Journal of Management and Economic Studies
2022, Vol.4, No.2, 118-134
http://doi.org/10.26677/TR1010.2022.1017

# Individuals' Financial Health During The Covid-19 Pandemic*

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**Abstract**

This study aims to explore individuals' financial health during the COVID-19 outbreak. The data were collected through an online survey between May 26 and June 15, 2020. The sample of the study consisted of 1333 participants (58.7% women; 41.3% men). The results showed that participants' average financial health scores were (M = 60.4) under the category of financially coping. The average score in save indicator is 49 which indicates that participants did not have satisfactory savings for affording to cover unexpected expense during this tough time. The average score in the plan or budget indicator is 46, which is the prime reason with saving indicator for getting financial health score in "financially coping" category. This study concluded that financial ignorance, financial anxiety, financial security, financial crisis, age, income, perceived income and education were significantly related to financial health.

**Keywords**
Financial Anxiety, Financial Crisis, Financial Health, Financial Ignorance, Financial Security

## 1. INTRODUCTION

The COVID-19 outbreak was declared an international public health emergency on January 30, 2020, by the World Health Organization (WHO), causing a great effect on people's lives, families, communities, businesses and economies (Dubey et al. 2020; Mahajan, 2020). This pandemic is the defining global health crisis of our time and the greatest challenge we have faced since World War Two (UNDP-Turkey, 2020). As the coronavirus outbreak rapidly spread around the world, it is causing widespread concern, anxiety, anger, depression, panic, insecurity, fear and stress, feelings of loss, and social withdrawal all of which are natural and normal reactions to the changing and uncertain situation that everyone finds themselves in (Brooks et al. 2020; Euart et al. 2020; Kulkarni and Bharati, 2020; Poudel and Subedi, 2020; WHO, 2020; Xiang et al. 2020).

To prevent the spread of this pandemic, governments have taken various measures such as social distancing, lockdowns, closing schools, universities, places of religious worship, and public utilities indefinitely, travel restrictions and home quarantines, imply a slowdown or even a complete stop in production and consumption activities for indefinite time, crumbling markets and potentially leading to the shutdown of businesses, sending millions of employee home (Agrawal et al. 2020; Goodell, 2020; Mahajan, 2020; Nelson et al. 2020). In Turkey, around 10% of both women and men reported quitting their jobs due to health risks (UNDP-Turkey, 2020). According to ECLAC, more than 30 million people could fall into poverty without active policies to protect or substitute income flows to low-income people. This spotlight addresses financial strain as a specific challenge for countries and individuals (Hevia and Neumeyer, 2020; Mogaji, 2020). Moreover, financial difficulty, fear, anxiety and panic has changed usual consumption patterns and created market anomalies; leading to the postponement of consumers' spending

*Presented at IV. International ICTEBS Congress, October 20-22, 2021.

decisions (Boost and Meier, 2017; Kaytaz and Gul, 2014; Kulkarni and Bharati, 2020; McKibbin and Fernando, 2020). Panic drives people not to spend unless it is urgent or significantly reduce any unplanned purchase since people tend to save money for their health emergencies (Alonso et al. 2015; Baldwin and Tomiura, 2020; Barua, 2020; Hsu et al. 2017). In some countries like US, Canada, UK more consumers reported reducing spending than increasing spending. In other countries like South America, Indonesia, Brazil, more consumers reported increasing spending than decreased (Euart, 2020). On the other hand, higher uncertainty leads to higher savings and changes in financial planning (Dietrich et al. 2020). Growing concern related to COVID-19 as individuals worry about immediate health and secondary economic effects (Nelson et al. 2020). For example, Mahajan (2020) concluded that individuals were financially coping during COVID-19 outbreak, and they have liquid savings to manage things for the next 4-5 months. However, the majority of respondents were worried about their financial health. If lockdown continues, it might affect their daily needs as well.

The priority is, of course, to save lives. Nevertheless, the required containment measures to restrict the spread of the coronavirus are causing a dramatic decline in economic activity (Mahajan, 2020). Thus, a global health crisis becomes a global economic crisis (Evans and Over, 2020) and thrust the world into an "economic war."

Besides the cost of life and the deep health crisis of the COVID-19 outbreak, the world is sparking fears an impending economic recession and financial uncertainty that will severely impact the financial health of large parts of households (Barua, 2020; Evans and Over, 2020; Fujiwara et al. 2020; Nicola et al. 2020; McKibbin and Fernando, 2020; Poudel and Subedi, 2020). The penalty of job or income loss may be devastating for individuals and their families, yet they still have fixed costs to pay and families to feed. Individuals could feel helpless when they are unemployed, financially coping, unable to make ends meet or experience financial emergencies and feel financial insecurity (Mogaji, 2020; Van Aardt et al. 2009). Household financial decision-makers around the world reported their financial situations and countries' current economies were weak, decreases in income and saving, and fear of unemployment and job security concerns held savings to cover less than four months' worth of expenses due to COVID-19 outbreak (Agrawal et al. 2020; Dietrich et al. 2020; Dubey et al. 2020; Euart et al. 2020; Nelson et al. 2020; Ho et al. 2020; WHO, 2020). The pandemic has brought lessons to the households in managing their personal finance as immediately after the breakout of Covid-19, many people lost their livelihood and become vulnerable to face challenges in life (Sukumaran, 2021). All these situations will significantly decrease financial health.

### 1.1. Financial Health

As the importance of financial health of individuals and families continues to grow, people often use the term "financial wellness" to mean the level of a person's financial health. Financial wellness is a comprehensive, multidimensional concept incorporating financial satisfaction, objective status of financial situation, financial attitudes, and behavior that cannot be assessed through one measure. When respondents were asked to provide a definition of financial "wellness," they indicated that the word "health" was most appropriate (e.g. financial health of a family). Thus, in the current study we used the term as "financial health." An individual's financial health can be said to be "high" (or a person is "well") when individuals are satisfied with their financial situations, their objective status is desirable, they have positive financial attitudes, and exhibit healthy financial behavior (Joo, 2008).

A number of factors have been found to influence financial health. Among the most common factors are socioeconomic characteristics, such as gender, marital status, education, age, income, and home ownership (Joo, 1998; O'Neill, 1995; Porter and Garman, 1993). Among the socioeconomic characteristics, income is one of the significant aspects of financial health. To

become financially healthy, individuals need to display desirable financial behaviors with cash management, credit and debt management, saving, planning for various lifecycle events (e.g., marriage, college planning, retirement, estate planning), and consumerism. Subjective perception is the driving force for savvy financial behaviors and becomes part of the personal financial health. Financial stressors also were correlated negatively with personal financial health (Joo, 2008). Britt et al. (2015) concluded that money status and money worship scripts were associated with lower levels of financial health, while money vigilance scripts were associated with higher levels of financial health. Moreover, Delafrooz and Paim (2011) reported that income, gender, marital status, home ownership, and education had either a direct or indirect effect on financial health. Researchers' findings also suggest that when households, including children and young adults, were engaged in savings, perhaps improving financial health in the long run for everyone involved. Thus, one way to improve young adults' financial health may be to help their households stabilize and saving (Friedline et al. 2014).

With COVID-19 rapidly changing the economy and the way we live, work and consumer behavior, it is no wonder there is an increased level of financial anxiety (Fujiwara et al. 2020). People are happier when they are financially secure (O'Neill et al. 2005). During a COVID-19 outbreak, the economic conditions become very uncertain and depressing, as there is neither enough information nor a definitive treatment to the COVID-19 at hand. It is important to know individuals' financial health and its predictors during an ongoing pandemic. In this study, as well as demographic characteristics, financial crisis, financial ignorance, financial anxiety and financial security were considered as stressful life occurrences, and they have important predictors of financial health during periods of economic crisis due to COVID-19 outbreak. Therefore, this study aims to identify how factors related to financial ignorance, financial crisis, financial anxiety, and financial security affect adult population's financial health in Turkey during an ongoing pandemic.

Based on previous researches, this study sought answers to three research questions.

1. Do the averages of financial health scores and subtest scores differ significantly according to socioeconomic characteristics?

2. What are the relationships between financial health, financial ignorance, financial anxiety, financial security, financial crisis and socioeconomic variables?

3. What are the predictive levels of financial ignorance, financial anxiety, financial security, financial crisis and socioeconomic variables on financial health?

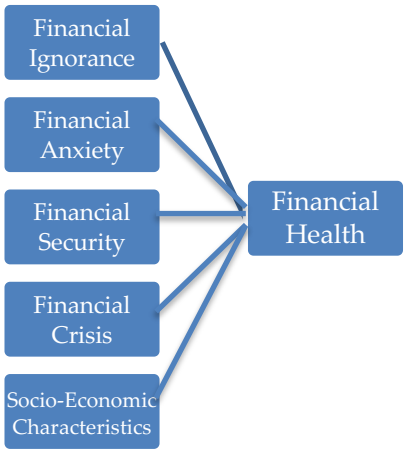


Figure 1. Model of the Study

## 2. METHODOLOGY

### 2.1. Data collection and sample

The research is a relational research model. Data were collected from the participants through an online survey between May 26 and June 15, 2020 using convenience sampling method. The survey was developed using the free software Google Forms. Participants were contacted via email and telephone, a link to a self-report questionnaire was sent by e-mail or made public on other online platforms (Facebook and WhatsApp). Participants could contact the researchers via email or phone at any time. Consent to participate in this study was obtained from each respondent and the study consists of individuals of 18 years and older living in Turkey. According to Turkey's 2019 address-based population registration system, the population that is 18 years old and above is 56.645.598 (TUIK, 2020). The sample for this study totaled 1333 participants in different regions of the country. Turkey recorded the first case of the disease on March 11, 2020. Since then, the cases have increased steadily and significantly. As of July 3, 2021, according to the Ministry of Health (2021), a total of 5.440.368 COVID-19 cases, 5.310.769 recovered, and 49.874 deaths have been reported. Table 1 presents the sample profile. More than half (58.7%) of the participants were women and about 41.3 % of them were men. The average age of the participants was 39.7 (*SD*=10.49) years. 65.7% of the respondents in the sample indicated being married. Further, 58.4% of the participants had a college degree and 36.8% of the participants were currently working at home during the Covid-19 pandemic. The average monthly income for respondents in the sample was ₺10479.51 (Turkish Lira, TL) (*SD*=75842.50) (1 USD = 6.95 TL in June 2020) (Table 1).

**Table 1.** Distribution of the Participants by Socioeconomic Variables

| Variables and categories | | *N (1333)* | % |
|---|---|---|---|
| Gender | Women | 782 | 58.7 |
| | Men | 551 | 41.3 |
| Marital Status | Married | 876 | 65.7 |
| | Single | 457 | 34.3 |
| Working status during the COVID-19 outbreak | Always at home | 490 | 36.8 |
| | Always at workplace | 164 | 12.3 |
| | Flexible | 361 | 27.1 |
| | Not working | 309 | 23.2 |
| | Other | 9 | .7 |
| Education | Literate/primary school | 8 | .6 |
| | Middle school | 9 | .7 |
| | High school | 67 | 5.0 |
| | Associate degree | 74 | 5.6 |
| | Undergraduate | 778 | 58.4 |
| | Master degree | 250 | 18.8 |
| | Doctorate | 147 | 11.0 |
| Age | Less than 31 | 317 | 23.8 |
| | 31-40 | 427 | 32.0 |
| | 41-50 | 376 | 28.2 |
| | Greater than 50 | 213 | 16.0 |
| Perceived income | well below average | 69 | 5.2 |
| | below average | 180 | 13.5 |
| | Average | 622 | 46.7 |
| | above average | 434 | 32.6 |
| | well above average | 28 | 2.1 |

| | | | |
|---|---|---|---|
| Monthly income | less than 2501 TL | 177 | 13.3 |
| | 2501-5000 TL | 377 | 28.3 |
| | 5001-7500 TL | 286 | 21.5 |
| | 7501-10000 TL | 218 | 16.4 |
| | more than 10000 TL | 275 | 20.6 |
| | *Min/Max* | *M* | *SD* |
| Age | 18-89 | 39.67 | 10.50 |
| Perceived income | 1-5 | 3.13 | .858 |
| Monthly income | 0-250000 TL | 10479,510 TL | 75842.50 |

**2.2. Measurement of Variables**

This study was designed to determine the contribution of specific financial variables such as financial ignorance, anxiety, security, crisis and socio-economic characteristics to financial health during an ongoing pandemic.

*2.2.1. Dependent variable*

**Financial health:** Financial health was examined by using eight indicators of financial health prescribed by Financial Health Network, 2020 and Mahajan, 2020. FHNC has defined four components of financial health: Spend, Save, Borrow, and Plan. These components reflect individuals daily financial activities. The FHNC Financial Health Score provides a holistic, moment-in-time snapshot of an individual's financial health. The score is based on eight multiple-choice survey questions that correspond to FHNC's eight financial health indicators. Every individual who responds to the eight questions outlined in the survey guide will receive one FHNC Financial Health Score and four sub-scores that align with the four components of financial health (Spend, Save, Borrow, Plan). Financial health scores and sub-scores below 40 are considered "Vulnerable," scores from 40 to 79 are considered "Coping," and scores 80 and above are considered "Healthy." According to the results of CFA, based on maximum likelihood estimation, there are strong validity evidence for the 4-component structure (Chi-Square =77.156: $p< .01$; GFI=.99; AGFI=.98; CFI=.89; TLI=.79; RMSEA=.058; RMR=.098). Cronbach alpha internal consistency reliability was .71 for this scale.

*2.2.2. Independent variables*

**Financial ignorance:** Financial Homo Ignorans (FHI) scale summarizes individual differences in financial behavioral ignorance. Behavioral ignorance was defined as a tendency to neglect relevant aspects of the decisions (Barrafrem et al. 2020a). To measure financial ignorance, we used the Turkish version of the Financial Homo Ignorans scale developed by Barrafrem et al. (2020a). The instruments measures four different types of ignorance tendencies: i) decision avoidance (e.g. saving money), ii) information avoidance (e.g. the total debt left to pay), iii) aggregation bias (e.g. how multiple small loans become large debts), and iv) motivated reasoning (e.g. focus only on the positive aspects of a specific loan neglecting the fine print. Individuals were asked to state to what degree they agreed with twelve statements on a five-point Likert scale ranging from "1= strongly disagree" to "5 = strongly agree." Sample items include: "*I avoid making decisions about my current financial situation,*" "*I would rather not know how much I spent last month.*" According to the results of CFA, based on maximum likelihood estimation, there is strong validity evidence for the four-component structure (Chi-Square=316.487: $p< .01$; GFI=.96; AGFI=.94; CFI=.96; TLI=.95; RMSEA=.063; RMR=.078). The Cronbach's alpha of the complete scale is .83. pointing to the high reliability of the scale. In the current study internal consistency with the Cronbach's $\alpha$ values were .86 for decision avoidance, .90 for information avoidance, .82 for aggregation bias, .59 for motivated reasoning.

**Financial anxiety:** Financial anxiety has been defined as a subjective feeling that individuals have an uneasy and unhealthy attitude toward engaging with, and managing their finances effectively (Burchell, 2003; Shapiro and Burchell, 2012). To measure anxiety related to financial decisions, we adopted four items from Fünfgeld and Wang (2009). We asked respondents to indicate, on a five-point Likert scale where 1 indicates "strongly disagree" and 5 indicates "strongly agree," their agreement or disagreement with four statements. A sample item is "*After making a decision, I am anxious whether I was right or wrong*." A higher FAS score indicated that the individual felt more anxiety related to financial matters. According to the results of CFA, based on maximum likelihood estimation, there is strong validity evidence for the unidimensional structure (Chi-Square=33.042: $p< .01$; GFI = .99; AGFI = .94; CFI = .97; TLI = .91; RMSEA = .011; RMR = .036). The Cronbach's alpha of the scale is .69, pointing to the acceptable reliability of the scale.

**Financial security:** Financial security indicates a perceived security in one's current and future financial situation. It was measured by financial security scale developed by Strömbäck et al. (2017). The three items included measuring financial security. Individuals were asked to state to what degree they agreed with three statements on a five-point Likert scale where 1 indicates "strongly disagree" and 5 indicates "strongly agree." A sample item is "*I feel secure in my current financial situation*." A higher FSS score indicated that the individual experienced a higher level of security concerning his/her financial situation. Since there are 3 items in the financial security scale, CFA was not performed (Çokluk et al. 2010). As a result of the EFA, it was determined that it is unidimensional structure. The factor loading of each item ranged between .700 and .962. All 3 items had positive loading on the factor. EFA results showed that the first eigenvalue was 2,323 and explained 77% of the total variance. In our study, Cronbach's alpha was calculated and showed a reliability coefficient of .85 (FSS).

**Financial crisis:** To measure the financial crisis at an individual level, the current study used three items, two of the items were borrowed from Voon and Voon (2012). Financial crisis including, Employment decline, Retrenchment/Layoff, and Unpaid leave. Participants were asked to indicate that on a five-point Likert scale "1= No influence" to "5 = Large influence" to what degree they were affected by the above items when evaluating the COVID-19 outbreak. The higher the score, the more affected one is. Since there are 3 items in the financial crisis variable, CFA was not performed (Çokluk et al. 2010). As a result of the EFA, it was determined that it is a one-dimensional structure. The factor loading of each item ranged between .930 and .963. All 3 items had positive loading on the factor. EFA results showed that the first eigenvalue was 2,659 and explained 89% of the total variance. In our study, Cronbach's alpha was .94.

**Socio-economic variables:** This study involved information about the participants' characteristics such as age, gender, education level, marital status, working status during COVID-19 outbreak, household's monthly income and perceived income. These characteristics were selected according to research literature and their potential effects on the results. Descriptive statistics on dependent variables were clustered according to personal characteristics.

### 2.3. Data analysis

Data analysis began with calculating descriptive statistics (frequency, percentage, average, standard deviation, maximum, minimum) of the sample on socioeconomic variables. Then, our analyses compared the financial health scores and sub-scores. To find an answer to the first research question, we used independent groups *t*- tests and one way analysis of variance (ANOVAs) to compare the means of the outcome variables: gender, age, monthly income, perceived income, marital status and education. OLS regression method was used to answer the second and third research questions. Hierarchical regression technique was used to decompose the amount of explanation of dependent variable by financial and socioeconomic variables.

Before performing the regression analysis, it was checked whether the data met the assumptions of the regression analysis (multivariate normality, extreme value, multicollinearity, autocorrelation). According to the results, it was deemed appropriate for regression analysis of the data.

**3. RESULTS**

The participants' average financial health scores were *M* = 60.43 (*SD* =18.61) (with spend score 71, save score 49, borrow score 76 and plan score 46). This result shows that participants were financially coping during the COVID-19 outbreak. Depending on the first research question, averages for financial health scores and sub-scores were calculated according to socioeconomic variables. Table 2 summarize the comparisons of financial health scores and sub-scores by socioeconomic variables. Averages and standard deviations are given separately for socioeconomic variables. As seen in Table 2, there was a significant difference when comparing mean financial health, spending and saving scores between women (FH = 59.31, Spend = 69.83, Save = 46.22) and men (FH = 62.02, Spend = 73.82, Save = 51.97) ($p$<.01). This result indicates that the average of women's financial health, spending and saving scores was relatively lower than that of men's scores during on ongoing pandemic. However, there was no significant differences between participants' scores on the borrowing, plan and their gender. Table 2 shows the results of one-way ANOVA for age groups. As seen in Table 2, the means of financial health was significantly increased as age increased on the overall index (for 30 or younger: *M* = 55.47; for 31-40: *M* = 59.75; for 41-50: *M* = 62.64; for 51 or older: *M* = 65.25), spending, borrowing and plan. For those variables showing significant differences, Scheffe' multiple comparison test was used to determine which pairs of categories of each variable were significantly different. For financial health scores, significant differences were found between the 30 or older age and 31-40, 41-50, 51 or older age, Also, significant differences were found between 31-40 age and 51 or older age category. In terms of participants' monthly income, the means of financial health was significantly increased as income increased on the overall index (for 2500 or less TL: *M* = 45.42; for 2501-5000TL: *M* = 56.33; for 50001-7500TL: *M* = 61.09; 7501-10000TL: *M* = 65.95; 10001 or more TL: *M* = 70.63), spending, saving, borrowing and plan. According to Scheffe test, for financial health scores, there were significant differences between the group with 2500 or less TL income and following three groups: 2501-5000TL, 5001-75000TL, 7501-10000TL and 10001 or more. As seen in Table 2, the averages of participants' financial health scores were significantly increased as perceived income increased on the overall index (for well below average: *M* = 42.09; for below average: *M* = 46.42; for average: *M* = 60.03; for above average: *M* = 68.62; for well above average: *M* = 77.45), spending, saving, borrowing and plan (excluding below average category). According to Scheffe test, for financial health scores, there were significant differences between the well below average category and average, above average and well above average categories. Results on marital status also showed significant differences with mean scores of the married category (FH = 63.08, Spend = 74.15, Save = 50.59, Borrow = 78.32, Plan = 49.25) being higher than those of the unmarried category and of the widowed or divorced (FH = 55.34, Spend = 66.35, Save = 44.77, Borrow = 70.44, Plan = 41.08), when comparing mean financial health, spending, saving, borrowing and plan scores. This result indicates that the average of married participant's financial health, spend, saving, borrowing and plan scores was relatively higher than that of single, widow or divorce participant's scores. In terms of education levels, it can say that the average of the financial health scores was significantly increased as the education levels increased except for the middle school education levels on the overall index (for primary school: *M* = 44.76; for middle school *M* = 40.83; for high school: *M* = 49.24; for associate degree: *M* = 54.73; for undergraduate: *M* = 59.58; for master degree: *M* = 65.83; for PhD: *M* = 65.72). According to Scheffe test, for financial health scores, there were significant differences between master and middle,

high school, associate, graduate degree; between PhD and middle, high school, associate and graduate degree (Table 2).

**Table 2.** Comparison of Mean Values (and Standard Deviations) of Financial Health Scores and Sub-Scores by Socioeconomic Variables

| Socioeconomic variables | | *N* | Financial Health *M (SD)* | Spend *M (SD)* | Save *M (SD)* | Borrow *M (SD)* | Plan *M (SD)* |
|---|---|---|---|---|---|---|---|
| Gender | Women | 782 | 59.31 (18.34) | 69.83 (26.04) | 46.22 (20.86) | 75.50 (25.11) | 45.68 (31.34) |
| | Men | 551 | 62.02 (18.88) | 73.82 (27.43 | 51.97 (21.68) | 75.80 (23.90) | 46.48 (30.75) |
| *Test Statistic (t)* | | 1333 | *t* = -2.625** | *t* = -2.693** | *t* = -4.880*** | *t* = -.219 | *t* = -.461 |
| Age | 30 or younger | 317 | 55.47 (19.68) | 63.03 (28.91) | 48.29 (22.56) | 68.63 (26.40) | 41.94 (30.69) |
| | 31-40 | 427 | 59.75 (18.90) | 74.37 (26.27) | 48.23 (22.18) | 73.33 (25.01) | 43.06 (30.65) |
| | 41-50 | 376 | 62.64 (17.14) | 73.21 (24.98) | 48.68 (19.31) | 79.91 (22.26) | 48.78 (31.58) |
| | 51 or older | 213 | 65.25 (17.04) | 75.18 (24.39) | 48.60 (21.38) | 83.06 (21.47) | 53.11 (30.16) |
| *Test Statistic (F)* | | 1333 | *F* = 14.667*** | *F* = 14.596*** | *F* = .233 | *F* = 20.960*** | *F* = 7.913*** |
| Monthly Income | 2500 or less TL | 177 | 45.42 (19.30) | 50.06 (29.63) | 38.40 (21.45) | 61.11 (28.63) | 32.10 (29.06) |
| | 2501-5000 TL | 377 | 56.33 (17.54) | 65.40 (26.56) | 44.09 (20.87) | 72.02 (25.64) | 43.81 (30.97) |
| | 5001-7500 TL | 286 | 61.09 (16.73) | 74.15 (23.44) | 47.34 (19.56) | 77.14 (23.39) | 45.72 (29.90) |
| | 7501-10000 TL | 218 | 65.95 (15.88) | 78.51 (22.29) | 54.08 (19.32) | 82.51 (20.11) | 48.69 (32.85) |
| | 10001 or more TL | 275 | 70.63 (15.25) | 85.24 (19.50) | 58.29 (20.53) | 82.85 (19.48) | 56.15 (28.55) |
| *Test Statistic (F)* | | 1333 | *F* = 71.386*** | *F* = 67.384*** | *F* = 35.325*** | *F* = 30.325*** | *F* = 17.923*** |
| Perceived income | Well below average | 69 | 42.09 (20.55) | 44.60 (31.30) | 34.75 (21.33) | 55.00 (31.04) | 34.02 (30.56) |
| | Below average | 180 | 46.42 (18.45) | 54.53 (28.28) | 37.01 (18.81) | 61.60 (26.99) | 32.53 (30.25) |
| | Average | 622 | 60.03 (16.48) | 70.67 (24.23) | 46.85 (20.05) | 76.46 (23.30) | 46.15 (30.48) |
| | Above average | 434 | 68.62 (15.15) | 82.76 (21.47) | 56.74 (19.66) | 82.59 (19.99) | 52.37 (29.87) |
| | Well above average | 28 | 77.45 (16.70) | 89.55 (17.20) | 69.73 (25.25) | 90.09 (17.88) | 60.45 (33.79) |
| *Test Statistic (F)* | | 1333 | *F* = 87.120*** | *F* = 70.633*** | *F* = 50.633*** | *F* = 47.782*** | *F* = 17.957*** |
| Marital | Married | 876 | 63.08 | 74.15 | 50.59 | 78.32 | 49.25 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| status | | | (17.64) | (25.32) | (21.08) | (22.43) | (31.23) |
| | Single | 457 | 55.34 | 66.35 | 44.77 | 70.44 | 39.80 |
| | | | (19.36) | (28.45) | (21.47) | (27.62) | (29.88) |
| *Test Statistic (t)* | | 1333 | *t* = 7.348*** | *t* = 5.112*** | *t* = 4.757*** | *t* = 5.613*** | *t* = 5.319*** |
| Education | Primary school | 8 | 44.76 | 48.12 | 38.44 | 71.87 | 20.62 |
| | | | (14.81) | (28.21) | (19.50) | (22.59) | (26.61) |
| | Middle school | 9 | 40.83 | 38.61 | 48.05 | 55.55 | 21.11 |
| | | | (14.86) | (22.64) | (19.19) | (11.77) | (18.87) |
| | High school | 67 | 49.24 | 53.43 | 38.99 | 63.54 | 41.00 |
| | | | (19.50) | (28.99) | (19.07) | (25.88) | (34.60) |
| | Associate degree | 74 | 54.73 | 58.85 | 43.00 | 67.90 | 49.15 |
| | | | (22.97) | (28.76) | (23.31) | (28.62) | (34.07) |
| | Undergraduate | 778 | 59.58 | 70.16 | 47.86 | 75.00 | 45.31 |
| | | | (18.41) | (26.62) | (21.49) | (25.10) | (30.72) |
| | Master degree | 250 | 65.83 | 80.43 | 53.88 | 80.45 | 48.55 |
| | | | (16.09) | (22.49) | (20.08) | (21.47) | (31.76) |
| | Doctorate degree | 147 | 65.72 | 81.05 | 51.31 | 81.53 | 48.98 |
| | | | (16.16) | (20.93) | (20.71) | (21.00) | (28.03) |
| *Test Statistic (F)* | | 1333 | *F* = 14.372*** | *F* = 21.069*** | *F* = 6.655*** | *F* = 8.292*** | *F* = 2.857** |
| Total | *M (SD)* | 1333 | 60.43 | 71.48 | 48.60 | 75.62 | 46.01 |
| | *Min-max* | | (18.61) | (26.68) | (21.38) | (24.61) | (31.09) |
| | | | 10.6-100 | 17.5-100 | 12.5-100 | 12.5-100 | 0-100 |

*Note: *p<.05, **p<.01, ***p<.001*

### 3.1. Multivariate Results

Within the research scope, the OLS regression model was used to determine the relationship between financial and socio-economic variables for the significant effects on financial health during the COVID-19 outbreak. In the first stage of the regression analysis carried out to examine the effect of socioeconomic and financial variables on the financial health, the relationships between the variables were examined. Table 3 summarizes the Pearson correlation analysis results for socioeconomic and financial variables.

As seen in Table 3, twelve of the 55 relationships between the variables were statistically insignificant; it is seen that two relations were statistically significant at the level of 0.05 and the other 41 relations at the level of 0.01. Correlations between variables ranged from a minimum of -.003 (between gender and financial security) to a maximum of .450 (between perceived income and financial health). While the variables of financial ignorance, financial crisis and financial anxiety were found to be positively related to each other, the relationship between financial security and financial health was also found to be positive. On the other hand, the variables of financial ignorance, financial crisis and financial anxiety were found to be negatively correlated with financial security and financial health. The relations of gender, age, monthly income, perceived income, marital status and education variables with financial variables did not show a certain systematic. Considering the absolute values of the correlations between the variables, there are generally weak correlations; it can be said that the relationship between several variables is at a moderate level (Table 3).

**Table 3.** Pearson Correlation Coefficients and Descriptive Statistics for Variables

| Variables | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1) Financial health | - | | | | | | | | | | |
| 2) Financial ignorance | -.328** | - | | | | | | | | | |
| 3) Financial crisis | -.266** | .173** | - | | | | | | | | |
| 4) Financial anxiety | -.352** | .446** | .215** | - | | | | | | | |
| 5) Financial security | .417** | -.054 | -.161** | -.203** | - | | | | | | |
| 6) Age | .171** | .081** | .041 | -.026 | .117** | - | | | | | |
| 7) Gender (dummy***) | .072** | .008 | .039 | -.105** | -.003 | .123** | - | | | | |
| 8)Monthly income | .315** | -.056 | -.106** | -.128** | .184** | .227** | .118** | - | | | |
| 9)Perceived income | .450** | -.112** | -.206** | -.145** | .261** | .176** | .089** | .382** | - | | |
| 10) Marital status (dummy***) | -197** | .020 | .066* | .052 | -.095** | -.351** | -.179** | -.317** | -.249** | - | |
| 11) Education | .236** | -.081** | -.123** | -.069* | .092** | .006 | .008 | .217** | .371** | -.017 | - |
| Mean | 60.43 | 2.62 | 3.19 | 3.14 | 2.52 | 39.67 | .41 | 7816.73 | 3.13 | .34 | 5.21 |
| Std. Deviation | 18.61 | .68 | 1.31 | .76 | .99 | 10.50 | .49 | 7118.79 | .86 | .47 | 1.00 |

*Note:* ** $p < 0,01$, * $p < 0,05$; *** women = 0, men = 1; married = 0, all other = 1

Table 4 summarizes the OLS regression analysis results for the financial health. As a result of the analysis using the ordinary least square regression, the model was found to be statistically significant ($F_{10,1183;0,05}$=85,778; $p < .001$). It is seen that the independent variables explain about %42 of the variance in the dependent variable ($R$ = .648; $R^2$ = .420). The high square of the multiple-correlation can also be considered as evidence that the model can be considered important. When the regression coefficients for the independent variables were examined, it was found that all the regression coefficients were statistically significant; it is seen that the dependent variable can be included in the prediction equation. The fact that the regression coefficients of the financial ignorance, financial crisis, and financial anxiety variables have negative signs on financial health, indicates that an increase in the values of these variables will decrease the financial health scores. On the other hand, the fact that the regression coefficients of the variables of financial security, age, monthly income, perceived income and education were positive on financial health, indicates that the increase in the values of these variables will increase the financial health scores. When the standardized coefficients are examined, the ranking of the effectiveness of the independent variables on the dependent variable can be made as financial security, financial ignorance, financial crisis, financial anxiety, age, monthly income, perceived income and education. Hierarchical regression technique was performed to determine the shares of financial and socioeconomic variables in the explained variance. While performing the hierarchical regression technique, first financial variables and then socioeconomic variables were included in the equation. As a result of hierarchical regression analysis, it was seen that approximately 26% of the variance explained by independent variables was explained by demographic variables and the remaining 74% by financial variables.

As seen in Table 4, financial ignorance, financial crisis, financial anxiety, financial security, age, monthly income, perceived income and education variables were significant and strong predictors of financial health. Financial ignorance, financial crisis and financial anxiety were negatively related to financial health. On the other hand, financial security, age, monthly income, perceived income and education were positively associated with financial health. According to this result, participants with higher levels of financial ignorance, financial crisis and financial anxiety had significantly lower levels of financial health. However, respondents who stated higher levels of financial security, age, monthly income, perceived income, and education had significantly higher levels of financial health (Table 4).

**Table 4.** OLS Regression Models Explaining Financial Health

| Independent Variables | Unstd. Coef. | | Std. Coef. | *t* | Collinearity | |
|---|---|---|---|---|---|---|
| | *B* | *Std. Error* | *Beta* | | *Tolerance* | *VIF* |
| Financial ignorance | -5.789 | .680 | -.215 | -8.51*** | .77 | 1.31 |
| Financial crisis | -1.262 | .330 | -.089 | -3.82*** | .90 | 1.12 |
| Financial anxiety | -3.427 | .635 | -.140 | -5.40*** | .73 | 1.37 |
| Financial security | 4.986 | .440 | .266 | 11.32*** | .89 | 1.13 |
| Gender (0= women) | .408 | .863 | .011 | .47 | .94 | 1.07 |
| Age | .142 | .044 | .078 | 3.20*** | .83 | 1.21 |
| Monthly income | .000 | .000 | .096 | 3.80*** | .77 | 1.30 |
| Perceived income | 5.054 | .573 | .231 | 8.81*** | .71 | 1.40 |
| Marital status (0= married) | -1.424 | .988 | -.036 | -1.44 | .77 | 1.30 |
| Education | 1.075 | .465 | .055 | 2.31* | .86 | 1.16 |
| (Constant) | 49.026 | 3.969 | | 12.35*** | | |

*Note: *p<.05, **p<.01, ***p<.001; R = .648; $R^2$ = .420;*

## 4. DISCUSSION

This study's objective was to identify how factors related to financial ignorance, financial crisis, financial anxiety and financial security affect people's financial health during an ongoing pandemic using a sample of 1333 adults in Turkey. Regarding participants' financial health, we found that individuals' overall financial health based on FHNC' score falls under the category of "financially coping." Individuals with scores in this range report healthy outcomes across some, but not all of the eight financial health indicators. It seems that individuals having financial troubles within this tough time. On the other hand, the average score in spend indicator is 71, which indicates that an individual's ability to pay nearly all of their bills on time and spend little less than income. The average score in save indicator (liquid savings and long-term savings) is 49 which indicates that inconsistent with conclusions drawn in prior research (see Baldwin and Tomiura, 2020; Barua, 2020; Kulkarni and Bharati, 2020; Mahajan, 2020; Mogaji, 2020), participants did not have satisfactory savings for affording to cover unexpected expense during this tough time, like income or job loss. The average score in borrow indicator is 76, which indicates that having a manageable debt load and ability to credit card payments with little late fees. The average score in the plan or budget indicator is 46, which is the prime reason with saving indicator for getting financial health score in "financially coping" category. Having appropriate insurance allows individuals to be resilient in the face of unexpected expenses, such as medical emergency. Respondents have scored lower in this category, and another component of this

indicator i.e plan ahead financially. It indicates that individuals were less future-oriented and interested in improving their current financial situation.

In bivariate analyses, women and single participants have significantly displayed less healthy financial behaviors than men. This result is somewhat consistent with Mahajan' (2020) results. In general, older and educated participants with higher income and perceived their income higher have significantly displayed more healthy financial behaviors than others.

This study highlights financial factors related to financial health during the COVID-19 outbreak. The current study investigated whether financial ignorance, financial crisis, financial anxiety and financial security were related to personal financial health. The determinants of financial health have been a largely neglected area of research during an ongoing pandemic except a study (Mahajan, 2020); thus, our results make an important contribution. This research shows that personal financial health was predicted by financial ignorance, financial crisis, financial anxiety and financial security. Financial security was positively related to financial health. A possible explanation of this result is that participants with knowing how to build financial security now and in the future were financially healthy. Previous studies suggested that individuals who score high on behavioral ignorance were worse at managing their finance, and had lower financial well-being (due to the ignorance of relevant decision aspects). Since, ignorant individuals might perceive their situation to be better than it is (Barrafrem et al. 2020a). Our results support these claims by showing that participants who were scoring higher financial behavioral ignorance have lower financial health score than those who were scoring lower financial behavioral ignorance. Earlier studies indicated that financial stressors were correlated negatively with financial health (Joo, 2008). In the current study, financial anxiety was also negatively related to financial health. This result indicates that participants with worry more about their financial situation were displayed less healthy financial behaviors than those who were less anxious about their financial situation. As expected, financial crisis was negatively associated with financial health. The financial crisis influenced the financial health of the respondents. Those who experienced more financial crisis showed lower levels of financial health than those who experienced fewer financial crisis. During an ongoing pandemic, individuals may be affected by employment decline, unpaid leave, or job loss threats. As a result, they displayed less healthy financial behaviors. Consistent with previous studies, this study did not find any significant influences of gender and marital status on financial health. On the other hand, inconsistent with earlier studies, we found that age and education showed significant impacts on financial health (Joo, 2008; O'Neill, 1995).

### 4.1. Limitations

Although its contributions to the field explain personal financial health during the pandemic process, it will be useful to state that this study has some limitations. First, the analyses presented in this paper show the relationship between variables. It is not appropriate to perceive and interpret the relationships between variables as causality. So, we cannot make inferences about causality. For example, although it might seem reasonable to believe that better financial security leads to higher financial health, it may also be that higher financial health leads to better financial security. Studies in which researchers manipulate personal financial health or personal financial wellness experimentally are also needed to determine causality between these constructs. The second of the limitations is that the data collection process is carried out online. It may not be possible to say exactly the sample representation that answered our online survey. Those who do not have internet access or have a negative attitude towards answering online surveys, etc., some subgroups are likely not to be included in the sample. Third, the respondents were not a random sample of the country. The sample relied on self-report data that included online connected people with university degrees. Thus, the results of this study cannot be generalized to the

population in general. Further research is warranted using broader and more representative samples, especially including a wider range of socioeconomic backgrounds and aspirations.

## 5. CONCLUSIONS

The current study recruited 1333 participants in Turkey to identifying the predictors of financial health during the COVID-19 outbreak, including factors such as financial anxiety, financial security, financial crisis, and financial ignorance. Based on our findings, financial behavioral ignorance, financial crisis, financial anxiety, financial security, age, monthly income, perceived income and education were significantly related to financial health. Financial security, age, monthly income, perceived income and education were positively related to financial health, while the financial crisis, financial ignorance and financial anxiety were negatively related to financial health.

Our results support previous research findings (Evans and Over, 2020) and show that containing the COVID-19 outbreak is the first step to mitigating the health impacts and the economic impacts. This study explores the role of pandemics in personal financial health and makes several contributions to the literature. Firstly, we investigate the financial health scores and sub-scores differed by socioeconomic characteristics during on ongoing pandemic. Second, we test for a rigorous set of financial variables that affect financial health. Finally, we examine how financial situation relates to financial health when controlling with socioeconomic characteristics.

While many countries have reopened their economies, allowing a cautious back to work and economic life, the pandemic seems likely to remain a reality of life for the foreseeable future (Barrafrem et al. 2020b; Hevia and Neumeyer, 2020). Thus, during this COVID-19 crisis, our results will help government and policymakers to maintain their economic policies and measures to provide relief to individuals during this current and post COVID-19 recovery knowing the financial behaviors of the general public. The findings would be useful for policy makers to maintain the parallel expansion of financial and welfare measures to improve people's financial health and to strengthen the financial wellness of individuals to fight against COVID-19. This research also provides the information about how we manage to financial situation during on the COVID-19 outbreak. Individuals react to the COVID-19 varies depending on their socio-economic characteristics, and there might be different practices in line with the course of the pandemic and the measures taken by the countries (Özmen et al. 2021). Individuals with the negative financial behaviors will need assistance. Professionals could provide need-oriented support services and activities to increase financial knowledge to those most likely to suffer from the negative effects of the COVID-19 outbreak. These support services may be given any formal or informal arrangements through mass media, social media, telephone or internet. Earlier studies indicated that opening a savings account in childhood might be improve adults' financial health. Thus, there are implications for financial institutions like banks, programs, and practitioners that could serve and work directly with children and young adults to encouraging them for savings accounts.

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