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Master's Thesis

Cryptocurrency Awareness In Turkey

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DIPLOMA THESIS ASSIGNMENT

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Thesis title

Cryptocurrency Awareness In Turkey

Objectives of thesis

To evaluate the change in investment preferences of sample group in Turkey and show preference of cryptocurrencies as an investment tool.To determine whether there is a significant relationship between income level and interest in cryptocurrencies for sample group.This study aims to evaluate the sample group's usage purposes based on age groups.Which age groups prefer cryptocurrency investment, what are the reasons for preference?What are the advantages and disadvantages of cryptocurrency investments for sample group?
What is the motivation of buying cryptocurrencies?

Methodology

Main methodological tools of the thesis for the analysis of data will be applied quantitative approach by gathering data with survey.Questionnaire form created; It aims to measure the awareness of cryptocurrencies, the rate of use of cryptocurrencies and where consumers see cryptocurrencies as an investment tool.T-test and ANOVA analyzes will be applied to the data in order to determine whether there was a significant difference between the cryptocurrency ownership and demographic characteristics of the participants.

The proposed extent of the thesis

60 pages

Keywords

Cryptocurrency, Investment, Finance, Awareness

Recommended information sources

Ammous, S. (2018). Can Cryptocurrencies Fulfil the Functions of Money? The Quarterly Review of Economics and Finance, 38-51.

Aspembitova, A., Feng , L., & Chew, L. (2021). Behavioral Structure of Users in Cryptocurrency Market. Plos One, 1-19.

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Declaration

 I declare that I have worked on my master's thesis titled "Financial Analysis of Amazon" by myself and I have used only the sources mentioned at the end of the thesis. As the author of the master's thesis, I declare that the thesis does not break any copyrights.

    In Prague on 31.03.2023   _____

                                             Altan Kaan Ceylan

Acknowledgment

Cryptocurrency Awareness In Turkey

Abstract

The development of technology and technological changes in the field of finance, individuals consumption and investment behaviors are changing. One of the developments that emerged with the effects of digital transformation on finance is the cryptocurrency and Blockchain system. A new financial system has emerged with a rapidly rising transaction volume on a global scale. Its increasing popularity in developing countries has made it possible to study the awareness of people in these countries towards new technologies. In Turkey, the interest in cryptocurrencies is growing rapidly. The aim of this study is to explain the investment tendencies towards the awareness and ownership of cryptocurrencies in Turkey. For this purpose, studies in the literature on cryptocurrency behavior and legislation are included and 236 cryptocurrency investors in Turkey, selected by purposive sampling method, were surveyed. The data were analyzed using SPSS software and evaluated using independent samples t-test and one-way ANOVA test. The research findings reveal the results of the sample group's interest in cryptocurrencies in relation to the research questions.

Povědomí o kryptoměnách v Turecku

Abstrakt

S rozvojem technologií a technologickými změnami v oblasti financí se mění spotřební a investiční chování . Jeden z vývojových trendů, které se objevily s digitální transformací v oblasti financí, jsou kryptoměny a systém Blockchain. Vznikl nový finanční systém s rychle rostoucím objemem transakcí v globálním měřítku. Jeho rostoucí popularita v rozvojových zemích umožnila zkoumat povědomí lidí v těchto zemích o nových technologiích. V Turecku zájem o kryptoměny rapidně roste. Cílem této studie je vysvětlit investiční tendence týkající se povědomí o kryptoměnách a jejich vlastnictví v Turecku. Za tímto účelem jsou do studie zahrnuty studie v literatuře o chování a legislativě v oblasti kryptoměn a bylo dotazováno 236 investorů do kryptoměn v Turecku vybraných metodou účelového výběru. Data byla analyzována pomocí softwaru SPSS a vyhodnocena pomocí t-testu nezávislých vzorků a jednosměrného testu ANOVA. Výsledky výzkumu ukazují zájem výběrové skupiny o kryptomenach ve vztahu k výzkumným otázkám.

Klicova slova: Finance, Investice, Kryptoměny, Blockchain, Peníze, Psychologie, Tendence, Povědomí, Zákon, Zdanění

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List of abbreviations

CAGR:COMPOUND ANNUAL GROWTH RATE

GDPR:GENERAL DATA PROTECTION REGULATION

KVK:CORPORATE TAX LAW

1.Introduction

Cryptocurrencies have rapidly gained popularity in recent years as a decentralized alternative to traditional financial systems. These digital currencies operate on a blockchain technology, allowing for secure and transparent transactions without the need for intermediaries such as banks or governments. As a result, cryptocurrencies have gained significant attention from individuals and institutions alike, with many considering them as a potential store of value or investment opportunity.

In Turkey, cryptocurrency adoption has been on the rise, with a growing number of individuals and businesses starting to explore the use of digital currencies. However, despite the increasing interest in cryptocurrencies, there is still a lack of awareness and understanding of this technology among the general public. Additionally, the regulatory framework surrounding cryptocurrencies in Turkey is still in its early stages, which may impact the future adoption and growth of this technology in the country.

This thesis aims to provide a comprehensive analysis of the level of awareness and understanding of cryptocurrencies in Turkey, with a particular focus on factors that contribute to their adoption or rejection. The study will examine the attitudes and perceptions of individuals towards cryptocurrencies, exploring the reasons why some are more willing to embrace this technology than others.

Moreover, the thesis will analyze the current regulatory framework governing cryptocurrencies in Turkey and how it affects the market's growth and development. The study will investigate the challenges faced by individuals and businesses in accessing and using cryptocurrencies, as well as the potential risks and benefits associated with their use.

Finally, by examining the current state of cryptocurrency awareness in Turkey, this thesis aims to provide insights into the future of this technology in the country and its potential impact on the financial sector. The research findings will contribute to a better understanding of the cryptocurrency market in Turkey, highlighting the opportunities and challenges that lie ahead. Ultimately, this thesis will provide valuable insights for policymakers, regulators, and businesses looking to navigate the rapidly evolving landscape of digital currencies in Turkey.

2.Objectives-Aims and Hyphothesis

2.1 Objectives:

1.   To investigate the level of awareness and understanding of cryptocurrencies among the general public in Turkey.

2.   To explore the attitudes and perceptions of individuals towards cryptocurrencies and their potential for use in financial transactions.

3.   To identify the factors that contribute to the adoption or rejection of cryptocurrencies in Turkey.

4.   To analyze the current regulatory framework governing cryptocurrencies in Turkey and its impact on the market's growth and development.

5.   To examine the challenges faced by individuals and businesses in accessing and using cryptocurrencies in Turkey.

6.   To assess the potential risks and benefits associated with the use of cryptocurrencies in Turkey.

2.2 Aims:

1.   To provide a comprehensive understanding of the cryptocurrency market in Turkey and its potential for growth and development.

2.   To highlight the opportunities and challenges associated with the adoption and use of cryptocurrencies in Turkey.

3.   To contribute to the existing literature on cryptocurrency awareness and adoption in Turkey.

4.   To provide policymakers and regulators with insights into the regulatory and legal challenges associated with the use of cryptocurrencies in Turkey.

5.   To provide businesses with insights into the potential risks and benefits of using cryptocurrencies in Turkey, as well as the challenges associated with their adoption and implementation.

2.3 Hyphothesis

1. Hypothesis 1: The level of awareness and understanding of cryptocurrencies among the general public in Turkey is low, and this is a significant barrier to their adoption and use.

2. Hypothesis 2: Individuals with a higher level of education and income are more likely to be aware of cryptocurrencies and to use them for financial transactions in Turkey.

3. Hypothesis 3: The lack of a clear regulatory framework for cryptocurrencies in Turkey is a significant barrier to their adoption and use, and the development of such a framework would lead to increased adoption and use.

4. Hypothesis 4: The perception of cryptocurrencies as a risky and speculative investment is a significant barrier to their adoption and use in Turkey.

5. Hypothesis 5: The availability of user-friendly and accessible platforms for buying, selling, and using cryptocurrencies is a key factor in their adoption and use in Turkey.

6. Hypothesis 6: The increasing use of cryptocurrencies in Turkey is driven by a desire for greater financial independence and control, particularly among younger generations.

7. Hypothesis 7: Do the behavioral finance tendencies of cryptocurrency investors differ by gender?

8. Hypothesis 8: Do the behavioral finance trends of cryptocurrency investors differ in terms of income level?

9. Hypothesis 9: Do the behavioral finance tendencies of cryptocurrency investors differ in terms of age?

10. Hypothesis 10: Do the behavioral finance trends of cryptocurrency investors differ in terms of the date they heard about cryptocurrencies?

2.4 Methodology

In this study, it is aimed to analyze the cryptocurrency awareness by using both quantitative and qualitative methods. Objective of this study is to measure the awareness of people living in Turkey to determine if they are using cryptocurrencies and if they intend to use it in the future. In addition, it aims to determine whether cryptocurrency ownership differs according to individual demographic characteristics, and which cryptocurrencies individuals know and use. Scales were obtained from various sources and compiled according to research objectives (Arıca, R. and Kozak, R. 2020, Ruhana. and others. 2019 and Christopher S. et al. 2019).Data obtained from survey. Data analyzed by IBM SPSS Statistics Version 23.T-test and ANOVA test applied for results in order to evaluate inputs.Since it is difficult to reach the entire universe due to time and cost constraints, it was decided that creating a representative sample of the universe would be appropriate. Among the sampling options, simple sampling and survey methods were preferred.

2.5 Data Type and Collection Procedure

The purpose of this survey is to measure the awareness of people living in Turkey to determine their opinion about whether they use it and whether they want to use it in the future. In addition, it aims to determine whether ownership of cryptocurrencies differs according to individual demographic characteristics and which cryptocurrencies are better known and used by individuals. Data were collected from users using a survey method. A questionnaire form has been created. It aims to measure cryptocurrency awareness, cryptocurrency usage, and where consumers see cryptocurrencies in the future. The questionnaire was administered online to participants for approximately 3 months. A sample of 236 participants residing in Turkey was included. The data obtained were analyzed using statistical methods.

2.6 Limitations of Research

The survey included cryptocurrency users and citizens of Turkey from different cities in Turkey. The aim is to participate in a survey open to anyone who has ever heard cryptocurrencies. Care was taken to include participants of different gender, age, education and income levels in the study. The survey included cryptocurrency users from all regions of Turkey. On the one hand, anonymous identities make cryptocurrencies difficult to access for users.

3.Literature Review

3.1 What is Blockchain?

Blockchain is a decentralized digital ledger technology that records transactions across a network of computers. It was originally developed as the underlying technology for the cryptocurrency, Bitcoin.In a blockchain, transactions are recorded in blocks and linked together in a chain. Each block contains a unique cryptographic signature, called a hash, that links it to the previous block. This creates a permanent and tamper-proof record of all transactions, making it nearly impossible to alter or remove data from the blockchain.(Nakamato,2008)

The decentralized nature of blockchain technology means that it operates without a central authority or intermediaries, such as banks. This eliminates the need for trust in a single entity and provides a secure and transparent way to transfer and store digital assets. (Uluyol ,2019)

Being the first application of blockchain technology, Bitcoin uses peer-to-peer technology to work without a central authority or bank. Transaction management and bitcoin distribution are collectively handled by the network. Bitcoin is open source. Its design is public, no one owns or controls Bitcoin, and anyone can participate. Bitcoin, thanks to its unique properties, enables very different payments that are not possible with other payment methods (Iansiti, Lakhani, 2017).

Blockchain is the decentralized trading of all Bitcoin transactions. This means there is no single registry. The decentralized nature of blockchain also helps ensure security. The Bitcoin community collectively agrees on all transactions, so there is no central authority that can block or reverse payments. However, blockchain technology can be applied to many other areas, not just Bitcoin. (Hampton, 2016).

The term financial technology(Blockchain) is used to describe a range of innovative business models and technologies that have the potential to transform the financial services industry (Üzer, 2017).

Financial technology(Blockchain) projects in areas such as payments, insurance, planning, finance, blockchain, investment, data services and security. Powerful financial institutions such as large banks, technology companies, and infrastructure service providers play an active role in the financial technology ecosystem. Financial institutions are becoming increasingly technology-oriented structures. Big tech companies use social media and email. Peer-to-peer payment service. The number of fintech companies is increasing every year, with the most concentrated activity being retail payments.(Dietz et al., 2015).

3.1.1 Advantages Of Blockchain

3.1.1.1 Improved Transaction Accuracy

Blockchain transactions must be validated by multiple nodes, thus reducing errors. If there is an error in the database on one node, other nodes detect the error differently.In contrast, traditional databases make it more likely that someone will make a mistake. Additionally, each asset is identified and tracked separately on the blockchain ledger, eliminating the possibility of double spending.(Rodeck, Curry, 2018).

3.1.1.2 No Need for Intermediaries

Blockchain allows two parties in a transaction to confirm and complete something without a third party involved. (Rodeck, Curry, 2018).

It has the ability to bring greater efficiency to all digital commerce, to increase financial empowerment to the unbanked or underbanked populations of the world and to power a new generation of internet applications as a result.(Rosic,2017).

3.1.1.3 Security

In theory, a decentralized network like blockchain makes it nearly impossible for anyone to conduct fraudulent transactions. Participating in fake transactions requires hacking all nodes and changing all ledgers. While not necessarily impossible, many cryptocurrency blockchain systems use proof-of-stake or proof-of-work transaction verification methods.(Tapscott,2017)

3.1.2 Disadvantages Of Blockchain

3.1.2.1Transaction Limit

Since blockchain relies on a larger network to approve transactions, there is a limit of speeds of movement. Additionally, network speed issues can occur as the number of transactions increases. Scalability is an issue until this is improved.(Pirincci,2018).

3.1.2.2 Energy Costs

The cost of getting started with cryptocurrency mining has risen since 2013, and private are constantly increasing due to the computational challenges that require the use of dedicated hardware .(Blandin et al. 2020). These costs basically consist of three element numbers. These are energy costs, maintenance costs (infrastructure costs and refrigeration equipment), and equipment purchase and replacement costs (Clark, Greenley, 2019). Hardware accounts for the largest proportion of these cost items at 45%. procurement costs and infrastructure development, and energy costs ranks second with a share of total costs of 42% (Blandin et al, 2020). Other cost items such as internet, maintenance and cabling levels (De Vries, 2018).

3.1.2.3 Asset Lost Risk

Some digital assets are protected with cryptographic keys. Cryptocurrencies in Blockchain Wallets. This key should be carefully protected. "If the owner of a digital asset loses the private cryptographic key that gives them access to their asset, currently there is no way to recover it the asset is gone permanently." (Rodeck, Curry, 2018).

3.1.2.4 Illegal Activity Potential

Blockchain decentralization increases privacy and confidentiality, making it attractive to criminals. Tracking illegal transactions on the blockchain is more difficult than tracking bank transactions tied to names.(Rosic,2017)

3.2 Market Share of Blockchain

It's difficult to accurately determine the market share of the blockchain industry as it is a relatively new and rapidly evolving technology. However, the market for blockchain technology is growing rapidly and is expected to continue to grow in the coming years. (Cetinkaya, 2018)

Cryptocurrencies are changing the way we think about money because they are created entirely digitally. The main reason for the growing interest in and demand for cryptocurrencies is that cryptocurrency-related transactions are performed in large-scale security chains that are not centrally connected (decentralized) and rely on the trust of third parties. is the fact that you don't need Therefore, thanks to blockchain technology, the investor's identity is stored in a large security ring and cannot leave the blockchain chain in any way. If the records processed in the block are hacked in some way, all information will be deleted until it reaches the other party, protecting the security of information from third parties. Modifying a block would require modifying every block that has been copied billions of times, which is almost impossible. Cryptocurrency transactions that take place within such massive security systems increase trust in digital currencies. Apart from the advantages of cryptocurrencies in terms of reliability, another important feature that makes them more attractive is the fact that cryptocurrency transactions are free and very quick to execute. (Cetinkaya, 2018)

According to a report by European Central Bank,the global blockchain market was valued at $1.2 billion in 2018 and is expected to reach $23.3 billion by 2023, growing at a CAGR of 80.2% during the forecast period.(Kaplanhan,2018).

In terms of specific applications, the financial services sector is currently the largest adopter of blockchain technology, followed by the government sector. The supply chain management and healthcare sectors are also expected to see significant growth in the adoption of blockchain technology in the coming years. It's worth noting that the market share of blockchain technology

may be impacted by various factors such as regulatory changes, technological advancements, and competition from alternative solutions.(Hepkorucu, Genc, 2017)

(Atik et al.,2015) They studied the effect of Bitcoin on exchange rates. In their study, using daily price data from 2009 to 2015, Bitcoin and the Japanese yen influence each other with a lag, and a one-way causal relationship between the Japanese yen and Bitcoin. It turns out that there is (Hepkorucu , Genç ,2017) studied Bitcoin price stability and found that the Bitcoin price is determined by the shocks that hit the market.

Digital currencies have come a long way in the last decade and have been used in many areas of the real economy. Digital currencies are used for a variety of purposes, especially international money transfers, buying and selling of goods and services, and as a tool for savings and investments. An increase in the number of people using digital currencies and the number of countries accepting these financial instruments as currency has led to the formation of digital currency exchanges. The trading volume and market value of these exchanges clearly demonstrate the importance and impact of digital currencies (Çütcü, Kılıç, 2018).

Cryptocurrencies are valued as indexed foreign currencies in financial markets. All currencies have a base, but it is known that cryptocurrencies do not. Most governments are said to block cryptocurrencies due to their high volatility (Kamacı, Özden,, 2019). Eliminating volatility in cryptocurrencies is an important issue as well as a concern for investors in terms of confidence and risk in the investment space.

It is a fairly new situation that cryptocurrency technology has started to appear in the economics literature. One of the first studies in this area was the European Central Bank Report on Cryptocurrencies (2012). Using Bitcoin and Linden dollars as examples, the report focuses on the impact of cryptocurrencies on the use of fiat currencies. (Yermack, 2013), in his study of Bitcoin's volatility, states that changes in its price have weakened Bitcoin's usefulness as a currency, thus making it a speculative investment vehicle rather than a currency.

Used as a digital currency, Bitcoin differs from traditional currencies in many ways and has many advantages. The most important operational feature is to enable peer-to-peer cash system. Blockchain technology offers significant benefits in terms of significantly reducing transaction costs and shortening transaction processing times. Furthermore, being the best-known and most-used digital currency in blockchain technology, the creation, acquisition, collection, and use of Bitcoin, also known as the "medium of digital exchange," is possible electronically. (Raiborn, Sivitanides, 2015)

The rapid development of technology is affecting not only the financial systems and financial markets of each country, but also the whole world, resulting in diversification and changes in the instruments used in these markets. With this technological development, traditional money began to replace digital or virtual money. In particular, with the use of Bitcoin in 2009, interest in cryptocurrencies has skyrocketed so far, and the transaction volume and market value of cryptocurrencies, especially Bitcoin, has increased sharply (Karaagaç,Altınırmak, 2018).

Yang (2019) used behavioral misconceptions to try to explain cryptocurrency market anomalies, and his research yielded strong evidence for price equilibrium in cryptocurrency markets. On the other hand, weaker insights were obtained for price changes and risk-based anomalies.

3.3 Government Intervention and Tax Policy

With the development of technology, the popularity of cryptocurrencies has increased significantly since 2008.Cryptocurrency in a nutshell; They are the currencies in which the original encryption is used in its structure. So cryptocurrencies; Although it does not exist physically, it represents a digital data with money characteristics. It is very difficult to control the currencies in question by any state or authority (Günay ,Kargı,2018)

(Karakoc, 2017) research understanding the legal status of Bitcoin has also been conducted examines whether cryptocurrencies are assets in the legal sense.

(Ates ,2016) discussed how cryptocurrencies should be included in accounting. In his opinion, regulations on bitcoin accounting records, tax issues and the legal status of bitcoin exchanges should be made as soon as possible.

(Sontakke, 2018) states that cryptocurrencies legality is defined by states, thus reducing price volatility and cryptocurrencies will soon become an asset class.

3.3.1 Taxation On Trading And Value Increasing Gains Of Cryptocurrencies

Considering the taxation of cryptocurrencies in Turkey , it would be correct to make a classification according to who, how and through what processes earns income from these currencies. (Dogan,Buyrukoglu,Kutbay, 2018). Thus, three groups can be identified that generate income from cryptocurrencies. These; Those who earn income from trading (trading) and appreciation of cryptocurrencies, those who earn income from the production of cryptocurrencies (mining), and those who receive commissions from brokerage in the buying and selling of cryptocurrencies. Among those earning income from cryptocurrencies, the most important group is "those who earn

income from trading and gaining value". In this group, we are faced with a different tax system and establishment process, depending on whether natural persons or legal entities (institutions) earn income and crypto assets are money, securities or property. Income from cryptocurrencies, It is emphasized that it is subject to different tax structures depending on whether it is obtained from time to time and continuously within a commercial organization. (Karakoc , 2017).

3.3.2 Taxation On Income Of Real And Legal Persons Obtained From Cyrptocurrencies

The taxation of cryptocurrency income for individuals and organizations is covered under separate headings below, depending on whether they are treated as "money" or "securities".

3.3.2.1 Taxation Of Crypto Assets As Money

If cryptocurrencies are accepted as a form of payment or foreign currency/foreign currency, the coins are not included in the GDPR income category and are therefore not subject to income tax. (Dizkırıcı , Gökgöz, 2018) . After crypto assets are accepted as money by the monetary authorities, it will be inevitable that both the Central Bank Of Turkey will announce the Turkish lira equivalents of these currencies and these exchange rates will be accepted as exchange rates by the Ministry of Finance. (Doğan, Buyrukoğlu, , Kutbay, 2018). It is inevitable that cryptocurrencies and exchanges, which are software, are virtual. On such exchanges, the value is determined instantly and 24 hours a day in USD. On the last day, which is accepted as the valuation date of cryptocurrencies, it can be thought that it would be a more correct approach to take the weighted average dollar price of the most traded stock market and evaluate it over the Turkish Lira rate. We can also mention that our country has a virtual exchange where cryptocurrencies are traded.These exchanges face security and recognition and auditing issues. The same valuation rules apply when cryptocurrencies that are considered "money" are held as assets by legal entities. In other words, stock markets are valued at market value and can rise or fall as a result. If cryptocurrencies are traded, the proceeds have corporate income status. (Unalan,, Caskurlu, 2021) Since all corporate earnings are taxed according to the commercial earnings provisions, all income and earnings from cryptocurrencies are subject to the provisions of the Corporate Tax Law (KVK). (Günay, Kaplanhan, 2018).

3.3.2.2 Taxation Of Crypto Assets As Securities

The Turkish tax system provides two types of income and capital gains. Revenues from securities on the one hand, capital gains on the other. (Dizkırıcı , Gökgöz, 2018) All kinds of securities include the gains obtained from the securities of all kinds of capital market instruments issued in accordance with the provisions of the Capital Market Law. If a cryptocurrency is considered a security, It would be more correct to talk about the increase in the value of this security and to tax it according to the provisions of tax instead of will. (Unalan, G., Caskurlu, E. 2021) When institutions buy and sell cryptocurrencies in the form of securities, their income comes in the form of commercial profits. All of this income is subject to corporate tax. It is also subject to the clause valuation regulation. This reflects the valuation of crypto assets on the balance sheets of taxpayers and institutions. This means that if crypto securities are not sold, there will be capital gains and will be taxed. The same valuation rules apply to corporate taxpayers. (Günay, Kaplanhan, 2018).

3.4 Investor's Investment Tendency

Economics aims to use scarce resources as efficiently as possible (Dinler, 2003). Humans, defined in classical economics as Homo economicus, need to use resources with minimal effort and achieve maximum output (Pekin, 2012).

Homo economicus is rational in his decisions and actions. It is assumed that all information is available. Therefore, you have the opportunity to choose the most favorable option for yourself. Traditional financial methods, which assume rational behavior when investing, are based on the premise that maximum utility theory works in efficient markets. However, it has been observed that the market works against this basic assumption, producing irrational effects (Şimşek, 2018).

The idea that humans tend to be irrational has been the subject of significant academic debate in recent years because it conflicts with the "rational human" model on which economic theory is based. The concept of rationality is based on the assumption that the human brain is perfectly capable of processing information (Daniel, Titman, 1999).

 Therefore, under uncertainty and risk, people do not always choose rational options. In fact, people's irrational tendencies underlie crises and setbacks in the financial system (Shiller, 2019). Individuals have an urge to make decisions with a sense of complacency rather than maximizing utility. The inadequacy of conventional methods of describing these impulses and actions is a major criticism from the field of behavioral finance. (Bostancı, 2003).

Different attitudes and behaviors are ignored by traditional financial theory. Behavioral finance aims to explain observed events in financial markets using an interdisciplinary approach. We use scientific data from psychology, sociology, and neuroscience to explain the underlying causes of investor behavior (Oktay, 2018).

Contrary to the economic assumptions of expected utility theory, the person of expected utility theory is an entity with intuitive choices and irrational behavior in the decision-making process (Kahneman, 2011).

Humans are distinguished from economics on the basis of emotions. They always lack the ability to choose the best. Expectation theory, which deals with the irrational aspects of people, is considered a fundamental component of behavioral finance (Aydın, Agan, 2016).

Kahneman and Tversky's work in this area was awarded the Nobel Prize in Economics in 2002 (Pompian, 2006).

In the ensuing period, research on behavioral finance gained international prominence. All aspects of the complex structure of the human brain have yet to be elucidated. Therefore, it is important to bring together interdisciplinary studies to understand attitudes and behaviors. Therefore, it is useful to investigate brain functions in cognitive and decision-making processes through research in the field of neuroscience. (Henry et al., 2018) found that 64% of Canadians had heard of cryptocurrencies in 2017, while a cryptocurrency survey conducted by the Bank of Canada's financial division found that All he had was 2.9%. Another finding of the study is perceptions of cryptocurrencies. As a result, we found that individuals differ according to employment status, education level, and gender.

In a study for academics, (Uluyol 2019) explored academic perceptions and investment conditions in investment instruments, and also mentioned cryptocurrency perceptions and investment conditions in this context. The survey found that only 1.99% of participants invested in cryptocurrencies, with a fairly low level of academic and knowledge about investing in the cryptocurrency Bitcoin.

(Aspembitova et al.,2021) studied the user behavior structure in the cryptocurrency market and analyzed Bitcoin and Ethereum users. According to the survey results, Bitcoin users tend to be short-term investors and optimistic, while Ethereum users tend to be long-term investors and a more pessimistic stance.

(Cetiner et al., 2019) conducted an analysis that explains the irrational behavior in financial decision-making of individual investors with behavioral financial tendencies. The study found no significant associations between variables of cognitive dissonance, overconfidence, and imitation/herding behavior and gender, age, education level, income level, and marital status.

To interpret investor behavior, it is also important to have a correct understanding of regional reactions. Sudden decisions, risky investments, indecision, regret, sadness, etc. All emotions arise from discussions of these different regions (Lehrer, 2019).

Kahneman and Tversky offer a similar approach to the patterns of cortical and limbic parts of the brain presented by neuroscience in explaining decision-making and behavioral processes in the brain (Taleb, 2020).

The human brain differs from other animals when it comes to thinking and reasoning, but shares similar traits when it comes to feeling and instincts. According to Kahneman and Tversky, the brain makes decisions through a dual system. System 1 represents an emotional, fast-acting, automated system that requires as little effort as possible (Hollingworth, Barker; Taleb, 2020).

System 1 recognizes familiar phenomena that are easily recognizable. System 1 solves many of the decisions we unconsciously use in our daily lives, such as identifying colors, comparing the heights of two people, and interpreting emotions from simple facial expressions. System 2 is used for tasks that require thought and concentration and activities that require effort (Hollingworth & Barker). For example, given the answer 19 x 37 = ? System 2 is used when driving in traffic, playing chess, or trying to read a book in a noisy environment. The second system works in situations that require concentration and mental effort. Decisions are made through the influence and interaction of these two systems. When System 1 attempts to respond to impulses, System 2 creates control mechanisms to ensure self-control (Kahneman, 2011).

People think they act logically and consciously (using System 2), but they often act intuitively and emotionally. That is, we are using System 1 (Taleb, 2020). Therefore, most of the mistakes are caused by prioritizing intuitive and emotional factors over reasoning and conscious decisions.System 1 is programmed to think fast, which makes everyday life easier. However, it can also lead to significant errors by creating shortcuts and biases (Taleb, 2020).

In summary, behavioral finance, which involves incorporating cognitive and emotional factors into decision-making processes, aims to understand individuals' economic attitudes and behaviors (Oktay, 2018).

Due to mental shortcuts and prejudices, individuals cannot always maximize utility. You trade on cognitive biases without even realizing it. They try to facilitate the decision-making process, but this leads to erroneous judgments (Tomak, 2011). Cognitive, emotional and social tendencies affecting attitudes and behaviors are explained in the next section.

This part of the study examines investor trends in behavioral finance under three headings:

Cognitive, emotional and social tendencies. Included in the study to analyze the behavioral trends of cryptocurrency users in Turkey. The human brain cannot systematically analyze data like a computer. This is why the brain looks for simplifications and shortcuts when too much data has to be analyzed (Ede, 2007).

Kahneman revealed that people use some shortcuts when making decisions or understanding complex situations. Shortcuts lead to the individual's inability to comprehensively and accurately interpret the current situation. Therefore, decisions that deviate from rationality occur (Sefil, Çilingiroğlu, 2011).

The shortcut preferences and patterns that the brain uses in an effort to facilitate the decision process and reach the result from the information it has are called cognitive tendencies. Cognitive biases are systematic errors resulting from faulty reasoning (Pompian, 2006).

They can have a direct impact on decisions and behaviors. Therefore, they have an important place in explaining irrational investor behavior. In this study Overconfidence Bias, Representativeness Bias, Anchoring Bias, Cognitive Dissonance, Availability Bias, Illusion of Control, Self-Attribution Bias, Conservatism Bias, Ambiguity Aversion Bias, Mental Accounting Bias, Confirmation Bias, Hindsight Bias, Recency Effect, Framing Bias and Familiarity Bias, are discussed. Cognitive biases will be discussed comprehensively in the following sections of the study. Another element that helps to explain irrational investor tendencies within the framework of behavioral finance is emotional tendencies. Emotional tendencies, which are based on impulse and intuition, can lead to optimistic expectations even when the indications are otherwise (Pompian, 2006, p. 44; Şimşek, 2018).

There are 5 emotional tendencies in the study: Endowment Bias, Self-Control Bias, Optimism Bias, Loss Aversion, and Regret Aversion. People interact with the society they live in. For this reason, the attitudes and behaviors of the individual bear traces of the general judgments of the society in which they live. As a subset of general judgment, investors are also sensitive to the markets they live in and make comparisons by following the community in their predictions (Aydın & Ağan , 2017).

Social trends allow us to understand and interpret the effects of the judgments of the community on investor behavior. Technological developments facilitate communication and data can be shared rapidly. It is observed that cryptocurrency investors also use new communication channels intensively and communicate instantly through these networks. Therefore, the current social interaction among investors is intensifying day by day. The study aims to examine the impact of communities on cryptocurrency investor behavior and discusses 2 social trends, namely Herd Behavior and Information Cascade.

3.4.1 Overconfidence Bias

When individuals overestimate their abilities and knowledge, they tend to overestimate themselves (Thaler, De Bondt, 1994). People who are overconfident about their knowledge and skills are less susceptible to external factors. On the other hand, it is known that people who lack self-confidence are more susceptible to external factors (Kagıtcıbaşı, 2012).Case studies show that individuals make optimistic predictions about themselves and this sentiment makes them more likely to take risks (Aydın, Agan, 2016). For investors, overconfidence can make them feel that their investments are generating more returns than others. However, if information is not properly analyzed, risks may be interpreted as lower than they actually are, resulting in losses (Kara, 2005). (Chen et al., 2007) examined the behavioral trends of Chinese investors. The research shows that investors have three main behavioral tendencies. They tend to sell rising stocks and hold falling stocks. They expect past earnings to determine future earnings.

3.4.2 Representativeness Bias

Representativeness bias is an individual's belief that a situation accurately represents the population, regardless of sample size (Kahneman, 2011).This tendency manifests itself in many ways as we make financial decisions, define social groups, and determine our everyday preferences. Guessing someone in an unsuitable suit at first glance is an example of representativeness (Kağıtçıbaşı, 2012). From an economic perspective, representativeness bias leads to the illusion that cheap products are always of poor quality and expensive products are always of high quality. Companies with good stock market performance are considered successful. Firms that have performed well for five years are expected to continue trading profitably (Yalçın, 2009, Kabapelit, 2018). The law of decimals explained in the context of representativeness bias leads to unrealistic judgments. Positive judgments obtained with a limited number of observations can lead to errors due to overly optimistic expectations of the future (Kağıtçıbaşı, 2012, Kahneman, 2011).

Paradoxically, the human brain gives itself the illusion that it has a more consistent perspective when it has less information than it does when it has more information (Kahneman, 2011). Investors who believe in reversal of fortune ignore the fact that short-term movements are irrelevant to averages (Rabin, Vayanos, 2010). Believing that a series of gains or losses will be reversed leads investors to make irrational decisions.The best example to explain the hot-hand fallacy is the expectation that players who score consecutive points in basketball will continue to have warm hands and shoot accurately (Aydin, Agan, 2017)Over 90% of US basketball fans believe his hot hand is real (Lehrer, 2019). However, the hot hand fallacy is not real.

3.4.3 Anchoring Bias

The propensity of an individual to use another value as a basis for measuring or estimating an unknown value is called anchoring propensity (Lehrer, 2019). This tendency, also called anchoring tendency, can directly influence a person's decision-making behavior (Kağıtçıbaşı, 2012). The term anchoring is used for mental images of numbers that individuals consider when making predictions (Kahneman, 2011). During the decision-making stage, good anchors can be beneficial to individuals, while imperfect anchors can be harmful. Therefore, people who entrench different values for the same situation have different perceptions.However, a person cannot always choose the best for himself. Therefore, in situations like the anchor effect (Ariely, 2019,), they make irrational purchases. It has also been observed that investors often trade under an anchor effect. In financial markets, this effect is commonly seen in financial assets such as stocks and cryptocurrencies. Below are studies on the existence of anchor effects in cryptocurrency markets in the literature.

(Ariely. 2019) examined the impact of behavioral trends on cryptocurrency markets through a sensitivity analysis. The four categories in which cryptocurrencies are analyzed are cryptocurrency trends (positive or negative), fear, uncertainty, and current trends in financial markets (bullish or bear market). As a result of our research, we observed that cryptocurrency investors tend to stick to and engage in herd behavior. It also showed that investors are using cryptocurrencies as a hedging tool in the event of market uncertainty.

3.4.4 Cognitive Dissonance

People feel uncomfortable when they have conflicting ideas.The most common examples of cognitive dissonance include believing that tobacco is harmful to you but beneficial to you, ignoring the failures of your supporting team, and confusing and explaining the behavior of other teams. included (Baltaş, 2014). Introduced by Festinger in 1957, the concept of cognitive

dissonance refers to situations that occur when individual choices and actions contradict each other. Cognitive conflict can arise in an individual's conflicting actions, feelings, and beliefs (Festinger, 1962). Individuals strive to be consistent in their attitudes and actions (Kağıtçıbaşı, 2012).In this respect, cognitive dissonance is a situation that motivates individuals to change in order to resolve contradictions (Festinger, 1962). Financial cognitive dissonance can result in investors trying to align their investments with their views and expectations of the market in mutually supportive ways. He or she may attempt to resolve cognitive conflicts in a rational or irrational manner.

3.4.5 Availability Bias

Accessibility is the tendency of individuals to use the first piece of information that is easier to remember in the decision-making process (Kağıtçıbaşı, 2012)The universe perceived by memory does not exactly match the events experienced. This is because each individual has a different knowledge and emotional perception of their life (Kahneman, 2011). Therefore, different individuals interpret the same situation differently. Nevertheless, people assume that others have the information they have (Kağıtçıbaşı, 2012). They tend to look for answers that are accessible and closest to everyday life experience. For investors, availability bias can lead to erroneous decisions due to incomplete information. Investors don't always have all the information they need to make decisions. For this reason, they tend to use readily available information and overestimate its importance (Şimşek, 2018).

3.4.6 Illusion of Control

There are limited circumstances in which an individual can effect change within his or her potential. Nevertheless, the person often believes that they can influence events that occur. The illusion that random factors are at work and can influence outcomes in situations where intervention is impossible. is called the illusion of control (Kart, 2004)Investors can focus on their skills in the decision-making process with the confidence that they can control the market. Investors who have won in a rising stock market may attribute their success to their skill rather than believing they have seized the opportunity presented by the bull market (Küçüksille, Usul, 2012). In this regard, investors with the illusion of control tend to act cocky.

Even when circumstances are highly dependent on chance, investors' confidence in their ability to control events leads them to underestimate the associated risks (Simon, Houghton, Aquino, 2000).

Believing that you can control the market leads to overconfidence and overly optimistic market expectations based on that belief. However, increasing levels of knowledge and experience are known to induce the illusion of control (Küçüksille, Usul, 2012). People sometimes develop beliefs that their knowledge and experience allow them to better interpret and control common situations. At this point, we can say that all humans have the illusion of control, albeit at different levels. (Kart, 2004).

3.4.7 Self-Attribution Bias

Misjudgmental propensity is the tendency to attribute positive consequences of choices made by an individual to his or her knowledge and ability, and to attribute negative consequences to external or fortunate factors. (Ertan, 2007). Attributing erroneous results to external causes and not taking responsibility for them leads to the false belief that the right decisions will always be made. Encouragement builds confidence. Therefore, overconfidence and the tendency to misjudge mistakes are directly related. Those who misjudge mistakes and attribute decisions to external factors tend to deviate from correct judgments and behave impertinently.(Billett, Qian, 2008).

3.4.8 Conservatism Bias

Conservatism tendencies have been described as behaviors of protecting existing information, avoiding change in the face of new information, or rejecting current information (Birgili, 2013). From an investor's perspective, a conservative stance has a limiting impact on the correct assessment of current market conditions. Market data is constantly being updated, requiring investors to adapt to new conditions. Investor belief that asset price changes are not permanent and will return to previous levels can lead to market anomalies (Barak, 2008). Historical data-based valuations of new price levels can influence expectations and delay actual price levels (Birgili, 2013). The intensity of information flow can influence investor behavior. The more frequently market information is updated, the more conservative investors tend to be (Aytekin, Aygün, 2016).As the flow of information accelerates, existing information gains weight and the impact of new information on decision-making diminishes. However, if the renewed situation does not end in the short term and spreads over the long term, investors will begin to adapt to the new situation and abandon their conservative attitudes (Ritter, 2003).

3.4.9 Ambiguity Aversion Bias

If we view individuals as rational 'economy', the decision-making process should not be influenced by whether circumstances are predictable. He is expected to be indifferent to unpredictability. But human nature, prone to irrationality, invalidates this assumption. We will evaluate based on our knowledge and experience. Thus, contrary to theoretical expectations, people place more weight on predictable options when making decisions (Trautmann, Vieider, Wakker, 2008). Uncertainty avoidance is the hesitation to refrain from making decisions in unpredictable situations (Bayar, 2012). One of the powerful factors influencing uncertainty avoidance behavior is the level of uncertainty. Information about the predictability of probability distributions aids the process of interpreting situations. Therefore, uncertainty avoidance behaviors are observed more frequently as perceived uncertainty increases. Uncertainty-phobic investors tend to let go of financial assets such as stocks during recessions. more than other investors (Dimmock, Kouwenberg, Mitchell & Peijnenburg, 2016). Uncertainty-avoiding behavior therefore leads to lower participation in financial markets and lower valuations of investment opportunities such as equities in foreign markets. This leads to a limited investment portfolio that is not diversified (Dimmock, Kouwenberg, Mitchell & Peijnenburg, 2016).

3.4.10 Mental Accounting Bias

The concept of mental accounting can be compared to an accounting system that analyzes a company's cash flows with related accounts. Both individuals and businesses organize their decisions and outcomes in mental ways. (Kara, 2005). The trend towards mental accounting stems from efforts to facilitate trading by segregating accounts in the prefrontal cortex region of the brain, which plays a key role in decision making (Lehrer, 2019). The fact that individuals create separate accounts in their minds for each investment and evaluate these accounts independently prevents them from maximizing their returns.

3.4.11 Confirmation Bias

Self-validating tendencies refer to interpreting new information in a way that is consistent with one's own ideas and efforts to validate them (Oswald, Grosjean, 2004). In confirmation bias, when people get new information, they focus on what supports their beliefs. This situation of perceptual selectivity leads to attitudes that tend to reinforce existing knowledge (Aydın,Ağan, 2017).It is an attempt to transform updated information into something that supports itself instead of profiting from new information. Seeking evidence of existing knowledge leads not only to ignoring ideas

that contradict one's own thinking, but also to falsification behavior (Cipriano, Gruca, 2014). Searches can be developed to uncover wrong data that disagrees with your thoughts. This is because people try to avoid contradictions by supporting their own ideas (Kılıç, Kılınç, 2018). For this reason, investors who tend to self-validate may ignore current rational information and see it as "fundamental" as opposed to the information they have. Investors value the underlying information they believe in, but may ignore or downplay current data. This can lead to asset mispricing and market inefficiencies in financial markets (Cipriano & Gruca, 2014).

3.4.12 Hindsight Bias

The human brain cannot remember the entire past completely and accurately. Functionally imperfect, the brain is able to transform data about the past into compelling storylines and give them meaning (Taleb, 2020).Thoughts and statements such as "I expected this result" or "I expected it to be like this" are expressions that explain the fallacy of hindsight (Bayazıt Hayta, 2014) . Hindsight bias is also known as the tendency to believe that you know the outcome. This misunderstanding leads to a misunderstanding of the situation and an overestimation of one's own capabilities. It is also known that overconfidence is reinforced when people think their predictions match the outcome (Seppälä, 2009). The interrelated hindsight bias and overconfidence can prevent people from accurately assessing their own abilities, leading to the illusion that they are making better predictions than they actually are. Wisdom bias can lead to short-term, low-yielding investment decisions instead of long-term, high-yielding investment opportunities (Angı, Bekci, Karataş, 2016). The error of believing that actual conditions can be easily predicted and interpreted accurately and completely despite market uncertainties prevents investors from making rational decisions.

3.4.13 Recency Effect

Evaluating the information that an individual has in the decision-making process from oldest to newest or vice versa can result in different judgments. The effectiveness of initial information in the decision-making process has been described as a priority effect (Bayazıt Hayta, 2014). Studies examining the dominance effect have observed that when a person's traits are ranked from good to bad, they produce positive perceptions, whereas ranking them from bad to good produces negative perceptions. (Kahyaoğlu, 2011). Investors who have no information about the actual value of a stock are overly optimistic when the company they are investing in has recently risen, and overly pessimistic when its stock price has fallen (Offerman & Sonnemans, 2004). The information currently available to investors is decisive for their decisions. However, temporary

market ups or downs can have irrational consequences when decisions are driven by intense emotional swings.

3.4.14 Framing Bias

Framing bias results from individuals different perceptions of the same situation depending on how it is presented. Writing on a product on the market that he is %80 free instead of %20 is an example of the framing trend in marketing strategies (Lehrer, 2019). The effects of framing tendencies often occur when individuals are facing loss. This is because individuals believe that the severity of the grief caused by loss is greater than the joy caused by gain.

3.4.15 Familarity Bias

Situational familiarity depends on the ability to recall information based on ratings (Chira, Adams, Thornton, 2008). Memorable information (awareness) can play an active role in the decision-making process and guide decision-making. This indicates that investors tend to give weight to familiar assets, even if the risk of loss is relatively high (Bayazıt Hayta, 2014). He/she may believe that the assets he/she knows will be more or more accurately valued under market conditions. This situation leads to the formation of investment portfolios that are undiversified and underperforming (Baker, Ricciardi, 2014) Investor ignorance of the rational choices offered by global markets means that they miss out on profitable investment opportunities by concentrating on investments made up of known assets (Schoenmaker,Bosch, 2008).

3.4.16 Ownership Effect

All assets have a common market value, regardless of the value that a person attributes to that asset. However, due to the wealth effect, individuals attribute more value to the assets they have than to the assets they do not have (Sefil & Çilingiroğlu, 2011). This situation can be viewed as above market value pricing when a person decides to sell an asset they own. The most common examples of ownership influence are people who value their cars above market value, or homeowners who believe their homes are worth much more. From an investor's perspective, the ownership effect makes it difficult to determine real prices, making the market less efficient. Ownership Effect Investors Valuing stocks above market value can increase transaction costs and constrain liquidity (Furche, Johnstone, 2006). However, the ownership effect is directly related to loss aversion behavior, which explains why people do not respond to losses and gains at the same level (Avcılar, Canoğlu, Alkevli, 2019).

Losing what you own is worse than not being able to acquire an asset you don't own (a missed opportunity) (Reb, Connolly, 2007). Ownership effects are often used in company-provided "trial" apps and "30-day money-back guarantee" campaigns. Free trial application. It creates a feeling of giving up at any moment. But as you get used to the benefits you experience, the price of the product becomes attractive. Even within 30 days, return campaigns show behavior that avoids returns out of fear of taking away the profits made with the product (Ariely, 2019).

3.4.17 Self-Control Bias

Self-Control Bias explains that people tend to spend money today rather than saving for tomorrow. This means they save less and spend more (Riaz, Iqbal, 2015). The price of individuals failing to achieve long-term and overarching goals is the loss of future income (Pompian, 2012). In this context, self-restraint bias refers to the conflict between giving the choices made the necessary discipline and choosing alternative options. Students who want to pass exams should spend their time at work instead of social activities, and those who want to lose weight should stick to their diet. It is clear that they are often preferred over long-term profits (Pompian, 2012). Savings, regular work, diet, and exercise can only be managed and maintained on a regular basis. Self-regulatory mechanisms should be effectively utilized to ensure stability. By focusing on income that can be earned and spent today, investors can focus on short-term, high-risk returns. The cost in this case is to give up long-term gains. An example of this situation is shown today how much money should be saved for retirement.

Income not saved as a result of such decisions can lead to irrecoverable debt (Pompian, 2012). (Gathergood 2012) concluded in his study that people with low self-management skills and poor financial literacy tend to borrow excessively, making it more difficult to repay bank loans. In addition, these individuals benefit more from costly but easily cashable financial products (such as cash loans).

3.4.18 Optimism Bias

The fact that individuals focus on good events more than bad events and often make positive judgments is defined as the optimism bias (Kagitçibaşi, 2012). That is, predictions that expected future events will match your predictions and be positive. Overly optimistic attitudes appear to be beneficial to people in terms of "looking on the bright side and being positive", but it is often the case that individuals perceive their talents as superior to others and Risk may not be fully recognized (Aydin, Agan, 2016). A tendency to be optimistic is directly related to a tendency to

be overconfident. A major factor underlying overconfidence tendencies is that individuals perceive their knowledge and skills to be above average (Yalçın, 2009). As such, investors may come to believe that they can control market events. An optimistic attitude that investment decisions will lead to positive outcomes. Under the same conditions, it can create the illusion of more profit with less risk than other investors (Yıldırım, 2017). Some economists argue that a tendency towards over-optimism played a large role in the outbreak of the 2008 global crisis. Financial analysts and firms painted an optimistic outlook that the market would grow in contrast to the negative direction of the market before the crisis. Market realities were therefore avoided, risks were ignored, and the outcome was crisis.In contrast to the negative direction of the market before the crisis, financial analysts and companies generated optimism. (Sharot, 2011)

3.4.19 Loss Aversion Bias

Loss aversion is based on the expectation theory developed by Kahneman and Tversky. It refers to an individual's tendency to avoid risk in order to maintain the status quo. Individuals motivated to protect what they have prefer the least risky option by ignoring benefits (Yıldırım, 2017). A loss evokes more emotional reactions than the same win. The grief of an unexpected 5000 CZK loss is greater than the joy of an unexpected 5000 CZK gain. The human brain tends to overlook gains by assessing perceived losses first when making investment decisions (Thaler, 1999). Empirical studies also show that losses are weighted more heavily than gains. Emotional gains and losses are twice as high as he is at the same level. To get rid of the painful sense of loss, more needs to be gained (Schlomo,Thaler, 2004).

3.4.20 Regret-Aversion Bias

Regret is the sense of recognizing the consequences of right and wrong choices (Aydın,Ağan, 2017). delay in making decisions for fear of experiencing grief (Singh,Sikarwar, 2015). There are basically two ways to deal with feelings of regret arising from false expectations. The first aspect is regret for having acted and the second aspect is regret for not acting (Yıldırım, 2017). It includes both sides of the decision-making process (to act or not to act). The decision-making process first determines the current situation. A decision is then made to change or maintain the status quo. However, there is an important difference between his two options that stem from human nature. Human nature tends to maintain the status quo, and it tends to dislike change. Therefore, people who avoid decisions prefer to maintain the status quo and gravitate toward the familiar. For this reason, the pain of negative post-action consequences is greater than the pain caused by consequences that occur without affecting the current situation (Aren, 2019).In other

words, the regret of indifference is less than the regret of action. Avoiding or ignoring losses from bad investments by investors explains the behavior of avoiding financial regret (Jahanzeb, Muneer & Rehman, 2012, p. 535). For this reason, investors avoid realizing losses by letting go of loss-making investments and letting go of profitable investments to focus on realizing gains (Aydın & Ağan, 2017, p. 82). Holding an investment by ignoring or not accepting loss increases potential risk. Often it does more damage. If investors are optimistic about loss-making stocks rising, they will be more cautious about selling and holding stocks if the decline continues. However, realizing the loss can help prevent damage before it spreads. In this context, it can be argued that the tendency to avoid regrets can lead to a conservative attitude towards investing, ignoring the opportunities and alternative benefits offered by the market (Gazel, 2015, p. 423)

3.4.21 Herd Behavior

The concept of herd behavior, which originated in Keynesian theory in the 1930s, has appeared frequently as a variable in economic theory with the development of behavioral finance. Herd behavior is defined as following others and exhibiting similar group behavior rather than making independent choices of their own (Baddeley, 2010, p. 282). Herd behavior is also said to be the tendency to follow trends. A key takeaway from this attitude is the idea that the truth of the ideas a group shares is directly proportional to the number of individuals in the group. There is an understanding that what the majority accepts is the truth. Individuals under the influence of herd psychology tend to accept the thoughts and actions of their group without analysis, believing that by weakening themselves they will become less involved with the group. question them (Simsek, 2018).

An individual's urge to keep up with a crowd stems from the idea that the group has more information than they do and makes more accurate decisions. Group influence on individuals from an investor's perspective can result from similar information and preferences, shared investment plans, and shared risk assessments (Bayar, 2011, p. 151). In relation to behavioral finance, the influence of herd psychology on investor behavior in the market has been observed. Investors who make investment decisions with imperfect information tend to follow and accept as correct the actions of individuals and groups who have more information than they do. Investors should seek to access and analyze all available information when making decisions. Nevertheless, they can take shortcuts in decision making and refer to the actions of individuals and groups they trust (Şimşek, 2018, p. 39). Such investor behavior leads to a period of speculation (Baddeley, 2010, p. 282).

Moreover, the negative effects of herd behavior are evident even in times of financial crisis. Attitudes and behaviors developed in crowd psychology lead to market instability and anomalies. One of the literature studies investigating herd behavior in cryptocurrency markets is shared below. Silva et al. (2019) explored the impact of herd behavior on cryptocurrency markets. They analyzed the 50 most traded cryptocurrencies between March 2015 and November 2018. Herding behavior has been observed in cryptocurrency markets, especially Bitcoin, depending on transaction volume and risk. Herd behavior is common in cryptocurrencies, which have been speculative assets since their inception. New cryptocurrencies appear frequently, making it difficult to keep track of changing markets. Investors with incomplete information tend to follow other individuals and groups.

3.4.22 Information Cascade

Individuals who ignore the information they possess and accept their previous preferences as correct, mimicking and maintaining the same cause the formation of information cascades (Bikhchandani, Hirshleifer, Welch, 1992.). Information cascades are created by reducing situations with herd behavioral effects to general knowledge or behavior (Şamandar, Çömlekçi, 2019). The greater the impact of historical information obtained on the decision-making process, the more likely it is that the first decision will matter. In market conditions where access to information is restricted, investors often ignore available information, monitor past trades and imitate other investments (Hong, 2016). In this context, we can say that uncertain conditions and information asymmetries drive herd behavior. Information cascades are formed by herd behavior. The information cascade effect establishes new investment beliefs and ignores rational information (Ertan, 2007). Investing confidence will last for a while, but the cascade of information in the market won't last forever.When investors realize that information from previous trades is incorrect, prices and expectations are in a reasonable market position. converge on expectations.(Hong, 2016).

4 Practical Part

4.1 Data Collection Tool

The data collection tool in the study was determined as a questionnaire (online). The questionnaire was administered through the Google Forms website and the collected data were transferred to Excel.

The questionnaire form used in the research consists of two parts. The first section includes socio-demographic questions including gender, age, education level, employment status, and income level. In the second section, there are questions to explain cryptocurrency investor profiles and investment tendencies. In this section, "Have you heard of Cryptocurrencies?", "When did you first hear about cryptocurrencies?", "Which cryptocurrencies do you know?", "Do you have Cryptocurrency Investment?", "What are the reasons for investing in Cryptocurrency?", "What are the reasons for not investing in Cryptocurrency? " "What percentage of your investment portfolio consists of cryptocurrency investments?", "Do you think cryptocurrencies will be used in the future?", "For what purposes do you think cryptocurrencies will be used in the future?" 9 questions were asked to participants. The correlation between the answers of the participants was analyzed in the light of the answers given.

4.2 Analysis of Socio-Demographic Characteristics of Cryptocurrency Investors

The first part of the questionnaire includes questions to measure the socio-demographic characteristics of cryptocurrency investors. Participants were asked 5 socio-demographic questions in this section: gender, age, education level, employment status, income level. In the determination of socio-demographic characteristics.

Table 1: Socio-Demographic Structure of Cryptocurrency Investors

Sex	f	Percentage Share (%)
Male	178	75,4
Female	50	21,2
Other	8	3,4
Age	**f**	**Percentage Share (%)**
18-24	67	28,4
25-31	114	48,3
32-45	39	16,5
45>	16	6,8
Education Status	**f**	**Percentage Share (%)**
High School	29	12,3
Bachelor's Degree	156	66,1
Master's/Doctoral Degree	51	21,6
Employment Status	**f**	**Percentage Share (%)**
Working	183	77,5
Not Working	35	14,8
Not Working/Not Looking for a Job	18	7,6
Income Level	**f**	**Percentage Share (%)**
0-8500 TL	36	15,3
8501-12000 TL	28	11,9
12001-16000 TL	56	23,7
16001-20000 TL	64	27,1
20001-25000 TL	33	14
>25000 TL	19	8,1

Source:*Own Processing*

Figure 1: Distribution Chart of Cryptocurrency Investors by Gender
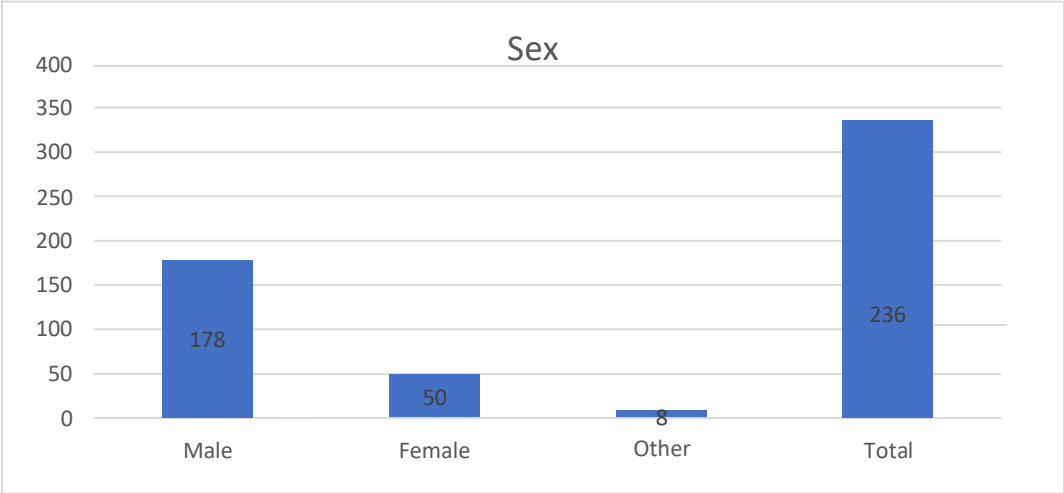
Source:*Own Processing*

According to the data obtained from the questionnaire study, the sociodemographic structure of a total of 236 people is shared in Table 4.1. 75.4% (178 people) of the participants are male, 21.2% (50 people) are female and 3.4% (8 people) are Others.Participants from other genders will not evaluate in the practical part due to lower level of participants. According to the gender profile of the participants, it is seen that men have a higher share in the use and knowledge of cryptocurrency. The histogram graph of the distribution by gender is shown in Figure 1.

Figure 2: Distribution Chart of Cryptocurrency Investors According to Age Groups
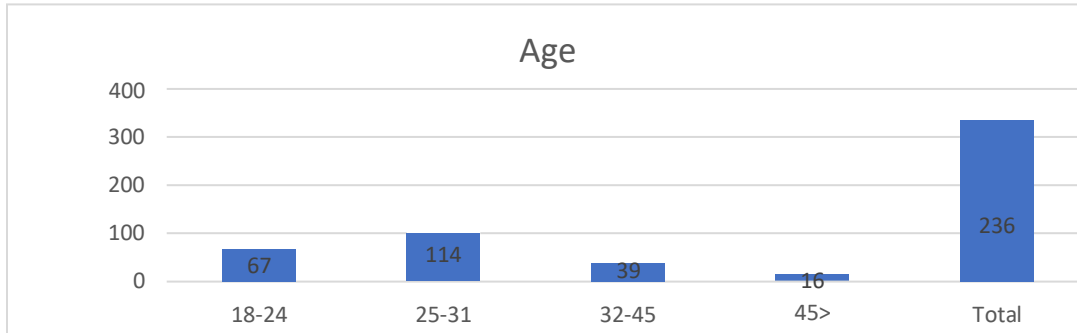
When the respondents are analyzed in terms of age groups, it is seen that 28.4% (67 people) are in the 18-24 age group, 48.3% (114 people) are in the 25-31 age group, 16.5% (39 people) are in the 32-45 age group and finally 6.8% (16 people) of the participants are in the age group above 45 years. Most of the participants are young people (25-31 age group). The age group 45 years and above was the age group with the least number of participants. The histogram graph of the distribution according to age groups is shown in Figure 2.

Figure 3: Distribution Chart of Cryptocurrency Investors According to Education Level
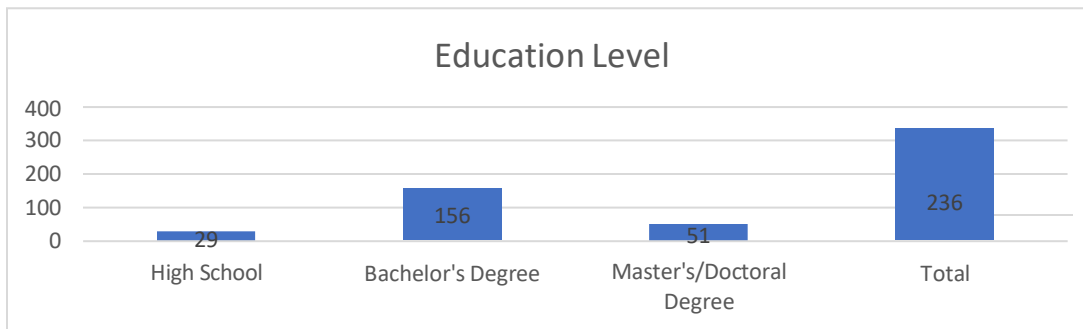
When we look at the distribution of the participants according to their educational level, 12.3% (29 people) are high school graduates, 66.1% (156 people) are undergraduate graduates, and 21.6% (51 people) are master's or doctoral graduates. It is seen that 87.8% of the participants have post-secondary education. The histogram graph of the distribution by education level is shown in Figure 3.

Figure 4: Distribution Chart of Cryptocurrency Investors According to Employment Status
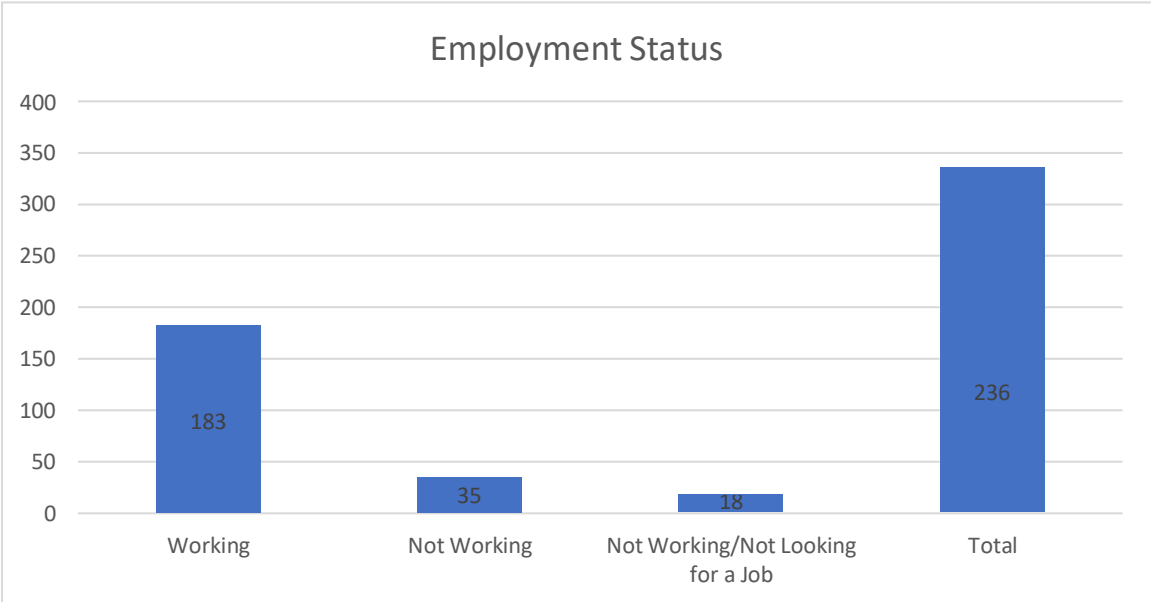
Employment Status

Source:*Own Processing*

When the employment status of the participants is analyzed, 77.5% (183 people) are actively working, 14.8% (35 people) are not actively working and 7.6% (18 people) are both not actively working and not looking for a job. Most of the participants in the study are actively working. Figure 4 shows the distribution of participants according to their employment status.

Figure 5: Distribution Chart of Cryptocurrency Investors by Income Level
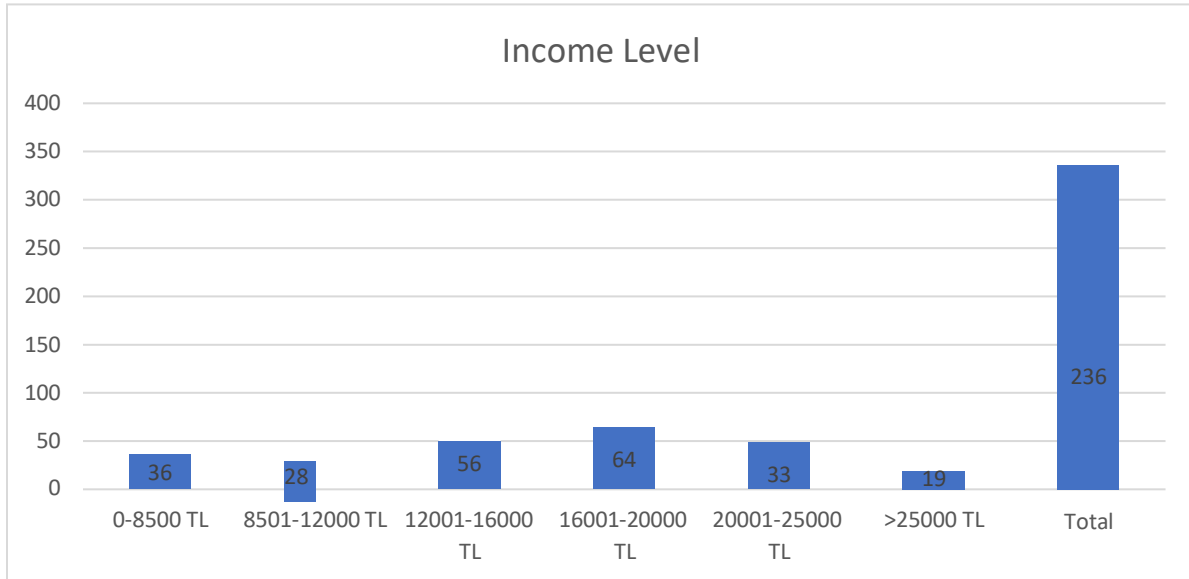
Source:*Own Processing*

In the survey, the income level was divided into 6 categories. 15.3% of the participants (36 people) have an income of 8500 TL or less. 11,9% (28 people) are in the income group between 8501-12000 TL, 23,7% (56 people) are in the income group between 12001-16000 TL, 27,1% (64 people) are in the income group between 16001-20000 TL, 14% (33 people) are in the income group between 20001-25000, 8,1% (19 people) are in the income group of 25000 TL and above. The histogram graph of the distribution according to income level groups is shown in Figure 4.5.

4.3 Analysis of Data on the Profile of Cryptocurrency Investors

Table 2: Distribution of Data on Investor Profile of Cryptocurrency Investors

Do You Ever Heard About Cryptocurrencies?	*f*	Percentage Share (%)
Yes	223	94,5
No	13	5,5
When You Heard About Cryptocurrencies For The First Time?	***f***	**Percentage Share (%)**
1 Year Ago(2022)	14	5,9
2 Years Ago(2021)	65	27,5
3 Years Ago(2020)	83	35,2
4 Years Ago(2019)	53	22,5
5 Or More Years Ago	12	5,1
I Have Never Heard About Cryptocurrencies	9	3,8
Do You Have Any Cryptocurrency?	***f***	**Percentage Share (%)**
Yes	148	63,5
No	85	36,5
What is the Percentage of Cryptocurrencies In Your Total Investment Portfolio?	***f***	**Percentage Share (%)**
Lower Than %10	34	14,4
Between %10 and %30	78	33,1
Between %30 and %50	28	11,9
More Then %50	10	4,2
I Do Not Invest	86	36,4

Source:*Own Processing*

According to the data obtained from the survey, a total of 236 cryptocurrency investors.The distribution of data on the profile is shown in Table 2.

Figure 6: Graph of Survey Participants About They Heard Cryptocurrencies Before

Do You Ever Heard About Cryptocurrencies?

Yes: 148
No: 85
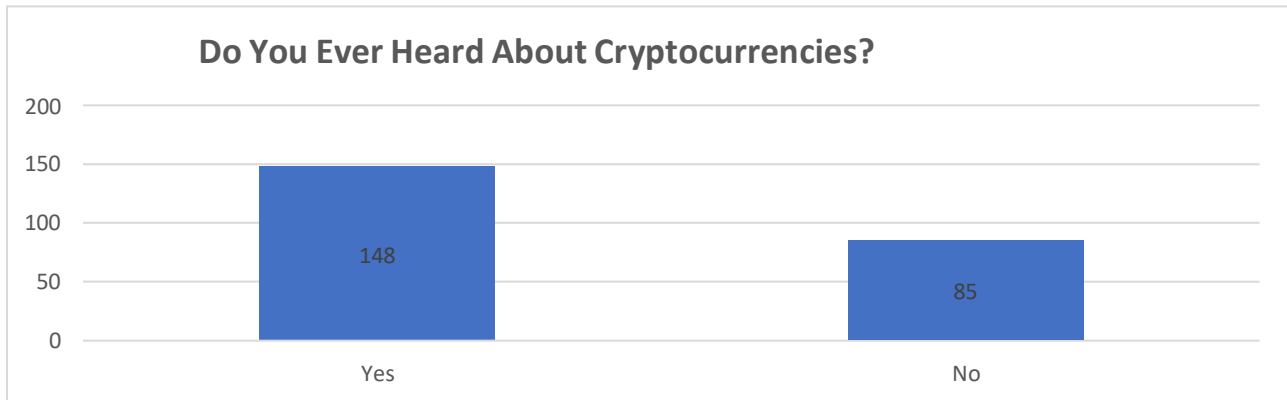
Source:*Own Processing*

In the second part of the survey, the first question is "Do You Ever Heard About Cryptocurrencies?". While 94.5% of the participants (223 people) have heard about cryptocurrencies before, 5.5% of the participants (13 people) have not heard about cryptocurrencies before.

Figure 7: Graph of Survey Participants' When They Heard About Cryptocurrencies

When You Heard About Cryptocurrencies For The First Time?

1 Year Ago(2022): 14
2 Years Ago(2021): 65
3 Years Ago(2020): 83
4 Years Ago(2019): 53
5 Or More Years Ago: 12
I Have Never Heard About Cryptocurrencies: 9
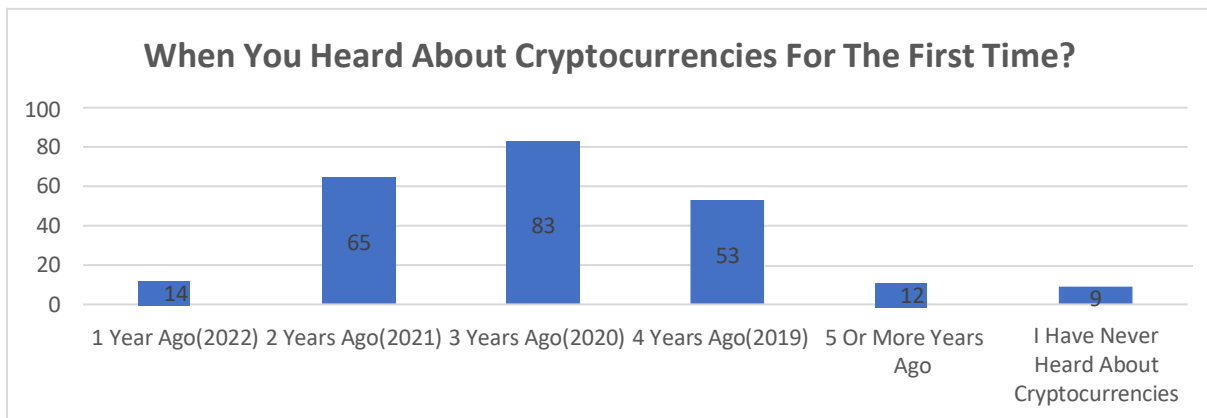
Source:*Own Processing*

In the second part of the survey, the second question is "When You Heard About Cryptocurrencies For The First Time?". 5.9% (14 people) of the participants stated that they have known about cryptocurrencies for 1 year or less than 1 year, 27.5% (65 people) two years ago, 35.2% (83 people)

3 years ago, 22.5% (53 people) 4 years ago, 5.1% (12 people) 5 years ago or more than 5 years ago, 3.8% (9 people) have never heard of cryptocurrencies. It is possible to say that the reason why most of the participants heard about cryptocurrencies in 2020 is the increasing interest in cryptocurrencies and price increases in 2020 about cryptocurrencies.

Figure 8: Graph of Survey Participants' If They Have Cryptocurrencies
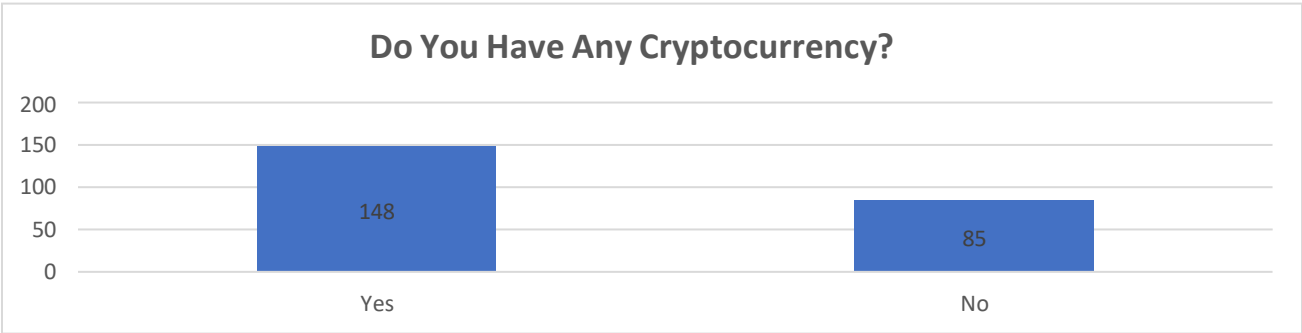
Source:*Own Processing*

In the second part of the survey, the third question is "Do You Have Any Cryptocurrency ?". 63.5% (148 people) of the participants stated that they have cryptocurrencies, 36.5% (85 people) mentioned that they do not have any cryptocurrencies.

Figure 9: Graph of Survey Participants' Percentage of Cryptocurrencies In Their Total Investments

What is the Percentage of Cryptocurrencies In Your Total Investment Portfolio?
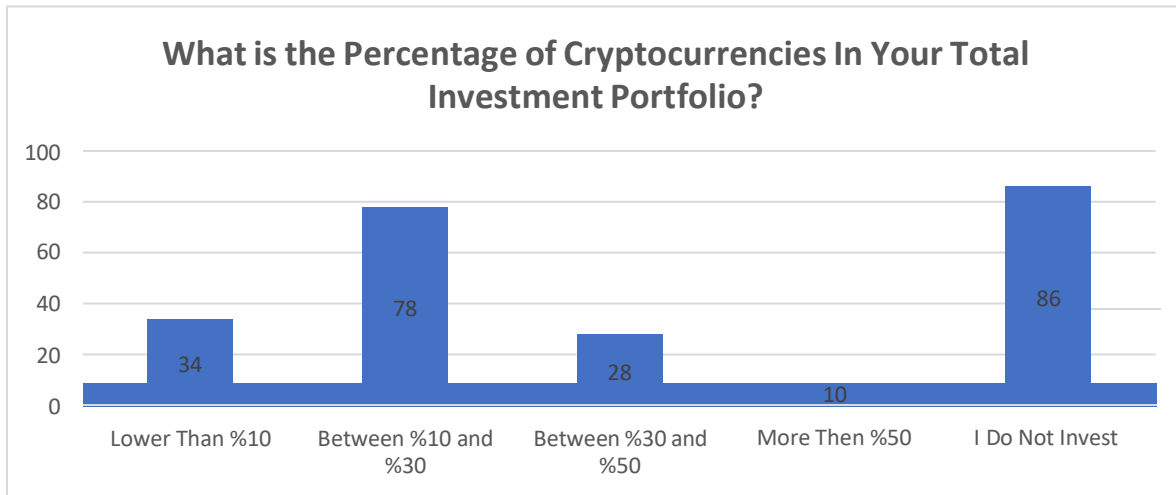
Source:*Own Processing*

In the second part of the survey, the third question is "What Is The Percentage Of Cryptocurrencies In Your Total Investment Portfolio?". 14.4% (34 people) of the participants stated that they have cryptocurrencies lower then %10 comparing their total investment portfolio, 33.1% (78 people) mentioned that they have cryptocurrencies Between %10 and %30, %11.9 (28 people) of participants own cryptocurrencies between %30 and %50, %4,2(10 people) have cryptocurrencies in their total portfolio more then %50, %36,4(86 people) does not have any cryptocurrencies in their investment portfolio. In this case, we can talk about the fact that people don't see cryptocurrencies as a safe investment.

4.4 FINDINGS RELATED TO THE FIRST RESEARCH QUESTION

In the research, firstly, the question "Do sample group tendencies to own cryptocurrencies differ in terms of gender?" was sought to be answered and independent samples t-test was conducted. Results are presented in Table 3.

Table 3: T-Test Results by Gender And Cryptocurrency Ownership

T-Test

Group Statistics

	What is Your Gender?	N	Mean	Std. Deviation	Std. Error Mean
Do You Have Any Cryptocurrency?	Female	50	1,82	,388	,055
	Male	178	1,24	,426	,032

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
										95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Do You Have Any Cryptocurrency?	Equal variances assumed	3,148	,077	8,732	226	,000	,584	,067	,452	,716
	Equal variances not assumed			9,199	85,047	,000	,584	,063	,458	,710

Source:*Own Processing*

When the analysis results are examined, it is seen that the cryptocurrency ownership trend of sample group does not differ significantly according to gender (p<.05). Hypothesis H0a is accepted (H0a: Cryptocurrency ownership tendencies of sample group do not differ in terms of gender).

4.5 FINDINGS RELATED TO THE SECOND RESEARCH QUESTION

In the research, secondly, the question " Does it differ by gender whether the sample group has heard of cryptocurrencies or not?" was sought to be answered and independent samples t-test was conducted. Results are presented in Table 4.

Table 4: T-Test Results by Gender And Cryptocurrency Awareness

T-Test

Group Statistics

	What is Your Gender?	N	Mean	Std. Deviation	Std. Error Mean
Do You Ever Heard About Cryptocurrencies?	Female	50	1,08	,274	,039
	Male	178	1,05	,220	,016

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Do You Ever Heard About Cryptocurrencies?	Equal variances assumed	2,433	,012	,791	226	,430	,029	,037	-,044	,103
	Equal variances not assumed			,699	67,682	,487	,029	,042	-,055	,113

Source:*Own Processing*

When the results of the analysis are analyzed, it is seen that whether the sample group aware of cryptocurrencies differs significantly according to gender (p<.05). Hypothesis H0a is rejected (H0a: whether the sample group has heard of cryptocurrencies do not differ by gender).

4.6 FINDINGS RELATED TO THE THIRD RESEARCH QUESTION

Table 5 shows the results of one-way analysis of variance (ANOVA) obtained for the question "Does whether the sample group has heard of cryptocurrencies differ in terms of age?".

Table 5:Anova Results For Participant's Age And Cryptocurrency Awareness

ANOVA

Do You Ever Heard About Cryptocurrencies?

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	,727	3	,242	4,862	,003
Within Groups	11,557	232	,050		
Total	12,284	235			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: Do You Ever Heard About Cryptocurrencies?

Tukey HSD

(I) What is Your Age?	(J) What is Your Age?	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
18-24	25-31	,010	,034	,991	-,08	,10
	32-45	-,007	,045	,999	-,12	,11
	45>	-,222*	,064	,003	-,39	-,06
25-31	18-24	-,010	,034	,991	-,10	,08
	32-45	-,016	,041	,978	-,12	,09
	45>	-,232*	,061	,001	-,39	-,07
32-45	18-24	,007	,045	,999	-,11	,12
	25-31	,016	,041	,978	-,09	,12
	45>	-,215*	,068	,009	-,39	-,04
45>	18-24	,222*	,064	,003	,06	,39
	25-31	,232*	,061	,001	,07	,39
	32-45	,215*	,068	,009	,04	,39

*. The mean difference is significant at the 0.05 level.

Source: *Own Processing*

When the results given in Table 5 are analyzed, it is seen that the probability of the sample group having heard of cryptocurrencies differs significantly according to age (p>.05). Hypothesis H0c is rejected (H0c: the probability of the sample group having heard of cryptocurrencies does not differ by age).

4.7 FINDINGS RELATED TO THE FOURTH RESEARCH QUESTION

Table 6 shows the results of one-way analysis of variance (ANOVA) obtained for the question "Does whether the sample group has heard of cryptocurrencies differ in terms of education level?".

Table 6: Anova Results For Participant's Education Level And Cryptocurrency Awareness

ANOVA

Do You Ever Heard About Cryptocurrencies?

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1,613	2	,806	17,610	,000
Within Groups	10,671	233	,046		
Total	12,284	235			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: Do You Ever Heard About Cryptocurrencies?

Tukey HSD

(I) What is Your Education?	(J) What is Your Education?	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
High School	Bachelor's Degree	,250*	,043	,000	,15	,35
	Master's/Doctoral Degree	,256*	,050	,000	,14	,37
Bachelor's Degree	High School	-,250*	,043	,000	-,35	-,15
	Master's/Doctoral Degree	,006	,035	,983	-,08	,09
Master's/Doctoral Degree	High School	-,256*	,050	,000	-,37	-,14
	Bachelor's Degree	-,006	,035	,983	-,09	,08

*. The mean difference is significant at the 0.05 level.

Source: *Own Processing*

When the results given in Table 6 are analyzed, it is seen that the probability of the sample group having heard of cryptocurrencies differs significantly according to education level (p>.05). Hypothesis H0c is rejected (H0c: the probability of the sample group having heard of cryptocurrencies does not differ by education level).

4.8 FINDINGS RELATED TO THE FIFTH RESEARCH QUESTION

Table 7 shows the results of one-way analysis of variance (ANOVA) obtained for the question "Does whether the sample group has heard of cryptocurrencies differ in terms of income?".

Table 7:Anova Results For Participant's Income Level And Cryptocurrency Awareness

Descriptives

Do You Ever Heard About Cryptocurrencies?

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
0-8500	36	1,11	,319	,053	1,00	1,22	1	2
8501-12000	28	1,11	,315	,060	,99	1,23	1	2
12001-16000	56	1,09	,288	,038	1,01	1,17	1	2
16001-20000	64	1,00	,000	,000	1,00	1,00	1	1
20001-25000	33	1,03	,174	,030	,97	1,09	1	2
>25000	19	1,00	,000	,000	1,00	1,00	1	1
Total	236	1,06	,229	,015	1,03	1,08	1	2

ANOVA

Do You Ever Heard About Cryptocurrencies?

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	,527	5	,105	2,060	,071
Within Groups	11,757	230	,051		
Total	12,284	235			

Source: *Own Processing*

When the results given in Table 7 are analyzed, it is seen that the probability of the sample group having heard of cryptocurrencies not differs significantly according to income level (p>.05). Hypothesis H0c is accepted. (H0c: the probability of the sample group having heard of cryptocurrencies does not differ by income level).

4.9 FINDINGS RELATED TO THE SIXTH RESEARCH QUESTION

Table 8 shows the results of one-way analysis of variance (ANOVA) obtained for the question "Does whether the sample group has heard of cryptocurrencies differ in terms of employment status?".

Table 8:Anova Results For Participant's Employment Status And Cryptocurrency Awareness

ANOVA

Do You Ever Heard About Cryptocurrencies?

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	,580	2	,290	5,776	,004
Within Groups	11,704	233	,050		
Total	12,284	235			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: Do You Ever Heard About Cryptocurrencies?

Tukey HSD

(I) What is Your Current Employment Status?	(J) What is Your Current Employment Status?	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Working	Not Working	-,133*	,041	,004	-,23	-,04
	Not Working/Not Looking For Job	,038	,055	,769	-,09	,17
Not Working	Working	,133*	,041	,004	,04	,23
	Not Working/Not Looking For Job	,171*	,065	,024	,02	,32
Not Working/Not Looking For Job	Working	-,038	,055	,769	-,17	,09
	Not Working	-,171*	,065	,024	-,32	-,02

*. The mean difference is significant at the 0.05 level.

Source: *Own Processing*

When the results given in Table 8 are analyzed, it is seen that the probability of the sample group having heard of cryptocurrencies differs significantly according to employment status. (p>.05). Hypothesis H0c is rejected. (H0c: the probability of the sample group having heard of cryptocurrencies does not differ by employment status).

4.10 FINDINGS RELATED TO THE SEVENTH RESEARCH QUESTION

Table 9 shows the results of one-way analysis of variance (ANOVA) obtained for the question " Do sample group tendency to own cryptocurrencies differ in terms of employment status?".

Table 9: Anova Results For Participant's Cryptocurrency Ownership And Employment Status

ANOVA

Do You Have Any Cryptocurrency?

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6,092	2	3,046	14,611	,000
Within Groups	48,569	233	,208		
Total	54,661	235			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: Do You Have Any Cryptocurrency?

Tukey HSD

(I) What is Your Current Employment Status?	(J) What is Your Current Employment Status?	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Working	Not Working	-,350*	,084	,000	-,55	-,15
	Not Working/Not Looking For Job	-,444*	,113	,000	-,71	-,18
Not Working	Working	,350*	,084	,000	,15	,55
	Not Working/Not Looking For Job	-,094	,132	,759	-,41	,22
Not Working/Not Looking For Job	Working	,444*	,113	,000	,18	,71
	Not Working	,094	,132	,759	-,22	,41

*. The mean difference is significant at the 0.05 level.

Source: *Own Processing*

When the results given in Table 9 are analyzed, it is seen that the cryptocurrency ownership of the sample group differs significantly according to employment status. (p>.05). Hypothesis H0c is rejected. (H0c: Cryptocurrency ownership of the sample group does not differ by employment status).

4.11 FINDINGS RELATED TO THE EIGHT RESEARCH QUESTION

Table 10 shows the results of one-way analysis of variance (ANOVA) obtained for the question " Do sample group tendency to own cryptocurrencies differ in terms of income level?".

Table 10: Anova Results For Participant's Cryptocurrency Ownership And Income Level

Descriptives

Do You Have Any Cryptocurrency?

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
0-8500	36	1,69	,467	,078	1,54	1,85	1	2
8501-12000	28	1,61	,497	,094	1,41	1,80	1	2
12001-16000	56	1,39	,493	,066	1,26	1,52	1	2
16001-20000	64	1,25	,436	,055	1,14	1,36	1	2
20001-25000	33	1,15	,364	,063	1,02	1,28	1	2
>25000	19	1,05	,229	,053	,94	1,16	1	2
Total	236	1,36	,482	,031	1,30	1,43	1	2

ANOVA

Do You Have Any Cryptocurrency?

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	9,797	5	1,959	10,045	,000
Within Groups	44,864	230	,195		
Total	54,661	235			

Source:*Own Processing*

When the results given in Table 10 are analyzed, it is seen that the cryptocurrency ownership of the sample group differs significantly according to income level. (p>.05). Hypothesis H0c is rejected. (H0c: Cryptocurrency ownership of the sample group does not differ by income level).

4.12 FINDINGS RELATED TO THE NINETH RESEARCH QUESTION

Table 11 shows the results of one-way analysis of variance (ANOVA) obtained for the question " Do sample group tendency to own cryptocurrencies differ in terms of education level?".

Table 11: Anova Results For Participant's Cryptocurrency Ownership And Education Level

ANOVA

Do You Have Any Cryptocurrency?

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3,115	2	1,558	7,041	,001
Within Groups	51,546	233	,221		
Total	54,661	235			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: Do You Have Any Cryptocurrency?

Tukey HSD

(I) What is Your Education?	(J) What is Your Education?	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
High School	Bachelor's Degree	,309*	,095	,004	,08	,53
	Master's/Doctoral Degree	,400*	,109	,001	,14	,66
Bachelor's Degree	High School	-,309*	,095	,004	-,53	-,08
	Master's/Doctoral Degree	,091	,076	,453	-,09	,27
Master's/Doctoral Degree	High School	-,400*	,109	,001	-,66	-,14
	Bachelor's Degree	-,091	,076	,453	-,27	,09

*. The mean difference is significant at the 0.05 level.

Source: *Own Processing*

When the results given in Table 11 are analyzed, it is seen that the cryptocurrency ownership of the sample group differs significantly according to education level. (p>.05). Hypothesis H0c is rejected. (H0c: Cryptocurrency ownership of the sample group does not differ by education level).

4.13 FINDINGS RELATED TO THE TENTH RESEARCH QUESTION

Table 12 shows the results of one-way analysis of variance (ANOVA) obtained for the question " Do sample group tendency to own cryptocurrencies differ in terms of age?".

Table 12: Anova Results For Participant's Cryptocurrency Ownership And Age

ANOVA

Do You Have Any Cryptocurrency?

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1,575	3	,525	2,295	,079
Within Groups	53,086	232	,229		
Total	54,661	235			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: Do You Have Any Cryptocurrency?

Tukey HSD

(I) What is Your Age?	(J) What is Your Age?	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
18-24	25-31	,120	,074	,364	-,07	,31
	32-45	,125	,096	,565	-,12	,37
	45>	-,167	,137	,613	-,52	,19
25-31	18-24	-,120	,074	,364	-,31	,07
	32-45	,005	,089	1,000	-,22	,23
	45>	-,287	,131	,130	-,63	,05
32-45	18-24	-,125	,096	,565	-,37	,12
	25-31	-,005	,089	1,000	-,23	,22
	45>	-,292	,145	,187	-,67	,08
45>	18-24	,167	,137	,613	-,19	,52
	25-31	,287	,131	,130	-,05	,63
	32-45	,292	,145	,187	-,08	,67

Source: *Own Processing*

When the results given in Table 12 are analyzed, it is seen that the cryptocurrency ownership of the sample group not differs significantly according to age.(p>.05). Hypothesis H0c is accepted. (H0c: Cryptocurrency ownership of the sample group does not differ by age).

4.14 FINDINGS RELATED TO THE ELEVENTH RESEARCH QUESTION

Table 13 shows the results of one-way analysis of variance (ANOVA) obtained for the question " Do sample group's cryptocurrency ownership percentage in their total investment differs in terms of education level?".

Table 13: Anova Results For Participant's Percentage Of Cryptocurrency In Their Total Invesment Portfolio And Education Level

ANOVA

What is the Percentage of Cryptocurrencies In Your Total Investment Portfolio?

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	18,363	2	9,182	3,932	,021
Within Groups	544,145	233	2,335		
Total	562,508	235			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: What is the Percentage of Cryptocurrencies In Your Total Investment Portfolio?

Tukey HSD

(I) What is Your Education?	(J) What is Your Education?	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
High School	Bachelor's Degree	,858*	,309	,016	,13	1,59
	Master's/Doctoral Degree	,818	,355	,058	-,02	1,66
Bachelor's Degree	High School	-,858*	,309	,016	-1,59	-,13
	Master's/Doctoral Degree	-,040	,247	,986	-,62	,54
Master's/Doctoral Degree	High School	-,818	,355	,058	-1,66	,02
	Bachelor's Degree	,040	,247	,986	-,54	,62

*. The mean difference is significant at the 0.05 level.

Source: *Own Processing*

When the results given in Table 13 are analyzed, it is seen that the cryptocurrency ownership percentage in their total investment portfolio for sample group differs significantly according to education level. (p>.05). Hypothesis H0c is rejected. (H0c: Cryptocurrency ownership percentage in their total investment portfolio for sample group does not differ by education level).

4.15 FINDINGS RELATED TO THE TWELFTH RESEARCH QUESTION

Table 14 shows the results of one-way analysis of variance (ANOVA) obtained for the question " Do sample group's cryptocurrency ownership percentage in their total investment differs in terms of age?".

Table 14: Anova Results For Participant's Percentage Of Cryptocurrency In Their Total Invesment Portfolio And Age

ANOVA

What is the Percentage of Cryptocurrencies In Your Total Investment Portfolio?

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8,954	3	2,985	1,251	,292
Within Groups	553,554	232	2,386		
Total	562,508	235			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: What is the Percentage of Cryptocurrencies In Your Total Investment Portfolio?

Tukey HSD

(I) What is Your Age?	(J) What is Your Age?	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
18-24	25-31	,133	,237	,943	-,48	,75
	32-45	,117	,311	,982	-,69	,92
	45>	-,673	,441	,425	-1,81	,47
25-31	18-24	-,133	,237	,943	-,75	,48
	32-45	-,016	,286	1,000	-,76	,72
	45>	-,806	,424	,231	-1,90	,29
32-45	18-24	-,117	,311	,982	-,92	,69
	25-31	,016	,286	1,000	-,72	,76
	45>	-,790	,469	,335	-2,00	,42
45>	18-24	,673	,441	,425	-,47	1,81
	25-31	,806	,424	,231	-,29	1,90
	32-45	,790	,469	,335	-,42	2,00

Source: *Own Processing*

When the results given in Table 14 are analyzed, it is seen that the cryptocurrency ownership percentage in their total investment portfolio for sample group not differs significantly according to age. (p>.05). Hypothesis H0c is accepted. (H0c: Cryptocurrency ownership percentage in their total investment portfolio for sample group does not differ by age).

4.16 FINDINGS RELATED TO THE THIRTEENTH RESEARCH QUESTION

Table 15 shows the results of one-way analysis of variance (ANOVA) obtained for the question " Do sample group's view for cryptocurrency usage in future differs in terms of income level?".

Table 15: Anova Results For Participant's View Of Cryptocurrency Usage in Future And Income Level

Descriptives

Do You Think to Use Cryptocurrencies in Future?

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
0-8500	36	2,39	,766	,128	2,13	2,65	1	3
8501-12000	28	1,71	,713	,135	1,44	1,99	1	3
12001-16000	56	1,82	,834	,111	1,60	2,04	1	3
16001-20000	64	1,63	,807	,101	1,42	1,83	1	3
20001-25000	33	1,39	,747	,130	1,13	1,66	1	3
>25000	19	1,26	,653	,150	,95	1,58	1	3
Total	236	1,74	,835	,054	1,63	1,84	1	3

ANOVA

Do You Think to Use Cryptocurrencies in Future?

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	24,665	5	4,933	8,160	,000
Within Groups	139,047	230	,605		
Total	163,712	235			

Source: *Own Processing*

When the results given in Table 15 are analyzed, it is seen that the cryptocurrency sample group's view for cryptocurrency usage in future differs significantly according to income level. (p>.05). Hypothesis H0c is rejected. (H0c: View of cryptocurrency usage in future for sample group does not differ by income level).

4.17 FINDINGS RELATED TO THE FOURTEENTH RESEARCH QUESTION

Table 16 shows the results of one-way analysis of variance (ANOVA) obtained for the question " Do sample group's view for cryptocurrency usage in future differs in terms of education level?".

Table 16: Anova Results For Participant's View Of Cryptocurrency Usage in Future And Education Level

Descriptives

Do You Think to Use Cryptocurrencies in Future?

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
High School	29	1,79	,620	,115	1,56	2,03	1	3
Bachelor's Degree	156	1,80	,868	,070	1,66	1,94	1	3
Master's/Doctoral Degree	51	1,51	,809	,113	1,28	1,74	1	3
Total	236	1,74	,835	,054	1,63	1,84	1	3

ANOVA

Do You Think to Use Cryptocurrencies in Future?

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3,368	2	1,684	2,447	,089
Within Groups	160,343	233	,688		
Total	163,712	235			

Source: *Own Processing*

When the results given in Table 16 are analyzed, it is seen that the cryptocurrency sample group's view for cryptocurrency usage in future not differs significantly according to education level. (p>.05). Hypothesis H0c is accepted. (H0c: View of cryptocurrency usage in future for sample group does not differ by education level).

4.18 FINDINGS RELATED TO THE FIFTEENTH RESEARCH QUESTION

Table 17 shows the results of one-way analysis of variance (ANOVA) obtained for the question " Do sample group's view for cryptocurrency usage in future differs in terms of age?".

Table 17: Anova Results For Participant's View Of Cryptocurrency Usage in Future And Age

ANOVA

Do You Think to Use Cryptocurrencies in Future?

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	9,410	3	3,137	4,716	,003
Within Groups	154,302	232	,665		
Total	163,712	235			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: Do You Think to Use Cryptocurrencies in Future?

Tukey HSD

(I) What is Your Age?	(J) What is Your Age?	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
18-24	25-31	,445*	,125	,003	,12	,77
	32-45	,455*	,164	,031	,03	,88
	45>	,245	,233	,720	-,36	,85
25-31	18-24	-,445*	,125	,003	-,77	-,12
	32-45	,010	,151	1,000	-,38	,40
	45>	-,200	,224	,808	-,78	,38
32-45	18-24	-,455*	,164	,031	-,88	-,03
	25-31	-,010	,151	1,000	-,40	,38
	45>	-,210	,248	,831	-,85	,43
45>	18-24	-,245	,233	,720	-,85	,36
	25-31	,200	,224	,808	-,38	,78
	32-45	,210	,248	,831	-,43	,85

*. The mean difference is significant at the 0.05 level.

Source: *Own Processing*

When the results given in Table 17 are analyzed, it is seen that the cryptocurrency sample group's view for cryptocurrency usage in future differs significantly according to age. (p>.05). Hypothesis H0c is rejected. (H0c: View of cryptocurrency usage in future for sample group does not differ by age).

4.19 FINDINGS RELATED TO THE SIXTEENTH RESEARCH QUESTION

Table 18 shows the results of one-way analysis of variance (ANOVA) obtained for the question " Do sample group's view for cryptocurrency usage in future differs in terms of when they have heard about cryptocurrencies for the first time?".

Table 18: Anova Results For Participant's Heard Time Of Cryptocurrencies For First Time And View Of Cryptocurrency Usage In Future

Descriptives

When You Heard About Cryptocurrencies For First Time?

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Yes	121	3,26	,929	,084	3,10	3,43	1	5
No	56	2,80	1,494	,200	2,40	3,20	1	6
Maybe	59	2,83	1,053	,137	2,56	3,10	1	6
Total	236	3,05	1,135	,074	2,90	3,19	1	6

ANOVA

When You Heard About Cryptocurrencies For First Time?

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	11,806	2	5,903	4,732	,010
Within Groups	290,682	233	1,248		
Total	302,487	235			

Source: *Own Processing*

When the results given in Table 18 are analyzed, it is seen that the cryptocurrency sample group's view for cryptocurrency usage in future differs significantly according to when they have heard about cryptocurrencies for the first time. (p>.05). Hypothesis H0c is rejected. (H0c: View of cryptocurrency usage in future for sample group does not differ by when they heard about cryptocurrencies for the first time).

5.Result and Discussion

It is seen that the demand for cryptocurrencies in developing countries has increased in recent years. Looking at the studies, it is understood that one of the countries with intense interest in cryptocurrency is Turkey (Buchholz, 2019). It is known that the volatility of developing country currencies is high (Dorfman, 2017).

On the other hand, according to the UN report, 90% of the world's young population is in developing countries (United Nations, 2019). The high youth population provides an advantage in terms of rapid adoption of internet technologies and easy adaptation to technology (Kotler, 2018). It is also known that cryptocurrency and blockchain systems are directly related to internet usage. In developing countries, it is understood that cryptocurrencies are evaluated as a speculative asset, not as money.

In the study, data were collected through a questionnaire and analyses were carried out in the SPSS 23.0 program. Over a sample set of 236 people, the average score value of the sample group regarding the tendencies towards cryptocurrencies was produced, and the results of frequency analysis, independent samples t-test and one-way ANOVA test were presented. According to the results of the frequency analysis of the research, 75.4% (178 people) of the participants are male, 21.2% (50 people) are female and 3.4% (8 people) are others. 8 people were not included in the tests within the study, since a meaningful and accurate result could not be obtained because there were 8 people. According to the gender profile of the participants, it is seen that men have a higher share in the use of cryptocurrency. When the independent samples t-test results of the study are analysed, it is determined that the tendencies of the sample group explained within the scope of cryptocurrency ownership do not differ significantly according to gender. However, the state of being aware of cryptocurrencies, which is another variable analysed by t-test, showed a significant difference.

Analysed by one-way ANOVA Test, the relation of having heard of cryptocurrencies before with age, the relation of having heard of cryptocurrencies before with education level, the relation of having heard of cryptocurrencies before with employment status, the relation of having cryptocurrencies before with employment status, the relation of having cryptocurrencies with employment status, the relation of having cryptocurrencies with income level, Significant differences were found between the level of education and ownership of cryptocurrencies, the level of age and ownership of cryptocurrencies, the level of education and investment in cryptocurrencies, the level of income and future use of cryptocurrencies, the level of income and future use of cryptocurrencies, the level of age and future use of cryptocurrencies, when cryptocurrencies were first heard of cryptocurrencies and future use of cryptocurrencies.

Analysed by one-way ANOVA, no significant difference was found between the level of income and the status of having heard of cryptocurrencies before, between the ownership of cryptocurrencies and age, between the investment made in cryptocurrencies and age, between the future use of cryptocurrencies and education. When the distribution of the age groups of the participants is examined, it is seen that 28.4% (67 people) are in the 18-24 age group, 48.3% (114 people) are in the 25-31 age group, 16.5% (39 people) are in the 32-45 age group and 6.8% (16 people) are in the group older than 45 years.Most of the participants are young people (25-31 age group). Considering that the young population adopts technological developments faster, it is seen that they are interested in cryptocurrency and Blockchain system as one of the new technologies. Considering the distribution of the educational level of the participants, 12.3% (29 people) are high school graduates, 66.6% (156 people) are undergraduate graduates, 21.6% (51 people) are master's or doctoral graduates. It is seen that 87.7% of the participants have post-secondary education. When the distribution of the income level of the participants is analysed, 15.3% (36 people) have an income of 8500 TL and/or less. 11.9% (28 people) are in the income group between 8501-12000 TL, 23.7% (56 people) in the income group between 12001-16000 TL, 27.1% (64 people) in the income group between 16001-20000 TL, 14% (33 people) in the income group between 20001-25000 TL and 8.1% (19 people) in the income group above 25000 TL. In the second part of the survey, the cryptocurrency investor profiles of the participants were analysed. It is seen that the majority of the sample group includes cryptocurrencies in their portfolios between 10% and 30%. 33.1% (78 people) between 10% and 30%, 14.4% (34 people) less than 10%, 11.9% (28 people) between 30% and 50%, 4.2% (10 people) more than 50%, and finally 36.4% (86 people) did not invest in cryptocurrencies. In this context, it is seen that the sample group approaches cryptocurrencies with abstention and avoids investing.

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