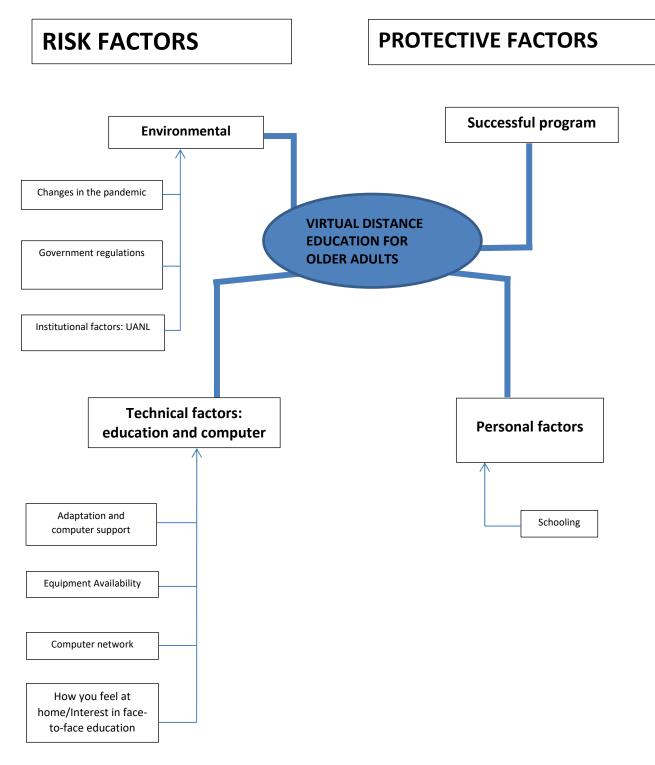
Therefore, in relation to those who required help, it was pointed out that despite having been supported by the administration of the diploma and that they also want the support to continue, since they consider that it is very good how the course has been carried out, they require training courses on the use of the platforms, in addition to sending material on the subject, tasks and presentations in advance. Additionally, they pointed out the need for an order in the students' participation during the digital sessions. The latter is interesting because it is a situation that had not been presented in face-to-face sessions. Examples of students' textual responses:

"These classes were possible thanks to the collaboration and disposition of the staff", "Your advice has been very useful", "We have all your support", "The classes are good". Other answers were "Explain how the platforms work", "Order when participating, time when interacting, don't interrupt your partner", "Close the microphones"

Although one third of the group said they had no problems following the courses, most indicated that if necessary they would be willing to use a platform other than Zoom. Two situations stand out in the responses: "learning and updating and accepting the commitment to adapt to the situation". In the case of students who are not willing to use another platform, it was stated that "there were good results. I have already familiarized myself with the current one and I am beginning to understand it". What do you conclude from these statements? In general terms, it is assumed that the student is not refractory to technology and is willing to continue a necessary learning process in today's world.

To the axial question of "What has been your digital experience during covid-19", the answer of: novel and gratifying could be the generalized answer in most of the students; although it is important not to disdain that little more than a tenth of the interviewees expressed: "I struggle, it is difficult; tired and stressed for not knowing; sad for not being able to go out, not seeing the family; depressed. These results are interesting and somewhat understandable in the face of the pandemic. Further commentary will be provided in another section of this paper.

As a summary of the digital experience of the pandemic, most students accepted that the virtual class was successful.



Protection Factors

In relation to the second research question posed for this work: the examination of those elements that could favor the continuity of this program by virtual and distance means, it is necessary to mention that

the approach of a prospective requires the consideration of two fundamental elements: the first refers to protection factors while the second includes risk factors for continuity and successful performance.

In relation to the protection factors, there are two that could positively influence the continuity of the University for the elderly: On the one hand, it is essential to mention that in this case it is a successful and already consolidated Program. The results and the opinions of the graduates show this. In this regard, see the digital documents of the graduations of eight generations. On the other hand, without being less significant, the personal traits of the students who access the program, are factors that contribute to the persistence of digital education. In this situation, schooling stands out, which, as was noted, is high and allows for the monitoring of digital communication.

Parallel to the protective factors are the risk factors. In this case, it can be stated that risk refers to different meanings, among which the possibility of a negative result stands out. Thus, it can be considered that risk is inserted in the complexity and uncertainty of today's society. Hence, its reference leads to accepting a detectable circumstance associated with the probability of being exposed to develop a process. Briefly, it refers to the probability of occurrence of a given event, but and here is what is interesting "a determinant that can be modified by means of intervention" (Belkis, 2011).

What are the risk factors for the continuity of this program by virtual and remote means? There are two important factors that could influence its persistence: on the one hand, the environmental factors; and on the other hand, the technical factors related to computer-based education. In relation to the first ones, it is not too much to accept that it is an unpredictable circumstance, derived from the complexity and uncertainty of the current society submitted to the changes that can occur during the Covid-19 pandemic. Nothing is certain, no predictions can be made regarding the future of the pandemic. It is in relation to the possibility of the occurrence of its buffering that changes in education could be foreseen. Only to the extent that if the pandemic continues there is a risk of lower enrollment of students in the program, since it is not new that students enroll seeking to extend their social networks. We will return to this issue in the latter part of this paper.

Likewise, within the environment factors, it is important to mention that the governmental dispositions in relation to education will influence both the personal decisions of those who enroll in that program, and the institutional orientations of the UANL and more specifically of the University for the elderly. Currently the orientations of the Mexican federal government and those of the state government of Nuevo Leon have been erratic and changing. There is no definition and planning that assures how the events will be developed. The only clear thing is that until the beginning of this month of August 2020, the face-to-face education will be implemented until the green light is in effect and when the state authorities decide to do so.

Risk factors closer to the specifics of this program are related to the technical factors related to education through computers: adaptation and support (institutional, family and friends); the availability of computer equipment and the personal availability resource of the Network for access to the digital platform.

In relation to computer adaptation and support, it was observed in the research results that although many students did not require help to follow their courses, many of them depend on the help of others to carry out the distance education. Thus, only to the extent that students have this support will they be able to continue with the program. Also, it was notable in the survey that in some cases there was not enough computer equipment and personal availability to access the Net, a situation necessary to communicate through the digital platform. These circumstances become obstacles for students to decide not to enroll in the program.

A very important factor and perhaps the most important among the risk factors is how students feel at home and their interest in face-to-face education. In relation to the first one, although most of them kept a good mood at home, it is important to note that one fifth of the respondents expressed stress and depression, a situation that announces in a prolonged case of pandemic the exacerbation of these conditions. In these circumstances, confinement eliminates the social relationships that older adults seek when they participate in a program such as the University for the Elderly. In this context it is significant to cite the work of Carmona, 2011, related to the elderly and that in this case is closely related to the need to go to education in person. For this author, the concept of integral well-being in the elderly is the result of a combination of physiological factors that include the physical health of the individual; social factors that represent the participation of the individual within society; mental factors that refer to the mental health of the individual; economic factors, relative to his or her economic situation; and personal factors, those that constitute the perception that the elderly have of their happiness. With regard to the latter, several studies have related personal welfare with the social activity of the subject and his environment (Herzog, Franks, Markus and Holmberg, 1998; Okun, Stock, Haring and Witter, 1984, cited in Carmona, 2011) where social activity plays a key role in increasing self-esteem and generating a feeling of well-being towards the changes of age. In this way, the social activities performed by the individual give meaning to his existence allowing him a full integration into society, giving him a sense of social belonging generated by "the self-awareness of being socially accepted and the experience of feeling included in the very current of life" (WHO, 1989, cited in Carmona, 2011).

Thus according to Carmona (2011) it is easy to identify an older adult who has experienced personal wellbeing by the characteristics it possesses such as sociability, self-confidence, are usually positive people with their environment and possess qualities that help them meet the goals they have set in life and are perceived as healthy, unlike older adults who have not experienced such personal wellbeing who often refer to health problems and unhappiness.

Therefore, in aging, the socialization of older people brings considerable benefits to their overall well-being, allowing the continuity of the individual's integration into society, as opposed to the isolation and loneliness that directly influence the risk of dementia as it increases (Bessuk, Glass and Berkman, 1999 cited in Carmona 2011). Loneliness causes the greatest deterioration in the personal well-being of older adults. It is precisely this situation that is at the center of risk factors for the continuity of distance programs, especially in the case of the UANL University of the Elderly.

FINAL THOUGHTS

It is possible to assert that the digital strategy applied by the University for the Elderly Program had a positive result for the older students who experienced the continuation of the semester online. The adaptability to the digital world is related to the level of schooling of the students, stating that the most frequent problems they encountered were of a technical nature such as unstable internet connection; lack of computer; their mobile device without capacity for the platform and the unavailability of webcam and/or hearing aids.

Regarding the students' mood during the pandemic, although most of the students said that they were in good mood, it is important to note that one fifth of the surveyed students expressed stress and depression, a situation that announces in a prolonged case of pandemic the exacerbation of these conditions, putting at risk the personal welfare and the continuity of the distance programs in the case of the University for the Elderly.

In this context, and by way of proposal, it will be necessary to develop distance support networks that guarantee the strengthening of the personal well-being of the older student during this pandemic period.

ACKNOWLEDGEMENT

Translated & edited by American Publishing Services (https://americanpublishingservices.com/).

ENDNOTES

^{1.} It is a program that contains a four-semester diploma and courses in different areas of knowledge. Since its creation in 2011 this program has received nine generations in its diploma, each of which has been attended by 30 students, while 235 people have attended continuing education courses.

- ^{2.} Many societies are paying attention to the rapid increase in the older population, especially in developing countries, where it is aging at a faster rate than in industrialized nations (National Institute on Aging, 2001; Didimo and Vela, 2005). In Mexico, the demographic transition has involved population aging, with people aged 60 and older constituting 14 percent of the total population, a situation due to declining fertility and mortality and increasing life expectancy. By 2050 this population will reach 28% (Ham, 2003). These figures indicate the efforts that must be made in higher and middle education to provide opportunities for this population that was previously only partially served.
- ^{3.} See the work reported at the University of Salamanca (1999): National Meetings of University Programs for the Elderly; University of Alicante: Proceedings of the IV Ibero-American Congress of Universities for the Elderly (2011); University of Zamora (2004): National Meetings of University Programs for the Elderly; and University of Valladolid (2011): Conference on Associationism in University Programs for the Elderly.
- ^{4.} Until 2013 the University for the Elderly program registered an increase in demand. In the first generation there were 39 interested parties; in the second, 55; in the third and current generation, 75. This shows the growing interest in the program, although only 30 students are accepted per generation. In each of them the proportion of men and women has been maintained with small variations: 30% men and 70% women. The ages in the three groups range from 55 to 69. It can be added to these figures that the dropout rate was minimal; the higher incidence was due to health and work reasons. From the students' point of view, internal surveys have shown explicit satisfaction with the diploma courses, a situation that confirms the research results obtained by Arnay, Marrero and Fernández (2011).

REFERENCES

- ANUIES. (2013). *Continuing Education*. Mexico: National Association of Universities and Higher Education Institutions. Retrieved from http://www.anuies.mx/content.php?varSectionID=144
- ANUIES and Secretariat of the Presidency. (n.d.). *Manual for the Integration of Persons with Disabilities in Higher Education Institutions*. Mexico. Retrieved from http://www.conadis.salud.gob.mx/descargas/pdf/2-manual-universidad-incluyente.pdf
- Atarama, T. (2020, April 5). *Virtual education in times of pandemic*. Retrieved May 29, 2020, from http://udep.edu.pe/hoy/2020/la-educacion-virtual-en-tiempos-de-pandemia/
- Belkis, G. (2000). Equidad, desarrollo y ciudadanía: una visión global. In *Equidad, desarrollo y ciudadanía*, 3 al 7 de abril. LC/G. 2071(SES. 28/3). Chapter 2. ECLAC. Mexico.
- Carmona, S. (2011). *Active Aging: The Key to Live Longer and Better*. Publisher: Universidad Autónoma de Nuevo León. U.A.N.L. ISBN:978-607-433-574-3
- Castillo, D., & Vela, F. (2005). Demographic Aging in Mexico. Evaluation of census data by age and sex, 1970-2000. *Papeles de Población*, 11(45). Retrieved from https://rppoblacion.uaemex.mx/article/view/8705
- Cortés, F. (n.d.). Considerations on Marginalization, Marginalization, Economic Marginalization and Social Exclusion. *Papeles de Población*, 47, 71-84.
- Engler, A., & Peláez, M. (2002). *Better longevity from a studio in the Southern Cone*. Retrieved from http://biblioms.dyndns.org/libros/Adulto%20mayor/M%C3%A1s_vale_por_viejo.pdf
- Ferrante, P. (2020, April). *Virtual education, beyond the pandemic*. Retrieved May 28, 2020, from https://www.perfil.com/noticias/opinion/coronavirus-educacion-virtual-mas-alla-pandemia-covid19.phtml
- Fuerte, K. (2020, April 17). *How does the digital divide affect older adults?* Retrieved May 28, 2020, from https://observatorio.tec.mx/edu-news/brecha-digital-adultos-mayores-exclusion-social
- Government of the Republic. (2013). *National Development Plan, 2013-2018*. Mexico: Diario Oficial de la Federación. Retrieved from http://pnd.gob.mx/
- Ham, R. (2003). *El envejecimiento en México. The next challenge of the demographic transition.* Mexico: Porrúa and El Colegio del Frontera Norte.
- INEGI. (2013). Population and Housing Census Mexico, 2010. Aguascalientes: National Institute of Statistics, Geography and Information Technology. Retrieved from http://www.censo2010.org.mx/

- Kemelmajer, C. (2020, April 9). Education in Times of Pandemic: Expert Advice for Enriching Virtual Classrooms. Retrieved May 28, 2020, from https://www.conicet.gov.ar/educacion-en-tiempos-depandemia-consejos-de-especialistas-para-enriquecer-las-aulas-virtuales/
- Laparra, M., Gaviria, M., & Aguilar, M. (1998). Aproximaciones a la exclusión social. In J. Hernández & M. Olza. (Eds.), *La exclusión social: Reflexión y acción desde el Trabajo Social* (pp.19-50). Pamplona: Eunate.
- López, N. (2020, April 15). Education and Virtual Inequity in Times of Pandemic. Retrieved May 28, 2020, from http://www.laizquierdadiario.com/Educacion-e-inequidad-virtual-en-tiempos-de-Pandemia
- Medina, T. (2013), *Materials for the elaboration of the conference: Quality of life and subjective wellbeing of the elderly*. Murcia: Faculty of Social Work, University of Murcia.
- Minujin, A., (1998). Vulnerability and Social Exclusion in Latin America. In E. Bustelo & A. Minujin (Editors), *Todos entran. Propuesta para sociedades inclentes* (pp. 163-165). Unicef-Santillana, Bogotá.
- National Institute on Aging. (2001). World's Older Population Growing by Unprecedented 800,000 a Month. In *NIH News Release*. Retrieved from http://www.nia.nih.gov/news/pr/2001/1213.htm.
- Paniagua, M. (2010). The others before us: The integration of people with disabilities as a human right. In M.V. Fregoso, *Human Development and Diversity. Cuadernos temáticos de investigación educativa para el desarrollo humano* (pp. 57-72). Guadalajara: Red de Posgrados de Educación/ Consejo Estatal de Ciencia y Tecnología de Jalisco.
- Puerta, A., Marrero J., & Fernández, E. (2011). Why are students at the University for the Elderly satisfied? A comparative analysis with the students of the Bachelor of Pedagogy. In IV Encuentro Iberoamericano de Universidades para Mayores. Alicante: State Association of Universities for the Elderly.
- Latam Experiment Network. (2020, April 3). *Challenges and opportunities for virtual education in times of quarantine*. Retrieved May 28, 2020, from https://experimento.lat.siemensstiftung.org/desafios-y-oportunidades-para-la-educacion-virtual-en-tiempos-de-cuarentena/
- Saraví, G. (2009). Transiciones vulnerables, juventud, desigualdad y exclusión en México. Mexico: CIESAS.
- Week. (2020, April 4). Retrieved May 28, 2020, from https://www.semana.com/educacion/articulo/cincocasos-exitosos-de-educacion-virtual-en-medio-de-la-pandemia/663599
- Silva, L.A., & López, R.E. (2014). Elderly and Diversity Education. The Experience Of The Autonomous University Of New Leon, Mexico. *Revista Lugares de Educação*, pp. 30-48.
- Silva, R. (2020, April 10). Virtual education in times of pandemic: A new paradigm? Retrieved May 28, 2020, from https://www.actualidadenpsicologia.com/educacion-virtual-pandemia-nuevo-paradigma/
- Tuirán, R. (1999). Challenges and Demographic Opportunities of Mexico in the 21st Century. In La situación demográfica de México (The Demographic Situation of Mexico). Mexico: Consejo Nacional de Población. Retrieved from http://conapo.gob.mx/publicaciones/Otras4/22.pdf.
- Universidad Autónoma de Nuevo León. (2012). UANL Institutional Development Plan 2012-2020. Retrieved from http://www.uanl.mx/sites/default/files/documentos/universidad/pdi-2020-26abril.pdf
- University of Alicante. (2011). Proceedings of the IV Ibero-American Congress of University for the Elderly. Retrieved May 29, 2020, from
 - http://www.fimte.fac.org.ar/doc/21CIUUMM2011_tomo_II.pdf
- University of Salamanca. (1998). *National Meetings of University Programs for the Elderly*. Retrieved May 28, 2020, from http://www.aepumayores.org/es/contenido/ii-encuentro-nacional-de-programas-universitarios-para-mayores-alcal%C3%A!
- University of Valladolid. (2011). Conference on Associationism in Senior University Programs. Retrieved May 29, 2020, from http://www.publicaciones.uva.es/UVAPublicaciones-12761-

Generalidades-y-alta-divulgacion-Universidad-y-Cultura-Jornadas-sobre-Asociacionismo-en-los-Programas-Universitarios-de-Mayores-Diez-anos-de-encuentros.aspx.

University of Zamora. (2004). *National Meetings of University Programs for the Elderly*. Retrieved May 29, 2020, from

http://www.aepumayores.org/sites/default/files/Actas_VIII_Encuentro_PUPM_Zamora_2004.pdf

Zaude, H. (2010). *Prospective structural analysis: Analyzing the key variables of the future*. Retrieved May 28, 2020, from http://www.prospectiva.eu/blog/606