Global Perspectives on the Determinants of Older Adults' Subjective Well-being: A Comprehensive Longitudinal Study

Yi Liu,[1] Tao Guo,[2] and Yuanshan Cheng[3]

Abstract

Current research has established a relationship between older adults' subjective well-being and factors extending beyond their economic status to encompass various non-monetary elements. While most studies in this domain focus on factors within a single country, our analysis utilizes international longitudinal surveys to explore older adults' well-being at both the national and global scale. This comprehensive analysis considers micro- and macro-level determinants of retirement well-being, revealing consistent variations in happiness levels across countries. Our study specifically suggests a compelling positive relationship between age and subjective well-being within the United States. This finding presents a contrast with the negative association observed in European countries. Our global analysis further indicates a positive relationship between age and subjective well-being. This study not only contributes to greater understanding of the complexities related to aging and well-being but it also provides significant implications for financial services professionals and public policymakers that aim to improve the well-being of elderly populations.

Recommended Citation

Liu, Y., Guo, T., & Cheng, Y. (2024). Global perspectives on the determinants of older adults' subjective well-being: A comprehensive longitudinal study. *Financial Services Review 32*(3), 68-82.

Introduction

Subjective well-being (SWB) plays a crucial role in comprehending individuals' subjective evaluations of their personal satisfaction and overall quality of life. In the context of our study, subjective well-being is defined through the dimension of hedonic well-being, focusing on an individual's experiences of happiness. While financial services professionals and public policymakers have traditionally focused on providing adequate financial resources to older adults, subjective well-being at retirement has become a popular topic in the financial planning academic community. The current literature provides evidence that older adults' subjective well-being is related to not only their income and wealth level (Sacks et al., 2010) but also non-

[1] Corresponding author (yliu@sjfc.edu). St. John Fisher University, Rochester, NY, USA
[2] Morningstar Investment Management LLC, Chicago, IL, USA
[3] Morningstar Investment Management LLC, Chicago, IL, USA

monetary factors and demographic factors such as social interactions (DeLeire & Kalil, 2010), age (Rubio et al., 2022; Lim & Lee, 2021), education (Fan & Park, 2021), marital status (Lim & Lee, 2021), and similar variables. Subjective well-being is an important indicator of individual and societal welfare beyond objective development indicators, such as Gross Domestic Product (GDP) and health (Dolan & White, 2007). Indeed, a French government agency proposed including subjective well-being as a measure of national economic performance and social progress (Steptoe et al., 2015).

Most studies on older adults' subjective well-being only look at the determinants within one country, and few researchers have examined these determinants across the globe. Findings from single-country or region-specific studies are often contradictory due to inconsistent measurements and methodologies. Thus, analyzing findings holistically is challenging. Furthermore, the existing literature predominantly examines countries with robust economies, including the United States, China, various European nations, and South Korea (Gu & Wei, 2018; Knight et al., 2009; Lee et al., 2011; Shields & Wheatley, 2005). This inclination is driven by the ample availability and accessibility of data resources in these economically advanced nations (Jardet & Meunier, 2022). However, global macro-level studies have limitations associated with uncaptured individual characteristics, using country averages, assuming data symmetry, and small sample sizes. Given the limitations of both categories of studies, international collaboration is needed to better understand micro- and macro-level factors globally across different cultures, economic development, and public policy. The current study fills the gap by leveraging a group of longitudinal surveys worldwide to investigate older adults' well-being at both the within-country and international level. We investigate older adults' subjective well-being and its macro-level determinants. The results have the potential to enhance public policymakers' comprehension of the subjective well-being status among older adults, shedding light on key features that distinguish the subjective well-being of older adults living in the United States from that of their counterparts around the globe. Our research findings can also be used to inform policymakers and other stakeholders about the underlying reasons for country differences and which countries implement the most effective public policies and why. The findings have direct implications for public policies that involve psychological, societal, or economic interventions to improve older adults' well-being. Financial services professionals could also benefit from our findings by gaining insight into the micro- and macro-level determinants of subjective well-being in retirement. Using information presented in this paper, financial service professionals could develop planning strategies to supplement and even complement public policies, including strategies in life planning, daily activity planning, organization of social gatherings, and volunteer activities.

Literature Review

Well-being Across Countries: The Micro Level

The existing literature generally explores the determinants of subjective well-being at the micro-level (i.e., country or region) and macro-level (i.e., global). At the micro-level, nearly all academic studies on subjective well-being are based on a specific country or region. Subjective well-being studies have been mainly conducted in the United States (Blanchflower & Oswald, 2008; Luttmer, 2005; Subramanian et al., 2005; Yang, 2008) and European countries (Clark & Oswald, 1994; Eren & Aşıcı, 2017; Gredtham & Johannesson, 2001; Gu & Wei, 2018; Hayo & Seifert, 2003; Oswald, 1997). In the last decade, numerous studies have been conducted in Asian countries (Cheah & Tang, 2013; Chyi & Mao, 2012; Peng & She, 2018; Rahayu, 2016; Senasu & Singhapakdi, 2018) and other countries, including Saudi Arabia (Il-Khraif et al., 2019), throughout Africa (Kollamparambil, 2020), and Latin American countries (Graham & Felton, 2006).

In general, there is accumulating evidence that well-being is associated with age (Yang, 2008), gender (Alesina et al., 2004), marital status (Tokuda & Inoguchi, 2008), income (Knight et al., 2009), education (Blanchflower et al., 2004), and health condition (Oswald & Powdthavee, 2008). Furthermore, households that reach

consensus on decision-making processes regarding savings and major life choices tend to report greater financial satisfaction compared to those lacking such agreement (Gray et al., 2022). However, findings are not consistent across countries and studies. Take age, for example, studies from the United States that report the age and happiness pattern as a U-shaped curve with higher levels of well-being at younger and older ages with the lowest life satisfaction in the middle ages (Blanchflower & Oswald, 2008; Fujita & Diener, 2005). Researchers from the United Kingdom often observe the age and happiness pattern as being ∩-shaped (Bartolini et al., 2013; FitzRoy et al., 2014).

In terms of education, studies from the United States generally indicate that well-being increases with education (Blanchflower & Oswald, 2004; Bukenya et al., 2003). A study from Latin America found that years of education increases overall well-being (Graham & Pettinato, 2001), while researchers from United Kingdom and Australia have shown a negative effect of higher education on well-being (e.g., Powdthavee, 2010; Shields et al., 2009).

Regarding marital status, numerous studies from the United States indicate that marriage is linked to an elevated sense of well-being (Blanchflower & Oswald, 2004; Cabanas, 2016; FitzRoy & Nolan, 2020). Conversely, research from the United Kingdom suggests that, for men, marriage does not correspond to higher subjective well-being compared to cohabitation (Perelli-Harris, 2019). Nonetheless, for women, marriage appears to be more advantageous on average, and the statistical disparities between marriage and cohabitation diminish (Perelli-Harris, 2019). In the context of German women, marriage does not show a significant difference in well-being compared to cohabitation (Perelli-Harris, 2019).

In general, the literature shows a positive relationship between income and well-being in the United States (Shields & Wheatley, 2005), European countries (Caporale, 2009), and Latin America (Graham & Felton, 2006). Additionally, women tend to report higher well-being (Alesina et al., 2004). Additionally, individuals who report good health conditions tend to be happier than those experiencing poor health conditions (Shields & Wheatley, 2005).

Well-being at Global the Macro Level

Besides categorizing determinants of subjective well-being at the micro-level, the literature also includes global macro-level studies exploring the determinants of subjective well-being. A variety of entities or nonprofit organizations have released papers on global well-being. Gallup is a well-known organization that has released a global well-being index. The Organization for Economic Cooperation and Development, the Global Happiness Council, the World Value Survey, and the Global Happiness and Well-Being Policy are other important organizations that have been actively contributing to measuring and monitoring global well-being. Researchers have utilized these data resources intensively in the well-being literature. For example, Ngamaba (2017), using the World Value Survey, examined the determinants of subjective well-being in representative samples of nations. Ngamaba found that in the lowest 10 subjective well-being countries, health status is one of the main factors associated with subjective well-being.

Theoretical Framework

Traditional utility theory (Ando & Modigliani, 1963) suggests that individuals derive utility and happiness through consumption and, therefore, choose to smooth out their consumption to maximize lifetime utility or happiness. This suggests that individuals with sufficient retirement income should display a flat well-being pattern by age, which contradicts the U-shape curve observed in some empirical studies (e.g., Blanchflower & Oswald, 2008). The Socioemotional Selectivity Theory (SST) was formulated by Carstensen during the early 1990s as a motivational theory. It offers a structure for comprehending the evolution of individuals' objectives and incentives throughout their lives, especially while their sense of time undergoes transformations. SST suggests that individuals who see their time as finite, typically as a result of aging, tend to prioritize emotionally significant objectives, relationships, and activities over the pursuit of new knowledge or the expansion of their social connections. This theory is intricately connected to notions of well-being, particularly

as individuals age. As individual age, individuals develop wisdom and select consumption, activities, and friends to enhance their happiness (Carstensen et al., 2003). Therefore, their ability to pick satisfying items improves. In this study, we combine this socioemotional selectivity theory with the classic utility theory as our theoretical framework. The study focuses on hedonic well-being due to the availability of the data in the surveys. We argue that a combination of theories could explain well-being.

Methodology

Data and Sample

The Health and Retirement Study (HRS) is a longitudinal survey that includes participants aged 50 years of age or older. The survey is maintained by the University of Michigan and supported by the National Institute on Aging and the Social Security Administration. This survey started in 1992 as the first study to collect longitudinal information about both the health and economic conditions of older adults. Due to the innovativeness and success of this study, the HRS has served as a model for sister studies around the world.

Although participants from the other countries have not been asked the same questions at the same frequency and scope, the availability of the HRS and its sister studies makes it possible to conduct multi-national analyses on social science topics. The University of Southern California (USC), with the support of the NIA and NIH, created a Gateway to Global Aging dataset, compiling questions from major HRS sources across the world, thus making it easier for researchers to compare these datasets. Survey data is still maintained within its own country, and researchers still have to apply for access to each country's data separately, but this dataset serves as a good starting point to know which surveys have the same questions. As of 2023, USC has harmonized survey data from 11 countries/regions, covering over one million observations.

In the current study, we chose five major HRS datasets, which measure well-being across a diverse range of geographical areas. These datasets are the HRS developed for the United States, ELSA developed for the United Kingdom, SHARE developed for the European Union countries plus Switzerland and Israel, KLSA for South Korea, and CHARLES for China. The Chinese survey is the newest of the five (started in 2011; four waves of the survey have been conducted). All five are longitudinal surveys.

Measurements

We utilized SAS software to perform the data analysis, specifically applying logistic regressions to examine the associations between various predictors and the outcome variable, *Y* (SWB), which represents a dimension of subjective well-being. The specification of the logistic regression models is as follows:

$$Y(SWB) = a_1 + \beta_i X_i + \beta X_j + \sum \beta_k X_k + \epsilon \quad (1)$$

Here, α serves as the intercept, β_i, β_j, and β_k are the coefficients representing the influence of respective predictor variables on subjective well-being. X_i symbolizes the age variable, illustrating its effect on the facet of subjective well-being (SWB). X_j is erroneously also attributed to age in the initial description, suggesting a need for clarification or correction to accurately represent another dimension or interaction involving age. X_k incorporates a range of control variables that are chosen to consider extra aspects that are believed to have an influence on the outcome. ϵ denotes the error term, which accounts for the variability in Y (SWB) that is not accounted for by the predictors in the model. Every individual term inside the model represents the impact of its respective predictor on the aspect of subjective well-being, while also accounting for the potential influence of other factors included in the model.

Integrating Socioemotional Selectivity Theory (SST) and utility theory, we propose a subjective well-being function, *W*, to explicitly include the variables available in the logistic regression models. This refined function considers both individual-level factors (Model 1) and broader socio-economic and environmental variables (Model 2). This function is articulated as:

$$W = f(E, U, D, S) \quad (2)$$

where *E*, captures emotional satisfaction, influenced by age and health, highlighting the role of health and perceived time (inversely related to age) in influencing emotional well-being. The utility component *U* represents the satisfaction derived from economic resources, such as annuitized net worth; *D* encompasses demographic and social variables such as education, marital status, and gender, reflecting their impact on both satisfaction and utility. The expanded component *S* includes socio-economic and environmental factors including a giving index, life expectancy, and GDP.

Subjective well-being can be evaluated using one of three approaches (Steptoe et al., 2015): (a) evaluative well-being (i.e., life satisfaction), (b) hedonic well-being (i.e., feeling of happiness or sadness), or (c) eudaimonic well-being (i.e., sense of purpose and meaning in life). While each measurement is available in the U.S. HRS, surveys from other countries contain fewer measurements. The only subjective well-being measure available in all five surveys is hedonic well-being. The question asks, "Much of the time during the past week, you were happy?" Responses are either "Yes" (coded 1) or "No" (coded 0).

Regarding other explanatory variables, the models included age, gender, marital status, wealth, and income as explanatory variables. These were assumed to be quality-of-life indicators. Age was measured as a continuous variable. Gender was a dichotomous variable that took a value of 1 if a participant was female and 0 if a participant was male. Education was converted into dummy variables (i.e., less than high school, high school, and college degree and above). Each dummy variable took a value of 1 if the participant had a less than a high school level of education and 0 if otherwise. Income and net worth were rescaled by $1,000. Health condition was a dichotomous variable. Each dummy variable took a value of 1 if a participant reported a good health condition, otherwise 0.

The major contribution of this study is controlling household-level demographic variables and country-level macro-economic factors simultaneously. After conducting a logistic regression analysis by country, we combined all the samples and examined the impact of both household-level demographic variables and country-level macro-economic factors on subject well-being in the same regression model. The country-level macro-economic factors in this study included a giving index, average birth rates, national tertiary education rates, average life expectancy, national average of out-of-pocket medical costs, national average of tax rates, national unemployment rates, urbanization ratio, per-capita GDP, average Consumer Price Index (CPI) change rates (as a measure of inflation), and national CO^2 emission rates.

Results

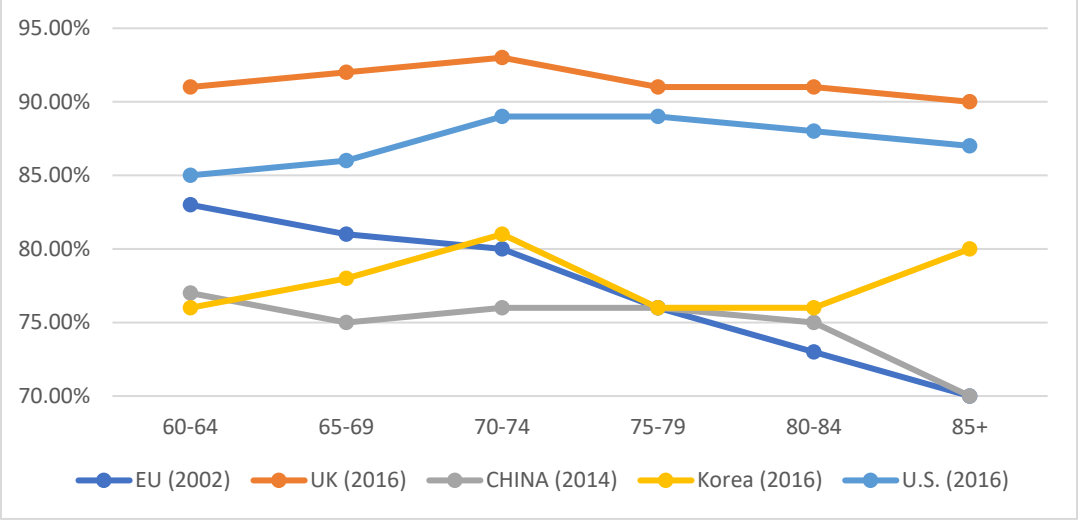
Descriptive Analysis

The European Union and United States have relatively large samples (N = 10,699 and N = 12,472, respectively). The United Kingdom and South Korea have similar sample sizes (N = 5,233 and N = 5,692, respectively). The sample size from China is relatively small (N = 2,977). Some socio-demographic and economic characteristics were relatively similar across countries. For example, the proportion of male participants in the European Union, United Kingdom, South Korea, and the United States were similar (46%, 46%, 43%, and 41%, respectively). China had slightly more male participants (55%). The average age of participants in the European Union, United Kingdom, South Korea, and the United States was higher (*M* = 70.37, 71.15, 66.67, 72.92, and 72.2, respectively) compared to the average age of participants in China (*M* = 66.67). The European Union, United Kingdom, South Korea, and the United States had a higher percentage of married participants compared to other regions, with 72%, 69%, 72%, and 59% of individuals being married, respectively. In China, all participants were married. Table 1 presents further descriptive statistics.

Figure 1 shows differences in the level of subjective well-being by country. Age was positively associated with subjective well-being in the United States, whereas age was negatively associated with subjective well-being in the European Union Consistent with the literature, annuitized income, net worth, educational attainment, marital status, and health condition

were positively associated with subjective well-being globally.

Figure 1. The Relationship between Average Subjective Well-being and Age at the Country Level



In regard to the other demographic characteristics, guaranteed lifetime income was found to mitigate retirees' longevity risk, which should lead to less stress and a higher level of subjective well-being. Figure 2 shows the average subjective well-being by level of annuitized income across countries. Consistently, subjective well-being increased with the level of annuitized income even though a difference in the level of subjective well-being by country was observed.

Figure 2. The Relationship between Average Subjective Well-being and Annuitized Income at the Country Level

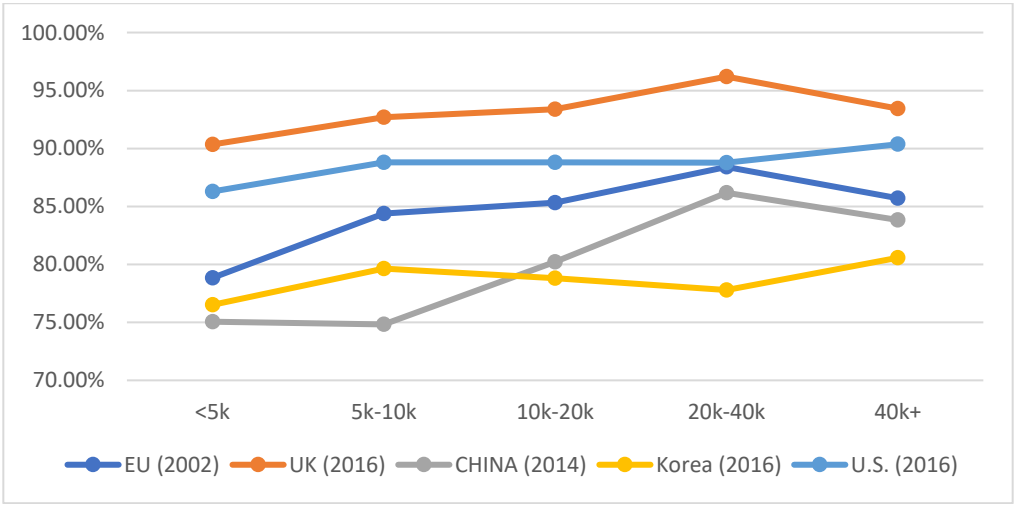


Table 1. Descriptive Statistics Across Countries

	EU			UK			China			South Korea			United States	
	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean
Age	60	104	70.37	60	90	71.15	60	90	66.67	60	102	72.92	60	107	72.2
Annuitized Income in $1k	0	431	2	0	300	6	0	288	5	0	7	0	0	857	7
Net worth in $100k	-18	111	2	-3	111	5	-8	500	2	0	7	0	-11	314	5
Education															
High School	0	1	28%	0	1	50%	0	1	6%	0	1	26%	0	1	33%
College	0	1	16%	0	1	19%	0	1	1%	0	1	8%	0	1	49%
Married	0	1	72%	0	1	69%	1	1	100%	0	1	72%	0	1	59%
Male	0	1	46%	0	1	46%	0	1	55%	0	1	43%	0	1	41%
Healthy	0	1	23%	0	1	39%	0	1	11%	0	1	4%	0	1	36%
Sample Size		10,699			5,233			2,977			5,692			12,472	

Empirical Results

Table 2 shows the relationship between subjective well-being and demographic characteristics in each country, estimated through a logistic regression analysis. Consistent with the previous figures, age was positively associated with well-being in the United States but negatively associated with subjective well-being in the European Union. Specifically, when converted to odds ratios, the results indicated that, on average, participants in the United States had 8.85% higher well-being for every one-year increase in age. Those in the European Union reported 1.21% less well-being for every one-year increase in age. Consistent with the literature, income, net worth, educational attainment, and marital status were positively associated with subjective well-being. Health condition was the only variable that was significant in all countries, although in South Korea there was a negative relation between reported health condition and subjective well-being. The variable inflation factor was tested; it was determined that multicollinearity was not an issue of concern in the model.

Table 2. Logistic Regression Results: Subjective Well-being by Country

	Subjective Well-being by Country (Model 1-1)				
	EU (2002)	UK (2016)	China (2014)	South Korea (2016)	United States(2016)
Age	-0.0120***	0.0070	-0.0033	0.0019	0.0218***
	(0.0033)	(0.0066)	(0.0082)	(0.0042)	(0.0032)
Annuitized Inc. in $1k	0.0038	0.0252***	0.0182***	0.0921	0.0010
	(0.0040)	(0.0086)	(0.0053)	(0.0613)	(0.0017)
Net worth in $1k	0.0446***	0.0084	-0.0023	0.0259	0.0074**
	(0.0099)	(0.0119)	(0.0023)	(0.0883)	(0.0035)
High School	0.2241***	0.1470	0.4662**	0.0927	0.1413*
	(0.0589)	(0.1159)	(0.2306)	(0.0822)	(0.0768)
College	0.3091***	-0.1792	0.2225	0.00607	-0.0504
	(0.0821)	(0.1673)	(0.5575)	(0.1308)	(0.0746)
Married	0.4095***	0.7513***		-0.1147	0.5875***
	(0.0561)	(0.1105)		(0.0840)	(0.0587)
Healthy	1.1455***	1.1145***	0.7847***	-0.3462**	1.3091***
	(0.0816)	(0.1323)	(0.1735)	(0.1489)	(0.0753)
Male	0.186***	0.2697**	0.17*	0.0167	0.1977***
	(0.0525)	(0.1112)	(0.0902)	(0.0737)	(0.0595)
Sample Size	10,699	5,233	2,977	5,692	12,472

Notes: Significance levels: ***$p < .01$, **$p < .05$, *$p < .10$; standard errors are in parentheses.

Table 3 shows the same model with additional interaction terms among country dummies and age. Model 2 was used to investigate the differences in the change in subjective well-being for a one-year increase in age between participants from the European Union, China, South Korea, and the United Kingdom, relative to the United States The results showed that changes in subjective well-being for a one-year increase in age of participants from the European Union, China, and the United Kingdom were significantly lower than the difference in the change in subjective well-being of participants from the United States This suggests that subjective well-being increases more for participants from the United States than other countries/regions in the sample. Model 3 in Table 3 includes additional interaction terms between countries' dummies and annuitized income. The findings indicate that the increase in subjective well-being associated with a rise in annuitized income among participants from China and the United Kingdom is higher than the change observed in subjective well-being among participants from the United States.

Table 3. Logistic Regression Results: Models with Interactions Terms

Variables	Subjective Well-being			
	Model 2		Model 3	
	Estimate	Standard Error	Estimate	Standard Error
Age	0.020***	(0.0033)	0.006***	(0.0019)
Annuitized Inc. in $1k	0.005**	(0.0002)	0.002	(0.0002)
EU x Age	-0.034***	(0.0045)		
China x Age	-0.021**	(0.0088)		
South Korea x Age	-0.002	(0.0050)		
UK x Age	-0.016**	(0.0071)		
EU x Annuitized Inc			0.0060	(0.0005)
China x Annuitized Inc			0.017***	(0.0006)
South Korea x Annuitized Inc			-0.00015	(0.0060)
UK x Annuitized Inc			0.023***	(0.0009)
Net worth in $100k	0.007	(0.0051)	0.008	(0.0054)
High School	0.188***	(0.0370)	0.186***	(0.0369)
College	0.097**	(0.0456)	0.086*	(0.0460)
Married	0.418***	(0.0350)	0.423***	(0.0350)
Healthy	1.099***	(0.0473)	1.111***	(0.0473)
Male	0.154***	(0.0309)	0.141***	(0.0309)
EU Dummy	2.025***	(0.3210)	-0.445***	(0.0407)
China Dummy	0.919	(0.5944)	-0.596***	(0.0657)
South Korea Dummy	-0.222	(0.3652)	-0.376***	(0.0511)
UK Dummy	1.568***	(0.5140)	0.310***	(0.0707)
Sample Size	37,073		37,073	

Notes: Significance levels: ***$p < .01$, **$p < .05$, *$p < .10$; standard errors are in parentheses.

Table 4 reports logistic regression results after including macro-level data from the five countries. The household-level demographic variable coefficients were consistent with the previous analyses. At the macro level, the national post-secondary education rate was positively related to subjective well-being. Life expectancy, which could be an indicator of health care services, was positively related to subjective well-being. Out-of-pocket medical costs, tax rates, national average birth rates, and unemployment rates were negatively related to subjective well-being. The urban population percentage variable had a positive relation with subjective well-being. Although one might expect that people living in countries with a higher GDP might report higher subjective well-being than those in lower GDP countries, the relationship between subjective well-being and per-capita GDP was actually negative. This finding is consistent with the literature that subjective well-being does not grow uniformly with the economy, and in some cases, it decreases (Diener & Oishi, 2000; Easterlin, 2005).

Table 4. Logistic Regression Results; The Macro Level

Parameter	Estimate	Standard Error	P - Value
Intercept	-16.2431	2.3981	<.0001
Age	0.0046	0.0019	0.0157
Annuitized Inc. in $1k	0.0072	0.0023	0.0014
Net worth in $1k	0.0103	0.0064	0.1082
High School	0.1542	0.0380	<.0001
College	-0.0238	0.0473	0.6158
Married	0.4473	0.0356	<.0001
Healthy	1.1114	0.0476	<.0001
Male	0.1590	0.0310	<.0001
Giving Index	-0.7060	0.4102	0.0852
National Birth Rate	-0.0298	0.0124	0.0164
College Edu Rate	1.5029	0.2055	<.0001
Life Expectancy	0.2134	0.0301	<.0001
Out-of-pocket Medical	-3.7743	0.5529	<.0001
National Tax Rate	-3.2268	0.3379	<.0001
Unemployment Rate	-2.1995	0.7963	0.0057
Urban Population %	0.8669	0.2602	0.0009
Per-capita GDP	-0.00000588	0.0000	0.0029
CPI Change	43.5853	7.2885	<.0001
CO^2 Emission	0.0000001204	0.0000	<.0001
Sample Size	37,073		

The CPI change rate is a measure of the inflation rate that reflects the annual percentage change in the average consumer's cost of acquiring a basket of goods and services. Conventionally, higher inflation is related to lower happiness (Di Tella et al., 2001). Inflation reduces the purchasing power of savings and retirement income. A highly inflationary situation is usually accompanied by an economic slowdown, which might lead to a reduction in subjective well-being. Test results suggest the opposite. A positive relationship between the CPI change rate and happiness was observed. It might be the case that a higher inflation rate indicates a higher wage or pension increase, which could be the channel leading to retirement subjective well-being. Similarly, whereas CO^2 emissions should be an indication of a negative environmental impact, CO^2 emissions can also be an indication of industrialization, which may contribute positively to well-being.

Discussion and Conclusion

Subjective well-being is an important measure of overall individual well-being and one of the measures of national economic performance and social progress. Although researchers have attempted to identify factors affecting well-being, to our knowledge, no study has investigated subjective well-being cross-nationally using a single dataset. The current study offers a unique opportunity to gain insight into aged populations from a national micro- and macro-data level. This study presents a novel contribution to the existing literature, as previous studies have not investigated the role of the association between the determinants of subjective well-being in later life at the international/global level. Specifically, we examined the determinants of older adults' subjective well-being across the European Union, the United Kingdom, China, South Korea, and the United States. We found that the age profile of subjective well-being differs among countries.

Specifically, age contributes positively to subjective well-being in the United States but negatively to subjective well-being in the European Union. This finding highlights that where individuals live is an important contributor to overall satisfaction levels. From a global perspective, age is related positively to subjective well-being. Consistent with the literature, this study provides supporting evidence to the hypothesis that high levels of wealth and income predict higher subjective well-being (Diener et al., 1999).

We also found that marital status was positively associated with subjective well-being in the European Union, United Kingdom, and United States, but not South Korea. Being alone appears to have a negative effect on subjective well-being compared to being married (Diener et al., 2000). Consistent with the literature, this study showed that reporting good health is an important factor in exhibiting higher subjective well-being.

Additionally, we found a negative relation between subjective well-being and per-capita GDP. An individual's or a country's overall level of well-being is not necessarily just bound by income and wealth (Easterlin, 1974). Socioeconomic factors tend to be equally important in describing overall satisfaction levels. Subjective well-being might only differ by income level within a country but not when assessed using international data (Easterlin, 1974). Happiness and subjective well-being at the national level do not increase with wealth once basic needs are fulfilled (Diener & Oishi, 2000). Studies have shown that economic growth is positively associated with happiness gains in poor countries. However, once basic needs are met, including living standards, further economic growth does not always contribute to more gains in a country's happiness, as other factors, such as income inequality, distrust, status anxiety, and perceived conflicts, influence happiness levels (Delhey & Dragolov, 2014). Moreover, living costs and stress in each country/region, as proxied by out-of-pocket medical costs, average tax rates, and unemployment rates, appear to also be negatively associated with subjective well-being.

Limitations

There are some limitations associated with the current study. First, although self-report measures are the most common assessment technique used in subjective well-being research, the danger of measurement bias should be recognized. Additionally, due to data limitations, less-than-ideal measures (a binary variable) for retirees' subjective well-being were utilized, perhaps leading to inadequate accuracy and reliability in the current study. Future research with more direct measures, such as Likert-scale questionnaires, is needed. In addition, causation cannot be inferred from our analyses, given that we used cross-sectional data, which is not free from endogeneity resulting from omitted variables, measurement errors, and simultaneity. Future studies would benefit from a longitudinal data analysis to validate the relationships between happiness and per-capita GDP, CPI change, and CO^2 emissions.

Implications

Subjective well-being reflects the extent to which individuals think and feel that their lives are going well (Diener et al, 1999; Kahneman & Schwaz, 1999). Consistent with the existing literature, age, health condition, and being married were found in this study to be positively associated with subjective well-being. Financial service professionals should work diligently with clients and discover factors and activities that lead to high well-being. For clients with health issues, and those who are not living with a spouse or partner, financial service professionals can help clients discover their financial or emotional concerns and identify resources to address their needs. It is important to acknowledge that the level of annuitized income was, in this study, positively related to subjective well-being. Financial service professionals should work with their clients and discuss the benefits and concerns of annuitizing their wealth.

The findings reported here can be used to increase public policymakers' understanding of the status of older adults' subjective well-being, as subjective well-being is one of the measures of national economic performance and social progress. Knowing that socioeconomic factors and public policy decisions influence subjective

well-being, policymakers can use this to guide future policy decisions and improve the quality of life within and across countries. While continued industrialization and urbanization generally improve healthcare quality and residents' life expectancy, which could improve residents' subjective well-being, the marginal improvement is diminishing. Residents' subjective well-being does not always grow with the economy; in some countries, well-being decreases with gains in the economy (Diener & Oishi, 2000; Easterlin, 2005). Policies that reduce out-of-pocket medical costs and average income tax rates could improve residents' subjective well-being.

Our research also offers significant insights for financial service professionals, especially when assisting immigrant clients or anyone considering relocating to another country for retirement. Before making decisions about relocating, it is essential for financial service professionals to have discussions about the socioeconomic characteristics of the planned destination country or region. The economic standing and subjective well-being of individuals can be significantly influenced by factors such as the healthcare system's quality and cost, taxation rates, industrialization, and growth in urbanization.

Moreover, financial service professionals can improve their services by creating comprehensive strategies that not only supplement but also harmonize with public policies. These tactics may involve life planning, scheduling daily activities, and organizing social gatherings and volunteer activities. By incorporating these elements into their planning methodology, financial experts may cultivate a comprehensive and customized financial strategy for their clients, encompassing both the economic and subjective well-being aspects.

References

Al-Khraif, R. M., Al-Mutairi, A. N., Alradihan, K. O., & Salam, A. A. (2019). Levels and determinants of retiree life satisfaction in Saudi Arabia. *Journal of Population Ageing, 12*, 109-126.

Alesina, A., Di Tella, R., & MacCulloch, R. (2004). Inequality and happiness: are Europeans and Americans different? *Journal of Public Economics*, *88*(9-10), 2009-2042. https://doi.org/10.1016/j.jpubeco.2003.07.006

Ando, A., & Modigliani, F. (1963). The" life cycle" hypothesis of saving: Aggregate implications and tests. *The American Economic Review*, *53*(1), 55-84. https://www.jstor.org/stable/1817129

Bartolini, S., Bilancini, E., & Sarracino, F. (2013). Predicting the trend of well-being in Germany: How much do comparisons, adaptation and sociability matter? *Social Indicators Research*, *114*(2), 169-191. https://www.jstor.org/stable/24720242

Blanchflower, D. G., & Oswald, A. J. (2004). Well-being over time in Britain and the USA. *Journal of Public Economics*, *88*(7-8), 1359-1386. https://doi.org/10.1016/S0047-2727(02)00168-8

Blanchflower, D. G., & Oswald, A. J. (2008). Is well-being U-shaped over the life cycle? *Social Science & Medicine*, *66*(8), 1733-1749.

Bukenya, J. O., Gebremedhin, T. G., & Schaeffer, P. V. (2003). Analysis of rural quality of life and health: A spatial approach. *Economic Development Quarterly*, *17*(3), 280-293.

Cabanas, E. (2016). Rekindling individualism, consuming emotions: constructing "psytizens" in the age of happiness. *Culture & Psychology*, *22*(3), 467-480. https://doi.org/10.1177/1354067X16655459

Caporale, G. M., Georgellis, Y., Tsitsianis, N., & Yin, Y. P. (2009). Income and happiness across Europe: Do reference values matter? *Journal of Economic Psychology*, *30*(1), 42-51. https://doi.org/10.1016/j.joep.2008.06.004

Carstensen, L. L., Fung, H. H., & Charles, S. T. (2003). Socioemotional selectivity theory and the regulation of emotion in the second half of life. *Motivation and Emotion*, *27*(2), 103-123.

Cheah, Y. K., & Tang, C. F. (2013). The socio-demographic determinants of self-rated happiness: The case of Penang, Malaysia.

Hitotsubashi Journal of Economics, *54*(1), 1-16.

Chyi, H., & Mao, S. (2012). The determinants of happiness of China's elderly population. *Journal of Happiness Studies*, *13*(1), 167-185. https://link.springer.com/article/10.1007/s10902-011-9256-8

Clark, A. E., & Oswald, A. J. (1994). Unhappiness and unemployment. *The Economic Journal*, *104*(424), 648-659. https://doi.org/10.2307/2234639

DeLeire, T., & Kalil, A. (2010). Does consumption buy happiness? Evidence from the United States. *International Review of Economics*, *57*(2), 163-176.

Delhey, J., & Dragolov, G. (2014). Why inequality makes Europeans less happy: The role of distrust, status anxiety, and perceived conflict. *European Sociological Review*, *30*(2), 151-165.

Diener, E., Gohm, C. L., Suh, E., & Oishi, S. (2000). Similarity of the relations between marital status and subjective well-being across cultures. *Journal of Cross-Cultural Psychology* 31(4), 419-436. https://doi.org/10.1177/0022022100031004O

Diener, E., & Oishi, S. (2000). Money and happiness: Income and subjective well-being across nations. In E. Diener & E. M. Suh (Eds.), *Culture and subjective well-being* (pp. 185–218). Cambridge, MA: The MIT Press

Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin*, *125*(2), 276-302.

Di Tella, R., MacCulloch, R. J., & Oswald, A. J. (2001). Preferences over inflation and unemployment: Evidence from surveys of happiness. *American Economic Review*, *91*(1), 335-341.

Dolan, P., & White, M. P. (2007). How can measures of subjective well-being be used to inform public policy? *Perspectives on Psychological Science*, *2*(1), 71-85.

Easterlin, R. A. (1974). Does economic growth improve the human lot? Some empirical evidence. In *Nations and households in economic growth* (pp. 89-125). Academic Press.

Easterlin, R. A. (2005). Feeding the illusion of growth and happiness: A reply to Hagerty and Veenhoven. *Social Indicators Research*, *74*(3), 429-443.

Eren, K. A., & Aşıcı, A. A. (2017). The determinants of happiness in Turkey: Evidence from city-level data. *Journal of Happiness Studies*, *18*(3), 647-669.

Fan, L., & Park, N. (2021). Factors mediating the association between financial socialization and well-being of young adults: Testing a conceptual framework. *Journal of Financial Counseling and Planning. 32*(2), 202-216.

FitzRoy, F. R., & Nolan, M. A. (2020). Education, income and happiness: panel evidence for the UK. *Empirical Economics*, *58*(5), 2573-2592.

FitzRoy, F. R., Nolan, M. A., Steinhardt, M. F., & Ulph, D. (2014). Testing the tunnel effect: comparison, age and happiness in UK and German panels. *IZA Journal of European Labor Studies*, *3*(1), 30. https://izajoels.springeropen.com/articles/10.1186/2193-9012-3-24

Fujita, F., & Diener, E. (2005). Life satisfaction set point: stability and change. *Journal of Personality and Social Psychology*, *88*(1), 158. https://doi.org/10.1037/0022-3514.88.1.158

Gerdtham, U. G., & Johannesson, M. (2001). The relationship between happiness, health, and socio-economic factors: results based on Swedish microdata. *The Journal of Socio-Economics*, *30*(6), 553-557.

Graham, C., & Felton, A. (2006). Inequality and happiness: insights from Latin America. *The Journal of Economic Inequality*, *4*(1), 107-122. https://link.springer.com/article/10.1007/s10888-005-9009-1

Graham, C., & Pettinato, S. (2001). Happiness, markets, and democracy: Latin America in comparative perspective. *Journal of Happiness Studies*, *2*(3), 237-268.

Gray, B. T., Liu, Y., & Asebedo, S. D. (2022). Household agreement and financial satisfaction: a bargaining perspective. *Applied Economics Letters*, *29*(4), 282-291.

Gu, Y., & Wei, H. L. (2018). Significant indicators and determinants of happiness: Evidence from a UK survey and revealed by a data-driven systems modelling approach. *Social Sciences*, *7*(4), 53.

Hayo, B., & Seifert, W. (2003). Subjective economic well-being in Eastern Europe. *Journal of economic psychology*, *24*(3), 329-348. https://doi.org/10.1016/S0167-4870(02)00173-3

Jardet, C., & Meunier, B. (2022). Nowcasting world GDP growth with high-frequency data. *Journal of Forecasting*, *41*(6), 1181-1200. https://onlinelibrary.wiley.com/doi/full/10.1002/for.2858

Kahneman, D., Diener, E., & Schwarz, N. (Eds.). (1999). *Well-being: Foundations of hedonic psychology*. Russell Sage Foundation.

Knight, J., Song, L., & Gunatilaka, R. (2009). Subjective well-being and its determinants in rural China. *China Economic Review*, *20*(4), 635–649. https://doi.org/10.1016/j.chieco.2008.09.003

Kollamparambil, U. (2020). Happiness, happiness inequality and income dynamics in South Africa. *Journal of Happiness Studies*, *21*(1), 201-222.

Lee, G., Lee, J., & Kwon, S. (2011). Use of social-networking sites and subjective well-being: a study in South Korea. *Cyberpsychology, Behavior, and Social Networking*, *14*(3), 151-155. https://pubmed.ncbi.nlm.nih.gov/20649450/

Lim, H., & Lee, J. M. (2021). Retirement Income Sources and Subjective Financial Well-Being: A Comparison of Retirees and Non-Retirees. *Journal of Financial Counseling and Planning*, *32*(3), 517-534.

Luttmer, E. F. (2005). Neighbors as negatives: Relative earnings and well-being. *The Quarterly Journal of Economics*, *120*(3), 963-1002. https://doi.org/10.1093/qje/120.3.963

Ngamaba, K. H. (2017). Determinants of subjective well-being in representative samples of nations. *European Journal of Public Health*, *27*(2), 377-382. https://pubmed.ncbi.nlm.nih.gov/27426951/

Oswald, A. J. (1997). Happiness and economic performance. *The Economic Journal*, *107*(445), 1815-1831. https://doi.org/10.1111/j.1468-0297.1997.tb00085.x

Oswald, A. J., & Powdthavee, N. (2008). Does happiness adapt? A longitudinal study of disability with implications for economists and judges. *Journal of Public Economics*, *92*(5-6), 1061-1077. https://www.sciencedirect.com/science/article/abs/pii/S004727270800008X

Peng, C., & She, P. W. (2018). Raise Children to Fight Against Aging: the Determinants of Elderly Wellbeing in Today's China. *The Singapore Economic Review*, *66*(6), 1613-1645. https://www.worldscientific.com/doi/10.1142/S0217590818420031

Perelli-Harris, B., Hoherz, S., Lappegård, T., & Evans, A. (2019). Mind the "happiness" gap: The relationship between cohabitation, marriage, and subjective well-being in the United Kingdom, Australia, Germany, and Norway. *Demography*, *56*(4), 1219-1246.

Powdthavee, N. (2010). How much does money really matter? Estimating the causal effects of income on happiness. *Empirical Economics*, *39*(1), 77-92. https://link.springer.com/article/10.1007/s00181-009-0295-5

Rahayu, T. P. (2016). The determinants of happiness in Indonesia. *Mediterranean Journal of Social Sciences*, *7*(2), 393. https://files.eric.ed.gov/fulltext/EJ1346400.pdf

Rubio, A., Rubio, A., & Moreno, J. F. (2022). Factors Associated with Financial Ratios and Financial Well-Being of Hispanic Households: A Comparison With White Households. *Journal of Financial Counseling and Planning*, *33*(1), 126-139.

Sacks, D. W., Stevenson, B., & Wolfers, J. (2010). *Subjective well-being, income, economic development and growth* (No. w16441). National Bureau of Economic Research. https://www.nber.org/system/files/working_papers/w16441/w16441.pdf

Senasu, K., & Singhapakdi, A. (2018). Quality-of-life determinants of happiness in Thailand: The moderating roles of mental and moral capacities. *Applied Research in Quality of Life*, *13*(1), 59-87. https://pluma.sjfc.edu/login?url=https://www.proquest.com/scholarly-journals/quality-life-determinants-happiness-thailand/docview/2918664008/se-2?accountid=27700

Shields, M. A., & Price, S. W., (2005). Exploring the economic and social determinants of psychological well-being and perceived social support in England. *Journal Royal Statistical Society* (Part 3), 513–537, https://doi.org/10.1111/j.1467-985X.2005.00361.x

Shields, M. A., Price, S. W., & Wooden, M. (2009). Life satisfaction and the economic and social characteristics of neighbourhoods. *Journal of Population Economics*, *22*(2), 421–443. https://link.springer.com/article/10.1007/s00148-007-0146-7

Steptoe, A., Deaton, A., & Stone, A. A. (2015). Subjective wellbeing, health, and ageing. *The Lancet*, *385*(9968), 640-648. https://pubmed.ncbi.nlm.nih.gov/25468152/

Subramanian, S. V., Kim, D., & Kawachi, I. (2005). Covariation in the socioeconomic determinants of self rated health and happiness: a multivariate multilevel analysis of individuals and communities in the USA. *Journal of Epidemiology & Community Health*, *59*(8), 664-669.

Tokuda, Y., & Inoguchi, T. (2008). Interpersonal mistrust and unhappiness among Japanese people. *Social Indicators Research*, *89*(2), 349–360. https://link.springer.com/article/10.1007/s11205-007-9235-y

Yang, Y. (2008). Social inequalities in happiness in the United States, 1972 to 2004: An age-period-cohort analysis. *American Sociological Review*, *73*(2), 204-226.