

The Impact of Tourism on Senior Well-being: A Study of IMSERSO Programmes

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ABSTRACT

The well-being of older people is currently a priority, due both to the rapid ageing of the population and the negative effects generated by the COVID 19 pandemic. Under the “Active and Healthy Ageing” approach, different sorts of activities, especially tourism, and their influence on improving the well-being of older people are analysed. The effects of tourist activities on people’s well-being are supported in many studies, however, there are few works focused on older people and, specifically, the most disadvantaged who attend social programmes. The main research question in this study is to analyse whether participation in a social tourism programme has a positive influence on the subjective well-being of older people. Likewise, age, gender, frequency and duration of trips, and their impacts on well-being are all analysed. To do so, a sample of seniors who had participated in IMSERSO trips (Spanish Institute for the Elderly and Social Services) was surveyed to quantify their levels of well-being after the trip. The results showed that they presented high levels of subjective well-being and that age, gender, and frequency of trip were factors that impacted on that perception. With regard to the trip itself, those who travelled more frequently presented higher levels of well-being, while the influence of trip duration was not significant.

KEYWORDS

Social Tourism, Subjective Well-Being, Active and Healthy Ageing, Seniors.

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1. Introduction

Tourism activities and their role in improving quality of life, well-being and healthy and active lifestyles have been widely analysed in the literature (Vega-Vázquez et al., 2021). A line of research that has become a priority over recent years, after the COVID 19 pandemic. As the United Nations (UN, 2020) pointed out, “the dramatic impact on well-being and mental health” is one of the less visible, yet equally worrisome effects. According to the latest World Health Organization (WHO) reports (2022), levels of depression and anxiety have drastically increased in recent years, especially affecting the most vulnerable groups, including seniors (European Commission, 2021), not only with immediate, but also with long-term consequences. In that context, the role of social tourism as a political instrument becomes very relevant, helping to reverse sometimes devastating effects on physical and mental health (McCabe & Qiao, 2020).

Social tourism may be defined as the participation in tourism of marginalized groups within society and the facilitation, through either public or private funding of that participation (Minnaert et al., 2012). The study of social tourism has mainly been centred on analysing its impact on some of the different groups of beneficiaries: people with disabilities (Bergier et al., 2010), unemployed people (Kakoudakis et al., 2017), and families (McCabe & Johnson, 2013; Pyke et al., 2019) and older people (Morgan et al., 2015; Medarić et al., 2016; Sedgley et al., 2018). However, despite the advance of rapid ageing that the European Union (EU) population is at present experiencing, there are still few investigations that have analysed the impact of tourism on older people (Patterson & Balderas-Cejudo, 2023).

The importance of social tourism resides in two fundamental reasons: economic and social. Economically, the segment of “senior tourism” implies a strong attraction towards the tourism sector, both because of its growing size, due to the ageing of the population, and because of greater participation in touristic activities among seniors, contributing in an important way to increased expenditure within this market (Alén et al., 2014; Huber et al., 2018; Lopes et al., 2020). In addition, another important factor is that older people usually have more time to travel and their trips are not usually in the high season, which contributes to reducing the seasonality of the tourism sector, permitting the creation of more stable employment and greater resilience (Bianchi et al., 2023). Likewise, senior tourism has been related to savings related to social and health-care costs (Cisneros-Martínez et al., 2018), helping to counteract stress, improving self-esteem, and favouring improvements to mental health (Kakoudakis et al., 2017).

Socially, the rapid ageing of the population and the impoverishment of older people (Morgan et al., 2015) have awakened greater interest in this population segment, both from the scientific and the public policy point of view, highlighting the importance of social tourism. The many barriers and obstacles encountered by older people in holiday participation make them one of the target groups for social tourism (Diekmann et al., 2020). Participation in social tourism programmes means that older people have access to activities that they might not otherwise have, either due to lack of money, disability, or health problems (Morgan et al., 2015). More specifically, some authors highlighted the relevance of tourism for healthy ageing, (Gu et al., 2016; Mélon et al., 2018), as well as its contribution to the 2030 Agenda and the Sustainable Development Goals (SDGs) (Patterson & Balderas-Cejudo, 2023). Despite the ample evidence, many social programmes related to healthy and active ageing have had their budgets cut (Diekmann et al., 2018). Although social tourism programmes have currently been resumed, after the stoppage due to the pandemic, the current model is being questioned, due to the continuous decrease in state investment and tourist spending in destinations (Bianchi et al., 2023).

The literature includes various works focused on tourism and its benefits for well-being, health and quality of life of the elderly (Dann, 2002; Kim et al., 2015; Garcés-Ferrer et al., 2016; Gu et al., 2016; Melon et al., 2018; Vega-Vázquez et al., 2021; Patterson & Balderas-Cejudo, 2023), although even fewer works are focused on social tourism programmes. Of the latter, many of them are theoretical and use qualitative methodologies to analyse the benefits for the well-being and the quality of life of older people (Morgan et al., 2015; Medarić et al., 2016; Sedgley et al., 2018; Lopes et al., 2020). Therefore, more research is needed that quantitatively measures the effects of social tourism programmes on the subjective well-being of the elderly. A research gap that is filled in this study.

Thus, the objective of this study is to quantify the effects of social tourism on the subjective well-being of older people. Specifically, the focus will be on quantitative measurements of subjective well-being,

within the domain of health, in a sample of older Spanish tourists participating in the Spanish social tourism programme of the Spanish Institute for the Elderly and Social Services (IMSERSO). The results were compared with population norms that lead us to draw conclusions on social tourism and its impact on tourist well-being. The programme is a global benchmark in social tourism (Martínez-García, 2013; Sedgley et al., 2018), highly praised for its contribution to improving the well-being of citizens and promoting the economic sustainability of the tourism industry (Bianchi et al., 2023). In line with other works focused on the study of older people and their well-being (Vega-Vázquez et al., 2021), the WHO theoretical framework for Active and Healthy Ageing (AHA) was applied in this work, which is focused on improving health and participating in the ageing process (López-López & Sánchez, 2020).

2. Social Tourism: The IMSERSO Programme

Social tourism emerged with the expansion of systems of social provision, oriented towards social inclusion and the right to well-being (McCabe & Qiao, 2020). It involves recognition of the common right of one and all to enjoy holidays, both for the benefits that they bring for physical and mental well-being (Diekmann et al., 2018) and for contributing to reducing inequalities among the population (Kakoudakis et al., 2017).

Two approaches to social tourism may be identified in the literature: the first is focused on the benefits that are generated in a society that hosts tourists and the second is focused on the benefits for vulnerable social groups (Minnaert et al., 2012). Although what really defines social tourism is that it centres attention on people facing difficulties over travel for reasons relating to economics and health as well as other limitations (Sedgley et al., 2018).

At an individual level, tourism contributes many benefits among which stand out feelings of rest and recovery from work, interaction and intercultural learning, enjoying new experiences, broadening horizons, as well as integration, social development, and improvements to health (for a review see Garcés-Ferrer et al., 2016). At a general level, investment in social tourism can reduce certain social costs, whether direct costs -reduction of health expenses, unemployment and destination sustainability (Cisneros-Martínez et al., 2018)- or opportunity costs - reduction of stress, increased self-esteem, and social integration- which favour independence (Minnaert et al., 2009; Kakoudakis et al., 2017).

Social tourism seeks to overcome the obstacles to travel that the different groups confront, so as to take advantage of its benefits, lifting barriers linked to scarce resources, poor physical health, disabilities, social factors, etc. These barriers are especially important in the case of senior tourists who, because of their stage of life, face challenges such as reduced income due to retirement, deterioration of physical and cognitive health and, in many cases, solitude. They therefore have little confidence to go on journeys (Huber et al., 2018) and to change priorities and self-perceptions, all of which affects their behaviour as tourists (Chen & Shoemaker, 2014).

Social tourism is widely developed within Europe and the Americas (Cisneros-Martínez et al., 2018; Sedgley et al., 2018), while in some countries such as the USA, tourism is a discretionary activity that is not seen as a right for all (Minnaert et al., 2009). The development of these initiatives depends on the welfare levels and social policy of each country (Diekmann et al., 2020). It must be specified that there are also differences with regard to sources of funding, as while the programmes are often financed through charitable organizations in the north of Europe, in other parts of Europe expenditure is publicly funded.

Among the programmes dedicated to social tourism, the IMSERSO programme, developed in Spain, is considered a global reference. Launched in 1985, it was the first ever dedicated to funding tourism of the third age (Martínez-García, 2013) and is at present one of the most consolidated publicly funded social tourism programmes on a large scale (Sedgley et al., 2018). The programme has been noted as an important factor that strengthens the national market of the Spanish tourism sector (Bianchi et al., 2023), offering trips to different national destinations, both coastal and inland. It is a programme with both an economic and a social objective. On the one hand, the economic objective is related to the improvement of different sectors at the destinations and the fight against the precariousness of seasonal work in the sector (Cisneros-Martínez et al., 2018).

On the other hand, from a social point of view, these programs aim to give access to tourism to older

people with medium-low incomes, oriented towards improving physical, mental, emotional, and psychological well-being among older people, which favours their social integration, active ageing, and the improvement of their quality of life (IMSERO, 2019). Although some data were collected on satisfaction, the programme never quantified the impact of satisfaction on the well-being of the participants (Diekmann et al., 2018). Evidence is therefore lacking on the relation between participation in social tourism and its effects on Active and Healthy Ageing and the subjective well-being of older people (Chen & Petrick, 2013; Garcés-Ferrer et al., 2016; Diekmann et al., 2018). This work aims to fill this gap, focusing on measuring the social objective of the programme.

3. The Impact of Tourism on Active and Healthy Ageing and Subjective Well-Being

3.1 Active and Healthy Ageing

Social and economic implications may be derived from the inexorable ageing of the population (WHO, 2020). The development of health policies and health prevention and promotion programmes are key, so that older people can maintain the highest possible degree of activity and independence as their ageing process continues.

The “activity model of ageing”, the basis of social policy in the face of ageing, seeks the implication of older people in different types of leisure, social, cultural, economic and spiritual activities, *etc.*, both for their own benefit and for society, thereby optimizing the ageing process (Morgan et al., 2015; Bousquet et al., 2017). Thus, the third age is perceived as a stage of life associated with personal growth and opportunities to improve and to preserve health and physical, social and mental well-being, independence and quality of life (Huber et al., 2018). Although there are other approaches to active ageing, such as those promoted by the EU or the Organization for Economic Cooperation and Development (OECD) that are more focused on their economic and productive nature, this study is focused on the WHO approach (2002), which emphasizes health improvement (López-López & Sánchez, 2020). It is an approach that re-orientates the concept of ageing towards a more holistic vision of a range of factors thought to contribute to well-being, including quality of life, mental and physical well-being, and social participation.

Currently, there is no single, clear definition of the concept of active and healthy ageing, given the wide variety of existing indicators and predictors. This has led the literature to consider the multi-dimensional nature of this concept (Barlund et al., 2019) and to highlight the importance of combining objective and subjective measures (Petretto et al., 2016; Friedman et al., 2019). However, there is also no consensus on the definition and weight of each of its components, which makes it difficult to measure (McLaughlin et al., 2012).

In this sense, “Active and Healthy Ageing” is part of a holistic and comprehensive approach that covers all factors and perspectives that impact on the improvement of well-being and quality of life as people age (Bousquet et al., 2017). It can take into account cultural, socioeconomics and gender-related aspects and differences (Petretto et al., 2016; Malkowski et al., 2023) and might suggest a general strategy of a lifestyle to develop and to maintain well-being in older age enjoying functional abilities, physical and mental capabilities, and interaction with the environment (WHO, 2020).

This greater “activity” in old age, will affect patterns and habits of consumption of different services, among which tourism and leisure may be included (Nikitina & Vorontsova, 2015; Tsartsara, 2018). In this sense, the important role that tourism plays in the physical and the psychological well-being of older people and their social participation (Kim et al., 2015; Morgan et al., 2015; Huber et al., 2018; Lin et al., 2021) are fundamental aspects of the programmes of Active Ageing, in such a way that social tourism can be used to promote active ageing and to avoid situations of dependency (Garcés-Ferrer et al., 2016; Vento et al., 2020).

As noted, this is particularly relevant in the current post-pandemic context in which the physical and mental health of this population group has been particularly affected. Previous research has shown how tourism can help to reduce the anxiety, stress and dependency levels of older people (Lin et al., 2021) and thus improve their mental and physical health and well-being (Yang & Wong, 2021).

3.2 Consequences for Subjective Well-being

Although well-being has been considered over recent years as a public health objective, there is no generalized consensus over its scope, content and measurement (Linton et al., 2016). According to McCabe and Johnson (2013), the most up-to-date conceptualizations of well-being usually integrate a global assessment of satisfaction with life, linked to assessments of satisfaction within its different domains (family, incomes, health, ...). So, the concept of subjective well-being (SWB) is divided into an affective component (feeling well) and a cognitive component (satisfaction with life) (Lindert et al., 2015; Linton et al., 2016). Therefore, other terms such as happiness, quality of life or life satisfaction have been used to describe well-being (Diekmann et al., 2020). In a more up-to-date definition, Tsartsara (2018) conceived subjective well-being as the balance between external and internal factors that determine their level of satisfaction and self-realization. In this way, when these perceptions of well-being are low, they produce depression, anxiety and stress (McCabe & Johnson, 2013). Those perceptions are influenced by sociodemographic (age, gender, race...) and psychosocial factors (optimism, self-efficacy, perceived control...), the latter with greater influence on subjective well-being (Bohórquez et al., 2013; García et al., 2014).

The relevant role of active leisure on subjective well-being has been highlighted in the literature (Newman et al., 2014) against other predictors such as social relations or state of health (Bohórquez et al., 2013; García et al., 2014). Recently, a spate of investigations has been observed that relate tourism to subjective well-being and quality of life (Vega-Vázquez et al., 2021).

Following Dann's pioneering work (2002), many works have highlighted the impact of tourism on quality of life, well-being, stress reduction and a healthy and active style of life (Garcés-Ferrer et al., 2016; McCabe & Qiao, 2020). Reviewing the literature, those studies can be classed into three groups: studies focused on other social tourism groups, such as low-income families, unemployed, etc.; works focused on analysing this relationship in the case of older people participating in tourist activities that are not necessarily included in social tourism programs; and works focused on older people participating in the programs. The main contributions of those works are summarized below.

Among the studies that relate social tourism and subjective well-being within groups other than the elderly, was that of McCabe & Johnson (2013) focused on low-income families within the UK. They concluded that tourism improves the subjective well-being of the participants, measured at a global level and by areas. The work of Pyke et al. (2019) is along those lines, which even though not centred on older people, yielded a relevant conclusion: age is a factor that influences well-being.

The focus of a second group of studies is on the general impact of tourist activities on the subjective well-being of older people. Among those works, the quantitative study of Kim et al. (2015) pointed to the role of leisure experience satisfaction as a determinant in the quality of life of those elderly people. Later, Garcés-Ferrer et al. (2016) quantitatively analysed the relationship between tourist activity and their perceived well-being, finding that older Spanish tourists had better perceptions of physical and mental health than older people who were not tourists and were quite independently capable of daily living activities. Gu et al. (2016) also found that older people who participated in tourism improved their health self-assessment skills, in addition to their physical and psychological health. Tourism helped them maintain a healthy lifestyle and promote positive emotional states. In turn, Mélon et al. (2018) found evidence on holiday frequency and its positive influence on the well-being of older people, highlighting the greater influence of social and cognitive activities while on holiday. In addition, they found that the greater the perceived benefits of the holiday activities in the minds of the seniors, the greater the tendency to participate in them and the greater the resultant well-being. Finally, Vega-Vázquez et al. (2021) and Patterson and Balderás-Cejudo (2023) defended the influence of seniors' travel experiences on their lifestyle and healthy ageing.

Focusing on the last block, more related to our purpose, the work of Morgan et al. (2015) pointed to the links between opportunities for holidays of older and economically marginalized people (the "Breaks-Away" programme of the UK National Benevolent Fund for the Aged) and their well-being. Although those authors analysed the influence of social tourism trips on the subjective well-being of the elderly, they did so qualitatively. In their work, they also included the main benefits of this type of programme for older people: imbuing their lives with greater meaning, facilitating the transition towards their retirement and social interaction, and generating memories that strengthened their power of recall. Along the same

lines, Medaric et al. (2016) presented another work with a qualitative approach, focused on analysing the benefits of social tourism programmes for the elderly, among which the participants' 'self-perceived better health' stood out. Gathering the works on IMSERSO programs and their impact on quality of life and the health of older people, there is the work of Sedgley et al. (2018). In it, the social connectivity generated within this type of programme was highlighted, as one of the greatest sources of well-being in this segment. Finally, Lopes et al. (2020) conceptually reviewed the extensive evidence on the relationship between social tourism and the well-being of older people related to the INATEL (Portugal) and IMSERSO social tourism programmes. In the light of that review, it can be concluded that, although the literature supports the role of social tourism programmes on the well-being of older people, more research is required to quantify the effects of these programs in greater depth. In consequence and in view of the previous theoretical reviews, the following research questions are advanced:

Rq1: Will the participation of older people in IMSERSO social tourism programs imply higher levels of subjective well-being?

Rq2: Will certain demographic factors, such as gender or age, influence the perception of well-being among the elderly?

Rq3: Will factors of the tourist experience, such as frequency and duration of trips, affect perceptions of well-being among the elderly?

4. Methodology

Based on the previous literature, this analysis looks at whether people who are integrated in IMSERSO social tourism programmes present higher levels of well-being, specifically health-related well-being, compared with the reference population values.

In this work, the objective is to quantify feelings of subjective well-being among senior tourists. The target population consisted of people over 65 years of age, resident in Seville (Andalusia, Spain) who have travelled with the IMSERSO over the six months before the administration of the survey.

Non-probabilistic sampling was applied, in total, 358 valid questionnaires were administered and returned. The sampling size permitted estimations with a confidence level of 95% ($\alpha = 0.05$) together with a precision of 5.2%. The sample for analysis reflected a balanced gender distribution with 51.8% men. Of the entire sample, 59% were between 65 and 74-years-old and the majority were married (53.7%) or widowed (36.4%). 54.8% of the sample had studied no further than primary education.

With the purpose of working with instruments that have been validated in Spain, two licensed questionnaires were selected: SF-12v2, Ware (2000) and EQ5D-5L, the EUROQOL-5D-5L scale, developed by the EuroQoI Group in 2009.

Following the recommendations of several studies in which the benefits of using various scales were mentioned, both scales were selected for use together and simultaneously in the same survey, to improve understanding of the differences and similarities between scales (Lindert et al., 2015).

In summary, the choice of both scales was due to a series of reasons:

- a) The scales are brief, specifically, 5 items in the EQ5D-5L scale and 12 items in the SF-12v2 scale.
- b) Both scales are translated into Spanish and are validated for the Spanish population, which is a relevant aspect given that, among other psychometric factors, culture is considered a factor that can cause bias in the results of subjective well-being measurements (García-Gordillo et al., 2016).
- c) They include several aspects of well-being: the 5D-5L contains three dimensions (mental, physical well-being and activities and functioning) and the SF-12 considers four dimensions (mental, social, physical well-being and activities and functioning).
- d) These are relevant and internationally recognized measures.
- e) In both tools there are Spanish norms with population reference values that allow the interpretation and comparison of the scores obtained in the sample.

The SF-12v2 scale, a questionnaire that is commonly administered to study clinical results, was used to create a profile of the state of health of surveyees. The instrument is independent of the underlying clinical condition and it therefore means that it can be administered to a wide variety of populations. A

reduced version of SF-36 was used that reflects health from a personal perspective (Rodríguez-Romero et al., 2013).

It comprises 12 items that define eight dimensions: Physical Function (PF, 2 items), Social Function (SF, 1 item), Physical Role (PR, 2 items), Emotional Role (ER, 2 items), Mental Health (MH, 2 items), Vitality (VT, 1 item), Bodily Pain (BP, 1 item) and General Health (GH, 1 item). Using version 2, the Likert-type scale yielded two indexes through the combination of the scores of each dimension: Summary Physical Component (SPC) and Summary Mental Component (SMC).

The detailed instructions found in the manual of the original version of the questionnaire were followed for the calculation of the scores. A particularity of the second version of the SF instruments is that the calculation of scores is based on reference norms. To calculate it, the items from each of the eight dimensions are coded, added, and transformed into a scale from 0 (the worst health state for that dimension) to 100 (the best health state). This score is known as the raw score. However, to facilitate interpretation, standardized scores are subsequently calculated with American means and Standard Deviation (SD). Both the dimensions and the summary components are calculated, so that the sample estimator of both the mean and the SD is 50 (10) in the general reference population. The scale shows good psychometric characteristics (Ware, 2000; Vilagut et al., 2008), attesting to its reliability and validity as a questionnaire in both its original and its Spanish version.

Reference population norms were used to interpret the scores obtained from the questionnaire. Those norms constituted the standard values and facilitated the comparison of the scores from the questionnaire in relation to the expected scores according to gender and to age. Specifically, reference norms from sample data belonging to non-institutionalized adult population of Cataluña were used in this research for questionnaire SF-12v2 (Schmidt et al., 2012). In that way, the results could be compared with the reference population values, so that deviations in scores could be identified in the sample in relation to expectations for age groups and gender. Importantly, values greater than or less than 50 should be interpreted as better or worse, respectively, than the reference population used to calculate the standardized scores.

In second place, the EQ5D-5L scale has been broadly used at an international level to evaluate subjective well-being (Brooks, 1996; Badia et al., 1998) with two parts: a) a scale that measures perceived health-related limitations; and, b) a visual analogical scale, which has five dimensions with 5 response options: mobility, personal care, daily activities, pain or discomfort and anxiety or depression. The state of health may be described through the use of a five-digit number, referred to as "state of health profile". So, number "11111" indicates perfect health and number "55555" shows the worst possible state of health. If the five digits of the profile are then added up, and 5 is subtracted from the total, and finally, that last result is multiplied by 5, then the result is the Severity of Illness Index (SII). The indicator takes the value 0 in the absence of health problems. On the contrary, if it takes the maximum value (100), it indicates the greatest possible severity of the problems. However, the health index has emerged with the purpose of improving its interpretation, which is calculated by subtracting 100 from the severity of illness index (100 - SII). Thus, the better the health of a person, the higher the value of this indicator.

In second place, the visual scale offers a valuation of the state of health between 0 (worst imaginable) and 100 (best imaginable state).

The National Health Survey (ENSE) compiled the quality-of-life results of questionnaire EQ5D-5L in 2011/12, related with the health of the adult population. Its results provided a populational norm for Spain that was representative of the different autonomous communities, meaning it was therefore adequate for this study.

The data were analysed using descriptive techniques and multivariate data analysis, specifically, through a hypothesis test of several samples to compare means, proportions, and variances (IBM Corp. Released 2016. IBM SPSS Statistics for Windows, Version 24.0. Armonk, NY: IBM Corp.).

Firstly, the single sample t-Student Test evaluates the null hypothesis that the mean of the studied sample is equal to a specified value, using the t statistic:

$$t = \frac{\bar{X} - \mu_0}{S / \sqrt{n}}$$

The one-sample Z test performs a hypothesis test to compare the proportion of the sample studied with a specific value:

$$Z = \frac{\hat{p} - \pi_0}{\sqrt{\frac{\hat{p}(1-\hat{p})}{n}}}$$

The comparison of means involves the comparison of the values of a continuous variable according to the values of a variable (or factor) that can be summarized in two or more categories. If the data to be analysed meet the necessary assumptions established to be able to apply parametric tests, the Student-*t* test for independent data is the most suitable for comparing the means of a characteristic between two groups.

The null hypothesis of this test is the equality of means between the two groups, compared to the alternative hypothesis, which encompasses the existence of a differential trait between the means. In the Student-*t* test, contrast analysis can be used to test the null hypothesis, based on the differences recorded between the values of the study variable evaluated in each group to be compared. To do so, the information from the means and standard deviations of each of the study groups is used:

$$F = \frac{\bar{X} - \bar{Y}}{\sqrt{\frac{(n-1)S_1^2 + (m-1)S_2^2}{n+m-2} \sqrt{\frac{1}{n} + \frac{1}{m}}}}$$

The statistic that was calculated varied slightly based on whether the variances of the two groups under study were equal or different. The variance ratio test or Levene's test can be applied to solve this problem. Under the assumption that the two populations follow a normal distribution and have equal variance ($H_0 : \sigma_1 = \sigma_2$), the variance ratio is expected to follow a Snedecor F distribution:

$$F = \frac{\frac{1}{n-1} \sum_{i=1}^n (X - \bar{X})^2}{\frac{1}{m-1} \sum_{i=1}^m (Y - \bar{Y})^2}$$

There is the possibility of applying equivalent non-parametric tests that do not require the data to meet all the assumptions established for their parametric counterparts. Analogous to the Student-*t* test for independent data with normal distributions, the Mann-Whitney U test is used for non-parametric data.

On the other hand, if responses that are measured as proportions between two or more levels are to be compared, then tests are needed that indicate whether there are differences between those proportions. The Z test is based on the normal approximation of the binomial distribution. There are two proportions to be compared, p_1 and p_2 , observed in two different groups. The contrast statistic is calculated as:

$$Z = \frac{p_1 - p_2}{\sqrt{\frac{p_1(1-p_1)}{n_1} + \frac{p_2(1-p_2)}{n_2}}}$$

In this study, the Student-*t* test was specifically used in one sample, to compare the scores of the sample with the mean of the reference population in the data obtained with the SF-12v2 tool.

The results of a proportion analysis of the EQ5D-5L questionnaire data were compared with the reference population using the Z-test.

Subsequently, the Student-*t* test for independent data or its non-parametric analogue the Mann-Whitney U-test was applied to analyse any significant differences based on the gender and the age of the respondents, and to compare the means of the resulting sub-samples, in those cases in which the hypothesis of equality of variances was not met. The test for homogeneity of variances was carried out using the Levene Test.

5. Empirical Analysis and Results

In the first place, the scores of the sample for the two instruments that measured subjective well-being are shown. In both cases, the scores from the sample were compared with reference population values. Single-sample Student-*t* tests were performed for a rigorous statistical comparison. Given that the values

of questionnaire EQ5D-5L represent proportions, the comparison with the reference population could be performed through a single-sample Z test.

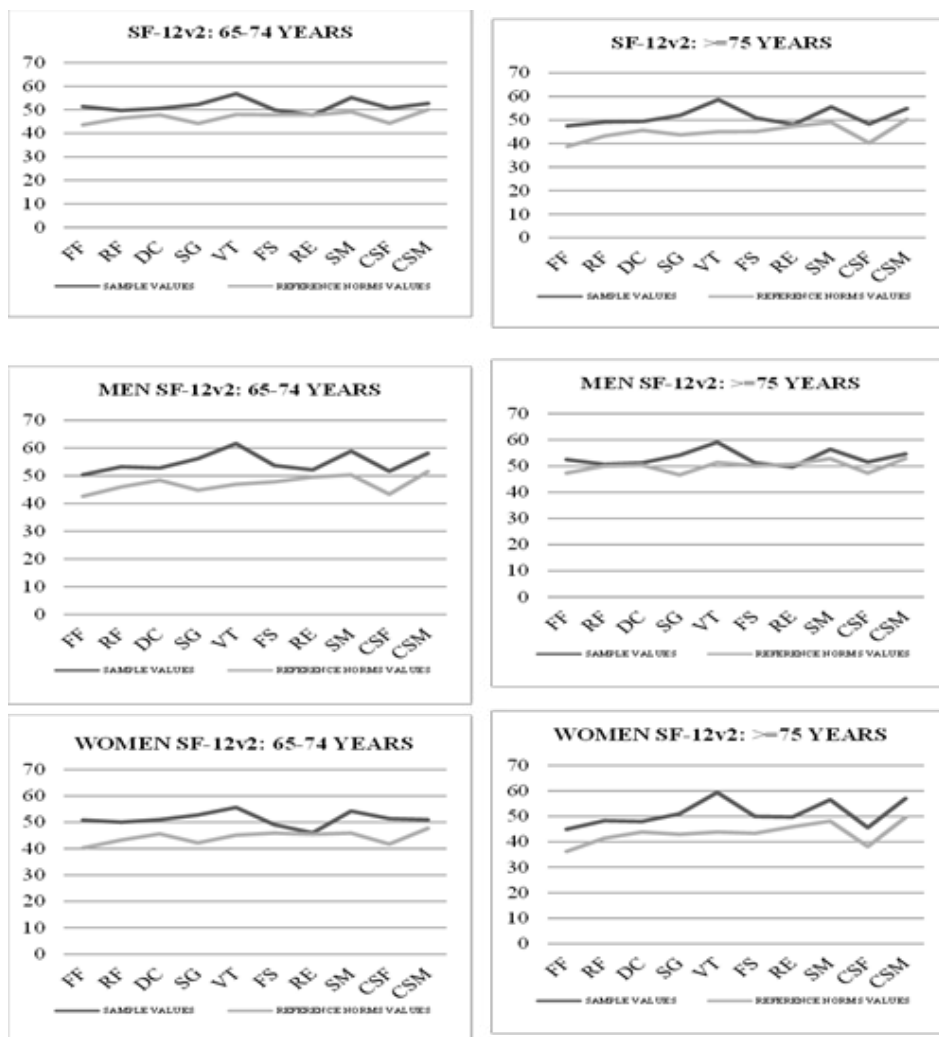
The measures and standard deviation of each dimension of instrument SF-12v2 are shown in Table 1, both for the sample and for norms, differentiating by gender and age. The difference of means and the p-value referring to the single-sample Student-t test results are also shown, in order to compare the sampled values with the population values.

Table 1. Sample Values and Reference Norm Values (SF- 12v2 dimensions)

Dimensions of SF- 12v2	Sample values	Reference norm values	Mean differences	p-value Sample values	MEN			WOMEN					
					Reference norm values	Mean differences	p-value	Sample values	Reference norm values	Mean differences	p-value		
65 - 74 years	Physical Function	51.4(5.9)	43.6(13.3)	7.9	0.000	52.4(6.1)	47.3(11.8)	5.1	0.000	50.8(4.4)	40.3(13.1)	10.5	0.000
	Physical Role	49.7(6.3)	46.4(12.3)	3.3	0.000	50.6(5.7)	50(10)	0.6	0.112	50.1(5.8)	43.3(12.8)	6.9	0.000
	Bodily Pain	50.6(5.6)	47.8(10.5)	2.8	0.000	51.2(5.0)	50.3(10)	1.0	0.019	51.0(4.4)	45.6(10.3)	5.4	0.000
	General Health	52.2(7.4)	44.2(9.7)	8.0	0.000	54.1(8.1)	46.6(9.7)	7.6	0.000	52.8(6.1)	42.2(8.8)	10.6	0.000
	Vitality	56.8(8.1)	48(11.3)	8.9	0.000	59.1(7.6)	51.3(9.7)	7.9	0.000	55.6(7.9)	45.1(11.3)	10.5	0.000
	Social Function	49.9(5.8)	47.8(12)	2.2	0.000	51.2(5.9)	50.1(9.9)	1.1	0.021	49.1(5.0)	45.9(13)	3.2	0.000
	Emotional Role	47.7(7.1)	47.8(12.7)	-0.1	0.545	49.6(6.7)	50.6(9.4)	-1.0	0.946	46.0(6.4)	45.4(14.3)	0.6	0.138
	Mental Health	55.2(6.4)	49.1(12)	6.1	0.000	56.4(6.3)	52.8(9.5)	3.6	0.000	54.2(5.6)	45.9(12.6)	8.3	0.000
	Sum-Physical Components	50.7(5.7)	44.25(11.3)	6.5	0.000	51.5(5.5)	47.3(10)	4.3	0.000	51.4(5.2)	41.7(11.3)	9.7	0.000
	Sum-Mental Components	52.7(7.4)	50.1(12.5)	2.7	0.000	54.6(7.5)	52.9(9.5)	1.7	0.007	51.0(7.6)	47.7(13.9)	3.4	0.000
75 + years	Physical Function	47.5(8.1)	38.8(14.2)	8.8	0.000	50.4(6.1)	42.6(13.7)	7.8	0.000	44.9(6.1)	36.2(13.5)	8.7	0.000
	Physical Role	49.1(8.4)	43.3(13.5)	5.8	0.000	53.2(5.4)	46(12.9)	7.2	0.000	48.3(6.9)	41.4(13.4)	6.9	0.000
	Bodily Pain	49.4(8.3)	45.6(11.9)	3.8	0.000	52.8(5.0)	48.4(10.8)	4.5	0.000	48.0(6.3)	43.8(11.8)	4.2	0.000
	General Health	52.0(10.)	43.7(11.2)	8.3	0.000	56.2(6.5)	44.8(11.2)	11.4	0.000	51.0(7.5)	42.9(11)	8.1	0.000
	Vitality	58.6(9.4)	45(12.1)	13.7	0.000	61.6(7.4)	46.9(11.8)	14.8	0.000	59.4(7.7)	43.8(12.3)	15.6	0.000
	Social Function	50.9(6.5)	45.1(14)	5.9	0.000	53.7(5.1)	47.8(12.6)	5.9	0.000	50.0(7.2)	43.3(14.3)	6.8	0.000
	Emotional Role	48.1(9.2)	47.3(13.2)	0.9	0.175	52.1(6.5)	49.5(10.7)	2.6	0.001	49.7(7.1)	45.9(14.2)	3.9	0.001
	Mental Health	55.5(7.3)	49(10.9)	6.5	0.000	58.9(5.6)	50.3(10.1)	8.6	0.000	56.5(6.2)	48.1(11.3)	8.5	0.000
	Sum-Physical Components	48.3(8.8)	40.2(13.3)	8.2	0.000	51.6(6.6)	43.3(12.4)	8.4	0.000	45.6(7.7)	38.1(13.1)	7.6	0.000
	Sum-Mental Components	54.8(8.7)	50.3(12)	4.6	0.000	58.1(7.6)	51.5(10)	6.6	0.000	57.0(8.1)	49.6(13)	7.5	0.000

Source: Own Elaboration. Mean score, differences, p-values and standard deviation (in brackets) of the SF-12v2 dimensions in the sample and in the general reference population, according to gender and age.

Figure 1. Comparison between the Sample and the Reference Norm Values, taking Account of Gender and Age (SF-12v2 dimensions).



Source: Own Elaboration

In Figure 1, comparisons may also be seen for the dimension between the sample and the values of the reference norms, on the basis of both gender and age.

All the dimensions and summary components of Table 1 may be seen to present larger sample values than the norm, except for the dimension Emotional Response, and more specifically, in the age group under 75 years of age. That behaviour is repeated in both segments for men and women. The associated p-values indicated that statistically significant differences existed in all dimensions, with the exception of the "Emotional Response" in both age groups. The differences for the same age group within the segment of men, also in the dimension Physical Response, never turned out to be statistically significant. These results indicated that the people included in IMSERSO social tourism programs presented higher levels of health-related well-being, compared with the reference population values, specifically in the dimensions Physical Function, Social Function, Physical Role, Mental Health, Vitality, Bodily Pain, as well as in General Health SPC and SMC. Therefore, those results demonstrated the positive impact that tourism activities have on well-being, which answers the first research question of this study (RQ1) in the affirmative.

Finally, it was observed that when cross-checking the scores against gender, it was observed that the men presented higher scores in all the dimensions, and in the two age groups under consideration.

Tables 2, 3, and 4, and Figure 2 show the results of the EQ5D-5L questionnaire. Specifically, the tables include the sampling proportions and the reference population values in the 5 dimensions under consideration, distinguishing between age groups. Table 2 presents the global results with no gender breakdown, and in Tables 3 and 4, the sub-samples for men and for women, respectively.

Table 2. Sample Values and Reference Norm Values (EQ5D-5L dimensions)

DIMENSIONS OF EQ 5D 5L	SAMPLE VALUES				REFERENCE NORM VALUES				DIFFERENCE IN PROPORTION (P-VALUE)			
	65-74 years	75-84 years	85+ years	TOTAL	65-74 years	75-84 years	85+ years	TOTAL	65-74 years	75-84 years	85+ years	TOTAL
Mobility												
No problem	92.89	73.79	100.00	87.39	70.68	50.14	27.52	49.45	22.20(0.000)	23.64(0.000)	72.48(0.000)	37.94(0.000)
Minor problems	5.93	20.39	0.00	10.08	14.04	20.09	18.00	17.38	-8.11(0.000)	0.298(0.398)	-18(0.000)	-7.29(0.000)
Moderate problems	1.19	2.91	0.00	1.68	10.40	17.76	22.62	16.93	-9.21(0.000)	-14.8(0.000)	-22.6(0.000)	-15.2(0.000)
Serious problems	0.00	2.91	0.00	0.84	4.09	8.92	23.07	12.03	-4.09(0.001)	-6.00(0.040)	-23.0(0.000)	-11.1(0.000)
Extreme problems	0.00	0.00	0.00	0.00	0.80	3.10	8.80	4.23	-0.8(0.143)	-3.1(0.076)	-8.8(0.003)	-4.23(0.000)
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00				
Self-care												
No problem	96.05	74.76	100.00	89.92	89.59	74.55	47.02	70.39	6.457(0.001)	0.207(0.398)	52.98(0.000)	19.52(0.000)
Minor problems	3.56	20.39	0.00	8.40	5.28	10.57	13.70	9.85	-1.72(0.188)	9.818(0.002)	-13.7(0.000)	-1.44(0.261)
Moderate problems	0.40	3.88	0.00	1.40	3.38	7.87	12.04	7.76	-2.98(0.012)	-3.98(0.129)	-12.0(0.000)	-6.36(0.000)
Serious problems	0.00	0.97	0.00	0.28	1.07	3.34	12.90	5.77	-1.07(0.101)	-2.36(0.162)	-12.9(0.000)	-5.48(0.000)
Extreme problems	0.00	0.00	0.00	0.00	0.68	3.67	14.34	6.23	-0.68(0.167)	-3.67(0.056)	-14.3(0.000)	-6.23(0.000)
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00				
Daily Activities												
No problem	79.45	45.63	100.00	69.75	80.90	60.30	34.39	58.53	-1.45(0.335)	-14.6(0.003)	65.61(0.000)	11.21(0.000)
Minor problems	17.79	42.72	0.00	24.93	10.19	16.96	16.96	14.70	7.596(0.000)	25.75(0.000)	-16.9(0.000)	10.22(0.000)
Moderate problems	2.77	9.71	0.00	4.76	5.16	12.59	13.04	10.26	-2.39(0.090)	-2.88(0.270)	-13.0(0.000)	-5.50(0.001)
Serious problems	0.00	1.94	0.00	0.56	2.19	4.76	17.01	7.99	-2.19(0.023)	-2.81(0.161)	-17.0(0.000)	-7.42(0.000)
Extreme problems	0.00	0.00	0.00	0.00	1.56	5.39	18.60	8.52	-1.56(0.053)	-5.39(0.021)	-18.6(0.000)	-8.51(0.000)
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00				
Pain/Discomfort												
No problem	52.17	29.13	100.00	45.66	57.00	44.00	30.85	43.95	-4.82(0.119)	-14.8(0.003)	69.15(0.000)	1.708(0.322)
Minor problems	44.27	64.08	0.00	49.86	20.27	23.98	23.17	22.47	23.99(0.000)	40.09(0.000)	-23.1(0.000)	27.38(0.000)
Moderate problems	3.56	4.85	0.00	3.92	14.70	21.01	25.49	20.40	-11.1(0.000)	-16.1(0.000)	-25.4(0.000)	-16.4(0.000)
Serious problems	0.00	1.94	0.00	0.56	7.12	9.25	16.61	10.99	-7.12(0.000)	-7.30(0.015)	-16.6(0.000)	-10.4(0.000)
Extreme problems	0.00	0.00	0.00	0.00	0.51	1.50	2.77	1.59	-0.51(0.208)	-1.5(0.182)	-2.77(0.096)	-1.59(0.022)
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00				
Anxiety/Depression												
No problem	80.63	67.96	100.00	77.03	80.03	74.92	67.57	74.17	0.602(0.387)	-6.95(0.105)	32.43(0.000)	2.857(0.186)
Minor problems	17.79	29.13	0.00	21.01	10.40	12.85	14.79	12.68	7.386(0.000)	16.27(0.000)	-14.7(0.000)	8.328(0.000)
Moderate problems	1.58	2.91	0.00	1.96	6.72	8.39	9.56	8.22	-5.13(0.001)	-5.47(0.053)	-9.56(0.002)	-6.26(0.000)
Serious problems	0.00	0.00	0.00	0.00	2.33	2.93	4.32	3.19	-2.33(0.019)	-2.93(0.084)	-4.32(0.041)	-3.19(0.001)
Extreme problems	0.00	0.00	0.00	0.00	0.52	0.60	1.57	0.90	-0.52(0.205)	-0.6(0.292)	-1.57(0.179)	-0.89(0.079)
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00				

Source: Own Elaboration. Percentile results of the EQ5D-5L instrument for the sample and in general reference population, differences and p-values between parentheses, according to age.

Table 3. Men Sample Values and Reference Norm Values (EQ-5D-5L dimensions)

DIMENSIONS OF EQ 5D 5L	SAMPLE VALUES			REFERENCE NORM VALUES			DIFFERENCE IN PROPORTION (P-VALUE)		
	65-74 years	75-84 years	TOTAL	65-74 years	75-84 years	TOTAL	65-74 years	75-84 years	TOTAL
Mobility									
No problem	91.94	80.00	87.83	76.78	57.58	67.18	15.15(0.000)	22.42(0.035)	20.65(0.000)
Minor problems	6.45	10.77	7.94	12.05	18.72	15.39	-5.59(0.000)	-7.95(0.234)	-7.44(0.007)
Moderate problems	1.61	4.62	2.65	7.83	13.47	10.65	-6.21(0.000)	-8.85(0.115)	-8.00(0.000)
Serious problems	0.00	4.62	1.59	3.05	7.08	5.07	-3.05(0.003)	-2.46(0.393)	-3.47(0.037)
Extreme problems	0.00	0.00	0.00	0.28	3.15	1.72	-0.28(0.053)	-3.15(0.226)	-1.71(0.076)
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00			
Self-care									
No problem	96.77	80.00	91.01	93.17	80.38	86.78	3.604(0.000)	-0.37(0.108)	4.230(0.091)
Minor problems	3.23	12.31	6.35	3.38	9.05	6.22	-0.15(0.030)	3.257(0.050)	0.134(0.397)
Moderate problems	0.00	6.15	2.12	2.24	6.15	4.20	-2.24(0.006)	0.003(0.292)	-2.07(0.144)
Serious problems	0.00	1.54	0.53	0.74	1.65	1.20	-0.74(0.140)	-0.11(0.386)	-0.66(0.279)
Extreme problems	0.00	0.00	0.00	0.47	2.78	1.63	-0.47(0.067)	-2.78(0.233)	-1.62(0.083)
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00			
Daily Activities									
No problem	81.45	52.31	71.43	87.49	68.92	78.21	-6.03(0.004)	-16.6(0.000)	-6.77(0.031)
Minor problems	16.13	32.31	21.69	7.07	14.47	10.77	9.059(0.347)	17.83(0.000)	10.92(0.000)
Moderate problems	2.42	12.31	5.82	3.11	10.20	6.66	-0.69(0.006)	2.107(0.074)	-0.83(0.358)
Serious problems	0.00	3.08	1.06	1.62	2.62	2.12	-1.62(0.075)	0.456(0.345)	-1.06(0.238)
Extreme problems	0.00	0.00	0.00	0.72	3.80	2.26	-0.72(0.034)	-3.8(0.188)	-2.26(0.044)
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00			
Pain/Discomfort									
No problem	66.13	35.38	55.56	68.02	55.61	61.82	-1.89(0.024)	-20.2(0.000)	-6.25(0.083)
Minor problems	31.45	53.85	39.15	18.74	21.76	20.25	12.71(0.013)	32.08(0.000)	18.90(0.000)
Moderate problems	2.42	7.69	4.23	9.84	16.15	13.00	-7.42(0.000)	-8.45(0.177)	-8.76(0.000)
Serious problems	0.00	3.08	1.06	3.33	5.46	4.40	-3.33(0.011)	-2.38(0.348)	-3.33(0.032)
Extreme problems	0.00	0.00	0.00	0.06	0.58	0.32	-0.06(0.277)	-0.58(0.359)	-0.32(0.294)
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00			
Anxiety/Depression									
No problem	91.13	75.38	85.71	90.09	81.90	86.00	1.039(0.011)	-6.51(0.019)	-0.28(0.396)
Minor problems	7.26	21.54	12.17	6.45	9.34	7.90	0.808(0.290)	12.19(0.000)	4.274(0.037)
Moderate problems	1.61	3.08	2.12	2.71	5.40	4.06	-1.09(0.069)	-2.32(0.368)	-1.93(0.160)
Serious problems	0.00	0.00	0.00	0.69	2.37	1.53	-0.69(0.088)	-2.37(0.240)	-1.53(0.091)
Extreme problems	0.00	0.00	0.00	0.06	0.30	0.18	-0.06(0.331)	-0.3(0.376)	-0.18(0.336)
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00			

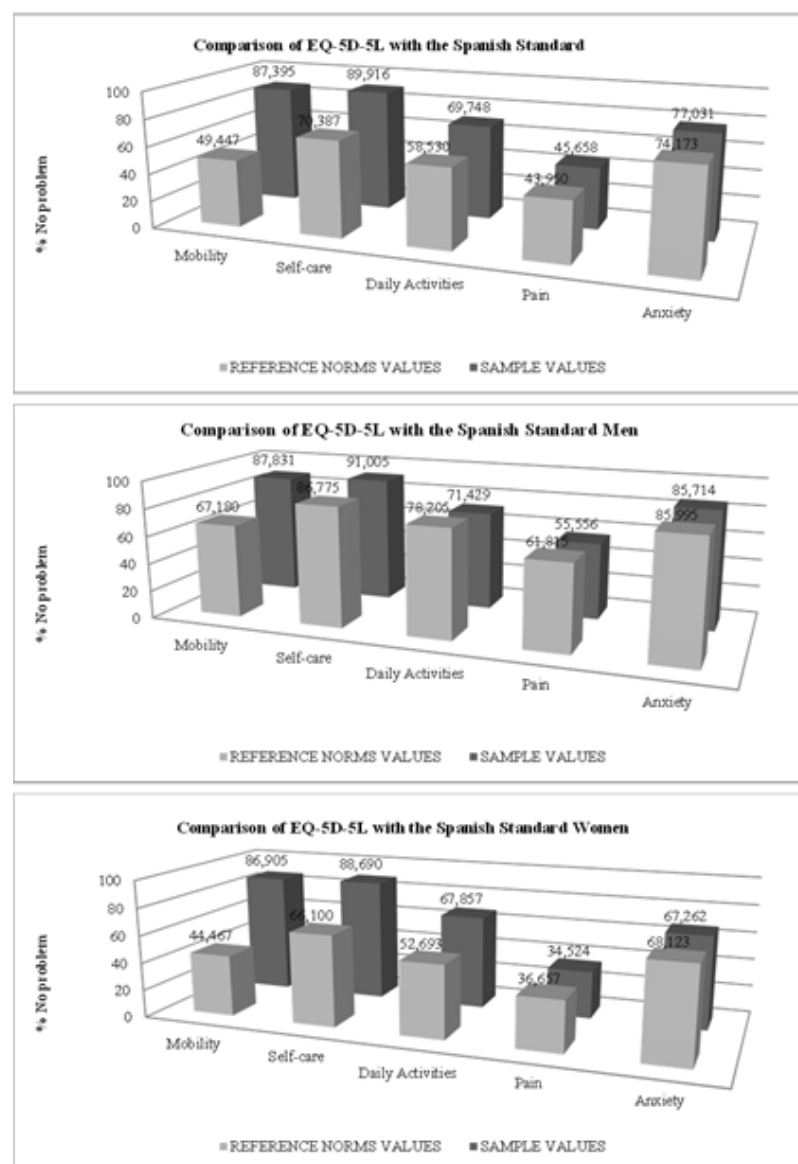
Source: Own Elaboration. Percentile results of the EQ5D-5L instrument for the sample and in the general reference population, differences, and p-values between parentheses, according to age. Sample of men.

Table 4. Women Sample Values and Reference Norm Values (EQ-5D-5L dimensions)

DIMENSIONS OF EQ 5D 5L	SAMPLE VALUES				VALUES OF REFERENCE NORMS				DIFFERENCE IN PROPORTION (P-VALUE)			
	65-74 years	75-84 years	85+ years	TOTAL	65-74 years	75-84 years	85+ years	TOTAL	65-74 years	75-84 years	85+ years	TOTAL
Mobility												
No problem	93.80	63.16	100.00	86.90	65.39	44.98	23.03	44.47	28.40(0.000)	18.17(0.031)	76.97(0.000)	42.43(0.000)
Minor problems	5.43	36.84	0.00	12.50	15.76	21.03	18.38	18.39	-10.3(0.002)	15.81(0.022)	-18.3(0.000)	-5.89(0.057)
Moderate problems	0.78	0.00	0.00	0.60	12.62	20.74	23.34	18.90	-11.8(0.000)	-20.7(0.002)	-23.3(0.000)	-18.3(0.000)
Serious problems	0.00	0.00	0.00	0.00	4.98	10.19	24.06	13.08	-4.98(0.013)	-10.1(0.046)	-24.0(0.000)	-13.0(0.000)
Extreme problems	0.00	0.00	0.00	0.00	1.25	3.06	11.18	5.16	-1.25(0.176)	-3.06(0.218)	-11.1(0.000)	-5.16(0.004)
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00				
Self-care												
No problem	95.35	65.79	100.00	88.69	86.48	70.50	41.32	66.10	8.868(0.005)	-4.71(0.325)	58.68(0.000)	22.59(0.000)
Minor problems	3.88	34.21	0.00	10.71	6.93	11.63	13.98	10.85	-3.05(0.156)	22.58(0.000)	-13.9(0.000)	-0.13(0.398)
Moderate problems	0.78	0.00	0.00	0.60	4.37	9.06	14.07	9.17	-3.59(0.054)	-9.06(0.060)	-14.0(0.000)	-8.57(0.000)
Serious problems	0.00	0.00	0.00	0.00	1.35	4.52	13.42	6.43	-1.35(0.165)	-4.52(0.162)	-13.4(0.000)	-6.43(0.001)
Extreme problems	0.00	0.00	0.00	0.00	0.87	4.29	17.20	7.45	-0.87(0.226)	-4.29(0.170)	-17.2(0.000)	-7.45(0.000)
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00				
Daily Activities												
No problem	77.52	34.21	100.00	67.86	75.19	54.33	28.56	52.69	2.329(0.330)	-20.1(0.017)	71.44(0.000)	15.16(0.000)
Minor problems	19.38	60.53	0.00	28.57	12.90	18.68	18.11	16.56	6.479(0.035)	41.84(0.000)	-18.1(0.000)	12.00(0.000)
Moderate problems	3.10	5.26	0.00	3.57	6.94	14.24	13.41	11.53	-3.83(0.091)	-8.97(0.113)	-13.4(0.000)	-7.95(0.002)
Serious problems	0.00	0.00	0.00	0.00	2.69	6.25	17.39	8.78	-2.69(0.067)	-6.25(0.112)	-17.3(0.000)	-8.77(0.000)
Extreme problems	0.00	0.00	0.00	0.00	2.29	6.49	22.53	10.44	-2.29(0.087)	-6.49(0.106)	-22.5(0.000)	-10.4(0.000)
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00				
Pain/Discomfort												
No problem	38.76	18.42	100.00	34.52	48.18	36.09	25.70	36.66	-9.42(0.040)	-17.6(0.030)	74.3(0.000)	-2.13(0.338)
Minor problems	56.59	81.58	0.00	61.90	21.60	25.52	23.96	23.69	34.98(0.000)	56.05(0.000)	-23.9(0.000)	38.21(0.000)
Moderate problems	4.65	0.00	0.00	3.57	18.91	24.38	26.79	23.36	-14.2(0.000)	-24.3(0.000)	-26.7(0.000)	-19.7(0.000)
Serious problems	0.00	0.00	0.00	0.00	10.40	11.87	19.99	14.09	-10.4(0.000)	-11.8(0.030)	-19.9(0.000)	-14.0(0.000)
Extreme problems	0.00	0.00	0.00	0.00	0.90	2.14	2.40	1.81	-0.9(0.222)	-2.14(0.263)	-2.4(0.116)	-1.81(0.084)
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00				
Anxiety/Depression												
No problem	70.54	55.26	100.00	67.26	71.31	70.08	62.98	68.12	-0.76(0.391)	-14.8(0.054)	37.02(0.000)	-0.86(0.387)
Minor problems	27.91	42.11	0.00	30.95	13.83	15.28	16.37	15.16	14.07(0.000)	26.82(0.000)	-16.3(0.000)	15.79(0.000)
Moderate problems	1.55	2.63	0.00	1.79	10.19	10.46	10.85	10.50	-8.63(0.002)	-7.82(0.115)	-10.8(0.000)	-8.71(0.000)
Serious problems	0.00	0.00	0.00	0.00	3.75	3.32	5.52	4.20	-3.75(0.032)	-3.32(0.207)	-5.52(0.021)	-4.19(0.010)
Extreme problems	0.00	0.00	0.00	0.00	0.93	0.80	2.03	1.25	-0.93(0.217)	-0.8(0.342)	-2.03(0.141)	-1.25(0.137)
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00				

Source: Own Elaboration. Percentile results of the EQ5D-5L instrument for the sample and in the general reference population, differences, and p-values between parentheses, according to age. Sample of women.

Figure 2. Comparisons of Sample Values and the Reference Norms Value of the EQ5D-5L Instrument according to Gender



Source: Own Elaboration

The results with no gender breakdown (Table 2) indicated that over 87% of the sample perceived no mobility problems and almost 90% had no self-care problems. These percentages were very much higher than the reference population values and, in addition, the reference population percentage differences (49.45% and 70.39%, respectively) were statistically significant.

The dimension that presented a higher proportion of slight problems was pain/discomfort (49.86%), whereas 45.66% affirmed that they had no problem in the same dimension. Nevertheless, it can at the same time be seen that the numbers of both men and women with moderate, serious and extreme problems diminished in that dimension and in others, such as daily activity (24.93%) and anxiety/depression (21.01%), in comparison with the whole population, even though the proportion of the sample with slight problems increased. In addition, those deviations were statistically significant.

In relation with the segments of both men (Table 4) and women (Table 5), very similar conclusions were obtained in the global sample.

It is interesting to mention that no men from the sample declared that they had extreme problems in any dimension. Although with the exception of the dimension 'anxiety/depression', serious problems were present in the rest. Nevertheless, as may in all cases be appreciated, the proportion was very low

and in no case exceeded 2%. In addition, those values were always lower than those of the population. None of the women in the sub-sample suffered serious or severe problems linked to the dimensions under consideration.

Table 5 contains, on the left-hand side, the Analogue Visual Scale (AVS) and to the right the Severity of Illness Index (SII). AVS functions like a thermometer where 100 indicates the best imaginable state of health and 0, the most severe. Both men and women showed higher scores (79.92 in men and 74.70 in women) than the reference norms (64.45 and 60.16, respectively).

In turn, the SII is graduated up to 100 – index of severity. Thus, the higher the grade, the better the state of perceived health. As with the AVS, the SII also presented higher values within the sample (men, 93.31 and women, 91.54) than in the population (85.03 and 76.47, respectively).

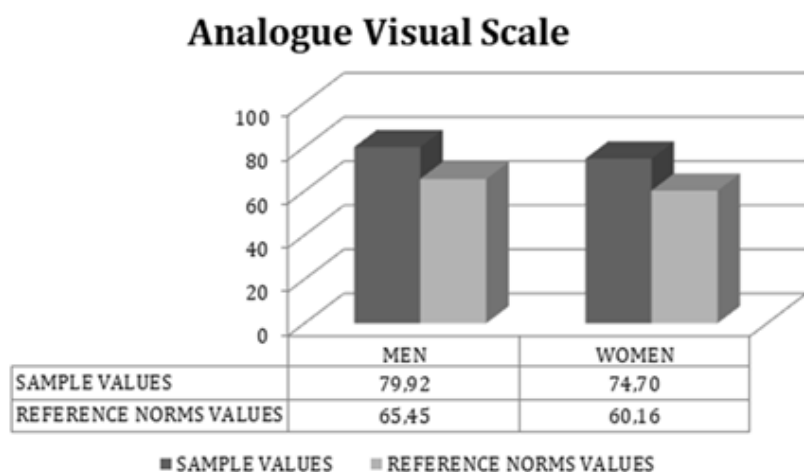
In conclusion, the people included in the study, in most cases presented a higher proportion of slight problems than the population reference values for all dimensions, indicating once again that IMSERSO social tourism programmes positively affected health-related well-being, and giving a positive response to the first research question of this study (RQ1).

Table 5. Analogue Visual Scale (AVS) and Severity of Illness Index (SII). Sample Values and Reference Norm Values, by Age and Gender

	AVS			SI		
	MEN	WOMEN	Overall total	MEN	WOMEN	Overall total
65-74 years	83.45	77.29	79.95	95.81	93.21	94.41
75-84 years	70.54	62.59	67.64	84.54	84.98	84.68
85+ years		70.00	70.00		100.00	100.00
Overall total	79.92	74.70	77.46	93.31	91.54	92.47
Reference Population value	65.45	60.16	62.31	85.03	76.47	79.88
Differences	14.47	14.55	15.14	8.27	15.07	12.59
P-values	0.000	0.000	0.000	0.003	0.000	0.000

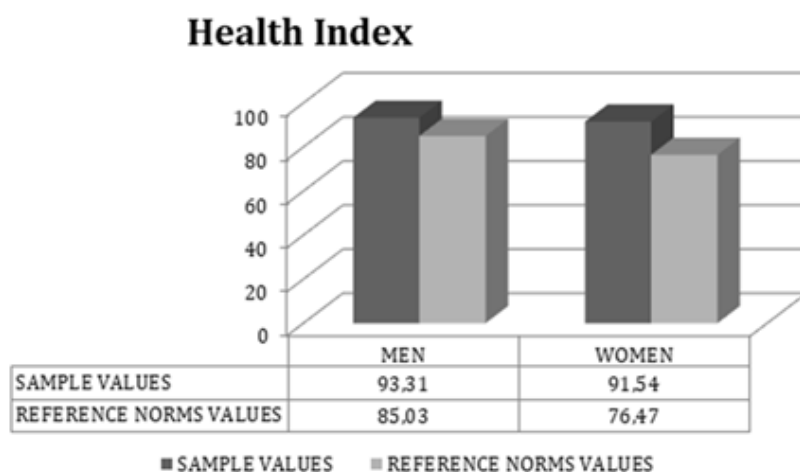
Source: Own Elaboration. Sample values and reference norm values, differences, and p-values, by age and gender.

Figure 3. Comparison between Analogue Visual Scale (AVS) Results for the Sample Values and for the Reference Norm Value, Sorted by Gender



Source: Own Elaboration

Figure 4. Index (100 – SI) Comparison between the Sample Values and the Reference Norm Values, Sorted by Gender



Source: Own Elaboration

Finally, to analyze the other two research questions (RQ2 and RQ3), a complementary analysis was performed. On the one hand, the impact that gender and age can have on the scores of the two tools that were used was studied and, on the other hand, the effect that two relevant aspects of holidays can have on those scores: their duration and their frequency.

Thus, the averages of the standardized scores were compared with each dimension of the SF-12v2 scale across all categories and the averages of the sample in each sub-sample of responses to the EQ5D-5L questionnaire. Both the Student-t test for independent data and the Mann-Whitney U-test (non-parametric equivalent test) may be used when the equality of variances hypothesis is not confirmed. Levene's test for equality of variances of the sample population was performed to test the latter assumption.

With regard to gender, the different scores between men and women in the SF-12v2 questionnaire were statistically significant in all cases, although in two dimensions (PR and VT) and only to a significance level of 10%. However, no significant differences were shown in half of the dimensions of the EQ5D-5L questionnaire, specifically in mobility, self-care and daily life activities. In both tools, men always presented higher scores than women.

In relation to age, significant differences were noted for the dimensions Physical Fear, Bodily Pain, Vitality and the summary physical and mental components. Without exception, the surveyees under 75 years of age old presented significantly higher values than the people of older ages, except under the dimension 'Vitality' and the SMC. However, with the EQ5D-5L scale, the divergence in the two age intervals were considered statistically significant in all the dimensions; and in all cases, the younger people presented higher values.

No statistically significant differences were found in relation to the duration of the trip in the results of both instruments. However, there were significant differences for the frequency of trips in all the dimensions of both tools, except in the dimension 'Self-care' in the EQ5D-5L questionnaire. In all cases, the people that travelled with greater frequency presented higher scores.

In conclusion, the demographic factors of gender and sex affected the perceptions of well-being among older people. However, in relation to the tourist experience, only the duration affected the perception of well-being of people included in the sample.

6. Conclusion

The relevance of this work is based, among other reasons, on the gradual and constant ageing of the population and the growing importance of the senior segment, with their own needs and expectations, for the tourism industry (McCabe & Qiao, 2020; Patterson & Balderas-Cejudo, 2023). The main contribution to the

literature of this research has been to analyse the impact of tourism activities on the well-being of senior tourists, examining the social effect of active and healthy ageing policies that justify investment in social tourism programmes. Through an empirical analysis focused on people older than 65 years, who have participated in IMSERSO programmes, the study seeks to cover the gap detected in the literature (Chen & Petrick, 2013; Garcés-Ferrer et al., 2016; Diekmann et al., 2018) utilizing validated scales: (i) focused on the health domain of well-being (SF-12v2 and EQ5D-5L); and (ii) quantifying the impact on well-being that participation in tourist activities can have. The results showed that participating in social tourism programs has a positive impact on perceived well-being in the field of health. Furthermore, that perception is influenced by such factors as gender, age, and frequency of travel.

In line with previous works (Morgan et al., 2015; Sedgley et al., 2018; Vega-Vázquez et al., 2021), it was clear from the results that older people participating in touristic activities presented higher levels of subjective well-being, measured on both scales (RQ1). In addition, there were gender and age differences (RQ2), with higher evaluations of well-being in the case of men, and in relation to age, the younger the older people, the higher their values of well-being. The latter may be caused by greater physical deterioration (García-Gordillo et al., 2016; Mélon et al., 2018), diminishing their perceptions of well-being.

Moreover, frequent travellers presented higher scores for subjective well-being (RQ3), which reinforced the results of other studies (Mélon et al., 2018), suggesting that tourism helps older people to be more active, to be less isolated, and to focus on the more positive aspects of their life (Garcés-Ferrer et al., 2016; Mélon et al., 2018). However, the fact that no differences were found in the well-being of seniors based on the duration of the trip leads us to believe that even short stays could generate the same benefits, supporting the conclusions of the work of Pyke et al. (2019).

This work has a series of implications for the tourist sector, for society and for public authorities. On the one hand, for the tourism sector, the importance of analysing and adapting to this segment of older people, with different motivations and behaviours (Mélon et al., 2018; Patterson & Balderas-Cejudo, 2023), which means that tourism firms have to adapt their technology, their offers and their competitive proposals to the medical and even to the geriatric needs of the older aged population segment (Nikitina & Vorontsova, 2015). Moreover, if the heterogeneity of this population in terms of purchasing power, health, or preferences when they travel, is not considered, then those programmes may become obsolete for the elderly segment. Failure to take these differences into account could divert participants away from those social tourism programmes towards other sorts of tourism offers better aligned with their needs (Chen & Shoemaker, 2014).

The subjective well-being of older people can be used as a destination marketing tool (Pyke et al., 2016), because tourists seek to improve their well-being, according to the literature, through tourism. Promoters of tourism and professionals from the tourism sector must highlight the preferences of this population segment and the aspects that have greater influence on well-being (Tsartsara, 2018), as the clients who perceive greater net satisfaction with the experience will wish to repeat it (Mélon et al., 2018). They might also develop fidelity to the brand and to destinations. The influence of tourism on each aspect of well-being will facilitate greater understanding, both within tourist destinations and within tourist sector firms, of future demographic and social challenges (Huber et al., 2018).

At a social level, the active participation of people in their ageing processes, through tourist activities, can have a very positive effect on their physical and mental health. It is of special relevance in this post-pandemic period, after the isolation suffered among older people, which has affected their physical and psychological deterioration and their subjective well-being. The results achieved in this study, based on validated indicators, can play a very important role in contributing to the promotion of participation in tourism activities, to the extent that older people are aware of the benefits that these involve for their health and well-being.

Equally important as it is essential is the need to support public policies that encourage active and healthy ageing (Mélon et al., 2018), such as social tourism programmes. These initiatives, with a clear contribution to the well-being of seniors and, consequently, to the SDGs, require a greater commitment and budgets from governments and public institutions (Ramkinsoon, 2023). However, these programmes have continually to be updated, improved and adapted to new social, health-related and political contexts (Alén et al., 2014; Bianchi et al., 2023). Finally, the relevant role that social tourism could play as a stimulus

for the sector should be highlighted, contributing to its sustainability and resilience, which are especially important at this time when the need to review the current tourism model is becoming evident (Fernández-Morales et al., 2023).

With regard to the limitations, although this investigation has taken into account some aspects that are causes of heterogeneity within this segment, such as age, sex, frequency, and duration of the trip, there are other factors related with mental and physical health (Morgan et al., 2015), the socioeconomic context, needs and motivations (Alen et al., 2017), trip experiences (Hung & Lu, 2016), and behaviours (Martínez-García, 2013) that can affect the well-being of older people who are participating in social tourism. It would likewise be of interest to develop a more holistic framework that integrates different disciplines (psychology, sociology, gerontology, business administration and management, tourism, etc.), to understand in greater depth the characteristics and the way of life of older people (Sedgley et al., 2011). In the same sense, the culture and the idiosyncrasy of the country of origin and the particularities of each social tourism programme differ, for which reason it would be of interest to analyse each of these factors and their potential effects.

Following Malkowski et al. (2023), it might in future works be interesting to address an analysis where socio-economic disparities (i.e. income levels) are considered as a variable in the well-being of the elderly. Likewise, given the focus of the work that is within the Spanish context, it would be interesting to validate the study by checking whether the relationship between tourism and the well-being of seniors can be noted in other contexts. It is also important to mention that the research may contain Sampling, Response and Non-response bias. To correct these possible biases, it would be interesting to complete this research with secondary data measured with observable variables. Finally, this research could be improved with a longitudinal study to analyse the medium and long-term impact of tourism on seniors' well-being.

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