Happiness and Life Satisfaction in Turkey in Recent Years

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Abstract

This paper aims to investigate the determinants of happiness and life satisfaction in Turkey in recent years. It uses regression analyses based on micro data from two nationally representative household surveys, namely the Turkish Life Satisfaction Survey and the World Values Survey for Turkey, in years 2007 and 2011. The wide variety of data collected by the two surveys enables a comprehensive analysis of the correlates of the outcome variable. Although some of the results are consistent both with the earlier ones in the literature and across the datasets used in this study, some others depend on the time period, the set of control variables and the sample used; thus casting doubt on the strength of the findings. To make a proper comparison and to isolate the differences generated by different samples, the analysis is restricted to the same set of control variables that are defined in the most similar manner. The variables whose estimates have been found to be similar are unemployment status, marital status, relative income, and gender. The differences are observed in the estimates of age, absolute income and education. The conclusion is that the question of what determines happiness is still a valid one that needs to be studied with more and better data. Recommendations are made for ways to improve data quality.

Keywords

Happiness
Life satisfaction
Determinants
Survey data
Turkey

1. Introduction

It is now widely recognized that traditional economic measures are insufficient to reflect a nation's well-being and that wider measures are needed. In that respect, the concepts of happiness and life satisfaction have come to the forefront. As policymakers seek to better understand both individual content and social stress, data have been collected in many countries on how people evaluate their own lives. Understanding and improving happiness and life satisfaction requires the collection of reliable evidence that can be used to inform policymakers. In fact, the body of evidence is growing fast, which can be judged easily by looking at the number of papers published in academic journals on the topic. Yet, it is not clearly known whether the identified determinants of happiness and life satisfaction can survive the test of time, or whether they are specific to the analyzed sample.

The purpose of this paper is to investigate the determinants of happiness and life satisfaction in Turkey in recent years by using the latest waves of nationally representative micro datasets. Two household surveys, the Turkish Life Satisfaction Survey (TLSS) and the World Values Survey for Turkey (WVS), in years 2007 and 2011, are used to conduct regression analyses. The wide variety of data collected by the two surveys enables a comprehensive analysis of the correlates of happiness and life satisfaction. The main questions asked are~~It is questioned~~ whether the findings reported in earlier studies are still valid and whether the results obtained from the two different surveys are consistent with each other.

The paper contributes to the literature mainly in three ways: First, it analyzes comprehensively the determinants of happiness and life satisfaction in Turkey in recent years. Turkey is a developing country with a population of about 75

million. It is an OECD country in which average life satisfaction is unfortunately below the OECD average. Although Turkish economy has expanded considerably in the last decades, it appears that the people are not particularly satisfied with their lives. The country is similar in life satisfaction to Hungary, Portugal, Estonia, China, South Africa and Indonesia (OECD 2011), some of which have much lower per capita income than Turkey. Another ranking, in which the highest worldwide happiness score is 8.5 and the lowest is 2.6, assigns Turkey a score of 5.7 that places the country somewhere in the middle. In that scale, the EU average is 6.46 which is higher than the score of Turkey (Veenhoven 2013). This paper uses micro data from two large-scale nationally representative surveys. The surveys differ in the set of questions asked, thereby providing us with an opportunity to study an expanded set of variables, which is an advantage of the paper.

The second contribution of the paper is that it compares the estimates across the two surveys (the WVS and the TLSS samples) to see if the findings are robust to different samples of the Turkish population. To make a proper comparison, the regression equations are specified in the same manner with similarly defined control variables. The results tell us that although some estimates are similar, many estimates differ across the two surveys and across time. Such a result casts doubt on the findings reported in the literature.

Thirdly, the paper provides a list of recommendations for future work on the economics of happiness. The list focuses on ways to improve data quality as explained in detail in the paper. First, data collectors could be more sensitive to being consistent in the scale and the wording of the happiness questions across surveys. Secondly, the data could have a panel dimension. Thirdly, the sample size could be increased to achieve representativeness in regions and provinces. Turkey is a country with a large population and ample diversity across groups of people and regions. The variation across geographical areas could be employed to better understand the determinants of happiness and life satisfaction. It is inevitable that a renovation of the data collection process will increase costs, yet the increase in costs should be weighed against the substantial increase in benefits.

The plan of the paper is as follows. Section 2 introduces to the reader the relevant literature. Section 3 describes the datasets and the estimation

method. Section 4 explains the findings of the paper. Section 5 discusses the results and concludes.

2. Background

Happiness is a concept that all of us are familiar with, but may have a hard time defining. According to some authors, happiness is the main, if not the only, purpose of life (Ng 1996, p.1). The word 'happiness' is used in the widest sense as an umbrella term for all worth. In this meaning it is used interchangeably with terms like 'wellbeing' or 'quality of life', denoting both individual and social welfare. The word is also used more specifically to denote overall subjective evaluation of life as a whole (Veenhoven 2000) and defined concisely as "… how much one likes the life one lives".

Life satisfaction is conceptualized by some researchers as a subcategory of happiness (Davis and Fine-Davis 1991, p. 111). Some others see happiness and life satisfaction as two areas of psychological well-being (Zapf et al. 1987, p. 25). In the second approach, happiness is an emotional state produced by positive and negative events and experiences in life. Life satisfaction, on the other hand, is conceptualized as more of a cognitive evaluation that is somewhat dependent on social comparisons with reference groups as well as on the individual's desires, expectations, and hopes.

Typically, data on happiness and life satisfaction are harvested by means of survey questions such as: "Thinking about your life in general, how happy do you feel?" or "All things considered, how satisfied are you with your life as a whole in these days?" Both the definitions and the survey questions reflect subjectivity. The subjective approach to defining well-being runs counter to the objective approach of neoclassical economics, which relies on revealed preference and on observable choices of individuals to gather information required to measure well-being. The objective approach maintains that subjectivist experience gathered by survey questions is useless since it is not objectively observable (Frey and Stutzer 2002). Amartya Sen attributes the popularity of objectivity to "… a mixture of an obsessive concern with observability and a peculiar belief that choice … is the only human aspect that can be observed." (Sen 1986, p. 18).

Advances in economics and psychology have shown us that choices are not the only human aspect that can be observed; the hedonic experience (such as pain, joy or pleasure) can also be observed. Experiments conducted by psychologists have revealed that decision utility and experienced utility are two separate concepts (Kahneman et al. 1997, p. 376). To determine an individual's experienced utility, we can simply ask him about his feelings since he is the best person to make a judgment. The subjective evaluation of the person can be used as a measure of utility (Frey and Stutzer 2002).

Since happiness and life satisfaction are the ultimate goals of life for many people, it is important to know what determines them, both for intrinsic interest and for economic policy. A new branch of economics, 'the economics of happiness', has emerged in the last two decades mainly as an empirical branch of economics. A large volume of research has already been conducted on large datasets where many factors are considered and controlled for. The entire literature will not be reviewed here since excellent reviews (and a defense on the validity of the approach) can be seen in Frey and Stutzer (2002), Clark et al. (2008), and Dolan et al. (2008). Most of the research has focused on exploring the determinants. The potential determinants studied in the literature are income (including absolute income, relative income and expected future income), personal characteristics (such as age, gender, ethnicity and personality), socially developed characteristics (such as education, health, unemployment, and the type of work done), work and daily activities (such as the number of hours worked, commuting, caring for others, community involvement and volunteering, exercise, and religious activities), attitudes and beliefs (such as trust, religion, and political view), relationships (such as marriage and intimacy, having children, seeing family and friends), and the factors related to the wider economic, social and political environment we live in (such as income inequality, unemployment rate, inflation, welfare system and public insurance, degree of democracy, climate and natural environment, safety, and urbanization).

The literature review made by Dolan et al. (2008) has revealed that the association of happiness with some factors, namely age, separation, unemployment and health, has been confirmed by using different data sets, different countries, different time periods, and different methods of analysis.

In fact, many of the findings reported in the literature on the determinants of happiness are what one expects to see. For example, significant differences in happiness are observed between those with different objective circumstances; such as employed versus unemployed, or single versus living with a partner. Nonetheless, the association of happiness with many other factors is ambiguous, varying across time, datasets, countries and methods of analysis. Comparing results across studies is difficult for two main reasons. First, a different set of control variables may be used and the estimated effect of a particular factor (both the coefficient size and its significance level) may depend on what other variables are controlled for in the regression equation. Secondly, categorical variables and reference categories may be defined differently across studies. For example, surveys may categorize educational status differently, treating the consecutive levels of education together or separately.

The literature on happiness and life satisfaction in Turkey contains only a few published studies. Gitmez and Morcol (1994) find that socio-economic status is a strong determinant of the vertical inequalities in the distribution of satisfaction in various domains of life (family, work, neighbors, etc.) using data from 145 face-to-face interviews in Ankara. Ekici and Koydemir (2014) investigate both the changes in happiness and life satisfaction in Turkey and how the two variables are related to social capital, using data from 1999 and 2008 waves of the European Values Study (EVS). They report significant increase in happiness, life satisfaction, and many social capital variables.

The studies that can be most easily related to this paper are Selim (2008), Dumludag (2013), and Caner (2014). Selim (2008) uses the 1990, 1996 and 2001 waves of WVS to study the determinants of happiness and life satisfaction. In this paper, I use the 2007 and 2011 waves (the most recent two waves) of the WVS and the same specification of the regression equation ~~are used~~ with the purpose of testing if the earlier findings are robust across time. Dumludag (2013) uses a different data source, the 2010 Life in Transition Survey, and focuses on how life satisfaction is influenced by income comparisons [both to others in the relevant reference group and to oneself in the past (evaluation) and future (expectation)]. It includes three comparison variables (own living standards in comparison to parents, current living standards in comparison to 4 years ago, and the position on the well-

being ladder) as control variables. In this paper, I use similarly defined comparison variables in the TLSS ~~are used~~ with the purpose of testing if the findings are robust across datasets. Both Selim (2008) and Dumludag (2013) use the ordered logit model to estimate happiness equations, but they differ in the set of control variables and variable definitions. In Sect. 4 of this paper, I show that the two studies yield some conflicting results; then, I explain which findings are robust across time and surveys. Caner (2014) uses data from TLSS in years 2003–2011 to ask whether income comparisons and expectations about future income and working conditions direct determine an individual's utility (proxied by happiness). The effects of comparisons and expectations on utility are related to the effect of income on utility. With such as focus, demographic variables are barely mentioned. The study relates to Caner (2014) ~~this paper~~ as it also includes comparison and expectation variables.

Since the purpose of this paper is to examine the determinants of happiness in Turkey in recent years, it is important to use, as has been done in this paper, ~~to use~~ data that are representative of the population. Another purpose of this paper is to know the extent to which the findings obtained from different samples and time periods are consistent. Dolan et al. (2008) report that "… the existing evidence base is not quite as strong as some people may have suggested…" (p. 112), rendering clear conclusions impossible and stressing the importance of conducting further analyses. As a contribution to the literature, this paper compares the findings from two separate datasets on happiness in Turkey, after making sure that the same set of variables are controlled for and that the variables are defined as similarly as possible.

3. Data and Methods

3.1. Data

The datasets used in this paper are the TLSS conducted by the Turkish Statistical Institute and the WVS conducted by the WVS Association, a non-profit research organization.

The first dataset, the TLSS, is a nationally representative survey conducted every year since 2003. The data have a cross-sectional structure with

independent samples of 6000–7000 individuals in each year. When a household is selected to participate, all household members who are 18 or older are surveyed. The survey has two parts. The household part includes questions on household level variables such as household income and rural versus urban location. The individual part includes questions on happiness, expectations, comparison of current situation to own situation in the past or to the situation of others, and individual level demographic characteristics. The happiness question in the TLSS is the following: “Considering your life as a whole, how happy are you?” The alternative answers are “5: Very happy”, “4: Happy”, “3: ~~Neutral~~Neither happy, nor unhappy”, “2: Unhappy”, “1: Very unhappy”.[1] The happiness question in the TLSS is asked at the beginning of the survey, right after some demographic information (such as age, education, marital status and job market status) is collected, lessening concerns about reported happiness being affected by earlier questions in a survey (Kahneman and Krueger, 2006). As shown in Table 1, about 8–9 % is very happy, about 50–54 % is happy, 28 % is neutral in the TLSS data.

Table 1

The descriptive statistics of the variables in the life satisfaction survey (TLSS) (% shares)

Variables		**2007**	**2011**
Happiness	Very unhappy	2.2	1.9
	Unhappy	8.8	8.0
	~~Neutral~~Neither happy, nor unhappy	28.7	28.0
	Happy	51.5	53.6
	Very happy	8.7	8.5
Comparison variables			
Economic ladder question (ELQ)	Steps 0–2	14.2	15.6
	Steps 3–4	27.7	32.0
	Step 5	25.9	29.3
	Steps 6–7	23.9	18.2
	Steps 8–10	8.3	4.9

	Steps 8–10	8.3	4.9
Today versus 5 years ago	No opinion	2.2	2.4
	Worse	27.2	23.8
	The same	32.5	33.9
	Better	38.0	39.9
Expectation variables			
Household finances next year	No opinion	11.8	11.2
	Will worsen	11.0	10.1
	Will be the same	53.5	54.4
	Will improve	23.8	24.4
Own working conditions next year	No opinion	11.5	11.7
	Will worsen	8.9	8.0
	Will be the same	52.8	53.7
	Will improve	26.8	26.5
Gender	Female	50.6	51.1
	Male	49.4	48.9
Age group	18–24	16.7	15.4
	25–34	27.1	25.0
	35–44	21.5	21.0
	45–54	16.0	16.8
	55–64	9.9	11.4
	65+	8.9	10.4
Rural/urban Please remove bold	**Urban area** Please remove bold	**63.5** Please remove bold	**69.5** Please remove bold
Number of adults in the household	1	7.7	9.7
	2	48.1	47.7

	3	23.5	20.9
	4	13.6	13.7
	5	5.0	
	6	1.6	1.8
	7	0.4	1.1
	8 +	0.1	0.3
Income bracket	Lowest bracket	19.7	13.1
	Second	25.2	24.8
	Third	16.9	24.9
	Fourth	22.6	20.8
	Fifth	12.6	10.9
	Highest bracket	3.1	5.5
Marital status	Never married	18.1	19.0
	Married	74.6	73.1
	Widow/widower	5.5	5.8
	Divorced	1.5	1.7
	Separated	0.3	0.4
Education status	<Primary	17.8	16.6
	Primary school	53.9	53.1
	Secondary school	19.2	18.8
	University	8.5	10.6
	>University	0.6	0.9
Employment status	Employed	39.2	45.7
	Temp. out of work	0.6	0.7
	Unemployed	5.5	4.1
	Housewife	37.0	30.9
	Student	2.9	3.7
	Retired	9.1	8.9

Source Author's calculations. Weights are used. The happiness question is "Considering your life as a whole, how happy are you?". The economic ladder

question is "Think of a well-being ladder on which people living in Turkey stand. Step 0 indicates the lowest level of well-being and step 10 the highest. Where do you see yourself?" The 'today versus 5 years ago' question is "Compared to 5 years ago how do you see your economic situation today?". The expectations questions ask the respondent how she expects the household finances and own working conditions to be next year. The latter question is asked in 2007 only to those who are in the labor market in 2007 and in 2011 only to those who will be in the labor market in 2012

The income brackets in 2007 are: 0–400, 401–600, 601–800, 801–1200, 1201–2500, 2501+ (all in monthly TL). The income brackets in 2011 are: 0–630, 631–990, 991–1650, 1651–2750, 2751–3850, and 3851+ (all in monthly TL)

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Two comparison variables are used in this study. The first one, ELQ, an external comparison measure, is built on the responses to the 'economic ladder question (ELQ)': "Imagine that people living in Turkey are standing on a well-being ladder where step 0 represents the lowest level and step 10 the highest level of well-being. Where do you see yourself?" About 77–79 % see themselves on steps 3–7, the middle steps (Table 1). Those who see themselves on the top (steps 8–10) are fewer than those who see themselves at the bottom (steps 0–2). The second measure, 'today versus 5 years ago' is an internal comparison measure and it is built on the question "How does your current living standard compare to what you had 5 years ago?" About one-third of the population feels that today is the same as 5 years earlier. A somewhat higher share (38–40 %) feels today is better. Both comparison measures have been used in several studies as indicators of one's self-stated relative position (see, for example, Dumludag 2013 and Senik 2009).

Two expectations variables are used in this study. The first one is based on the question "How do you expect your household income to be next year compared to this year?" The alternative responses are listed as "Will improve", "Will be the same", "Will worsen" and "No opinion". The other question is "How do you expect your own working conditions to be next year?" with the same list of alternative answers. In both questions, a slightly more than half of the population (53–54 %) thought the future will be the same and 11 % had no opinion. About 8–11 % thought things will get worse

and 24–27 % thought things will get better.

The second dataset used in this study, the WVS, aims to investigate socio-cultural and political change and to carry out reliable global cross-cultural analyses. A comprehensive and wide-ranging survey of human values, it is conducted by a network of social scientist at leading universities all around world. The survey is made possible by the willingness and capacity of principal investigators in each country to raise local resources and conduct fieldwork using the common questionnaire. Interviews have been carried out with nationally representative samples in more than 80 societies on six continents. Since 1981 a total of six cross-sectional waves of the survey have been carried out, making it possible to carry out analyses of changes over time. The Turkish dataset has about 1300 individuals in 2007 and about 1600 in 2011. More information on technical specifications of the survey can be found at the official website of the survey (http://www.worldvaluessurvey.org/wvs.jsp).[2]

In the WVS, the happiness variable is based on the answers to the question[3]: "Taking all things together, would you say you are 4 (very happy), 3 (quite happy), 2 (not very happy), or 1 (not at all happy)". As can be seen in Table 2, 37–38 % of the population is very happy and about 46–49 % is quite happy. These figures are in contrast with the shares in the TLSS according to which less than 10 % is very happy. It appears that the scale of the happiness question matters more than the wording of the categories. Although in both the TLSS and the WVS the highest happiness category is "Very happy", a much smaller share of the respondents pick that category when five categories are available than when four categories are available. We will return to this issue when interpreting the regression estimates.

Table 2

Descriptive statistics of the variables in the world values survey (WVS) (% shares)

	2007	**2011**
Happiness		
Not at all happy	4.3	3.8
Not very happy	9.4	12.0

Quite/rather happy	48.9	46.5
Very happy	37.4	37.7
Life satisfaction		
1: lowest	2.9	2.2
2	1.3	1.7
3	3.6	2.6
4	2.8	3.6
5	5.4	8.2
6	9.9	10.8
7	17.3	19.5
8	21.2	22.7
9	15.1	14.8
10: highest	20.6	14.0
Gender		
Female	49.8	49.3
Male	50.2	50.7
Age group		
15–24	18.1	13.8
25–34	33.6	27.1
35–44	24.1	25.5
45+	24.3	33.6
Marital status		
Married	66.5	69.2
~~Div., Sep., Wid.~~Divorced, Separated, Widowed	3.9	7.8
Single/never married	29.6	23.0
Number of children		
0	35.9	32.0
1	13.6	14.3

2	19.8	23.6
3+	30.8	30.1
Education		
Less than primary	12.1	13.9
Primary school	35.3	30.0
Incomplete secondary	7.2	7.7
Secondary school	26.9	34.1
Incomplete university	7.7	3.2
University or more	10.8	11.1
Type of employment		
Self-employed	14.5	9.0
Full time	22.2	25.8
Part time	2.7	5.9
Retired	9.1	12.8
Housewife	34.6	34.6
Students	8.4	6.7
Unemployed	6.1	4.7
Other	2.4	0.5
Social class (subjective)		
Upper	2.1	1.7
Upper middle	28.9	22.6
Lower middle	38.0	44.3
Working	25.6	26.4
Lower	5.3	5.0
Income step		
1: lowest	22.9	2.2
2	26.6	3.0
3	14.1	8.7

4	14.8	15.9
5	3.2	19.7
6	7.5	16.6
7	1.3	16.9
8	5.8	10.9
9	1.9	5.4
10: highest	1.9	0.6
Health		
Poor	8.5	5.7
Fair	23.0	26.2
Good	51.4	48.8
Very good	17.1	19.3
Religion important?		
Not at all	2.6	3.0
Not very	6.2	4.0
Rather	16.6	24.7
Very	74.7	68.3
Family important?		
Not at all	0.1	0.1
Not very	0.1	0.1
Rather	2.1	4.3
Very	97.8	95.4
Friends important?		
Not at all	0.8	0.4
Not very	1.9	2.3
Rather	35.5	39.1
Very	61.8	58.2

Leisure important?		
Not at all	2.3	1.8
Not very	10.4	12.2
Rather	40.1	43.7
Very	47.3	42.4
Politics important?		
Not at all	32.1	19.4
Not very	30.5	32.6
Rather	24.6	31.7
Very	12.7	16.3
Work important?		
Not at all	4.8	5.8
Not very	8.5	12.1
Rather	30.6	32.0
Very	56.2	50.1
Political orientation		
Left	24.7	19.3
Middle	39.5	45.7
Right	35.8	35.0
Trust		
Yes	4.8	12.3
No	95.2	87.7
Proud of nationality		
Not proud	3.6	2.8
Quite proud	15.1	17.0
Very proud	81.3	80.2

Source Author's calculations. ~~"Div., Sep., Wid." is "Divorced, Separated, Widowed".~~ The income steps in 2007 are based on absolute monthly incomes 1: 0–500, 2: 500–750, 3: 750–1000, 4: 1000–1250, 5: 1250–1500, 6: 1500–1750, 7: 1750–2000, 8: 2000–2500, 9: 2500–3000, 10: 3000 + , all in TJ. The income steps

1750–2000; 8: 2000–2500; 9: 2500–3000; 10: 3000 +, all in TL. The income steps

in 2011 are self-stated relative positions of individuals on an income ladder. The political orientation variable takes values from 1 (farthest left) to 10 (farthest right). The table shows the shares of those who answer 1–4 (left), 5–7 (middle) and 8–10 (right). The social class variable shows one's subjective view on which social class one belongs to. Trust: Yes (Most people can be trusted), No (Can't be too careful). In 2011, "Proud of nationality" statistics exclude those who are not of Turkish nationality

The life satisfaction variable is based on the answers to the question: "All things considered, how satisfied are you with your life as a whole in these days? Using this card on which 1 means you are "completely dissatisfied" and 10 means you are "completely satisfied" where would you put your satisfaction with your life as a whole?" About 73 % of the population picked 7 or above. The top bracket (10) includes 7–10 times more respondents than the bottom bracket (1). In the WVS data, happiness and life satisfaction are highly correlated; the two variables are not statistically independent.[4]

Other variables in the WVS that are of special interest are political orientation (1: leftmost view, 10: rightmost view) and the importance of several aspects of life such religion, politics, family, friends, work and leisure time. A middle political view (5–7) is the most common view and right view (8–10) is more common than left view (1–4). Almost all respondents (95–98 %) think family is very important. Almost all (97 %) think friends are either rather or very important. Religion is very important to the majority of the Turkish population (68–75 %). Work is very important to about half (50–56 %). In Turkey politics is not deemed to be important in life. About half of the respondents (52–62 %) think politics is either not very or not at all important.

The demographic characteristics that are available in the WVS and TLSS are age and dummy variables for being male, income group, marital status, number of children (only in the WVS), employment status, education status, health (only in the WVS), social class (only in the WVS), rural versus urban location (only in the TLSS). The details of the categorical variables are presented underneath Tables 1 and 2, and the tables that report the regression results.

Since the purpose of this study is to investigate the determinants of happiness and life satisfaction in Turkey in recent years, and since only six waves of the WVS are available, Waves 5 and 6 are selected for the study. These waves were conducted in Turkey in years 2007 and 2011. Consequently, the 2007 and 2011 cross-sections of the TLSS data are used for comparison to the WVS.

As shown in Tables 1 and 2, the gender composition in both survey data is balanced. In both surveys, household income is a categorical variable. In the TLSS, the cutoff points of the income brackets (which can be seen in the notes to Table 1) are determined separately in every survey year. About 85 % of the TLSS sample is in the lowest four income brackets. In the WVS, in 2007 the income question is an absolute one, similar to the income question in the TLSS; but, in 2011 it is a relative one (the self-stated relative position on an imaginary income ladder, similar to the ELQ in the TLSS). When the relative income position is asked, the majority of individuals see themselves somewhere in the middle rather than at the bottom or top.

In both surveys, the majority of the individuals is married, primary school graduate (with only 8 years of completed education), except that in the 2011 WVS the share of secondary school (high school) graduates is higher. Comparing the 2 years, we observe that the 2011 samples in both surveys are somewhat older and better educated than the 2007 samples. Housewives constitute about one-third of the sample. The share of employed individuals is about 40 %.

The WVS has several questions on what is important in life. Almost all Turkish people think family is important in life. About 68–75 % think religion is important. Family and religion are followed by friends, work, leisure and politics. The majority of Turkish people see themselves on the right-wing of the political spectrum.

3.2. Method

In this study, ~~several~~ happiness and life satisfaction equations are estimated where happiness or life satisfaction of an individual *i* is expressed as a function of the demographic and economic characteristics of the individual.

The two equations can be written as follows:

$$Happiness_i = \alpha + \beta D_i + \varepsilon_i. \quad (1)$$

$$Life\ Satisfaction_i = \gamma + \theta D_i + u_i. \quad (2)$$

In the above, *Happiness* takes values between 1 and 5 in the TLSS and between 1 and 4 in the WVS. *Life Satisfaction* takes values between 1 and 10 (asked only in the WVS), α and γ are the constants, β and θ are the coefficients of the control variables, the D_i matrix includes the control variables in the regressions, ε_i and u_i are the random error terms.

In this study the ordered logit model is used to estimate the happiness and life satisfaction equations, since it is a model that takes into account that the dependent variables are discrete and ordered variables. To show the effect of a change in the value of the control variables on the probability of being very happy or having the highest level of satisfaction (in the WVS), the marginal effects are estimated for the highest level of the outcome variable using the coefficient estimates of the ordered logit model.

The specifications of the regression equations and the definitions of the control variables are based on the practice in the literature and on the survey questions. For example, to see whether the U-shaped relationship between age and happiness is valid, “age” and “age squared” are used in one set of regressions. To compare the findings to the results of the earlier studies that use the WVS, the age group definition in those studies is adopted. Another example is that the education variables in the TLSS and WVS regressions are slightly different, because the categories of education are defined differently in the two surveys (see Tables 1 and 2).

4. Results

In this section, first, the estimates obtained from the two surveys are described in detail. It is seen that many of the control variables are statistically significantly correlated with happiness; however, the level of statistical significance is usually lower for the estimates obtained using the WVS data because of the smaller sample. Many results (both signs and

magnitudes of the estimates) are consistent across the two surveys, but some are not. One reason for inconsistent findings may be that the set of control variables is different across surveys. Another reason may be that the variables are defined differently. Therefore, comparison across surveys must be done properly. The second task done in this section is to re-estimate regressions by restricting attention to the set of control variables that are common to both surveys and by defining the control variables in the same manner.

The tables in this section present the marginal effects of the ordered logit model (computed at the sample average, for being at the highest category of happiness or life satisfaction) and their standard errors. Tables 3 and 4 show the estimates based on the TLSS data in years 2007 and 2011. In columns (1) and (2) the effects of the two comparison variables are shown; in columns (3) and (4) the effects of the two expectations variables are shown. In column (5), the regression includes a comparison and an expectation variable to show the relative effects of the two. Tables 5 and 6 show the estimates based on using the WVS data in years 2007 and 2011. In the WVS both happiness and life satisfaction are asked. In columns (1) and (2) the dependent variable is happiness; in columns (3) and (4) the dependent variable is life satisfaction. Results on life satisfaction are reported for comparison with the literature. They are not meant to be related to the results on happiness. Since the two concepts are different, regression estimates are not directly comparable.

Table 3

Estimates of the happiness equation (TLSS 2007 data): Marginal effects for the probabi and statistical significance

	Comparisons				**Expectations**	
	(1)		**(2)**		**(3)**	
	ME	**SE**	**ME**	**SE**	**ME**	**SE**
Age	−0.007	0.001***	−0.005	0.001***	−0.006	0.001***
Age squared	0.000	0.000***	0.000	0.000***	0.000	0.000***
Male	−0.009	0.006***	−0.011	0.006*	−0.011	0.006*
Income						

2nd Income bracket	0.019	0.004***	0.024	0.004***	0.022	0.004***
3rd Income bracket	0.029	0.006***	0.043	0.006***	0.041	0.006***
4th Income bracket	0.032	0.005***	0.043	0.005***	0.042	0.006***
5th Income bracket	0.074	0.009***	0.091	0.009***	0.083	0.009***
6th Income bracket	0.092	0.019***	0.124	0.021***	0.123	0.022***
Marital status						
Married	0.041	0.006***	0.042	0.006***	0.039	0.006***
Widow/widower	−0.007	0.007***	−0.005	0.008	−0.011	0.008
Divorced	−0.024	0.008***	−0.027	0.007***	−0.027	0.008***
Separated	−0.040	0.008***	−0.040	0.008***	−0.049	0.007***
Education						
Primary school	−0.002	0.006	0.003	0.006	0.006	0.006
High school	−0.007	0.008	0.005	0.008	0.014	0.008*
University	−0.018	0.009***	−0.003	0.009	0.002	0.009
> University	−0.049	0.014***	−0.040	0.015***	−0.029	0.018*
Unemployed	−0.041	0.009***	−0.042	0.009***	−0.052	0.009***
Temp.out of work	−0.038	0.023***	−0.027	0.024	−0.032	0.026
Housewife	0.001	0.006	0.004	0.006	0.001	0.007
Student	−0.006	0.012	0.010	0.012	0.007	0.013
Retired	−0.012	0.007***	−0.008	0.007	−0.008	0.008
Urban	−0.008	0.004***	−0.012	0.004***	−0.013	0.004***
Number of adults						
2	0.005	0.007	0.003	0.008	0.012	0.008
3	0.002	0.008	0.003	0.008	0.010	0.008
4	0.009	0.009	0.007	0.009	0.012	0.009

5	−0.009	0.010	−0.012	0.010	0.000	0.011
6	0.027	0.019***	0.025	0.019	0.037	0.020*
7	0.149	0.064***	0.160	0.068**	0.150	0.068**
8+	−0.045	0.032***	−0.060	0.022***	−0.050	0.024**
Comparison variables						
ELQ steps						
0–2	−0.083	0.007***				
3–4	−0.032	0.005***				
6–7	0.019	0.005***				
8–10	0.071	0.008***				
Today versus 5 years ago						
Worse			−0.031	0.004***		
Better			0.039	0.005***		
Expectation variables						
Household income						
Lower					−0.042	0.003***
Higher					0.056	0.006***
Own working conditions						
Worse						
Better						
N	6442		6376		5787	
Log likelihood	−7328.8		−7319.7		−6602.9	
Pseudo R2	0.999		0.999		0.999	

Source Author's calculations. "ME" and "SE" denote marginal effects and standard e
stars indicate whether the marginal effects are statistically significantly different fron
$p < 0.01$. The base categories are female, the lowest income bracket, never married, i
one-adult household, the middle step of the economic ladder, and no opinion (today v
household income and own working conditions). Primary school represents 8 years o
are: 0–400, 401–600, 601–800, 801–1200, 1201–2500, 2501+ (all in monthly TL). Th
631–990, 991–1650, 1651–2750, 2751–3850, and 3851 + (all in monthly TL). In the
labor market related variables cannot all be estimated because the question on expect
asked only to those who are employed or temporarily out of work

Table 4

Estimates of the happiness equation (TLSS 2011 data): Marginal effects for the probability statistical significance

	Comparisons				Expectations	
	(1)		(2)		(3)	
	ME	SE	ME	SE	ME	SE
Age	−0.007	0.001***	−0.007	0.001***	−0.009	0.001***
Age squared	0.000	0.000***	0.000	0.000***	0.000	0.000***
Male	−0.005	0.005***	−0.007	0.005	−0.007	0.005
Income						
2nd Income bracket	0.009	0.004***	0.013	0.004***	0.015	0.005***
3rd Income bracket	0.027	0.005***	0.031	0.005***	0.035	0.005***
4th Income bracket	0.041	0.006***	0.048	0.006***	0.057	0.007***
5th Income bracket	0.059	0.011***	0.079	0.012***	0.088	0.012***
6th Income bracket	0.073	0.014***	0.098	0.015***	0.113	0.016***
Marital status						
Married	0.051	0.005***	0.054	0.005***	0.060	0.005***
Widow/widower	0.011	0.007***	0.009	0.007	0.007	0.008
Divorced	−0.025	0.005***	−0.021	0.006***	−0.022	0.006***
Separated	−0.029	0.008***	−0.027	0.009***	−0.030	0.008***

Education						
Primary school	0.008	0.005***	0.017	0.005***	0.023	0.005***
High school	0.005	0.007	0.020	0.007***	0.021	0.007***
University	0.007	0.008	0.027	0.009***	0.026	0.009***
> University	−0.019	0.016***	0.006	0.019	0.004	0.018
Unemployed	−0.042	0.009***	−0.037	0.009***	−0.049	0.010***
Temp.out of work	−0.007	0.020	−0.012	0.020	−0.009	0.021
Housewife	0.024	0.005***	0.024	0.006***	0.022	0.006***
Student	0.002	0.010	0.004	0.011	0.004	0.011
Retired	0.024	0.007***	0.022	0.007***	0.023	0.008***
Urban	−0.025	0.004***	−0.027	0.004***	−0.029	0.005***
Number of adults						
2	0.012	0.006***	0.008	0.006	0.007	0.007
3	0.014	0.007***	0.014	0.007**	0.011	0.008
4	0.005	0.007	0.003	0.008	−0.005	0.008
5	−0.003	0.009	0.003	0.010	−0.001	0.010
6	−0.007	0.013	0.006	0.015	−0.012	0.014
7	−0.016	0.013***	−0.028	0.012**	−0.029	0.015*
8+	−0.051	0.012***	−0.046	0.015***	−0.051	0.018***
Comparison variables						
ELQ steps						
0–2	−0.063	0.006***				
3–4	−0.031	0.005***				
6–7	0.020	0.005***				
8–10	0.070	0.009***				
Today versus 5 years ago						
Worse			−0.031	0.003***		

Better			0.045	0.005***		
Expectation variables						
Household income						
Lower					−0.041	0.003
Higher					0.058	0.006
Own working conditions						
Worse						
Better						
N	7361		7190		6530	
Log likelihood	−8184.5		−7969.8		−7171.8	
Pseudo R2	0.900		0.900		0.900	
Source Author's calculations. See notes to Table 3						

Table 5

Estimates of the happiness and life satisfaction equations (WVS 2007 data): Margir probability of being very happy or having the highest level of life satisfaction, their st statistical significance

	Happiness				**Life satisfaction**		
	(1)		**(2)**		**(3)**		**(4)**
	ME	**SE**	**ME**	**SE**	**ME**	**SE**	**ME**
Male	−0.084	0.040**	−0.066	0.040*	0.010	0.026	0.0
Age group							
25–34	−0.043	0.045	−0.027	0.045	−0.003	0.032	0.0
35–44	−0.038	0.055	−0.015	0.055	−0.050	0.037*	−0.
45+	−0.061	0.060	−0.021	0.062	−0.065	0.040*	−0.
Marital status							
Divorced, Separated, Widowed	−0.091	0.066*	−0.101	0.065*	−0.070	0.039**	−0.

Single/Never Married	−0.100	0.059**	−0.079	0.060*	−0.064	0.036**	−0.(
Number of children							
1	−0.066	0.062	−0.054	0.063	−0.007	0.039	−0.(
2	−0.062	0.061	−0.068	0.061	−0.010	0.039	−0.(
3+	−0.042	0.065	−0.027	0.066	0.023	0.043	0.0
Education							
Primary school	−0.007	0.052	0.025	0.054	−0.009	0.035	0.0(
Incomplete secondary	−0.174	0.065***	−0.140	0.067**	−0.087	0.044**	−0.(
Secondary school	−0.091	0.059*	−0.084	0.060*	−0.042	0.041	−0.(
Incomplete university	−0.163	0.077**	−0.127	0.079*	−0.091	0.049**	−0.(
University or more	−0.044	0.073	−0.039	0.071	0.050	0.053	0.0
Type of employment							
Full time	0.035	0.042	0.045	0.042	−0.001	0.026	0.0(
Part time	0.018	0.077	0.040	0.077	−0.056	0.039*	−0.(
Retired	0.079	0.060*	0.091	0.059*	0.032	0.039	0.0
Housewife	0.033	0.055	0.101	0.056**	0.049	0.038*	0.0
Students	0.088	0.076	0.086	0.075	0.041	0.051	0.0
Unemployed	−0.094	0.057*	−0.044	0.057	−0.062	0.036**	−0.(
Other	−0.150	0.065**	−0.092	0.071*	−0.033	0.050	−0.(
Health							
Fair	0.048	0.038	0.059	0.039*	0.059	0.019***	0.0(
Good	0.224	0.038***	0.226	0.038***	0.128	0.018***	0.1
Very good	0.523	0.048***	0.516	0.049***	0.403	0.037***	0.3
Importance of religion	−0.013	0.020	−0.017	0.020	0.004	0.013	0.0(

Importance of family	−0.106	0.077*	−0.111	0.076*	−0.040	0.055	−0.(
Importance of friends	0.003	0.023	−0.019	0.023	0.016	0.015	0.0
Importance of leisure time	0.035	0.018**	0.044	0.019***	0.028	0.012**	0.0
Importance of politics	−0.009	0.013	−0.005	0.013	−0.003	0.009	−0.(
Importance of work	0.028	0.017*	0.033	0.018**	0.011	0.011	0.0
Political orientation (left–right)	0.012	0.005**	0.011	0.006**	0.004	0.004	0.0(
Trust to others	0.110	0.057**	0.138	0.057***	0.061	0.037**	0.0(
Proud of nationality	0.057	0.025**	0.060	0.025***	0.055	0.017***	0.0
Income scale							
2	0.013	0.039			0.033	0.026*	
3	0.001	0.048			0.052	0.033*	
4	0.025	0.046			0.031	0.030	
5	−0.053	0.076			−0.001	0.050	
6	−0.120	0.052**			−0.018	0.033	
7	−0.204	0.083***			−0.093	0.048**	
8	−0.081	0.058*			−0.006	0.037	
9	−0.120	0.082*			0.023	0.062	
10	0.116	0.107			0.040	0.066	
Social class							
Working class			0.124	0.114			0.0
Lower middle class			0.087	0.061*			0.0
Upper middle							

class			0.039	0.058			0.0
Upper class			0.091	0.060*			0.0
N	1019		983		1019		983
Log likelihood	−950.9		−919.1		−1919.2		−18
Pseudo R2	0.11		0.107		0.056		0.0

Source Author's calculations. ME" and "SE" denote marginal effects and standard er regressions are weighted. The stars indicate whether the marginal effects are statistic significantly different from zero. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. The categorie educational attainment are primary school graduate (8 years of education), incomplet school (high school), high school graduate, incomplete university and university grad groups are described in the notes to Table 2. The base categories in the regressions a group, married, no children, less than primary school graduate, self-employed, poor h think that religion/family/friends/leisure time/politics/work is important, the farthest view, does not think that most people can be trusted, not proud of nationality, lowest (1 out of 10) and lower social class

Table 6

Estimates of the happiness and life satisfaction equations (WVS 2011 data): Mar probability of being very happy or having the highest level of life satisfaction, thei statistical significance

	Happiness				**Life satisfaction**		
	(1)		**(2)**		**(3)**		
	ME	**SE**	**ME**	**SE**	**ME**	**SE**	
Male	0.018	0.034	0.017	0.034	−0.011	0.018	
Age group							
25–34	−0.003	0.049	0.004	0.050	−0.024	0.028	
35–44	−0.042	0.054	−0.042	0.054	−0.040	0.030*	
45+	0.060	0.059	0.067	0.059	−0.010	0.033	
Marital status							
Divorced, separated, widowed	−0.069	0.041**	−0.070	0.041**	−0.003	0.023	

Single/never married	−0.056	0.047	−0.061	0.047*	−0.032	0.022*	
Number of children							
1	0.012	0.046	0.004	0.046	0.004	0.024	
2	0.015	0.044	0.017	0.045	0.006	0.022	
3+	0.059	0.046	0.056	0.047	0.010	0.024	
Education							
Primary school	0.024	0.039	0.006	0.039	−0.046	0.024**	
Incomplete secondary	0.029	0.055	0.001	0.056	−0.063	0.030**	
Secondary school	0.034	0.043	0.011	0.045	−0.047	0.027**	
Incomplete university	0.100	0.086	0.044	0.086	0.007	0.053	
University or more	0.081	0.055*	0.063	0.057	−0.061	0.030**	
Type of employment							
Full time	0.000	0.045	−0.015	0.046	0.024	0.023	
Part time	0.016	0.061	0.011	0.063	0.041	0.034	
Retired	−0.055	0.052	−0.077	0.053*	−0.022	0.025	
Housewife	0.029	0.056	0.020	0.057	0.015	0.028	
Students	−0.021	0.076	−0.008	0.079	−0.008	0.037	
Unemployed	−0.067	0.067	−0.075	0.070	−0.053	0.029**	
Other	−0.227	0.096***	−0.228	0.104**	−0.100	0.031***	
Health							
Fair	0.193	0.023***	0.194	0.023***	0.046	0.010***	
Good	0.315	0.021***	0.322	0.021***	0.099	0.012***	
Very good	0.617	0.033***	0.624	0.033***	0.264	0.026***	
Importance of religion	0.050	0.018***	0.047	0.018***	0.019	0.009**	

Importance of family	0.090	0.049**	0.092	0.051**	0.024	0.025	(
Importance of friends	−0.024	0.022	−0.019	0.022	−0.004	0.011	(
Importance of leisure time	0.029	0.017**	0.025	0.017*	0.014	0.009**	(
Importance of politics	−0.011	0.012	−0.005	0.012	0.000	0.006	(
Importance of work	−0.004	0.015	−0.003	0.015	0.006	0.007	(
Political orientation (left–right)	0.009	0.005**	0.008	0.005**	0.007	0.003***	(
Trust to others	0.077	0.034**	0.077	0.034**	0.031	0.017**	(
Proud of nationality	0.073	0.024***	0.069	0.025***	0.022	0.012**	(
Income scale							
2	0.260	0.090***		0.147	0.043***		
3	0.229	0.068***		0.099	0.024***		
4	0.143	0.061***		0.070	0.017***		
5	0.158	0.060***		0.080	0.017***		
6	0.158	0.061***		0.108	0.019***		
7	0.201	0.062***		0.136	0.021***		
8	0.243	0.065***		0.191	0.027***		
9	0.253	0.078***		0.217	0.040***		
10	0.475	0.163***		0.273	0.112***		
Social class							
Working class			0.193	0.109**			(
Lower middle class			0.165	0.059***			(
Upper			0.097	0.055**			(

middle class							
Upper class			0.113	0.056**			
N	1202		1205		1202		
Log likelihood	−1163.7		−1170.9		−2274.9		
Pseudo R2	0.111		0.107		0.053		
Source Author's calculations							
See notes to Table 5							

The U-shaped relationship between age and happiness is well documented in the literature. Usually, the age of lowest happiness is found to be between 45 and 50 (Graham 2010). Calculations based on the estimates of marginal effects of age and age squared variables indicate that, in Turkey, the age at which the lowest level of happiness is experienced is in the lower 50s. The two earlier studies on Turkey introduce age as a categorical variable; therefore, estimating the age of lowest happiness is not possible based on their results (Selim 2008; Dumludag 2013).

Males are less happy than females in both years, according to the TLSS results. The WVS data yield the same finding only in year 2007. In 2011, no gender difference in happiness is detected. No gender difference exists in life satisfaction. Selim (2008) finds that women are happier, but Dumludag (2013) finds no difference in happiness between the two sexes. In other countries, results vary. Women have been found to be happier in Western Europe and the United States, whereas in Central and Eastern Europe and in Latin America men are happier (Caporale et al. 2009; Graham and Pettinato 2002; Guriev and Zhuravskaya 2009; Graham 2010).

In the literature, income is found to be an important determinant of happiness (Easterlin 1974; Graham 2010). Studies on Turkey find positive and statistically significant effect of income on happiness and life satisfaction (Selim 2008; Dumludag 2013). My findings on the effect of income vary depending on the definition of income (absolute or relative) and on the survey

data used. In the TLSS sample, those in the higher income brackets (instead of being in the lowest bracket) are usually more likely to be “very happy”.[5] The estimates indicate that those who are on the highest income bracket are happier by about 0.07–0.13 points. On a 1–5 scale, the difference is non-negligible, thus economically significant (Tables 3, 4). In the 2007 WVS data (Table 5), compared to being in the lowest income group, being in the upper middle income groups (6, 7, 8, and 9) is correlated with less happiness (for which the marginal effects are statistically significant) and less life satisfaction (for which the degree of significance is smaller). Middle income groups are less happy than the poorest. Such a finding is surprising indeed. In the 2011 WVS data, in which the income groups are relative and not absolute, seeing self on a higher income scale relative to others is correlated with greater happiness and life satisfaction (for which both marginal effects are statistically significant) (Table 6). Thus, the estimates support the well-known finding in the literature that relative income is an important determinant of well-being (and sometimes an even more important determinant than absolute income) (see for example, Stark and Taylor 1991; Clark and Oswald 1998; Frey and Stutzer 2002; Senik 2004; Ferrer-i-Carbonell 2005; Layard 2005; Senik 2009; Layard et al. 2010).

The marital status of an individual is strongly correlated with happiness. In the TLSS, I find that compared to those who are never married, married individuals are happier and divorced or separated individuals are less happy. In the WVS, the overall finding is that, compared to those who are married, never married individuals and divorced, separated or widowed individuals are less happy and have lower life satisfaction. In the literature, similar findings are reported (Graham 2010; Selim 2008); however, Dumludag (2013) found no significant effect for Turkey. Therefore the findings are not robust across different datasets and times.

The results about the effect of education on happiness depend on the dataset used and on the time analyzed. In the TLSS 2007 data, more education is not associated with greater happiness; those with the highest level of education (more than a university degree) are indeed less likely to be very happy compared to those with no educational degree. In the TLSS 2011 data more education is good for happiness, but not for those with the highest level of education (again compared to those with no degree). The WVS data yield

conflicting results, too. In 2007, those with more education are found to be less happy; whereas in 2011 no significant effect is detected. When the explained variable is life satisfaction, the WVS results are consistent across time: in both survey years, more education is associated with a lower probability of being very happy.

Such findings on the effects of education show us that it is ambiguous whether educational attainment makes us any happier and that the question needs to be studied further. In fact, conflicting results are not uncommon in the literature. One factor that generates different results may be the lack of a consistent definition of educational categories. For example, Selim (2008) somewhat arbitrarily categorizes the education variable in the WVS data into lower, middle and upper levels and finds that having a middle level of education reduces happiness. Another factor may be that education has both negative and positive effects on happiness and that the net effect depends on the exact set of economic circumstances. For example, some studies report that any increase in the level of educational attainment translates into higher happiness [in England and in the US (Blanchflower and Oswald 2004)]. Others find that the highest happiness is achieved at the middle level of education [in Switzerland (Stutzer 2004)]. Some find that the positive effect of education on happiness is stronger in low-income countries than in high-income countries (Fahey and Smyth 2004; Ferrer-i-Carbonell 2005). ~~Another~~One study detects no significant relationship between the two variables (Flouri 2004). Another factor that complicates the link between education and happiness/life satisfaction is the direction of causality: It may be the case that more education is achieved by those who feel happier. It may also be the case that an omitted variable, such as personality, influence both the educational attainment and happiness/life satisfaction. Such concerns can be addressed by the help of an exogenous shock to one variable to see the effect on the other variable. An unanticipated education reform is one example.

One's labor market status is strongly correlated with both happiness and life satisfaction. The omitted categories in the two datasets are different: "employed" in the TLSS and "self-employed" in the WVS. The difference is tolerated for the sake of replicating the earlier studies (for example, Graham 2010; Selim 2008). I find that being unemployed is associated with lower

happiness and lower life satisfaction compared to being employed (in the TLSS) or being self-employed (in the WVS), with higher degrees of statistical significance found for the estimates in the TLSS. Earlier studies on Turkey have found similar results. Dumludag (2013) reported that those who worked for income in the past 12 months are happier on average than those who did not work. Selim (2008) found in most regressions that the unemployed individuals are less happy than the self-employed. In the 2011 TLSS and 2007 WVS, housewives are found to be happier than the employed individuals, with no significant effect in the other samples.

People living in rural areas (i.e. areas with a population of 20,000 or less) are happier on average than those living in urban areas (TLSS regressions). The estimates yield no clear information on the relationship between happiness and household size, except that those who live in households with 8 or more adults are less happy in both years of the TLSS. No clear evidence emerges either on the effects of number of children (Tables 5, 6, WVS data).

Health status has a strong correlation with well-being. The WVS asks the respondents to evaluate their own health (poor, fair, good, very good). The estimates in Tables 5 and 6 show that better health is always associated with both higher happiness and higher life satisfaction; however, the finding does not indicate causality. As in the case of educational attainment, causality may run backwards or an omitted third variable may determine both of the variables.

In the TLSS, we have information on comparisons (how one compares his own income to a benchmark: others' income or to his own income in the past) and expectations (how one expects his living conditions, mainly income, and working conditions to be in the next year, the same as the current year, worse or better). On the effects of comparison and expectation variables, the main findings are that favorable comparisons and expectations are associated with higher happiness and unfavorable ones are associated with lower happiness (Tables 3, 4). Consistent with Dumludag (2013) and Senik (2009) who use Life in Transition Survey, and Caner (2014) who uses the TLSS, ranking high on the societal well-being ladder has a positive impact on individual life satisfaction and vice versa. The negative effect on happiness of seeing self on the lowest steps of the societal well-being ladder is so large that it is similar

to falling down from the fifth income bracket to the lowest one. The aforementioned studies suggest that comparisons are asymmetric, but the estimates obtained here yield no support for asymmetry. (A hypothesis test of beta[ELQ 0–2] + beta[ELQ 8–10] = 0 has a *p* value of 0.27. A similar hypothesis test for 'today versus 5 years ago' has a *p* value of 0.25.)

An expectation of a higher income next year makes one happier, relative to someone who expects a lower income or the same income as the current year (Tables 3, 4). In fact, the direction of the association is theoretically ambiguous. An expectation of higher income in the future may reflect an aspiration for a better life or a forecast of higher income, or both, thus making current income seem worse. For a given income level, higher income aspirations (Stutzer 2004) or higher expected future income (Van Praag and Ferrer-i Carbonell 2008) reduce current utility. On the other hand, if expectations reflect a forecast of higher income, expected future income and current happiness are positively correlated. Here, income expectations are seen as a consumption good (Frijters et al. 2012), unlike the utility function in traditional economic theory with only current consumption as an argument.

The effect on happiness of expecting higher income is similar to the effect of being in the 4th or 5th income bracket instead of the lowest bracket; in other words it is quite large (Tables 3, 4). The second expectation variable, expecting better working conditions, influences happiness in the same direction and at about the same magnitude. There are a few studies in the literature that have attempted to quantify the effect of expected future income on happiness. Knight et al. (2009) find that a higher expected rise in income is associated with higher subjective well-being among China's rural–urban migrants, and that the estimated effect of expectations is well in excess of the possible effect of higher income. Gao and Smyth (2011) find that happiness generated by an expectation of a big increase in income is equivalent to a 380 % rise in average monthly income. Another study on China found that in the urban, migrant, and rural samples an income increase of 85 %, 420 % and an astonishing 1400 %, respectively, would be equivalent to a change in expectations from neutral to significant improvement (Frijters et al. 2012). Using the TLSS 2010–2011 data, Caner (2014) estimated that expecting higher income generates an increase in happiness that would be generated by a roughly 320 % increase in income. Apparently, expecting a better future has

a sizable positive effect on today's happiness, but the estimated magnitude of the effect is smaller in Turkey than it is in China.

To gauge the relative effects of comparison and expectation variables, a regression which includes both a comparison variable (ELQ) and an expectation variable (expectations about household income in the following year) is estimated. The estimates can be seen in column (5) in Tables 3 and 4. Evidently, the ELQ variable has a stronger effect on happiness than the expectation variable. We can quite confidently say that being on steps 0–2 has a stronger negative effect on happiness than expecting income to be lower. For example, in 2007, the hypothesis of beta[ELQ 0–2] = beta[Expect lower income] is rejected with a Chi square test statistic of 5.73 and a *p* value of 0.017.

In the WVS, we have information on the respondents' views about what are important in life for them. Although most results vary according to survey year, one consistent finding is that those who value leisure time more are on average happier and they have higher life satisfaction. Maybe they simply know how to enjoy life. An alternative explanation is that causality runs from happiness to giving priority to leisure time in life. Those who think that religion is important in life are happier than others, but the finding is only valid for 2011. No consistent findings are found for how other aspects of life, such as friends, family, politics, or work are related to happiness and life satisfaction. The results are not consistent with the results of Selim (2008) who uses the same survey data in an earlier year and reports that those who think religion, family, and friends are important are happier, whereas those who think politics and work are important are less happy.

The estimates show that the respondents with a rightward political orientation are happier than those with a leftward orientation; furthermore, they have higher life satisfaction in 2011, exactly the same result as found in 1990, 1996 and 2001 waves of the WVS (Selim 2008). It may, of course, be that those with a rightward political orientation have benefitted more from the economic and political environment that exists in Turkey since 2002.

Other variables that might be associated with one's happiness are indicators of how well the person fits in the society that he lives in. Those who trust

others are happier and have higher life satisfaction than those who do not trust others. So are those who are proud of their nationality. Another indicator of one's social position is the social class he thinks he belongs to. Relative to those who think they belong to the lower class, those who are in the working class, lower middle class, upper middle class, or the upper class have higher happiness and life satisfaction, but only in the 2011 sample of the WVS (Tables 5, 6).

4.1. Comparison Across Datasets, Using the Same Set of Control Variables

If the set of control variables were constructed in the same manner and the variables were similarly defined in the WVS and the TLSS, would the two datasets generate similar descriptions of the characteristics of happy people? There are, of course, variables that are omitted from the regressions. Some are individual fixed effects (unobserved heterogeneity), others are omitted time-varying variables. In the absence of these, the equations are not fully specified. Regardless of the omitted variables, with such large samples, ~~,~~ one would expect the bias potentially generated by these omitted variables to be similar across the two surveys ~~given the large sample size~~, thereby generating similar estimates for the coefficients.

The estimations are redone with the same set of control variables that are similarly defined. Tables 7 and 8 show us that matching the set of control variables and the variable definitions are not enough to obtain estimates that are similar in direction and magnitude. Although there are similarities, the WVS and the TLSS samples yield many different results. The details are explained below.

Table 7 **Tables 7 and 8 are missing. Only half of the results are shown. Please see the attached file for the full table.**

Comparison of the estimates across the two datasets (WVS and TLSS, 2007): Marginal effects for the probability of being very happy, their standard errors and statistical significance

	ME	SE	Robust SE
World values survey (WVS)			
Age	−0.021	0.006***	0.006***

Age squared	0.000	0.000***	0.000***
Male	−0.005	0.038	0.041
Income group			
2	0.034	0.036	0.038
3	0.049	0.044	0.047
4	0.027	0.043	0.043
5	−0.043	0.042	0.043
6	−0.036	0.069	0.065
Marital status			
Married	0.113	0.036***	0.037***
Widow/widower	−0.062	0.073	0.078
Divorced	−0.082	0.080	0.075
Separated	−0.155	0.185	0.248
Education			
Primary school	0.061	0.041	0.045
High school	0.032	0.048	0.051
University	0.079	0.062	0.065
>University	0.432	0.220**	0.210**
Unemployed	−0.129	0.054***	0.057**
Housewife	0.017	0.045	0.049
Student	0.007	0.063	0.055
Retired	−0.020	0.052	0.056
N	1318		1318
Log likelihood	−1393.1		−1394.8
Pseudo R2	0.019		0.018
Turkish life satisfaction survey (TLSS)			
Age	−0.013	0.001***	0.002***

Age squared	0.000	0.000***	0.000***
Male	−0.024	0.011**	0.013*
Income group			
2	0.085	0.014***	0.016***
3	0.134	0.014***	0.017***
4	0.135	0.014***	0.017***
5	0.187	0.013***	0.016***
6	0.197	0.013***	0.015***
Marital status			
Married	0.094	0.014***	0.017***
Widow/widower	−0.040	0.027*	0.030
Divorced	−0.121	0.037***	0.039***
Separated	−0.254	0.056***	0.047***
Education			
Primary school	0.006	0.011	0.013
High school	0.009	0.014	0.017
University	−0.006	0.018	0.022
>University	−0.094	0.061*	0.077
Unemployed	−0.091	0.016***	0.024***
Housewife	0.005	0.012	0.014
Student	0.017	0.023	0.034
Retired	−0.017	0.014	0.015
N	6442		6442
Log likelihood	−7546.9		−7546.9
Pseudo R2	0.900		0.900

Source Author's calculations. "ME" and "SE" denote marginal effects and standard errors. The ten brackets of monthly household income in the WVS are 0–500, 500–750, 750–1000, 1000–1250, 1250–1500, 1500–1750, 1750–2000, 2000–2500, 2500–3000, 3000+. The six brackets of monthly household income in the TLSS are 0–400, 401–600, 601–800, 801–1200, 1201–2500, 2501+. Some income brackets in the WVS are merged to match the TLSS brackets as closely as

possible. The education categories in the WVS are redefined (incomplete degrees are merged with the lower degree) to match those in the TLSS. The base categories are female, the lowest income bracket, never married, illiterate or no degree, and employed. Primary school represents 8 years of education. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 8 **Tables 7 and 8 are missing. Only half of the results are shown. Please see the attached file for the full table.**

Comparison of the estimates across the two datasets (WVS and TLSS, 2011): Marginal effects for the probability of being very happy, their standard errors and statistical significance

	ME	SE	Robust SE
World values survey (WVS)			
Age	−0.006	0.005	0.006
Age squared	0.000	0.000	0.000
Male	0.013	0.034	0.035
Income group			
2	0.225	0.083***	0.114**
3	0.148	0.059***	0.078*
4	0.149	0.055***	0.074**
5	0.204	0.055***	0.074***
6	0.209	0.056***	0.075***
7	0.220	0.056***	0.074***
8	0.266	0.061***	0.080***
9	0.322	0.071***	0.083***
10	0.517	0.149***	0.142***
Marital status			
Married	0.093	0.034***	0.034***
Widow/widower	0.015	0.064	0.069
Divorced	−0.029	0.066	0.074
Separated	−0.275	0.036***	0.038***

Separated	0.279	0.050	0.058
Education			
Primary school	0.037	0.037	0.044
High school	0.013	0.040	0.050
University	0.063	0.052	0.058
Unemployed	−0.136	0.054***	0.057**
Housewife	0.003	0.041	0.043
Student	−0.014	0.058	0.057
Retired	−0.075	0.043**	0.048
N	1565		1565
Log likelihood	−1690.2		−1690.7
Pseudo R2	0.021		0.021
Turkish life satisfaction survey (TLSS)			
Age	−0.012	0.001***	0.001***
Age squared	0.000	0.000***	0.000***
Male	−0.014	0.008*	0.009
Economic ladder question (ELQ)			
1	0.043	0.035	0.048
2	0.129	0.031***	0.043***
3	0.135	0.030***	0.041***
4	0.202	0.029***	0.040***
5	0.243	0.028***	0.040***
6	0.272	0.029***	0.040***
7	0.283	0.029***	0.040***
8	0.298	0.028***	0.040***
9	0.299	0.028***	0.040***
10	0.282	0.033***	0.048***
Marital status			

Married	0.116	0.013***	0.016***
Widow/widower	0.010	0.024	0.026
Divorced	−0.153	0.033***	0.037***
Separated	−0.191	0.062***	0.063***
Education			
Primary school	0.024	0.011***	0.013*
High school	0.029	0.014***	0.016*
University	0.041	0.014***	0.017**
Unemployed	−0.093	0.016***	0.020***
Housewife	0.034	0.009***	0.010***
Student	−0.008	0.019	0.024
Retired	0.042	0.013***	0.013***
N	7368		7368
Log likelihood	−8222.4		−8223.1
Pseudo R2	0.900		0.900
Source Author's calculations			
The income brackets in the WVS show self-stated relative income; therefore, the ELQ variable is used in the TLSS. The education categories in both datasets are redefined			

The similarities in the two sets of estimates are that the unemployed are less happy than others; married individuals are happier than singles; divorced, separated or widowed individuals are less happy than singles; and males are less happy than females in both surveys and both years (although the effects are not always statistically significant in the WVS). In 2011, when income is defined in the WVS as relative income, the income variable is replaced by the ELQ variable in the TLSS regression for comparison. In that case, the estimates of the effect of income are found to be similar across the two datasets. Higher relative income is associated with higher happiness in both WVS and TLSS.

The differences are observed in the estimates of age, absolute income and education. First, although the relationship between happiness and age has been found to have a convex shape, the age at which lowest happiness is achieved (using the estimated marginal effects of age and age squared) differs across the two datasets. In the WVS it is in the early 40s, but in the TLSS it is in the early 50s. Secondly, the marginal effect of income on the probability of being very happy is quite different across the two surveys. In the 2007 regressions, absolute income is used. To match the cut-off points of the TLSS brackets as closely as possible, ten income brackets in the WVS are collapsed to six. Even after the adjustment, the estimates of marginal effects are still quite different. In the TLSS, higher income brackets are always associated with higher happiness; however, in the WVS the estimates are the highest for the 2nd and 3rd brackets and negative for the highest two income categories, which is surprising. Thirdly, we observe differences in the estimates of educational attainment across the two surveys even after the educational categories are re-defined to match exactly. Although in 2011 being more educated generally increases the probability of being very happy (no statistical significance in the WVS), in 2007 the results are inconsistent across the two surveys. In the TLSS data those with a post-graduate degree are less likely to be very happy; in the 2007 WVS they are more likely to be very happy.

As a robustness check for the statistical significance of the estimates, the Huber/White heteroskedasticity consistent standard errors are estimated and presented in separate columns ("Robust SE") in Tables 7 and 8. Clearly, the results change very little. Only in a few cases the degree of statistical significance is reduced when robust standard errors are used.

As another robustness check, the estimations are repeated for males and females separately (see Tables 9, 10). The overall impact of the division of the sample into two is the reduction in the sample size and the consequent drop in the degree of statistical significance. Otherwise, the findings are qualitatively very similar for males and females.

Table 9

Comparison of the estimates for *males* and *females* and across the two datasets (V

Marginal effects for the probability of being very happy, their *robust* standard errors and

	World values survey (WVS)				Turkish life satisfa	
	Males		Females		Males	
	ME	SE	ME	SE	ME	SE
Age	−0.021	0.008**	−0.018	0.008**	−0.016	0.003***
Age squared	0.000	0.000***	0.000	0.000*	0.000	0.000***
Income group						
2	0.003	0.056	0.078	0.052	0.093	0.028***
3	0.011	0.064	0.076	0.068	0.152	0.028***
4	0.034	0.065	0.007	0.056	0.159	0.028***
5	−0.023	0.061	−0.093	0.062	0.214	0.028***
6	−0.146	0.068**	0.120	0.121	0.238	0.025***
Marital status						
Married	0.046	0.049	0.183	0.056***	0.088	0.027***
Widow/widower	−0.073	0.251	0.068	0.105	0.001	0.071
Divorced	−0.295	0.040***	0.064	0.095	−0.089	0.068
Separated	−0.321	0.035***	0.188	0.308	−0.120	0.090
Education						
Primary school	0.120	0.076	0.027	0.056	0.016	0.031
High school	0.061	0.082	0.067	0.068	0.031	0.034
University	0.139	0.092	0.018	0.098	0.005	0.039
>University	0.739	0.072***	0.311	0.217	−0.081	0.096
Unemployed	−0.084	0.065	−0.327	0.141**	−0.100	0.030***
Housewife		−0.001	0.069			−0.008
Student	−0.041	0.067	0.004	0.097	−0.011	0.055
Retired	−0.065	0.064	−0.057	0.141	−0.006	0.020
N	670		648		2865	
Log likelihood	−6940.6		−6820.4		−3345.5	

Log likelihood	-6940.6		-6820.4		-5349.9	
Pseudo R2	0.033		0.026		0.900	
Source Author's calculations. See notes to Table 7						

Table 10

Comparison of the estimates for *males* and *females* and across the two datasets (V
Marginal effects for the probability of being very happy, their *robust* standard errors and

	World values survey (WVS)				**Turkish life satisfa**	
	Males		**Females**		**Males**	
	ME	**SE**	**ME**	**SE**	**ME**	**SE**
Age	−0.012	0.010	0.001	0.008	−0.015	0.002***
Age squared	0.000	0.000	0.000	0.000	0.000	0.000***
Income group						
1	–		–		−0.082	0.070
2	0.189	0.192	0.268	0.144*	0.059	0.065
3	0.090	0.105	0.187	0.116	0.060	0.062
4	0.112	0.101	0.178	0.111	0.155	0.060***
5	0.195	0.102*	0.201	0.111*	0.180	0.060***
6	0.177	0.102*	0.249	0.113**	0.219	0.060***
7	0.238	0.103**	0.201	0.110*	0.233	0.060***
8	0.234	0.110**	0.299	0.118**	0.255	0.060***
9	0.299	0.117**	0.349	0.122***	0.217	0.076***
10	0.509	0.203**	0.490	0.192**	0.251	0.063***
Marital status						
Married	0.087	0.047*	0.151	0.049***	0.139	0.022***
Widow/widower	0.128	0.123	0.014	0.078	0.019	0.050
Divorced	−0.035	0.140	−0.019	0.079	−0.186	0.059***
Separated	−0.303	0.035***	−0.237	0.052***	−0.243	0.074***

Education						
Primary school	0.103	0.081	0.009	0.051	0.100	0.035***
High school	0.095	0.087	−0.026	0.058	0.087	0.038**
University	0.170	0.094*	−0.036	0.076	0.122	0.038***
Unemployed	−0.133	0.069*	−0.107	0.114	−0.085	0.026***
Housewife	–		−0.042	0.051	–	
Student	−0.048	0.077	0.024	0.084	0.008	0.034
Retired	−0.052	0.081	−0.055	0.088	0.047	0.019**
N	758		807		3319	
Log likelihood	−7980.2		−8820.3		−3722.1	
Pseudo R2	0.0649		0.0145		0.9	
Source Author's calculations. See notes to Table 8						

One explanation for the observed differences in estimates is the differences in the frequency distribution of the answers given to the happiness question. Respondents are offered different alternative answers to the happiness question in the two surveys. Both the scale and the wording of the question vary across surveys. In one survey the scale is 1–4, in the other it is 1–5. In both surveys the highest happiness category is "Very happy"; however, ~~<~~less than 10 % of the respondents in the TLSS picked that category, whereas in the WVS 37–38 % did. It appears that the scale of the happiness question matters more than the wording of the categories. The wording of the top category is the same, but a much smaller share of the respondents picked that category when five categories were available than when four categories were available.

To attempt to fix this problem, two methods are used. First, the categories are collapsed to match the frequency distribution as well as possible across surveys. ~~This method is applied here.~~ A binary happiness variable (happy versus not happy) is created. The shares in the TLSS are 89 and 11 % in 2007, 90 and 10 % in 2011. In the WVS, they are 86 and 14 % in 2007 and 84

and 16 % in 2011. Then, the happiness regression is estimated by logit. The results are qualitatively the same as before. (Estimates are available upon request).

Secondly, a rescaling is done. DeJonge et al. (2014) suggest rescaling to make different scales of the happiness question consistent. One way of rescaling is to assign numbers that are stretched to a common range such as from 0 to 10, so that 0 is assigned to lowest happiness and 10 to highest happiness, and all intermediate options are given equally distanced numbers in between (called the 'linear stretch'). In the TLSS, the alternatives are numbered 0- 2.5-5-7.5-10. In the WVS, they are numbered 0-3.3-6.6-10. With the newly assigned values of the happiness variable, we can estimate the happiness regressions using ordinary least squares.[6] Once again, the results are qualitatively the same as before. (Estimates are available upon request.)

5. Discussion and Conclusion

This paper has focused on the determinants of happiness in Turkey in the recent years. Although a large literature exists on what makes people happy, only a few published studies exist on the economics of happiness in Turkey. The few studies that exist agree on only some of the findings. Therefore, a natural question to ask, as done in this paper, is whether the association of happiness with its potential determinants is stable across time and across samples. For that purpose, the latest waves of two nationally representative micro datasets, the TLSS and the WVS for Turkey (WVS), in years 2007 and 2011, are used and regression analyses are conducted.

After showing that the association of happiness with its potential determinants usually depends on the time period, the set of control variables and the sample used, the paper asks whether the findings would be similar across samples if the time period and the set of variables were equalized. The results are similar across samples only for some factors. The similarities in the two sets of estimates are that the unemployed are less happy than others; married individuals are happier than singles; divorced, separated or widowed individuals are less happy than singles; and males are less happy than females (although the effects are not always statistically significant in the WVS) in both surveys and both years. The findings on income are similar across

surveys when income is defined as relative income and not as absolute income. In both WVS and TLSS, higher relative income is associated with higher happiness.

The differences are observed in the estimates of age, absolute income and education. First, the age at which lowest happiness is achieved is in the early 40s in the WVS, but in the early 50s in the TLSS. Secondly, the marginal effect of absolute income on the probability of being very happy is quite different across the two surveys. Thirdly, the estimates of educational attainment are different across the two surveys. Although in 2011 being more educated generally increases the probability of being very happy (no statistical significance in the WVS), in 2007 the results are inconsistent across the two surveys. In the TLSS data those with a post-graduate degree are less likely to be very happy; in the 2007 WVS they are more likely to be very happy.

It has been shown in the literature that controlling for individual unobserved effects can change the findings about the determinants of happiness (Ferrer-i-Carbonell and Frijters 2004). Future efforts to uncover what makes us happy should focus on collecting panel data to allow for controlling for such effects. Furthermore, with panel data, it would be possible to ask whether changes in some factors, such as family, work, or social environment, yield any changes in happiness. Currently, no panel data exist that include questions on happiness or life satisfaction in Turkey. In case the collection of panel data is infeasible, the least that can be done is to revise the surveys to incorporate questions on individual unobserved effects such as personality. Psychology literature suggests that personality traits can be ~~learned about~~revealed by asking a small number of questions to the respondents [see, for example, Gosling et al. (2003)]. The benefits from including a few questions on personality may very well exceed the costs.

One result that emerges from this paper is the importance of being consistent in the scale and the wording of the happiness questions across surveys. In our case, the TLSS has five alternative answers and the WVS has four. Although the top alternative is ‘very happy’ in both surveys, the stark difference in the shares of respondents who have chosen that alternative is obvious. Different scales adopted by the two surveys generate two different frequency

distributions of the answers to the happiness question, which might be at least partly responsible from the inconsistency of the estimates across surveys. Although the definitions of control variables can be unified with simple fixes, rescaling the dependent variable is not easy if possible. The recommendation is to unify both the scale and the wording of the happiness and life satisfaction questions across surveys.

It is also implicitly assumed in the literature that the factors related to the wider economic, social and political environment we live in are the same for all individuals in a particular year; however, the assumption may be wrong. For instance, economic and political shocks, such as crises, elections, and migration, may have different effects across provinces. The provincial variation in the impact of shocks could be exploited to measure their effect on happiness, if such data existed. The collection of data representative at the province level would require sample sizes to considerably expand. Therefore, the costs should be evaluated against potential benefits.

Another challenge for future research is to identify the factors that ‘cause’ happiness, which requires going beyond reporting of correlations and identifying the direction of causality with proper techniques. It is possible that reverse causality exists between happiness and factors such as health, education, and allocation of time to leisure. The investigation of causality would require an exogenous change in these variables, which happens only from time to time. An example is an education reform that changes educational attainment suddenly and unexpectedly.

The conclusion is that the results of the paper are useful in understanding the correlates of happiness and life satisfaction. It is evident, however, that only some of the findings are robust to changes in time and the sample. Several recommendations emerge from the analyses conducted in the paper. First, data collectors could be more sensitive to being consistent in the scale and the wording of the happiness questions across surveys. Secondly, the data could have a panel dimension. Thirdly, the sample size could be increased to achieve representativeness in regions and provinces. Turkey is a country with a large population and ample diversity across groups of people and regions. The variation across geographical areas could be employed to better understand the determinants of happiness and life satisfaction. It is inevitable

that a renovation of the data collection process will increase costs, yet the increase in costs should be weighed against the substantial increase in benefits.

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[1] In fact, the question in the TLSS assigns 1 to “Very happy” and 5 to “Very unhappy”. The alternatives have been re-numbered so that higher values correspond to greater happiness. This facilitates the interpretation of the estimates.

[2] The data files used in the study are “WV5_Data_Turkey_2007_stata_v_2014_04_28.zip” and “WV6_Data_Turkey_2011_stata_v_2014_04_28.zip”.

[3] The alternatives have been re-numbered so that higher values correspond to greater happiness.

[4] In 2007, weighted pairwise correlation is 0.589 and Spearman’s rank order correlation 0.568. In 2011, the corresponding figures are 0.537 and 0.5103. The p-values for tests of independence are almost zero.

[5] The following table shows the p-values for the test of equality of income bracket coefficient estimates in the regression in Table 3, column (1). For example, the hypothesis beta[income_2] = beta[income_3] has a *p* value of 0.062.

Brackets	2	3	4	5	6
2		0.062	0.017	0.000	0.000
3			0.699	0.000	0.000
4				0.000	0.000
5					0.321

[6] Rescaling will not change the estimates in the ordered logit model, since the model is not sensitive to the cardinality of the alternatives and only the order matters.