BER www.berjournal.com ISSN: 2619-9491 BUSINESS AND ECONOMICS RESEARCH JOURNAL

Business and Economics Research Journal Vol. 10, No. 4, 2019, pp. 855-866 doi: 10.20409/berj.2019.206

The Effect of Sociodemographic Variables and Love of Money on Financial Risk Tolerance of Bankers

Adem Anbar[a], **Melek Eker**[b]

Abstract: *The purpose of this study is to explore the effect of sociodemographic variables and love of money on financial risk tolerance levels among bankers. The sociodemographic variables used in the study are age, gender, marital status, number of children, education, monthly income, years in occupation and sector (public or private). The study also investigates the relationship between love of money which is one of the personal characteristics and financial risk tolerance. Data is gathered from 259 bankers with a structured questionnaire. Results of the multiple regression analysis show that while there is a positive and significant relationship between number of children, education, and monthly income and financial risk tolerance, there is a negative and significant relationship between marital status and years in occupation. According to t-test and ANOVA analysis, there are significant differences in financial risk tolerance level according to the love of money, age, number of children, level of education, and years in occupation.*

Keywords: Financial Risk, Financial Risk Tolerance, Bankers

JEL: G11, G20, G41

Received : 18 June 2019
Revised : 17 July 2019
Accepted : 22 July 2019

Type : Research

1. Introduction

Individuals take many decisions both in their private and business lives and many of the decisions include low or high risk. Risk can be defined as an exposure to a proposition that one is unsure. Therefore, there are two main elements of risk such as exposure and uncertainty. When individuals are exposed to a condition that they are uncertain, risk-taking becomes necessary (Lam, 2015: 1405). In general, when the higher risk is taken, the promise of a greater reward or expected return increases, but it also increases the likelihood of loss. Therefore, risk attitudes of individuals are very important in terms of both financial investment decisions and other decisions taken related to private life.

Individual risk-taking behavior and risk tolerance are one of the fundamental research topics that are investigated frequently by economists, financial advisors, and academicians (Grable & Joo, 2004: 73; Fisher & Yao, 2017: 191). According to Harlow and Brown (1990), risk tolerance is "the degree to which an investor is willing and able to accept the possibility of an uncertain outcome to an economic decision". As financial risk tolerance indicates the degree to which an investor is willing to take risks, it reaches into almost every part of life and especially plays important role in financial decisions (Grable, 2000: 625). An individual takes important financial decisions at various stages of his life, such as saving for retirement, investing money to financial assets, portfolio diversification, borrowing a loan from a bank, and mortgage loan. All of these decisions are related to financial risk tolerance of the individual (Dickason & Ferreira, 2018: 10853). Also,

Cite this article as: Anbar, A., & Eker, M. (2019). The effect of sociodemographic variables and love of money on financial risk tolerance of bankers. *Business and Economics Research Journal,* 10(4), 855-866.

The current issue and archive of this Journal is available at: ***www.berjournal.com***

[a] Assoc. Prof., PhD., Adem Anbar, Bursa Uludag University, Faculty of Economics and Administrative Sciences, Department of Business Administration, Bursa, Turkiye, aadem@uludag.edu.tr (ORCID ID: 0000-0001-8909-6851)

[b] Assoc. Prof., PhD., Melek Eker, Bursa Uludag University, Faculty of Economics and Administrative Sciences, Department of Business Administration, Bursa, Turkiye, melekeker@uludag.edu.tr (ORCID ID: 0000-0002-0353-4855)

making optimal financial decisions is becoming harder, because apart from traditional financial instruments, the number of new complex investment instruments is increasing in the financial markets, and investment in high-risk financial instruments is required for high returns (Brooks, Sangiorgi, Hillenbrand, & Money, 2018: 52).

Financial risk tolerance is one of the main determinants of a financial decision-making process (Hanna & Lindamood 2014: 27; Fisher & Yao, 2017: 192). Any financial decision-making process requires, at a minimum, four factors as inputs for assessing the risk profile of an investor. These inputs are goals, time horizon, financial stability, and financial risk tolerance. While the first three inputs tend to be objective and relatively easy to measure, the final input (financial risk tolerance) is more subjective and more difficult to measure (Grable & Lytton, 1998: 61; Larkin, Lucey, & Mulholland, 2003: 78; Kannadhasan, Aramvalarthan, Mitra, & Goyal, 2016: 118). Because financial risk tolerance is a complex and multidimensional attitude, and it is influenced by various predisposing factors. These factors can be classified into two categories, namely environmental factors and biopsychosocial factors. Environmental factors include individual and family financial attributes, such as income, net worth, education, financial knowledge, home ownership, and marital status. Biopsychosocial factors are those aspects of an individual's life that reflect a subjective individual difference. Biopsychosocial factors include demographic/biologic factors, psychosocial and personal factors, such as gender, age, birth order, ethnicity, self-esteem, personality, sensation-seeking, beliefs, and role modeling (Grable & Joo, 2004: 74; Grable & Roszkowski, 2008: 909; Kuzniak & Grable, 2017: 318). As seen, many factors affect financial risk tolerance. While financial risk tolerance varies from one person to another, financial risk tolerance of an individual is relatively stable over time. For example, Van de Venter et al. (2012) investigated whether financial risk tolerance is a psychological trait which remains steady over time or a variable psychological state which changes over time. They concluded that there is a relatively small annual change in an individual's financial risk tolerance. Kuzniak and Grable (2017) investigated whether financial risk tolerance change over time, and they concluded that risk-tolerance attitudes remain generally stable over time. But financial risk tolerance can change over time in response to environmental factors, such as personal experiences, stock market return changes, economic shocks or crises (Yao, Sharpe, & Wang, 2011: 879). As financial risk tolerance is a multidimensional attitude, measuring financial risk tolerance becomes more critical to evaluate an individual's risk tolerance accurately. According to Hanna et al. (2001), financial risk tolerance can be measured using one of four methods. These methods are (a) asking about investment choices, (b) asking a combination of investment and subjective questions, (c) assessing actual behavior, and (d) asking hypothetical questions about specified scenarios.

Understanding risk tolerance levels of investors and making appropriate investment plans for investors, investment managers and financial advisors assume that there are some relationships between financial risk tolerance and demographic and environmental factors. They generally use sociodemographic factors, such as age, gender, income, wealth, marital status. For example, there are assumed relationships that males are more risk tolerant than females, and risk tolerance decreases with age. While there is broad literature about determinants of financial risk tolerance and factors affecting financial risk tolerance, there are some mixed findings. Therefore, new studies are needed in this area. In particular, other factors such as psychological factors, as well as demographic factors, should continue to be investigated. In this study, the relationships between sociodemographic characteristics and financial risk tolerance is investigated using a sample of bankers. In addition to sociodemographic factors, the love of money which is one of the personality traits and has not been investigated is examined as an independent variable. The love of money can be defined as an individual's attitude toward money with affective, behavioral, and cognitive components or the meaning attributed to money (Tang & Tang, 2012: 100; Gultekin, 2018: 1422) and a tendency directly or indirectly affects ethical behavior of people (Eker, 2018). The love of money is a multidimensional attitude like financial risk tolerance, and individuals' attitudes toward money may affect their levels of financial risk tolerance and financial investment decisions.

The remainder of this paper is structured as follows. The relevant literature is given in Section 2. Section 3 informs about the methodology of the study, then Section 4 presents the findings, and finally, conclude in Section 5.

2. Literature Review

Researchers have attempted to determine the factors related to financial risk tolerance for some years. Factors whose effect is investigated are demographic, socio-economic and psychological factors. However, demographic factors such as gender, marital status, age, education, income, wealth, occupation, and employment status are the most investigated factors. Here, as it is related to the scope of this study, a general literature review on these demographic factors is discussed briefly.

Gender: In both theory and practice, gender is the most used factor to classify individuals into different risk tolerance categories. Practitioners generally assume that females are more risk averse than men. Similarly, the same findings have been obtained in many empirical studies (Grable & Lytton, 1998; Grable, 2000; Yao & Hanna, 2005; Anbar & Eker, 2010; Yao et al., 2011; Sarac & Kahyaoglu, 2011; Gibson, Michayluk, & Van de Venter, 2013; Cooper, Kingyens, & Paradi, 2014; Rai and Kimmel, 2015; Kannadhasan, 2015; Kalfa, Cakir, & Akar, 2015; Sarin & Wieland, 2016; Cihangir, Sak, Bilgin, 2016; Irandoust, 2017; Reddy & Mahapatra, 2017; Meziani & Noma, 2018; Aksoy, 2018). However, there are also several studies showing that gender is not a significant determinant of financial risk tolerance. For example, Grable and Joo (1999), Grable and Joo (2004), Sulaiman (2012), and Lam (2015) found that there is no significant relationship between gender and financial risk tolerance. Although women have less risk tolerance than men, it is important to reveal the cause of this difference. Arano et al. (2010) examined why women have higher risk aversion than men. They used the data of retirement asset allocation, and they showed that there is no significant difference in the proportion of retirement assets held in stocks between women and male when demographic variables, income, and wealth controlled. However, they stated that there is a significant difference in the group of married households with joint investment decision making. According to this result, they commented that women are more risk averse than their male spouse. Roszkowski and Grable (2010) investigated why women are more risk averse than men and what is an effect of income on risk tolerance differentiation. They used a sample of financial planners and concluded that men have higher personal incomes and higher risk tolerance, but the reason for the difference between the risk tolerance of women and men is not a primary reason for the wage gap. Hibbert et al. (2013) examined the gender difference in financial risk aversion among finance professors in the universities. They found that women are less risk tolerant than men. However, they showed that men and women who have a high level of financial education are equally likely to invest a significant portion of their portfolio in risky assets. So, they concluded that financial education or financial knowledge mitigates the gender difference in financial risk tolerance. Rai and Kimmel (2015) explored the answer of a question that why women are more risk averse than men. They concluded that women have greater attitudinal risk aversion, but reasons for this gender difference in behavioral risk are individuals' marital status and role in household finances. In other words, they stated that single women have greater behavioral risk aversion than single men, but there is no a gender difference when behavioral risk aversion of married women and men in charge of household finances are compared. Fisher and Yao (2017) explored gender differences in financial risk tolerance and revealed that women are less risk tolerant than men. They indicated that gender differentiation resulted from differences in the relationship between the independent variables and risk tolerance, rather than gender itself. According to Fisher and Yao, income uncertainty and net worth are significant economic variables that moderated the relationship between gender and financial risk tolerance.

Age: Age is another demographic factor associated with financial risk tolerance. There are many studies about the effect of age on financial risk tolerance, and in most of these studies, it was found that financial risk tolerance decreases with age (Wang & Hanna, 1997; Grable, 2000; Usul, 2002; Yao et al., 2011; Gibson et al., 2013; Kannadhasan, 2015; Irandoust, 2017; Aksoy, 2018). There may be several reasons for decreasing risk tolerance as age increases. Older individuals are less risk tolerant than youngers, because older individuals have less time to meet their goals and objectives and also less time to recover financial losses (Grable & Lytton, 1998: 64; Yao et al., 2011: 885). Although there is a negative relationship between age and financial risk tolerance, this relationship may be non-linear. For example, Faff et al. (2009) explored the nonlinear linkage between financial risk tolerance and age and found that as age increases, financial risk tolerance decreases at an increasing rate. Brooks et al. (2018) investigated the relationship between age and

financial risk tolerance and found that the relationship between risk tolerance and age is non-linear. But they concluded that age impact on risk tolerance is small and other factors (such as like bear losses, declining investment horizon, and retirement effects) may have considerably more explanatory power for variations in financial risk tolerance than age. Contrary to the common belief that there is a negative relationship between age and financial risk tolerance, Grable (2000), Sarac and Kahyaoglu (2011), Sulaiman (2012), and Tanyolac and Karan (2015) found that a positive relationship between age and financial risk tolerance. Furthermore, in several studies, it was found that there is no significant relationship between age and financial risk tolerance (Larkin et al., 2003; Grable & Joo, 2004; Ensari Alpay, Yavuz, & Kahyaoglu, 2015; Reddy & Mahapatra, 2017). All these findings suggest that the relationship between age and financial risk tolerance may be complex, and sampling and analysis method may have an effect on these findings.

Marital Status and Dependents: Marital status can be an important factor that distinguishes among financial risk tolerance levels of individuals. In general, it is assumed that married individuals are less risk tolerant than single individuals. One reason for this main justification is that married individuals have more responsibilities for themselves and dependents, because of a greater need for wealth protection for future consumption like school expenses of children or buying a house. Another reason for that can be a social risk which is the potential loss of esteem in the eyes of friends and colleagues if the investment decision results in a loss. Social risk is higher for married individuals than for singles (Grable & Lytton, 1998; Van de Venter, 2012; Gibson et al., 2013; Irandoust, 2017). Although the main assumption is that single individuals are more risk tolerant than married individuals, there are different findings in the empirical studies. As a supporting the main assumption, Grable and Joo (2004), Yao and Hanna (2005), Yao et al. (2011), Sulaiman (2012), Kannadhasan (2015), Tanyolac and Karan (2015), Cihangir et al. (2016), Irandoust (2017), Aksoy (2018) found that single individuals are more risk tolerant than married individuals. As an opposite finding, Grable (2000) concluded that married individuals are more risk tolerant than singles. Larkin et al. (2003), Gibson et al. (2013), Ensari Alpay et al. (2015) found that there is no relationship between marital status and financial risk tolerance. Another variable associated with marital status is the number of children. It is assumed that there is a negative relationship between the number of dependents or children in the household and financial risk tolerance. Individuals who have children require certainty in their returns on investments and reduce resources available for risky investments because of increasing costs and desire to secure the future (Chaulk, Johnson, & Bulcroft, 2003; Irandoust, 2017). For example, Hallahan et al. (2004), Yao et al. (2011), Irandoust (2017), Aksoy (2018) found a negative relationship between the number of dependents and financial risk tolerance. According to Faff et al. (2009), there is a nonlinear linkage between financial risk tolerance and number of dependents. They concluded that as the number of dependents increases, financial risk tolerance decreases at a decreasing rate.

Education: One of the important variables that are assumed to have an impact on financial risk tolerance is the level of education. It is generally assumed that increased level of education is considered to be associated with increased level of financial risk tolerance. Because educated people can better evaluate the risks and returns of their investments and make more accurate investment decisions (Fisher & Yao, 2017:194). Many researchers like Sung and Hanna (1996), Grable and Lytton (1998), Grable (2000), Larkin et al. (2003), Grable and Joo (2004), Yao et al. (2011), Rai and Kimmel (2015), Tanyolac and Karan (2015), Irandoust (2017) have found that there is a positive relationship between level of education and financial risk tolerance. Contrary to this, while Aksoy (2018) found that there is a negative relationship between education and financial risk tolerance, Gibson et al. (2013) did not find a significant relationship between level of education and financial risk tolerance.

Income and Wealth: Income and/or wealth of an individual is another important factor that affects her financial risk tolerance level. Individuals with high levels of income and wealth have enough resources to meet essential commitments and they can allocate more money for investing. Also they may be more resilient to financial losses (Irandoust, 2017: 157). Therefore, a positive relationship is assumed between financial risk tolerance and income/wealth. In many studies, findings supporting this main assumption have been revealed (Usul, 2002; Finke & Huston, 2003; Larkin et. al., 2003; Grable & Joo, 2004; Grable, 2010; Yao et al., 2011; Gibson et al., 2013; Kalfa et al., 2015; Tanyolac & Karan, 2015; Rai & Kimmel, 2015; Irandoust,

2017; Reddy & Mahapatra, 2017; Aksoy, 2018). In contrast, Kannadhasan (2015) found that there is no significant relationship between income and financial risk tolerance, and Gibson et al. (2013) found that there is no significant relationship between wealth and financial risk tolerance. Also, Faff et al. (2009) indicated that there is a nonlinear linkage between financial risk tolerance and income. They concluded that as income and combined income increase, financial risk tolerance increases at a decreasing rate.

Sector, Employment Status, and Occupation: Sector, employment status, and occupation may have an effect on financial risk tolerance. Findings of some research are indicated that there are relationships between financial risk tolerance and those factors. For example, Roszkowski and Grable (2009) explored the general belief that individuals working in the private sector are more risk tolerant than public sector employees, and they found that public sector employees (both men and women) have lower financial risk tolerance than private sector employees. Financial risk tolerance of an individual who is working in a job can be higher than an individual who has not a job. Because employed individual earns money to afford her basic needs and can take on more risks than an unemployed individual (Larkin et al., 2003: 79). Research from Anbar and Eker (2010) is supported that view. They indicated that working in a job is a differentiating factor and financial risk tolerance scores of employed individuals are higher than unemployed individuals. Yao et al. (2011) found that self-employed individuals are more risk tolerant than salary earners and retired individuals are significantly less risk tolerant than salary earners. Similar that result, Sung and Hanna (1996) indicated that households with a self-employed head are tended to be significantly more risk tolerant than those that did not have a self-employed head. There is a general view that individuals who are working professional occupations (e.g., business manager, attorney, doctor, etc.) have more financial risk tolerance scores than individuals who are working nonprofessional occupations (Grable & Lytton, 1998: 61). Findings of some research like Grable and Lytton (1998), Grable (2000), Kannadhasan (2015), Reddy and Mahapatra (2017) are supported that view.

Other Factors: In addition to highly researched factors such as age, gender, marital status, education, and income, other factors that may be related to financial risk tolerance are also subject to research. Some examples of these factors include financial stability (Irandoust, 2017), financial knowledge/literacy (Grable, 2000; Gibson et al., 2013; Irandoust, 2017), use of a financial planner (Gibson et al., 2013), sensation seeking (Grable & Joo, 2004; Kannadhasan et al., 2016), self-esteem (Grable & Joo, 2004; Kannadhasan et al., 2016), expectations (Grable, 2000; Gibson et al., 2013), market volatility (Rabbani, Grable, Heo, Nobre, & Kuzniak, 2017), homeownership (Sung & Hanna, 1996; Grable & Joo, 2004; Larkin et al., 2003; Yao et al., 2011), ethnicity (Sung & Hanna, 1996; Grable & Joo, 2004; Dickason & Ferreira, 2018), and level of testosterone (Meziani & Noma, 2018; Nofsinger, Patterson, & Shank, 2018).

3. Methodology

3.1. Population of the Study and Sample

The population of the study is the bankers at private and public banks in Bursa, Turkey. The survey form was directed to the 259 bankers between 01 March 2018 and 01 May 2018. Convenience sampling method was used in the selection of the population for the study.

3.2. Data Collection Tools

The survey form, which was developed to collect research data, was comprised of three parts. In the first part, sociodemographic data form which was consisted of 8 questions, was designed to gather information regarding age, gender, marital status, number of children, educational status, years in occupation, monthly personal income, and sector.

In the second part of the form has modified financial risk tolerance (FRT) with thirteen items developed by Grable and Lytton (1999) to measures the financial risk tolerance scores of the sample. All respondents were asked to indicate extent of their risk tolerance by circling a number on the scale for each of the items. Thus, responses to the financial risk assessment questions were combined into a risk-tolerance index. The respondents' FRT score is determined by summing the answers on the 13 FRT questions. Answers

to each question were given a weight according to the riskiness of the response. Higher weightings indicated a riskier choice, while lower weighting indicated a less risky choice. This data shows that the bankers' risk-tolerance index scores changed between 16 and 43 and the mean was 28.0541 (standard deviation: 5.61809). Accordingly, total score of financial risk tolerance variable, the scoring 28 above on the index coded as 2, and those scoring 28 or below coded as 1. Using this method, 54.1% of respondents were classified as having below-average risk tolerance, and 45.9% of respondents were classified as having above-average risk tolerance. For reliability of financial risk tolerance which was used in this study, Cronbach's alpha was used. Cronbach's alpha coefficient was 0.733.

In the last part, to measure the love of money of the bankers, the scale of Tang and Chen (2008) was used. The scale consisted of three questions. All respondents were asked to indicate extent of agreement with each statement on the Likert scale ranging from 1 (completely disagree) to 5 (completely agree). The love of money score is determined by averaging the answers on the three love of money questions. This data indicates that the bankers' love of money scores change between 1 and 5 and the mean is 3.5995 (standard deviation: 0.96042). Accordingly, the love of money average score variable is coded like that 2 for scoring 4 and above, and 1 for 3.99 and below. 58.1% of respondents (150) were classified as having below-average love of money, and 41.9% of respondents (108) were classified as having above-average love of money. The result of the reliability analysis shows that the bankers' love of money is high and the Cronbach's alpha coefficient is 0.897.

3.3. Data Analysis

The data was analyzed by the SPPS 13 (The Statistical Package for Social Sciences). Multiple regression analysis was used to determine the effects of the sociodemographic variables and love of money on financial risk tolerance. However, t-test and one-way analysis of variance (ANOVA) were used to explore whether the sociodemographic variables and love of money varies financial risk tolerance level of bankers. In this analysis, Tukey's HSD test was used for post hoc comparisons of ANOVA.

3.3.1. Correlation Analysis between Financial Risk Tolerance and Independent Variables

Table 1 displays the correlations between FRT, love of money and sociodemographic variables. The numbers which are marked with an asterisk in the table show that according to the meaningfulness level 1% and 5%, there is a meaningful relationship between the variables.

Table 1. Correlation Matrix for FRT and Independent Variables

Variables	FRT	Sig.(2-tailed)
Love of Money	0.036	0.564
Age	-0.184**	0.003
Gender	0.105	0.094
Marital Status	-0.077	0.220
Number of Children	-0.120	0.058
Educational Status	0.279**	0.000
Years in Occupation	-0.270**	0.000
Monthly Personal Income	-0.007	0.912
Sector	-0.028	0.649

* Correlation is significant at the 0.05 level.
** Correlation is significant at the 0.01 level.

According to Table 1, FRT is significantly correlated with age, educational status and years in occupation and the correlations were -0.184 ($p<0.01$), 0.279 ($p<0.01$) and -0.270 ($p<0.01$) respectively.

4. Findings

The findings of the study were examined in three sections. In the first section, the sociodemographic characteristics of the bankers were presented. In the second section, the results of multiple regression analysis were presented, and the results of t-test and ANOVA analysis were presented in the third section.

4.1. Sociodemographic Characteristics of the Respondents

The socio-demographic characteristics of the sample are in Table 2. These are age, gender, marital status, children number, educational status, years in occupation, monthly personal income, and sector. As seen the Table 2, 45.1% of the respondents are female and 54.9% of the respondents are male. As to the age of bankers, 39% of the respondents are between 21-30 years and 34.7% of the respondents are between 31-40 years. Most of the bankers are married (58.7%) but no child (49.6%). According to the level of education, %77.2 of the bankers have undergraduate degree. As to the monthly personal income, 41.8% of the bankers have incomes between 3001-4500 TRY, 24.6% between 2000-3000 TRY and 18.8% between 4501-6000 TRY. While 65.3% of the bankers are at public bank, 34.7% are at private banks.

Table 2. Sociodemographic Characteristics

Variables	N	%	Variables	N	%
Age			**Income**		
21-30	101	39	2000TRY-3.000TRY	63	24.6
31-40	90	34.7	3001TRY-4.500TRY	107	41.8
41-50	60	23.2	4501TRY-6000TRY	48	18.8
51 or above	8	3.1	6001TRY and above	38	14.8
Gender			**Marital Status**		
Female	116	45.1	Single	105	41.3
Male	141	54.9	Married	149	58.7
Number of Children			**Level of Education**		
No	124	49.6	High school	17	6.6
1	69	27.6	Associate degree	15	5.8
2 and above	57	22.8	Undergraduate	200	77.2
			Graduate	27	10.4
Years in Occupation					
1-5 years	100	39.2	**Sector**		
6-10 years	60	23.5	Public Banks	169	65.3
11-20 years	75	29.4	Private Banks	90	34.7
21 years and above	20	7.8			
Total		100.00	Total		100.00

4.2. Results of Multiple Regression Analysis

The multiple regression analysis was used to test the effects of sociodemographic variables and love of money on financial risk tolerance levels of bankers. According to this, Table 3 presents the results of multiple regression with FRT as the dependent variable and love of money and sociodemographic characteristics of bankers as independent variables. The models are presented below in equation form:

$$Y= b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7 + b_8X_8 + b_9X_9 + e$$

Where:

Y = FRT,

X_1 = Love of money,

X_2, …, X_9 = Sociodemographic variables,

e = Error term.

Table 3. Results of Regressions Analysis

Predictor Variables	Non Standard Beta	Standard Beta	t value	p
(Constant)	21.836		8.131	0.000
Love of Money (X_1)	-0.410	-0.073	-1.222	0.223
Age (X_2)	-0.291	-0.046	-0.367	0.714
Gender (X_3)	0.895	0.080	1.268	0.206
Marital Status (X_4)	-1.984	-0.174	-2.115	0.035
Number of Children (X_5)	2.252	0.327	3.121	0.002
Level of Education (X_6)	2.154	0.257	4.111	0.000
Years in Occupation (X_7)	-3.320	-0.591	-4.948	0.000
Monthly Personal Income (X_8)	1.977	0.340	3.642	0.000
Sector (X_9)	-0.822	-0.070	-1.179	0.240
F=8.640 p=0.000 R=0.505 R^2=0.255 Adjusted R^2=0.226				

Dependent Variable: FRT

The results show that there are five significant variables like marital status, number of children, level of education, years in occupation and monthly personal income affecting FRT. The effect of marital status on FRT score is negative and significant, and the beta value is -0.174 (t=-2.115, p=0.035). As to these results, the bankers who single are higher FRT level than married ones. According to the effect of number of children on FRT score is positive and significant, and the beta value is 0.327 (t=3.121, p=0.002). As to these results, the bankers who have more children are likely to have a more FRT level. As to the level of education, it is significantly and positively associated with FRT level and beta value is 0.257 (t=4.111, p=0.000). That is, the banker who have higher education level are more FRT level than lower education level ones. However, the effect of years in occupation on FRT score is negative and significant, and beta value is -0.591 (*t*=-4.948, *p*=0.000). In other words, the results indicate that bankers who have lower years in occupation are higher FRT scores than higher years in occupation ones. Finally, the relationship between FRT level and personal income is positive and significant, and the beta value is 0.340 (t=3.642, p=0.000). As to these results, bankers who have more income are likely to have a more FRT level. Mentioned model explains 22.6% of the variance of the FRT score. In sum, the results suggest that bankers who have more children, more educated and more personal income have a higher FRT level. On the other hand, the bankers who married and more long working years in occupation have less FRT scores.

4.3. Results of t-test and ANOVA Analysis

In this section, whether love of money and sociodemographic variables varies financial risk tolerance of bankers is explored. With this aim, t-test and ANOVA analysis is performed and the results of analysis are presented in Table 4.

Results of t-test and ANOVA in Table 4 show that there are no statistically significant differences in FRT level as to gender, marital status, monthly personal income, and sector. When we look at the results from the point of the bankers' love of money, we see a statistically significant difference in FRT level. The results show that bankers with low love of money have higher FRT levels than ones with high love of money. As to the ages, there is a meaningful difference in FRT level. Tukey test shows that FRT scores of bankers who have age between 21 and 30 were higher than bankers who have age between 31 and 40. From the point of number of children, there is a meaningful difference in FRT level. Tukey test shows that FRT scores of bankers who have no children were higher than ones who have one children. In respect of the level of education, there is a meaningful difference in FRT level. Tukey test shows that FRT scores of bankers who have graduate school were higher than bankers who have high school, associate degree and undergraduate education. According to years in occupation, there is a meaningful difference in FRT level. Tukey test indicates that FRT

scores of bankers who between 0 and 5 years working in bank are higher than 6 and above working ones. As a consequence, the results of ANOVA shows that there are significant differences in FRT level according to the love of money, age, number of children, level of education and working years in bank. However, as to the gender, marital status, monthly personal income, sector, there are not meaningful differences in FRT level.

Table 4. Results of t-test and ANOVA

Variables	Financial Risk Tolerance					
	N	M	SD	T	F	Sig.
Love of Money				0.406		
Low	150	28.1867	4.95806	0.389	8.799	0.003
High	108	27.8981	6.46043			
Gender						
Female	116	27.3966	5.73605	-1.682	0.027	0.869
Male	141	28.5816	5.52159	-1.676		
Age						
21-30	101	29.6139	6.16761		5.320	0.001
31-40	90	26.6000	5.53599			
41-50	60	27.9167	4.18347			
51 and above	8	25.7500	3.77018			
Number of Children						
No	124	28.9839	6.44802		3.999	0.020
1	69	26.6087	4.91162			
2	57	27.9298	4.27977			
Marital Status						
Single	105	28.7429	6.86831	1.487	20.390	0.138
Married	149	27.6779	4.54299	1.389		
Level of Education						
High school	17	24.5882	4.91247		9.457	0.000
Associate degree	15	26.7333	5.25719			
Undergraduate	200	27.8250	5.02500			
Graduate	27	32.6667	7.67112			
Years in Occupation						
0-5 years	100	30.3700	5.87007		11.846	0.000
6-10	60	26.0833	5.71140			
11-20	75	27.7867	4.38145			
21 and above	20	24.8000	3.15561			
Monthly Personal Income						
2000-3000	63	28.0159	5.87639		0.378	0.769
3001-4500	107	28.5514	5.63385			
4501-6000	48	27.5625	5.27905			
6001 TRY and above	38	28.2105	4.99274			
Sector						
Private Banks	169	28.1243	5.87691	0.275	0.882	0.783
Public Banks	90	27.9222	5.12589	0.287		

5. Conclusion

The purpose of this study is to explore the effects of sociodemographic variables and love of money on bankers' FRT levels. The survey form was directed to 259 bankers that have been studying at private and public banks in Bursa, Turkey. Multi-correlation, multiple regression and ANOVA are the analysis techniques

of the study. According to the results of the correlation analysis, FRT is significantly correlated with age, educational status and years in occupation.

The results of multiple regression show that marital status, number of children, level of education, years in occupation, and monthly personal income are significantly related to financial risk tolerance. Variable of love of money and other sociodemographic variables (age, gender and sector) are not significant. While the effects of number of children, education, and income of financial risk tolerance are positive, the effects of marital status and years in occupation on financial risk tolerance are negative. In other words, bankers who have more children, more educated and more personal income have a higher FRT level. The bankers who married and more long working years in occupation have less FRT level. In terms of marital status, education and income variables, the findings of the study are consistent with the general assumptions and literature. The relationship between number of children and financial risk tolerance is found positive in this study, while the general assumption is that there is a negative relationship between number of children and financial risk tolerance. The effect of years in occupation on the financial risk tolerance is negative. The reason for this result may be caused by age and marital status. Because, as years of occupation increases, the age and the probability of being married increases. In the literature, there is no study examining the relationship between love of money and risk tolerance. In this study, it is found the relationship between love of money and risk tolerance is insignificant. In the following studies, the effect of this variable on risk tolerance can be investigated and literature about this variable can constitute. In this study, it is found that age, gender, and sector have no effect on financial risk tolerance. Although there are some studies which have the same findings in the literature, findings from this study are not consistent with the general assumptions. In the literature, there are general assumptions like (1) females are less risk tolerant than males, (2) financial risk tolerance decreases with age, and (3) public sector employees are less risk tolerant than private sector employees.

According to t-test and ANOVA analysis, there are significant differences in FRT level according to the love of money, age, number of children, level of education, and years in occupation. However, as to the gender, marital status, monthly personal income, sector, there are no meaningful differences in FRT level. While gender, marital status, and income are important differentiating and classifying factors, it is found that they are not important differentiating factors in this study. While the love of money variable has not a significant effect on financial risk tolerance according to regression analysis, it is found to be an important variable in separating individuals according to financial risk tolerance levels. But findings of this study show that individuals who have low love of money scores are more risk tolerant than individuals who have high love of money scores.

As a result, understanding financial risk tolerance is a complicated process because of effects of many factors on it. Further studies are necessary for understanding the principal factors affecting financial risk-tolerance attitudes and behaviors. If financial risk tolerance levels of individuals can be determined more accurately, financial advisers and portfolio managers may advise their clients more accurately and make better investment decisions for them.

References

Aksoy, E. E. (2018). Türkiye'deki bireysel yatırımcıların yatırım riski tercihlerini etkileyen bireysel faktörlerin analizi. *İşletme Araştırmaları Dergisi*, 10(3), 874-891.

Anbar, A., & Eker, M. (2010). An empirical investigation for determining of the relation between personal financial risk tolerance and demographic characteristic. Ege Academic Review, 10(2), 503-523.

Arano, K., Parker, C., & Terry, R. (2010). Gender-based risk aversion and retirement asset allocation. *Economic Inquiry*, 48(1), 147-155.

Brooks, C., Sangiorgi, I., Hillenbrand, C., & Money, K. (2018). Why are older investors less willing to take financial risks? *International Review of Financial Analysis*, 56, 52-72.

Chaulk, B., Johnson, P. J., & Bulcroft, R. (2003). Effects of marriage and children on financial risk tolerance: A synthesis of family development and prospect theory. *Journal of Family and Economic Issues*, 24(3), 257-279.

Cihangir, M., Şak, N., Bilgin, Ş. (2016). Bireysel yatırımcı demografileri: Osmaniye ilinde risk getiri tercihlerinin multinominal probit modeliyle incelenmesi. *Muhasebe ve Finansman Dergisi*, Nisan/2016, 129-142.

Cooper, W. W., Kingyens, A. T., & Paradi, J. C. (2014). Two-stage financial risk tolerance assessment using data envelopment analysis. *European Journal of Operational Research*, 233, 273-280.

Dickason, Z., & Ferreira, S. J. (2018). The effect of gender and ethnicity on financial risk tolerance in South African. *Gender & Behaviour*, 16(1), 10851-10862.

Eker, S. (2018). The impact of machiavellianism and love of money on bank officers' unethical behavior. III. International Conference on Economics Business Management and Social Sciences "Transformations in Economics and Business in the 21st Century". August 07 – 11, Skopje.

Ensari Alpay, E. E., Yavuz, M., & Kahyaoglu, M. B. (2015). Gelir durumunun risk algısına etki eden diğer sosyoekonomik ve demografik faktörler üzerindeki etkisi. *Çukuroava Üniversitesi İktisadi ve İdari Bilimler Dergisi*, 16(1), 205-226.

Faff, R., Hallahan, T., & McKenzie, M. (2009). Nonlinear linkages between financial risk tolerance and demographic characteristics. *Applied Economics Letters*, 16, 1329-1332.

Finke, M. S., & Huston, S. J. (2003). The brighter side of financial risk: Financial risk tolerance and wealth. *Journal of Family and Economic Issues*, 24(3), 233-256.

Fisher, P. J., & Yao, R. (2017). Gender differences in financial risk tolerance. *Journal of Economic Psychology*, 61, 191-202.

Gibson, R., Michayluk, D., & Van de Venter, G. (2013). Financial risk tolerance: An analysis of unexplored factors. *Financial Services Review*, 22, 23-50.

Grable, J. E. (2000). Financial risk tolerance and additional factors that affect risk taking in everyday money matters. *Journal of Business and Psychology*, 14(4), 625-630.

Grable, J. E. (2000). Financial Risk tolerance and additional factors that affect risk taking in everyday money matters. *Journal of Business and Psychology*, 14(4), 25-63.

Grable, J. E., & Joo, S. (1999). Factors related to risk tolerance: a further examination. *Consumer Interests Annual*, 45, 53–58.

Grable, J. E., & Joo, S. H. (2004). Environmental and biopsychosocial factors associated with financial risk tolerance. *Journal of Financial Counseling and Planning*, 15(1), 73-82.

Grable, J. E., & Lytton, R. H. (1998). Investor risk tolerance: Testing the efficacy of demographics as differentiating and classifying factors. *Financial Counseling and Planning*, 9(1), 61-74.

Grable, J., & Lytton, R. H. (1999a). Financial risk tolerance revisited: The development of a risk assessment instrument. *Financial Services Review*, 8, 163-181.

Grable, J. E., & Roszkowski, M. J. (2008). The influence of mood on the willingness to take financial risks. *Journal of Risk Research*, 11(7), 905-923.

Gultekin, B. (2018). Influence of the love of money and morality on intention to purchase counterfeit apparel. *Social Behavior and Personality*, 46(9), 1421-1436

Hallahan, T. A., Faff, R. W., & McKenzie, M. D. (2004). An empirical investigation of personal financial risk tolerance. *Financial Services Review*, 13, 57-78.

Hanna, S. D., Gutter, M. S., & Fan, J. X. (2001). A measure of risk tolerance based on economic theory. *Journal of Financial Counseling and Planning*, 12(2), 53-60.

Hanna, S. D., & Lindamood, S. (2004). An improved measure of risk aversion. *Financial Counseling and Planning*, 15(2), 27-45.

Harlow, W. V., & Brown, K. C. (1990). Understanding and assessing financial risk tolerance: A biological perspective. *Financial Analysts Journal*, November-December, 50-62.

Hibbert, A. M., Lawrence, E. R., & Prakash, A. J. (2013). Does knowledge of finance mitigate the gender difference in financial risk-aversion? *Global Finance Journal*, 24, 140-152.

Hui, W., & Hanna, S. (1997). Does risk tolerance decrease with age? *Financial Counseling and Planning*, 8(2), 27-31.

Irandoust, M. (2017). Factors associated with financial risk tolerance based on proportional odds model: Evidence from Sweden. *Journal of Financial Counseling and Planning*, 28(1), 155-164.

Kalfa, V. R., Çakir, E., & Akar, G. S. (2015). Üniversite öğrencilerinin finansal risk algılarında etkisi olan demografik faktörlerin belirlenmesi: Pamukkale Üniversitesi örneği. *İşletme Araştırmaları Dergisi*, 7(3), 336-355.

Kannadhasan, M. (2015). Retail investors' financial risk tolerance and their risk-taking behaviour: The role of demographics as differentiating and classifying factors. *IIMB Management Review*, 27, 175-184.

Kannadhasan, M., Aramvalarthan, S., Mitra, S. K., & Goyal, V. (2016). Relationship between biopsychosocial factors and financial risk tolerance: An empirical study. *VIKALPA: The Journal for Decision Makers*, 41(2), 117-131.

Kuzniak, S., & Grable, J. E. (2017). Does financial risk tolerance change over time? A test of the role macroeconomic, biopsychosocial and environmental, and social support factors play in shaping changes in risk attitudes. *Financial Services Review*, 26, 315-338.

Lam, D. (2015). Gender differences in risk aversion among Chinese university students. *Journal of Gambling Studies*, 31, 1405-1415.

Larkin, C., Lucey, B. M., & Mulholland, M. (2013). Risk tolerance and demographic characteristics: Preliminary Irish evidence. *Financial Services Review*, 22, 77-91.

Meziani, A. S., & Noma, E. (2018). A new method of measuring financial risk aversion using hypothetical investment preferences: What does it say in the case of gender differences? *Journal of Behavioral Finance*, 19(4), 450-461.

Nofsinger, J. R., Patterson, F. M., & Shank, C. A. Decision-making, financial risk aversion, and behavioral biases: The role of testosterone and stress. *Economics and Human Biology*, 29, 1-16.

Rabbani, A. G., Grable, J. E., Heo, W., Nobre, L., & Kuzniak, S. (2017). Stock market volatility and changes in financial risk tolerance during the Great Recession. *Journal of Financial Counseling and Planning*, 28(1), 140-154.

Rai, J., & Kimmel, J. (2015). Gender differences in risk preferences: An empirical study using attitudinal and behavioral specifications of risk aversion. *Gender in the Labor Market*, 42, 61-91.

Reddy, K. S., & Mahapatra, M. S. (2017). Risk tolerance, personal financial knowledge and demographic characteristics: Evidence from India. *The Journal of Developing Areas*, 51(3), 51-62.

Roszkowski, M. J., & Grable, J. E. (2009). Evidence of lower risk tolerance among public sector employees in their personal financial matters. *Journal of Occupational and Organizational Psychology*, 82, 453-463.

Roszkowski, M. J., & Grable, J. E. (2010). Gender differences in personal income and financial risk tolerance: How much of a connection? *The Career Development Quarterly*, 58, 270-275.

Sarac, M., & Kahyaoglu, M. B. (2011). Bireysel yatırımcıların risk alma eğilimine etki eden sosyo-ekonomik ve demografik faktörlerin analizi. *BDDK Bankacılık ve Finansal Piyasalar*, 5(2), 135-157.

Sarin, R., & Wieland, A. (2016). Risk aversion for decisions under uncertainty: Are there gender differences? *Journal of Behavioral and Experimental Economics*, 60, 1-8.

Sulaiman, E. K. (2012). An empirical analysis of financial risk tolerance and demographic features of individual investors. *Procedia Economics and Finance*, 2, 109-115.

Sung, J., & Hanna, S. (1996). Factors related to risk tolerance. *Journal of Financial Counseling and Planning*, 7, 11-19.

Tang, T. L. P., & Chen, Y. J. (2008). Intelligence vs. wisdom: The love of money, machiavellianism, and unethical behavior across college major and gender. *Journal of Business Ethics*, 82(1), 1-26.

Tang, T. L. P., & Tang, T. L. N. (2012). The love of money, pay satisfaction and academic tenure: Professors in a public institution of higher education. *Public Personnel Management*, 41, 97-126.

Tanyolac, C., & Karan, M. B. (2015). Analyzing demographic characteristics of the security investors: An application to Turkey. *Journal of Economics, Finance and Accounting*, 2(4), 680-703.

Usul, H., Bekçi, İ., & Eroğlu, A. H. (2002). Bireysel yatırımcıların hisse senedi edinimine etki eden sosyo-ekonomik etkenler. *Erciyes Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 19, 135-150.

Van de Venter, G., Michayluk, D., & Davey, G. (2012). A longitudinal study of financial risk tolerance. *Journal of Economic Psychology*, 33,794-800.

Yao, R., & Hanna, S. D. (2005). The effect of gender and marital status on financial risk tolerance. *Journal of Personal Finance*, 4(1), 66-85.

Yao, R., Sharpe, D. L., & Wang, F. (2011). Decomposing the age effect on risk tolerance. *The Journal of Socio-Economics*, 40, 879-887.