DETERMINANTS OF HAPPINESS IN TURKEY DURING 2004-2013 PERIOD

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Abstract

The growing dissatisfaction from Gross Domestic Product (GDP) per capita as an indicator of well-being pushes scholars to construct better indices. Thus, happiness and subjective well-being studies started to attract attention both from academia and governments for policymaking purposes. These studies are based on subjective data collected from surveys. This study aims to analyse the determinants of happiness in Turkey based on the results of the Life Satisfaction Surveys (LSS) of Turkish Statistical Institute (TURKSTAT) during 2004-2013 period by employing an ordered logit model. The findings of this study are in parallel with the literature as happiness has a positive relationship with health but a negative relationship with being unemployed. Most striking outcome of this study is that it finds the degree of hope as the most powerful determinant of happiness. In addition to this, until this time, the effects of the level of education on happiness was controversial but in this paper it is concluded that level of education does not have a significant effect on happiness in Turkey.

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1. Introduction and Literature Survey

The growing dissatisfaction from GDP per capita as an indicator of well-being pushes scholars to explore better ways to measure well-being. Thus, happiness and subjective well-being studies started to attract attention both from academia and governments for policymaking purposes. Although happiness is a relatively new topic in Economics literature, it is quickly growing (Kahnemann and Krueger, 2006).

One of the primary studies in this area is conducted by Easterlin (1974), which gave birth to famous Easterlin Paradox, which suggests that increasing income should not necessarily lead to an increase in happiness. See Figure 1 for a depiction of his results.
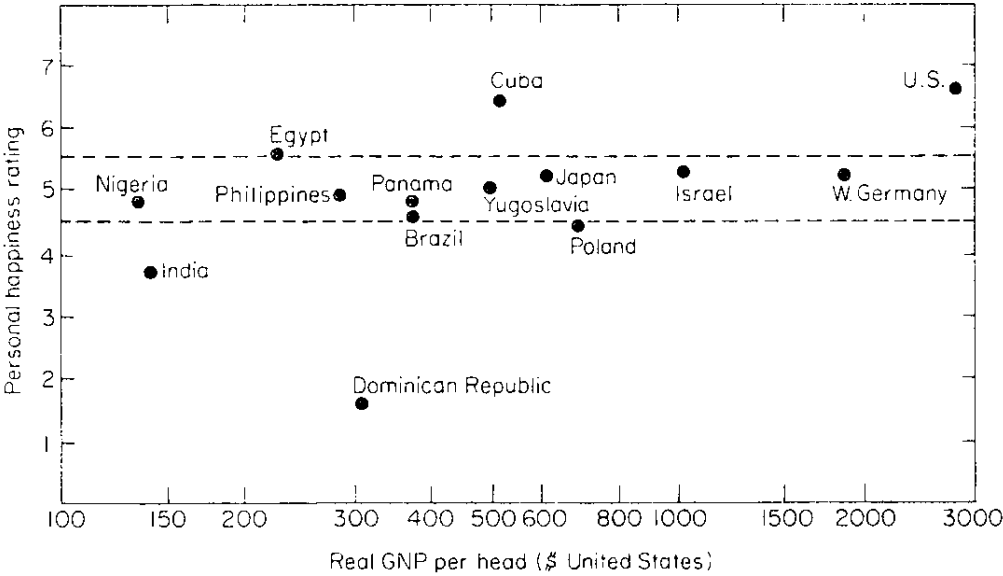
Figure 1 Personal happiness rating and GNP per capita. Source: Easterlin (1974).

While happiness results are suggested to be used as policy indicators, there is a controversy on the definition of happiness both in and out of the economics literature. See Veenhoven (2000) for a review on different definitions of happiness. Veenhoven (1991; 1993) suggests that overall happiness is the level of how an individual perceives his or her own status of life as-a-whole favourably. On the other hand, Frey and Stutzer (2002, pp. 3,10-11) argues that

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happiness can be defined individually while they define five factors of happiness such as; personality, socio-demographic, economic, contextual and situational, and institutional. Veenhoven (1991, p. 5) notes that raising material conditions of everyone will not make a society happier as individuals make their comparisons with others. Similarly, Sirgy (1998) indicates that happiness depends on the gap between individuals' current level and his or her desired level. As a result, it could be concluded that happiness depends both on extrinsic and intrinsic comparisons.

Happiness is measured via survey questions (i.e. TURKSTAT, 2013; World Values Survey, 2012). See Veenhoven (1993) for a list of different survey questions directed and answer scales faced by the participants in happiness and life-satisfaction surveys. In this study, Turkish Statistical Institute's Life Satisfaction Survey (LSS) data is used, and the details of LSS will be explained further in the methodology section.

OECD (2013) indicates that, a large number of developed countries has been or will start collecting subjective well-being data to guide good policymaking. Moreover, the results of those surveys have been attracting attention of researchers as it is claimed that happiness is the catalyst for the economic development for a society (Veenhoven, 1988, pp. 1,3). Recent studies focus on socio-demographic factors such as age, marital status, gender and level of education, economic factors such as income or employment status of an individual, and institutional determinants such as level of freedom and, degree of trust while investigating the determinants of happiness.

As mentioned before, the relationship of income and happiness is controversial. Although most of the studies point out a positive relationship between income and happiness at a given time (Easterlin, 2001, p. 4), the general opinion is that happiness is not directly affected by income but with income rank (Kahnemann & Krueger, 2006, p. 6) or relative income in regards to one's aspirations (Easterlin, 1995; 2001; Dumludağ, Gökdemir, and Vendrik, 2014;

Kahnemann & Krueger, 2006). Another study indicates that, within a society, a higher level of income should lead to a higher level of happiness for individuals; but most probably, raising every individuals' income to a higher level will not make the society happier (Easterlin, 1995; Dumludağ, Gökdemir, and Vendrik, 2014). For instance, Easterlin finds out that despite a huge improvement in economic conditions; the average happiness of American (1974) or Japanese (1995) people did not change. Furthermore, Kahnemann and Krueger (2006, p. 13) points out that a %250 increase in real income per capita in China, during 1994-2005 period, did not make Chinese happier, moreover, the percentage of dissatisfied people increased.

On the other hand, cross-country comparisons point out that, on average, countries with a higher GDP level are happier than the others. But despite the monotonic relationship between income and happiness among nations hold, when GDP per capita exceeds $10,000, the marginal effect of GDP on happiness diminishes (Pindyck & Rubenfield, 2013, p. 81). Also, until basic requirements of life are met, happiness level of an individual will raise according to his material possessions, but, after he or she secures his or her basic needs, relative income and aspirations will become more important for him or her (Graham, 2005; Gökdemir, 2011). Another study suggests that, if increasing income would help individuals spare their time towards their liking; then it would help people become happier (OECD, 2013).

Unemployment and inflation rates are two other policy-related indicators. Nearly all studies find a negative relationship between those two and happiness (Clark and Oswald, 1994; Oswald, 1997; Frey and Stutzer, 2000; 2002; Di Tella and MacCulloch, 2006; Gökdemir, 2011). Moreover, some of these studies show that even unemployed people are compensated for their loss of income, they are still unhappier than employed individuals. Oswald (1997) finds out that unemployed people are very unhappy. On the other hand, Frey and Stutzer (2002) claims that happy people are more successful in both job market and their careers. In

addition to this, individuals may be unhappy about unemployment even themselves are not unemployed; general unemployment may affect individuals badly just like inflation does. Frey and Stutzer (2002) claims that a point increase in unemployment must be compensated by a 1.7 percent decrease in inflation. Gökdemir (2011) also points out that increasing inflation had happiness diminished during 1975-1991 period in twelve European countries. On the other hand Peiro (2007) finds out that unemployment has a negative relationship with life and financial satisfaction while it has no relationship with happiness.

Another recent study concludes that well-being loss from losing a job can be compensated via $60,000 while it takes $100.000 to compensate divorce (Graham, 2005). Many studies point out that married people are, in average, happier than single and divorced individuals (Requena, 1995; Oswald, 1997; Peiro, 2007; Gökdemir, 2011). On the other hand, Erbes and Hedderson (1984) indicates that the causality runs from happiness to marriage- or unhappiness to divorce- not the other way round. Another study concludes that married people has the lowest level of mental distress (Clark & Oswald, 1994). In addition to this, Frey and Stutzer (2002) claims that people who are not married but have a partner are happier than alone individuals.

There are other domains which affects individuals' happiness such as health, housing and friendship. Health can also be measured subjectively via survey questions. Veenhoven (1991) claims that happier people feel more healthy and even happiness may extend one's life. Moreover Frey and Stutzer (2002) concludes that health is the most important area in their lives for individuals and there's a high correlation between self-reported health and happiness. Peiro (2007) also finds that bad health is negatively associated with happiness with a study on 15 nations. On the other hand, Healy (2003) depicts housing is also one of the key indicators of happiness and has a high, positive correlation with happiness, especially for elder

populations. Moreover, another study displays that, in United States of America and Spain, friendship and happiness have a strong and positive relationship (Requena, 1995).

On the other hand, socio-demographic factor like sex, education and age are also of interest to happiness studies. A general view on literature depicts that, despite some puzzling results, in average, woman are happier than man, age has a U-shaped relation with happiness while minimum happiness is located at ages around 30-40, and education bears no significant relationship with happiness (Veenhoven, 1991; Clark & Oswald, 1994; Oswald, 1997; Frey & Stutzer, 2002; Peiro, 2007; Gökdemir, 2011).

Besides, there are handful studies on the determinants of happiness, subjective well-being or life satisfaction in Turkey which are listed in Table 1. In Table 1, (NS) presents that the researcher could not identify a significant relationship between happiness and the mentioned indicator while U states that there is a U-shaped relationship with happiness and the mentioned indicator. And, if not stated otherwise, all the relationships mentioned in Table 1 are between happiness and the mentioned indicator.

Table 1 Happiness studies in Turkey.

Author	Data Set	Results
Gitmez and Morçöl (1994)	Own Data	Socio-economic status affects life satisfaction positively.
Selim (2008)	European Values Survey	Age (-), Income (+), Health (+), Unemployment (-), Married (+), Number of Children (-), Education (NS), Men(-)
Akın and Şentürk (2012)	European Quality of Life Survey	Men (+), Married (+), Age (U), Education (-), Health (+)
Atay (2012)	World Values Survey	HDI (+), Index of Economic Freedom(+), Age (-), Woman (+), Married (+), Religious (+), Income(+), Education(+), Living in Urban (+), Unemployment (-)
Selim (2012)	European Values Survey and World Values Survey	Men (-), Married (+), Age (-), Living in Urban (+), Wealth (ns), Unemployment (-), Institutional Trust (ns)
Ekici and Koydemir (2013)	European Values Survey	Trust (+), Satisfaction from Government (+), Unemployment (+), Men (-), Married (+), Age (-), Din (ns)
Dumludağ (2013)	Life in Transition Survey	Age (+), Men (+), Health (+), Education (+), Married (+), Household Consumption (+), Unemployment (-)
Bozkuş et al. (2006)	TURKSTAT LSS 2004	Health (+), Woman (+), Income(+), Married (+), Living in Urban (+), Education (-)
Selim (2008)	TURKSTAT LSS 2004	Investigated the roots of happiness such as marriage or wealth and found out that significant socio-economic indicators change with the root that is important to individual.
Şeker (2009)	TURKSTAT LSS 2003-2007	A descriptive study based on TURKSTAT data.
Babadağ et al. (2009)	TURKSTAT LSS 2003-2007	Degree of Hope (+), Income (+), Married (+)
Bülbül and Giray (2011)	TURKSTAT LSS 2008	Income (+), Married (+), Education (+)
Kangal (2013)	TURKSTAT LSS 2010	Woman (+), Married (+), Education (+)
Dumludağ et al. (2015)	TURKSTAT LSS 2011	Income (+), Living in Rural (+), Married (+), Age (U), Education(NS)

The organization of the rest of the paper is as follows. In section 2, characteristics of the data and the methodology adapted in this study will be discussed. In section 3, respectively, the determinants of happiness in Turkey will be discussed based on the ordinal logit analysis.

2. DATA AND METHODOLOGY

In this study we employ the survey data of the Turkish Statistical Institute (TURKSTAT) Life Satisfaction Survey (LSS) belonging to the 2004-2013 period. LSS not only queries happiness among residents of Turkey but also directs questions regarding to other dimensions of life satisfaction. It is repeated each year since 2004, but the survey structure has been altered two times, firstly in 2004 and lastly in 2009. But it should be noted that these changes do not affect our analysis as there were no changes in the indicators used in the analysis. Only, sex and age questions are missing in year 2004 as stated in Table 4. On the other hand, the sample size and structure of LSS have changed since 2004 as well. Till 2012, LSS was only representative at national level with urban/rural breakdown. By 2013, the sample size increased dramatically and LSS became representative at city level in Turkey. See Table 2 for details.

Table 2 Descriptives of LSS for 2003-2013 period.

|	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
N(Household)	2140	2867	2880	2880	2880	2878	3561	3440	3551	4069	103312
N(Individual)	5304	6714	6983	6432	6442	6465	7546	7027	7368	7956	196203
Question Groups	106	58	54	53	53	53	60	60	64	63	70
Questions	301	149	135	142	145	159	271	273	283	269	303

As LSS uses various scales for different questions. A presentation of variables used in the analysis and their respective scales is presented in Table 3. As depicted in Table 3, those question are not replied in a continuous scale. Thus, to employ ordered logistic regression, a dummy variable is created for each step of answer scales. Those scales are also displayed in the table.

Table 3 Variables used in the analysis.

Variable	Scale	Abbreviation
Sex (Female)	Male(base) - Female	cins
Education	Primary(base) - Secondary - Tertiary	(base)-ortaogr-yukogr
Marital Status (Married)	Others (Widow, Divorced, Single: base) - Married	med
Age	18+	yas
Age-Square	$(18^2)+$	yas2
Status of Employment	Not-in-Labour Force(Base), Unemployed, Employed	(base) - issiz - isli
Job Satisfaction	Itemized Rating Scale 1-5 (5 better)	ism1(base)-ism5
Subjective Welfare	11 Step Cantril Ladder	og0(base)-og10
Degree of Hope	Very Hopeful (4,base), Hopeful(3), Hopeless (2), Very Hopeless(1)	ud1(base)-ud4
Health	Itemized Rating Scale 1-5 (5 better)	sm1(base)-sm5
Satisfaction from Housing	Itemized Rating Scale 1-5 (5 better)	okm1(base)-okm5
Satisfaction from Friends	Itemized Rating Scale 1-5 (5 better)	ark1(base)-ark5
Comparison to 5 years before	Worse(base), Same, Better	byo1(base)-byo3
Expectations of 5 years after	Worse(base), Same, Better	bys1(base)-bys3
Victimhood (Non-Victims)	Victim (base), Non-Victim	magmag or mag

The evolution of happiness level in Turkey during 204-2013 period is depicted in Figure 2 below. LSS uses an itemized rating scale for the happiness question which can be translated as "All things considered, how happy you are with your life?". It is possible to show the evolution of happiness in two forms. The first one is the Percentage of Happy individuals (PH), which is the sum of Very Happy and Happy individuals, is displayed on the left-hand axis. Secondly, it can be reported as Average Scores (AS), which are calculated via a linear transformation of itemized rating scale (1-5) into 0-10 scale in which 0 represents Very Unhappy and 10 represent Very Happy. And it is shown on the right-hand axis.
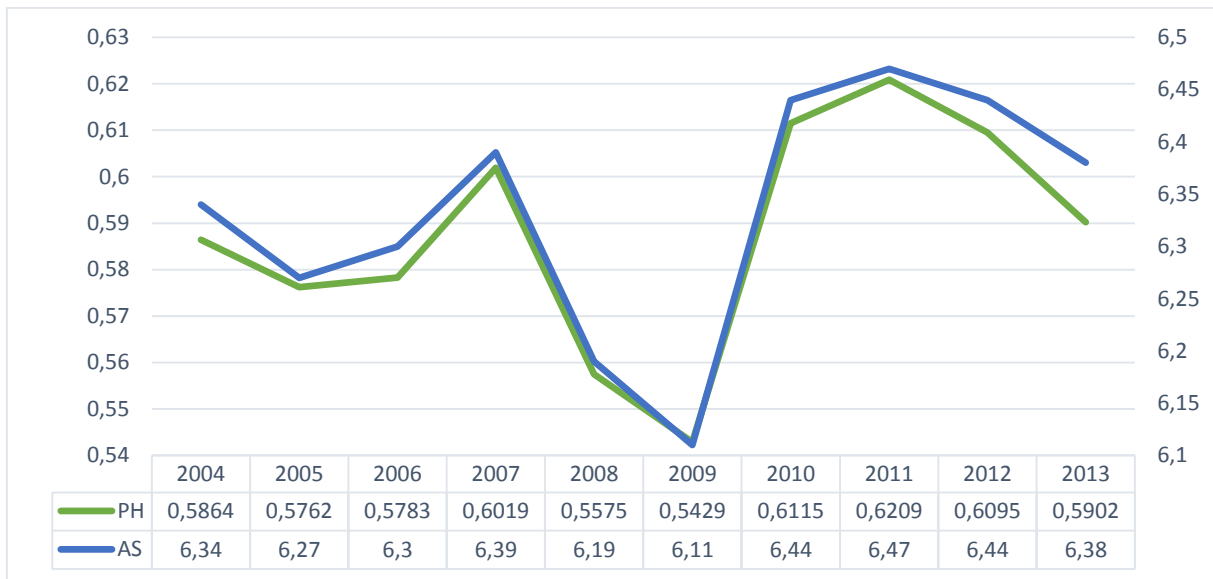
Figure 2 Happiness in Turkey. Source: TURKSTAT, authors' calculations.

Happiness has a steady course in Turkey although crisis years (especially 2009) affected individuals' happiness very badly. After a steady increase till 2011, happiness levels exhibit a gradual decline. The steady course of and the effect of crisis on happiness in Turkey will be analysed employing pooled data via ordered logit analysis in section 3.

2.1. Ordered Logit Analysis

Survey results are not continuous variables unlike many economic indicators. As a result, in this study ordered logistic regression is employed. As already stated by (van Praag, Frijters, & Ferrer-i-Carbonell, 2003; Graham, 2005; Peiro, 2007), it is very common to use ordered logit analysis- or ordered probit- within happiness economics literature. Logistic regression does not directly estimate dependent variable but uses independent variables to estimate a latent variable. Hence, the dependent variable is estimated via latent variable. Dichotomous dependent variable (for instance yes/no questions) is estimated 1 if latent variable estimation is above the threshold, otherwise 0. The estimation model can be depicted as Equation 1 or Equation 2.

$$E\left(Y_i = 1 \mid X_i\right) = P_i = \frac{1}{1 + e^{-(\beta_0 + \beta_1 * X)}} \qquad \textbf{(Eq. 1)}$$

$$\ln\left(\frac{P_i}{1 - P_i}\right) = \beta_0 + \sum_{i=1}^{n} \beta_{ij} * X_{ij} \qquad \textbf{(Eq.2)}$$

In these equations, Y_i, P_i and X_{ij} respectively stands for the dependent variable, the probability of Y happening and the independent variables. Logistic regression estimations are calculated via maximum likelihood methodology and the performance of the analysis can be calculated via specially designed R^2 values for logit analysis.

Besides, logit analysis can be used for various nominal scales not just only for dichotomous variables but for multinomial and ordered scales. As in this study, happiness is an ordered variable and thus a brief discussion on ordered logistic regression will be made. Like logit analysis, ordered logit analysis also makes their estimates based on latent variable. After latent variable is estimated, based on the values of estimates; cut (threshold) values are estimated. But, as there are more than two categories; probabilities will be calculated in contrast to base category and there will be J-1 cut values in which J represent the number of categories. Equation 3 depicts an exemplary equation. In ordered logit analysis, if estimated latent variable is below all thresholds; than (real) dependent variable will be estimated as base category, and, if latent variable is below j[th] cut value, than (real) dependent variable will be estimated as j[th] category.

$$\ln\left(\frac{P\left(Y_i = j \mid X_i\right)}{\left(Y_i = J \mid X_i\right)}\right) = \sum_{i=1}^{n} \beta_{ij} * X_{ij} \qquad \textbf{(Eq.3)}$$

On the other hand, Graham (2005) states that within the logit or probit regression; known socio-demographic and economic variables are independent variables, while happiness is the dependent variable, and, unobserved characteristics are stored within error term. See (Franses & Paap, 2004; Greene, 2008) for further information about ordered logit analysis.

3. RESULTS

Firstly, in Table 4, ordered logit results of 2004-2013 period for various indicators are presented. In this table, as before, (+) represents a positive relationship between the row indicator and happiness, and (-) indicates a negative relationship. (NS) indicates that the relationship is not significant at 5% level even after the Wald test is applied. As stated before, 2004 data set does not contain sex and age data thus those cells are filled as not available (N/A). On the other hand, for 2008, the relationship between subjective welfare and happiness was puzzling and thus, income variable is used instead and this situation is depicted in the table as (*[1]). This phenomena will be explained in detail, later. See the instructions in Appendix for the calculation steps of ordered logit analysis. Also pooled data results is presented in detail in Appendix Table B.

Table 4 Ordered logit analysis results.

Variables	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Sex (Female)	N/A	+	+	+	+	+	+	+	+	+
Education	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Marital Status (Married)	+	+	+	+	+	+	+	+	+	+
Age	N/A	-	-	-	-	-	-	-	-	-
Age-Square	N/A	+	+	+	+	+	+	+	+	+
Employment (Unemployed)	-	-	-	-	-	-	NS	-	-	-
Employment (Employed)	-	NS	NS	NS	NS	NS	NS	NS	-	-
Subjective Welfare	+	+	+	+	*[1]	+	+	+	+	+
Degree of Hope	+	+	+	+	+	+	+	+	+	+
Health	+	+	+	+	+	+	+	+	+	+
Satisfaction from Housing	+	+	+	+	+	+	+	+	+	+
Satisfaction from Friends	NS	NS	NS	+	NS	+	+	NS	NS	+
Comparison to 5 years before	+	+	+	+	+	+	+	+	+	+
Expectations of 5 years in the future	+	NS	NS	+	NS	NS	NS	+	NS	+
Victimhood (Non-Victims)	+	NS	NS	+	+	+	+	+	+	+

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Number of Observations	6714	6983	6432	6442	6465	7546	7027	7368	7956	196203
R2 Value (%)	11,98	13,01	13,32	13,82	12,57	14,38	14,22	14,69	13,10	12,21

Van Praag et. al. (2003) states that a R^2 level around 0.10 is common within microeconomics literature and even lower values are accepted. For that reason, all separate analyses are successful. In table 4, all stated relationships represent a monotonic or a weakly monotonic relationship. Either each step in the scale were significant at 5% level or even though some of these steps could not supply significance at 5% level, Wald test confirmed the variable to be different than zero. As a result, in most cases; improving individual's situation one step in the variable will increase his or her chance of achieving a higher level of happiness.

Many results, as revealed in Table 4, are in parallel with the literature. Higher degrees of hope, having a healthy life, higher satisfaction from housing, being in a better position than five years before, being female and being married leads to higher levels of happiness while age has a U-shaped relationship and unemployment leads to unhappiness – in average. Although, insignificant in some or most of the years, high satisfaction from friends, hopeful expectations from five years in future and not being a victim of a crime has positive correlation with happiness. On the other hand, in some years, employed individuals are significantly unhappier than individuals not in the labour force. Thus, a separate ordered logit analysis of happiness using the status of employment and job satisfaction is run- even though it is known that only employed individuals had the job satisfaction data. The results are not surprising; if the individuals are not satisfied from their jobs; they are, in average, unhappier than unemployed people or individuals which are not in the labour force.

Moreover year effects on happiness are checked and the results are handed out in Table B, in appendix. The year effects on happiness are as expected; ceteris paribus, people were unhappier in 2008 and 2009 due to unfavourable effects of economic crisis. But, the significance or the effects of variables on happiness did not change over time, as a result, it is concluded that the determinants of happiness in Turkey were not subject to changes during 2004-2013 period.

Since many variables have a relationship with happiness in an anticipated way, only puzzling results will be discussed. However, there is one variable which needs extra attention; the degree of hope. As far as to our knowledge, there are no studies investigating the relationship between happiness and hope except Babadağ et al. (2009). We assume that none other survey than LSS included such a question thus the relationship could not be queried. While not being present in other studies, degree of hope has a key position for explaining the happiness level of an individual. Although it is speculative to comment on the degree of a relationship via running separate logistic regressions; results point out that degree of hope is the most powerful estimator of happiness.

In addition to this, there are some puzzling cases. For instance, level of education variable was insignificant in each year except pooled data. But pooled data suggests that, individuals who have completed tertiary schools are happier than primary and secondary school graduates but there is no significant difference between those two. Furthermore, researches in Turkey, indicate puzzling results also. Some studies (Dumludağ, Gökdemir, & Giray, 2015; Selim, 2008) find no relationship between education and happiness while others indicate a positive (Atay, 2012; Dumludağ, 2013; Bülbül & Giray, 2011; Kangal, 2013) or negative (Akın & Şentürk, 2012) relationship between higher education and happiness. On the other hand, separate regressions on male and female populations employing pooled data point out that, higher education leads to happiness for male sample but not for female sample. As a result, it is concluded that higher education and happiness bear no significant relationship although regressions on some years and pooled data suggests that male graduates from tertiary school are, in average, happier than less educated males.

Usually happiness studies employ income variable as a determinant of happiness and it is known that, within a year, the relationship between income and happiness is mostly positive- just as in this study. But in this study; an experimental case is preferred; rather than income

variable, subjective wealth variable is used. Subjective wealth variable also increased the sensitivity of analysis as the variable employs Cantril ladder to measure subjective wealth. Mostly, subjective wealth variable had a monotonic or weakly monotonic, positive relationship with income. However, in year 2008 unlike other years, the relationship between subjective welfare and happiness was not monotonic, plausibly due to the economic turmoil of the 2008 economic crisis. Lowest subjective welfare group (og0) were not unhappier than reference group (og10-highest) as much as lower subjective welfare groups (og1-3). A possible explanation may be; they had nothing more to lose! As a result; subjective welfare indicator was replaced with income indicator and the results were once more as expected; increasing income, within a year, increases happiness in average. See Appendix for the regression results.

On the other hand, expectations (from 5 years in the future) variable was mostly insignificant. As, degree of hope and expectations variables both contain thoughts on future, it is concluded that, degree of hope may have suppressed the relationship between happiness. Thus, although high expectations from future clearly has a positive effect on happiness, it is not suitable to use degree of hope and expectations in the same regression analysis.

Lastly, robustness and heteroscedasticity checks were conducted were on the data[3]. Firstly, robust standard errors were used instead of normal standard errors for heteroscedasticity check, yet, this change did not make an impact interpretation of the data. Secondarily, male and female samples were separated in year 2012's and pooled data were employed for ordered regression analyses in order to check robustness. There are differences in the determinants' coefficients of male and female samples. However, all variables are still significant in both cases yet some of them shifted from being monotonic to weakly monotonic. It may be

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[3] We would like to thank to Assoc. Prof. Dr. Devrim Dumludağ from Marmara University for his valuable comments on the ordered logit analysis employed in this study.

concluded that, the differences in the determinants of male and female samples depict gender inequalities (non-victimhood has a higher coefficient in woman's sample) or gender roles designed by society (being unemployed effects man more, as man is mostly the breadwinner of households). But, consequently, analyses results were considered to be robust and homoscedastic.

In conclusion, it could be stated that the determinants of happiness did not change much in Turkey during 2004 and 2013 based on the variable set employed in the analysis. To be happier in Turkey, one must be married, woman, hopeful, young or old (not middle-aged), healthy, either outside of the labour force or employed with high job satisfaction, feeling safe and, belonging to a higher welfare class and in a better position than his past in her opinion. Moreover, a brief introduction to gender differences is discussed and further research is encouraged as the data can give out more information. Lastly, researchers of this study consider happiness as an essential part of well-being and thus the results of this study is offered for better policy-making.

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A. APPENDIX

Due to the space constraints of this conference paper; the ordered logit analysis results and their consecutive estimation steps are published online. See http://bit.ly/1FdDpTu for Stata 12 Log-files and refer to readme file for further information. Also, the results are copied into a Word document file for any researchers who do not own Stata 12. In addition to this, in Table B, regression ordered logistic regression results of pooled data are depicted while on Table A, the effects of job satisfaction and employment on happiness is queried. Two years were omitted in the analysis as 2004 year did not include age and sex data while 2013 had a very big sample then other years and thus biased the results.

Table A The effect of job satisfaction and employment on happiness for the pooled (2005-2012) data.

		LR chi2(13)	3139,72
Number of obs	56219	Prob > chi2	0,0000
Log likelihood =	-67.731	Pseudo R2	0,0227
	Coefficient	Standard Error	Prob (z>0.05)
Not in the Labour Force	Base Category		
Unemployed	-1,1011	0,0403	0,000
Employed	-1,7186	0,0714	0,000
Job Satisfaction=1	Base Category		
Job Satisfaction=2	0,6918	0,0778	0,000
Job Satisfaction=3	1,3056	0,0769	0,000
Job Satisfaction=4	1,9262	0,0725	0,000
Job Satisfaction=5	2,8208	0,0863	0,000
Year= 2005	-0,1246	0,0310	0,000
Year= 2006	-0,0642	0,0317	0,043
Year= 2007	-0,0249	0,0317	0,433
Year= 2008	-0,1790	0,0316	0,000
Year= 2009	-0,1897	0,0304	0,000
Year= 2010	0,0192	0,0310	0,535
Year= 2011	0,0293	0,0305	0,337
Year= 2012	Base Category		
/cut1	-3,9241	0,0349	
/cut2	-2,1983	0,0251	
/cut3	-0,4808	0,0227	
/cut4	2,3130	0,0259	

Table B Ordered Logistic Analysis results for the pooled (2005-2012) data.

		LR chi2(45)	18765.61
Number of obs	56219	Prob > chi2	0.0000
Log likelihood =	-59917,8170	Pseudo R2	0.1354

	Coefficient	Standard Error	Prob (z>0.05)
Sex (Female)	Base Category		
Sex (Male)	-0,3100	0,0201	0,0000
Age	-0,0623	0,0032	0
Age-Squared	0,0007	0	0
Victims	Base Category		
Non-Victims	0,2197	0,0270	0,0000
Divorced, Single or Widowed	Base Category		
Married	0,7775	0,0224	0,0000
Primary Education	-0,1134	0,0324	0,0000
Secondary Education	-0,1142	0,0352	0,0010
Tertiary Education	Base Category		
Degree of Hope= 1	Base Category		
Degree of Hope= 2	0,6521	0,0373	0,0000
Degree of Hope= 3	1,4908	0,0373	0,0000
Degree of Hope= 4	2,4116	0,0545	0,0000
Subjective Health= 1	Base Category		
Subjective Health= 2	0,8074	0,0576	0,0000
Subjective Health= 3	1,0429	0,0572	0,0000
Subjective Health= 4	1,5877	0,0563	0,0000
Subjective Health= 5	2,2063	0,0647	0,0000
Housing Satisfaction= 1	Base Category		
Housing Satisfaction= 2	0,3666	0,0580	0,0000
Housing Satisfaction= 3	0,6028	0,0584	0,0000
Housing Satisfaction= 4	1,0043	0,0547	0,0000
Housing Satisfaction= 5	1,4638	0,0641	0,0000
Satisfaction from Friends= 1	Base Category		
Satisfaction from Friends= 2	-0,1398	0,1708	0,4130
Satisfaction from Friends= 3	0,2162	0,1614	0,1800
Satisfaction from Friends= 4	0,5632	0,1590	0,0000
Satisfaction from Friends= 5	0,8564	0,1608	0,0000
Comparison to 5years before= 1	Base Category		
Comparison to 5years before= 2	0,2731	0,0236	0,0000
Comparison to 5years before= 3	0,4121	0,0251	0,0000

Table B Ordered Logistic Analysis results for the pooled (2005-2012) data. (Continued)

	Coefficient	Standard Error	Prob (z>0.05)
Expectations from 5years after= 1	Base Category		
Expectations from 5years after= 2	0,0702	0,0225	0,0020
Expectations from 5years after= 3	0,1210	0,0252	0,0000
Not-in-the Labour Force	Base Category		
Unemployed	-0,6399	0,0444	0,0000
Employed	-0,0665	0,0215	0,0020
Subjective Welfare=0	Base Category		
Subjective Welfare=1	0,1264	0,0608	0,0380
Subjective Welfare=2	0,3078	0,0575	0,0000
Subjective Welfare=3	0,3735	0,0550	0,0000
Subjective Welfare=4	0,5833	0,0551	0,0000
Subjective Welfare=5	0,6875	0,0542	0,0000
Subjective Welfare=6	0,8092	0,0577	0,0000
Subjective Welfare=7	0,9408	0,0627	0,0000
Subjective Welfare=8	1,1087	0,0710	0,0000
Subjective Welfare=9	1,2354	0,1034	0,0000
Subjective Welfare=10	1,3264	0,0910	0,0000
Year=2005	0,0080	0,0324	0,8050
Year=2006	0,0154	0,0332	0,6420
Year=2007	-0,0200	0,0331	0,5460
Year=2008	-0,1177	0,0331	0,0000
Year=2009	-0,0148	0,0316	0,6400
Year=2010	0,0458	0,0321	0,1540
Year=2011	0,0459	0,0316	0,1460
Year=2012	Base Category		
/cut1	-0,2498	0,1906	
/cut2	1,7372	0,1909	
/cut3	3,8336	0,1917	
/cut4	7,1025	0,1926	