Happiness, Comparison Effects, and Expectations in Turkey

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Abstract

It is crucial to know the factors that influence happiness. This study investigates the determinants of happiness with an emphasis on comparison effects (income relative to others' income or relative to the own income in the past) and expectations about own future income. Nationally representative cross-sectional data collected by a Turkish survey on happiness of individuals 18 or older in years 2003–2011 are used to conduct regression analyses. The dataset includes around 6,000–7,000 individuals in each year. The findings of the study indicate that favorable income comparisons and expectations of future household income are correlated with a higher level of happiness, consistent with a model in which both comparisons and income expectations are seen as a consumption good. Secondly, comparisons and expectations bear on happiness asymmetrically. Third, the estimated effect of expecting higher income is smaller in Turkey than the estimates reported in the literature. Fourth, the magnitudes of the effects of comparisons and expectations depend on the business cycle. In crisis years, compared to years of economic expansion, the importance for happiness of having high absolute income is greater and the importance of having high relative income or high income expectations is lower. Finally, Turkish people have greater concern for their relative position in the society than for having higher absolute income in the future. Several robustness

checks lend support to the validity of the aforementioned results.

AQ1

Keywords

Income comparisons
Expectations
Happiness
Subjective well-being
Developing countries
Turkey

JEL classification

D60
I31
D84
O53

"High expectations are the key to everything." (attributed to Sam Walton).

"The secret to true happiness is a combination of low expectations and insensitivity." (attributed to Olivia Goldsmith).

1. Introduction

The interest in subjective wellbeing has been on the rise in recent years. In many countries data on how people evaluate their wellbeing have been collected, as policy makers seek to better understand both individual content and social stress. It is widely recognized now that indices of individual wellbeing should include both objective measures such as employment status, and subjective measures such as self-reported expectations [see, for instance, Office for National Statistics (2011) of the UK, and the Canadian Index of Wellbeing (2012)]. Happiness, a summary statistic of subjective wellbeing, is "commonly understood as how much one likes the life one lives" (Veenhoven 2006, p. 1). Typically, data on happiness are harvested by means of survey questions such as: "Thinking about your life in general, how happy do you

feel?”

Mainly in the context of developed countries, previous studies have reported that demographic and economic factors such as marital status, education, and absolute income are correlates of happiness (Frey and Stutzer 2002; Clark et al. 2008; Dolan et al. 2008). We need to know whether such results extend to other countries and cultures. Recent literature has also underscored that social and psychological factors such as relative income and expectations about future income are significant correlates of happiness. After all, human beings routinely compare themselves with other individuals in their reference groups, compare their current situation with their situation in the past, and reflect on their current situation in comparison with that which they expect to experience in the future.

This paper attends to Turkey in 2003–2011, with the aim of relating happiness to two measures of relative income (own income in comparison with the incomes of others, and own income today in comparison with one’s own income in the past), and to two measures of expectations (about future income, and about life in the future in general). In the past decade, the rate of economic growth in Turkey fluctuated greatly. In particular, in 2008 and 2009, per capita income shrank, whereas in the remainder years it grew. It is plausible that one’s evaluation of own happiness is clouded by a depressing macroeconomic environment, and brightened by a rosy macroeconomic environment. It is also plausible that the link from happiness to relative income and expectations has changed over time. Consequently, the analyses are conducted in three distinct periods: 2003–2007 (economic growth); 2008–2009 (economic decline); and 2010–2011 (economic growth).

This study contributes to the received literature in five ways. First, it confirms that happiness is correlated positively with higher relative income and with the expectation of having a future income higher than current income. The opposite holds too: lower relative income and lower expected future income depress happiness. These findings are consistent with a model in which both relative income and income expectations are conceived as consumption goods [see, for example, Clark et al. (2008) where relative income is an argument in the utility function, and Frijters et al. (2012) where income expectations directly enter utility].

Second, these two variables bear on happiness asymmetrically. In particular, being placed below a benchmark (be it the middle of a hypothetical economic ladder or one's own past income) reduces happiness by more than being placed above the benchmark increases happiness, echoing findings of earlier studies (Senik 2009; Dumludag 2012). Similarly, expecting lower income reduces happiness more than expecting higher income increases happiness, a new result in the literature.

Third, although expecting higher future income has been found to have a large effect on current happiness, the estimated effect in Turkey is smaller than the estimates reported in the literature. The link between income expectations and happiness was studied only for China (Gao and Smyth 2011; Frijters et al. 2012; Knight et al. 2009). It has been found that in a setting of extraordinary income growth, expectations of rising incomes are even more important in forming happiness than equivalent higher current income. Such is not the case, however, for Turkey, where even in the income growth periods, income growth has been modest. In comparison to China, in Turkey a smaller increase in income suffices to generate an increase in happiness equivalent to that yielded by a given expected future higher income.

Fourth, the magnitudes of the effects of the variables of interest depend on the business cycle. In crisis years, compared to years of expansion, the importance for happiness of having high absolute income is greater and the importance of having high relative income or high income expectations is lower.

Finally, based on a pairwise comparison of the variables of interest, the negative effect on happiness of seeing oneself positioned at the lowest rungs of the society dominates the positive effects of higher income relative to the past and of higher income expectations. I estimate that if everyone in the Turkish sample were to see himself on the highest rungs of the society, all else held the same, the average happiness in Turkey would have been higher by 7.3–9.0 %. And if everyone had favorable expectations, average happiness would have been higher by about 4.1–5.4 %. Turkish people appear to have greater concern for their relative position in the society than for having higher absolute income in the future.

1.1. A Brief Literature Review

Comparison effects are important determinants of subjective well-being, as demonstrated by many studies. More than a century ago, Veblen used the term ‘conspicuous consumption’ to refer to expenditure in goods that signal the consumer’s position in society (Veblen 1899). Dusenberry (1949) wrote that income relative to others’ income is central to determining consumption and savings patterns over time.

More recent evidence from econometric studies, experimental economics, social psychology, and neuroscience indicates that humans routinely compare themselves with those in their reference groups. Such comparisons may determine actual behavior [for instance, of male physicians (Rizzo and Zeckhauser 2003) and police officers (Mas 2006)]. When reference groups are used as a benchmark for social comparisons, well-being depends positively on the discrepancy between absolute income and a reference value [see, for example, Frey and Stutzer (2002), Senik (2004)].

The evidence on the importance of relative income in developing countries is scarce. In Peru and Russia, both of which have experienced high economic growth and an increase in opportunities for many people yet higher vulnerability for many others, relative income has been found to matter more to happiness than absolute income (Graham and Pettinato 2002). In these countries, people with the highest upward income mobility were frustrated despite their high absolute income gains because they felt that their revised reference point—international consumption standards—seemed unattainable. It is as if the reference group was shifting in parallel to the increase in income. By contrast, in the Eastern European countries a higher reference value was found to increase rather than decrease happiness, since a higher reference value was used as a source of information about future economic prospects (Caporale et al. 2009).

The literature is also interested in discovering what type of comparisons are more powerful. Internal comparisons (such as the comparison to one’s own past living standard) have been found to be more powerful than external comparisons (such as one’s self-ranking in the economic ladder) (Senik 2009). Here, I find that seeing self on the lowest steps of the economic ladder

dominates the effect of feeling better off relative to the past. To date, no studies have asked whether comparisons or expectations are more influential on happiness. In the literature, loss aversion in comparisons is reported; in other words, being below one's yardstick matters more than being above it (Senik 2009; Dumludag 2012). This paper reports loss aversion in income expectations; a new result in the literature. A further result is that the dominance relationship between income expectations and rank in the economic ladder depends on the phase of the business cycle.

A smaller literature exists on the association of happiness to expectations about future income. 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. An aspiration for a better life would lead to a rise in one's vision of a good life, thus making current income seem worse. It has been found that, for a given income level, higher income aspirations reduce current utility (Stutzer 2004). In a model where happiness depends on one's position relative to a standard of living which is determined by current, past remembered and future expected income (Van Praag and Ferrer-i Carbonell 2008), an expected increase in income over time leads to a rise in one's standard of living, making current income seem worse, thus reducing happiness.

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), hence utility is written as a function of current consumption and expected future consumption as expressed by $U_{it}(X_{it}, E_{it}(X_{it+1}))$, unlike the utility function in traditional economic theory with only current consumption as an argument. Seeing income expectations as a consumption good is consistent with the psychology literature which argues that expectations have observable physical effects on current well-being. Evidence suggests that human beings derive both positive and negative utility from anticipation of future consumption (Camerer and Loewenstein 2003). Expecting a rise in income in the following year makes people happy (Di Tella et al. 2010; McBride 2010). In an experiment, neuroscientists found neural pathways by which individuals obtain psychic rewards or punishment from expectations of the future, such as the joy in expecting a birthday present or the misery in expecting a painful dentist's

appointment (Berns et al. 2009).

The findings in this paper are consistent with a model in which both relative income and expected future income yield utility. No studies have investigated this possibility yet. In fact, the treatment of expectations as a determinant of utility is quite new to the economics literature. Recent research has considered a model of optimal savings in which expectations of future consumption contain consumption value (Brunnermeier and Parker 2005). Senik (2008) has shown that acknowledging or expecting an improvement in one's material situation is a motive of life satisfaction, using data from the Russian Longitudinal Monitoring Survey (RLMS). Clark et al. (2008) have shown that individuals start being less happy 1 year before they experience job quits, layoffs and unemployment.

Few studies have attempted to quantify the effect of expected future income on happiness. In fact, China is the only other country for which the topic has been studied. Knight et al. (2009) report that in rural China the impact on subjective well-being of an expected income change over the next 5 years is higher when a higher change is expected. Gao and Smyth (2011) report that an optimistic expectation about the future keeps China's rural–urban migrants going despite the harsh living conditions and that the effect of expectations on happiness is well in excess of the effect of higher income. An expectation of a big increase in income over the next 5 years translates to a 380 % rise in average monthly income to yield an equivalent increase in happiness compared with those who expect no change in income. Another study on China found that in the urban, migrant, and rural samples an income increase of 85, 420 and 1,400 %, respectively, would be equivalent to a change in expectations from neutral to significant improvement (Frijters et al. 2012).

1.2. Turkey: A Developing Country

Most of the research on happiness and its determinants has been on developed countries (see Frey and Stutzer 2002; Clark et al. 2008; Dolan et al. 2008 for review articles). Less is known about happiness in developing countries.

This study focuses on Turkey, an upper-middle income developing country with a population more than 74 million. It used to be an agricultural society, but agriculture is now <10 % of gross domestic product. More than half of the

population lives in urban areas (71 % in 2011). Life expectancy at birth is 73.9 years; fertility rate is 2.1 per woman (in 2011). Secondary school gross enrollment rate is 82.1 % in 2010.

According to an OECD report on well-being, with its relatively low level of average life satisfaction, Turkey is placed in the same group with some OECD countries such as Hungary, Portugal, and Estonia and some emerging economies such as China, South Africa and Indonesia (OECD 2011). Another measure places Turkey somewhere in the middle among all countries with a happiness score of 5.7 (2000–2009 average) where the highest score was 8.5, the lowest was 2.6, and the EU-27 average was 6.46 (Veenhoven 2013).

Income per capita in Turkey is around $10,000 and the country has potential for economic growth, yet there is substantial inequality (the Gini index for income inequality is around 0.40) (World DataBank 2011). With the Gini index around 0.40, Turkey ranks the third among OECD countries after Chile and Mexico (OECD 2012). Tremendous differences in living standards are observed across income groups. Despite the rise in average income and the affluent lives of people on the top of the income distribution, the lives of many people still need to be improved. With high inequality, the relative income of individuals is presumed to matter for subjective well-being, besides absolute income.

The ownership of telecommunication devices substantially increased in the past decade. In 2000, mobile cellular subscriptions were 25.4 per 100 people; in 2011 they were 88.7. The corresponding figures for internet users were 3.8 and 42.1 per 100 people (World DataBank 2011). The Turkish Institute of Statistics (TurkStat) estimates that the number of travels to foreign countries by residents of Turkey increased from 0.09 per population in 2003 to 0.13 in 2007 and 0.16 in 2011. With increasing telecommunication usage and interaction with the rest of the world, more people in Turkey must have been informed of the living standards of others. An increasing awareness of more affluent living conditions and having more frequent opportunities to compare own possessions with those of others may influence how people evaluate their lives, what they expect of life and the extent to which their wants are realized. As a consequence, comparison effects and expectations about the future emerge as crucial factors that are associated with happiness in Turkey.

There are only two recently published studies on happiness in Turkey. Compared to them, this paper has a broader context and uses a larger dataset with more variables and observations. The first study uses World Values Survey (WVS) data from years 1990, 1996 and 2001 to identify the determinants of life satisfaction and happiness (Selim 2008); neither comparison effects nor expectations are controlled for. The other study uses Turkish data from the Life in Transition Survey, conducted in late 2010, and focuses on the concept of income comparisons (Dumludag 2012). It finds that internal and external comparisons have a significant impact on life satisfaction. The comparison questions are based on statements such as "I have done better in life than my parents", "my household lives better nowadays than 4 years ago", and on which step of the economic ladder the respondent thinks he stands currently, stood 4 years ago and will stand 4 years later.

2. Research Method

2.1. Data

The dataset that I use is from the Turkish Life Satisfaction Survey (TLSS) (Yaşam Memnuniyeti Anketi), a nationally representative survey conducted by TurkStat on an annual basis in 2003–2011. The dataset has a cross-sectional structure with independent samples collected in each year. When a household is selected to participate, all household members who are 18 or older are surveyed. The sample sizes were 5,304 individuals in 2003, 6,714 in 2004, 6,983 in 2005, 6,432 in 2006, 6,442 in 2007, 6,465 in 2008, 7,546 in 2009, 7,027 in 2010 and 7,368 in 2011.

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”, “2: Unhappy”, “1: Very unhappy”. 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).

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 and step 10 the highest level of well-being. Where do you see yourself?” 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 compares to what you had had 5 years ago?”. Both measures have been used in several studies as indicators of one’s self-stated relative position (see, for example, Dumludag 2012; Senik 2009).

There are several questions in the TLSS on expectations about the future. One question is “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 questions are “How do you expect your own working conditions to be next year?” and “How do you expect your life in general to be next year?”, with the same list of alternative answers. The respondents are also asked about their expectations about life in general within the next 5 years compared to today.

The demographic characteristics that are included in all regressions as control variables are:

- age and age squared,

dummy variables for:

- gender (male dummy is one, female dummy is zero),
- income group (data on monthly household income are available in brackets. The brackets were determined based on a household budget survey in 2003 and then adjusted for inflation in later years. In 2011 the

brackets were 0–630, 631–990, 991–1,650, 1,651–2,750, 2,751–3,850, and 3,851+ , all in Turkish liras.),

- marital status (never married (the omitted category), married, widow/widower, divorced, separated),
- employment status (employed (the omitted category), temporarily out of work, unemployed, housewife, student, retired),
- education status (illiterate or no degree (the omitted category), primary school degree (8 years of schooling), high school degree, university degree, more than university education),
- rural versus urban location (urban equals one).

2.2. Data Analysis Strategy

The analyses rely on happiness equations where self-stated happiness of individual i, $Happy_i$, is regressed on the set of demographic and economic characteristics of the individual and the household that he belongs to.

$$Happy_i = \alpha_1 + \mathrm{B}_1{}' D_i + \theta_1 . Personality_i + \delta .\ Comparison_i + \gamma_1 . YearDummy_t +$$

$$Happy_i = \alpha_2 + \mathrm{B}_2{}' D_i + \theta_2 . Personality_i + \tau . Expectation_i + \gamma_2 . YearDummy_t +$$

The main hypotheses are:

H1

"Comparison variables (as defined above) have no direct effect on happiness of individuals".

H2

"Expectations (as defined above) have no direct effect on happiness of individuals".

Regressions are run in three distinct periods: 2003–2007 (economic growth); 2008–2009 (economic decline); and 2010–2011 (economic growth), since It is possible that one's evaluation of life is shaped by the macroeconomic environment. In Turkey, annual growth rate of per capita income fluctuated greatly in 2003–2011. It varied between 3.4 and 8 % (with an average of 5.6 %) in 2003–2007. An economic crisis in 2008 and 2009 reduced growth rates to −0.6 and −6.1 % per year. Recovering from the crisis, positive rates were observed in 2010 (7.7 %) and 2011 (7.1 %).

Although happiness is an ordinal variable in the data, and latent variable methods are available for modeling ordinal variables, previous studies have found that the results are not sensitive to the choice of ordinary least squares (OLS) or latent variable methods (Ferrer-i-Carbonell and Frijters 2004). I use the OLS technique so that the interpretation of the coefficient estimates is straightforward. Identification relies on the assumption that the error term is uncorrelated with all of the explanatory variables.

The *Personality* variable refers to the individual-specific factors (an idiosyncratic unobserved event that happened right before the survey, the mood of the individual at the time of the survey, the time-invariant personality traits of the individual) that are supposed to be in the regression. Assuming that in large samples the effects of mood and idiosyncratic unobserved events cancel out, most of the omitted variable bias would originate from the personality traits. The TLSS dataset, like many other happiness surveys, does not collect personality data. Some authors argue that it is better not to control for personality than to use imperfect measures (Gao and Smyth 2011), yet the literature admits the importance of personality in happiness (Ferrer-i-Carbonell and Frijters 2004). As a second-best solution, I estimate the unobserved individual-specific factor, using the method suggested by Van Praag and Ferrer-i Carbonell (2008), and used by Cárdenas et al. (2008) in a cross-sectional setting.

The method basically consists of extracting the unobserved factor from several questions related to distinct satisfaction domains posed to the same respondent. First, I individually regress in each of the three periods the level of satisfaction in each domain on demographic characteristics listed in Sect. 2.1 (collected in

the D_i matrix) and year dummies as shown in Eq. (2):

$$SatisfactionDomain_i = \alpha_3 + \mathrm{B}_3{}' D_i + \gamma_3 . YearDummy_t + \epsilon_i \quad (2)$$

Then, I estimate the predicted residual of each regression. I select the five domain satisfaction variables whose residuals have the lowest correlation with the residuals from the happiness variable, since I want the *Personality* variable to have the lowest correlation with the error term in the happiness equation. The selected domains are satisfaction from neighbors, satisfaction from friends, satisfaction from neighborhood, satisfaction from relationship with relatives, and satisfaction from current residence. The correlation matrix for the residuals is presented in Table 1 (for the entire sample, to save space). Satisfaction questions that are asked only to a specific group of individuals (such as satisfaction from marriage or self income) are ignored.

Table 1

Pairwise correlation between the residuals from the happiness regression and the resi five domain satisfaction variables

	Satisfaction from				
	Happiness	**Neighbors**	**Friends**	**Neighborhood**	**Relatives**
Satisfaction from					
Happiness	1				
Neighbors	0.1456	1			
Friends	0.1572	0.4508	1		
Neighborhood	0.1701	0.4086	0.2374	1	
Relatives	0.1855	0.3792	0.4400	0.2207	1
Residence	0.249	0.1911	0.1512	0.3532	0.1684
Source author's calculations based on TLSS data, 2003–2011					
All regressions include age, age squared, gender, income bracket, marital status, ed status, labor market status, geographic location, the number of adults in the househo dummies as control variables. Individual weights are used in all regressions.					

Next, I obtain the common factor of the residuals from domain satisfaction regressions using the principal component method. The first principal component of the residuals is used as an estimate of *Personality* in Eq. (1a, 1b). It is known that the correlation across time of self-reported life satisfaction measures is higher if the average of a number of life satisfaction questions is used instead of a single question (Lucas et al. 1996). Personality traits are supposed to be time-invariant; hence using the average of a number of questions would yield a better estimate of personality traits than using a single question. In Appendix Table A1~~9~~, I show that the *Personality* variable enters the happiness equation with positive and statistically significant coefficient estimates.

3. Results

3.1. Descriptive Statistics

Tables 2 and 3 present descriptive statistics for the variables used in the regressions. For age the sample mean is reported. For all other variables, the percentages of the responses in different categories are reported. Individual level weights are used to estimate the statistics.

Table 2

Descriptive statistics on happiness and variables related to comparisons and expectations

	2003–2007	**2008–2009**	**2010–2011**
Happiness			
Very unhappy	2.6	2.8	1.9
Unhappy	8.7	11.5	8.4
Neutral	30.5	30.7	28.1
Happy	48.9	47.1	52.8
Very happy	9.2	8.0	8.8
ELQ			
Steps 0–2	17.4	17.5	15.8
Steps 3–4	29.6	31.1	32.8

Step 5	24.4	26.3	29.1
Steps 6–7	21.3	19.1	17.5
Steps 8–10	7.3	6.0	4.9
Today versus 5 years ago			
Worse	22.8	30.0	25.5
The same	31.6	32.8	33.2
Better	44.1	35.4	39.0
Next year, household income			
Lower	13.4	22.0	10.5
The same	50.2	54.2	53.9
Higher	27.8	14.9	24.1
Next year, own working conditions			
Worse	11.4	15.1	8.4
The same	50.6	58.0	53.3
Better	29.6	17.5	26.7
Next year, life in general			
Worse	10.6	17.8	9.3
The same	40.5	45.6	43.6
Better	37.8	25.0	32.6
In 5 years, life in general			
Worse	13.0	21.1	14.6
The same	32.9	33.6	32.2
Better	41.2	31.0	35.4
Number of observations	31,456	14,011	14,388

Source: A ~~a~~uthor's computations using TLSS data, 2003–2011. The percentages do not sum to 100 in the last five panels, because the shares of those who stated 'No opinion' are left out.

Table 3

Descriptive statistics on socio-demographic variables

		2003–2007	2008–2009	2010–2011
Age and gender				
Average age Please remove italics		39.7	40.9	41.4
% Male Please remove italics.		48.5	48.7	49.0
Household income				
Lowest bracket		18.5	18.4	15.6
2nd bracket		26.0	24.3	25.2
3rd bracket		19.9	21.2	25.3
4th bracket		18.8	19.9	19.0
5th bracket		11.3	10.8	9.7
Top bracket		5.5	5.5	5.1
Education				
<Primary school		17.2	17.7	17.0
Primary school		55.4	52.6	52.7
High school		18.2	18.9	18.6
University		8.7	10.2	10.7
>University		0.6	0.7	1.0
Marital status				
Never married		19.1	19.8	19.0
Married		74.3	72.3	73.1
Widow/widower		5.0	5.7	5.7
Divorced		1.2	1.1	1.1
Separated		0.4	1.1	1.1
Labor market status				
Employed		39.1	41.2	44.4
Unemployed		5.5	5.6	4.8

Temp. out of work	1.0	0.7	0.9
Housewife	36.9	34.2	31.3
Student	2.9	3.5	3.5
Retired	9.0	9.7	9.0
Location			
Urban	64.3	68.7	69.6
Number of adults in the household			
1	5.8	8.8	10.1
2	48.1	46.6	46.0
3	22.6	22.3	21.9
4	14.0	14.4	14.1
5+	9.5	8.0	8.0
Number of observations	31,456	14,011	14,388
Source: A ~~a~~uthor's computations using TLSS data, 2003–2011			

Table 2 shows that almost half of the respondents are happy; close to one-third are neither happy, nor unhappy. About 24–29 % of individuals see themselves as located in the middle of the economic ladder. More individuals see themselves in the lower half than in the upper half of the ladder. The share of those who think they are better off at the time of the survey is lower in crisis years than in years of economic expansion ('today versus 5 years ago' variable).

"The same" was the most frequent answer given to questions about one-year ahead expectations. Expectations turned less favorable in crisis years. Those with favorable expectations about household income are about 15–28 % of the sample. In contrast, Frijters et al. (2012) report that in China 74.8 % of the respondents believe that their income will increase in the next 5 years. I think that the difference cannot be explained by the difference in time horizons considered (1 year ahead versus 5 years ahead). Turkish people have much lower income growth expectations than Chinese people.

Table 3 shows that about 85 % of individuals are in the lowest four income brackets. The majority of individuals are married. For a little more than half of the respondents, the highest educational achievement is primary school degree (8 years of schooling). There appears to be an upward trend over time in the share of the employed and a downward trend in the share of housewives. Furthermore, an increase over time in the shares of urban and one-adult households is visible.

AQ2

3.2. Regression Estimates of Happiness Equations

In all regressions, I find clear evidence that having higher income is associated with greater happiness, consistent with the large literature on the relationship between income and happiness (excellent review articles are Frey and Stutzer (2002), Clark et al. (2008), Dolan et al. (2008)).

Table 4 presents the coefficient estimates of income and of the comparison variables (δ) based on pooled OLS regressions of Eq. (1a). The ELQ dummy variables used in the regressions are defined by grouping the steps of the ladder to match the population shares of the respondents in the income brackets as close as possible. The 'today versus 5 years ago' variable is as described earlier with 'no opinion' chosen as the base category.

Table 4

OLS coefficient estimates of income and comparison variables in Eq. (1a)

	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(**
	(2003–2007)	**(2008–2009)**	**(2010–2011)**	**(2003–2007)**	**(2008–2009)**	**(**
2nd Income bracket	0.164*** (0.000)	0.155*** (0.000)	0.0761*** (0.000)	0.189*** (0.000)	0.195*** (0.000)	(
3rd Income bracket	0.251*** (0.000)	0.261*** (0.000)	0.163*** (0.000)	0.287*** (0.000)	0.313*** (0.000)	(
4th Income bracket	0.304*** (0.000)	0.310*** (0.000)	0.220*** (0.000)	0.355*** (0.000)	0.373*** (0.000)	(
5th Income bracket	0.378*** (0.000)	0.416*** (0.000)	0.297*** (0.000)	0.442*** (0.000)	0.492*** (0.000)	(

6th Income bracket	0.419*** (0.000)	0.502*** (0.000)	0.372*** (0.000)	0.518*** (0.000)	0.598*** (0.000)	((
Comparison						
ELQ steps 0–2	−0.403*** (0.000)	−0.465*** (0.000)	−0.342*** (0.000)			
ELQ steps 3–4	−0.150*** (0.000)	−0.163*** (0.000)	−0.125*** (0.000)			
ELQ steps 6–7	0.102*** (0.000)	0.0926*** (0.000)	0.0868*** (0.000)			
ELQ steps 8–10	0.253*** (0.000)	0.146*** (0.000)	0.257*** (0.000)			
Today versus 5 years ago: worse				−0.227*** (0.000)	0.0272 (0.605)	- (
Today versus 5 years ago: same				0.0239 (0.531)	0.308*** (0.000)	((
Today versus 5 years ago: better				0.177*** (0.000)	0.458*** (0.000)	((
Observations	31,456	14,011	14,388	31,441	14,011	1
Adjusted R^2	0.173	0.192	0.178	0.169	0.189	(

All regressions include age, age squared, gender, income bracket, marital status, ed status, labor market status, geographic location, the number of adults in the househo dummies, and *Personality* as control variables. Individual weights are used in all reg The *p* values of the estimates are reported in parentheses. + $p < 0.15$, * $p < 0.10$, ** *** $p < 0.01$. Coefficient estimates of *Personality* vary between 0.124 and 0.144 a statistically significant at 1 %.

The coefficient estimates in Table 4 show that, in general, feeling better off compared to a benchmark (others or one's own income in the past) is associated with higher happiness and being below it with lower happiness, consistent with the findings in the literature (see, for instance, Dumludag (2012) and Senik (2009)). Comparing the coefficient estimates of ELQ to the estimates of income brackets in columns (1–3), I find that seeing self on steps 0–2 of the ladder instead of step 5 (the omitted category) is equivalent in generating unhappiness to falling from 5th to 6th income bracket to the 1st

bracket, which is an enormous change that can be simulated by a reduction of income from 10 to 15 units to one unit.

The position on the business cycle affects the extent to which one's relative position in the society matters to happiness. Compared to the times of economic expansion, in crisis years seeing self on the bottom of the society makes one even more unhappy and seeing self on the top of the society adds little to happiness. In crisis years, being in the 3rd or higher income bracket increases happiness more than it does in years of economic expansion. In other words, although one's relative position matters to happiness at all times, in crisis years the importance of absolute income increases and the importance of relative income decreases.

Naturally, one' evaluation of his life relative to the past depends on the phase of the business cycle at the time of evaluation (columns 4–6). In expansion years, feeling worse off compared to 5 years earlier has a negative effect on happiness that is the same in magnitude as being in the 1st~~1st~~ income bracket instead of being in the 2nd or 3rd bracket. In crisis years (column 5), feeling the same or better off relative to the past are far more influential on greater happiness than they are in years of economic expansion.

Table 5 presents the coefficient estimates of income and of the variables related to expectations (**τ**) based on pooled OLS regressions of Eq. (1b). Expectations about future income do influence current happiness after current income is controlled for (columns 1–3). Expecting an increase in income in the following year is associated with higher happiness and expecting a decrease is associated with lower happiness. Similarly, expecting working conditions to be better in the following year increases happiness (the estimates are based on the sample of respondents who are employed at the time of the survey) (columns 4–6).

Table 5

OLS coefficient estimates of income and the variables related to expectations in Eq. (1

	(1)	**(2)**	**(3)**	**(4)**	**(5)**
	(2003–2007)	**(2008–2009)**	**(2010–2011)**	**(2003–2007)**	**(2008–2009)**

2nd Income bracket	0.191*** (0.000)	0.206*** (0.000)	0.103*** (0.000)	0.158*** (0.000)	0.153*** (0.000)
3rd Income bracket	0.295*** (0.000)	0.333*** (0.000)	0.209*** (0.000)	0.279*** (0.000)	0.331*** (0.000)
4th Income bracket	0.363*** (0.000)	0.400*** (0.000)	0.285*** (0.000)	0.353*** (0.000)	0.357*** (0.000)
5th Income bracket	0.449*** (0.000)	0.512*** (0.000)	0.389*** (0.000)	0.468*** (0.000)	0.497*** (0.000)
6th Income bracket	0.530*** (0.000)	0.625*** (0.000)	0.489*** (0.000)	0.535*** (0.000)	0.626*** (0.000)
Expectations (*next year*)					
Household income: Lower	−0.257*** (0.000)	−0.309*** (0.000)	−0.279*** (0.000)		
Household income: Same	0.0853*** (0.000)	0.00553 (0.827)	0.0409* (0.054)		
Household income: Higher	0.265*** (0.000)	0.193*** (0.000)	0.228*** (0.000)		
Own working conditions: Worse				−0.289*** (0.000)	−0.241*** (0.000)
Own working conditions: Same				−0.0417+ (0.132)	0.0770** (0.020)
Own working conditions: Better				0.175*** (0.000)	0.221*** (0.000)
Observations	31,427	14,011	14,388	12,127	7,827
Adjusted R^2	0.172	0.183	0.176	0.149	0.163

See Notes to Table 4. Coefficient estimates of *Personality* vary between 0.128 and are statistically significant at 1 %.

Relating the coefficient estimates of income to the estimates of expecting an

increase in income, I see that moving up from the 1st to the 3rd income bracket raises happiness by 0.295 points in years 2003–2007 and by 0.333 points in 2008–2009. For comparison, expecting higher income raises happiness by 0.265 and 0.228 points, respectively. I calculate that expecting higher income generates an increase in happiness that would be generated by a roughly 200–250 % increase in income in the first and second periods (income changes are based on the changes between the mid-points of brackets). In years 2010–2011, moving up from the 1st to the 3rd income bracket raises happiness by 0.209 points and expecting higher income generates an increase in happiness that would be generated by a roughly 320 % increase in income. Calculations based on the cut-off points of income brackets yield smaller percentage increases (82, 100 and 160 % in the three periods). Expecting lower income in the future lowers happiness by 0.257, 0.309 and 0.279 points in the three periods.

The estimated effects of the demographic variables are remarkably consistent with those in the literature. Full regression results are not shown in the tables. One set of full results is shown in Appendix Table 9. Age has a U-shaped relationship with happiness, with the low point being in the mid- to late forties; marriage is good for happiness, for the most part; wealthier or higher income people are happier than poor ones (Graham 2010). Men are less happy than women in Turkey as observed in Western Europe and the United States, as opposed to the case in Central and Eastern Europe and in Latin America (Caporale et al. 2009; Graham and Pettinato 2002; Guriev and Zhuravskaya 2009; Graham 2010).

Educational attainment matters for happiness, although the estimated effects are small, much smaller than those for income or marital status. Unemployment is bad for happiness; its effect on happiness is equivalent to a move from the 3rd income bracket down to the 1st, which means having about 75 % less income. Being divorced or separated have larger effects on happiness than being unemployed; they have an effect on happiness that is equivalent to about an 85 % reduction in income. Housewives, students and retirees are found to be happier compared to the employed. Those who live in urban areas are less happy compared to those living in rural areas. Compared to those who live alone, respondents who live in households that have two, three or four adults (including the respondent) are happier.

3.3. Which Effects Dominate?

We have just shown that both the position relative to a benchmark and the expectation of higher income in the future generate happiness; the two can be regarded as consumption goods that directly enter one's utility function. Can we tell which of these effects dominate? Can we also tell which of the two comparison variables dominate? One technical problem in measuring the relative strength of two variables is collinearity between the two variables. For instance, those who see themselves on the lower steps of the economic ladder may also have less favorable expectations about the future. Although I already control for *Personality*, collinearity may exist because of some omitted factor such as 'being grumpy'. Thus, it is useful to divide the sample into groups of respondents and focus on those who have contrasting opinions, as done in Senik (2009), to overcome the problem.

I divide the sample into groups by defining interaction terms with a structure "up*up", "up*same", "down*same", and so on. For example, when the 'today versus 5 years ago' variable (with three categories) is interacted with expectations about future income (also with three categories), a total of nine interaction terms are built. With a large sample, I have enough observations in each cell. To assess the relative strength of different variables, I examine the coefficient estimates of opposite interactions, as in Senik (2009). For example, one opposite interaction term is "Today: Better * Exp: Lower" (takes the value of one for those who feel better off today relative to 5 years ago and expect lower income in the following year). Here, the assumption is that there is no particular reason and no omitted variable that explains why someone would feel good in one dimension but bad in another dimension. In Table 6, I show only the opposite interaction terms. In all regressions, the base categories are "same*same".

Table 6

OLS coefficient estimates of opposite interaction terms

	(1)	**(2)**	**(3)**
	(2003–2007)	**(2008–2009)**	**(2010–2011)**

Panel 1			
(a) ELQ steps 0-2 * Today:Better	−0.177*** (0.000)	−0.166*** (0.000)	−0.0992** (0.011)
(b) ELQ steps 3–4 * Today:Better	−0.0340+ (0.128)	0.0375 (0.217)	0.0283 (0.286)
(c) ELQ steps 6–7 * Today:Worse	−0.0849** (0.013)	−0.0900** (0.033)	−0.0171 (0.678)
(d) ELQ steps 8–10 * Today:Worse	−0.0268 (0.661)	−0.0832 (0.232)	0.0854 (0.335)
Observations	31,456	14,011	14,388
Adjusted R^2	0.187	0.213	0.199
Panel 2			
(a) ELQ steps 0–2 * Exp:Higher	−0.0695** (0.039)	−0.0770 (0.243)	−0.0212 (0.657)
(b) ELQ steps 3–4 * Exp:Higher	0.0684*** (0.003)	0.0584+ (0.133)	0.112*** (0.000)
(c) ELQ steps 6–7 * Exp:Lower	−0.126*** (0.002)	−0.0730* (0.090)	−0.0420 (0.509)
(d) ELQ steps 8–10 * Exp:Lower	0.0626 (0.400)	−0.187*** (0.005)	0.308** (0.022)
Observations	31,456	14,011	14,388
Adjusted R^2	0.185	0.206	0.192
Panel 3			
(a) Today: Worse*Exp:Higher	−0.00947 (0.714)	−0.0759+ (0.132)	−0.0485 (0.194)
(b) Today: Better*Exp:Lower	−0.133*** (0.000)	−0.0579+ (0.100)	−0.146*** (0.009)
Observations	31,456	14,011	14,388
Adjusted R^2	0.184	0.198	0.189
Panel 4			
(a) Exp5 years: Lower* Exp:Higher	0.0139 (0.762)	−0.0651 (0.426)	−0.158** (0.043)
(b) Exp5 years: Higher* Exp:Lower	−0.123*** (0.000)	−0.0562 (0.153)	0.0149 (0.836)

Observations	31,456	14,011	14,388
Adjusted R^2	0.177	0.188	0.184

All regressions include age, age squared, gender, income bracket, marital status, education status, labor market status, geographic location, the number of adults in the household, year dummies, and *Personality* as control variables. Individual weights are used in all regressions. The *p* values of the estimates are reported in parentheses. + $p < 0.15$, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. All interaction terms are included in the regressions, only the opposite terms are shown. 'Exp' is expectations about income next year, 'Today' is 'today versus 5 years ago', 'Exp 5 years' is expectations about income in 5 years

To check dominance, I rely on the signs of the opposite interaction terms, interpreting the sign as the net effect of two opposite forces. I find, first, that seeing self on the lowest steps of the economic ladder has a negative effect that dominates the positive effect of feeling better off relative to 5 years ago or expecting higher income (panels 1 and 2 of Table 7, line (a)). This is in contrast to Senik (2009), who finds that local comparisons (comparisons to parents, colleagues and former schoolmates) outweigh the effect of a change in general ranking. Second, in crisis years, the negative effect of expecting lower income dominates the positive effect of seeing self on the top of the society; in years of economic expansion, seeing self on the top of the society dominates the effect of expecting lower income (panel 2, line d).

Table 7

The effect of controlling for health status (only 2003 data are used)

	(1)	**(2)**	**(3)**	**(4)**	**(5)**
2nd Income bracket	0.148*** (0.000)	0.139*** (0.000)	0.156*** (0.000)	0.146*** (0.000)	0.119*** (0.000)
3rd Income bracket	0.295*** (0.000)	0.286*** (0.000)	0.318*** (0.000)	0.307*** (0.000)	0.256*** (0.000)
4th Income bracket	0.436*** (0.000)	0.409*** (0.000)	0.461*** (0.000)	0.434*** (0.000)	0.377*** (0.000)
5th Income bracket	0.434*** (0.000)	0.399*** (0.000)	0.449*** (0.000)	0.416*** (0.000)	0.346*** (0.000)
6th Income bracket	0.516*** (0.000)	0.486*** (0.000)	0.572*** (0.000)	0.541*** (0.000)	0.451*** (0.000)

Comparison					
Today versus 5 years ago: Worse	−0.280*** (0.000)	−0.242*** (0.000)			−0.249*** (0.000)
Today versus 5 years ago: Same	−0.0182 (0.791)	−0.0223 (0.743)			−0.0778 (0.252)
Today versus 5 years ago: Better	0.160** (0.020)	0.170** (0.012)			0.0743 (0.274)
Expectations (*next year*)					
Household income: Lower			−0.232*** (0.000)	−0.237*** (0.000)	−0.180*** (0.000)
Household income: Same			0.118*** (0.002)	0.0867** (0.025)	0.0856** (0.026)
Household income: Higher			0.318*** (0.000)	0.289*** (0.000)	0.249*** (0.000)
Health variables	No	Yes	No	Yes	Yes
Personality	0.106*** (0.000)	0.106*** (0.000)	0.102*** (0.000)	0.102*** (0.000)	0.0986*** (0.000)
Observations	4870	4,870	4,856	4,856	4,845
Adjusted R^2	0.160	0.183	0.165	0.187	0.206
All regressions include age, age squared, gender, income bracket, marital status, education status, labor market status, geographic location, the number of adults in the household, year dummies, and health status as control variables. ELQ is not asked in year 2003. The *p* values of the estimates are reported in parentheses. + $p < 0.15$, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$					

Third, 1-year ahead expectations dominate 5-year ahead expectations in the 1st period, whereas 5-year ahead expectations dominate in the 3rd period (panel 4). We would guess that expectations about the distant future are assigned a larger discount factor in the utility function than expectations about the near future. But this is not true in all periods. As this finding is incompatible with the standard notion of an increasing discounting factor over time, future work

should investigate whether the finding emerges in other settings too.

4. Robustness Checks

4.1. Health Status

One omitted variable could be health status, which is often found in the literature to be a significant determinant of happiness (see for example Graham (2010). In the TLSS, the health status information was collected only in year 2003. Here, as a robustness check, I examine the possibility of any bias from omitting health status. I repeat the analyses by including own health in the regressions and using only 2003 data.

It has been reported in the literature that specific health conditions, such as heart attacks and strokes reduce well-being (Shields and Wheatley Price 2005) and that causality is most likely from health to well-being. Ideally, one should use objective measures of health in a happiness regression. Subjective measures of health are not desired since a third factor, such as taking good care of self, related to both health and happiness could generate a statistically significant relationship between the two (Dolan et al. 2008). There is the tradeoff between excluding a variable from the regression and including an imperfect variable. It turns out that the coefficient estimates of the explanatory variables are similar in both.

In 2003, several health related specific questions were asked to each respondent before the overall health satisfaction question ('how satisfied are you with your health?') was asked. The health variables used in the regressions are six dummy variables. They are 'disability' (whether the person has any disability), 'medications' (whether the person needs to take medication regularly, except for vitamins), 'tired' (whether the person often feels tired or exhausted without any apparent reason), 'tremor' (whether the person has frequent shaking or tremor), 'anxious' (whether the person is often anxious or nervous), 'frightening thoughts' (whether the person often has frightening thoughts). These are preferred to overall health satisfaction, since they are less subjective than the overall health satisfaction variable.

With the inclusion of health status dummies to Eq. (1a–b) (and to the

regressions used to estimate *Personality*, Eq. 2), the findings that favorable comparisons and favorable expectations are associated with higher happiness are still valid (compare Table~~s~~ 8to Tables 4 and 5~~–4 and 5~~). Most of the health variables (tired, tremor, anxious, frightening thoughts) are statistically significant in Eq. (2) (not shown in the table). The coefficient estimates are usually small and vary from −0.05 to −0.09 for disability, from 0.008 to 0.04 for medications, from −0.11 to −0.14 for tired, from −0.05 to −0.12 for tremor, from −0.09 to −0.12 for anxious, and from −0.004 to −0.09 for frightening thoughts. Therefore, I confirm that the main conclusions are still valid.

Table 8

Simulation results (Average happiness predicted by Eq. (1a) and (1b))

	2003–2007		**2008–2009**		**2010–2011**	
	Happiness	**Change in happiness (%)**	**Happiness**	**Change in happiness (%)**	**Happiness**	**C i h (**
Actual data	3.53		3.46		3.58	
(a) *Simulations on comparison variables*						
All favorable						
ELQ	3.85	8.9	3.71	7.3	3.91	9
Today versus 5 years ago	3.68	4.1	3.65	5.4	3.73	4
All unfavorable						
ELQ	3.19	−9.7	3.1	−10.4	3.31	−
Today versus 5 years ago	3.27	−7.4	3.21	−7.1	3.35	−
(b) *Simulations on expectation variables*						
All favorable						
Income expectations	3.72	5.2	3.69	6.6	3.76	5
All unfavorable						

Income expectations	3.20	−9.6	3.19	−7.9	3.26	−
Number of observations	31,456		14,011		14,388	
Source: A~~a~~uthor's calculations based on TLSS data						

4.2. Endogeneity Bias

Utility can be correlated with the two variables of interest even when the variables do not directly enter the utility function. A correlation between the comparison variables and utility can arise because of some omitted factors that influence both. How important a respondent thinks the lives (incomes, residences, social lives, clothes, etc.) of others are is one possible omitted variable. Those who assign a higher weight to how others live in evaluating own well-being may be more likely to see themselves in the lower rungs of the society. The survey collects data on such variables in years 2009–2011. Adding the new variables to the regressions in Table 4 causes almost no change in the ELQ dummies for the lower half of the ladder but changes the dummies for the upper half of the ladder by about 50 %. All ELQ dummies are still statistically significant.

Having had an unfortunate event recently (such as being robbed) may similarly influence one's responses to both the happiness and 'today versus 5 years ago' questions. The survey has information in years 2008–2011 about whether the respondent experienced burglary, pickpocketing, extortion, beating, fakery or sexual assault in the survey year (about 5.8 % of the sample did). To test whether the observed correlation arises because of these omitted variables, I add the unfortunate event variables to the regressions. This causes no qualitative change but the magnitudes of the estimates vary by 1–15 %.

The observed correlations between expectations and utility can arise because of the saving decisions that the respondents have already made at the time of the survey. For instance, those who expect to have higher future income because of an exogenous shock such as a pre-announced bonus, reduce their savings and increase their spending, thus leading to an increase also in happiness. On the other hand, happiness may be reduced if expected increase in future income

is self-determined by increased saving and reduced consumption today. To test the existence of such channels, I include several savings-related dummy variables (dummies for finding work, starting a business, lowered savings, and increased savings, all in the survey year) to the happiness regressions in Table 6. The savings questions were asked in years 2009–2011. Adding the dummy variables change the coefficient estimates of income expectations only by 3–11 % (estimates available upon request).

5. Discussions

We have seen that comparisons and expectations matter for happiness, but how important are they? Suppose the evaluations of the respondents about their relative position were all turned to favorable. How would that change average happiness in Turkey? In a simulation exercise, I show that if, hypothetically, all respondents saw themselves on steps 8–10 and all else are kept the same, the average happiness predicted by the happiness equation would go up by 7.3–9.0 % (Table 8, panel a).[1] A similar exercise performed for the 'today versus 5 years ago' variable shows that average predicted happiness would be increased by a smaller 4.1–5.4 %. Therefore, a society in which everyone saw himself on the top would be happier than a society in which everyone felt better off relative to the past.

We have found evidence for loss aversion in comparisons. Being on the lower steps of the economic ladder or being worse than in the past reduces happiness more than being on the higher steps or being better than in the past [except for column (5) in Table 4]. Two simulation exercises show that if everyone felt standing on the lowest steps of the economic ladder, average happiness predicted by the happiness equation would go down by 7.7–10.4 % and if everyone felt worse off relative to the past average happiness would go down by 6.6–7.4 % (Table 8, panel a). The effects of unfavorable comparisons are larger in absolute value than the effects of favorable comparisons. Dumludag (2012) reports similarly that in Turkey seeing one's household on the lower half of the economic ladder has a larger negative effect on current life satisfaction than the positive effect of seeing it on the higher half. Senik (2009) reports that in a sample including 28 post-transition countries, being below one's benchmark (such as the position on the economic ladder, own living conditions in the past, living conditions of former schoolmates, colleagues or

parents) has a greater effect on subjective well-being than being above it.

If everyone had favorable expectations about future income, average happiness predicted by the happiness equation would increase only by 5.0–6.6 % (Table 8, panel b). Therefore, average happiness responds more to a hypothetical improvement in the ELQ variable than to a change in income expectations. If everyone had unfavorable expectations about future income, average happiness in the entire sample predicted by the happiness equation would go down by 7.9–9.6 %. In contrast, Frijters et al. (2012) report that optimistic expectations are helping to keep the Chinese happy and estimate a much larger reduction of happiness in China to a hypothetical worsening of income expectations.

Although the effect of having optimistic expectations on happiness is smaller than that in China, being optimistic nevertheless promotes happiness in Turkey. In crisis years, if everyone had favorable expectations, average happiness would increase more than it would in expansion years. A change in expectations to negative would hurt more in expansion years than it would in crisis years.

We have discussed earlier that if expectations about future income influenced current happiness by setting the benchmark against which one compares himself, then favorable expectations would influence today's happiness negatively. Since the results are on the contrary, they are consistent with a model where income expectations are a consumption good in itself. A positive association has been reported also in Camerer and Loewenstein (2003), Senik (2008), Clark et al. (2008), and in Knight et al. (2009).

Based on the coefficient estimates of income expectations, four general remarks can be made. First, the effect on happiness of expecting higher income has increased over time in Turkey (the percentage changes in income required to generate an equivalent increase in happiness has increased). Second, although the estimated effect of higher income expectations are high, they are low compared to the 380 % income rise in 2005 that is equivalent to expecting a big increase in income among Chinese rural–urban migrants, estimated by Gao and Smyth (2011). They are closer to the 200 % income rise that is equivalent to expecting a small increase in income in China. Therefore, in Turkey, expectations about higher future income have a smaller influence on happiness

than they do in China. Third, the effects of expectations are asymmetric since unfavorable expectations of future household income reduce happiness more than favorable expectations increase happiness (except for the results in column (1) of Table 5). By contrast, in the Chinese migrant sample, expecting a reduction in income has no statistically significant effect on happiness (probably because 85 % of the sample expect an increase but only 3.3 % expect a decrease in income). Fourth, in crisis years the importance of absolute income is higher than it is in times of expansion and the importance of income expectations is lower (Table 9).

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6. Conclusions

The main finding is that comparison effects and expectations about living conditions in the future are important correlates of happiness in Turkey, besides absolute income, after controlling for demographic factors such as gender, education, and marital status of the individual.

The impact on happiness of relative income and expectations varies over phases of the business cycle. Since in crisis years, compared to years of expansion, the importance for happiness of having high absolute income is greater and the importance of having high relative income or high income expectations is lower, prevention of a drop in absolute income during an economic downturn is crucial for maintaining happiness.

Turkish people appear to have greater concern for their relative position in the society than for having higher absolute income in the future. Therefore, policies that aim to reduce inequality would help boost average happiness in the country better than policies that aim to increase expectations about future income.

The finding of a significant but small effect of income expectations is in contrast to the finding in China, where optimistic expectations about future income have been found to be more important than an actual equivalent raise in current income. During the 2003–2011 period, per capita income rose about 4.3 times in China but about 2.3 times in Turkey (World DataBank 2011). Economic growth rate was quite stable in China but it fluctuated in Turkey because of economic crises. In China, about 65 % of the population expect an

improvement in their income (Frijters et al. 2012), whereas in Turkey only about 24 % do (Table 2). Under these circumstances, it is perhaps not surprising that in Turkey, happiness is more closely related to more traditional factors, such as absolute income, unemployment status and marital status, than to expectations. These results also tell us that expectations have different links to happiness in different countries, therefore future work should conduct inter-country analyses.

As the current study is based on cross-sectional data, only some correlations have been reported as findings. Ideally, we would want to identify causality. Collecting panel data would be useful in this regard. Another limitation of the study is the lack of variables related to personality, which is known as one of the strongest and most consistent predictors of subjective well-being. Regardless of the limitations, that social comparisons and expectations on future income matter for happiness is an important finding that should be further investigated in future studies.

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7. Appendix

~~See Table 9.~~

Table A1

~~Table 9~~

Full results for the happiness Eq. (1b) estimated for 2010–2011, (the specification in column (3))

Variable		Variable		Variable	
Age	−0.0335*** (0.000)	Unemployed	−0.213*** (0.000)		

Age squared	0.000324*** (0.000)	Temp. out of work	−0.0735 (0.289)		
Male	−0.0290* (0.100)	Housewife	0.108*** (0.000)	*Expectations* (*nex*	
2nd Income bracket	0.103*** (0.000)	Student	−0.00263 (0.946)	Household income: Lower	−0 (0.
3rd Income bracket	0.209*** (0.000)	Retired	0.115*** (0.000)	Household income: Same	0.((0.
4th Income bracket	0.285*** (0.000)	Urban	−0.0888*** (0.000)	Household income: Higher	0.2 (0.
5th Income bracket	0.389*** (0.000)	2 adult household	0.0804*** (0.001)	Personality	0.1 (0.
6th Income bracket	0.489*** (0.000)	3 adult household	0.0603** (0.018)		
2: Married	0.286*** (0.000)	4 adult household	0.0874*** (0.002)	Observations	14
3: Widow/widower	−0.00881 (0.827)	5 adult household	−0.0179 (0.618)	Adjusted R^2	0.1
4: Divorced	−0.392*** (0.000)	6 adult household	0.0345 (0.519)		
5: Separated	−0.247*** (0.000)	7 adult household	−0.149* (0.078)		
2: Primary school	0.0812*** (0.000)	8 adult household	−0.0482 (0.620)		
3: High school	0.0783*** (0.004)	2010 dummy	0.0136		
4: University	0.144*** (0.000)		(0.290)		
5: >University	0.0825 (0.252)				
Source: *A*~~a~~uthors' calculations based on TLSS data, 2010–2011					

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[1] I compute average happiness by using the estimated coefficients and the new hypothetical values of the variables.