

Investigating the role of male gender in financial literacy and financial behavior

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ABSTRACT

The present study aimed to investigate the role of female gender in financial literacy and financial behavior. In the present study, real investors of Tehran Stock Exchange are considered as a population. Due to infinite community formula, 384 people were selected as the sample. A standard questionnaire was used to collect data. The collected data were analyzed by structural equation technique in SMARTPLS software. According to the obtained results, the factor load of women model shows the positive and direct effect of financial knowledge, parents' financial education and parents' financial behavior on women financial behavior. Parents' financial education affects financial behavior in women. Also, parents' financial education and parents' financial behavior affect women financial knowledge. Women act based on the financial mentality created by the family and examine their financial knowledge. Women are looking for signs that prove they are on the right track and will achieve their goals in the future (symptom estimation). Parents' financial education affects the subjective norm of individuals towards financial information in women. Parents' financial behavior also affects women subjective norms about financial information.

Keywords: Gender, Financial literacy, Financial behavior, Subjective norm.

Introduction

In making investment decisions, it is assumed that decision making must be rational (Sharif et al., 2020). Although decisions can be made based on a number of factors, it is generally believed that rational decision-making is the best way to make a decision. Thus, people are advised to act rationally, that is, not to interfere in their decisions with personal emotions and feelings, and to make decisions with objectivity and reality. However, the problem is that the concept of rational man is not a very clear and unambiguous concept, and human decision-making deviates in some way from the standard assumptions of economics. In some cases, situations arise that deprive the decision maker of the possibility of rational behavior (Carvalho et al., 2019). In this regard, the gender and behavior of the investor is one of the factors that should be considered. Also, male and female investors have also entered the field of investment due to their feeling of need for business

and personal independence (Yang et al., 2013). Behavioral science in financial topics is a new approach to study financial markets. This approach addresses the issue that, contrary to standard financial discussions and theories, behavioral and cognitive tendencies can affect the prices of financial assets. Contrary to the Csharp and Markowitz theories and approaches, the issues of financial behavior and investment are related to individuals who collect and use information. This aspect of the financial and investment decisions seeks to understand and predict the involvement and impact of psychological decisions in the regular financial market (Halder et al., 2017).

Behavioral biases are influenced by mental states in normal and abnormal situations. These mistakes cause many investors to pay special attention to their funds to invest, since investors invest most of their funds in the stock market, somehow these mistakes are associated with their way of investing in their assets and funds. Behavioral biases are a type of cognitive vulnerability in information processing. The term bias means deficiency in perception, judgment or other cognitive activities due to not seeing and neglecting some other aspects (Yang et al., 2013). According to the theory of planned behavior (Ajzen, 1991), the effect of gender on the amount of information obtained, financial knowledge and financial behavior of individuals can be identified. Financial knowledge gained through family, community, and parents influences individuals' decision making. In this regard, the role of gender of individuals should be examined (Sharif et al., 2020).

Researchers have analyzed investor behavior in recent decades and tried to understand why people invest in different ways. There are articles explaining how the transparency of financial information and personality of people affect the way they invest, but no article was found to examine the simultaneous effect of these two variables on the behavior of investors (Jamshidi and Ghalibaf, 2018). If it is proven that certain groups of investors have some tendencies in buying and selling stocks, market participants can identify the tendencies of investors before the occurrence of behaviors and achieve better results in the investment and stock market dynamics. Thus, based on the issues raised, this study seeks to mediate the five-factor personality model on the impact of obtaining financial information on the behavior of investors in the Tehran Stock Exchange.

Theoretical foundations of research

Investor behavior

Investors should pay full attention to the rules and regulations governing the reporting of companies since they play a major role in the process of reporting and accounting of the company (Hijroudi et al., 2018). Daniel et al. (2002) examined the behavioral finance and found that investors generally tended to be biased in judgment and decision-making, naive, self-confident, self-confident, lacking in skepticism and information, and have limited processing capacity. These characteristics affect the way of proccing of information and perceptions of investors about a particular stock. They concluded that "financial reporting and disclosure rules are necessary to protect naive investors." Owing to their biases, investors are unable to interpret accounting figures, especially footnotes, company events such as new leases so that it leads to rational investment decisions. Also, evidence confirms that "the presentation of financial information and selecting the accounting methods affect the perception of investors" (Daniel et al., 2002).

Landeron et al. (2008) state that Wall Street's focus on short-term earnings is a reason for investor irrationality, since it makes corporate boards tend to reward senior managers based on three-month earnings. Thus, managers are motivated to inflate earnings. Unfortunately, investors often ignore the "normal level of manipulation", which may occur even when the company is more motivated to manage earnings (increased earnings). In some cases, financial events are organized in such a way that the financial statements show what investors feel they want instead of reporting the economic reality of a company, resulting in lack of transparency and fraud in the organization of financial events. Financial advisers and managers propose new ways to circumvent accounting principles and rules.

Jeff Skilling in the US Congress stated that their trading with regard to derivatives is so complex that they do not understand how auditors and ultimately users of financial statements can perceive them. Ethical values need to be instilled in these people gradually through the learning process and its continuity. Some legal liabilities also are needed for intentionally organizing events to deceive users of financial statements.

The audit committee should have the highest level of accountability for all types of corporate events and ensure the transparency of the transmission of economic reality content to investors (Lander et al., 2008).

Business literacy

Business literacy, which includes a major format such as business and non-business uses (military and non-profit), is a wide range of applications and technologies for data collection and knowledge to generate inquiries for enterprise analysis to make accurate and intelligent business decisions. Business literacy is formed based on enterprise architecture analyzes business data and makes accurate and intelligent decisions in the form of online analytical processing (OLAP). Business literacy is not intended as a product or as a system, but as a new architecture and approach, which includes a set of applications and analytics that rely on operational and analytical databases to make and assist decision-making for intelligent business activities. However, business literacy is viewed from another perspective. From the perspective of architecture and process, business literacy is viewed as a framework that increases the efficiency of the organization and the integration of processes and ultimately focuses on decision-making processes at different organizational levels. The market views business literacy as a tool for competitive advantage and as a market and customers' monitor and analyst.

From a technological perspective, business literacy is an intelligent system that, with precise data processing, is the point of intervention of hardware and software in the brain of software. However, in simpler terms, business literacy is nothing but the process of increasing the profitability of the organization in a competitive market by intelligently using the data in the decision-making process. If the concept of business literacy is not properly perceived and conveyed, it may cause managers' expectations to increase suddenly and failure to meet these expectations will lead to issues such as distrust of individuals and especially managers of this system, as business literacy only seeks to shorten the channels of inquiry within the information and cannot independently offer a proposal or solution without the need for appropriate information. Determining the business orientations of the organization, which is one of the implications of using business literacy, causes the organization to focus on macro goals without wasting time and money in other directions (Jamshidi and Ghalibaf Asl, 2018).

Parents' financial behavior

Behavioral studies suggest that people financial behavior is rooted in a combination of learned and acquired knowledge and skills, social awareness, parent-child relationships, and personality traits. It is also believed that people behaviors are based on rational attitudes and views. Based on the theory of planned behavior, behavior is based on the theory of rational action. This theory examines the occurrence of a particular behavior based on the intentions of individuals and states that if a person has a positive attitude toward performing the behavior, people who are important to him or her and approve behavior performed by him or her and believe that doing the behavior is under his or her control, he or she will intend to do that behavior. Approving the actions of people by others can pave the way for people to do a particular behavior. Parents' financial behavior also affects their children's financial behavior. If parents prepare their children more for the proper management of financial resources and become more aware of their responsibility for the credits they receive, their control over their children will decrease (Sharif et al., 2020).

Literature review

Sial et al. (2021) conducted a study entitled "Gender diversity and the possibility of re-presentation of financial statements: group dynamics theory test". Results showed that the presence of at least one female representative on the audit committee can reduce the re-presentation of financial statements. However, research evidence showed that the presence of women on the board does not have a significant effect on reducing the re-presentation of financial statements. The presence of women in the governing system, especially the audit committee, improves the quality of financial reporting. Schudiner and Claine (2021) conducted a study entitled "Gender and attractiveness as factors influencing employment, wages and policies". In investigating the effect of judgments on the unethical behavior of accountants, they emphasized these characteristics. They provided explanations for their results based on the accountant assumptions.

Sharif et al. (2020) conducted a study entitled "Gender difference and its role in literacy and financial behavior". They examined 572 young students in Malaysia using a questionnaire. The role of parents' knowledge on students' behavior was also examined. Based on the structural model, it was shown that according to the theory of planned behavior, women follow the patterns of financial behavior of parents and use what they have learned, while men empirically show financial knowledge and behavior. Bannier et al. (2020) conducted a study entitled "Financial risk-taking, financial knowledge, risk tolerance, gender, and family financial affairs. They examined financial risk-taking through complex and standard financial investments. Using survey data from 2047 people, they found that standard investments are highly associated with perceived and real financial literacy for men and it was associated only with real literacy in women. In contrast, complex investments are significantly associated with perceived financial literacy, and this association is higher in women than men. Interestingly, there was no association between risk-taking and complex investment of women.

Zalatta et al. (2019) conducted a study entitled "The effect of financial expertise and gender diversity on earnings management". In the mentioned study, the research variables were examined considering the 5660 companies-years in the United States. Using regression techniques, it was shown that female managers manage less earnings and provide better earnings quality. It was also shown that the expertise of the board improves earnings management and increases earnings quality. Oven et al. (2018) conducted a study entitled "Evaluating the gender diversity of the board and the financial performance of banks." This study surveyed 90 American banks from 1999 to 2015. It showed that gender diversity has a non-linear relationship with the financial performance of the bank. In general, gender diversity on the board and the presence of women increased the financial performance of banks. There are also many factors that affect this nonlinear relationship. This study showed that this relationship becomes a static linear relationship in the long term. Khalif and Achek (2017) conducted a study entitled "Gender research in accounting". They found that women have more conservative judgments than men. They showed that conservative accounting, social and environmental disclosure and conservative tax policies are more common in women than men. They also found that women auditors received more fee than men and issued more rejected audit opinions.

Methods

This research is applied in terms of aim and is descriptive-survey in terms of data collection. The study population is the real investors of Tehran Stock Exchange. Due to the infinity of population members, Cochran's formula with infinite population and known variance was used to determine the sample size. Due to the infinity of the population, the number of samples should be calculated using the following equation (3-1)

$$n = \frac{Z_{\alpha/2}^2 \times p(1 - p)}{\epsilon^2} = \frac{(1.96)^2 \times .5 \times .5}{(.05)^2} \cong 384$$

Equation 3-1: Determining the sample size

In this study, the confidence level was considered at 95% ($\alpha = 0.05$) and the accuracy (ϵ) was considered at 0.05. The standard deviation was also equal to 0.677 with respect to the equation of $\sigma = \frac{5-1}{6}$. The sample size was estimated at 384 people. Table (1) shows the number of samples and sampling:

Table 1: Distribution of samples

Place of distribution of questionnaire	Sent questionnaire	Returned questionnaire	Used questionnaire
Parsian Shiraz Brokerage Company	135	118	118
Sepah Bank Shiraz Brokerage Company	45	35	35
Tosey-e Sarmay-e Donya Shiraz Brokerage Company	60	43	43
Mofid Shiraz Brokerage Company	110	97	97
Aghah Brokerage Company	110	107	91
Total	460	400	384

Source: Research Calculations

The measurement tool in this research was questionnaire. The questionnaire used in the present study was adapted from the research of Sharif et al. (2020). A total of 24 questions were used to measure investment behavior.

In this study, the CVR value based on the 10 experts was obtained at 0.90, which is more than 0.62. Thus, the questionnaire has content validity. The structural equation model was used to confirm or reject the research hypotheses. In this research, SMARTPLS and SPSS software was used.

Results

The results showed that 213 respondents were male. Most of the respondents had a master's degree, followed by associate degree. About 15% of the respondents had poor financial literacy. Approximately 80% of people answer four financial questions correctly and fall into the group of people with moderate financial literacy. Also, 3.1% of people answered the five questions correctly, so they had good financial literacy. Also, 2.6% of people with the correct answer to all financial questions were in the group of people with very good financial literacy.

Table 2: Descriptive statistics of research variables

Variables	n	mean	median	variance	min	max
Parents' education	384	4.049	3	0.231	1	5
Parents' behavior	384	4.113	3.05	0.248	1	5
financial behavior	384	3.660	3.19	0.402	1	5
Financial knowledge	384	4.029	3.28	0.635	1	5
financial information seeking	384	3.317	3.09	0.580	1	5
Attitude	384	3.868	3.25	0.642	1	5
Subjective norm	384	3.427	3.72	0.714	1	5
Controlled behavior	384	3.816	3.43	0.770	1	5

Source: Research calculations

Based on the results, parents' education has a mean of 4.049, medium of 3 and minimum and maximum of 1 and 5, respectively. Parents' behavior had a mean of 4.113 and median of 3.55. The maximum mean was related to parents' behavior with a mean of 4.113. The minimum variance was related to the variable of 0.231.

Table 3: Convergent validity and reliability of research variables

	Cronbach's alpha	Average variance extracted	Composite reliability
Parents' education	0.793	0.611	0.745
Parents' behavior	0.750	0.633	0.798
financial behavior	0.757	0.667	0.702
Financial knowledge	0.810	0.625	0.817
financial information seeking	0.735	0.603	0.759
Attitude	0.769	0.597	0.791
Subjective norm	0.726	0.586	0.805
Controlled behavior	0.822	0.626	0.829

Source: Research Calculations

Cronbach's alpha of all variables is greater than 0.6, so reliability of all variables is confirmed. The average variance extracted (AVE) is always greater than 0.5, so convergent validity is also confirmed. The value of composite reliability (CR) is also greater than AVE.

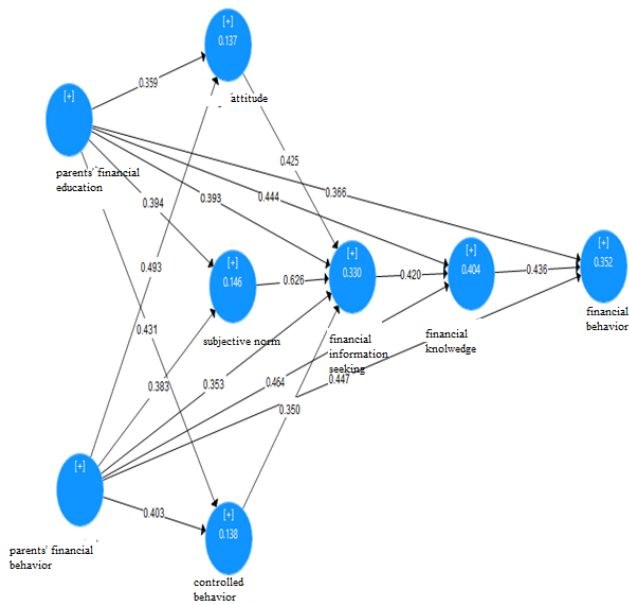


Figure 1: Factor load of research model for men

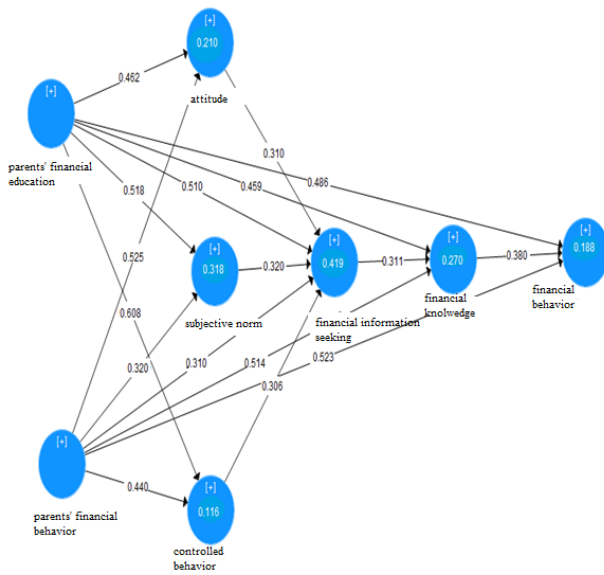


Figure 2: Factor load of research model for men

Table 4: Statistical results of the research

Effect	Factor load	Statistic t	sig
The effect of financial knowledge on financial behavior	0.436	3.615	0.000
The effect of parents' financial education on financial behavior	0.436	3.673	0.000
The effect of parents' financial behavior on financial behavior	0.477	2.051	0.000
The effect of parents' financial education on financial knowledge	0.444	3.590	0.000
The effect of parents' financial behavior on financial knowledge	0.464	3.590	0.000
the effect of financial information seeking on financial knowledge	0.420	2.279	0.000
The effect of parents' financial training on seeking for financial information	0.393	2.118	0.000
The effect of parents' financial behavior on financial information seeking	0.353	2.118	0.000
The effect of parents' financial education on people attitudes toward financial information	0.359	2.822	0.000
The effect of parents' financial behavior on people attitudes toward financial information	0.493	2.822	0.000
The effect of parents' financial education on the subjective norm of individuals towards financial information	0.394	2.822	0.000
The effect of parents' financial behavior on the subjective norm of individuals towards financial information	0.383	2.822	0.000
The effect of parents' financial education on financially controlled behavior	0.431	3.075	0.000
The effect of parents' financial behavior on financially controlled behavior	0.403	2.224	0.000

Conclusion

The aim of this study is investigating the role of male gender in financial literacy and financial behavior. The results showed that the value of factor load of the effect of financial knowledge on financial behavior in men was calculated at 0.436. This number indicates the positive and direct effect of financial knowledge on men financial behavior. It is stated that people financial behavior is affected by their level of financial knowledge, that is, their ability to understand and process information to make informed decisions about financial planning, accumulation of wealth, debt and providing pensions. However, based on this evidence, one may conclude that financial literacy improves financial behavior.

Fernandez et al. (2014) showed that the effect of financial literacy is significantly reduced after controlling the psychological traits or when a financial literacy tool is used to control deleted variables. Also, due to the lack of real randomized controlled trials, there is little conclusive evidence to prove its cause (Fernandez et al. 2014; Schuchardt et al. 2009). In his review study, Willis (2009) stated that what degree of effect should be adequately claimed for the current model of financial literacy education. The results are in line with the research of Sharif et al. (2020). The results are in line with those of research conducted by Sharif et al. (2020)

The value of factor load of the effect of parents' financial education on financial behavior in men was calculated at 0.366. This number indicates the positive and direct effect of parents' financial education on men financial behavior. Although some studies have argued that the effect of the family on the child behavior decreases as the child grows older, which is replaced by an increased need for peer acceptance, the family is still seen as a major source of socialization (e.g., Hastings et al. 2013; Miler et al., 2014; Schuchardt et al., 2009). The value of factor load of the effect of parents' financial behavior on financial behavior in men was calculated at 0.477. This number indicates the positive and direct effect of parents' financial behavior on men financial behavior. Young people recognize the role of their parents in their financial knowledge, decision-making and management (Albirdi and Ghalraghi, 2015). If it is perceived that parents have not managed money well, young people are likely to repeat the same money management mistakes (Clarke et al., 2005).

Other studies have also shown that women have better intuitive memory and better listening skill, so they treat different from men in financial behavior. Since women have fewer investment options than men, the amount of investment does not increase over time. Since women are risk-averse, it can be stated that they have different financial behaviors than men (Sharif et al., 2020). The value factor load of effect of parents' financial education on financial knowledge in men was calculated at 0.444. This number indicates the positive and direct effect of parents' financial education on men financial knowledge. Since parents act as role models for their children, the present study suggests that the family can influence young people desire to learn and seek information about their financial affairs, financial knowledge, and financial behavior. In other words, young people learn through direct parents' education about personal financial affairs (Lusardi et al., 2010) and their daily observation of parents' financial duties such as income, savings, expenses, use of bank cards, shopping, investment and involvement in targeted forms of family socialization, such as receiving counseling, managing a bank account, and participating in budgeting (Angulo-Ruiz & Pergelova, 2015) lead to financial highlight and poses a risk of lack of financial knowledge that in turn encourages them to seek financial information. The value of factor load of the effect of parents' financial behavior on financial knowledge in men was calculated at 0.464. This number indicates the positive and direct effect of parents' financial behavior on men financial knowledge. The result of the research is in line with that of research conducted by Sharif et al. (2020).

The value of factor load of the effect of financial information seeking on financial knowledge in men was calculated at 0.420. This number indicates the positive and direct effect of financial information seeking on men financial knowledge. Wallace et al. (2000) define information seeking as "a process involving several stages of questioning and refining questions, gathering information and evaluating and combining and using information". The research literature suggests that when a person realizes a lack of knowledge and the dangerous impact of lack of knowledge in his or her life, information seeking behavior is encouraged. Filling the knowledge gap encourages him or her to access new information (Yang and Kahlor, 2013; Yang et al., 2011). While information is obtained actively (e.g. through face-to-face communication or search in Internet) and passively (e.g. through watching television commercials) (Wilson, 2000), information seeking in this study is related to previous cases in which individuals are purposefully involved in information. As a result, the need to achieve certain goals "(Wilson 2000) make them to change the state of their knowledge and eventually fill the gap of their known knowledge (Marchionini, 1997).

The value of factor load of the effect of parents' financial education on financial information seeking in men was calculated at 0.393. This number indicates the positive and direct effect of parents' financial education on seeking financial information by men. Young people can be aware of their parents' financial worries even if they are unspoken, so they may be seeking for a way to show their parents' empathy and support. Parents often teach their children to look for financial information using credible methods. Thus, men use different information acquisition techniques to obtain more comprehensive information. The value of factor load of the effect of parents' financial behavior on the financial information seeking in men was calculated at 0.353. This number indicates the positive and direct effect of parents' financial behavior on financial information seeking of men. Young people may have a favorable assessment of financial information seeking behavior, which includes considering the results of empathetic behaviors and parents' support. When they see their parents are engaging in financial information seeking activities such as reading about financial issues and listening to and watching financial programs, it may be necessary for them to follow them and do the same behavior. They may also believe that other important people, such as friends or family members, think better of them when seeking for information. In other words, behaviors, expectations, and motivation to meet expectations are potentially related (Pahlavan Sharifi et al., 2020). Men pay attention to their parents' financial behavior and income. If the parents' financial behavior has been successful, they use the same methods of seeking for financial information; otherwise they use other techniques of obtaining information. Men spend more time with their fathers on financial and investment issues when they live with their families. The value of factor load of the effect of parents' financial education on individuals' attitudes toward financial information in men was calculated at 0.359. This number indicates the positive and direct effect of parents' financial education on people attitudes toward men financial information Based on the research conducted by Pahlavan Sharifi et al. (2020), an environment that is

expected to have different duties and responsibilities for men and women may affect the effect of parents' financial instructions on the mechanism that causes seek for financial information, and it affects the financial knowledge and financial behavior. In other words, financial education and financial behavior of parents at home may lead to different levels of attitude towards financial affairs, perceived pressure to do financial activities (seeking for financial information here), ability to do it, and then financial information seeking behavior in young men and adult women. For men, financial information may be accessible through a variety of sources that make it easier for them to acquire financial knowledge (OECD, 2017).

The value of factor load of the effect of parents' financial behavior on people attitudes toward financial information in men was calculated at 0.493. This number indicates the positive and direct effect of parents' financial behavior on people attitudes toward men financial information. The results of the OECD survey in 2017 show that gender differences in financial knowledge and behavior may be due to a combination of factors, including different learning opportunities and different socio-economic contexts in which men and women grow and live. In other words, girls and boys are exposed to a variety of opportunities to learn and become interested in financial affairs. The value of factor load of the effect of parents' financial education on the subjective norm of individuals in relation to financial information in men was calculated at 0.394. This number indicates the positive and direct effect of parents' financial education on individuals' subjective norms regarding men financial information. The results showed that active seeking for financial information had no significant relationship with men financial literacy, while playing a major role in financial literacy (OECD, 2017).

The value of factor load of the effect of parents' financial behavior on subjective norm in men was calculated at 0.383. This number indicates the positive and direct effect of parents' financial behavior on individuals' subjective norms in relation to men financial information. The theory of planned behavior suggests that behavior is guided by behavioral, normative and control beliefs. Normative beliefs refer to the perception of others' expectations about behavior and the motivation to meet those expectations. Three beliefs are intertwined in this theory that behavioral beliefs lead to favorable or unfavorable attitudes toward behavior. Normative beliefs lead to perceived social pressure or subjective norms and control beliefs lead to perceived behavior control. These factors predict behavioral goals as defining a person' preparedness to perform a particular behavior, which in turn accounts for a significant amount of variance in real behavior that is not completely under the complete control of the person (Ajzen, 2002).

The value of factor load of the effect of parents' financial education on financially controlled behavior in men was calculated at 0.431. This number indicates the positive and direct effect of parents' financial education on financially controlled behavior. In this hypothesis, the effect of parents' financial education on the components of controlled behavior is investigated. In the three variables of attitude, subjective norm and controlled behavior, women are more influential by their parents than men. Women choose low-risk behaviors. Men are seeking profit more than women and try different ways of investing (Sharif et al., 2020).

The value of factor load of the effect of parents' financial behavior on financially controlled behavior in men was calculated at 0.431. This number indicates the positive and direct effect of parents' financial behavior on financially controlled financial behavior. Behavioral research shows that people financial behavior is rooted in a combination of learned knowledge and skills, social awareness, parent-child relationships, and personality traits. Also, it is believed that people behaviors are based on rational attitudes and views.

Based on the theory of planned behavior, behavior is based on the theory of rational action. This theory examines the occurrence of a particular behavior based on the intentions of individuals and states that if a person has a positive attitude toward doing the behavior, people who are important to him or her, approve their behavior done by him or her, and believe that doing the behavior is under his or her control, he or she will intend to do that behavior. Approving the actions of people by others can pave the way for people to do a particular behavior. Parents' financial behavior also affects their children financial behavior. If parents prepare their children more for the proper management of financial resources and become more aware of their responsibility for the credits they receive, their control over their children will decrease (Sharif et al., 2020). According to the obtained results, it is recommended for men participate in financial training courses and evaluate the economic trend of the market correctly, so that they can control financial knowledge more

correctly and use it correctly. It is recommended for investors enhance their financial knowledge and consult with experienced people in this area to avoid making emotional decisions and overcome environmental impacts on the allocation of assets in risky situations.

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