Effect of Personality Traits on Investment Intention of People: Kazakhstan Case

Olzhas Sadykov

Bang College of Business, KIMEP University, Almaty, Kazakhstan, 050010

Correspondence: olzhas.sadkv@gmail.com

Abstract

The paper aims to study relationship between personality traits ("big five" traits, such as openness, conscientiousness, extraversion, neuroticism, and agreeableness), as well as financial literacy of retail investors on willingness to make investment decisions on financial assets in Kazakhstan. Survey collection method of 200 randomly selected people from different social statuses, geographical locations (cities, countryside) and ages via internet, printed papers, and face-to-face meetings. There were decided to approach exploratory study with pragmatic philosophical view. Due to the reason of usage questionnaire, quantitative approach will be the most suitable approach for the study. The research is tended to be completed during the one academic semester. Hence, cross-sectional study is the best fitted type of study for the research paper. Salary, extraversion, agreeableness, preferences on investment instruments and level of financial literacy have statistically significant positive impact on intention of people to participate in investment activities. Conversely, openness trait found to has statistically significant negative impacts on investment intention of participants. Other variables do not have a statistically significant negative or positive impacts on investment willingness within the country. Intention to make investment decisions can be identified by screening of secondary data received from related papers, intention to make risky investments and level of risk tolerance toward investment decisions. However, level of tolerance toward risks varies according to the individuals' level of neuroticism, agreeableness, as well as level of sadness, conscientiousness, and financial literacy.

Keywords: *Risk tolerance, investment willingness, financial literacy, openness, conscientiousness, extraversion, neuroticism, agreeableness*.

1. INTRODUCTION

Republic of Kazakhstan is the one of the recently emerged countries with the communist background, which previously rejected most of the capitalist and democratic visions on making policies and conducting wealth of society. However, thanks to the geopolitical changes in the region and development of good relationship with countries overseas, as well as becoming a member of globalization processes, Kazakhstan started to attract FDIs (foreign direct investments), FPIs (foreign portfolio investments), establish stock markets, such as Kazakhstan stock exchange (hereinafter "KASE"), as well as Astana International Exchange (hereinafter "AIX") and promote the investment activities among legal entities and citizens of the country (zero commission policy for trading via KASE and AIX). Hence, people, theoretically, must become more intelligent, globalized and have opportunities, as well as the desire to make investment decisions by purchasing securities.

Over the past century, the importance of brokerage companies, as well as mutual funds has grown up all over the world, due to the advantages they provide to investors: cheaper investment expertise costs, expertise of professional analytics, and a diversified portfolio. (Alexakis et al., 2004, Spuchľakova et al., 2015). The improvement of brokerage-dealer field of business is also considered as a crucial mark for evaluating the activity of brokerage companies, as well as mutual funds worldwide (Zaremba, 2019). Hence, intention to make investment decisions depends from the growth of brokerage-dealers business and mutual funds improvement within the country. However, personality traits are one of crucial variables that affects on investment intention of people. The connection between human emotions and the risk associated with investments can be confusing and incomprehensible at first glance. Lee and Andrade argue that when investors benefit from past uncertainty, they assume that the past experience of benefiting from uncertainty can be repeated and are willing to take risks, but they are risk averse if they cannot eliminate the uncertainty (2015). For example, a positive attitude and a sense of success can increase an investor's desire to make a risky investment decision (Haase and Silbereisen, 2011). The same results were obtained by Aydemir and Aren (2017), where they found that personal mood and feelings make an impact on risk tolerance from positive side, while basic personal risk aversion toward non-financial decisions negatively impact on risk tolerance. Also, in accordance with Baranczuk, investors with highly dominated neurotic attitude experience negative emotions comparing with conscientiousness investors, while extravert investors are willing to explore new opportunities and knowledge that

positively affect on investment intention (2019). Inversely, the sadness, fear and anger positively related with neuroticism trait. Moreover, personality differences in traits and emotions significantly affect the personality of an investor (Hiebler-Ragger et al., 2018). Finally, anger can manifest itself differently in compliant individuals and neurotics (Mill et al., 2018).

Regression analysis made by Sadiq and Khan (2019), serves to the scholars as the proof that personality traits play one of the important roles in investment intention of individuals. The literature was executed in order to examine the effect of five personality traits, such as neuroticism, extroversion conscientiousness agreeableness and intention for practices, on investment willingness of people. As the result, proactive people, well-organized, as well as who have openness for getting new skills traits are more intended to make investment decisions.

Last but not least, investment decisions are depended from different personality traits, among which is risk tolerance (Hoffman and Post, 2017; Chiu and Zhu, 2017). Moreover, the financial literacy, as well as experience and skills of investors play on of the important role in investment decisions (Lusardi, 2019; Jonsson et al., 2017; Cupak et al., 2018;). The obvious but important traits as age and gender impact on risk tolerance and investment willingness to do investments (Isidore and Christie, 2018). In accordance with Annamalah et al., socio-economic characteristics as social status, and level of education impact on investment intention of people to whether make investment decision or not (2019). In simple words, investor-related factors such as, the intensiveness to gather high risks, financial knowledge and literacy, investment experience, age, gender and social status may shift the investment mood toward the decision to purchase, sell or ignore potential investments on financial assets.

The research paper tries to identify the effect of personality traits and its effort to push or hold people for investment decisions. Nevertheless, in order to understand the investment willingness and future potentials of Kazakhstanis, the paper needs to identify the answer on the research question: **“**What is the relationship between personality traits on investment willingness of people in Republic of Kazakhstan?”

By researching the topic, the paper can receive knowledge on investment potentials, as well as determine the investment willingness and future investment trends of Kazakhstanis. Hence, the

research has designed three questions that will guide the paper in order to achieve the research goal:

How: The study will help audience to understand how the personality traits impact on investment willingness of Kazakhstanis.

Why: The study will help to understand why people are (not-) willing to make investment decisions.

What: The research paper will help to realize what an individual can do to get benefit from the unusual situation in the stock market.

The research paper will be helpful and meaningful for individuals and legal entities who are interested in investment activities. Especially, the research will illustrate the importance of learning personal attitudes and their effect on making the investment decisions on the financial market within or outside of the Republic of Kazakhstan.

2. LITERATURE REVIEW

2.1 Investment intention

Investment intention is depended not only by both macro-level factors and industry factors, but also by risk tolerance and the financial literacy of people (Vatamanescu et al., 2016). Moreover, is also impacted by taxes and fees charged for investment activities (Fu et al., 2012), because the government regulation on individuals and legal entities regulations can decrease the net profit from trading securities, in result of which, people's intention to make investment decisions may recess. In accordance with Sirri and Tufano (1998), investment behavior can fluctuate due to the market reaction on emerged news on mutual funds and other brokerage-dealers' institutions. It's obvious sense, in which people who hold money and/or willing to invest via hedge funds or investment companies, which reputations were changed due to emerged news, can recess the decision or decide to stop investment activities. The image, age and size of brokerage-dealers' companies also closely correlate with investment intention of people to do investment decisions via those firms (Benson et al., 2008).

The literature determined that a growth in the risk associated with losses of investment instruments usually causes a decrease in the net subscriptions of mutual funds' clients and investors' choice to hold securities in brokerage accounts (Filip, 2020; Sirri and Tufano, 1998). Moreover, according to the study made by Awan and Arshad, investors generally prefer to not

gather high risks when they make an invest decision, because usually, people have low risk tolerance toward investments and mostly investors are conservatives (2012). Thanks to the obtained results of Barber, investors assess own risks in their investment portfolio (Barber et al., 2016) and evaluate different types of risks (Spuchľakova et al., 2015) when make investment decisions.

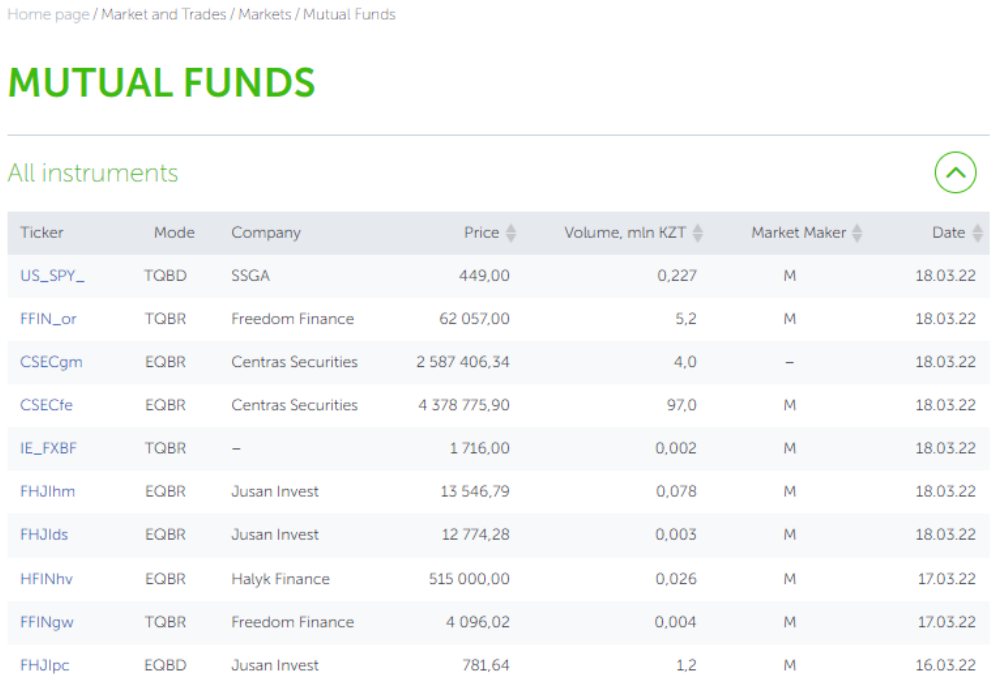
2.2 Relationship between Personality traits and Investment Climate

One of the important factors that affects the investment willingness of people on intention to make investments is the investment climate. According to Kulanov et al., the investment climate can be identified by the macroeconomic, sociopolitical, as well as by financial conditions within the state. Such a climate impacts the intention of individuals, legal entities and financial institutions to gather debts, issue bonds and loans, and to acquire shares (to invest) of the companies operating in that state (2020). In other words, the investment climate is the environment that has been created and developed by the individuals and government agencies through issuing policies, procedures, as well as regulations, in order to promote capital movements between lenders to borrowers, whereas financial institutions must serve as intermediaries of such processes, lenders and investors provide funds to borrowers, and debtors attract funds by promising rewards to investors and lenders. Also, as was written by Borkova et al. (2019) that (1) competitiveness and investment climate; (2) prospective restrictions on the part of enterprises; (3) business and investment barriers; (4) risk and uncertainty of the policy; and (5) the cost of operations serves as global benchmarks, which can be useful in learning the investment environment in any state. Therefore, the authors claim that investment climate already takes into account the economic growth, confidence to the political and economic environment (stability and issuance regulations) and availability of finance (commercial banks' services). Without the financial institutions, needs of borrowers and capital movement channels, which are parts of investment climate, the presence of investment activities would be zero. In accordance with Christine, investment climate specialist in World Bank organization, the investment climate is crucial factor for improvement of economy of countries, development of investment patterns and promotion of wealth of society, especially for recovering states in COVID-19 pandemic context (n.d.). Christine's view only reinforces the argument that the investment climate remains an important factor in the development of an investment environment and opportunities even in the face of a global epidemic. By the way, according to Rubio-Mozos, et al. (2019) in order to increase efficiency of economic

performance of any country, the governments must to adapt new measurement system in exchange of current GDP. In other words, in order to make investment performance within the country more effective the government should take in to consideration the ecological sustainability, because bad ecological performance may lead to the decrease in average life-time of people and decrease economic performance every year. Thus, as we know, poor economic performance leads to lowering average investment ranking of local companies and increase in risk level of investments, that consequently, become a result of rare investment activities within the state.

2.3 Availability of investment sites and Investment intention

Having proper environment and interest rates regulated by the National bank are some parts of the cornerstone, but having investment sites, which operates in the country and wide access of possible investment instruments, adequate commissions, qualified brokers, analysts and managers, as well as understandable logic of how to invest is another part of the cornerstone, but closely corelates with investment climate role. Such investment sites, usually, can be provided by commercial bank's affiliated companies, mutual funds, stock exchanges and other online trading services, such as FOREX clubs, Tinkoff and etc. Starting from the hub of investment activities and financial buffer of any state, that is regulated and founded by the Government – stock exchange. As was written at the beginning of the paper, Kazakhstan has only two stock exchanges, that are based in Nur-Sultan city, and called KASE and AIX. The main purpose of stock exchange is in ensuring an available platform for the sale and purchase of securities, that provide confidence to parties of presence of liquidity.



Home page / Market and Trades / Markets / Mutual Funds

MUTUAL FUNDS

All instruments

Ticker	Mode	Company	Price	Volume, mln KZT	Market Maker	Date
US_SPY_	TQBD	SSGA	449,00	0,227	M	18.03.22
FFIN_or	TQBR	Freedom Finance	62 057,00	5,2	M	18.03.22
CSECgm	EQBR	Centras Securities	2 587 406,34	4,0	–	18.03.22
CSECfe	EQBR	Centras Securities	4 378 775,90	97,0	M	18.03.22
IE_FXBF	TQBR	–	1 716,00	0,002	M	18.03.22
FHJIhm	EQBR	Jusan Invest	13 546,79	0,078	M	18.03.22
FHJIds	EQBR	Jusan Invest	12 774,28	0,003	M	18.03.22
HFINhv	EQBR	Halyk Finance	515 000,00	0,026	M	17.03.22
FFINgw	TQBR	Freedom Finance	4 096,02	0,004	M	17.03.22
FHJIpc	EQBD	Jusan Invest	781,64	1,2	M	16.03.22

Figure 1: KASE: Mutual funds in Kazakhstan (2022*)*

Another types of companies that create availability of investment sites are mutual funds and commercial bank's affiliated companies with investment related functions. According to the KASE (2022), as was illustrated in the Figure 1, there are many of them operates in the country, but most popular are Freedom Finance, Halyk Finance, BCC Invest, Centras Securities and Jysan Invest. Mostly, in Kazakhstan operate commercial banks' affiliates, but comparing them with mutual funds and brokerage companies, both provide the same services and have the same roles in the economy. Moreover, observing one of the most famous and demanded brokerage companies in Kazakhstan – Freedom Finance (2022), they provide such financial instruments, as participation in IPO deals (initial public offering companies), SPO (secondary public offerings) and finishing by the forwards, futures commitments, as well as options and derivatives. It means that at least one financial institution provides a large variety of financial instruments, which volume will increase depending on the demand of customers for new services of these enterprises. Despite the fact that the number of active investors in the market is small, people are increasingly striving to get more profit from investments than from deposits.

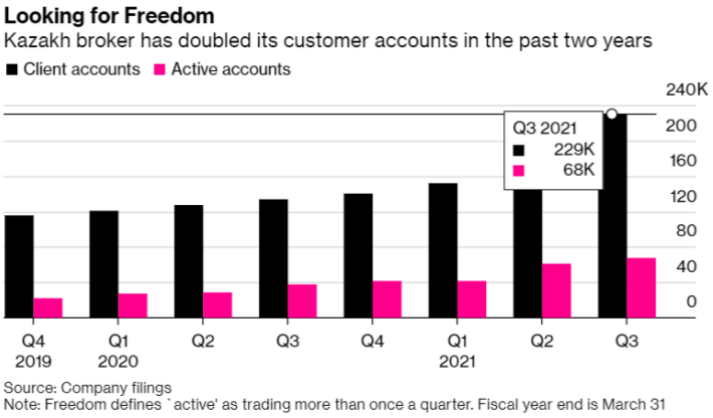


Figure 2: Kazakh brokers has doubled its customers' accounts in the past two years.

However, there is a silver lining. According to Gizitdinov, N., & Griffin, D., the client base of the largest investment bank in Kazakhstan is growing at huge leaps, but the number of services provided is growing not just in a natural market way, but more artificially imposing shares of certain companies in order to increase the personal capitalization of the bank by Freedom Finance and increased benefits for clients supporting such an adventure (2021). In other words, the greater the influence and demand for the investment services of a company, the greater the greed and desire to totalize the market with its presence. As illustrated in Figure 2, the client base is growing rapidly, but the growth of active investors is less, which means that investment companies artificially buff the number of transactions of clients willing to purchase shares of companies in exchange for benefits, which can further undermine the authority of large mutual funds, as well as brokerage companies and lead to a decrease in investment activity within the country.

2.4 Financial literacy

According to the literature, financial literacy refers to the knowledge and skills obtained from financial decisions (Brown et al., 2018). In other words, the knowledge and theoretical background, obtained either from study or via practical experience, can help to make proper expertise on investment decisions of people.

The researchers, Aren and Aydemir, have tried to identify the effect of financial literacy level on the relationship between risk tolerance, trajectory of control and investment willingness on risky projects. Thank to conducted survey among 112 participants, they have learned that risk tolerance in general had a negative correlation with investment intention, while financial literacy changed the relationship between risk tolerance and investment intention to gather high

risks (2015). Such results were explained by the reason that hidden inside of human nature. If people are not specialized and/or do not have a significant level of financial knowledge, they will not risk by own funds, while individuals who have good level of financial literacy, can accept risks associated with investment decisions. Moreover, in accordance with Muradoglu and Harvey (2012), an investor can be more attentive on possible biases and understand that it will impact on personal investment willingness and own decisions related to investments. In the study of Hamza and Arif (2019), explored that financial literacy significantly influence the investment intention of people, by providing them an opportunity to decrease probability of investment failures and losses. Consequently, an investor can avoid any investment mistakes after gathering knowledge and skills of behavioral finance.

2.5 Risk Tolerance

Risk tolerance can be explained as a personal perception of risks, associated with certain activities (Sahin and Yilmaz, 2009). In other words, person who is tolerant to some level of risks is willing to behave in risky manner in order to get higher rewards. Consequently, risk tolerance toward investment decisions is the trade-off between the perceived risk and potential rewards on financial instruments (Grable, 2017).

2.6 Openness and Investment Intention

Openness is one of the personal traits that pushes people to look at problems and opportunities from a different angle, have independent thoughts, be imaginative, and be open to new skills and knowledge, as well as see non-trivial opportunities (Mohan and Mulla, 2013). People who deprived of openness most likely to have a wide variety of perspectives and thoughts (Schwaba et al., 2018). In accordance with Simmons, this attitude mostly assigned to those people who are want to know as much knowledge as they can and those who have an interest to learn new insights (2011). The another finding related to openness, Kaufman with other academics argue that openness leads to development of personal creativeness (2016). Moreover, individuals who have high level of openness can be the driven force of new ideas (Woods et al., 2018). Due to this feature, investors have an inherent desire to practice new financial instruments and look for benefits in any changes in the financial market. Openness allows investors to make non-traditional financial decisions and allows them to have a positive relationship with risk tolerance and willingness to make investment decisions in the financial market (Nga and Yien, 2013).

2.7 Conscientiousness and Investment Intention

Conscientiousness refers to the behavioral trait of people who tend to comply with society's standards of norms and laws. People who have this character trait at a high level are able to inspire confidence, be controlled by norms and laws (Bogg and Roberts, 2004). This character trait is divided into achievements and reliability. Achievement describes the desire to be hardworking and conquer new heights. While reliability outlines a person's responsibility to someone or something, as well as diligence before tasks and obligations (Roberts et al., 2005). Thanks to this trait, people tend not to violate the laws related to investment activities and to be decent participants in the financial market. In accordance with Durand et al., conscientious investors have positive attitude toward investments (2013) and investment decisions to get desired returns. Those individuals do not rely on illusions and wisely perform investment activities. However, such investors try to not gather additional risks (Sadi, Asl, Rostami, Gholipour, & Gholipour, 2011). Hence, conscientious people are mostly risk averse (Pak and Mahmood, 2015).

2.8 Extraversion and Investment Intention

The literatures states that proactive, excitement, optimistic and people who are seeking to be socialized with group of individuals are tended to make investment decisions of own funds in stock markets (McCrae and Costa J., 1997, Mayfield et al., 2008, Leary et al., 2009, Pan and Statman, 2013). Moreover, the scholars found that proactive and excitement seeking individuals more tolerant to the risks. Another researcher has found that proactive, excitement seeking and optimist people, who want to be socialized are more willing to do purchases of uncollateralized debts and financial instruments (Brown & Taylor, 2014). As an additional argument for Brown and Taylor’s assumptions, the scholar, Durand, in own observation has identified that investors with high degree of proactiveness, excitement and optimist views are ready to hold high risks in order to get high returns (Durand et al., 2008).

2.9 Neuroticism and Investment Intention

According to Kasilingam and Charles, people who have a highly dominated neuroticism personality trait in general, are emotionally unstable, experiences a large amount of pressure, anxious and stress, worries about many different issues, gets upset easily, experiences rapid shifts in emotions and pessimistic and suffer from low confidence level (2014).

In accordance with Aren and Hamamci, investors with high neuroticism traits, but with low level of openness often feel stress, fears and sadness, which causes risk aversion (2020). An investor that experiences high level of neuroticism mostly affected from biased investment decisions. Moreover, investors with opposite level of such trait most likely will avoid wrong investment decisions (Kasilingam and Charles, 2014). From financial perspectives' view, an investor with high level of neuroticism trait tends to make less investment decisions on securities and debt instruments (Oehler et al., 2018). Hence, neuroticism significantly impacts on both and long-term and short-term investment willingness (Lathif, 2019). Consequently, an investor with high level of neuroticism trait prefer to avoid uncertainty related to investment decisions on financial assets and often, overestimate the risks which occurs during economic recessions, but during economic growth, oppositely, underestimate the risks, which obviously leads to future losses on future value of securities.

2.10 *Agreeableness and Investment Intention*

Agreeableness, from the word itself, is associated with a person's desire to have positive connections with other people. This trait is characterized by the desire to be useful to someone or something. In accordance with Graziano et al., a person with a high level of goodwill pursues the desire to be part of society and contribute to a brighter future (2007). Moreover, trust and close cooperation are inherent in this human trait. However, the disadvantages of this trait are dependence on someone or something. This is due to the fact that benevolent individuals try not to disappoint people's expectations, which ultimately reduces the firmness and independence of a person when making any decision (Bernardine et al., 2000). Consequently, benevolence can lead to a dysfunction in the investment activity of an individual, which, in its end, will affect the investment desire of a person. revealed that agreeableness has negative association with risky behavior. Agreeableness has negatively effect on risk tolerance. For the most part, agreeable people are highly dependent on the opinions of others and, due to a weak will to make an independent decision, they resort to the help of financial advisers, who in turn manage the client's investment portfolio as they wish (Pak and Mahmood, 2015).

3. METHODOLOGY

The research paper examines the effect of individuals' attitudes on willingness to make investment decisions, as well as how the level of financial literacy may affect to the investment

decisions. Hence, this quantitative study uses primary data collection from random people and compares results with findings on the literature review part. Due to the fact that the data collection method will include the answers of 200 randomly selected people from different social statuses, geographical locations (cities, countryside) and ages, they will represent the entire population of Kazakhstan with almost the same opinions and views on the topic.

In January and February 2022, the total amount of participant reached 200 people that passed the survey through internet (88% of participants), by face-to-face (5.5% of participants) and filled printed papers (1.5% of participants). There are males (56.5% of participants), females (43.5% of participants), who are in the age range of 18-30 (52% of participants), 31-40 (25.5% of participants), 41-50 (22.5% of participants). Among participants undergraduate students was in total 27%, bachelor degree – 53% of participants, master/magister degree passed participants was 17.5% and finally trainings and certificates – 2.5% of samples. The income level of samples also was obtained by the survey: salary less than 200,000 KZT (32% of participants), 200,000 KZT - 450,000 KZT (21.5% of participants), 450,000 KZT - 1,000,000 KZT (36.5% of participants), more than 1,000,000 KZT (10% of participants). Other responses will be presented in “Analysis” section.

The total amount of questions in the survey consists of 14 questions, that included multiple choice questions (4), rating scale questions (9), and typing question (1).

3.1 Variables

Table 1: Variables

Variable	**Abbreviation**	**Description**
Dependent Variable		
Investment intention	INT	Intention and frequency of investment activities
Independent Variables		
Gender	Gender	Gander type of participants
Age range	Age	Age diapason of participants

Education degree	Edu-n	Study degree that participants currently have
Salary/Wage	Salary	Income level of participants per month
Extraversion	EXT	General level of extraversion of participants
Conscientiousness	CNST	General level of conscientiousness of participants
Neuroticism	NRT	General level of neuroticism of participants
Openness	OPN	General level of openness of participants
Agreeableness	AGRB	General level of agreeableness of participants
Investment Instruments	InvInst	Preference toward different types of investment instruments
Financial literacy	FinLit	Financial knowledge toward investments
Tolerance	Tolerance	Level of tolerance toward investment risks

Note. The Table 1 represents listed variables, their abbreviation and short description.

The analysis includes one dependent variable (investment intention) and the rest variables, such as gender, age, education, salary, extraversion, conscientiousness, neuroticism, openness, agreeableness, investment instruments, financial literacy, and tolerancy are independent variables.

3.2 Hypothesis

The relationships among dependent and autonomous factors were tested using panel data for concomitant causes. For the following reasons, panel data were used to explore relationships between dependent and independent variables. Moreover, the data used to conduct an empirical study of the effect of big 5 personality traits on investment intention, as well as to explore the effect of financial literacy on investment willingness in Kazakhstan. In accordance with Levin, Lin, and Chu (LLC) methods, the results reject the null hypothesis, which means the unit root does not exist in the entire model.

Before running the research analysis, the hypothesis has to be organized in the following way:

H1: Extraversion positively affects the investment intention of participants;

H2: Conscientiousness positively affects the investment intention of participants;

H3: Neuroticism negatively affects the investment intention of participants;

H4: Openness positively affects the investment intention of participants;

H5: Agreeableness negatively affects the investment intention of participants;

H6: Financial literacy positively affects the investment intention of participants.

In order to fulfill the goals of the research, there was devised a model that pitted Investment intention against a series of independent variables that can justify the effect of personality traits and financial literacy on intention to make investment decisions. The model is illustrated below:

$$INT = \_0 + \beta(Gender) + \beta(Age) + \beta(Edu\text{-}n) + \beta(Salary) + \beta(EXT) + \beta(CNST) + \beta(NRT) + \beta(OPN) + \beta(AGRB) + \beta(InvInst) + \beta(FinLit) + \beta(Tolerance) \quad (1)$$

4. FINDINGS AND ANALYSIS

The section illustrates the research findings and analysis undertaken to fulfill the research objectives, answer the research questions and agree or reject the hypothesis.

4.1 Descriptive statistics

Table 2: Descriptive statistics (in decimals)

Variable	**Observations**	**Mean**	**Standard Deviation**	**Minimum Value**	**Maximum Value**
Gender	200	0.565	0.4970011	0	1
Age	200	2.295	0.8131921	1	3
Edu-n	200	2.045	0.7387175	0	3
Salary	200	1.245	1.0149510	0	3
EXT	200	4.055	0.8459035	0	5

CNST	200	3.805	1.4723500	0	5
NRT	200	1.705	0.8131921	0	4
OPN	200	4.475	0.6794729	2	5
ARGB	200	3.065	1.2240370	0	5
INT	200	1.230	1.1934070	0	5
InvInst	200	1.800	1.3375140	0	3
FinLit	200	1.885	1.3494000	0	5
Tolerance	200	2.660	1.8713390	0	5

Table 2 provides information on the descriptive statistics such as number of observations, mean, standard deviation and maximum, as well as minimum amounts. Fluctuations can be examined by looking at the standard deviation, which measures the variability of a variable. Observing the descriptive statistics analysis, there can be assumed that the investment intention of participants is averaged and does not have high fluctuations, since the value of the standard deviation (1.19) is almost equals to the average (1.23). In the case of explanatory variables such as, gender, age, education, salary, extraversion, conscientiousness, neuroticism, openness, agreeableness, investment instruments, financial literacy and tolerance, there can be concluded that the fluctuations are not volatile since their standard deviations are below the mean values.

Also, the analysis illustrates that most of the participants experience high level of extraversion (mean = 4.055), as well as conscientiousness (mean = 3.805), openness (mean = 4.475), averaged agreeableness (mean = 3.065) and lower level of neuroticism (mean = 1.705) and frequency of investments (mean = 1.23). Moreover, mostly, the participants suggest that have low level of financial literacy (1.885), while they are, in average, tolerant to the risky investments (2.66).

4.2 Correlation analysis

Table 3: Correlation between variables (in decimals)

	INT	Gender	Age	Edu-n	Salary	EXT	CNST
INT	1.0000						
Gender	0.0763	1.0000					
Age	-0.4534	0.2942	1.0000				
Edu-n	-0.3253	0.2452	0.5717	1.0000			
Salary	0.7083	-0.1662	-0.7334	-0.5175	1.0000		
EXT	0.3707	-0.1101	-0.2283	0.0121	0.3296	1.0000	
CNST	0.4232	-0.0959	-0.6652	-0.5602	0.6610	0.0813	1.0000
NRT	-0.3388	-0.1077	0.4970	0.3652	-0.5391	-0.0859	-0.4638
OPN	0.2178	-0.0844	-0.3003	-0.1830	0.3769	0.2166	0.2689
AGRB	0.0069	-0.5893	-0.1961	-0.1144	0.0599	0.0402	0.0210
InvInst	0.7499	0.1860	-0.3705	-0.3672	0.5841	0.2629	0.4522
FinLit	0.6687	0.2023	-0.0972	-0.2317	0.3766	0.2301	0.2163
Tolerance	0.6337	0.4345	-0.0857	-0.2288	0.3589	0.1452	0.2603

Table 3 (Cont.): Correlation between variables (in decimals)

	NRT	OPN	AGRB	InvInst	FinLit	Tolerance
NRT	1.0000					
OPN	-0.2544	1.0000				

AGRB	0.2062	0.0171	1.0000			
InvInst	-0.3594	0.1991	-0.1486	1.0000		
FinLit	-0.1089	0.1585	-0.1293	0.6749	1.0000	
Tolerance	-0.2710	0.1711	-0.2689	0.8440	0.7028	1.0000

Note. Table 3 illustrates the correlation between all variables tested in the research.

In accordance with the table, investment intention of participants highly correlates with income level (0.7083), preferences toward investment instruments (0.7499), financial literacy (0.6687) and level of risk tolerance (0.6337). In the same way, the results illustrate positive correlation of investment instruments with gender type (0.0763), salary level (0.7083), extraversion trait (0.3707), conscientiousness (0.4232), openness (0.2178), agreeableness (0.0069), investment instruments (0.7499), financial literacy (0.6687) and tolerance level (0.6337), while age, education and neuroticism variables negatively impact investment intention of participants (-0.4534, -0.3253 and -0.3388, respectively). In addition, the analysis founded, that high positive correlations are belong to age and education (0.5717), neuroticism and age (0.4970), conscientiousness and salary (0.6610), financial literacy and preferences on investment instruments (0.6749), and risk tolerancy and preferences on investment instruments (0.8440). Inversely, the Table 3 illustrates highly negative correlations between agreeableness and gender (-0.5893), salary and age (-0.7334), conscientiousness and age (-0.6652), salary and education level (-0.5175), conscientiousness and educations (-0.5602), and neuroticism and salary (-0.5391).

4.3 Panel data (Ordinary list square)

Table 4: Ordinary list square tables (in decimals)

Source	SS	df	MS
Model	214.853078	12	17.9044231
Residual	68.5669225	187	0.366668035
Total	**283.42**	**199**	**1.42422111**

Number of obs	200
F (12, 187)	48.83
Prob > F	0.0000

R-squared	0.7581
Adj R-squared	0.7425
Root MSE	0.60553

INT	**Coef.**	**Std. Err.**	**t**	**P > |t|**	**[95 % Conf. Interval]**	
Gender	0.1947104	0.130768	1.49	0.138	-0.0632597	0.4526806
Age	-0.1434882	0.0973247	-1.47	0.142	-0.3354837	0.0485074
Edu-n	0.1222307	0.080397	1.52	0.130	-0.0363708	0.2808323
Salary	0.5404538	0.0807944	6.69	0.000	0.3810681	0.6998395
EXT	0.1179257	0.0579488	2.03	0.043	0.0036083	0.2322431
CNST	-0.0554003	0.044337	-1.25	0.213	-0.1428653	0.0320647
NRT	0.016941	0.0705056	0.24	0.810	-0.1221477	0.1560297
OPN	-0.1228153	0.0700072	-1.75	0.081	-0.2609206	0.01529

AGRB	0.1094517	0.0449773	2.43	0.016	0.0207235	0.1981799
InvInst	0.191271	0.0790223	2.42	0.016	0.0353812	0.3471608
FinLit	0.2540338	0.0483192	5.26	0.000	0.1587129	0.3493547
Tolerance	0.0705188	0.0573445	1.23	0.220	-0.0426065	0.1836441
_cons	-0.5664004	0.5469961	-1.04	0.302	-1.645477	0.5126758

Note. Table 4 illustrates the information related to the panel data statistics.

The high R-squared value has been found (0.7581). This appears to be able to explain variations in effects on investment intention of participants. Moreover, the "F" statistics of the model shows the significance of all independent variables.

P-value ("P>|t|") can be significant only when it's less than 0.01, 0.05 and/or 0.10. P-value, which less than 0.05 means that the H_0 (null hypothesis) should be rejected and the research must rely on the statistical results. Otherwise, coefficient rates between variables and investment intention are statistically insignificant. Hence, the results show that impact on investment intention can be counted as significant by salary, extraversion openness, agreeableness, preferences on investment instruments, as well as level of risk tolerancy variables.

R-squared of the research is equals to 76%, which means that 76% changes in investment intention can be explained by changes in samples' explanatory variables, while the rest 36% can be explained by errors.

4.4 Extraversion trait

The correlation of the extraversion trait shows a significantly positive value (0.3707) toward the investment intention model.

As can be seen in the results, extraversion has a positive impact on intention to make investment decisions and investment frequency (0.1197). The reason if it hidden in active engagement and excitement seeking attitudes of people pushes individuals to find new ways to be active and socialized among different societies, including investors community. Therefore, H1 hypothesis can be accepted and concluded that extraversion has significant positive impact on investment intention of people.

The results of the closely related study made by Andreas, Stefan, Florian and Matthias (2017), confirm the fact that extraversion trait positively correlates and impacts on intention to make investment decisions.

4.5 Conscientiousness

The correlation of the conscientiousness trait shows a significantly positive value (0.4232) toward the investment intention model.

The results represent the negative impact of this trait on investment intention (-0.055). It may appear due to high tariffs and fees to be paid for investment activities in Kazakhstan, as well as difficulty in following guidelines and rules within the domestic stock exchange laws. Moreover, in accordance with obtained results, this trait is more predisposed to older participants, who has less willingness to be a part of investors' community.

This finding rejects the H2 hypothesis, which states that conscientiousness positively impacts investment intention. However, due to the fact, that conscientiousness is not statistically significant, the results on this trait are not acceptable.

According to Husnain, Shah and Fatima (2019), conscientiousness positively affects and correlates with investment intention variable, which contradicts the results of this study.

4.6 Neuroticism

In accordance with the correlation table, the neuroticism trait has significantly negative correlation with investment intention (-0.3388).

As can be seen in the results, neuroticism has a small positive impact on intention to make investment decisions and investment frequency (0.017). Emotionally instability, large amount of pressure, anxious and stress, worries about many different issues, gets upset easily, rapid shifts in emotions and pessimistic nature most likely pushes people with high neuroticism level to make less investment decisions in the financial market. It can be explained by the way in

which people are most likely busy by other important issues, that make them be far from investment activities. However, due to the geopolitical and other external factors participants with developed neurotic trait (the average result in the survey showed 1.705 in the range of 0 to 5, where the highest response was 4) may still be a part of active investors. Therefore, H3 hypothesis, which states, that neuroticism negatively affects investment willingness, can be rejected, but the result on the neuroticism variables impact is statistically insignificant.

The study made by Oehler et al., contradicts expectations of this research and argues, that neurotic people are less tended to make investment decisions in the financial market (2018).

4.7 Openness

The correlation analysis of the openness trait represents a significantly positive value (0.2178) toward the investment intention model.

As can be seen in the results, extraversion has a significant negative impact on intention to make investment decisions and investment frequency (-0.1228). The results can be explained by the reason, that highly developed openness trait of a person may lead to the highly dominated theoretical exploration of investment field and lack of sufficient time to make expertise of potential investment objects due to spending available time on career development rather than obtainment of new investment knowledge and practical skills. However, despite the explained reasons, H4 hypothesis has been rejected.

The same results were obtained by Muhammad and Raja (2019), when they have tested the hypothesis on openness positive impact on personality traits. The have rejected the hypothesis, as was made in this research.

4.8 Agreeableness

The correlation results between the agreeableness variable and investment intention illustrates a small positive value (0.0069).

The results represent the positive impact of this trait on investment intention (0.1095). The agreeableness trait forces people to follow the suggestions and guidelines of advisors, which make them dependent from outside opinions. However, the proper development of investment consulting and enhancement of brokerage analysts' skills, can lead to the better and successful expertise on investment projects. Hence, more successful brokerage analysts encourage more

clients, who will more potentially earn on analysts' advices. H5 hypothesis is rejected due to contradiction in assumptions.

The same analysis obtained by Hamza and Arif (2019) agrees with this research results and state, that agreeableness has positive impact on investment intention.

4.9 Financial literacy

The correlation between financial literacy and investment intention model represents one of the highest positive results (0.6687).

As can be explored in the obtained results, financial literacy has significantly positive coefficient with investment willingness (0.2540), that can be explained by personal interest on investment activities, that was learned before. Participants who have knowledge in investment field uses obtained skills and expertise in order to raise more gains from revaluation of securities and decrease losses from failure from investment results. Moreover, the educated people, for the most part, know the methods of hedging and saving money in case of strong market volatility, and also make more accurate financial market forecasts, which allows them to make profitable transactions. Hence, H6 hypothesis has been accepted.

The same results were illustrated in Hamza and Arif study (2019), where the concluded the positive impact of financial literacy on investment intention.

5. CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS

5.1 Conclusion

The main goal of this study was to investigate the relationship and impact between personality traits, as well as financial literacy on willingness to make investment decisions in the financial market in Kazakhstan. In this regard, the impacts of extraversion, conscientiousness, neuroticism, openness, agreeableness, financial literacy are analyzed. The data for this research is panel data collected from different random participants of the survey. In order to measure the impact of the independent variables on the investment intention of samples, the regression analysis was executed.

As a conclusion, table below summarizes the results of the analysis.

Table 5: Summary table

Variables	**Expected results**	**Actual results**	**Hypothesis acceptance/rejection**
Extraversion	Positive	Positive	Accepted
Conscientiousness	Positive	Negative	Rejected
Neuroticism	Negative	Positive	Rejected
Openness	Positive	Negative	Rejected
Agreeableness	Negative	Positive	Rejected
Financial literacy	Positive	Positive	Accepted

The outcomes demonstrate that salary, extraversion, agreeableness, preferences on investment instruments and level of financial literacy have statistically significant positive impact on intention of people to participate in investment activities. Conversely, openness trait found to has statistically significant negative impacts on investment intention of participants. Other variables do not have a statistically significant negative or positive impacts on investment willingness within the country.

5.2 Implication and recommendations

The results of the research are expected to provide behavioral understanding of investments' driving forces among individuals and legal entities with realistic evidence on the determinants of forces that pushes or pulls to make investment decisions. Based on the results, the following implications can be listed:

- Individuals and legal entities should enhance the proactive, excitement, optimistic view with an intention to seek new opportunities in investment field;
- Individuals and legal entities should gather new knowledge, skills and obtain new insights in finance in order to make an appropriate and more effective analysis of financial statements, expertise and economic environment of potential investments to be ready for micro and macro volatilities of the investment objects.

- Brokerage and investment consultants, as well as analysts should learn and assess the customers' personality traits and encourage them to make investment decisions in accordance with their preferences.

5.3 Limitations of the study

The investment intention of people can be evaluated and measured by their frequency of investment activities in the financial market, while personality traits by own feelings and expertise of individuals. Hence, the above-mentioned implications have to be interpreted in light of the limitations. First of all, the study was conducted within one country – Kazakhstan. The study made in Kazakhstan may contradict to the findings in other states, due to differences in people's perceptions, availability of investment instruments, brokerage and dealers' companies and market makers. The second limitation is related to prudence and fairness of participants in the form of their responses to the survey's questions. People may or may not completely know what they feeling and/or deliberately provide false information for personal reasons. The third limitation touches the small number of participants involved in the study, that may cause the incorrect receipt of general data and, accordingly, a decrease in the effectiveness of this study.

REFERENCES

Andreas, O., Stefan, W., Florian, W. and Matthias H. (2017). Investors' Personality Influences Investment Decisions: Experimental Evidence on Extraversion and Neuroticism. *Journal of Behavioral Finance*, Vol. 19 No. 1, pp. 30-48. https://doi.org/10.1080/15427560.2017.1366495

Annamalah, S., Raman, M., Marthahadan, G. and Logeswaran, A.K. (2019), An empirical study on the determinants of an investor's decision in unit trust investment. *Economies*, Vol. 7 No. 3, pp. 1-23. https://doi.org/10.3390/economies7030080

Aren, S. and Aydemir, S. (2015), The Moderation of Financial Literacy on the Relationship Between Individual Factors and Risky Investment Intention. *International Business Research*, Vol. 8 No. 6, pp. 17-28. http://dx.doi.org/10.5539/ibr.v8n6p17

Aren, S. and Hamamci, H.N. (2020), Relationship between Risk aversion, Risky Investment Intention, Investment Choices: Impact of Personality Traits and Emotion. *Kybernetes*, Vol. 49 No. 11, pp. 2651-2682. https://doi.org/10.1108/K-07-2019-0455

Awan, H.M. and Arshad, S. (2012), Factors valued by investors while investing in mutual funds – a behavioural context. *Interdisciplinary Journal of Contemporary Research in Business*, Vol. 4 No. 1, p. 503

Aydemir, S.D. and Aren, S. (2017). Do the effects of individual factors on financial risk-taking behavior diversify with financial literacy? *Kybernetes*, Vol. 46 No. 10, pp. 1706-1734. https://doi.org/10.1108/K-10-2016-0281

Baranczuk, U. (2019). The five factor model of personality and emotion regulation: a meta-analysis. *Personality and Individual Differences*, Vol. 139 No. 2019, pp. 217-227. https://doi.org/10.1016/j.paid.2018.11.025

Barber, B.M., Huang, X. and Odean, T. (2016). Which factors matter to investors? Evidence from mutual fund flows. *Review of Financial Studies*, Vol. 29 No. 10, pp. 2600-2642, https://doi.org/10.1093/rfs/hhw054

Benson, K.L., Tang, G. and Tutticci, I. (2008). The relevance of family characteristics to individual fund flows. *Australian Journal of Management*, Vol. 32 No. 3, pp. 419-443. https://doi.org/10.1177/0312896208032003303

Bernardin, H.J., Cooke, D.K., and Villanova, P. (2000). Conscientiousness and agreeableness as predictors of rating leniency. *Journal of Applied Psychology*, Vol. 85 No. 2, pp. 232-234. 10.1037/0021-9010.85.2.232

Bogg, T., and Roberts, B.W. (2004). Conscientiousness and health-related behaviors: A meta-analysis of the leading behavioral contributors to mortality. *Psychological Bulletin*, Vol. 130 No. 6, pp. 887-919. https://doi.org/10.1037/0033-2909.130.6.887

Borkova E. A., Barsukova M. A., & Plotnikov V. A. (2019). Comparative analysis of tools for estimation of investment climate of territories. *GIAP journals*, Vol. 7 No. 4, pp. 1340-1344. https://doi.org/10.18510/hssr.2019.74186

Brown, M., Henchoz, C. and Spycher, T. (2018). Culture and financial literacy: Evidence from a within-country language border. *Journal of Economic Behavior and Organization*, Vol. 150, pp. 62-85. https://doi.org/10.1016/j.jebo.2018.03.011

Brown, S., and Taylor, K. (2014). *Household finances and the 'big five' personality traits*. Journal of Economic Psychology, Vol. 45, pp. 197–212. https://doi.org/10.1016/j.joep.2014.10.006

Charles, A., and Kasilingam, R. (2014). Do investors' emotions determine their investment personality? *Parikalpana: KIIT Journal of Management*, Vol. 10 No. 2, pp. 45-60.

Chiu, H.H. and Zhu, L. (2017). Can mutual funds serve as a market risk sentiment. *The Journal of Risk Finance*, Vol. 18 No. 2, pp. 159-185.

Christine, Q. (n.d.). *Investment climate.* World Bank. https://www.worldbank.org/en/topic/investment-climate

Cupak, A. Fessler, P. Silgoner, M. and Ulbrich, E. (2018). Financial literacy gaps across countries: the role of individual characteristics and institutions, *Working Paper*, No. 2 www.nbs.sk/_img/Documents/PUBLIK/WP_2_2018_Cupak_Financial_Literacy_EN.pdf

Durand, R. B., Newby, R., Peggs, L., and Siekierka, M. (2013). Personality. *The Journal of Behavioral Finance*, Vol. 14 No. 2, pp. 116–133. https://doi.org/10.1080/15427560.2013.791294

Durand, R. B., Newby, R., and Sanghani, J. (2008). An intimate portrait of the individual investor. *The Journal of Behavioral Finance*, Vol. 9 No. 4, pp. 193–208. https://doi.org/10.1080/15427560802341020

Filip, D. (2020). Are fund attributes risk drivers? Evidence for the polish mutual funds. *International Journal of Trade, Economics and Finance*, Vol. 10 No. 1, pp. 22-36

Freedom Finance. (2022). *Kazakhstan market.* https://ffin.kz/analytics

Fu, R., Navone, M., Pagani, M. and Pantos, T.D. (2012). The determinants of the convexity in the flow-performance relationship. *The Journal of Index Investing*, Vol. 3 No. 2, pp. 81-95. https://doi.org/10.3905/jii.2012.3.2.081

Gizitdinov, N., & Griffin, D. (2021). Retail Brokerage Tells IPO-Hungry Clients: Buy Our Stock First. *Bloomberg*. https://www.bloomberg.com/news/articles/2021-02-25/retail-brokerage-tells-ipo-hungry-clients-buy-our-stock-first

Grable, J.E., Lytton, R.H. (2001). Assessing the concurrent validity of the SCF risk tolerance question. *Financial Counseling and Planning*, Vol. 12 No. 2, pp. 43-53. https://www.researchgate.net/publication/253696181_Assessing_The_Concurrent_Validity_Of_The_SCF_Risk_Tolerance_Question

Graziano, W.G., Habashi, M.M., Sheese, B.E., and Tobin, R.M. (2007). Agreeableness, empathy, and helping: Aperson situation perspective. *Journal of Personality and Social Psychology*, Vol. 93 No. 4, pp. 583-599. https://doi.org/10.1037/0022-3514.93.4.583

Haase, C.M. and Silbereisen, R.K. (2011). Effects of positive affect on risk perceptions in adolescence and young adulthood. *Journal of Adolescence*, Vol. 34 No. 1, pp. 29 -37. https://doi.org/10.1016/j.adolescence.2010.03.004

Hamza, N. and Arif, I. (2019). Impact of Financial Literacy on Investment Decisions: The Mediating Effect of Big-Five Personality Traits Model. *Market Forces Research Journal*, Vol. 14 No. 1, pp. 43-60. https://kiet.edu.pk/marketforces/index.php/marketforces/article/view/386

Hoffman, A.O. and Post, T. (2017). How return and risk experiences shape investor beliefs and preferences. *Accounting and Finance*, Vol. 57 No. 3, pp. 759-788.

Hiebler-Ragger, M., Fuchshuber, J., Droescher, H., Vajda, C., Fink, A. and Unterrainer, H.F. (2018). Personality influences the relationship between primary emotions and religious/spiritual Well-Being. *Frontiers in Psychology*, Vol. 9 No. 370, pp. 1-8. https://doi.org/10.3389/fpsyg.2018.00370

Isidore, R. and Christie, P. (2018). Does gender influence investor behavior in the secondary equity market? *International Journal of Applied Engineering Research*, Vol. 13 No. 11, pp. 9651-9662.

Jonsson, S., Soderberg, I.L. and Wilhelmsson, M. (2017). An investigation of the impact of financial literacy, risk attitude and saving motives on the attenuation of mutual fund investors' disposition bias. *Managerial Finance*, Vol. 43 No. 3, pp. 282-298.

KASE. (2022). *Mutual funds.* https://kase.kz/en/mifs/

Kaufman, S.B. (2013). Opening up openness to experience: A four-factor model and relations to creative achievement in the arts and sciences. *The Journal of Creative Behavior*, Vol. 47 No. 4, pp. 233-255. https://doi.org/10.1002/jocb.33

Kulanov, A., Tamenova, S., Amenova, K., Karshalova, A. and Tussupova, L. (2020). Investment climate and its influence on the development of entrepreneurship: practice of the Republic of Kazakhstan. *Entrepreneurship and Sustainability*, Vol. 8 No. 2, pp. 421-437. https://doi.org/10.9770/jesi.2020.8.2(25)

Lathif, A.S. (2019). The impact of investor's personality types on investment intentions. *Journal of Composition Theory*, Vol. 7 No. 15, pp. 1078-1088. http://www.jctjournal.com/gallery/120-sep2019.pdf

Leary, M. M., Reilly, M. D., and Brown, F. W. (2009). A study of personality preferences and emotional intelligence. *Leadership & Organization Development Journal*, Vol. 30 No. 5, pp. 421– 434. https://doi.org/10.1108/01437730910968697

Lee, C.J. and Andrade, E.B. (2015). Fear, excitement, and financial risk-taking. *Cognition and Emotion*, Vol. 29 No. 1, pp. 178-187. https://doi.org/10.1080/02699931.2014.898611

Lusardi, A. (2019). *Financial literacy and the need for financial education: evidence and implications*. Swiss Journal of Economics and Statistics, Vol. 155 No. 1, https://doi.org/10.1186/s41937-019-0027-5

Mayfield, C., Perdue, G., and Wooten, K. (2008). Investment management and personality type. *Financial Services Review*, Vol. 17 No. 3, pp. 219–237. https://www.semanticscholar.org/paper/Investment-management-and-personality-type-Mayfield-Perdue/2c1868a18175c115fa44b9a33811eb0b337c4e39

McCrae, R. R., and Costa J, P. T. (1997). Personality trait structure as a human universal. *American Psychologist*, Vol. 52 No. 5, pp. 509-516. https://doi.org/10.1037/0003-066X.52.5.509

Mill, A.K.L., Allik, J. and Realo, A. (2018). The role of co-occurring emotions and personality traits in anger expression. *Frontiers in Psychology*, Vol. 9 No. 123, pp. 1-13. https://doi.org/10.3389/fpsyg.2018.00123

Mohan, G., Mulla, Z.R. (2013). Openness to experience and work outcomes: Exploring the moderating effects of conscientiousness and job complexity. *Great Lakes Herald*, Vol, 7 No. 2, pp. 18-36. https://www.researchgate.net/publication/305302364

Muhammad N.S. and Raja A.A.K. (2019). Impact of Personality Traits on Investment Intention: The Mediating Role of Risk Behaviour and the Moderating Role of Financial Literacy. *Journal of Finance & Economics Research*, Vol. 4, No. 1, pp. 1-18. https://doi.org/10.20547/jfer1904101

Nga, J. K., and Ken Yien, L. (2013). The influence of personality trait and demographics on financial decision making among Generation Y. *Young Consumers*, Vol. 14 No. 3, pp. 230–243. https://doi.org/10.1108/YC-11-2012-00325

Oehler, A., Wendt, S., Wedlich, F., and Horn, M. (2018). Investors' personality influences investment decisions: Experimental evidence on extraversion and neuroticism. *Journal of Behavioral Finance*, Vol. 19 No. 1, pp. 30-48. https://doi.org/10.1080/15427560.2017.1366495

Pak, O., and Mahmood, M. (2015). Impact of personality on risk tolerance and investment decisions: A study on potential investors of Kazakhstan. *International Journal of Commerce and Management*, 25(4), 370–384. https://doi.org/10.1108/IJCoMA-01-2013-0002

Pan, C. H., and Statman, M. (2013). Investor personality in investor questionnaires. *Journal of Investment Consulting*, Vol. 14 No. 1, pp. 48–56. http://dx.doi.org/10.2139/ssrn.2022339

Renu, I.R. (2017). Review of the influence of investor personality (the big 5 model) on investor behavior. *International Journal of Research in Finance and Marketing (IJRFM)*, Vol. 7 No. 7, pp. 23-32. https://www.researchgate.net/publication/319328319_REVIEW_OF_THE_INFLUENCE_OF_INVESTOR_PERSONALITY_THE_BIG_5_MODEL_ON_INVESTOR_BEHAVIOR

Roberts, B.W., Chernyshenko, O.S., Stark, S., and Goldberg, L.R. (2005). The structure of conscientiousness: An empirical investigation based on seven major personality questionnaires. *Personnel Psychology*, Vol. 58 No. 1, pp. 103-139. https://doi.org/10.1111/j.1744-6570.2005.00301.x

Rubio-Mozos, E., García-Muiña, F. E., & Fuentes-Moraleda, L., (2019). Rethinking 21st-Century Businesses: An Approach to Fourth Sector SMEs in Their Transition to a Sustainable Model Committed to SDGs. *Sustainability*, 11(20), 2-14. https://doi.org/10.3390/su11205569

Sadi, R., Asl, H.G., Rostami, M.R., Gholipour, A., and Gholipour, F. (2011). Behavioral finance: The explanation of investors' personality and perceptual biases effects on financial decisions. *International Journal of Economics and Finance*, Vol. 3 No. 5, pp. 234–241.

Sadiq, M.N. and Khan, R.A. (2019). Impact of Personality Traits on Investment Intention: The Mediating Role of Risk Behaviour and the Moderating Role of Financial Literacy. *Journal of Finance & Economics Research*, Vol. 4 No. 1, pp. 1-18. https://doi.org/10.20547/jfer1904101

Sahin, S., Yilmaz, O. (2009). Measuring Risk Tolerance: Does the Methodology Matter? *Eskişehir, Turkey: Paper Presented at the Anadolu International Conference in Economics*. https://www.researchgate.net/publication/241921171

Schwaba, T., Luhmann, M., Denissen, J.J., Chung, J.M., Bleidorn, W. (2018). Openness to experience and culture-openness transactions across the lifespan. *Journal of Personality and Social Psychology*, Vol. 115 No. 1, pp. 118-136. https://doi.org/10.1037/pspp0000150

Simmons, A.L. (2011). The influence of openness to experience and organizational justice on creativity. *Creativity Research Journal*, Vol. 23 No. 1, pp. 9-23. https://doi.org/10.1080/10400419.2011.545707

Sirri, E. and Tufano, P. (1998). Costly search and mutual funds flows. *The Journal of Finance*, Vol. 53 No. 5, pp. 1589-1622.

Spuchľakova, E., Michalikova, K.F. and Misankova, M. (2015). Risk of the collective investment and investment portfolio. *Procedia Economics and Finance*, Vol. 26, pp. 167-173, https://core.ac.uk/download/pdf/82349878.pdf

Vatamanescu, E.-M., Pînzaru, F., Andrei, A.G. and Zbuchea, A. (2016). Investigating SMEs sustainability with partial least squares structural equation modeling. *Transformations in Business and Economics (TIBE)*, Vol. 15 No. 3, pp. 259-273

Woods, S., Mustafa, M., Anderson, N.R., Sayer, B. (2018). Innovative work behavior and personality traits: examining the moderating effects of organizational tenure. *Journal of Managerial Psychology*, Vol. 33 No. 1, pp. 29-42. https://doi.org/10.1108/JMP-01-2017-0016

Zaremba, A. (2019). The cross section of country equity returns: a review of empirical literature. *Journal of Risk and Financial Management*, Vol. 12 No. 165, https://doi.org/10.3390/jrfm12040165

Appendix

The list below represents the questions in charged for gathering answers and making analysis of the study:

Part I: General questions:

1. Where are you from (Country)?
2. What is your gender?
3. To what age group do you belong to?
4. What is you education degree?
5. What is your average income/salary/wage per month?

Part II: Big five personality traits (rating questions):

1. “I often communicate with people, create new communications easily and maintain the relationships” for extraversion;
2. “I often organize my work in advance” for conscientiousness;
3. “I often in the bad mood and stressed when my plans are ruined” for neuroticism;
4. “I like to get new knowledge and get new experience if I can” for openness to experience;
5. “I follow with people's suggestions” for agreeableness.

Part III: Investment related questions (rating questions):

6. How often do you make investment decisions?
7. What are your preferences toward investment instruments?
8. How deep is your investment knowledge?
9. What is your level of risk tolerance?