THE IMPACT OF BEHAVIOURAL BIAS ON DECISION MAKING OF INVESTORS: AN EMPIRICAL STUDY

Mr. Amit Dinesh Bhanushali

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ABSTRACT:

This paper is a study to analyze the behavior of investors with herding and overconfidence behavioral bias theories and to analyze the impact of impact of covid-19 on investors decision making. This study is based on primary research. The analysis was carried by conducting survey of 75 respondents with help of questionnaire. Study concludes that behavior matters a lot when while making investment decision and found majority of respondents are highly influenced with herding and overconfidence behavioral bias, and there are lots of change in the preference of investment of respondents before and after covid-19. In this study the descriptive research is done with help of tabular and chart representation technique.

Keywords: Behavioral finance, herding, overconfidence, investment, investors, decision making, covid-19.

1. INTRODUCTION:

In the one's life money plays an important role and it needed to be save to tackle the difficult time which can come in future, so everyone need to invest, investment is preference of saving over the consumption, that saving should be invested in some financial product or assets to generate profit or growth in the value of saving by selling that product or assets in future at high prices. But access to large no of investment avenues and information creates lot of confusion among the individual, more over the investment is very lengthy process one needs to put lot of time in that, do Analysis of all the information available and for that analysis of information individual need to have a sound knowledge about All the investment avenues available to select the good investment avenue from them. Now days there are many varieties of investment avenues that comes with different risks and return liquidity, maturity and marketability. The investor needs to pick right investment for him which is influenced by many factors example, age, gender, family, friends, income and many more things.

These give rise to "behavioral finance", to know how behavior of investor is impacted and by what factors. Behavioral finance is study of the influence of psychology on behavior of investor which can affect the market outcomes. There are various behavioral biases which influences the decision making of the investors, i.e. Overconfidence and illusion of control, Herding Mentality, Self-Attribution Bias, Hindsight Bias, Confirmation Bias, Representativeness bias, Anchoring Bias and many more but this study has focused on herding and overconfidence behavioral bias theories.

What is herding behavioral bias theory?

In this behavior bias the investor has tendency copy and follow other people's investment pattern, rather than their independent analysis and study to do investments.

Example of Herding behavior theory bias:

 - Influence of family/friends/relatives/newspapers/media on decision making of investors.

 - All investors purchasing the stocks purchased by Warren Buffett.

What is Overconfidence behavioral bias theory?

The over confidence bias is the tendency of False or misleading assessment of our skills, intellect, or talent. The investor in these biases think he knows everything about investment.

Example of Over confidence bias:

-          When investor think he can generate income or profit from all the investment he selects.

-          When investor invest without doing research by just trusting his skills.

The study also analysis the impact of covid-19 on the preference of investment of investors and change in the value of investment during covid-19.

2. REVIEW OF LITERATURE:

S. Hemalatha (2019) Factors Influencing Investment Decision of the Individual Related to Selected Individual Investors in Chennai City. The study tries find the factors influencing investment decision of individual, here demographical profile and six factors influencing investment of the individual, here frequency and percentage analysis has been applied to study various personal profiles such as age, gender, qualification, occupation, annual income, level of computer knowledge, period of internet usage and period of online trading usage, the research find that factors of selection varies according to gender, age, occupation , usage of internet, level of computer knowledge with respect to behavioral biases.

Gupta Yamini (2016) Behavioral Finance a Study on investors behavior towards Equity Market Investment with reference to investors of Delhi. The study was carried on the behavior of the investor, the study is focused on the irrational behavior of investor, with reference to seven behavioral bias that are loss aversion, regret aversion, over confidence bias, herd behavior, representativeness bias, anchoring bias, and cognitive dissonance bias, the investors were divided into the different groups by demographic variables, that are age, gender, education, marital status, occupation, number of dependents of investors, type of investors, investment period preference, market preference, sources of information and many other factors, it was found that the outcome bias changes with demographic variables.

Dr. Renu Isidore and Dr. P. Christie (2017) Review of behavioral biases - an individual equity investor perspective. The study here have added to the existing research about the irrational decision of the investor, the researcher have explained the difference of traditional finance theory and behavioral finance theory, the research was carried on the five behavioral biases found in the equity market they are representativeness, anchoring, availability, optimism, overconfidence the finding in these study was the investor in the equity market are not completely rational, they make irrational decision making due to behavioral biases.

Misal d.m (2013) A study of behavioral finance and investor's emotion in Indian capital market. The study are done here to know the emotion of the investor and its believe that major impact on its investment, here four theory of behavioral fiancé were consider they are prospect theory, regret theory, judgement, and

anchoring, the finding of research was that modern financial economics assumes that people do not behave rationally and was found investors do excessive trading and the tendency to hold on to losing investment.

William Coffie (2013) Behavioral Finance Theories Effecting on Individual Investor's Decision-Making. The study was conducted to know the impact of behavioral finance on the decision making of the investors, the demographic factors was used to make group of investor with behavioral biases theories , the finding was that majority of respondents are male and majority of respondents belong from the age group of 18-34 they does not have experience and majority of respondent show regret bias in them.

Dr. Vinay Kandpal and Mr. Rajat Mehrotra (2018), Role of Behavioral Finance in Investment Decision – A Study of Investment Behavior in India. The study was done to find the factors that impact the investment behavior of the investor in India, the study found that investment decision in India is taken by various perception by past returns, word of mouth and many other factors, here investors are not taking it seriously they do not have proper knowledge and not do proper planning.

 Meir Statman (2019), Behavioral finance-the second generation. The study has covered various factors of normal investors and their wants, this study focusses on the second generation of behavioral finance where they are found investors taking irrational decision as normal investors and investors taking rational decision as abnormal investors.

Mahalakshmi T.N. and Anuradha N. (2018) Factors affecting investment decision making & investment performance among individual investors in India. The study focuses on the factors affecting investment decision on individual investor, the study found the influence of the family is one of the most common factors that all the investor gets affected from.

Samina Gill (2018) Factors Effecting Investment Decision Making Behavior: The Mediating Role of Information Searches. The study was done on the factors affecting the investment decision making behavior, here the whole study was focused on the two factors, i.e. overconfidence bias and economic expectations, the finding here was majority of investors was having overconfidence bias and economic expectation is also huge.

3. OBJECTIVES:

The objectives of the research are as follows:

1.   To study the influence of herding behavioral bias on investment decision making.

2.   To understand the influence of overconfidence behavioral bias on investors decision making.

3.   To analyze the impact of impact of covid-19 on investors decision making.

4. RESEARCH METHODOLOGY:

The research type is the Quantitative research and its nature is descriptive, the data used in these researches are primary data, questionnaire is used for the collection of data, the sample size of the research is 75 respondents and data are grouped by the demographic variables. gender age.

Table .1 Research Methodology

SR NO	PARAMETERS	DESCRIPTION
1	Type of research design	Quantitative research
2	Nature of research	Descriptive research
3	Data collection	Primary data
4	Data collection method	Questionnaire
5	Sample size	75
6	**Demographic variables**	**Gender, age**
7	**Data groups**	**Demographic variables**

5. DATA ANALYSIS AND INTERPRETATION:

To find out Impact of behavioral biases and demographic variables on decision-making process of investors are presented in this chapter. 75 questionnaires were taken for analysis

The following sections will characterize the profile of respondents along with the purpose of various questions that is asked from respondents and the results.

Respondents' Personal Profile Analysis

In this section, the respondents' personal profile is shown to have a better understanding of their background:

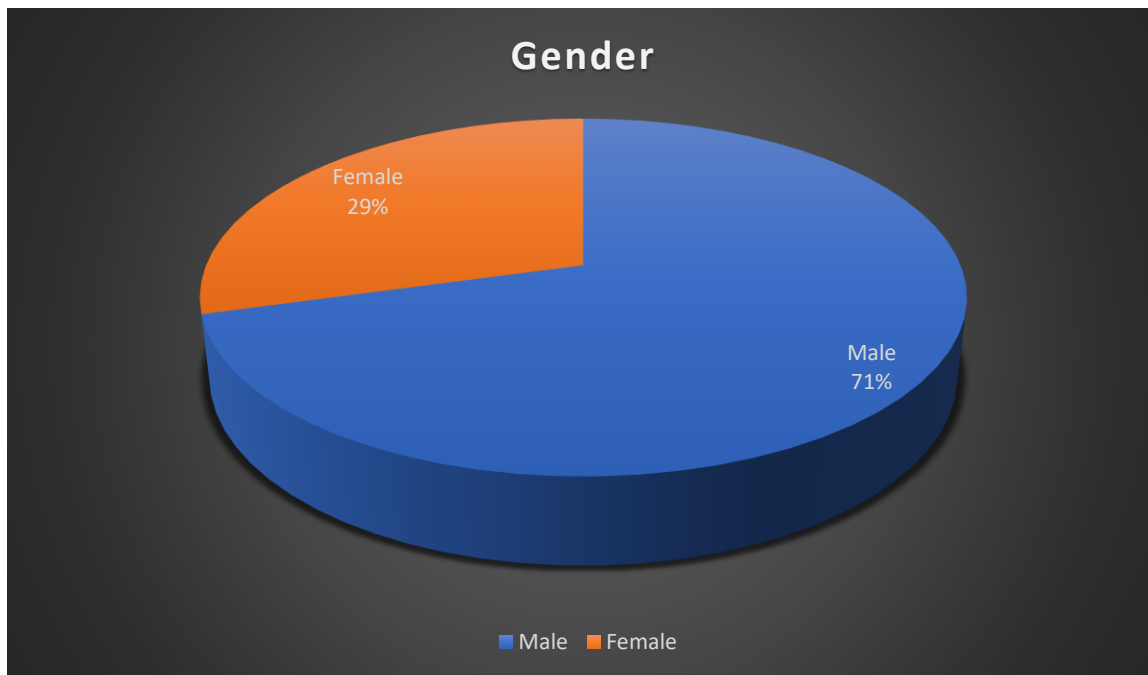**GENDER:**

Figure 1. Showing gender of respondents.

Table 2. Showing gender of respondents.

Gender	Number of respondents
Male	53
Female	22

AGE:

Figure 2. Showing age of respondents.
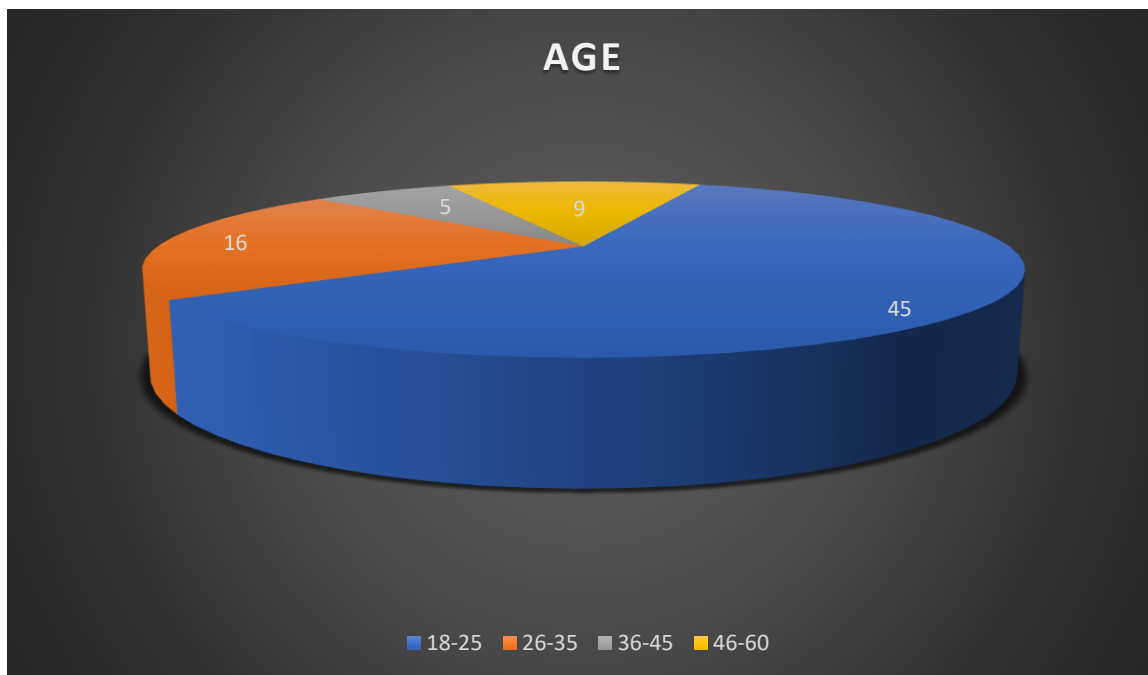
Table 3. Showing age of respondents.

Age groups	Number of respondents
18-25	45
26-35	16
36-45	5
46-60	9
Above 60	0

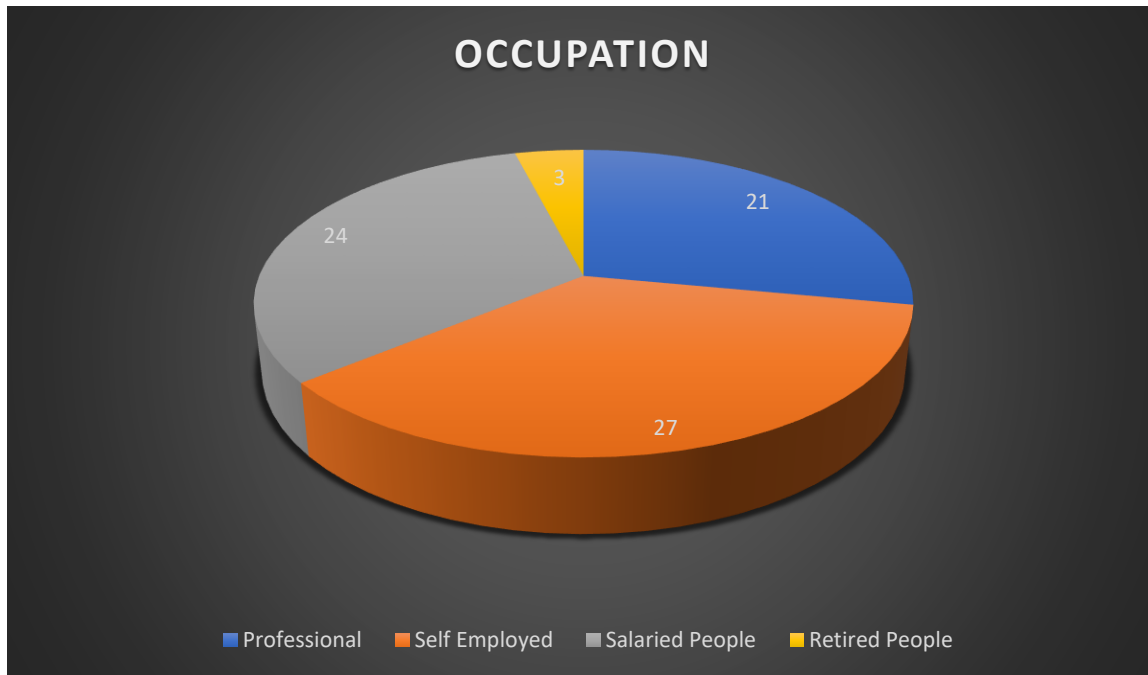**OCCUPATION:**

Figure 3. Showing occupation of respondents.

Table 4. Showing occupation of respondents.

Occupation	Number of respondents
Professional	21
Self employed	27
Salaried people	24
Retired People	3

1.   **To study the influence of herding behavioral bias on investment decision making:**

Data collected:

Table 5. Showing the influence of the following factors on respondent's decision making:

	SA	A	N	D	SD	Total
Friends/Relatives/Family	37	26	11	0	1	75
Media/Internet/Newspapers	20	35	15	4	1	75
Financial Advisor	31	22	17	4	1	75

Table 6. Showing Data Analysis:

For Herding Behavioral bias.	
	POINTS
Strongly Agree	5
Agree	4
Neutral	3
Disagree	2
Strongly Disagree	1

Table 7. These points will be used to find out the type behavior respondents have.

Herding Bias Criteria	
Total Points= < 50% of 15	Not Herding Behavioral Bias
Total Points> 50% of 15	Little Herding Behavioral Bias
Total Points= > 70% of 15	Highly Herding Behavioral Bias

Table 8. Showing the behavior of respondents:

	No of Respondent
Not Herding	1
Little Herding	13
Highly Herding	61

Figure 4. Showing the behavior of respondents:
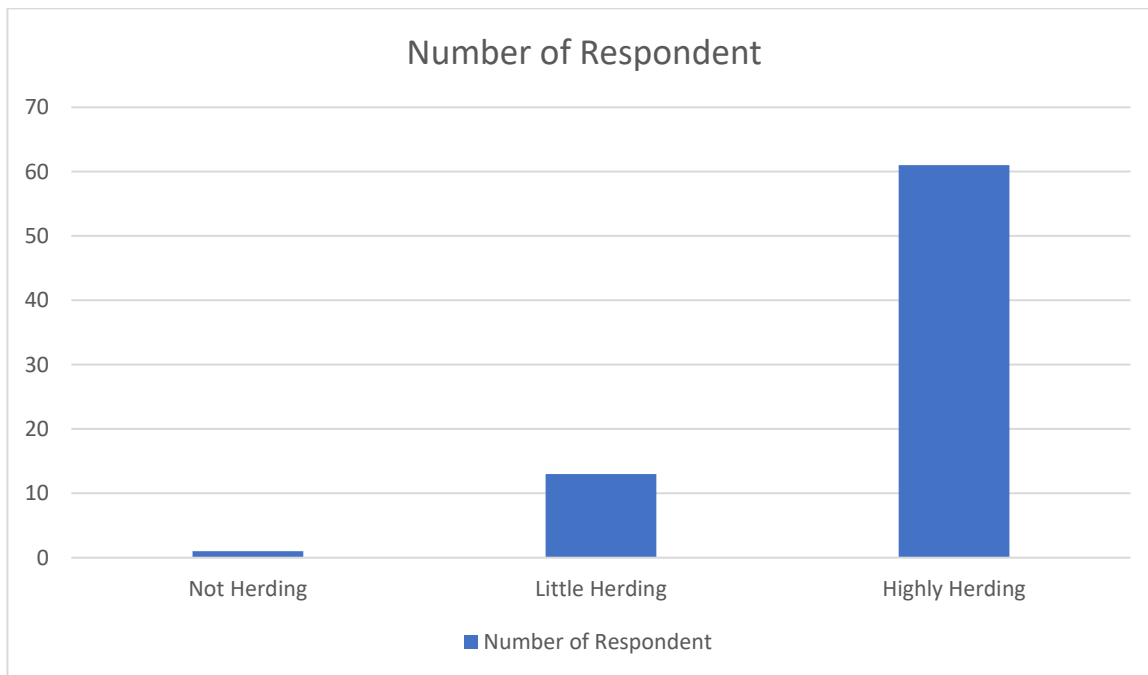
Interpretation:

It was found that out of 75 respondents 61 respondents have highly herding behavior bias in them which means their investment decision are highly getting effected by friends, relatives, family, media, internet, newspapers, financial advisor and another 16 respondents are having little herding behavior bias.

Table 9. herding behavior bias by gender of respondents:

By Gender	Male	Female
Not Herding	1	0
Little Herding	8	5
Highly Herding	44	17

Interpretation:

While considering the gender of respondent it was found that there were 44 male and 17 female respondent who were having highly herding behavior.

Table 10. The herding behavior bias by age of respondents:

	18-25	26-35	36-45	46-60	Above 60
Not Herding	0	0	0	1	0
Little Herding	6	3	1	3	0
Highly Herding	39	13	4	5	0

Interpretation:

While considering the age group it was found that 87% of respondent from age group 18-25 were having highly herding behavior which is highest from all the age group and lowest was from the age group of 46-60 which is 56%.

2.   To understand the influence of overconfidence behavioral bias on investors decision making:

Data collected:

Table 11. Showing the influence of the following factors on respondent's decision making:

	SA	A	N	D	SD	Total
Have Complete Knowledge About Investment Avenues	28	27	16	2	2	75
Your Ability to Pick Better Investment Options Than Others	17	30	24	2	2	75
Make Enough Profit from The Investment Avenue You Pick	23	36	13	2	1	75

Table 12. Showing Data Analysis:

For over confidence Behavioral bias.	
	POINTS
Strongly Agree	5
Agree	4
Neutral	3
Disagree	2
Strongly Disagree	1

Table 13. These points will be used to find out the type behavior respondents have.

Herding Bias Criteria	
Total Points= < 50% of 15	Not over confidence Behavioral Bias
Total Points> 50% of 15	Little over confidence Behavioral Bias
Total Points= > 70% of 15	Highly over confidence Behavioral Bias

Table 14. Showing the behavior of respondents**:**

	No of Respondent
NOT Over Confidence	3
Little Over Confidence	14
Highly Over Confidence	58

Figure 5. Showing the behavior of respondents**:**
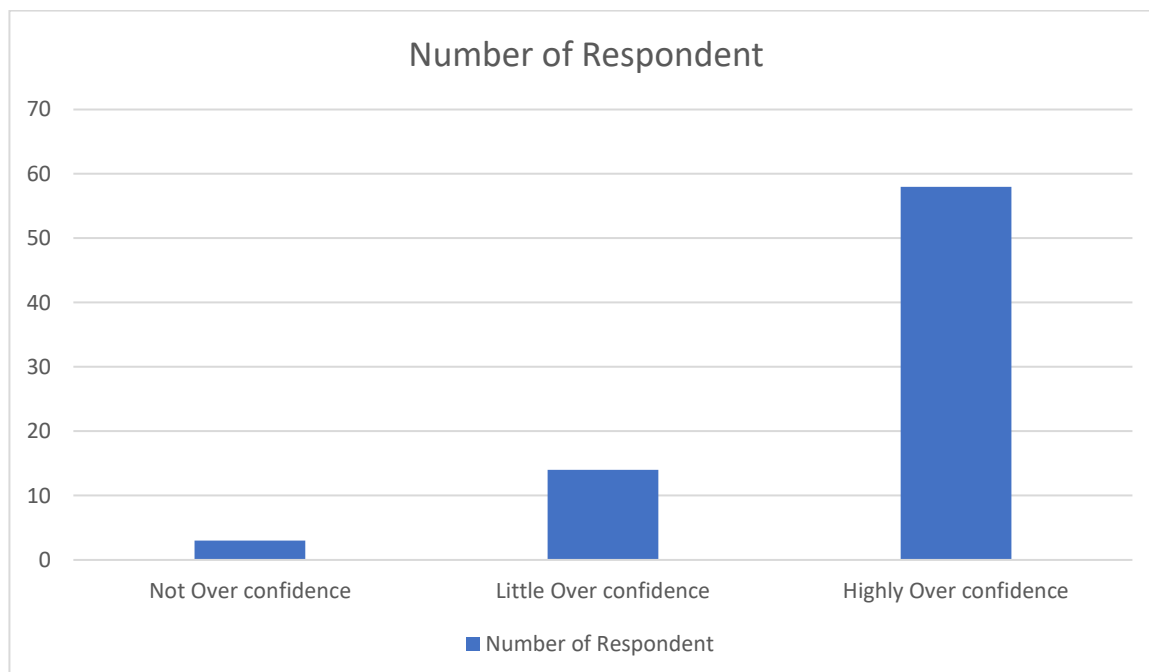
Interpretation:

It was found that out of 75 respondents 58 respondents have highly Over Confidence behavior bias and another 14 respondents are having little Over Confidence behavior bias.

Table 14. Showing the over confidence behavior bias by gender of respondents:

By Gender	Male	Female
NOT Over Confidence	2	1
Little Over Confidence	10	4
Highly Over Confidence	41	17

Interpretation:

While considering the gender of respondent it was found that there were 41 male and 17 female respondent who were having highly Over Confidence behavior.

Table 15. The over confidence behavior bias by age of respondents:

	18-25	26-35	36-45	46-60	Above 60
Not Over Confidence	0	3	0	0	0
Little Over Confidence	9	3	1	1	0
Highly Over Confidence	36	10	4	8	0

Interpretation:

While considering the age group it was found that 89% of respondent from age group 46-60 were having highly Over Confidence behavior which is highest from all the age group and lowest was from the age group of 26-35 which is 62.5%.

3.   To analyze the impact of impact of covid-19 on investors decision making:

Preference of investment before and after covid-19:

Here the 10 investment options where given to respondents and were asked to give preference in the five-point Likert scale.

Collected Data:

Table 16. Before covid-19.

Before covid-19	Highly Preferred	Preferred	Not Preferred	Highly Not Preferred
Postal Savings	9	26	16	24
Mutual funds	22	22	17	14
Insurance	29	29	14	3
Gold & silver	19	35	16	5
EPF/PPF/GPF	8	23	19	25
Bank Deposits/Saving a/c	49	20	3	3
Stocks	19	14	23	19
Real estate	19	28	19	9
Chits funds	4	8	29	34
Others	10	13	27	25

Table 17. After covid-19.

After Covid-19	Highly Preferred	Preferred	Not Preferred	Highly Not Preferred
Postal Savings	13	24	15	23
Mutual funds	19	24	15	17
Insurance	36	22	14	3
Gold & silver	20	37	13	5
EPF/PPF/GPF	12	19	22	22
Bank Deposits/Saving a/c	41	26	7	1
Stocks	15	17	28	15

Real estate	20	31	18	6
Chits funds	5	6	35	29
Others	9	15	31	20

Graphical Representation:
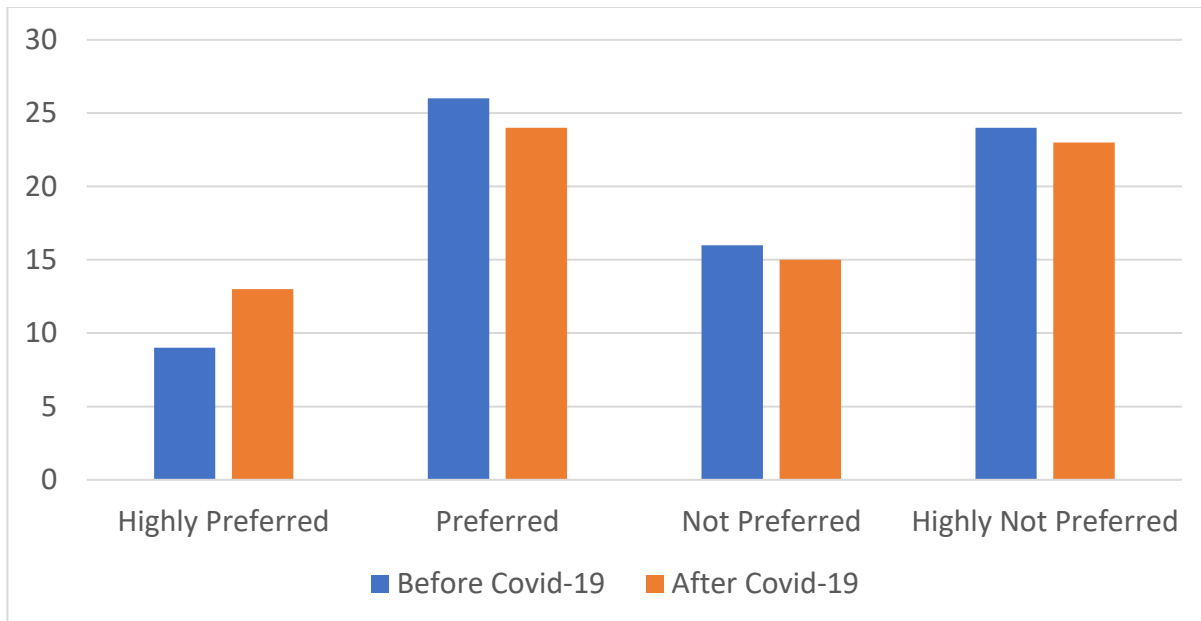
Figure 6. Postal savings.
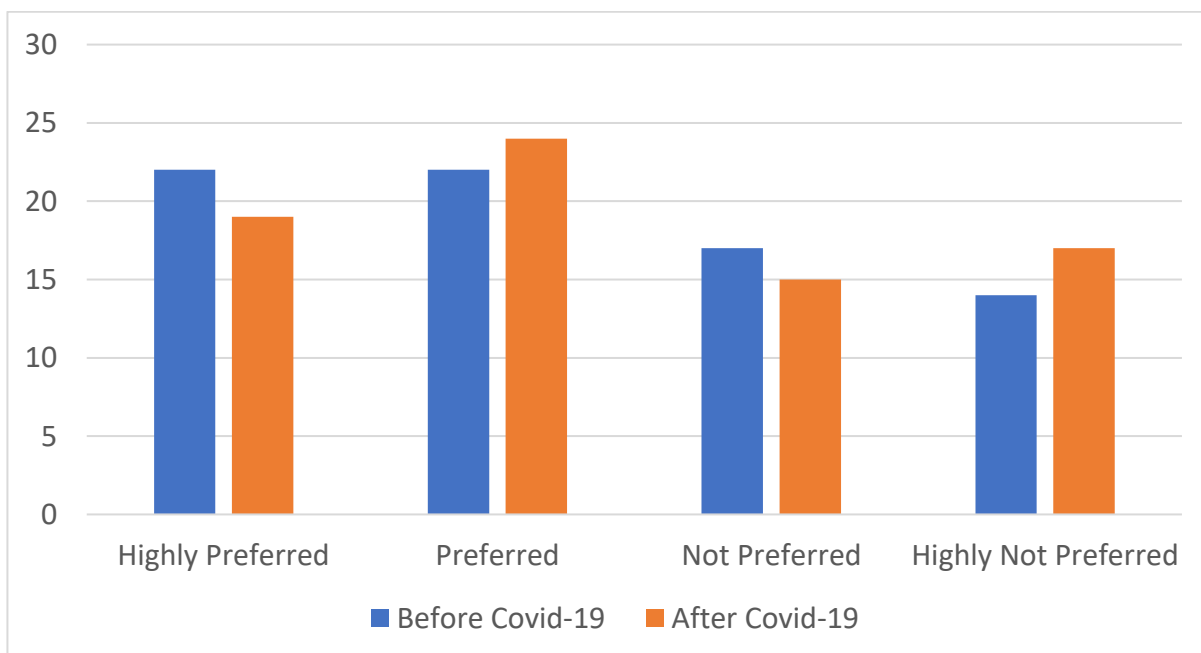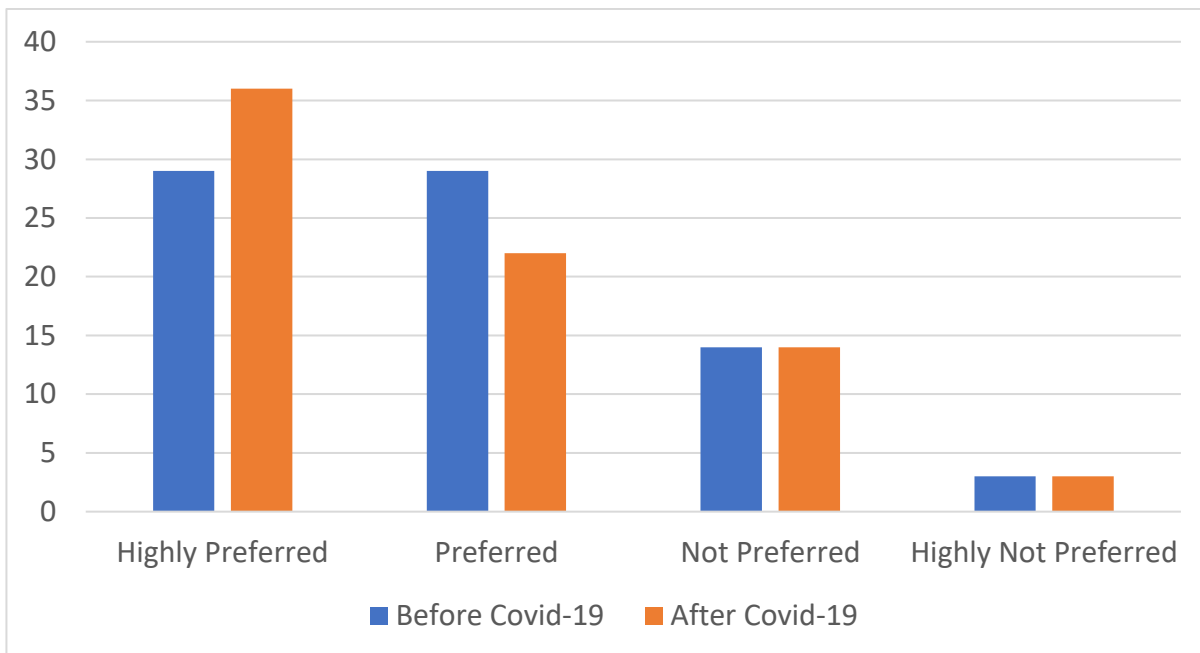

Figure 7. Mutual funds

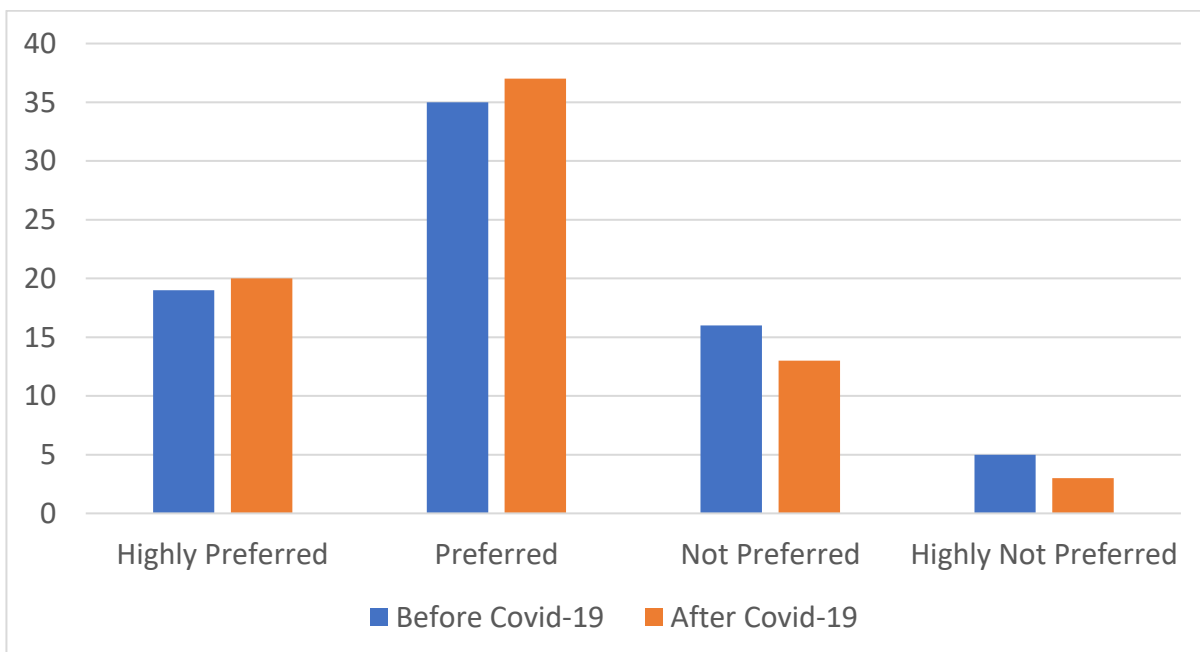
Figure 8. Insurance

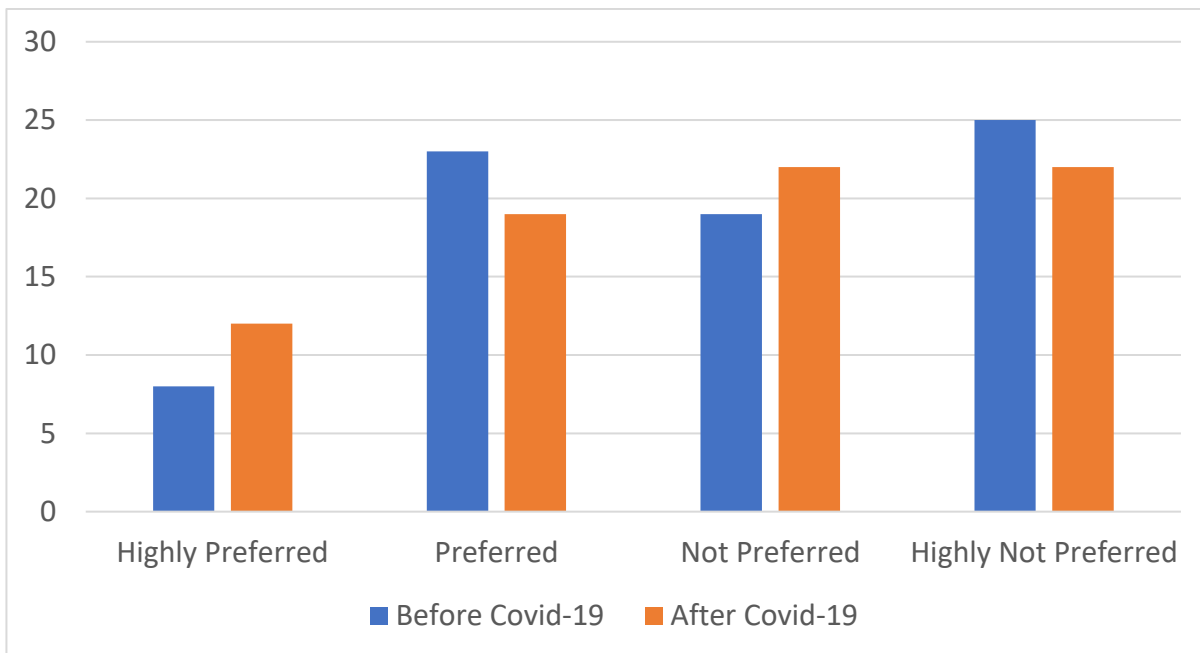Figure 9. Gold and Silver

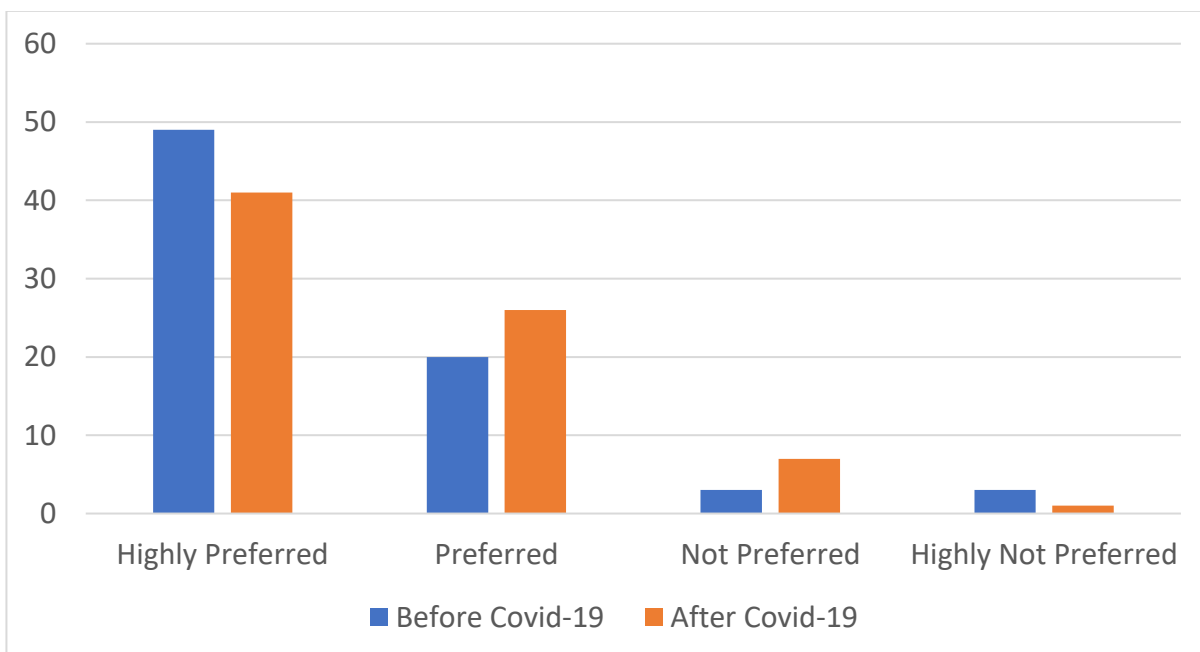Figure 10. EPF/PPF/GPF

Figure 11. Bank deposit/ Saving Account
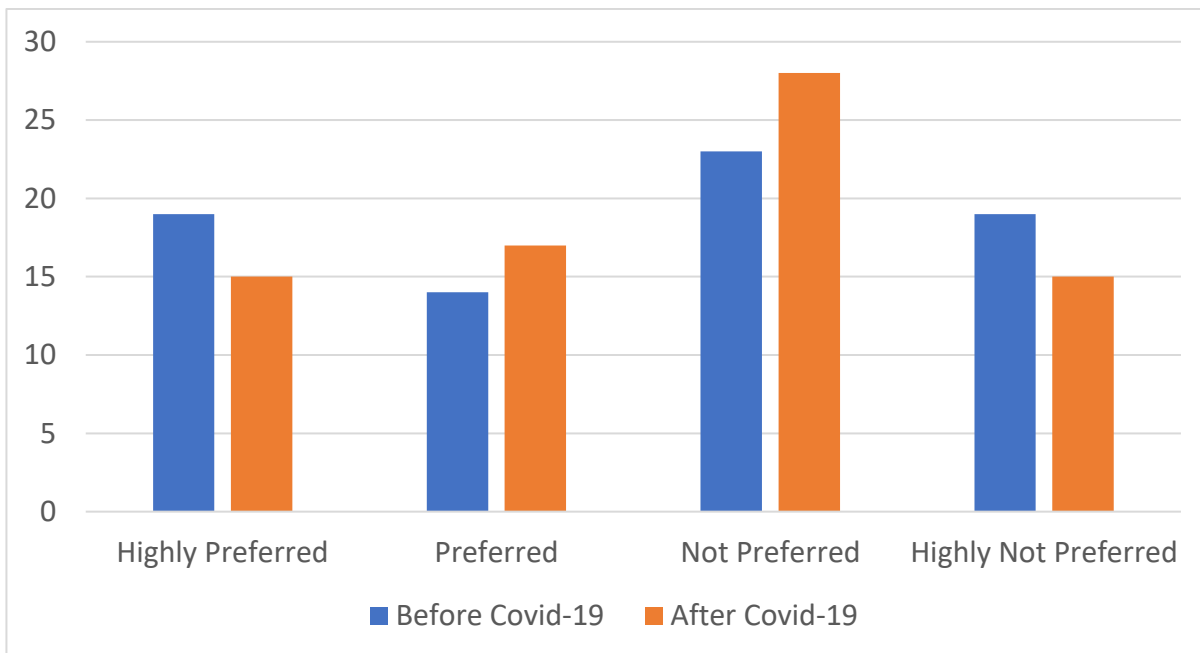

Figure 12. Stocks
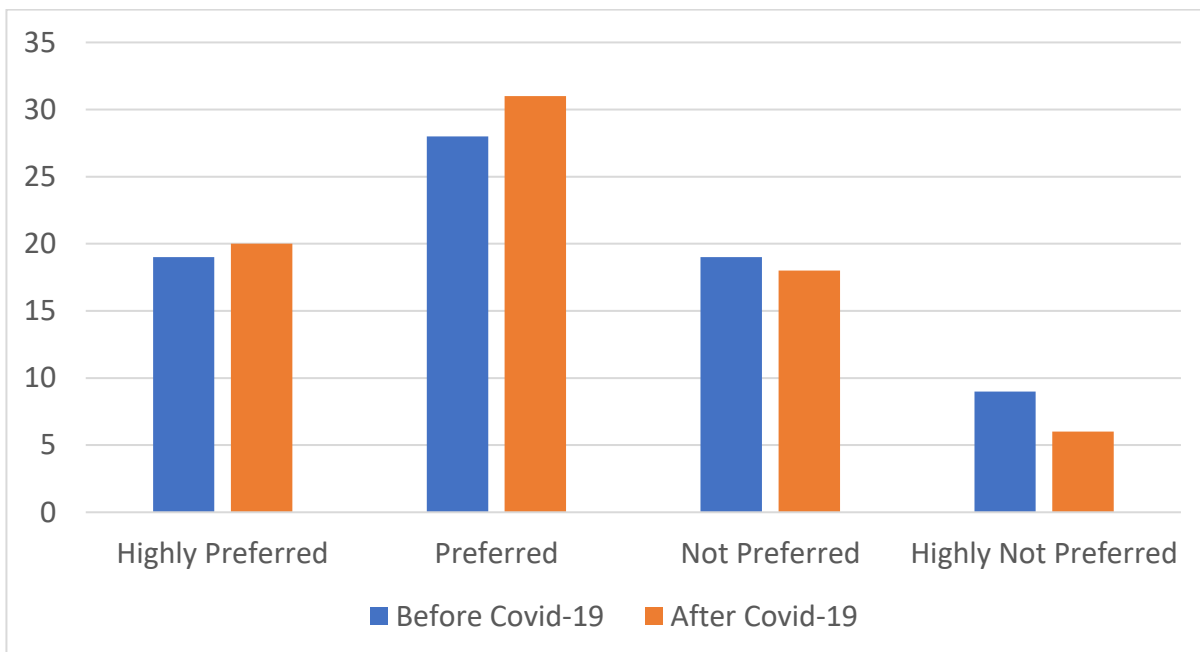
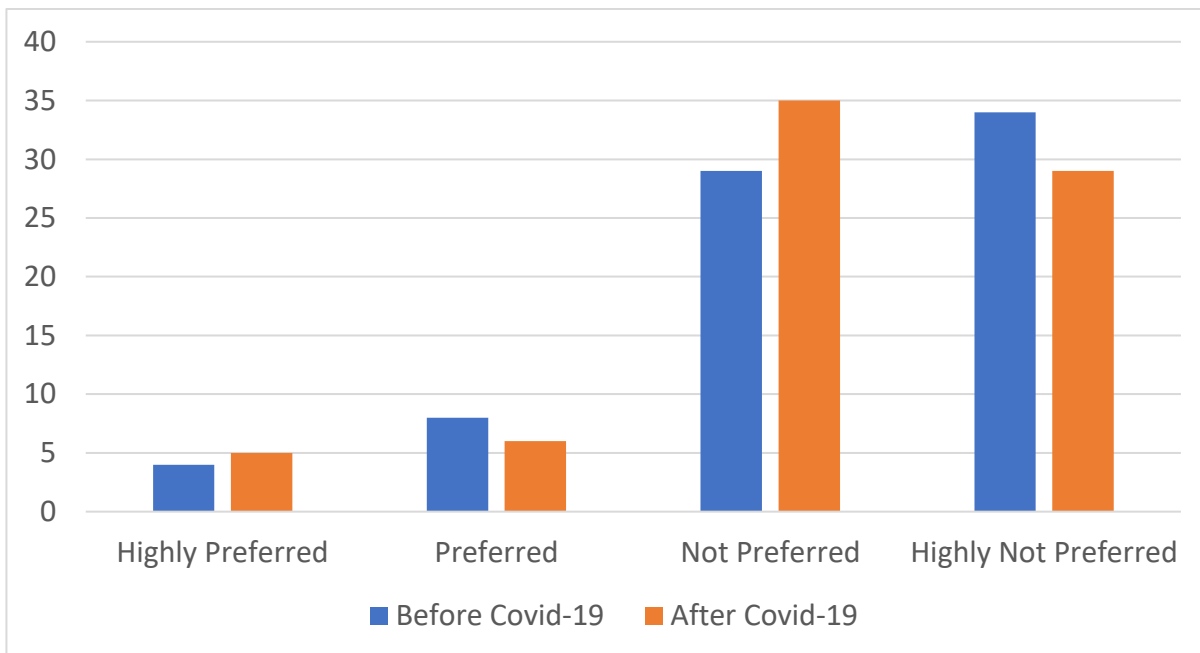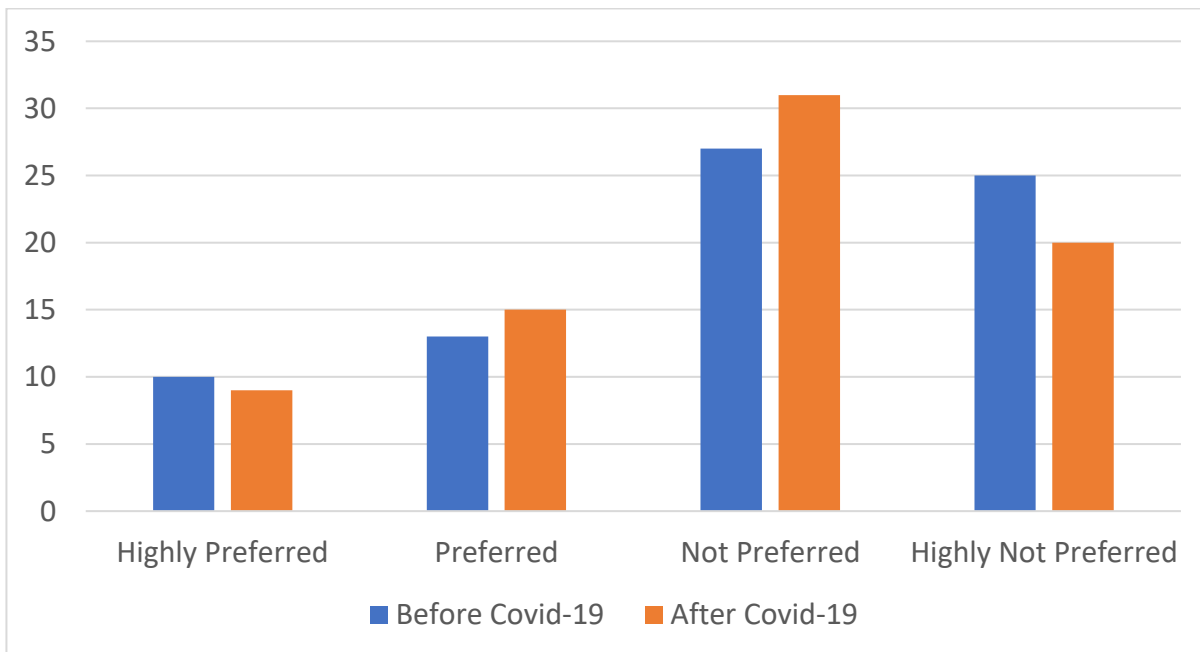Figure 13. Real Estates

Figure 14. Chit funds

Figure 15. Others

Interpretation:

It is found that after covid-19 respondents are giving less preference to investment avenue which not generate fixed returns i.e. mutual funds, stocks, chit funds.

The preference is given to investment avenues which give fixed returns i.e. postal savings, bank deposits, insurance.

After covid-19 respondents are also giving more preference to traditional investment avenues, i.e. gold & silver, real estate.

Table 18. Changes in investment value

Changes in Investment Value	No of respondents
Increase in Investment	22
No Change	31
Decrease in Investment	16
Stop in Investment	6
TOTAL	75

Figure 16. Changes in investment value.
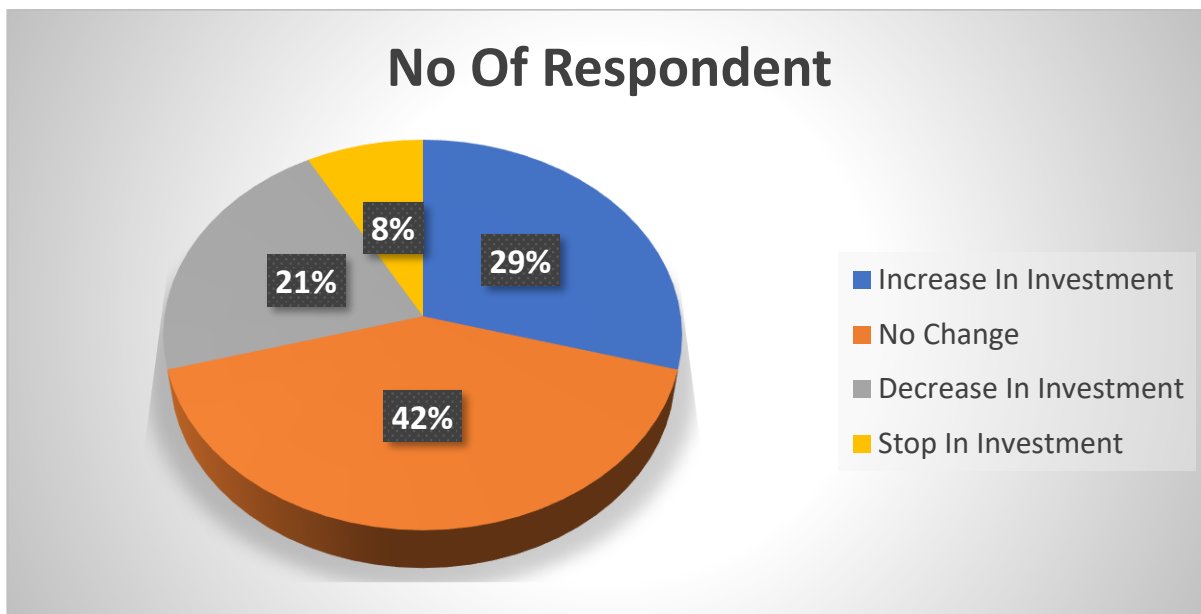
Interpretation:

It was found that after covid-19 6 respondent have stopped their investment, 16 respondents have decreased their investment value, 31 respondents have not done any changes, 21 respondents have increased their investment value.

Table 19. Changes in investment value- by occupation

Changes in Investment Value-Occupation	Professional	Self Employed	Salaried People	Retired People
Increase in Investment	8	4	10	0
No Change	5	12	11	3
Decrease in Investment	5	8	3	0
Stop in Investment	3	3	0	0

Interpretation:

When we consider the occupation of respondent with changes in investment value it is found that:

The total respondent who have stopped their investment have occupation that does not provide them fixed income i.e. self-employed & professionals.

retired and salaried people are less in numbers who have decreased their investment values.

6. FINDINGS & CONCLUSION:

FINDINGS-

To study the influence of herding behavioral bias on investment decision making:

It was found that out of 75 respondents 61 respondents were having highly herding
Behavior bias and 13 respondents have little herding behavior bias and 1 respondent was not having herding behavior bias.

It was found that there are 44 male and17 female respondents who have highly herding
Behavior bias.

It was found the age group of 18-25 has 87% respondents who have highly herding
Behavior bias.

To understand the influence of overconfidence behavioral bias on investors decision making:

It was found that out of 75 respondents 58 respondents were having highly overconfidence Behavior bias and 14 respondents have little overconfidence behavior bias and 3 respondents was not having herding behavior bias.

It was found that there are 58 male and14 female respondents who have highly overconfidence Behavior bias. It was found the age group of 46-60 has 89% respondents who have highly overconfidence Behavior bias.

To analyze the impact of impact of covid-19 on investors decision making:

Preference of investment after covid-19 have changed i.e. investors have changed their preference from fluctuate return investment avenues (mutual fund/stocks) to fixed return investment avenues (bank deposits, postal savings, insurance) and preference to traditional
investment avenues have increased.

Respondents who stopped their investment after covid-19 comes all business and profession

CONCLUSION:

- ➢ The investment is very important thing and every one need to invest to tackle the difficult time which can come in the future.

- ➢ The behavioral finance theory is very important theory if you want to find the factors affecting the investors decision making.

- ➢ The herding and over confidence behavioral bias are most common behavioral bias found among the investors, these biases are the major reason for the irrational decision making.

➢ The majority of age group (18-25) of young people have highly herding behavioral bias.

➢ The majority of age group (46-60) of elder people have highly over confidence behavioral bias.

➢ The demographic variables play an important role with the behavioral bias in the decision making of the investors.

➢ The pandemic like covid-19 has major impact on decision making process of the investors.

➢ The fall of share market during the covid-19 has major impact on investment preference of investment as preference towards the fixed return avenues have increased after covid-19.

➢ The lockdown during the covid-19 has major impact on investors who are self-employed and professionals as their work was completely close as compare to salaried and retired people who were receiving their salary or pension as they were doing work from home.

➢ During the covid-19 stop in investment is by investor who are who are self-employed and professionals.

7. REFERENCES:

THESIS

REFERENCE TYPE	IN-TEXT EXAMPLES	REFERANCE LIST EXAMPLE	END NOTE & REFWORKS
Thesis retrieved from institutional website	(Gupta Yamini,2016)	Gupta Yamini (2016) Behavioral Finance a Study on investors behavior towards Equity Market Investment with reference to investors of Delhi. https://shodhganga.inflibnet.ac.in/handle/10603/209575	Thesis

RESEARCH PAPERS

REFERENCE TYPE	IN-TEXT EXAMPLES	REFERANCE LIST EXAMPLE	END NOTE & REFWORKS
Research papers retrieved from website	(S. Hemalatha, 2019)	S. Hemalatha (2019) Factors Influencing Investment Decision of the Individual Related to Selected Individual Investors in Chennai City. https://www.ijitee.org/wp-content/uploads/papers/v8i6s4/F10940486S419.pdf	Research papers
Research papers retrieved from website	(Dr. Renu Isidore and Dr. P. Christie ,2017)	Dr. Renu Isidore and Dr. P. Christie (2017) Review of behavioral biases - an individual equity investor perspective https://www.researchgate.net/publication/323249451_REVIEW_OF_BEHAVIORAL_BIASES_-_AN_INDIVIDUAL_EQUITY_INVESTOR_PERSPECTIVE	Research papers
Research papers retrieved from website	(Misal d.m ,2013)	Misal d.m (2013) A study of behavioral finance and investor's emotion in Indian capital market. https://bioinfopublication.org/downpdf.php?artid=BIA0001903	Research papers
Research papers retrieved from website	(William Coffie ,2013)	William Coffie (2013) Behavioral Finance Theories Effecting on Individual Investor's Decision-Making. https://www.theseus.fi/bitstream/handle/10024/69765/Leppinen%20Thesis%20EBA09.pdf?sequence=1	Research papers
Research papers retrieved from website	(Dr. Vinay Kandpal and Mr. Rajat Mehrotra , 2018)	Dr. Vinay Kandpal and Mr. Rajat Mehrotra (2018), Role of Behavioral Finance in Investment Decision –A Study of Investment Behavior in India. https://www.researchgate.net/publication/328537461_Role_of_Behavioral_Finance_in_Investment_Decision_-_A_Study_of_Investment_Behavior_in_India	Research papers

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Research papers retrieved from website	(Mahalakshmi T.N. and Anuradha N. ,2018)	Mahalakshmi T.N. and Anuradha N. (2018) Factors affecting investment decision making & investment performance among individual investors in India. https://acadpubl.eu/jsi/2018-118-18/articles/18b/56.pdf	Research papers
Research papers retrieved from website	(Samina Gill ,2018)	Samina Gill (2018) Factors Effecting Investment Decision Making Behavior: The Mediating Role of Information Searches http://european-science.com/eojnss/article/download/5530/pdf	Research papers