


Socio-demographic determinants of happiness in Turkey

Türkiye’de mutluluğun sosyo-demografik belirleyicileri

Selay Giray Yakut¹ 

N. Ece Bacaksız² 

Ceren Camkıran³ 

¹ Assoc. Prof. Dr., Marmara University,
Faculty of Economics, Istanbul, Turkey,

selaygiray@marmara.edu.tr

ORCID: 0000-0003-4002-7956

² Dr., Muğla, Turkey

ecebacaksiz@gmail.com

ORCID: 0000-0003-0534-6011

³ RA, Marmara University, Faculty of
Economics, Istanbul, Turkey,

ceren.camkiran@marmara.edu.tr

ORCID: 0000-0001-8675-5890

Corresponding Author:

Ceren Camkıran,

Marmara University, Istanbul, Turkey

ceren.camkiran@marmara.edu.tr

Submitted: 21/03/2021

Revised: 15/05/2021

Accepted: 30/05/2021

Online Published: 25/06/2021

Citation: Giray Yakut, S. & Bacaksız, N.E.
& Camkıran, C., Socio-demographic
determinants of happiness in Turkey, bmij
(2021) 9 (2): 561-578, doi:
<https://doi.org/10.15295/bmij.v9i2.1801>

Abstract

This study examines the relationship between the perception of happiness and socio-demographic characteristics in Turkey using the Life Satisfaction Survey conducted by the Turkish Statistical Institute in 2017. For this purpose, nonlinear canonical correlation analysis was performed on a dataset of 4261 employees. Socio-demographic characteristics evaluated the variable set consisting of both the individual's direct perception happiness and the conceptual/personal sources of happiness. Consistent with the literature, it was seen that socio-demographic variables impacted the levels of happiness in Turkey. The main findings show that marital status has the highest effect on perceived happiness, and married people are happier than the unmarried ones. Age has a negative, educational background has a positive effect. For employment status, it is notable that per diem employees are unhappy. Besides, a detailed perspective to researchers working towards increasing perceived happiness by evaluating the identified sub-groups of working individuals living in Turkey is provided.

Keywords: Happiness, Determinants of Happiness, Nonlinear Canonical Correlation, Optimal Scaling

Jel Codes: I31, C40, C30

Öz

Bu çalışma Türkiye’de mutluluk algısı ile sosyo-demografik özellikler arasındaki ilişkiyi Türkiye İstatistik Kurumu tarafından 2017 yılında gerçekleştirilen Yaşam Memnuniyeti Araştırması verileri kullanılarak incelemektedir. Bu amaçla 4261 çalışandan oluşan veri setine doğrusal olmayan kanonik korelasyon analizi uygulanmıştır. Hem bireyin doğrudan mutluluk algısını hem de kavramsal / kişisel mutluluk kaynaklarını içeren değişken seti sosyo-demografik özelliklere göre değerlendirilmiştir. Literatürle uyumlu olarak sosyo-demografik değişkenlerin Türkiye’deki mutluluk düzeylerini etkilediği görülmüştür. Temel bulgular, medeni durumun algılanan mutluluk üzerinde en yüksek etkiye sahip olduğunu ve evli insanların daha mutlu olduğunu göstermektedir. Yaşın olumsuz, eğitim geçmişinin olumlu etkisi bulunmaktadır. İstihdam durumu için, yevmiyeli çalışanların mutsuz olması dikkat çekicidir. Ayrıca, Türkiye’deki çalışan bireylerin belirlenen alt gruplarını değerlendirmek suretiyle algılanan mutluluğu artırmaya yönelik çalışmalar yapan araştırmacılara detaylı bir bakış açısı sağlanmaktadır.

Anahtar Kelimeler: Mutluluk, Mutluluğun Belirleyicileri, Doğrusal Olmayan Kanonik Korelasyon, Optimal Ölçekleme

JEL Kodları: I31, C40, C30

Introduction

Humans have an inherent tendency to avoid pain and seek pleasure. This search is one of the fundamental rules of human nature. Even this is not the case for everyone, and happiness is the ultimate goal for most people (Veenhoven, 1984). Having made significant contributions to the literature with happiness studies, Ruut Veenhoven defines happiness as 'the overall appreciation of one's life-as-a-whole'. In the literature, the concepts of life satisfaction and subjective well-being are also used interchangeably with the term "happiness" (Graham, 2004).

Happiness, in other words, subjective well-being, is based on the person's feeling that they are well, dwelling on their positive criteria and qualities, and elements that include a global assessment of all aspects of their own life (Diener, 1984). Therefore, the concept of happiness can be defined as the "degree to which an individual judge the overall quality of his life favourably" (Veenhoven, 1991). Besides the different definitions of happiness, there are also different theories on happiness (Abdullah and Zulkifli, 2016). As said in the first sentence in the introduction, the Theory of Hedonism is the philosophy of pleasure (Veenhoven, 2003). Another theory called the Theory of Desire says that having a desire for something that can be something straightforward, like loving tea, moves you and makes you act to that thing. This acting can be obtained in various types, like action-based, learning-based, pleasure-based etc. (Schroeder, 2006). It can be said that the theory of desire owes its currency to the emergence of the welfare economy. (Rodogno, 2016). Apart from that, the Authentic Happiness Theory embraces all of the three traditional theories above. It satisfies the three theories mentioned before. The theory is believed as the "Full Life" when Hedonism is called the "Pleasant Life"; the Desire as a "Good Life" and Objective List as a "Meaningful Life" (Seligman and Royzman, 2003; as cited in Abdullah and Zulkifli, 2016). There is also Objective List Theory, which can be understood either as substantive or as both formal and substantive theories of well-being. In either case, the substantive claims these theories make is that there is an irreducible plurality, consist of prudential goods such as pleasure and the absence of pain, achievement, friendship and other deep personal relations, autonomy, knowledge, etc. (Rodogno, 2016). In this respect, objective list theories look like Hedonism, unlike desire theories or authentic happiness.

Research on the concept of happiness (or subjective well-being) also started to find an area as a multidisciplinary subject after Easterlin (1974) brought together the concepts of economy and happiness. The consensus was that income and happiness had a linear relationship; namely, money would buy happiness, but the relationship between happiness and income was more puzzling (Easterlin, 2001). Although economists associated income per capita and higher income levels with more welfare and increased happiness (Clark and Oswald, 1996; Tella, MacCulloch and Oswalds, 2003; Ferreri-Carbonell, 2005; Scoppa and Ponzio, 2008; Senik, 2009), it was even proven that there was no relationship between income and happiness (Hyun, Bauer and Hogan, 1993; Moghaddam, 2008). The realization that income was limited in explaining happiness led to socio-demographic characteristics being heavily promoted in happiness research.

At this point, some factors determine the concept of happiness, which is defined as the level of evaluating the total quality of one's own life, includes health, family status, social relationships, status in the labour market, working conditions, having/or not leisure time, security, ethical values etc. (Ahn, Garcia and Jimeno, 2004). These characteristics, which are thought to lead to happiness status and may vary from one individual to another, started to become the subject of many research studies conducted from different perspectives and using different methods. To give an example, while some of the literature focused on international happiness -or well-being- (Bonasia, Napolitano and Spagnolo, 2018; Seghieri, Desantis and Tanturri, 2006; Tucker, Ozer, Lyubomirsky and Boehm, 2006; Alesina, Tella and MacCulloch, 2003), others were designed for different groups of individuals, e.g. heads of household (Lodhi, Rabbani, Khan, Irum and Naieni, 2020), parents (Schwarze and Winkelmann, 2005), students (Takebayashi, Tanaka, Sugiura and Sugiura, 2018; Öztürk, Meral and Yılmaz, 2017; Tucker et al., 2006). Also some literature studies about teenagers (Bassi, Steca, Monzani, Greco and Delle Fave, 2014), elderly (Nieboer and Cramm, 2018; Tran and Vu, 2018), mothers (Hamplová, 2019), white-collar (Karabati, Ensari and Fiorentino, 2019), farmers (Markussen, Fibæk, Tarp and Tuan, 2018). All these studies utilized national or survey-specific data (Devine, Hinks and Naveed, 2019; Sironi, 2019; Vang, Hou and Elder, 2019; Susanlı, 2018) or data sets that combine the survey data with the time dimension (Venetoklis, 2019; Graafland and Lous, 2019; Ngoo, Tey and Tan, 2015). Additionally, probit analysis (Devine et al., 2019; Susanlı, 2018; Mangeloja and Hirvonen, 2007; Frey and Stutzer, 2000), logit analysis (Lodhi et al., 2020; Dumludag, Gokdemir and Giray, 2016; Arı and Yıldız, 2016; Selim, 2008), data mining analysis (Babadag, Uyanık and Yılmaz, 2009), regression analysis (Markussen et al., 2018; Kümbül Güler and Emeç, 2006; Çopur, Çiçek and Pekmezci, 2015), instrumental variables (Sironi, 2019; Tran and Vu,

2018) and other statistical analyses (Brzezinski, 2019; Öztürk et al., 2017; Amole, 2009; Gitmez and Morçöl, 1994) have been among the most commonly used methods in happiness studies.

Amongst all the comprehensive literature on happiness and well-being, this study focuses on happiness within the context of possible socio-demographic characteristics that may affect itself. The study aims to investigate the socio-demographic characteristics that affect the perceived happiness of individuals who live in Turkey, particularly the relationships with their sub-categories. For this purpose, the survey data obtained from the Life Satisfaction Survey conducted by the Turkish Statistical Institute (TURKSTAT) in 2017 were used.

The beginning point of the paper is whether socio-demographic characteristics and perceived happiness are related or not, which is the research questions. So, this study examines socio-demographic characteristics that affect happiness, using the case of Turkey. What makes the study significant is the fact that the data it uses is relatively recent, and this current data set provides insight as to which of these characteristics make people in Turkey, which is not ranked very highly in the world happiness index, happy. Moreover, nonlinear canonical correlation analysis is not among the most commonly used methods in happiness studies. This method interprets the sub-categories of multiple variables together and provides a more detailed perspective, and this study will make a substantial contribution to the literature.

In this study, firstly, the concept of happiness, being the subject of many studies from different disciplines, was explained within the scope of socio-demographic characteristics, also considering its relationship with life satisfaction. In the next section, the methodology, data and empirical strategy of the study were introduced. Then, the relationship structure of socio-demographic variables that affect the perceived happiness of individuals was examined in detail. In order to obtain more detailed information about each category of these variables, categorical interactions were presented in detail with the help of nonlinear canonical correlation. Then, the information obtained by the Chi-Square Test of Independence was supported with statistics. In the last section, remarkable findings are given, and the results are discussed.

The effect of characteristics that constitute quality of life-on-life satisfaction and happiness

Happiness studies attract the interest of thinkers, artists and behavioural scientists as well as political scientists, business owners (considering life satisfaction increases productivity) and economists (considering one objective of economic policies is to make the majority happy and the fact that economic growth is associated with the state of happiness). Therefore, it can be said that happiness is a centre of attention for almost all social scientists. Most of the studies on life satisfaction are categorized under two headings: personality factors, which include genetic and innate characteristics, and environmental factors, such as living conditions, events in life. It is suggested that there is a significant relationship between one's life satisfaction and personality variables such as psychological resilience, assertiveness, control etc. Besides, recent studies reveal that the interactions of the individual with the surrounding as environmental factors affect life satisfaction (Sousa and Lyubomirsky, 2001). As a combination of these features, one can consider that socio-demographic characteristic is an essential determinant of happiness. The socio-demographic characteristics that apply to people who are relatively closer to happiness and the primary sources of happiness sought by such people are a curiosity. As mentioned above, by disregarding the studies that initially associated income with happiness, it can be seen that some of the characteristics that affect happiness include health, family, social relationships, status in the job market, leisure time outside of work, educational background, security, the characteristics of the district/region/country the person lives in, and religious and ethical stance.

The fact that people from different age groups have different levels of satisfaction also causes them to have different levels of pleasure in life. To quote the oldest person in the world, Jeanne Calment: "Every age has its happiness and troubles". Studies in the literature in which the relationship between age and happiness is proven show that this relationship is U-shaped (Blanchflower and Oswald, 2004; Beja, 2018) and has a hyperbolic form (Fischer, 2009). Another factor associated with happiness is the individual's status in social life. The social relationships of an individual has contributed to emotional well-being and absorb the destruction caused by negative events, leading the person towards happiness (Quoidbach, Taquet, Deseilles, Montjoye and Gross, 2019). If the individuals conduct healthy human relationships with their family, friends, acquaintances, i.e., their social circle, they internalize that they have their social protection network whenever they need it (Li and Kanazawa, 2016). This feeling of security, in turn, provides the individuals with some form of psychological support. Therefore, social relationships such as marriage, friendship, neighbourhood and kinship are associated with happiness.

For instance, it is thought that marriage typically provides both emotional and financial security for both men and women (Hori and Kamo, 2018).

For this reason, the consensus is that married individuals are happier than unmarried. (Cid, Ferres and Rossi, 2008; Park, 2009; Ngoo et al., 2015). This, of course, stems from the fact that the quality of marriage (Saphire-Bernstein and Taylor, 2013), i.e., “a happy marriage” makes the individuals happy (Gilbert, 2010), rather than marriage itself. Besides, an unhappy marriage also triggers unhappiness (Babadağ et al., 2009). In terms of the power bestowed upon the individual by social relationships, it is known that people who have secure and good relationships with friends (Gitmez and Morcöl, 1994; Requena, 1995; Demir, Ozdemir and Weitekamp, 2007; Demir and Özdemir, 2010; Acar, 2020) family-namely relatives- (Lelkes, 2006; Botha and Booysen, 2014) and neighbours (Cheng and Smyth, 2015) effect happiness positively. The literature that examines happiness also mentions its relationship with the level of education. Typically, this relationship is directly proportional. There is no doubt that increased levels of education would also increase income and status (Veenhoven, 1996), thus increasing happiness.

However, when a high level of education prevents the individuals from being content with what they have, or when the individuals cannot reap the benefits of the effort they put into their education, this relationship may become inversely proportional (Clark and Oswald, 1996). The effects of gender have also been the subject of researches on the way of being happy. Studies that include the effect of gender on happiness show that women are happier than men (Blanchflower and Oswald, 2004; Bozkuş, Çevik and Üçdoğruk, 2006; Çopur et al., 2015). With this said, it can be asserted that being a woman would decrease happiness when women are active in the labour market, and this prevents them from fulfilling their responsibilities relating to the household (Hori and Kamo, 2018). Venetoklis (2019) conducted a well-being study for 16 countries for 2002-2014, using the European Social Survey data set, which includes most of the characteristics listed above. This study, which uses individual characteristics such as age, marital status, having children, education, health, employment status, time spent with friends to explain happiness; having a job, being a woman, being married, having good health, interaction with friends and good financial standing were studied as factors that affect well-being. The main findings from the study point that being employed, gender (being female), good social relationships (with friends), marital status, health status and financial standing have a positive impact on well-being. Lodhi et al. (2020) also looked at happiness from a broad perspective. This study was conducted to explain the quality of life for Pakistani heads of household with their demographic characteristics, type of family, housing status, employment status, physical and psychological condition. It was found that living in urban settlements, being married, being free of illness, and being employed were significantly correlated with life quality.

Similarly, for China, Ding, Salinas-Jiménez and del Mar Salinas-Jiménez (2020) have found that income and the interaction factors that include income, factors of gender, age, health, and education also impacted the well-being of the Chinese people. One of the studies happiness of Turkish people comprehensively, including demographic, social and labour determinants, is Acar (2020), concluding that women, married people, private sector employees are happier than opponents. Additionally, health satisfaction, job satisfaction, earning satisfaction, social life satisfaction makes people happier.

It is also known that the position of individuals in the job market also affect happiness by way of providing life satisfaction. An individual is being employed both supports the positive correlation between income and happiness and increases individual happiness by providing them with a sense of satisfaction due to their surroundings. Even if an unemployed person has the same level of income as when they were employed, being unemployed can still have a negative effect on well-being of this person (Frey and Stutzer, 2002). Frey and Stutzer (2000) proved that unemployment is the most critical factor affecting micro and macro scale happiness for 11 European countries. Considering this subject from a work satisfaction standpoint, Sironi (2019) examined optimal well-being metrics for 24 countries and proved that work satisfaction affected optimal well-being. According to Lodhi et al. (2020), being employed in Pakistan affects both physical and psychological health positively and increases the quality of life. Another factor discussed as having a direct impact on the living standard, and thus life satisfaction of individuals is the environment in which such individuals spend their lives, i.e., residence. The characteristics of the place of residence are among the determinants that have been proven to affect happiness. Tran and Vu (2018) directly examined the effect of housing satisfaction on the happiness levels of the elderly, also taking into account the effect of both demographic characteristics and household characteristics. In parallel with the expectations, housing satisfaction is a significant predictor of life satisfaction. A person's having religious beliefs is also among the factors that affect life satisfaction. In psychology, subscribing to any belief system is thought to increase an individual's spirituality and instil a sense of security, thus affecting the degree to which they take pleasure in life.

Devine et al. (2019) analysed the data obtained from Bangladesh to examine the role religion plays in people's well-being and life chances. The findings from this study that relate to religion indicate that religious identity in Bangladesh is an important determinant of happiness. Mateu, Vásquez, Zúñiga and Ibáñez (2020) have reported that for Peruvians, the existence and importance of God contributed to increasing levels of happiness. Once again, these findings affirm the existing literature, which suggests that income is insufficient in explaining happiness, in that the sample of this study was made up of answers given by heads of household who were highly impoverished.

If the empirical studies are classified with the socio-demographic characteristics listed above as explanatory factors to create a happiness profile for the Turkish people, the most accurate categorization will be based on data sets. In the empirical studies conducted in Turkey on well-being/happiness/life satisfaction, the TURKSTAT Life Satisfaction survey data, in addition to regional/study-based survey data, are most commonly used. For example, Bozkuş et al. (2006) used the data set from the TURKSTAT Life Satisfaction survey to determine that in Turkey, for the year 2004, women were happier than men, people between the ages of 45 to 60 were having the unhappiest time of their lives, that income, health and living in urban settlements increased the level of happiness, while an increased level of education was a factor that reduced happiness. Selim (2008) deals with life satisfaction and Happiness in Turkey. She uses the dataset of the European Values Study Group and World Values Survey Association 2006 for the case of Turkey. The main findings pointed that income and health had a positive correlation with happiness. There was a U-shaped relationship between age and happiness. Moreover, unemployment caused unhappiness. Babadağ et al. (2009) used the TURKSTAT Life Satisfaction Survey data from 2003-2007. According to the findings of the analysis in which the data mining method was used; they highlighted that there was a significant correlation between hope and happiness; and asserted that especially the unhappiness felt from marriage triggered hopelessness and unhappiness, while higher income levels increased hope and affected happiness in a positive manner. Bülbül and Giray (2011) examined the perception of happiness using the data set from the TURKSTAT Life Satisfaction Survey 2008. Main findings pointed out that married women, homemakers and young women, and men who live in the city, employed and belong to the low education and low-income group, were at the medium-high happiness level. It was seen that retired middle-aged individuals who had primary school education were also at the medium-high happiness level, and the most important concept that made them happy was health. Korkmaz, Germir, Yücel and Gürkan (2015) determined a causal relationship between personal happiness and family happiness and source of happiness, satisfaction and hope factors for the period of 2004-2014, where the general happiness of the family was affected to the greatest extent by love and healthcare services. Additionally, whereas the family was affected to the lowest extent by success and security services, individuals were made happy the most by money and education; and the least by health and healthcare services. The most important factor in both the happiness of individuals and the family was the happiness of women. Similarly, Arı and Yıldız (2016) also examined the TURKSTAT Life Satisfaction survey data for 2014 using the ordered logistic regression method. Variables such as demographic characteristics, relationship with the immediate environment (neighbours, relatives), social life, satisfaction arising from government services (healthcare services, educational services etc.) were used to explain happiness. Dumludag et al. (2016) examined the effect of income comparisons on life satisfaction, which is characterized by 'collectivism' or 'low individuality' in Turkey. They identified a positive correlation between happiness and income, rural living and marriage based on the TURKSTAT Life Satisfaction Survey data from 2011. A U-shaped relationship was identified between age and happiness. Another data set used in the happiness studies conducted within Turkey is obtained from surveys completed by different groups of individuals. Çopur et al. (2015) used the perception of the adequacy of resources to explain life satisfaction based on their design survey data. The level of perception in terms of adequacy of resources, subjective/general happiness and life satisfaction was found to be higher in women who are married, whose spouse was employed, who had a high level of education, who were homeowners, who lived in the city and who had a higher level of income, as compared to men. In a study that compared the years 2004 and 2014 in Turkey, Servet (2017) examined the effect of economic and socio-demographic variables such as household income, age, sex, educational background, health satisfaction, welfare and the degree to which the household can meet their needs with their available income on the level of happiness. The findings showed that within these ten years, the happiness level of men increased. People became happier as they get older. Also the happiness levels of married people decreased over time. In a study that examined the data set from the TURKSTAT life satisfaction survey about the period of 2004-2013, Susanlı (2018) supported the assertion that people who were unemployed in Turkey were subjected to significantly lower levels of welfare compared to the people who were employed. The study also showed that the unemployed individual had a negative and significant impact on the employed

individual within the household. Finally, it was proven that the effect of the labour market on “welfare” varied according to “job expectations”.

When the studies conducted on the subjects of happiness and life satisfaction are examined, it can be seen that these studies have a broad perspective and that these concepts are subjects of research in many countries. In this study, Turkey, which has a medium level of happiness according to global research studies (World Happiness Report, 2019), was considered the subject. A notable fact is that although Turkey has seen rapid economic growth in recent years, it has been unable to go up in happiness rankings. This study was conducted to represent the perception of happiness in Turkey, based on the socio-demographic characteristics of the Turkish people and based on the fact that economic growth does not necessarily increase the happiness ranking.

Methodology

The number of variables in statistical studies being more than one also brings about differences in variables. Especially in social sciences, mixed data sets that are measured metrically and categorically are commonly encountered. As categorical data sets do not fulfil the assumptions of classical techniques, these are included in the analyses by performing certain nonlinear transformations. In this study, to find categorical variables, nonlinear canonical correlation analysis (OVERALS), one of the nonlinear multivariate analysis techniques, is used.

The characteristic features of nonlinear canonical correlation analysis were designed by De Leeuw in 1973 and were first defined by Gifi in 1981, Van Der Burg, De Leeuw and Verdegaal in 1984, and Van Der Burg, De Leeuw and Verdegaal in 1988 (Gifi, 1989).

In nonlinear multivariate analysis techniques, optimal scaling and alternating least squares of optimal scaling techniques are used to analyse categorical data. Nonlinear canonical correlation analysis corresponds to a definite canonical correlation with the optimal scaling method. Nonlinear canonical correlation analysis is a method used to reveal similarities between two or more variable sets consisting of metric and non-metric scale levels by applying a nonlinear transformation (Golob and Recker, 2003).

Nonlinear canonical correlation analysis makes no assumptions about the distribution of variables with different measurement levels or the linearity of correlations. No assumption is made other than that the variables in sets have no outliers.

The operation of the analysis is defined in various ways according to the differences in the way it is introduced, and in this study, it is described based on the Homogeneity Analysis. In the Gifi methodology, Homogeneity Analysis is the foundation of multivariate analysis techniques with Optimal Scaling, and the goal is to construct a map of objects and categories in low-dimensional Euclidean space. This mapping is done for each variable category and each object by obtaining graphs based on minimum distance (Michailidis and de Leeuw, 1998).

When G_j indicator matrix ($n \times k_j$) is a matrix that indicates to which category of the concerned variable all objects belong, Y_j category quantifications matrix ($k_j \times p$) is a matrix that includes new scale points assigned to the categories of the j . variable and X object scores matrix ($n \times p$) is a matrix calculated based on category quantifications and indicator matrices; the loss function is defined as follows:

$$\sigma(X; Y_1, \dots, Y_m) = m^{-1} \sum_{j=1}^m SSQ(X - G_j Y_j) = m^{-1} \sum_{j=1}^m tr(X - G_j Y_j)(X - G_j Y_j)$$

$$Restrictions: \quad X'X = nI, \quad u'X = 0$$

The goal here is to minimize the loss function simultaneously over X and the Y_j 's.

In Nonlinear Canonical Correlation Analysis, as different from Homogeneity Analysis, the relationship between variable sets is examined. Since each set includes multiple variables in Nonlinear Canonical Correlation Analysis, the loss function must be individually taken into account for all variables included in the sets. The generalized formula for the Nonlinear Canonical Correlation Analysis is expressed as follows,

$$Minimize \quad \sigma(X, Y) = \sum_{k=1}^K tr \left(X - \sum_{j \in J_k} G_j Y_j \right)' \left(X - \sum_{j \in J_k} G_j Y_j \right)$$

$$Restrictions: \quad X'X = nI, \quad u'X = 0$$

$$For \ some \ variables: \quad Y_j = y_j \ a'_j \ ve \ G_j y_j \in C_j$$

where J_k indicates the number of variables included in the k . set and C_j indicates the nominal, ordinal or quantitative transformation set that fits the variable h_j . The analysis is essentially an optimization problem that minimizes the loss function under certain restrictions (Gifi, 1996).

Data set and variables

Life satisfaction and happiness are usually measured through surveys by conducting one interview with the individuals. There are survey studies used in happiness research in the literature, e.g., European Social Survey, Chinese General Social Survey, Asia Barometer, Vietnam Aging Survey, German Socio-Economic Panel, etc. In this study, the data acquired within the scope of the Life Satisfaction Survey conducted by the Turkish Statistical Institute (TURKSTAT) in 2017 are used. Since this study does not require "Ethics Committee Approval", Ethics Committee Permission document was not obtained. The data set of this study was obtained using the stratified two-stage systematic set sampling method. The samples were obtained due to computer-aided face-to-face interviews with individuals living in household addresses who are at or over 18 years of age. After sorting out missing data, the analysis conducted was based on 4261 observations.

The main goal of the study is to examine socio-demographic characteristics that affect happiness. In this context, the nature of the relationship between the sub-categories of socio-demographic characteristics and happiness will be analysed, and the relative positions of associated categories will be interpreted geometrically.

The income variable is included in addition to socio-demographic characteristics content, however as the focus of the study was not the effect of income, the study was performed only on working individuals to minimize variability. In addition, the variables used were included in the study according to the information obtained from the literature review. The categories of the variables used in this study are shown in Table 1.

Table 1. Variables and Categories

Variable	Categories
Age	A1: Y Generation (18-36) A2: X Generation (37-56) A3: Baby Boomer (57-71) A4: Silent Generation (72+)
Gender	G1: Male, G2: Female
Marital status	M1: Never married, M2: Married, M3: Divorced, M4: Dead spouse
Education	E1: Did not graduate E2: Primary school E3: General secondary school, Vocational or technical secondary school, Elementary education E4: General high school, vocational or technical high school E5: 2 or 3-year college, 4-year college or faculty E6: Master (5 or 6-year faculty etc.), Postgraduate degree, PhD
Employment Status	ES1: Wage or salary earner ES2: Casual (seasonal or daily workers) ES3: Employer ES4: self-employed ES5: Unpaid family worker
The income per person in the household	I1: Low, I2: Middle Lower, I3: Middle-Upper, I4: High
How happy you are when you think of your life as a whole	H1: Very unhappy, H2: Unhappy, H3: Medium, H4: Happy, H5: Very happy
Who makes you happiest in life?	Who1: Myself, Who2: Children, Who3: Parents Who4: Friends, Who5: Nephews, Who6: Grandchildren, Who7: Partner – Spouse, Who8: Whole Family
What makes you happiest in life?	What1: Success, What2: Work, What3: Health, What4: Love What5: Money

Among the variables included in Table 1, the choices of the variables aside from age, income and educational background were used in the analyses in the form determined by TURKSTAT. Whereas the values of the age variable were determined numerically by TURKSTAT as the actual ages of individuals, in this study, these values were grouped into categories in order to determine the differences between the perceived happiness of individuals who belong to specified age groups. This categorization was made by taking into account different generations. In determining the generations, the most widely accepted generations (Yıldız and Giray Yakut, 2019; Weber and Urick, 2017; Zemke, Raines and Filipczak, 2013; Costanza, Badger, Fraser, Severt and Gade, 2012) were taken into account. The following generations include children who were born in the following periods:

- Silent Generation: between 1925 and 1945,
- Baby Boomers: between 1946 and 1960,
- Generation X: between 1961 and 1980,
- Generation Y: between 1981 and 2000.

Additionally, for the income variable, the two highest groups were unified together in the study. As for the educational background variable, since some individuals only graduated from primary school and some graduated from elementary school (which is primary and secondary schools combined), the choices of elementary school and secondary school were unified; and also, open education university, vocational school and college graduates were grouped into the same category. Moreover, the data within the scope of the study only relates to individuals who were still employed and had jobs within the last week leading up to the study.

Frequencies related to the variables and means for appropriate variables are shown in Table 2. In the original study, age and income are continuous. Although it is used categorically in the analysis, the means of the original variables are given to provide general information about the sample. The age variable was presented in the survey as an open-ended value. However, since it was made categorical for analysis purposes, Table 2 provides information for both cases.

Table 2. Descriptive Statistics

Variable	Mean	%	Variable	Mean	%
Age	39,80		Income	1207,62	
Age categorical	-	A1: 38,9 A2: 49,5 A3: 11 A4: 0,6	Income categorical	-	I1: 24,2 I2: 18,7 I3: 33,5 I4: 23,6
Gender	-	G1:69,6 G2: 30,4	How happy you are?	3,52	H1: 1,7 H2: 8,4 H3: 33,4 H4: 49 H5: 7,5
Marital status	-	M1: 20,4 M2:74,7 M3:3,5 M4: 1,3	Who makes you happiest in life?	-	Who1: 3,4 Who2: 12,2 Who3: 3 Who4: 0,5 Who5: 0,3 Who6: 1 Who7: 4,4 Who8: 75,2
Education	-	E1: 5,6 E2: 30,4 E3: 15 E4: 20,8 E5: 25,5 E6: 2,8	What makes you happiest in life?	-	What1: 10,9 What2: 2,2 What3: 65,9 What4: 16,5 What5: 4,5
Employment Status	-	ES1: 65 ES2: 5,9 ES3: 6,5 ES4: 15,4 ES5: 7,3			

According to Table 2, it can be deduced that most of the 4261 working individuals who participated in the survey belonged to generation X, were married, with low educational background and from the middle-income group. It can also be said that the general tendency of these individuals was to be happy. Since the analysis only considers individuals who were still employed and had jobs within the last week leading up to the study, it can be thought that this sample group was a good representation of Turkey.

Empirical findings

In this section of the study, findings related to the categorical relationships between the question set consisting of "How happy are you when you think of your life as a whole", "Who makes you happiest in life?" and "What makes you happiest in life?" which concerns happiness and the question set consisting of socio-demographic variables were presented. With nonlinear canonical correlation analysis, interpretations obtained from the geometric positions of the categories were included. SPSS package program version 21.0 was used while conducting the analyses. The information relating to the scale types of the variables included in the analysis was shown in Table 3.

Table 3. List of Variables

Set	Number of Categories	Optimal Scaling Level
Age categorical	4	Ordinal
Gender	2	Single Nominal
1 Marital Status	4	Single Nominal
Education	6	Ordinal
Employment Status	5	Single Nominal
Income	4	Ordinal
How happy are you?	5	Ordinal
2 Who makes you happiest in life?	8	Single Nominal
What makes you happiest in life?	5	Single Nominal

When Table 3 is examined, it is seen that the scale type of all the variables in both variable sets is categorical. The iteration history of the analysis process used in this study is shown in Table 4.

Table 4. Iteration History

	Loss	Fit	Difference from the Previous Iteration
0	1,972273	,027727	
89	,688688	1,311312	,000010

According to Table 4, during the analysis process, the loss function is minimized using iteration, ensuring stationarity, meaning that object scores and category quantifications are determined. Convergence was achieved with 89 iterations, category digitization and object scores were determined, and the loss function was minimized.

The values of the analysis summary Table 5 can be considered as an indication of the general significance of the analysis, i.e., to what extent the data fits the analysis. Loss and fair values indicate the goodness of the solution.

Table 5. Summary of Analysis

		Dimension		Sum
		1	2	
Loss function	Set 1	,279	,410	,689
	Set 2	,279	,410	,688
	Mean	,279	,410	,689
Eigenvalue		,721	,590	
Fit				1,311

The eigenvalue for the first dimension (0,721); is equal to the difference between the value of 1 and the mean loss value of the first dimension (0,279). The eigenvalue for the second dimension is similarly obtained as 0,590. The sum of eigenvalues gives the total fit value. Accordingly, the total fit value is 1,311. The maximum fit value is equal to the number of dimensions (2). The mean loss value is $2 - 1,311 = 0,689$, which is the difference between maximum fit and actual fit values. In two sets, the canonical correlation coefficient per dimension is obtained by the following formula. $pd = 2 \cdot Ed - 1$ The canonical correlation coefficient calculated in the first dimension is $2 \times 0,721 - 1 = 0,442$. In other words, according

to the first dimension of the solution, there is a moderate correlation (44,2%) between happiness and socio-demographic characteristics.

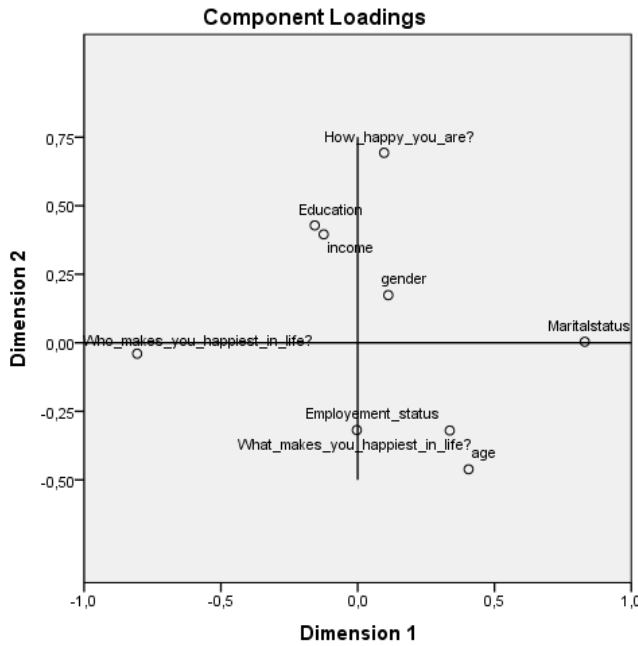


Figure 1. Graphical representation of component loadings

Component loadings are the correlation coefficients between the digitized variable and the object scores. The fact that the load values of the variables are high is an indicator of their usefulness and significance for the solution. If in Figure 1, a vector is drawn from the origin to the relevant variable points; the length of the vector will be an indicator of the usefulness and significance of the variable for the solution. As seen with the help of Figure 1, the main variables with the highest load value are "marital status", "who makes you happiest in life" and "how happy you are". Component loadings of these variables are respectively 0.830, -0.806 and 0.693. Single and multiple fits are given in Table 6.

Table 6. Single and Multiple Fit

Set		Multiple Fit			Single Fit		
		Dimension		Sum	Dimension		Sum
		1	2		1	2	
1	Age	,000	,317	,317	,000	,317	,317
	Gender	,032	,005	,037	,032	,005	,037
	Marital status	,696	,130	,825	,695	,127	,822
	Education	,002	,064	,066	,002	,064	,066
	Employment status	,001	,078	,079	,000	,078	,079
	Income	,002	,089	,091	,001	,089	,090
2	How happy you are?	,006	,483	,489	,005	,483	,489
	Who makes you happiest in life?	,606	,008	,614	,606	,003	,609
	What makes you happiest in life?	,068	,112	,179	,066	,111	,177

If there are significant differences between single and multiple loss values, the single nominal variable should be made multiple. According to Table 6, differences between single and multiple loss values is minor for each variable. Therefore, a single nominal variable was used.

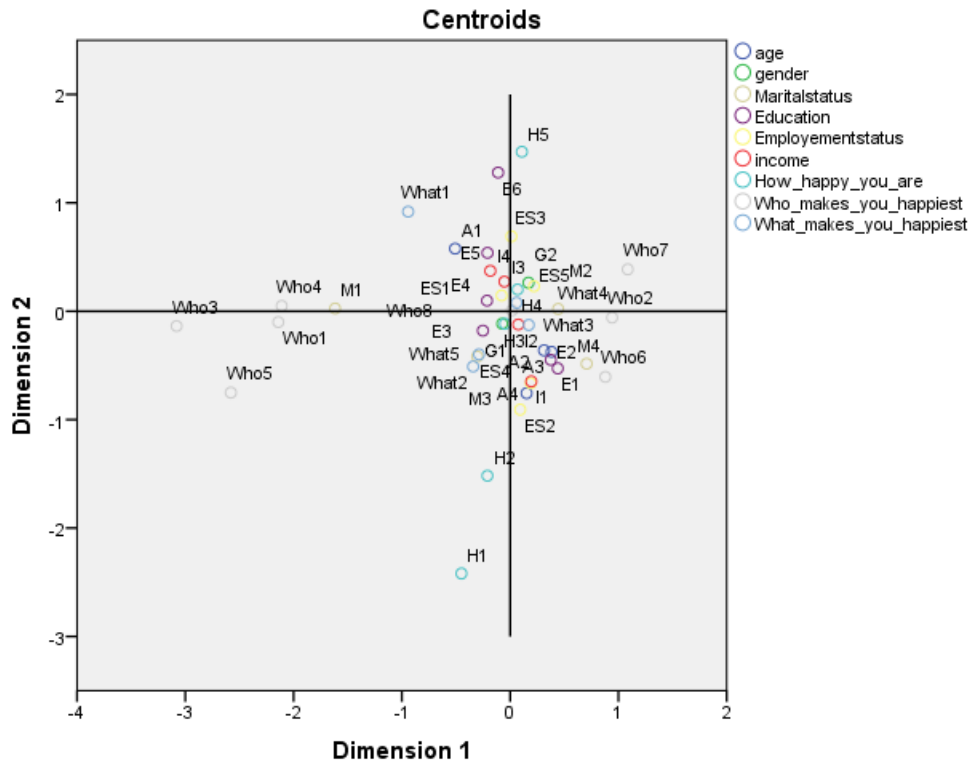


Figure 2. Graphical representation of centroids

In light of the 44,2% correlation between socio-demographic characteristics and the perceived happiness categories, to better understand the correlation structure between the categories of variables, the locations of the category points in the Centroids Graph are examined. With the help of Figure 2, groups with the highest correlation and relatively homogeneous behaviour may be identified. Firstly, socio-demographic categories that are located strikingly close to the categories that relate to the questions concerning the perception of happiness were interpreted:

* Master's/Ph.D. graduates are located closest to the excellent category. It is seen that master's and PhD graduates are pleased when they considered their life as a whole.

* It is seen those casual employees are the unhappiest group when they considered their life as a whole.

* Wageworkers and individuals with medium to high-income level defines themselves as happy, while the factor that made them happiest is health.

* It is seen that individuals who never married were happiest when they were on their own and with their friends. Additionally, categories of mother-father and nephews-nieces relatively interacted with these categories.

* For individuals whose spouse is dead, it is found that the people who made them happiest were their children.

* As far as age categories are concerned, it is remarkable that the factor of success is located the closest for individuals who belonged to generation Y.

* It is found that the people who make them happiest were their grandchildren who have not graduated from any school and belong to the baby boomer's generation.

* It is found that the concept that made the men who belong to the medium to low-income group happiest is health.

* For divorced men, it is seen that the concepts that make them happiest are work and money.

Aside from those above, the following category points are also found to be closely located:

* Individuals whose employment status is 'employer' is located close to the college graduate category.

* It can be said that individuals who have not graduated from any school or only graduated from primary school belonged to the baby boomer's generation and generation X.

* It is notable that the depressed category is separated and located far from other categories.

Finally, the object scores scatterplot is also examined, and the cases weighted by the number of objects of the analysis are shown in Figure 3.

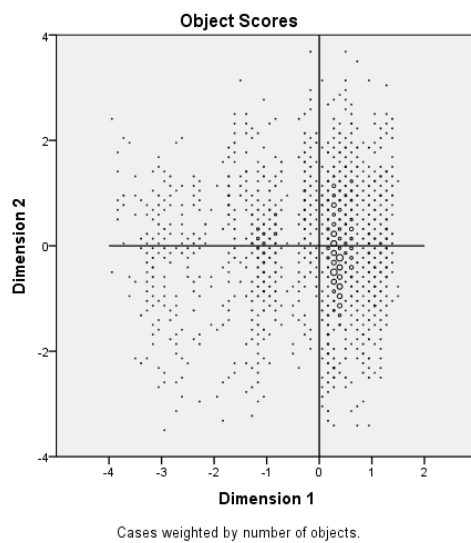


Figure 3. Cases weighted by the number of objects

According to Figure 3, no outlier observations were detected within the scope of the analysis. To test the validity of the variables interpreted in this analysis, the Chi-Square test of independence was used as an additional test. For variables that showed dependency, the analysis results performed to investigate the variables that are the source of this dependency were shown in Table 7.

Table 7. Chi-square independence analysis results

Variables	Chi-square	Sig.
Gender* How happy you are?	17,685	0,01
Gender* Who makes you happiest in life?	139,662	0,000
Gender* What makes you happiest in life?	25,227	0,000
Marital Status* How happy you are?	48,212	0,000
Marital Status * Who makes you happiest in life?	974,396	0,000
Marital Status * What makes you happiest in life?	157,300	0,000
Employment status* How happy you are?	48,974	0,000
Employment status * Who makes you happiest in life?	70,839	0,000
Employment status * What makes you happiest in life?	42,373	0,000
Age* How happy you are?	54,270	0,000
Age* Who makes you happiest in life?	327,055	0,000
Age* What makes you happiest in life?	82,264	0,000
Income* How happy you are?	49,186	0,000
Income * Who makes you happiest in life?	159,918	0,000
Income * What makes you happiest in life?	39,266	0,000
Education* How happy you are?	57,430	0,000
Education * Who makes you happiest in life?	172,687	0,000
Education * What makes you happiest in life?	91,549	0,000

For the three question groups that investigate happiness, an analysis was carried out to see whether or not they are related to all socio-demographic variables. According to Table 7, the happiness question set and all socio-demographic questions have a statistically significant relationship.

When Table 7 and Fig 2 are evaluated together, it was seen that gender is related to happiness in Turkey and that while women are closer to the happy category, men are close to the medium happiness category. This result parallels studies in the literature that conclude that women are happier than men (Venetoklis, 2019; Ding et al.,2020).

It is found that there is a statistically significant relationship between marital status and happiness in Turkey; married individuals are happier than unmarried. This result is also parallel with the existing literature (Selim, 2008; Mateu et al., 2020). When the relationship between the variable’s marital status and the person who makes the individual happiest, it is noted that individuals who never married are happy on their own and with their friends. This marks the importance of being in social relationships for an individual to feel happy. When the variables of marital status and the concept that makes the

individual happiest are examined, it is notable that divorced individuals associated happiness with work and money. It sounds reasonable that people who failed to find happiness in their marriage resorted to seeking work and money.

When the categorical structure between educational background and happiness in Turkey is examined, it can be seen that as the level of education went higher, the level of perceived happiness also increased (Bülbül and Giray, 2011; Lodhi et al., 2020). It is observed that especially individuals with a master's/PhD degree are closer to a high level of happiness.

When the variables educational background and the person who makes the individual happiest are examined, it can be seen that individuals who have not graduated from any school are happy with their grandchildren. It was also found that secondary school and high school graduates were happy with their whole family.

The relationship between age and perceived happiness was also found to be significant (Blanchflower and Oswald, 2004; Dumludag et al., 2016), and upon examination, it can be seen that the concept that makes the individual happy and the person who makes them happiest vary from generation to generation. It is seen that, while the perceived happiness is reduced in older ages, these individuals were happy with their children and grandchildren. The responsibilities assumed by individuals at early ages reduce the time they spend with their children. With this, combined with dead spouses died in older ages, especially in Turkey, the grandchildren become the source of happiness for the elderly. Another result associated with older age is the concept of health becoming a more prominent for the source of happiness. This result is also very reasonable when the fact that health issues encounter in old ages remind not to take health for granted is considered.

The relationship between socio-demographic characteristics and perceived happiness has yielded consistent results in studies conducted both in Turkey and worldwide. Explaining the nature and structure of the relationship in detail by category and presenting all sub-categories together, this study allowed to examine the subject from a different perspective.

Conclusion

In this study, the structure of the relationship between the perception of happiness and socio-demographic characteristics in Turkey is examined based on the data collected within the scope of the Life Satisfaction Survey conducted by TURKSTAT. The degree of the relationship between the variable set consisting of three questions used for the perception of happiness and the variable set consisting of socio-demographic characteristics is examined. Considering the relationship between happiness and income in keeping with the literature, this is also included in the variable set. However, as the focal point of the study is not income, the study is performed only on working individuals to minimize variability to a certain extent. It is investigated whether or not the individuals fit into homogenous structures in terms of the perception of happiness and the conceptual and personal sources of happiness. Because the methods available in the literature do not allow the examination of the relationship between all variables when there are multiple dependent variables, nonlinear canonical correlation analysis is used in the study. In this analysis, the structure of the relationship between the sub-categories of variable sets is revealed and visualized in a lower-dimensional space.

A significant number of studies investigate the effects of socio-demographic characteristics on the perception of happiness, and the findings obtained have highlighted that these characteristics are essential factors in determining personal happiness. However, this study builds on previous studies as it allows the examination of multiple variable sets and the examination of clustering sub-categories.

When the effect of employment status was examined, it is notable that per diem employees define themselves as unhappy. Health is the most central concept in happiness for men who belong to the medium to low-income and wage workers who belong to the medium to high-income group. When the age variable was examined, it can be seen that there are specific differences from generation to generation. It is seen that the level of happiness reduced in older ages, also, their children and grandchildren come up the source of happiness for these individuals. Another notable finding is that the concept of success is prominent for individuals who belong to generation Y.

In conclusion, this study is essential for interpreting different groups by evaluating different socio-demographic characteristics together. Findings were corresponding to the socio-demographic structure of Turkey and were consistent with the literature. According to the study results, the detection of categories that are located close to each other enables detailed studies on specific categories. In a survey data set similar to TURKSTAT Life Satisfaction Survey, nonlinear canonical correlation analysis can be suggested to use more commonly to remove the disadvantages of different methods when there are

multiple dependent variables and allow for more detailed interpretations to be made. Besides, further studies can be done using this method for other countries to determine the sub-categories for happiness. The use of this method can be strengthened by using logistic regression, chi-square independence test and similar techniques.

Peer-review:

Externally peer-reviewed

Conflict of interests:

The authors have no conflict of interest to declare.

Grant Support:

The authors declared that this study has received no financial support

Author Contributions:

Idea/Concept/Design: S.G.Y., N.E.B., C.C. Data Collection and/or Processing: S.G.Y., N.E.B., C.C. Analysis and/or Interpretation: S.G.Y., N.E.B., C.C. Literature Review: S.G.Y., N.E.B., C.C. Writing the Article: S.G.Y., N.E.B., C.C. Critical Review: S.G.Y., N.E.B., C.C. Approval: S.G.Y., N.E.B., C.C.

References

- Abdullah, Y. A., & Zulkifli, F. L. (2016). Concepts and Theories of Happiness of Population in Urban Neighbourhoods. *Environment-Behaviour Proceedings Journal*, 1(1), 260-268.
- Acar, Y. (2020). How Important are Social Relations for Happiness? Empirical Evidence from Turkey. *Journal of Economics, Business & Political Studies*, 7(1):1-9
- Ahn, N., Garcia, J. R., & Jimeno, J. F. (2004). The impact of unemployment on individual well-being in the EU. European Network of Economic Policy Research Institutes, Working paper, No: 29.
- Alesina, A., Di Tella, R., & MacCulloch, R. (2003). Inequality and happiness: Are Europeans and Americans different? NBER and CEPR Harvard Business School Princeton University, Working paper.
- Amole, D. (2009). Residential satisfaction in students' housing. *Journal of Environmental Psychology*, 29(1), 76-85.
- Arı, E. & Yıldız, Z. (2016). Bireylerin yaşam memnuniyetini etkileyen faktörlerin sıralı lojistik regresyon analizi ile incelenmesi. *Journal of International Social Research*, 9(42), 1362- 1374.
- Babadağ, K., Uyanık, D., & Yılmaz, S. (2009). Yaşam memnuniyeti anketi 'nin veri madenciliği süreci ile incelenmesi. 18. *İstatistik Araştırma Sempozyumu*. Ankara.
- Bassi, M., Steca, P., Monzani, D., Greco, A. & Delle Fave, A. (2014). Personality and optimal experience in adolescence: implications for well-being and development. *Journal of Happiness Studies* 15, 829-843.
- Beja, E.L. (2018). The U-shaped relationship between happiness and age: evidence using world values survey data. *Quality&Quantity*, 52(4), 1817-1829
- Blanchflower, G. D. & Oswald, J. A. (2004). Well-being over time in Britain and the USA, *Journal of Public Economics*, 88 (7-8), 1359-1386.

- Bonasia, M., Napolitano, O., & Spagnolo, N. (2018). Happy PIIGS?. *Journal of Happiness Studies*, 19(6), 1763-1782.
- Botha, F. & Booysen, F. (2014). Family functioning and life satisfaction and happiness in South African households. *Social Indicators Research*, 119, 163-182.
- Bozkuş, S., Çevik, E.İ. & Üçdoğruk, Ş. (2006) Bireysel refah ve mutluluk düzeyine etki eden faktörlerin sıralı logit ile modellenmesi: Türkiye örneği. 15. *İstatistik Araştırma Sempozyumu*, 11-12 May, 2006.
- Brzezinski, M. (2019). Diagnosing unhappiness dynamics: evidence from Poland and Russia. *Journal of Happiness Studies*, 20(7), 2291-2327.
- Bülbül, Ş. & Giray, S. (2011). Sosyodemografik özellikler ile mutluluk algısı arasındaki ilişki yapısının analizi. *Ege Academic Review*, 11(Special Issue), 113-123.
- Cheng, Z., & Smyth, R. (2015). Crime victimization, neighborhood safety and happiness in China. *Economic Modelling*, 51, 424-435.
- Cid, A., Ferrer, D. & Rossi, M. (2008). Testing happiness hypotheses among the elderly, *Cuadernos de Economia*, 27, 23-45.
- Clark, A. E., & Oswald, A. J. (1996). Satisfaction and comparison income. *Journal of Public Economics*, 61(3), 359-381.
- Costanza, D. P., Badger, J. M., Fraser, R. L., Severt, J. B., & Gade, P. A. (2012). Generational differences in work-related attitudes: A meta-analysis. *Journal of Business and Psychology*, 27(4), 375-394.
- Çopur, Z., Çiçek, B. & Pekmezci, P. (2015) Kaynakların yeterliği algısı ve yaşam tatmini arasındaki ilişkinin incelenmesi. *Hacettepe Üniversitesi Sosyolojik Araştırmalar E-Dergisi*, 1-15.
- Demir, M., Özdemir, M. & Weitekamp, L.A. (2007). Looking to happy tomorrows with friends: best and close friendships as they predict happiness. *Journal of Happiness Studies*, 8(2), 243-271.
- Demir, M., & Özdemir, M. (2010). Friendship, need satisfaction and happiness. *Journal of Happiness Studies*, 11(2), 243-259.
- Devine, J., Hinks, T., & Naveed, A. (2019). Happiness in Bangladesh: The role of religion and connectedness. *Journal of Happiness Studies*, 20(2), 351-371.
- Diener, E. (1984). Subjective well-Being. *Psychological Bulletin*, 75(3):542-575.
- Ding, J., Salinas-Jiménez, J., & del Mar Salinas-Jiménez, M. (2020). The impact of income inequality on subjective well-being: The case of China. *Journal of Happiness Studies*, 1-22.
- Dumludag, D., Gokdemir, O., & Giray, S. (2016). Income comparison, collectivism and life satisfaction in Turkey. *Quality & Quantity*, 50(3), 955-980.
- Easterlin, R. (1974). Does economic growth improve the human lot? In: David, Paul A., Reder, Melvin W. (eds.) *Nations and Households in Economic Growth: Essays in Honor of Moses Abramovitz*. Academic Press Inc, New York (1974).
- Easterlin, R.A. (2001). Income And Happiness: Towards a unified theory. *The Economic Journal*, 111 (July), 465-484.
- Ferrer-i-Carbonell, A. (2005). Income and well-being: an empirical analysis of the comparison income effect. *Journal of Public Economics*, 89(5), 997-1019.
- Fischer, J. A. (2009). Happiness and age cycles - return to start...?: On the functional relationship between subjective well-being and age. *OECD Social, Employment and Migration Working Papers*, No. 99, OECD Publishing.
- Frey, B. S. & Stutzer, A. (2000). Maximising happiness?. *German economic review*, 1(2), 145-167.
- Frey, B. S. & Stutzer, A. (2002). What can economists learn from happiness research?. *Journal of Economic literature*, 40(2), 402-435.
- Gifi A. (1981). Non Linear Multivariate Analysis, Department of Data theory, University of Leiden. (Updated version: 1990, same title, J. Wiley, Chichester.)
- Gifi, A. (1989). Algorithm descriptions for ANACOR, HOMALS, PRINCALS and OVERALS. Department of Data Theory, University of Leiden, Research Report, RR 89-01, 26p.
- Gifi, A. (1996). *Nonlinear multivariate analysis*. 3. Edition. Chichester: John Wiley & Sons Publication.

- Gilbert, D. (2010). Does marriage make us happy? American Psychological Association <https://www.apa.org/monitor/2010/10/marriage>. Accessed 20 Jul 2020.
- Gitmez, A. S. & Morcöl, G. (1994). Socio-economic status and life satisfaction in Turkey. *Social Indicators Research*, 31(1), 77-98.
- Golob, T. F. & Recker, W. W. (2003). A method for relating type of crash to traffic flow characteristics on urban freeways, California Path Program Institute of Transportation Studies, University of California, 33p.
- Graafland, J. & Lous, B. (2019). Income inequality, life satisfaction inequality and trust: a cross country panel analysis. *Journal of Happiness Studies*, 20(6), 1717-1737.
- Graham, C. (2004). Can happiness research contribute to development Economics?. *Washington DC: The Brookings Institution*.
- Hamplová, D. (2019). Does work make mothers happy?. *Journal of Happiness Studies*, 20(2), 471-497.
- Hori, M. & Kamo, Y. (2018). Gender differences in happiness: The effects of marriage, social roles, and social support in East Asia. *Applied Research in Quality of Life*, 13(4), 839-857.
- Hyun, E.M., Bauer, J.W. & Hogan, M.J. (1993). Resource adequacy perception and marital satisfaction of rural wives and husbands: a no recursive model. *Journal of Family and Economic Issues*, 14(3), 215-236.
- Karabati, S., Ensari, N. & Fiorentino, D. (2019). Job satisfaction, rumination, and subjective well-being: A moderated mediational model. *Journal of Happiness Studies*, 20(1), 251-268.
- Korkmaz, M., Germir, H.N., Yücel A.S. & Gürkan, A. (2015). Yaşam memnuniyeti üzerinde etkili olan sosyodemografik bileşenler üzerine bir analiz. *Uluslararası Hakemli Psikiyatri ve Psikoloji Araştırmaları Dergisi*, 03(2), 78-111.
- Kümbül Güler, B. & Emeç, H. (2006). Yaşam memnuniyeti ve akademik başarıda iyimserlik etkisi. *Dokuz Eylül Üniversitesi İ.İ.B.F. Dergisi*, 21(2), 129-149.
- Lelkes, O. (2006). Knowing what is good for you: empirical analysis of personal preferences and the "objective good". *Journal of Socio-Economics*, 35, 285-307.
- Li, N. P., & Kanazawa, S. (2016). Country roads, take me home... to my friends: How intelligence, population density, and friendship affect modern happiness. *British Journal of Psychology*, 107(4), 675-697.
- Lodhi, F.S., Rabbani, U., Khan, A.A., Irum, S. Naieni & K.H. (2020). Quality of life and its predictors among Pakistani head of household in district Abbottabad, Pakistan. *Quality & Quantity* 54:1129-1143.
- Mangeloja, E. & Hirvonen, T. (2007). What makes university students happy?, *International Review of Economic Education*, 6(2), 27-41.
- Markussen, T., Fibæk, M., Tarp, F. & Tuan, N. D. A. (2018). The happy farmer: self-employment and subjective well-being in rural Vietnam. *Journal of Happiness Studies*, 19(6), 1613-1636.
- Mateu, P., Vásquez, E., Zúñiga, J. & Ibáñez, F. (2020). Happiness and poverty in the very poor Peru: measurement improvements and a consistent relationship. *Quality & Quantity*, 1-20.
- Michailidis, G. & De Leeuw, J. (1998). The Gifi System for Nonlinear Multivariate Analysis. *Statistical Science* 13(4), 1-46.
- Moghaddam, M. (2008). Happiness, faith, friends, and fortune – Empirical evidence from the 1998 US survey data. *Journal of Happiness Studies*, 9(4), 577-587.
- Ngoo, Y. T. & Tey, N. P., & Tan, E. C. (2015). Determinants of life satisfaction in Asia. *Social Indicators Research*, 124(1), 141-156.
- Nieboer, A.P. & Cramm, J.M. (2018). Age-friendly communities matter for older people's well-being. *Journal of Happiness Studies* 19, 2405-2420.
- Öztürk, L., Meral, İ.G. & Yılmaz, S.S. (2017). Lisans öğrencilerinin mutluluk ve akademik başarı ilişkisi: Kırıkkale Üniversitesi örneği. *International Journal of Disciplines In Economics and Administrative Sciences Studies (IDEAStudies)*, 3(4), 77-85.
- Park, C. (2009) The quality of life in South Korea. *Social Indicator Research*, 92, 263-294.

- Quoidbach, J., Taquet, M., Desseilles, M., de Montjoye, Y. A. & Gross, J. J. (2019). Happiness and social behavior. *Psychological science*, 30(8), 1111-1122.
- Requena, F. (1995). Friendship and subjective well-being in Spain: a cross-national comparison with the United States. *Social Indicators Research*, 35, 271-288.
- Rodogno, R. (2016). Prudential value or well-being. *Handbook of Value: Perspectives from Economics, Neuroscience, Philosophy, Psychology and Sociology*, Oxford University Press, Oxford, 287-312.
- Saphire-Bernstein, S. & Taylor, S. E. (2013). Close relationships and happiness, in *Oxford Handbook of Happiness*, eds S. A. David, I. Boniwell, and A. Conley Ayers (Oxford: Oxford University Press), 821-833.
- Schroeder, T. (2006). Desire. *Philosophy Compass*, 1(6), 631-639.
- Schwarze, J. & Winkelmann, R. (2005). What can happiness research tell us about altruism? Evidence from the German Socio-Economic Panel. *IZA Discussion Paper*, No.1487.
- Scoppa, V. & Ponzio, M. (2008). An empirical study of happiness in Italy. *The B.E. Journal of Economics Analysis & Policy Contributions*, 8, Article 15.
- Seghieri, C., Desantis, G., & Tanturri, M. L. (2006). The richer, the happier? An empirical investigation in selected European countries. *Social Indicators Research*, 79, 455-476.
- Seligman, M. E. P., & Royzman, E. (2003). Happiness: The three traditional theories. Retrieved from: <https://www.authentic happiness.sas.upenn.edu/newsletters/authentic happiness/happiness>.
- Selim, S. (2008). Life satisfaction and happiness in Turkey. *Social Indicators Research*, 88(3), 531-562.
- Senik, C. (2009). Direct evidence on income comparisons and their welfare effects. *Journal of Economic Behaviour and Organization*, 72, 408-424 .
- Servet, O. (2017). Mutluluğun Türkiye'deki belirleyenlerinin zaman içinde değişimi. *Akdeniz İİBF Dergisi*, 17(35), 16-42.
- Sironi, E. (2019). Job satisfaction as a determinant of employees' optimal well-being in an instrumental variable approach. *Quality & Quantity*, 53(4), 1721-1742.
- Sousa, L., & Lyubomirsky, S. (2001). Life satisfaction. In J. Worell (Ed.), *Encyclopedia of women and gender: Sex similarities and differences and the impact of society on gender* (Vol. 2, pp. 667-676). . San Diego, CA: Academic Press.
- Susanlı, Z. B. (2018). Life satisfaction and unemployment in Turkey: evidence from Life Satisfaction Surveys 2004-2013. *Quality & Quantity*, 52(1), 479-499.
- Takebayashi, Y., Tanaka, K., Sugiura, Y. & Sugiura, T. (2018). Well-being and generalized anxiety in Japanese undergraduates: a prospective cohort study. *Journal of Happiness Studies* 19, 917-937.
- Tella, R., MacCulloch M.J. & Oswalds, A.J. (2003). The macroeconomics in happiness. *The Review Of Economics And Statistics*, 85(4), 809-827.
- Tran, T.Q. & Vu, H. V. (2018). A microeconomic analysis of housing and life satisfaction among the Vietnamese elderly. *Quality & Quantity*, 52, 849-867.
- Tucker, K. L., Ozer, D. J., Lyubomirsky, S. & Boehm, J. K. (2006). Testing for measurement invariance in the satisfaction with life scale: A comparison of Russians and North Americans. *Social Indicators Research*, 78(2), 341-360.
- Van der Burg, E., De Leeuw, J. & Verdegaal, R. (1984). Nonlinear Canonical Correlation with m sets of Variables. Meeting of the Psychometric Society in Jouren-Josas France, 1-31.
- Van der Burg, E., De Leeuw, J. & Verdegaal, R. (1988). Homogeneity Analysis with k Sets of Variables: An Alternating Least Squares Method with Optimal Scaling Features. *Psychometrika*, 53(2), 177-197.
- Vang, Z. M., Hou, F. & Elder, K. (2019). Perceived religious discrimination, religiosity, and life satisfaction. *Journal of Happiness Studies*, 20(6), 1913-1932.
- Veenhoven, R. (1984). *Conditions of Happiness*. Kluwer Academic, Dordrecht.
- Veenhoven, R. (1991). Is happiness relative?. *Social indicators research*, 24(1), 1-34.
- Veenhoven, R. (1996). Developments in satisfaction-research. *Social Indicators Research* 37(1): 1-46.

- Veenhoven, R. (2003). Hedonism and happiness. *Journal of Happiness Studies*, 4, 437-457.
- Venetoklis, T. (2019). Do interactions cancel associations of subjective well-being with individual-level socioeconomic characteristics? An exploratory analysis using the European Social Survey. *Quality & Quantity*, 53(6), 3033-3061.
- Weber, J. & Urick, M. J. (2017). Examining the millennials' ethical profile: Assessing demographic variations in their personal value orientations. *Business and Society Review* 122(4), 469-506.
- World Happiness Report (2019). <https://worldhappiness.report/ed/2019/> Accessed 25 Jul 2020.
- Yıldız, M. L. & Giray Yakut, S. (2019). İşyerinde etik algısı cinsiyete ve kuşaklara göre değişir mi? Türkiye'deki çalışanlar üzerine ampirik bir çalışma. *Istanbul Business Research*, 48(2).
- Zemke, R. Raines, C., & Filipczak, B. (2013). Generations at work: Managing the Clash of Veterans, Boomers, Xers, and Nexters in Your Workplace, Second Edition, Amacom.