ABSTRACT
Currently, Portugal is the fifth most aged country in the world, and it is expected to reach third position by 2030. Aware of this reality, civil society has organised itself in the most varied ways in an attempt to fill the non-existent answers. The seniors universities are an example of this, seeking to provide all their students with recreational activities where socialising is surely one of the most important weapons in the fight against isolation and depressive conditions with particular incidence in this younger population. The COVID-19 pandemic has worsened this not very encouraging scenario. Aware of this reality and for the pandemic period, senior universities have launched the Virtual Senior University project, as an extension of face-to-face teaching into virtual teaching. Based on a random sample of one hundred students enrolled in the Virtual Senior University (VSU) project, a quantitative, cross-sectional and correlational study was conducted using a demographic questionnaire and the QOSUSV scale in order to evaluate the participation and experience of VSU students in the activities carried out during the first period of confinement. The analysis of the results revealed that the USV offer is inclusive, transversal and covers the whole country. USV proved to be a contribution to sustainability in education, particularly in periods of confinement and emergency. Additionally the activity that deserved a greater welcome by students was all existing offers (23.93%); the most frequently mentioned difficulty was: accessing the internet and mastering the devices and then class schedules. A significant proportion of students (69%) stated that they had nothing negative to point out, which reinforces the satisfaction with VSU previously questioned (98%). The interest in continuing the VSU project in the next academic year was expressed by 83% of the students, a fact
evidenced by the positive (rho=0.596) and statistically significant (p<0.01) correlation between satisfaction and the desire to continue VSU for the following academic year.

**Key-words:** virtual classes, senior, university, satisfaction.

**RESUMEN**

En la actualidad, Portugal es el quinto país más envejecido del mundo, y se espera que alcance la tercera posición en 2030. Consciente de esta realidad, la sociedad civil se ha organizado de las más variadas formas en un intento de llenar las respuestas inexistentes. Un ejemplo de ello son las universidades de la tercera edad, que tratan de proporcionar a todos sus estudiantes actividades recreativas en las que la socialización es seguramente una de las armas más importantes en la lucha contra el aislamiento y los cuadros depresivos con especial incidencia en esta población más joven. La pandemia del COVID-19 ha agravado este escenario poco alentador. Conscientes de esta realidad y para el periodo de la pandemia, las universidades senior han puesto en marcha el proyecto Universidad Senior Virtual, como una extensión de la enseñanza presencial a la enseñanza virtual. A partir de una muestra aleatoria de cien estudiantes inscritos en el proyecto Universidad Virtual Senior (USV), se realizó un estudio cuantitativo, transversal y correlacional, utilizando un cuestionario demográfico y la escala QOSUSV, con el fin de evaluar la participación y la experiencia de los estudiantes de la USV en las actividades realizadas durante el primer período de encierro. El análisis de los resultados reveló que la oferta de la USV es inclusiva, transversal y abarca todo el país. La VSU demostró ser una contribución a la sostenibilidad de la educación, especialmente en los períodos de encierro y emergencia. Además, la actividad que mereció una mayor acogida por parte de los estudiantes fue toda la oferta existente (23,93%); la dificultad más mencionada fue: el acceso a internet y el dominio de los dispositivos y luego los horarios de clase. Una parte importante de los estudiantes (69%) declaró que no tenía nada negativo que señalar, lo que refuerza la satisfacción con la VSU cuestionada anteriormente (98%). El interés por continuar con el proyecto VSU en el próximo curso académico fue expresado por el 83% de los estudiantes, hecho evidenciado por la correlación positiva (rho=0,596) y estadísticamente significativa (p<0,01) entre la satisfacción y el deseo de continuar con VSU para el siguiente curso académico.

**Palabras clave:** clases virtuales, senior, universidad, satisfacción.

1 **INTRODUCTION**

In recent decades, human longevity has increased, leading to an increase in dependence rates (Ribeiro & Paúl, 2011). According to Rosa (2020), although demographic ageing has already acquired a global dimension, it is the more developed territories that have higher life expectancies and higher levels of population ageing, where Europe is the world's most aged region.

The study of changes in human development in the over 50's has occupied the scientific community in a very peculiar way, being an object of study of present and future. This complex field, around this problematic defended as a reflexive and appreciative emerging opportunity, is justifiably presented for several reasons: firstly by the technical-scientific advances of psychology, gerontology, education and related areas, which understand the assessment of the elderly, the evaluation of needs, competence and functionality, the design, implementation and evaluation of intervention projects focused
on a particular scope, actors and diagnosed context, and equally, by the sociodemographic data of Europe that add studies on dual aging, in its facts and trends (Galinha, 2019).

Portugal has experienced an increase in the average life expectancy that contrasts with a significant decrease in the birth rate, leading to a high dependence rate among the elderly (Jacob, São João & Galinha, 2021). The scope of the concept of quality of life encompasses, in a complex way, the individual's physical health, psychological state, level of dependence/functionality, social relationships, beliefs, and the relationship with the characteristics of the context where he/she is inserted, in alignment with participation, health and safety (World Health Organization, 2015) and, recently, with the call for monitoring (Direção-Geral de Saúde, 2017): the National Strategy for Active and Healthy Ageing defined four strategic axes: health, participation, safety and measurement, monitoring and research and for each of these axes defined action guidelines and structured measures. Regarding health the main goal is to "maximise the functional capacity of older people" (Direção-Geral de Saúde, 2017, p. 20) and for that it proposes a set of actions for two groups of people: those with high and stable levels of intrinsic capacity (physical and mental capacities) and those who have already suffered a reduction of these same capacities, with the aim of increasing or maintaining this level and to stop, reduce, reverse and manage this situation, respectively.

According to the National Strategy for Active and Healthy Ageing - ENEAS 2017-2025 (Direção-Geral de Saúde, 2017), although the increase in the longevity of the Portuguese population is an appreciable fact, the quality of the years of life gained still has the potential for significant improvement. Like the country as a whole, the Central region of Portugal has shown in recent decades a "progressive demographic aging, due to the decrease in the young and working-age population and the increase in the number of older people due to the significant increase in average life expectancy" (Comissão de Coordenação e Desenvolvimento Regional do Centro, 2018, p. 4-5). The Centre Region is one of the most aged regions in Portugal, a characteristic that has a tendency to become more accentuated. Also presenting data from Pordata (2021), we witness a large increase in elderly dependency in the period between 2001 and 2019, in all territorial categories considered according to the 2013 version of the Nomenclature of Territorial Units for Statistical Purposes (NUTS) on Elderly Dependency Index.

Human ageing, as a phenomenon more equally shared by living beings (although some of these beings age more quickly and others more slowly), is progressive, uninterrupted, inherent to the organism, degenerative (due to the loss of faculties that normally occur) and basically encompasses three phases: growth, reproduction and senescence. Thus, whenever we live we age, as we go through chrono-biology, we live our time in the times, and our times in time, with our time and biological rhythms, with and in our experiences. We know that senescence refers to the increased probability of death with advancing age,
social maturity to the conquest of social roles, and ageing corresponds to the process of identity 
constitution and self-knowledge, and is intrinsic to the sequence of senescence and social maturity. In the 
light of psychosociology, people go through three times: the first time is the period of formation, where 
the individual conquers competencies to produce in society, then the production phase, experiencing its 
most productive moment, and finally, the third time, that of non-productivity, where there is a decrease in 
physical action and activities which are the result of this action, which often coincides with the transition 
to retirement. Senescence is thus constituted as a continuous and irreversible process of physical, mental 
and social decrease that although it cannot be avoided, it can be minimised (regarding the performance impairment of several activities, whether physical, cognitive or relational). We know today that to achieve ageing in a satisfactory way will depend on the knowledge and balance between the individual's limitations and potentialities, which are manifested in the field of education, health, leisure and others and which make it possible to deal with the inevitable issues of growing old. Ageing is a multidimensional 
process and therefore characterised from various perspectives (biological, social, psychological).

The progressive interest in intergenerational practices constitutes a response to the substantial 
demographic changes in our society, to individualisation and to the increasing segregation of older people 
in society (Pinto, 2008). According to the Eurobarometer 2008, 85% of European Union citizens 
considered favourable the financial support in the promotion of initiatives and projects that unite young 
and old people. Active ageing has assumed relevance in our society with special reflection on the quality 
of life, physical, psychological and emotional well-being of citizens in a bottom-up/top-down approach. 
The possibility of maximising the functional capacity of the elderly through recreational, convivial and 
learning activities leads to an increase in their levels of intrinsic capacity as well as the maintenance of 
their socio-cognitive balance. Faced with a degradation of functional capacities, these activities have also 
contributed to reversing the loss of these levels. In some studies, regarding the elderly's opinion on what 
could improve their loneliness, intergenerational activities, healthy social interaction, recreational, playful 
and creative activities such as outings, dances, crafts, social gatherings and various activities stand out, 
with those in which communication and fun are the most commonly mentioned (Kamiya, Doyle, Henretta 
& Virmonen, 2014). Currently, the elderly desire "a new social image, of an active elderly person, who 
allows them to live the remaining years, integrated into a society in which productivity has become essential" (Azeredo & Afonso, 2016, p.323). Weiss (1957), cited by Pocinho, Farate, and Dias (2010) and 
by Neto (2006), distinguishes social loneliness "in which the person feels lonely and dissatisfied because 
of the lack of social network (friends, family and acquaintances) and emotional loneliness. The 
psychological model of successful ageing, called selective optimisation with compensation, based on the 
dynamics between gains and losses, in a process of adaptation results from three elements: selection
(progressive restriction of the domains of functioning in the life of each person), optimisation (valorisation of what enriches the person, maximising the choices made) and compensation (the capacity to compensate the losses suffered). This process allows aging in a more positive way, by selecting the most important, optimising it and using eventual compensations (Oliveira, 2008).

In fact, many elderly people experience loneliness, isolation and low self-esteem. According to the WHO (2015), depression will be the most disabling disease by 2020. Currently, more than 7% of the world's population (400 million people) suffer from depression and around 850,000 people die from it every year. Violence against the elderly is also a social and public health problem. Faced with this reality, society itself has called for new policies of social support for the elderly, with the appearance of new social responses, and consequently the widening of the space for social intervention. In this sense, the need for sedimentation of gerontology which studies the impact of socio-cultural and environmental conditions on the aging process and on old age, the social consequences of this process and the social actions that may optimise the aging process becomes more and more pressing.

Aware of this reality, RUTIS, the Senior Universities Network has sought to promote active aging and its enhancement, as the Portuguese Senior Universities aim to create and develop regular social, cultural and educational activities. It is worth highlighting the possibility for the person to develop problem-solving skills, exercise cognitive functions, develop functional capacity, promote and raise awareness of self-care, and prevent and control age-related diseases (Jorge & Jesus, 1999). These objectives are achieved in a playful, relaxed, motivating, creative environment and, similarly to individual interventions, based on a safe space, absent of distracting factors and value judgments.

The challenges resulting from the COVID-19 pandemic led to the creation of the Virtual Senior University (VSU) by RUTIS, allowing seniors to continue their distance learning and to share their knowledge.

2 METHODOLOGY

This is a quantitative transversal and correlacional study carried out in Portugal during 2020 and addressed to 100 individuals attending Portuguese Senior Universities in order to evaluate the participation and experience of VSU students in the activities carried out during the first period of confinement.

The secondary goals were considered: i) characterise the students of senior universities ii) to assess student satisfaction with the distance learning model due to the COVID-19 pandemic iii) to assess weekly attendance in hours at the activities promoted by VSU iv) to assess the most liked activities carried out by VSU v) to assess the difficulties experienced by the students in distance learning activities vi) to assess
the less liked initiatives with less receptivity by the students vii) to gauge the interest in continuing the VSU project in the next academic year viii) to assess the correlation between satisfaction with VSU and the continuity of the activities for the next academic year.

To achieve the objectives, the research was conducted using a demographic questionnaire and the QOSUSV scale, which showed a good internal consistency, Cronbach's alpha coefficient=0.806 (Jacob, São João & Galinha, 2021). Both instruments were administered online with the link to the questionnaires being made available to students the computer platform ensuring the response of a single survey per respondent whose participation in the study was voluntary. The treatment of the information, as well as its statistical analysis, was supported by the R software (R Core Team, 2020), having been assured the confidentiality and anonymity of the respondents.

3 RESULTS

This study has as reference a population of seniors who actively participated in the Virtual Senior University during March 2020 on the first containment period of the pandemic COVID-19. A random sample of 100 participants was collected by sending an online survey to students who joined the distance learning classes using videoconferencing platforms and did not want to see their teaching activities interrupted. Regarding the sociodemographic profile, most of the participants are females (67%). Three age groups were considered that had respectively the following weight in the sample: [50;64[ years (29%), [65;74[ years (56%), ≥75 years (15%). The geographical distribution on the mainland was as follows: Alentejo (7%), Center (13%), Lisbon and Tagus Valley-LVT (64%) and North (14%). The island of Madeira registered 2% of students.

When asked about "What did you think of the Virtual Senior University Project?" almost all (98%) said they were satisfied. With regard to the frequency in hours per week (h/w) of attending classes, the following results were recorded: 71,29% up to 3 h/w; 16,83% between 4 and 6 h/w; 11,88% 7 or more h/w. Students were also asked which activities they most enjoyed attending during the academic year. Table 1 summarises the activities/classes that deserved a greater welcome by student, it being possible to choose more than one activity.

| Table 1 - Activities/classes that deserved a greater welcome by students |
|----------------------------|-------|
| Yoga/Gymnastics               | 1,71% |
| Asynchronous classes           | 1,71% |
| "Virtual" conviviality         | 16,24% |
Regarding the aspects less appreciated by the students, table 2 tries to synthesize the main results. For each student was given the possibility to list more than one aspect.

| Creative Writing, Languages and Literature | 8,55% |
| Theatre | 0.85% |
| Photography | 2.56% |
| History, Philosophy & Economics | 11.97% |
| Informatics | 9.40% |
| Gardening | 2.56% |
| All | 23.93% |

To conclude, students were asked if "Did you think that the respective project should be continued for the next academic year?", a large majority (83%) were in favour, as there was a degree of uncertainty about the resumption of face-to-face activities as a result of the COVID-19 pandemic. Finally, a positive (rho=0.596) and statistically significant (p<0.01) correlation was found to exist between satisfaction with VSU and the continued participation of its students in the future.

4 DISCUSSION

The results of this study are in line with Jorge and Jesus (1999), Neto (2006), Oliveira (2008), Pinto (2008), Weiss (1957), cited by Pocinho, Farate, and Dias (2010), Ribeiro and Paúl (2011), Kamiya, Doyle, Henretta, and Virmonen (2014), WHO (2015), Azeredo and Afonso (2016), Direção-Geral de Saúde (2017), Galinha (2019). For a higher quality of life of the senior population, the frequency of leisure time activities has become more important, namely the actual attendance of classes at the Senior University, which, according to the literature, has clearly maintained the levels of happiness and self-esteem of this specific population. Attending senior universities has also allowed certain degrees of functional dependence of the elderly to decrease, as well as social isolation. On the other hand, the current situation, characterised by periods of confinement due to the pandemic crisis, has provided a new offer in Portugal of Senior Universities that have adapted a large part of their training offer to distance learning, bringing about a paradigm shift: “from presential to virtual”. The type of non-formal education that
characterizes the training offered by VSU provided as we observed in our study a high degree of satisfaction by the students enrolled in the classes despite all the inherent restrictions.

5 CONCLUSION

VSU's offer is inclusive, transversal and covers the whole country. The majority of VSU students are female, aged [64;75] years and residents in the Lisbon and Tagus Valley-LVT region. Regarding satisfaction with the distance learning model, 98% of the students refer this condition. The majority (71.29%) of the attendance to classes is done with an attendance ≤ 3 h/w. The three activities/classes that deserved a greater welcome by students were: all existing offers (23.93%); "Virtual" conviviality (16.24%); History, Philosophy & Economics (11.97%). The most frequently mentioned difficulties were: difficulties in accessing the internet and mastering the devices and then class schedules. A significant proportion of students (69%) stated that they had nothing negative to point out, which reinforces the satisfaction with VSU previously questioned (98%). Only one of the students (1%) referred that the classes less liked and with less receptivity were the asynchronous classes. The interest in continuing the VSU project in the next academic year was expressed by 83% of the students, a fact evidenced by the positive (rho=0.596) and statistically significant (p<0.01) correlation between satisfaction and the desire to continue VSU. VSU proved to be a contribution to sustainability in education, particularly in periods of confinement and emergency.

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