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Abstract

This paper examines the impact of the failed coup d'état attempt in Turkey on July 15, 2016, on people's happiness, life satisfaction, and trust and finds that the plot had a significant negative effect on all three variables. This paper is the first to show that coups d'état can have a significant adverse effect on people's well-being, as in the case of terrorist attacks.

Keywords: happiness, well-being, trust, life satisfaction, coup d'état, Turkey
JEL codes: I31

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1. Introduction

There is a large economic literature about how natural disasters including weather events (e.g., hurricanes and climate change), floods, and earthquakes affect subjective well-being including happiness (e.g., Kimball et al., 2006; Rehdanz et al., 2015; and Sekulova and van den Bergh 2016). These studies generally find that natural disasters cause a decline in happiness.

In addition to natural disasters, violent means to achieve political or social objectives may also affect well-being and social capital in a society. Among them, the importance of terrorism has been well recognized in the literature, and various studies have examined the impact of terrorism on happiness using data from surveys conducted before and after the incident. For example, Clark and Stancanelli (2017) found a large negative impact of the Boston Marathon bombing in 2013 on well-being, Romanov et al. (2012) found that terrorist activities in Israel during the 2000-04 period did not have a significant impact on the happiness of Israeli citizens, and Coupe (2017) found that the terrorist attacks in Paris in November 2015 worsened expectations about the future but increased trust in government while there was no effect on life satisfaction.

Another example of violent means to achieve political or social objectives is a coup d'état whereby military methods are used to seize a state. Coups d' état can be expected to decrease happiness and social capital because, like terrorism, they increase uncertainty and/or threaten political and personal freedoms. While there are a number of studies that have examined the impact of political regimes on happiness and social capital (e.g., Frey and Stutzer, 2000, 2002) as well as the impact of terrorism (e.g., Frey, Luechinger, and Stutzer, 2009, and the papers cited above), the impact of coups d'état on happiness and trust is an undiscovered area of research.

In this paper, we examine the impact of the failed coup d'état attempt in Turkey on July 15, 2016, which cost the lives of about 300 civilians and caused more than 2000 injuries. Loyal officials in the armed forces resisted, and the plot ended in failure. The government announced a state of emergency one week after the plot and restricted civilian rights for two years until July 2018. Thus, when interpreting our findings, we need to bear in mind that any decline in happiness and trust that occurred after the coup is due not only to the failed coup attempt itself but also to the government's reaction to the failed coup.

For our empirical analysis, we use data from a national survey conducted during the June-September 2016 period in 12 representative provinces using a face-to-face interview method. The survey was funded by Kadir Has University (Project No. 2016-BAP-02). Our data are unique because 625 respondents were interviewed before July 15, 2016, and the remaining 1384 during the August-September 2016 period. The survey resumed after a three-week suspension following the coup. We conduct a simple econometric analysis to find whether happiness, life satisfaction, and trust changed significantly after the plot.

Previous studies on happiness, life satisfaction, and trust in Turkey have focused mainly on the determinants of these variables.[2] Our paper contributes to the literature on happiness economics by using a unique dataset and a quasi-natural experiment to investigate the possible impact of a failed violent attempt to bring about regime change on happiness and trust. To the best of our knowledge, this paper is the first such study for any country.

The rest of the paper is organized as follows. Section 2 describes the data and the results of the analysis. Section 3 concludes.

[2] See Eren and Aşıcı (2017) for a review of the determinants of happiness and Kayaoglu (2017) for a review of the determinants of trust.

2. Data and Analysis

2.1. Survey Data

We first explain the three outcome variables used in our analysis: happiness, trust, and life satisfaction. We measure happiness using the following question: "Overall, how happy would you say you are currently?" The scale for this question is from 0 (very unhappy) to 10 (very happy).

Trust is an important determinant of long-run growth (Zak and Knack, 2001), but measuring it is not easy (Glaeser et al., 2000). We measure trust towards others using the following question: "To what extent do you agree with the following statement: In general, most people are trustworthy." The scale for this question ranges from 1 (completely disagree) to 5 (completely agree).

We measure life satisfaction using the following question: "How satisfied are you with your life overall?" We measure life satisfaction on a scale of 1 (unsatisfied) to 5 (satisfied).

In our empirical analysis, we also include variables pertaining to the following sociodemographic characteristics of respondents: age and age squared, gender, marital status, education, a dummy variable for having children, employment status, household income, risk attitudes, dummy variables for provinces, and a set of categorical variables pertaining to religiosity, self-reported health, satisfaction from relations with friends, and a feeling of being lonely. In addition, we include a dummy variable for the period after the plot. Details about these variables are presented in the appendix.

2.2. Changes in Happiness, Life Satisfaction, and Trust Before and After the Plot

Summary statistics before and after the plot for some of the variables we used in our analysis are presented in Table 1. It should be noted that, although the data are from different periods, the respondents interviewed are not the same people. Therefore, our analysis may suffer from potential composition bias though we try to alleviate this problem by including a number of control variables.

The mean values of life satisfaction and trust are lower after the plot, and the differences between the mean values of the two subsamples are statistically significant. Note that the scale for these questions range from 1 (doesn't hold true at all) to 5 (particularly true). Thus, the results imply that respondents felt less satisfied with their lives and trusted others less after the plot. The decrease in trust was greater than that in life satisfaction. The mean value of happiness also decreased after the plot but only slightly, and the difference was not statistically significant.

There are no comparable data from other surveys for the aforementioned variables. However, the *Life Satisfaction Survey*, which is conducted annually by the Turkish Statistical Institute (Turkstat), includes questions about life satisfaction and happiness. The percentage of the respondents who reported that they are "happy" or "very happy" declined from 61.3 percent in 2016 to 58.0 percent in 2017 and further to 53.4 percent in 2018. This finding corroborates the finding from our survey and also suggests that the negative impact of the coup persisted even after the first few months, when our survey was conducted. Moreover, the fact that the percentage of "happy" and " very happy" respondents was roughly the same in 2009 and 2018, and the fact that it showed an upward trend during the 2014-16 period strongly suggests that the decline in happiness in 2017 was not merely the continuation of a secular decline in happiness but the result of the coup d'etat and related events.

The Turkstat survey also shows that the proportion of respondents who report that they are satisfied with public services such as security and judicial services declined slightly, presumably reflecting restrictions on civilian rights under the state of emergency.

Figure 1 shows the frequency distributions of the variables pertaining to happiness, life satisfaction, and trust. The frequency distributions of happiness and life satisfaction do not show a large difference, but the percentage shares of both higher levels of happiness (8, 9, and 10)

and the highest level of life satisfaction (5) decline after the plot. Moreover, the percentage shares of lower levels of trust (1 and 2) are significantly higher after the plot.

2.3. Ordered Probit Results

Next, we present the results of a simple ordered probit analysis that examines whether happiness, life satisfaction, and trust have changed significantly after the plot. For brevity, we present the results only for our key explanatory variable, i.e., a dummy variable for the period after the plot. Detailed results are available in the appendix.

Since the marginal effects of the explanatory variables at the mean are misleading for discrete variables, we look at the marginal effects of the probability of specific responses to the questions about happiness, life satisfaction, and trust. Specifically, we look at the marginal effects for happiness levels higher than 6 and for levels 4 and 5 for life satisfaction and trust. These responses imply high levels of happiness, life satisfaction, and trust. Therefore, in what follows, we examine the probabilities of respondents answering that they are relatively happy, satisfied, and trusting of others.

The results of ordered probit estimations are presented in Table 2. In the case of happiness, there is a statistically significant ($p<0.01$) decline after the plot in the probability that people feel happy--between 1.3 to 3.1 percentage points. The probability that people are trusting of others declines after the plot ($p<0.05$) by 2.7 and 2.0 percentage points for trust levels 4 and 5, respectively. The probability that people feel more satisfied about their lives declines after the plot by 0.8 and 4.8 percentage points ($p<0.05$) for life satisfaction levels 4 and 5, respectively.

Based on these results, we argue that the failed plot negatively affected happiness, life satisfaction, and trust for respondents who are relatively happy, more satisfied, and trusting of others. These results are comparable to the results from other studies about terrorist attacks. Our finding that the plot reduced happiness and life satisfaction is similar to the finding of Clark and Stancanelli (2017) from their analysis of the Boston marathon bombing that terrorism had a negative effect on well-being. However, our results are at variance with Coupe (2017), who found no effect of the terrorist attacks in Paris on life satisfaction.

An interesting question is whether it matters whether or not the coup d'état succeeded or failed. We would expect the impact of the event on happiness, life satisfaction, and trust to be similar in either case. This is partly because the declaration of the state of emergency itself is likely to have increased uncertainty about the future, including the possibility of a recurrence of the plot, and to have further increased the adverse effect on people's well-being, as we discussed in the introduction. As a consequence, even if the plot had succeeded, civilian rights and citizens' daily lives would presumably have been affected similarly.

4. Conclusion

This short paper examined the impact of the failed coup d'état in Turkey on July 15, 2016, on happiness, trust, and life satisfaction and found that the plot had a significant negative effect on all three variables, as expected.

The survey used for this analysis did not include questions about the political or ideological inclinations of respondents, which could have helped explain the changes in trust and happiness through the political impact of the plot. Montalvo (2011) shows how terrorist attacks may affect voting behavior, and a similar mechanism may be at work with the plot as well. Similarly, the survey did not include any questions about trust in the ruling or opposition parties or in the government in general.

Nevertheless, using unique data on people's happiness, trust, and life satisfaction before and after the coup d'état in Turkey, this paper is the first to show that coups d'état can have a significant adverse effect on people's well-being, as in the case of terrorist attacks.

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Table 1. Changes in responses to selected questions before and after the plot

	Before the plot		After the plot		Mean comparison test
	Mean	Std. dev.	Mean	Std. dev.	t stat
In general, most people are trustworthy.	2.651	1.389	2.542	1.21	1.949*
I am satisfied with my life overall.	3.834	1.116	3.732	1.005	1.698**
Overall, how happy would you say you are currently?	6.245	2.038	6.159	1.789	0.907

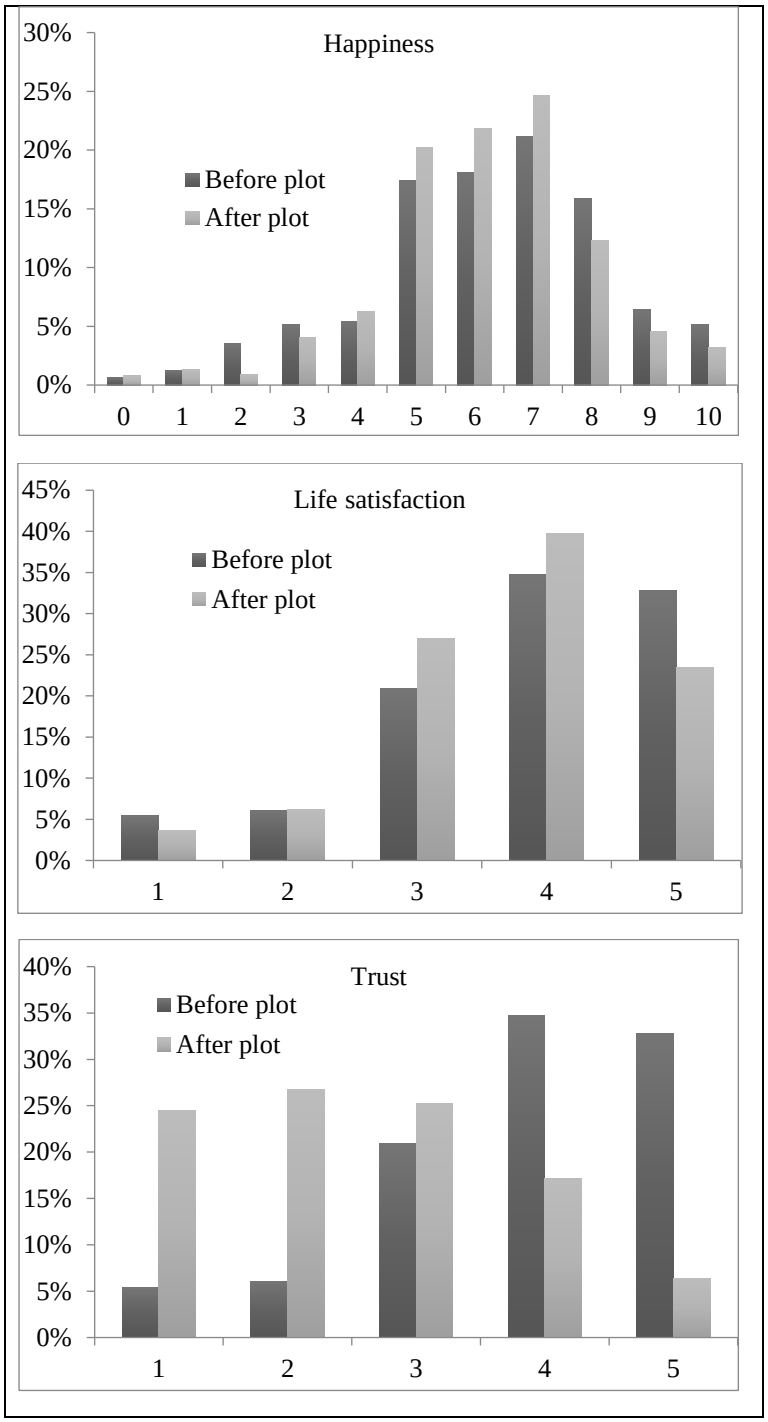
Note: The scale for the happiness variable is from 0 (very unhappy) to 10 (very happy). For the trust and life satisfaction variables, the scale is from 1 (doesn't hold true at all) to 5 (particularly true for me). The null hypothesis for the t test is that the difference between the means of the respective variable in the pre-plot and post-plot samples is zero. * $p<0.10$, ** $p<0.05$, *** $p<0.01$.

Table 2. Marginal effects for ordered probit results

	Dependent variable									
	Level of happiness						Level of trust		Level of life satisfaction	
	7		8		9		10		4	5	4	5
After the plot	-0.0234	***	-0.0310	***	-0.0154	***	-0.0131	***	-0.0267	-0.0195	-0.0084	-0.0476
	(0.0073)		(0.0096)		(0.0049)		(0.0042)		(0.0122) **	(0.0090) **	(0.0039) **	(0.0204) **
Log likelihood	-3460.6								-2794.7		-2260.6	
Pseudo R^2	0.0361								0.0456		0.1237	
Observations	1,887								1,887		1,887	

Note: Standard errors are in brackets. * p<0.10, ** p<0.05, *** p<0.01

Figure 1. Frequency distributions of happiness, life satisfaction, and trust before and after the plot



APPENDIX: DETAILED ECONOMETRIC RESULTS

Table A1. List of variables

Variable	*Survey question*	*Scale*	*Remarks*
Happiness	Overall, how happy would you say you are currently?	0 ~ 10 (0: very unhappy, 10: very happy)	Categorical variable
Life satisfaction	How satisfied are you with your life overall?	1 ~ 5 (1: unsatisfied, 5: satisfied)	Categorical variable
Trust	To what extent do you agree with each of the following statement: "In general, most people are trustworthy"	1 ~ 5 (1: doesn't hold true at all for me, 5: particularly true for me)	Categorical variable
After the plot			Dummy variable: 1 if the date of the interview was after July 15; 0 otherwise
Religious	How true for you is the following statement: "I am deeply religious"	1 ~ 5 (1: doesn't hold true at all for me, 5: particularly true for me)	Categorical variable
Age	What is your age?	18 ~	
Gender	Your gender	1: female, 2: male	Dummy variable: 1 male; 0 otherwise
Marital status	Please answer about your marital status	1: married, 2: divorced, 3: widow, 4: single, 5: married but living separately, 6: not married, living together with partner	Dummy variables: married (1,5), divorced and widow (2, 3), never married (4,6)
Children	How many sons or daughters do you have? If you do not have any children, please indicate 0 in the following box.	0 ~	Dummy variable: 1 if has children; 0 otherwise
Education	Please indicate the highest level of education (or equivalent) completed by you.	1: primary, 2: primary dropout, 3: secondary, 4: secondary dropout, 5: high school, 6: high school dropout, 7: college dropout, 8: two-year college, 9: four-year college, 10: graduate school dropout, 11: master's, 12: PhD	Dummy variables: less than high (<5 or 6), high (5 or 7), college (>7)
Employment	What is your employment status?	1: employed, 2: unemployed, 3: not in labor force (student, housewife/househusband), retired, not working	Dummy variables for each
Income	Approximately how much was the annual earned income before taxes and with bonuses included of your entire household for 2015? (If you are a student, please indicate the income of your parents' entire household)	Categories: less than TRY10,000, between TRY10,000-20,000, between TRY 20,000-40,000, between TRY 40,000-60,000, between TRY 60,000-80,000, between TRY 80,000-100,000, between TRY 100,000-120,000, between TRY 120,000-140,000, between TRY 140,000-160,000, between TRY 160,000-180,000, between TRY 180,000-200,000, more than TRY 200,000.	We divide household income measured in Turkish Lira (TRY) by the square root of the size of household size. We use midpoints for each category. We use TRY8,000 for bottom category and TRY250,000 for top category. Income figures are in thousands.
Risk attitude	How high does the chance of rain have to be before you will bring an umbrella with you when you go out? (Write in number from 0 - 100) ____%	0 ~ 100	
Self-reported health	How true for you is the following statement: "I have anxieties about my health"	1 ~ 5 (1: doesn't hold true at all for me, 5: particularly true for me)	Categorical variable
Feeling lonely	How true for you is the following statement: "I have been feeling lonely"	1 ~ 5 (1: doesn't hold true at all for me, 5: particularly true for me)	Categorical variable
Good relations with friends	How satisfied are you with relations with your friends?	1 ~ 5 (1: unsatisfied, 5: satisfied)	Categorical variable

Table A2. Average marginal effects for ordered probit models (dependent variable: level of happiness)

	Dependent variable					
	Happy = 0	Happy = 1	Happy = 2	Happy = 3	Happy = 4	Happy = 5
After the plot	0.0027**	0.0050***	0.0061***	0.0136***	0.0157***	0.0320***
	(0.0011)	(0.0018)	(0.0020)	(0.0043)	(0.0050)	(0.0100)
Trust = 2	-0.0018	-0.0032	-0.0038	-0.0082	-0.0091	-0.0172
	(0.0013)	(0.0021)	(0.0025)	(0.0052)	(0.0057)	(0.0108)
Trust = 3	-0.0025**	-0.0045**	-0.0054**	-0.0118**	-0.0133**	-0.0259**
	(0.0013)	(0.0021)	(0.0025)	(0.0051)	(0.0057)	(0.0109)
Trust = 4	-0.0032**	-0.0058***	-0.0071***	-0.0157***	-0.0180***	-0.0363***
	(0.0014)	(0.0022)	(0.0026)	(0.0053)	(0.0060)	(0.0118)
Trust = 5	-0.0030*	-0.0053**	-0.0064**	-0.0141**	-0.0160**	-0.0318**
	(0.0016)	(0.0026)	(0.0032)	(0.0068)	(0.0078)	(0.0162)
Religious = 2	0.0021	0.0037	0.0044	0.0098	0.0110	0.0215
	(0.0016)	(0.0028)	(0.0033)	(0.0073)	(0.0082)	(0.0163)
Religious = 3	0.0008	0.0015	0.0018	0.0041	0.0047	0.0097
	(0.0013)	(0.0023)	(0.0028)	(0.0063)	(0.0073)	(0.0152)
Religious = 4	0.0004	0.0008	0.0010	0.0023	0.0026	0.0054
	(0.0012)	(0.0022)	(0.0027)	(0.0062)	(0.0073)	(0.0152)
Religious = 5	-0.0011	-0.0021	-0.0027	-0.0063	-0.0076	-0.0168
	(0.0013)	(0.0024)	(0.0030)	(0.0068)	(0.0081)	(0.0177)
Age	0.0003*	0.0005**	0.0007**	0.0015**	0.0017**	0.0035**
	(0.0002)	(0.0003)	(0.0003)	(0.0007)	(0.0008)	(0.0017)
Age squared	-0.0004*	-0.0006**	-0.0008**	-0.0018**	-0.0020**	-0.0041**
	(0.0002)	(0.0003)	(0.0004)	(0.0008)	(0.0010)	(0.0020)
Male	0.0014*	0.0026**	0.0032**	0.0072**	0.0083**	0.0169**
	(0.0008)	(0.0013)	(0.0016)	(0.0034)	(0.0039)	(0.0078)
Marital status: Married	-0.0025*	-0.0045**	-0.0055**	-0.0124**	-0.0143**	-0.0293**
	(0.0013)	(0.0023)	(0.0027)	(0.0059)	(0.0067)	(0.0136)
Marital status: Never married	0.0013	0.0023	0.0028	0.0064	0.0074	0.0150
	(0.0016)	(0.0029)	(0.0035)	(0.0078)	(0.0090)	(0.0183)
Children	0.0027*	0.0049**	0.0060**	0.0134**	0.0155**	0.0316**
	(0.0014)	(0.0024)	(0.0029)	(0.0063)	(0.0071)	(0.0143)
Education: high school	-0.0010	-0.0018	-0.0022	-0.0048	-0.0056	-0.0114
	(0.0009)	(0.0016)	(0.0020)	(0.0045)	(0.0051)	(0.0103)
Education: college	-0.0012	-0.0021	-0.0026	-0.0059	-0.0068	-0.0138
	(0.0010)	(0.0017)	(0.0021)	(0.0048)	(0.0055)	(0.0111)
Employment: unemployed	0.0002	0.0004	0.0005	0.0012	0.0014	0.0029
	(0.0010)	(0.0019)	(0.0023)	(0.0051)	(0.0059)	(0.0120)
Employment: employed	-0.0002	-0.0004	-0.0005	-0.0012	-0.0014	-0.0029
	(0.0007)	(0.0013)	(0.0016)	(0.0037)	(0.0042)	(0.0086)
Risk lover	-0.0021*	-0.0039*	-0.0047*	-0.0106*	-0.0123*	-0.0251*
	(0.0013)	(0.0022)	(0.0027)	(0.0060)	(0.0068)	(0.0139)
Self-reported health = 2	-0.0155	-0.0207*	-0.0211**	-0.0386**	-0.0347**	-0.0405***
	(0.0098)	(0.0112)	(0.0106)	(0.0171)	(0.0135)	(0.0113)
Self-reported health = 3	-0.0190*	-0.0267**	-0.0281**	-0.0536***	-0.0512***	-0.0713***
	(0.0100)	(0.0115)	(0.0111)	(0.0173)	(0.0136)	(0.0105)

Self-reported health = 4	-0.0202**	-0.0291**	-0.0311***	-0.0608***	-0.0598***	-0.0903***
	(0.0102)	(0.0117)	(0.0114)	(0.0179)	(0.0143)	(0.0135)
Self-reported health = 5	-0.0209**	-0.0304**	-0.0328***	-0.0649***	-0.0651***	-0.1030***
	(0.0103)	(0.0118)	(0.0115)	(0.0183)	(0.0151)	(0.0185)
Income	0.0001	0.0001	0.0002	0.0004	0.0004	0.0009
	(0.0001)	(0.0001)	(0.0001)	(0.0003)	(0.0003)	(0.0006)
Feeling lonely = 2	-0.0024	-0.0038	-0.0044	-0.0090	-0.0095	-0.0158
	(0.0019)	(0.0031)	(0.0034)	(0.0068)	(0.0070)	(0.0113)
Feeling lonely = 3	-0.0040**	-0.0067**	-0.0078**	-0.0166**	-0.0179**	-0.0319***
	(0.0021)	(0.0032)	(0.0035)	(0.0069)	(0.0071)	(0.0118)
Feeling lonely = 4	-0.0048**	-0.0082**	-0.0096***	-0.0205***	-0.0225***	-0.0416***
	(0.0021)	(0.0033)	(0.0036)	(0.0070)	(0.0074)	(0.0124)
Feeling lonely = 5	-0.0068***	-0.0122***	-0.0149***	-0.0333***	-0.0386***	-0.0804***
	(0.0024)	(0.0037)	(0.0040)	(0.0075)	(0.0082)	(0.0154)
Good relations with friends = 2	0.0024***	0.0047***	0.0059***	0.0136***	0.0163***	0.0361***
	(0.0009)	(0.0014)	(0.0018)	(0.0036)	(0.0044)	(0.0095)
Good relations with friends = 3	0.0060***	0.0106***	0.0127***	0.0281***	0.0319***	0.0635***
	(0.0019)	(0.0028)	(0.0031)	(0.0054)	(0.0062)	(0.0108)
Good relations with friends = 4	0.0073**	0.0125**	0.0149**	0.0324***	0.0362***	0.0700***
	(0.0037)	(0.0055)	(0.0059)	(0.0114)	(0.0116)	(0.0178)
Good relations with friends = 5	0.0228	0.0324*	0.0346**	0.0674**	0.0663***	0.1010***
	(0.0157)	(0.0179)	(0.0171)	(0.0263)	(0.0204)	(0.0139)
			Province dummies			
Gaziantep	-0.0013	-0.0023	-0.0028	-0.0062	-0.0072	-0.0147
	(0.0013)	(0.0023)	(0.0028)	(0.0062)	(0.0072)	(0.0146)
Bursa	-0.0039**	-0.0070***	-0.0086***	-0.0193***	-0.0223***	-0.0455***
	(0.0016)	(0.0026)	(0.0031)	(0.0063)	(0.0074)	(0.0144)
Trabzon	0.0027	0.0049	0.0060	0.0134	0.0155	0.0316
	(0.0022)	(0.0038)	(0.0046)	(0.0102)	(0.0119)	(0.0241)
Tekirdag	(0.0018)	-0.0034	-0.0041	-0.0092	-0.0106	-0.0217
	(0.0023)	(0.0042)	(0.0051)	(0.0114)	(0.0133)	(0.0271)
Istanbul	-0.0034**	-0.0062***	-0.0075***	-0.0169***	-0.0195***	-0.0398***
	(0.0014)	(0.0021)	(0.0025)	(0.0051)	(0.0061)	(0.0121)
Ankara	(0.0018)	-0.0033	-0.0040	-0.0091	-0.0104	-0.0213
	(0.0013)	(0.0022)	(0.0027)	(0.0058)	(0.0068)	(0.0137)
Kayseri	(0.0014)	-0.0025	-0.0031	-0.0070	-0.0080	-0.0164
	(0.0017)	(0.0031)	(0.0038)	(0.0084)	(0.0097)	(0.0197)
Malatya	(0.0001)	-0.0002	-0.0002	-0.0004	-0.0005	-0.0011
	(0.0022)	(0.0041)	(0.0050)	(0.0112)	(0.0129)	(0.0263)
Erzurum	-0.0077***	-0.0140***	-0.0171***	-0.0384***	-0.0443***	-0.0905***
	(0.0027)	(0.0044)	(0.0051)	(0.0103)	(0.0116)	(0.0235)
Samsun	(0.0012)	-0.0021	-0.0026	-0.0058	-0.0067	-0.0136
	(0.0015)	(0.0027)	(0.0033)	(0.0072)	(0.0083)	(0.0169)
Izmir	-0.0027**	-0.0050**	-0.0061**	-0.0137**	-0.0158**	-0.0323**
	(0.0014)	(0.0023)	(0.0028)	(0.0060)	(0.0067)	(0.0136)
Observations	1,887	1,887	1,887	1,887	1,887	1,887

Note: Standard errors in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Table A2. Average marginal effects for ordered probit models (dependent variable: level of happiness) – continued

	Dependent variable				
	Happy = 6	Happy = 7	Happy = 8	Happy = 9	Happy = 10
After the plot	0.0079***	-0.0234***	-0.0310***	-0.0154***	-0.0131***
	(0.0028)	(0.0073)	(0.0096)	(0.0049)	(0.0042)
Trust = 2	-0.0026	0.0146	0.0169	0.0079	0.0064
	(0.0019)	(0.0093)	(0.0107)	(0.0050)	(0.0041)
Trust = 3	-0.0049**	0.0208**	0.0254**	0.0122**	0.0101**
	(0.0024)	(0.0090)	(0.0106)	(0.0051)	(0.0043)
Trust = 4	-0.0085**	0.0272***	0.0352***	0.0174***	0.0149***
	(0.0034)	(0.0090)	(0.0114)	(0.0058)	(0.0051)
Trust = 5	-0.0068	0.0245**	0.0310**	0.0151*	0.0127*
	(0.0048)	(0.0114)	(0.0155)	(0.0080)	(0.0071)
Religious = 2	0.0042	-0.0172	-0.0211	-0.0101	-0.0084
	(0.0040)	(0.0125)	(0.0159)	(0.0078)	(0.0067)
Religious = 3	0.0024	-0.0071	-0.0094	-0.0046	-0.0040
	(0.0041)	(0.0107)	(0.0146)	(0.0074)	(0.0064)
Religious = 4	0.0014	-0.0039	-0.0052	-0.0026	-0.0023
	(0.0042)	(0.0105)	(0.0146)	(0.0074)	(0.0065)
Religious = 5	-0.0058	0.0101	0.0159	0.0085	0.0078
	(0.0059)	(0.0111)	(0.0168)	(0.0089)	(0.0081)
Age	0.0009**	-0.0026**	-0.0034**	-0.0017**	-0.0014**
	(0.0004)	(0.0012)	(0.0016)	(0.0008)	(0.0007)
Age squared	-0.0010**	0.0030**	0.0040**	0.0020**	0.0017**
	(0.0005)	(0.0014)	(0.0019)	(0.0010)	(0.0008)
Male	0.0042**	-0.0124**	-0.0163**	-0.0081**	-0.0069**
	(0.0020)	(0.0058)	(0.0076)	(0.0038)	(0.0032)
Marital status: Married	-0.0072**	0.0214**	0.0283**	0.0140**	0.0120**
	(0.0035)	(0.0100)	(0.0132)	(0.0065)	(0.0057)
Marital status: Never married	0.0037	-0.0110	-0.0145	-0.0072	-0.0062
	(0.0046)	(0.0134)	(0.0177)	(0.0088)	(0.0075)
Children	0.0078**	-0.0231**	-0.0305**	-0.0151**	-0.0130**
	(0.0037)	(0.0106)	(0.0139)	(0.0069)	(0.0060)
Education: high school	-0.0028	0.0083	0.0110	0.0055	0.0047
	(0.0026)	(0.0076)	(0.0100)	(0.0050)	(0.0042)
Education: college	-0.0034	0.0101	0.0134	0.0066	0.0057
	(0.0028)	(0.0082)	(0.0108)	(0.0054)	(0.0045)
Employment: unemployed	0.0007	-0.0021	-0.0028	-0.0014	-0.0012
	(0.0030)	(0.0088)	(0.0116)	(0.0058)	(0.0049)
Employment: employed	-0.0007	0.0021	0.0028	0.0014	0.0012
	(0.0021)	(0.0063)	(0.0083)	(0.0041)	(0.0036)
Risk lover	-0.0062*	0.0184*	0.0242*	0.0120*	0.0103*
	(0.0036)	(0.0102)	(0.0135)	(0.0067)	(0.0057)
Self-reported health = 2	0.0210	0.0688**	0.0508***	0.0186***	0.0118***
	(0.0152)	(0.0288)	(0.0178)	(0.0061)	(0.0039)
Self-reported health = 3	0.0169	0.0957***	0.0813***	0.0327***	0.0231***
	(0.0153)	(0.0286)	(0.0174)	(0.0062)	(0.0042)

Self-reported health = 4	0.0104	0.1070***	0.0994***	0.0423***	0.0320***
	(0.0155)	(0.0291)	(0.0194)	(0.0080)	(0.0062)
Self-reported health = 5	0.0046	0.1130***	0.1110***	0.0492***	0.0389***
	(0.0169)	(0.0293)	(0.0224)	(0.0109)	(0.0098)
Income	0.0002	-0.0007	-0.0009	-0.0004	-0.0004
	(0.0002)	(0.0004)	(0.0006)	(0.0003)	(0.0002)
Feeling lonely = 2	0.0000	0.0165	0.0163	0.0070	0.0052
	(0.0012)	(0.0123)	(0.0117)	(0.0050)	(0.0037)
Feeling lonely = 3	-0.0027	0.0299**	0.0320***	0.0144***	0.0113***
	(0.0020)	(0.0122)	(0.0121)	(0.0055)	(0.0042)
Feeling lonely = 4	-0.0053*	0.0366***	0.0414***	0.0192***	0.0154***
	(0.0028)	(0.0122)	(0.0128)	(0.0060)	(0.0048)
Feeling lonely = 5	-0.0228***	0.0546***	0.0777***	0.0403***	0.0366***
	(0.0069)	(0.0119)	(0.0152)	(0.0088)	(0.0085)
Good relations with friends = 2	0.0124***	-0.0218***	-0.0343***	-0.0183***	-0.0169***
	(0.0038)	(0.0056)	(0.0090)	(0.0050)	(0.0049)
Good relations with friends = 3	0.0143***	-0.0480***	-0.0620***	-0.0307***	-0.0265***
	(0.0038)	(0.0088)	(0.0106)	(0.0056)	(0.0052)
Good relations with friends = 4	0.0134***	-0.0558***	-0.0689***	-0.0335***	-0.0284***
	(0.0046)	(0.0201)	(0.0187)	(0.0084)	(0.0067)
Good relations with friends = 5	-0.0099	-0.1180***	-0.1110***	-0.0482***	-0.0373***
	(0.0251)	(0.0437)	(0.0256)	(0.0092)	(0.0066)
Province dummies					
Gaziantep	-0.0036	0.0108	0.0142	0.0071	0.0060
	(0.0036)	(0.0107)	(0.0142)	(0.0070)	(0.0060)
Bursa	-0.0112***	0.0333***	0.0440***	0.0218***	0.0187***
	(0.0041)	(0.0108)	(0.0141)	(0.0071)	(0.0061)
Trabzon	0.0078	-0.0231	-0.0306	-0.0152	-0.0130
	(0.0061)	(0.0177)	(0.0232)	(0.0116)	(0.0100)
Tekirdag	-0.0054	0.0159	0.0210	0.0104	0.0089
	(0.0069)	(0.0197)	(0.0261)	(0.0130)	(0.0112)
Istanbul	-0.0098***	0.0291***	0.0385***	0.0191***	0.0163***
	(0.0034)	(0.0089)	(0.0116)	(0.0059)	(0.0051)
Ankara	-0.0053	0.0156	0.0206	0.0102	0.0088
	(0.0035)	(0.0101)	(0.0132)	(0.0066)	(0.0056)
Kayseri	-0.0041	0.0120	0.0159	0.0079	0.0067
	(0.0049)	(0.0145)	(0.0191)	(0.0095)	(0.0081)
Malatya	-0.0003	0.0008	0.0010	0.0005	0.0004
	(0.0065)	(0.0192)	(0.0254)	(0.0126)	(0.0108)
Erzurum	-0.0223***	0.0662***	0.0875***	0.0434***	0.0372***
	(0.0068)	(0.0173)	(0.0226)	(0.0117)	(0.0097)
Samsun	-0.0034	0.0100	0.0132	0.0065	0.0056
	(0.0042)	(0.0124)	(0.0164)	(0.0081)	(0.0071)
Izmir	-0.00798**	0.0237**	0.0312**	0.0155**	0.0133**
	(0.0035)	(0.0101)	(0.0133)	(0.0065)	(0.0056)
Observations	1,887	1,887	1,887	1,887	1,887

Note: Standard errors in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Table A3. Average marginal effects for ordered probit models (dependent variable: level of life satisfaction)

	Dependent variable				
	Satisfac. = 1	Satisfac. = 2	Satisfac. = 3	Satisfac. = 4	Satisfac. = 5
After the plot	0.0071**	0.0124**	0.0364**	-0.0084**	-0.0476**
	(0.0031)	(0.0054)	(0.0157)	(0.0039)	(0.0204)
Trust = 2	0.0092*	0.0138*	0.0321*	-0.0172*	-0.0379*
	(0.0048)	(0.0074)	(0.0172)	(0.0091)	(0.0204)
Trust = 3	-0.0014	-0.0023	-0.0061	0.0023	0.0075
	(0.0043)	(0.0070)	(0.0184)	(0.0071)	(0.0227)
Trust = 4	-0.0115***	-0.0207***	-0.0632***	0.0103*	0.0852***
	(0.0041)	(0.0066)	(0.0193)	(0.0056)	(0.0261)
Trust = 5	-0.0215***	-0.0456***	-0.1890***	-0.0803***	0.3360***
	(0.0046)	(0.0068)	(0.0229)	(0.0273)	(0.0497)
Religious = 2	-0.0252***	-0.0361***	-0.0792***	0.0474***	0.0931***
	(0.0093)	(0.0120)	(0.0239)	(0.0180)	(0.0278)
Religious = 3	-0.0247***	-0.0353***	-0.0769***	0.0468***	0.0901***
	(0.0093)	(0.0115)	(0.0215)	(0.0181)	(0.0241)
Religious = 4	-0.0287***	-0.0425***	-0.0983***	0.0511***	0.1180***
	(0.0092)	(0.0115)	(0.0218)	(0.0179)	(0.0246)
Religious = 5	-0.0330***	-0.0508***	-0.1270***	0.0514***	0.1590***
	(0.0095)	(0.0121)	(0.0254)	(0.0178)	(0.0317)
Age	0.0004	0.0007	0.0019	-0.0004	-0.0025
	(0.0005)	(0.0009)	(0.0026)	(0.0006)	(0.0034)
Age squared	-0.0007	-0.0013	-0.0038	0.0009	0.0050
	(0.0006)	(0.0010)	(0.0029)	(0.0007)	(0.0038)
Male	0.0036	0.0063	0.0185	-0.0043	-0.0242
	(0.0024)	(0.0044)	(0.0126)	(0.0030)	(0.0164)
Marital status: Married	-0.0025	-0.0043	-0.0127	0.0029	0.0166
	(0.0044)	(0.0077)	(0.0225)	(0.0052)	(0.0293)
Marital status: Never married	0.0002	0.0003	0.0009	-0.0002	-0.0012
	(0.0060)	(0.0106)	(0.0311)	(0.0071)	(0.0406)
Children	-0.0018	-0.0032	-0.0092	0.0021	0.0120
	(0.0048)	(0.0084)	(0.0245)	(0.0056)	(0.0320)
Education: high school	-0.0072**	-0.0126**	-0.0369**	0.0085**	0.0482**
	(0.0033)	(0.0057)	(0.0163)	(0.0041)	(0.0212)
Education: college	-0.0077**	-0.0136**	-0.0397**	0.0091**	0.0519**
	(0.0037)	(0.0062)	(0.0177)	(0.0045)	(0.0232)
Employment: unemployed	-0.0005	-0.0008	-0.0023	0.0005	0.0030
	(0.0040)	(0.0070)	(0.0206)	(0.0047)	(0.0269)
Employment: employed	0.0005	0.0009	0.0026	-0.0006	-0.0034
	(0.0027)	(0.0048)	(0.0139)	(0.0032)	(0.0182)
Risk lover	0.0086***	0.0152***	0.0445***	-0.0102**	-0.0581***
	(0.0031)	(0.0053)	(0.0151)	(0.0040)	(0.0195)
Self-reported health = 2	-0.0090	-0.0120	-0.0230	0.0182	0.0259
	(0.0161)	(0.0205)	(0.0365)	(0.0327)	(0.0405)
Self-reported health = 3	-0.0237	-0.0350*	-0.0805**	0.0432	0.0961**
	(0.0159)	(0.0202)	(0.0360)	(0.0320)	(0.0398)

Self-reported health = 4	-0.0296*	-0.0463**	-0.1170***	0.0457	0.1480***
	(0.0160)	(0.0206)	(0.0384)	(0.0320)	(0.0444)
Self-reported health = 5	-0.0313*	-0.0498**	-0.1310***	0.0440	0.1680***
	(0.0162)	(0.0213)	(0.0446)	(0.0323)	(0.0569)
Income	0.0001	0.0002	0.0006	-0.0001	-0.0008
	(0.0002)	(0.0003)	(0.0009)	(0.0002)	(0.0012)
Feeling lonely = 2	-0.00948*	-0.0153*	-0.0397*	0.0154	0.0491*
	(0.0056)	(0.0087)	(0.0212)	(0.0101)	(0.0256)
Feeling lonely = 3	-0.0094*	-0.0151*	-0.0390*	0.0153	0.0482*
	(0.0057)	(0.0088)	(0.0214)	(0.0102)	(0.0258)
Feeling lonely = 4	-0.0071	-0.0112	-0.0281	0.0122	0.0342
	(0.0058)	(0.0090)	(0.0218)	(0.0106)	(0.0261)
Feeling lonely = 5	-0.0175***	-0.0307***	-0.0911***	0.0174*	0.1220***
	(0.0057)	(0.0094)	(0.0258)	(0.0101)	(0.0345)
Good relations with friends = 2	0.0175***	0.0341***	0.1190***	0.0076	-0.1780***
	(0.0031)	(0.0046)	(0.0142)	(0.0067)	(0.0213)
Good relations with friends = 3	0.0415***	0.0669***	0.1860***	-0.0394***	-0.255***
	(0.0068)	(0.0086)	(0.0176)	(0.0125)	(0.0223)
Good relations with friends = 4	0.0789***	0.1040***	0.2290***	-0.1070***	-0.3050***
	(0.0228)	(0.0214)	(0.0222)	(0.0375)	(0.0277)
Good relations with friends = 5	0.2650**	0.1900***	0.2060***	-0.2980***	-0.3630***
	(0.1120)	(0.0301)	(0.0539)	(0.0741)	(0.0219)
		Province dummies			
Gaziantep	0.0078	0.0137	0.0401	-0.0092	-0.0524
	(0.0051)	(0.0090)	(0.0262)	(0.0064)	(0.0341)
Bursa	-0.0074*	-0.0130*	-0.0380*	0.0087	0.0496*
	(0.0043)	(0.0075)	(0.0215)	(0.0054)	(0.0279)
Trabzon	0.0189**	0.0332**	0.0971**	-0.0223**	-0.1270**
	(0.0087)	(0.0152)	(0.0436)	(0.0112)	(0.0565)
Tekirdag	-0.0113*	-0.0199*	-0.0582*	0.0133*	0.0760*
	(0.0066)	(0.0114)	(0.0332)	(0.0080)	(0.0434)
Istanbul	-0.0018	-0.0032	-0.0095	0.0022	0.0123
	(0.0037)	(0.0065)	(0.0191)	(0.0044)	(0.0249)
Ankara	0.0063	0.0112	0.0327	-0.0075	-0.0427
	(0.0046)	(0.0081)	(0.0231)	(0.0055)	(0.0303)
Kayseri	0.0191***	0.0336***	0.0985***	-0.0226**	-0.1290***
	(0.0070)	(0.0117)	(0.0336)	(0.0090)	(0.0436)
Malatya	-0.0056	-0.0098	-0.0286	0.0066	0.0374
	(0.0075)	(0.0131)	(0.0382)	(0.0089)	(0.0499)
Erzurum	-0.0092	-0.0162	-0.0476	0.0109	0.0621
	(0.0083)	(0.0144)	(0.0426)	(0.0099)	(0.0556)
Samsun	0.0285***	0.0501***	0.1470***	-0.0337***	-0.1910***
	(0.0065)	(0.0105)	(0.0286)	(0.0097)	(0.0365)
Izmir	-0.0121**	-0.0212***	-0.0622***	0.0143**	0.0812***
	(0.0048)	(0.0080)	(0.0228)	(0.0061)	(0.0296)
Observations	1,887	1,887	1,887	1,887	1,887

Note: ME: marginal effect, SE: standard error. * p<0.10, ** p<0.05, *** p<0.01

Table A4. Average marginal effects for ordered probit models (dependent variable: level of trust)

	Dependent variable				
	Trust = 1	Trust = 2	Trust = 3	Trust = 4	Trust = 5
After the plot	0.0450**	0.0133**	-0.0121**	-0.0267**	-0.0195**
	(0.0204)	(0.0062)	(0.0055)	(0.0122)	(0.0090)
Religious = 2	-0.100**	-0.0170**	0.0326**	0.0526***	0.0323***
	(0.0393)	(0.0070)	(0.0135)	(0.0200)	(0.0124)
Religious = 3	-0.0772**	-0.0108***	0.0261**	0.0391**	0.0228**
	(0.0363)	(0.0038)	(0.0131)	(0.0173)	(0.0094)
Religious = 4	-0.1310***	-0.0277***	0.0397***	0.0714***	0.0473***
	(0.0355)	(0.0056)	(0.0128)	(0.0175)	(0.0104)
Religious = 5	-0.1220***	-0.0242***	0.0378***	0.0657***	0.0425***
	(0.0398)	(0.0081)	(0.0134)	(0.0206)	(0.0137)
Age	-0.0045	-0.0013	0.0012	0.0027	0.0020
	(0.0036)	(0.0011)	(0.0010)	(0.0021)	(0.0016)
Age squared	0.0042	0.0012	-0.0011	-0.0025	-0.0018
	(0.0041)	(0.0012)	(0.0011)	(0.0025)	(0.0018)
Male	-0.0214	-0.0063	0.0058	0.0127	0.0093
	(0.0166)	(0.0049)	(0.0045)	(0.0098)	(0.0072)
Marital status: Married	-0.0280	-0.0083	0.0075	0.0166	0.0122
	(0.0274)	(0.0081)	(0.0074)	(0.0163)	(0.0119)
Marital status: Never married	-0.0544	-0.0161	0.0146	0.0323	0.0236
	(0.0373)	(0.0111)	(0.0101)	(0.0221)	(0.0163)
Children	-0.0158	-0.0047	0.0042	0.0094	0.0069
	(0.0310)	(0.0091)	(0.0083)	(0.0183)	(0.0135)
Education: high school	-0.0075	-0.0022	0.0020	0.0045	0.0033
	(0.0209)	(0.0062)	(0.0056)	(0.0124)	(0.0091)
Education: college	0.0042	0.0013	-0.0011	-0.0025	-0.0018
	(0.0225)	(0.0067)	(0.0060)	(0.0134)	(0.0098)
Employment: unemployed	-0.0119	-0.0035	0.0032	0.0071	0.0052
	(0.0242)	(0.0071)	(0.0065)	(0.0144)	(0.0105)
Employment: employed	-0.0054	-0.0016	0.0014	0.0032	0.0023
	(0.0190)	(0.0056)	(0.0051)	(0.0112)	(0.0082)
Risk lover	0.0159	0.0047	-0.0043	-0.0095	-0.0069
	(0.0192)	(0.0057)	(0.0052)	(0.0114)	(0.0084)
Self-reported health = 2	-0.0498	-0.0123	0.0146	0.0283	0.0193
	(0.0594)	(0.0116)	(0.0190)	(0.0320)	(0.0201)
Self-reported health = 3	-0.0329	-0.0074	0.0100	0.0183	0.0120
	(0.0584)	(0.0107)	(0.0188)	(0.0311)	(0.0192)
Self-reported health = 4	-0.0434	-0.0103	0.0129	0.0244	0.0164
	(0.0608)	(0.0119)	(0.0193)	(0.0327)	(0.0206)
Self-reported health = 5	-0.0945	-0.0300*	0.0238	0.0569	0.0438*
	(0.0643)	(0.0172)	(0.0192)	(0.0364)	(0.0262)
Income	0.0008	0.0002	-0.0002	-0.0004	-0.0003
	(0.0012)	(0.0004)	(0.0003)	(0.0007)	(0.0005)
Feeling lonely = 2	-0.0600**	-0.0221**	0.0134*	0.0378**	0.0310**
	(0.0285)	(0.0095)	(0.0074)	(0.0174)	(0.0135)

Feeling lonely = 3	-0.0269	-0.0084	0.0069	0.0162	0.0122
	(0.0285)	(0.0084)	(0.0077)	(0.0169)	(0.0124)
Feeling lonely = 4	0.0121	0.0031	-0.0035	-0.0069	-0.0048
	(0.0299)	(0.0079)	(0.0085)	(0.0172)	(0.0120)
Feeling lonely = 5	0.0774**	0.0132*	-0.0252**	-0.0406**	-0.0248**
	(0.0368)	(0.0073)	(0.0121)	(0.0195)	(0.0124)
Good relations with friends = 2	0.0102	0.0033	-0.0026	-0.0062	-0.0047
	(0.0177)	(0.0058)	(0.0045)	(0.0108)	(0.0083)
Good relations with friends = 3	0.0301	0.0088	-0.0081	-0.0178	-0.0130
	(0.0224)	(0.0064)	(0.0062)	(0.0132)	(0.0096)
Good relations with friends = 4	0.0487	0.0129	-0.0138	-0.0281	-0.0197
	(0.0450)	(0.0097)	(0.0139)	(0.0247)	(0.0161)
Good relations with friends = 5	0.2050**	0.0171	-0.0716*	-0.0969***	-0.0540***
	(0.0976)	(0.0125)	(0.0386)	(0.0353)	(0.0148)
		Province dummies			
Gaziantep	0.0190	0.0056	-0.0051	-0.0113	-0.0082
	(0.0319)	(0.0094)	(0.0085)	(0.0189)	(0.0139)
Bursa	-0.0113	-0.0034	0.0030	0.0067	0.0049
	(0.0367)	(0.0108)	(0.0098)	(0.0218)	(0.0160)
Trabzon	0.1630***	0.0483***	-0.0438***	-0.0970***	-0.0710***
	(0.0589)	(0.0177)	(0.0165)	(0.0352)	(0.0256)
Tekirdag	-0.2780***	-0.0821***	0.0745***	0.1650***	0.1210***
	(0.0413)	(0.0141)	(0.0131)	(0.0263)	(0.0184)
Istanbul	-0.0121	-0.0036	0.0032	0.0072	0.0053
	(0.0234)	(0.0069)	(0.0063)	(0.0139)	(0.0101)
Ankara	-0.0051	-0.0015	0.0014	0.0030	0.0022
	(0.0295)	(0.0087)	(0.0079)	(0.0175)	(0.0128)
Kayseri	0.0445	0.0132	-0.0119	-0.0264	-0.0193
	(0.0447)	(0.0133)	(0.0121)	(0.0266)	(0.0194)
Malatya	0.2120***	0.0625***	-0.0568***	-0.1260***	-0.0919***
	(0.0493)	(0.0153)	(0.0143)	(0.0291)	(0.0224)
Erzurum	0.2130***	0.0629***	-0.0571***	-0.1260***	-0.0924***
	(0.0502)	(0.0155)	(0.0145)	(0.0299)	(0.0225)
Samsun	0.0553*	0.0163*	-0.0148*	-0.0328*	-0.0240*
	(0.0327)	(0.0098)	(0.0088)	(0.0195)	(0.0143)
Izmir	0.1670***	0.0493***	-0.0448***	-0.0991***	-0.0725***
	(0.0318)	(0.0103)	(0.0096)	(0.0193)	(0.0143)
Observations	1,887	1,887	1,887	1,887	1,887

Note: ME: marginal effect, SE: standard error. * p<0.10, ** p<0.05, *** p<0.01