

# LIFE SATISFACTION AND HAPPINESS WITH REGARD TO HUMAN CAPITAL AND RELIGIOSITY IN TURKEY

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## **Abstract**

*This paper contributes to literature by investigating empirically the determinant factors on life satisfaction and happiness with respect to the quality of human capital and religiosity by using World Values Survey (WVS) data on Turkey. The key findings are that: (i) people with high skills and higher income tend to be unhappy and unsatisfied with their lives; (ii) cognitive workers who have higher educational attainment, who are employed, and who believe that their fate is shaped by themselves are more likely satisfied by their lives; whereas manual workers with high number of children and with higher skill level are less satisfied; (iii) individual and social religiosity have also a strong positive impact on happiness and life satisfaction for manual workers. Our findings also confirm the importance of a core set of demographic variables in estimating the individual happiness and life satisfaction such as gender, age, and marital status.*

**Keywords:** Life Satisfaction, Happiness, Human Capital, Religiosity, Turkey

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## **TÜRKİYE'DE BEŞERİ SERMAYE VE DİNDARLIK İLE İLGİLİ YAŞAM MEMNUNİYETİ VE MUTLULUK**

### **Öz**

*Bu çalışma, Türkiye üzerine Dünya Değerleri Anketi (WVS) verilerini kullanarak, beşeri sermayenin kalitesi ve dindarlık açısından yaşam memnuniyeti ve mutluluğuna ilişkin belirleyici faktörleri ampirik olarak araştırarak literatüre katkı sağlamaktadır. Temel bulgular şu şekilde özetlenebilir: (i) yüksek beceri (vasıflı) ve daha yüksek gelir sahibi insanlar mutsuz olmaya ve yaşamlarından memnuniyetsiz olma eğilimindedirler; (ii) yüksek öğrenim düzeyi olan, istihdam edilen ve kaderlerinin kendileri tarafından şekillendirildiğine inanan, zihin gücüyle çalışan (bilişsel) işçiler hayatlarından daha memnun iken; çok sayıda çocuk sahibi ve yüksek beceri düzeyine sahip emek (kol) gücüyle çalışan işçiler ise hayatlarından daha az memnundurlar; (iii) bireysel ve toplumsal dindarlık faktörü emek gücüyle çalışan işçilerin mutluluk ve yaşam doyumu üzerinde güçlü bir olumlu etkiye sahiptir. Bulgularımız bireysel mutluluk ve yaşam memnuniyetini tahmin etmede cinsiyet, yaş ve medeni durum gibi temel bir demografik değişken grubunun belirleyiciliğini de doğrulamaktadır.*

**Anahtar Kelimeler:** Yaşam Memnuniyeti, Mutluluk, Beşerî Sermaye, Dindarlık, Türkiye

### **Introduction**

The aim of this study is to identify the key variables that impact on happiness and life satisfaction of Turkish people by using World Values Survey (WVS) data. Moreover, the study attempts to determine whether the findings of studies conducted for other nations are valid for Turkey or not. For this purpose, the study analyzes the effects of individual welfare (such as income, household income) and personality factors (such as age, gender, marital status, number of children, employment status, education level and skill) for life satisfaction and happiness of Turkish people. Moreover, the study evaluates the role of religiosity (faith on god and attendance the religion services), human capital and social participation (world citizen and social class). In this study, ordinal logistic method is used and a standard regression model in which happiness and life satisfaction are functions of a number of variables is developed.

Original contribution of the study can be summarized in this way. This paper investigates the factors that influence the life satisfaction and happiness in Turkey with ordinal logistic regression model based on the variables constructed from the WVS data. There seems to be very few empirical studies in the literature about this topic, however, surprisingly there is no study in this domain regarding to the role

of human capital and religiosity on both life satisfaction and happiness. To address this gap in the literature, this paper also aims to analyze empirically the effect of human capital (with respect to *manual* and *cognitive workers*) and religiosity on life satisfaction and happiness, thereby filling this gap especially for Turkey. Moreover, life satisfaction and happiness concepts are generally used interchangeably in the literature, and the happiness researchers have used the life satisfaction question “*how satisfied are you with your life*” as a proxy for the happiness measure. Actually, these two concepts are different, and we do not encounter any research that has analyzed these concepts separately in the literature. Hence, the other contribution of this paper to the literature is to analyze these two concepts separately as dependent variables and analyze these concepts empirically to test whether they are actually same concepts or not.

The rest of the paper is organized as follows. The next section summarizes the literature. Third section describes the data and methodology used in the study. Section four presents the main empirical results. The final section concludes.

## I. Literature Review

The studies on the quality of life (QoL) have been an emerging discipline in economics and sociology especially after 1980 (Özcan et al., 2008). The term QoL in the literature is used as synonyms with *well-being*, and also used interchangeably with welfare, life satisfaction and happiness terms (for further details, see Veenhoven, 2001). In psychological studies, it is preferred to use the terms satisfaction and happiness, while in economics the utility term is preferred to refer to *well-being* of people (Dockery, 2003; Rahman et al., 2005). There are two views about the measurement of QoL and according to these it can be measured by objective (individual income, life expectancy, unemployment, inflation, GDP per capita, education level, infant mortality rate, literacy rate etc.) and subjective indicators (life satisfaction, happiness, individual perception of well-being). The first one is called as the *Scandinavian* view that focuses exclusively on the objective measurement and uses the quantitative indicators. On the other hand, the second one is called the *American* view that stresses subjective measurement and uses life satisfaction and happiness indicators based on the evaluations of people of their own lives (Rapley, 2003). According to this last view, the indicators characterize the quality of life as subjective well-being (Delhey et al., 2002; Noll, 2002; Rapley, 2003).

There are so many quantitative studies in the literature investigating the factors that impact on happiness and life satisfaction in societies (see Tsou and Liu 2001; Graham and Pettinato, 2001). Veenhoven’s (1991) study based on a broader literature review by investigating 245 studies across 32 countries identified the factors

associated with happiness and life satisfaction. He found that being healthy, being married, being open minded, living in a wealthy country, being in the top of social class, and the feeling that people control their fate themselves are the major factors that affect well-being. In another study, Dockery (2003) investigates the factors that impact Australians' happiness and life satisfaction by using ordered probit models. He found a negative relationship between unemployment and happiness, also found that being married and being in a good job is positively associated with happiness. The most prominent empirical studies conducted by economists on happiness and life satisfaction were Easterlin (1974), Morawetz et al. (1977), Frank (1985), Inglehart (1990), Clark and Oswald (1994), Ng (1996), Oswald (1997), Winkelmann and Winkelmann (1998).

Happiness is accepted as a subjective well-being (SWB) in this paper, and life satisfaction as *"the degree to which an individual judge the overall quality of his life-as-a-whole favorably"* (Veenhoven, 1991: 10). Although happiness and life satisfaction concepts are interchangeably used in the literature, they are *"conceptually different determinants of quality of life"* (Özcan et al., 2008: 1). If we discuss the difference between happiness and life satisfaction, we can say that, as defined by Sirgy (2001), first term is an emotional concept, while second term is cognitive one. The former is seen as emotional since people simply report it as an emotional response whether they are happy or not, while the latter one is based on people's assessments which require a cognitive skill about their lives against some standards (such as income, health, life expectancy, education, employment, living conditions). For life satisfaction, in other words, a person cognitively compares his/her *"life as it is"* with standards of *"how life should be"* (Veerhoven, 2001: 9). Some researches prefer to use life satisfaction instead of happiness, because they think that it is based on reasoned, cognitive and comprehensive decisions of people about how well their lives meet their standards (Haybron, 2000; 2001). On the other hand, Sirgy (2001) suggests that happiness and life satisfaction can be considered as the two main indicators for the quality of life so they are seen as the components of subjective well-being. He also suggests that life satisfaction provides a more cognitive-driven evaluation about living conditions while happiness provides a more emotional assessment. In some empirical studies, it is found that scores of people on life satisfaction are lower than that of happiness; according to Sirgy (2001) this is because people think of happiness emotionally in the short term and they just give high scores on the happiness when compared to the life satisfaction. On the other hand, life satisfaction provides more important clues for the overall assessment about the quality of life of people because it depends on cognitive assessment.

The explanatory variables used in this study as the factors that influence the life satisfaction and happiness in Turkey will be assessed by using the literature.

Age and gender are the two basic demographic variables. Normally it is expected that gender affects equally to be happy for female and male. However, life satisfaction depends on the age of individual and it changes throughout the life of people, and it rises when people are older (Dockery, 2003; Vinson and Ericson, 2012: 6). Studies indicate that life satisfaction appears higher in old age (Veenhoven, 2001). To analyze the impact of both age and gender on life satisfaction and happiness, three variables are constructed: *age*, *age squared* and *gender*. If estimation produces a negative effect of age and a positive effect of age squared that means that as people get older the effect of age on the life satisfaction and happiness is increasing.

Empirical studies in the literature also indicate that married people are happier than unmarried people, and married people have a high degree of life satisfaction. Veenhoven (2001), however, argues that there could be a causality problem with marital status, because this positive association can result from “*advantages of married living as well as from better marriage chances of the happy*”. He suggests that a person who has a happy marriage can be dissatisfied with life as a whole, or a person who has an unhappy marriage may be satisfied with life as a whole (Veenhoven, 2001: 26). Also, it is found that a larger family (having more children) is the other factor that may enhance individual life satisfaction and happiness (Vinson and Ericson, 2012: 6). In order to test the impact of these factors on the happiness and life satisfaction in Turkey, two variables are constructed: *married* and *number of children*.

The importance of employment on well-being is reflected in an extensive literature (see Jahoda, 1982, Warr 1987, Feather, 1990, Dockery, 2003; Streimikiene and Grundey, 2009). The studies suggest that employment is important for psychological well-being and for the family life, and they reveal that people experiencing unemployment involuntarily are very unhappy. Therefore, the hypothesize of the study is that the factor of being married, having more children, and being employed has a positive effect for life satisfaction and happiness of Turkish people.

It is generally accepted that having a good education is necessary for a good life (Allardt, 1993; Özcan et al., 2008). In the literature, a positive association between education and happiness, and between education and life satisfaction is found. The empirical studies indicate that higher income, being employed, being highly educated and having higher skill level positively affect peoples’ life satisfaction and happiness (Graham and Pettinato, 2001; Böckerman and Ilmakunnas, 2005), but this cannot be generalized. Some studies show that education may have a negative effect on happiness. For instance, a study conducted in the Netherlands reveals that highly educated people appear less happy when compared with their less educated counterparts (Veenhoven, 2001: 12). Also, evidence on rich countries indicates a negative association between education and happiness, and researches explain this unhappiness situation among the educated people by the scarcity of jobs at that level.

Hence, in this study an *education* variable is also constructed in order to analyze its impact on both happiness and satisfaction for Turkish people.

Income is another important factor that positively affects the happiness and life satisfaction of people, although the findings show that association between income and life satisfaction is higher than that of between income and happiness. However, some studies which analyze the relationship between individual welfare and subjective well-being argue that income does not have crucial impact on happiness and life satisfaction (Veenhoven, 2001; Dockery, 2003). The findings of the cross-country studies reveal a positive relationship between GDP per capita and well-being for the poor countries, yet they could not find any significant relationship for the wealthier nations (Easterlin 2001; Frey and Stutzer 2002). Deaton's (2008) study showed that countries with high-income level are more satisfied with their life when compared to ones with low-income. Some studies have shown that an increase in income does not have any effect on happiness (Easterlin, 1995), while some show that rising income affects happiness positively (Diener and Suh, 1997; Blanchflower and Oswald, 2004). Empirical findings indicate that an increase in income has a small positive effect on the quality of life, whereas personality factors (such as marital status, health situation, social class, number of children, unemployment, and social participation) have a strong positive effect on well-being (Streimikiene and Grundey, 2009: 9). Although studies indicate conflicting results with respect to income, it is assumed that wealthier persons are generally happier than less wealthy persons since they can easily access to resources and by this way they meet their basic needs and pursue their purposes. Likewise, studies reveal that life satisfaction is also associated with the level of household income (Granzin and Haggard, 2000). In order to analyze the impact of income on both happiness and life satisfaction in Turkey, two explanatory variables are constructed: *income* and *household income*. It has also been hypothesized that income does have a positive impact on happiness and life satisfaction.

The studies in the literature also indicate that social class of the people is the other factor that impacts positively on the happiness and life satisfaction. Many studies revealed a positive association between social status and pleasure in life (Veenhoven, 2001). In WVS survey, people are asked to define their social class on five-point likert scale (as lower class, working class, lower middle class, upper middle class, and upper class). Findings in the literature indicate that people in the upper classes are happier and more satisfied when compared to lower level classes (Vinson and Ericson, 2012: 7). This means that the level of happiness and life satisfaction increases as individuals move to higher social classes. To test the impact of this variable on happiness and satisfaction in Turkey, *social class* variable is also constructed from the survey.

Seeing oneself as a world citizen could be a proxy for the person's internationalist outlook and be associated with happiness and life satisfaction. The evidence in the literature indicates that people that identify themselves as a world citizen are happier and more satisfied when compared with ones who rejected it (Vinson and Ericson, 2012: 33). Therefore, the other variable constructed is *world citizen* in order to test the impact of people who have different views about themselves and how they relate to the world.

The studies in the literature also indicate that religious beliefs have a positive impact on happiness and life satisfaction (Veenhoven, 1991; Ellison, 1991; Haybron, 2001). According to the findings in the literature, religious people are happier and more satisfied with their lives when compared to non-believers and atheists. For the non-believers and atheists, the levels of life satisfaction and happiness increase according to how much control they feel they have over their life. In order to test these hypotheses in Turkey, three explanatory variables are constructed: (i) *god important in life*, (ii) *religion services* and (iii) *fate or control*. A positive association between religiosity and life satisfaction is expected, and also between religiosity and happiness for the religious people. On the other hand, a negative association between fate and life satisfaction is expected, and between fate and happiness for non-believers.

The effect of human capital on life satisfaction and happiness is empirically investigated in this study. Human capital is defined in Oxford English Dictionary as “*the skills, knowledge, and experience possessed by an individual or population*”. The term is used to refer the stock of skills, knowledge, habits, and other intangible assets of persons that can be used to produce economic value (Goldin, 2016). In this study, the quality of human capital of individual on life satisfaction and happiness is investigated by using the skill levels of people. It is hypothesized that highly skilled people tend to be unhappy and very unsatisfied with their lives. For this aim, two subsets are created from the data: one for *manual workers* and one for *cognitive (non-manual) workers* in order to test the effect of human capital (or person's skill level) on happiness and life satisfaction. The term *manual workers* is used to refer to the unskilled or semiskilled people whose job involves physical work. On the other hand, the term *cognitive workers* is used for the non-manual workers to refer the skilled or highly skilled people whose job involves the use of their mind, rather than the use of their hands or physical strength.

## II. Data and Methodology

In this study, the World Values Survey (WVS) round five (2005-2008) person-level data on Turkey was utilized. The survey was conducted in Turkey between January and March 2007 through personal face-to-face interview method with the

people older than 18 years, at NUTS-1 level for stratification (there are twelve NUTS-1 regions in Turkey). The survey dataset used for estimation includes country and person-level data so its design is cross-sectional. Also, the total sample size is 1346 with response rate 74 percent.

### Dependent and Explanatory Variables

The responses for the question “*all things considered, how satisfied are you with your life as a whole these days?*” in the WVS data on an ordinal scale from 1 (less satisfied) to 10 (most satisfied) is used as a dependent variable for life satisfaction. Whereas the responses to question “*taking all things together, would you say you are not at all happy (1), not very happy (2), rather happy (3), or very happy (4)*” is used as a dependent variable for happiness.

A detailed description of all the person-level explanatory variables constructed for the regression analyses are set in Table 1. In the regression model, the parallel regression assumption is maintained. In the construction of some variables, the responses from the original survey were recoded from low to high, and the higher value means “more” or “high”.

The effect of religiosity on both life satisfaction and happiness is measured by two factors: (i) the frequency of attendance to *religion services* and (ii) the importance of god in the life. Actually, the former is a source of social integration (*social religiosity*), while the latter is a personal belief in god (*individual religiosity*) which creates a purpose in life (Kozaryn, 2009: 1-2). It is hypothesized that there is a positive correlation between these religiosity factors and life satisfaction, and also for happiness in Turkey. Some empirical studies in the literature found that social religiosity has more effect on both life satisfaction and happiness than individual religiosity (Diener et al., 1999). As a control variable, the *fate or control* factor is also constructed in order to verify and test the effect of religiosity on cognitive and manual workers (see Table 1).

**Table 1.** Description of the variables

Variable	Survey question and description
Life satisfaction	All things considered, how satisfied are you with your life as a whole these days? 1 (low) to 10 (high)
Happiness	<b>Taking all things together, would you say you are “not at all happy” (1), “not very happy” (2), “rather happy” (3), or “very happy” (4)</b>
Age	Age of the respondent (18-82)



<b>Gender</b>	<b>1 (female); 0 (male)</b>
Married	1 (married); 0 (otherwise)
<b># of children</b>	<b>Have you had any children? (0 to 8)</b>
Employed	Are you employed now or not? 1 to 8: 1 (yes); 0 (otherwise); 1(yes) includes 1 to 3 <sup>rd</sup> items.
<b>Education</b>	<b>Highest level of educational attained? 1 (none) to 10 (university degree)</b>
Income	Counting all wages, salaries, pensions and other incomes; 1 (the lowest income decile) to 10 (the highest income decile in your country)
<b>Skill</b>	<b>In which profession/occupation do you work? 1 to 14: have a profession which needs skilled employer? 1 (yes); 0 (otherwise); 1 (yes) includes 1 to 8th items, and plus 12th item.</b>
HH income	How satisfied are you with the financial situation of your household? 1 (low) to 10 (high)
<b>World citizen</b>	<b>I see myself as a world citizen: 1 (strongly disagree) to 4 (strongly agree)</b>
Social class	Belonging to the lower class (1), the working class (2), the lower middle class (3), the upper middle class (4), or the upper class (5)?
<b>God important in life</b>	<b>How important is god in your life? 1 (not at all important) to 10 (very important)</b>
Religion services	Apart from weddings and funerals, about how often do you attend religious services these days? 1 (never, practically never) to 7 (more than once a week)
<b>Fate or control</b>	<b>Please indicate which comes closest to your view on this scale: 1 (everything in life is determined by fate) to 10 (people shape their fate themselves)</b>
Cognitive task	Are the tasks you perform at work mostly cognitive (non-manual) or manual? use this scale: 1 (mostly manual tasks) to 10 (mostly non-manual tasks): recoded 1 to 5 as 0 (manual); 6 to 10 as 1 (cognitive)

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Source: Constructed by authors based on the World Values Survey (WVS)

## Model

The dependent variables constructed are in ordinal nature (see Table 1); therefore, ordinal logistic (ordered logit) regression is used to predict the model. It is also natural to use ordinal probit (ordered probit) regression in the analysis, hence all models were also estimated by the probit; however, it produced nearly same results (not reported). Moreover, a few different binary variables are created for both life satisfaction and happiness variables by recoding from ordinal data in order to test whether the logit or probit models are more suitable for estimation,

or whether these models have produced same results or not. However, logit and probit regression models are not produced significant results (not reported). The following empirical models are estimated:

$$LifeSatisfaction_i = \beta_0 + \sum_j \beta_{ji} X_i + \varepsilon_i \quad (1)$$

$$Happiness_i = \beta_0 + \sum_j \beta_{ji} X_i + \omega_i \quad (2)$$

Where *Life Satisfaction<sub>i</sub>* and *Happiness<sub>i</sub>* variables are ordinal dependent variables, the former denotes individual *i*'s life satisfaction level on 1-10 scale, and the latter shows the individual *i*'s happiness level on 1-4 scale. *X* denotes a vector of explanatory variables representing characteristics of the individual (such as age, gender, and marital status) likely to impact the individual *i*'s life satisfaction and happiness as defined and set in Table 1.  $\varepsilon_i$  and  $\omega_i$  are error terms following the standard assumptions. All analyses were carried out by using stata/se 10.1 software.

### III. Empirical Results

Table 2 shows the relationship among the variables analyzed by using polychoric correlation matrix. It is seen that the correlations of life satisfaction with *age*, *gender*, *number of children*, and *skill level* variables are negative. On the other hand, higher *education level*, *income* and *skill level* variables are negatively correlated with the *happiness*. The interesting point here is that the sole variable that negatively affects both life satisfaction and happiness is *skill* variable. This confirms the hypothesize that highly skilled people tend to be unhappy and very unsatisfied with their lives. This finding reveals that an analysis is needed in order to figure out in detail this process. Therefore, our analysis is also conducted for the full sample and for the two subsets of sample constructed; one for *manual workers* and one for *cognitive (non-manual) workers* in order to test the effect of human capital (or person's skill level) on life satisfaction and happiness.

**Table 2.** Polychoric Correlation Matrix

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
(1) Life satisfaction	1															
(2) Happiness	0.63	1														
(3) Age	-0.02	0.02	1													
(4) Age <sup>2</sup>	-0.02	0.03	0.98	1												
(5) Gender	-0.01	0.07	-0.07	-0.09	1											
(6) Married	0.12	0.16	0.58	0.52	0.13	1										
(7) # of children	-0.03	0.04	0.69	0.65	0.09	0.80	1									
(8) Employed	0.06	0.02	-0.15	-0.21	-0.65	-0.02	-0.21	1								
(9) Education	0.03	-0.06	-0.37	-0.36	-0.19	-0.46	-0.57	0.36	1							
(10) Income	0.02	-0.06	-0.12	-0.13	-0.06	-0.14	-0.28	0.33	0.51	1						
(11) Skill	-0.04	-0.09	0.12	0.10	-0.59	0.01	-0.16	0.75	0.46	0.43	1					
(12) HH income	0.30	0.22	-0.06	-0.06	-0.06	0.02	-0.11	0.12	0.21	0.32	0.15	1				
(13) World citizen	0.15	0.10	-0.03	-0.03	-0.08	0.03	-0.00	0.09	-0.00	-0.03	-0.03	0.03	1			
(14) Social class	0.15	0.09	-0.10	-0.09	0.04	-0.05	-0.15	0.08	0.24	0.32	0.14	0.29	0.03	1		
(15) God important in life	0.10	0.15	0.08	0.07	0.12	0.18	0.19	-0.08	-0.19	-0.10	-0.14	0.02	0.05	0.04	1	
(16) Religion services	0.13	0.10	0.24	0.24	-0.65	0.17	0.16	0.27	-0.08	-0.09	0.22	0.07	0.01	0.02	0.26	1
(17) Fate or control	0.05	0.04	-0.05	-0.05	-0.11	-0.08	-0.13	0.17	0.19	0.20	0.19	0.10	0.03	0.11	-0.10	-0.09

Table 3 indicates the regression results on the life satisfaction, whereas Table 4 shows the results on the happiness. Actually, the estimated coefficient of an explanatory variable informs us about the change in the log-odds of being in a higher level of the dependent variable given that all of the other explanatory variables in the model are kept constant, *ceteris paribus*. When interpreting the findings, for simplicity, we interpret the results over the signs of the estimated coefficients showing the direction of the effects of an explanatory variable, *ceteris paribus*. Also, note that a statistically significant relationship between dependent and explanatory variables shows an *association* between these variables rather than a causal relationship given the cross-sectional character of the data.

As can be seen from the regression estimates on full sample in Tables 3 (A3) and 4 (B3), nearly all the coefficients are strongly significant ( $p < 0.01$ ). *Age*<sup>2</sup>, *gender*, *married*, *employed*, *HH\_income*, *world citizen*, *god important in life*, *religion services*, and *fate or control* measures have a positive and significant impact on both life satisfaction (A3) and happiness (B3). On the other hand, *age*, *number of children*, *income*, and *skill* measures tend to have negative and significant influence on both life satisfaction (A3) and happiness (B3). *Social class* measure has positive and significant impact only on the life satisfaction (A3). The insignificant variables are *education* (for both life satisfaction and happiness) and *social class* (for happiness) measures. The findings show that estimates on full sample (A3 and B3) produced nearly similar results for both life satisfaction and happiness. In other words, the factors have same influence on the life satisfaction and happiness dependent variables. In sum, although life satisfaction and happiness are different concepts, we encountered similar results on life satisfaction and happiness by dealing with these two concepts separately as dependent variables. Therefore, it can be said that life satisfaction concept can be used as a proxy for the happiness, or vice versa, for Turkey in the literature.

**Table 3.** Life satisfaction; Manual and Cognitive Workers:  
Ordinal Logistic Regression Analysis

Variables	(A1)	(A2)	(A3)	Manual workers	Cognitive workers
Age	- 0.077***	-0.057**	-0.060**	-0.070*	-0.028
Age <sup>2</sup>	0.001***	0.001***	0.001***	0.001**	0.000
Gender	0.052	0.047	0.238*	0.188	0.136
Married	0.883***	0.762***	0.669***	0.477*	0.425
# of children	-0.108***	-0.121***	-0.108***	-0.133**	0.060
Employed	0.068	0.319**	0.320**	0.254	0.574*
Education	0.001	0.012	0.018	0.018	0.108*
Income		- 0.100***	-0.096***	-0.037	-0.149***
Skill		-0.438***	-0.448***	-0.521**	-0.356
HH income		0.271***	0.260***	0.357***	0.278***
World citizen		0.383***	0.383***	0.406***	0.321**
Social class		0.226***	0.202***	0.186*	0.440***
God important in life			0.083**	0.118*	0.082
Religion services			0.091***	0.128***	0.047
Fate or control			0.041**	0.016	0.124***
N	1345	1204	1174	411	291
Pseudo R2	0.0087	0.0438	0.0475	0.0725	0.0510
Log likelihood	-2680.67	-2316.83	-2253.34	-779.97	-538.77
LR chi2	47.02	212.48	224.91	121.98	57.90

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10

**Table 4.** Happiness; Manual and Cognitive Workers:  
Ordinal Logistic Regression Analysis

Variables	(B1)	(B2)	(B3)	Manual workers	Cognitive workers
Age	-0.088***	-0.077***	-0.075***	-0.055	-0.119**
Age <sup>2</sup>	0.001***	0.001***	0.001***	0.001*	0.002**
Gender	0.244**	0.278**	0.412***	0.244	0.588*
Married	0.768***	0.711***	0.639***	0.543*	0.140

# of children	-0.122***	-0.127***	-0.112**	-0.151**	0.029
Employed	0.246*	0.452***	0.452***	0.649***	0.550*
Education	-0.055**	-0.027	-0.015	-0.015	0.033
Income		-0.096***	-0.097***	-0.119**	-0.161***
Skill		-0.326**	-0.343**	-0.233	-0.707
HH income		0.219***	0.212***	0.288***	0.348***
World citizen		0.161**	0.157**	0.334**	-0.080
Social class		0.087	0.061	0.033	0.196
God important in life			0.125***	0.178**	0.082
Religion services			0.062**	0.129**	0.012
Fate or control			0.039**	0.037	0.090*
N	1344	1204	1174	411	291
Pseudo R2	0.0164	0.0461	0.0530	0.098	0.0692
Log likelihood	-1434.88	-1248.37	-1209.69	-416.199	-288.45
LR chi2	47.93	120.73	135.52	90.32	42.91

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10

If the estimation results in Tables 3 and 4 are summarized on full sample (A3 and B3), they reveal that people who have higher number of children, who have high income level, and who are highly skilled tend to be less happy and less satisfied with their lives. Although income level of the person (*Income*) impacts negatively and significantly both life satisfaction and happiness, it is interesting that the household income of the person (*HH income*) impacts positively and significantly. Therefore, we can conclude that people who are more satisfied with the financial situation of his/her household tend to be more satisfied with their life and be happier compared with their own personal income level. A sociological explanation for this result could be that strong family ties in Turkey. It is very important to help household members whose income is inadequate, therefore a person with a high household income feels more secure. Another explanation of this result is that average personal income level in Turkey is very low. It is very difficult for a single working person to economically meet all the needs of the household in Turkey, therefore, the increase in household income further increases the personal welfare. For these reasons the effect of household income on life satisfaction and happiness may be more important than personal income in Turkey.

Moreover, people who are female, married, employed, believe that their fate is shaped by themselves, attend religious activities more frequently, believe that god is more important in their life, have higher social class, see themselves as a

world citizen, and are satisfied with the financial situation of their household tend to be much happy and more satisfied with their lives. Furthermore, a negative (and significant) coefficient for the *age* variable and positive (highly significant) one for the *squared age* variable indicate that older people are more likely to be happy and satisfied with their lives than younger people.

Tables 3 and 4 have also two columns with models for *manual workers* and *cognitive workers* with respect to their professions. These models focus on the effect of being high level educated/skilled employee on both life satisfaction and happiness. For this purpose, two sub-samples were created from the occupational categories of the respondents, one for people who perform mostly manual tasks at work (non-skilled manual occupations), and one for people who perform cognitive tasks at work (skilled professional occupations). It is well known that the cognitive tasks are performed by experienced and professional individuals such as managers, assistant managers, headman, director, and supervisor. Our findings on full sample (A3 and B3) show that skilled people are less happy and less satisfied by their lives than non-skilled people, but the relationship may be different for manual and cognitive workers. To address this issue, we estimate our regression also on the two subsets of sample. In the creation of manual and cognitive worker samples, we take into consideration the scale question “*are the tasks you perform at work mostly cognitive or manual?*” in the survey. By using this scale question, we coded the respondent (person) who performs mostly manual tasks from 1 to 5 as *manual worker*, whereas 6 to 10 (mostly cognitive tasks) as *cognitive worker* (see Table 1).

The estimation results on life satisfaction in Table 3 present that *employed*, *education*, and *fate or control* measures have positive and significant impact for cognitive workers, while they do not have significant impact for manual workers. This result reveals that cognitive workers who have higher education level, who are employed, and who believe that their fate is shaped by themselves are more likely to be satisfied with their lives than manual workers. Moreover, a strong and negative (and highly significant) association between *income level* and life satisfaction for cognitive workers is found. This means that cognitive people with higher income level are more likely to be less satisfied with their lives. With respect to manual workers, there is a positive (and significant) association between *being married* and life satisfaction. Also, we find evidence that the *number of children* and *skill* measures have negative (and significant) impact on life satisfaction for manual workers. This reveals that manual workers who are not married, who have more children, and who are highly skilled are more likely to be unsatisfied with their lives than cognitive workers. In terms of the above mentioned explanatory variables, the estimation results on happiness in Table 4 produced nearly same findings for both the manual and cognitive workers.

When the effect of religiosity on both life satisfaction and happiness is analyzed, it is seen that it has different effects for manual and cognitive workers. As shown in Tables 3 and 4, *god important in life* and *religion services* have positive and significant impact on both life satisfaction and happiness for manual workers, while they do not have significant impact on cognitive workers. This reveals that the life satisfaction and happiness degree of the manual workers are increasing with the importance of god in their lives (on 1-10 scale) and with the frequency of the attendance to religious services (on 1-7 scale). This finding means that individual and social religiosity is more important for the manual workers to be satisfied with their lives and to be happier than cognitive workers. In other words, the life satisfaction and happiness for people who perform cognitive tasks at work are not affected from the religiosity factors, or religion does not make cognitive workers happier. This finding coincides with the *fate or control* measure which has only a positive and strong significant effect ( $p < 0.01$ ) on both life satisfaction and happiness for the cognitive workers. This reveals that cognitive workers do not believe that everything in life is determined by fate (god), but on the contrary they believe that their fate is shaped by themselves, and this makes them to be quite happier and more satisfied with their lives.

## Conclusion

This paper studies the factors that influence the life satisfaction and happiness of Turkish people with respect to human capital and religiosity by using WVS person-level data. Also, the study attempts to determine whether the findings of studies conducted for the other nations are valid for Turkey or not. For this purpose, the study analyzes the effects of individual welfare and personality factors by using ordinal logistic regression. Moreover, we evaluate the role of religiosity and social participation. This paper makes an important contribution to the literature by analyzing the hypotheses that senses of the (i) human capital and (ii) religiosity on the life satisfaction and happiness are different.

The main findings of this study can be summarized as follows. First, estimation results reveal that there is no significant difference between the concepts of life satisfaction and happiness in Turkey. Second, the findings show that older people are more likely to be happy and satisfied with their lives than younger people. Also, gender is found to have a significant impact in Turkey, i.e. women are happier and more satisfied with their lives than men. Moreover, people who are married and who are employed tend to be happier and more satisfied with their lives. In contrast, people who have high number of children, who have higher income level, and who are highly skilled tend to be unhappy and unsatisfied with their lives. With respect to skill level, the findings show that cognitive workers who have higher educational

attainment and who are employed are more satisfied with their lives; whereas they are more likely to be unsatisfied with higher income level. Also, results show that manual workers who are not married, who have more children, and who are highly skilled are unsatisfied from their lives.

The last finding of the paper is the impact of religiosity factor. Although a strong and positive impact of religiosity on the life satisfaction and happiness of Turkish people is found, regression results have produced different findings with respect to manual and cognitive workers. The findings indicate that religiosity has positive and significant influence for manual workers, while it does not have significant impact for cognitive workers. This finding reveals that the life satisfaction and happiness degree of the manual workers rises with their religiosity, while people who perform cognitive tasks at work are not affected from the religiosity factors, nor does religion make cognitive workers happier. This finding is also in line with the *fate or control* factor which has only a positive and strong significant impact for the cognitive workers. According to this finding, cognitive workers who believe that their fate is shaped by themselves are happier and more satisfied with their lives.

This paper marks one of the first attempts to analyze the effect of human capital and religiosity on the personal determinants of life satisfaction and happiness. This paper also confirms the impact of religion on subjective well-being. People who consider god to be important in their life, who attend religious services regularly are more likely to be happy and satisfied with their lives. Moreover, individual and social religiosity factors make especially the manual workers happier than cognitive workers.

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