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Influence of Social Proof Bias on the Investment Decision Making Process – An Inventors Perception

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Abstract

Making decisions in our daily life is complicated and making investment decisions is all the more complicated. The traditional theories of finance stated that the investors are very rational in making their investment decisions. However, this is far from reality. A new paradigm of finance has developed, known as the Behavioral Finance Theory which clearly states that it is not only the social and economic factors which affect the investors decision making process, whereas there are several behavioural factors which may influence the investment decisions made by individual investors. However, many investors are unaware of the fact that behavioural factors affect investment decisions. Many of the behavioural biases like anchoring bias, social proof bias, cognitive dissonance bias, mental accounting bias, endowment bias, choice paralysis bias etc. Among the various behavioural biases influencing the investment decisions of the investor's, social proof bias is also a predominant one. Social proof bias is the tendency of investors to follow the opinion, advice of others predominantly in making investment decisions. It is also called as the herd mentality. People have a tendency to follow the crowd in making investment decisions. The research study aims to investigate the influence of social proof bias by considering gender as the basis for the study. The study is relevant as there is a need to identify if social proof bias influences the investors in the true sense and if it has an influence there is a need to find out ways of getting rid of the bias to avoid mistakes committed in making investment decisions.

Keywords: *Behavioural Finance, Behavioural Bias, Social Proof Bias, Investors, Perceptions*

1. Introduction

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Investment is a very crucial aspect of financial planning which is very essential for the economic development of a nation as well as for maintaining individual liquidity position.. If money that an individual earns is left idle, it is a mere economic waste and money becomes unproductive. Investment helps an individual to fetch better returns and helps in the economic development of the country. One has to investment money after keeping in mind his investment objectives. Proper planning and analyses is very essential in making investment decisions. There are so many decisions that an individual makes in his day to day life, however making investment decisions is all the more complex in nature. While making investment decisions one has to be practical in his approach, he/she should have a proper financial planning, should conduct the fundamental and technical analysis, and consider expert's advice. However today every investor while making investment decisions are carried away by various psychological factors and emotions. This had led to faulty investment decisions. Behavioural finance is a new paradigm of finance which states that there are possibilities of individuals being influenced by many behavioural factors while making investment decisions.

Two brilliant psychologists namely Daniel Kehneman and Amos Tversky (1980) together encouraged a new paradigm of finance popularly known as the behavioral finance. Richard Thaleris also popularly known as the founding fathers of behavioral finance. Behavioral finance includes behavioral factors in the investment decision making process. However, there was lot of criticism on the behavioral finance theory for several decades. Behavioral finance is very much an integral part of investment decision making process. Although the demographic factors have an influence on the investment decisions of individuals, the psychological aspects also play a crucial role.

Behavioural finance is an add-on paradigm of finance, which introduces the behavioural aspects to financial decisions. Behavioural finance plays a dominant role in investment decision making process. Behavioural finance states that the investors today are not always rational in making their investment decisions

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Behavioural biases are the deviations made from the logical thinking process. Behavioral biases can be divided into two categories namely cognitive biases and emotional biases. Investors' behaviour often deviates from logic and reasoning and they display many behavioral biases in making investment decisions. Investing is not just based on analyzing numbers and making buy and sell decisions. A large part of investing depends on individual behaviour.

2. Review of Literature

Khoa-CuongPhan et al (2004)identified some of the psychological factors affecting various investment decisions of individual investors in Vietnam stock market. The study reveals the existence of psychological aspects in making investment decisions. The study reveals the presence of overconfidence bias, excessive optimism and herd mentality among individuals in making investment decisions. The researcher has opined that investors should have thorough knowledge about the various behavioral factors affecting investment decisions in order to avoid coming errors in making investment decisions.

Jaya.M. prosad et al. (2012) have made an attempt to study the effect of herding behaviour in the Indian equity market. The researcher opines that herding behaviour of the investors is a behavioural anomaly which defies the Efficient Market Hypothesis (EMH). The researcher has identified the existence of herd mentality was not existing in the Indian stock market during the period of 2006 to 2011.Furthermore the researcher examines that during the period of 2006-2011, the Indian investors were better informed and were making rational investment decisions. The researcher identified that with the introduction of IFRS and reformatory norms of SEBI like the prohibition of insider trading and stringent disclosure norms of SEBI has increased the transparency of the market and enhances the quality of market information, available to the investors in the financial market.

Taqadus Bashir (2013) made an attempt to examine the influence of demographic factors and personality traits on the behavioral biases such as overconfidence bias, herding bias, disposition effect in Pakistan. The researcher has opined that investors with traits of openness should make

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decisions of selling and buying of investments after careful evaluating of prospective investments pros and cons to avoid the bias relating to disposition effect and the investors with the trait of extraversion should often consult the financial experts to avoid the formation of overconfidence bias. The researcher has concluded by stating that personality traits influence overconfidence bias, herding and risk taking behaviour whereas the demographic profile does not have a significant relationship with the identified biases.

Madhavi Dhole (2014) examined the presence of behavioral factors like gambling, mental accounting, herding etc. on the portfolio investment decisions of different professionals. Medical professionals in Mumbai city were considered for the study. The researcher has opined that the medical professionals are affected by behavioral factors such as herding, overconfidence, fear of regret, gamblers myth, mental accounting bias and hindsight bias in making portfolio investment decisions.

Vijaya.E(2014) has made attempt to analyse the impact of behavioral biases on the investment decision making process of the retail investors in the Indian Stock Market. Researcher has identified five behavioral factors have a strong influence on the investment decisions of stock market investors namely Anchoring, Herd mentality, Overconfident, Market forces and Loss aversion. The researcher has concluded that there is a need for the investors to have complete knowledge and practical exposure while making investment in the Indian Stock market before making investment decisions and theory should be aware of the various behavioural factors affecting investment decisions to avoid committing mistakes in making investment decisions.

3. Objectives of the Study

- To study the influence of the demographic profile of the respondents with special reference to gender on social proof bias.
- To examine the perception of Investors towards social proof bias.

4. Research Methodology

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For the present study both descriptive and inferential statistics were employed. Descriptive statistics included Frequency and Percentages. Inferential statistics employed in the present study includes Chi-square test and Cramer's V

5. **Social Proof Bias**

Social proof bias also known as the herding bias is very common among individuals. Herding is the behavior of individual investors wherein even rational investors start behaving irrationally by following the judgments made by others in making investment decisions. We tend to take our decisions based on the decisions made by others in the society. Social proof bias exists because man lives not in isolation but in the society. The decisions made by others be it a small decision or a major decision is very likely to have an influence on our decisions. The people around us in the society and the choices that they make is pushing or pulling an individual to do certain things. The same is the case with investment decision making process, wherein the decisions relating to investments made by one individual in the society is likely to influence the investment decisions made by other individuals. Social proof bias is also known as the group thinking behavior of investors. It is said that around 5% of the population are leaders in making investment decision and 95% are the followers of the decisions made by the leaders.

Table- 1: Distribution of the Sample Respondents with Demographic Variables, Investment and Results of the Test

Variable	Sub variable		Investors		Total	Test statistics
			Single investment avenue	Multiple investment avenues		
Total sample			600	600	1200	
Gender	Male	F	369	365	734	CV=.007 p=.813
		%	61.5	60.8	61.2	
	Female	F	231	235	466	
		%	38.5	39.2	38.8	
Age groups	18-25	F	35	36	71	CV=.021 p=.970
		%	5.8	6.0	5.9	
	26-35	F	321	326	647	
		%	53.5	54.3	53.9	
	36-45	F	136	134	270	

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		%	22.7	22.3	22.5	
	46-55	F	89	89	178	
		%	14.8	14.8	14.8	
	56+	F	19	15	34	
		%	3.2	2.5	2.8	
Location	Bengaluru	F	320	280	600	CV= .045 P = .291
		%	53.33	46.67	50	
	Hubli-Dharwad	F	170	180	350	
		%	28.33	30	30	
	Mysuru	F	110	140	250	
		%	18.33	23.33	20	
Marital Status	Single	F	165	176	341	CV=.020 P = .481
		%	27.5	29.3	28.4	
	Married	F	435	424	859	
		%	72.5	70.7	71.6	
Education	High School	F	2	3	5	CV=0.041 P=0.731
		%	0.3	0.5	0.4	
	PUC	F	35	31	66	
		%	5.8	5.2	5.5	
	Graduates	F	242	264	506	
		%	40.3	44.0	42.2	
	Post Graduates	F	298	279	577	
		%	49.7	46.5	48.1	
	Ph.D.	F	23	23	46	
		%	3.8	3.8	3.8	
Occupation	Self Employed	F	89	93	182	CV=.013 P=0.906
		%	14.8	15.5	15.2	
	Salaried	F	491	489	980	
		%	81.8	81.5	81.7	
	Retired	F	20	18	38	
		%	3.3	3.0	3.2	
Income (per annum)	100-150K	F	18	18	36	CV=0.009 P=0.999
		%	3.0	3.0	3.0	
	151-200 K	F	48	46	94	
		%	8.0	7.7	7.8	
	201-250 K	F	55	53	108	
		%	9.2	8.8	9.0	
	251-300 K	F	87	88	175	
		%	14.5	14.7	14.6	
	301K+	F	392	395	787	

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		%	65.3	65.8	65.6	

Source: Survey Data

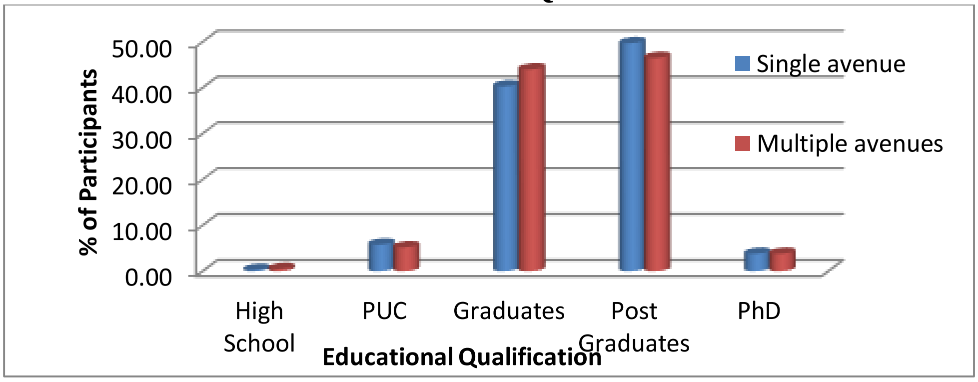
A total of 1200 sample investors (600 respondents who have invested in single investment avenue and600 respondents who have invested in multiple investment avenues) were selected for the present study. The detailed demographic components of the selected sample investors are as follows:

Table – 2: Table showing the distribution of Sample Respondents based on Educational Qualification

Variable	Sub variable		Single avenue	Multiple avenues	Total	Test Statistics
Education	High School	F	2	3	5	CV=0.041 P=0.731
		%	0.3%	0.5%	0.4%	
	PUC	F	35	31	66	
		%	5.8%	5.2%	5.5%	
	Graduates	F	242	264	506	
		%	40.3%	44.0%	42.2%	
	Post Graduates	F	298	279	577	
		%	49.7%	46.5%	48.1%	
	Ph.D.	F	23	23	46	
		%	3.8%	3.8%	3.8%	

Source: Survey data

Figure-1: Bar Graph showing the Distribution of Sample Respondents based on Educational Qualification



Source: Survey Data

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Table 2reveals that majority of the sample respondents i.e. 48.1% of the samples have completed their post-graduation, 42.2% of the respondents are Graduates, 5.5% of the respondents have completed their PUC, 3.8% have completed their Ph.D. and 0.4% of the respondents have completed their high school education. When we consider the single and multiple investment decisions of the sample respondents we can analyse that the pattern of distribution of education is the same. From the Cramer's V it is justified that there is no significant relationship between the investment pattern and the education profile of the sample respondents **(CV=0.041,P=0.731**).

Table – 3: Table showing the distribution of Sample Respondents based on Occupation

Variable	Sub variable		Single avenue	Multiple avenues	Total	Test Statistics
Occupation	Self Employed	F	89	93	182	CV=.013 P=0.906
		%	14.8%	15.5%	15.2%	
	Salaried	F	491	489	980	
		%	81.8%	81.5%	81.7%	
	Retired	F	20	18	38	
		%	3.3%	3.0%	3.2%	

Source: Survey data

The above table (3) shows the demographic profile pertaining to the occupation of the sample respondents. It is evident that 81.7% i.e., majority of the respondents are salaried class of people, 15.2% respondents are self-employed and 3.2% of the respondents are of the retired class. When we consider the single and multiple investment decisions of the sample respondents, we can analyses that the pattern of distribution of occupation is the same. The Cramer's V reveals that there is no significant relationship between the investment pattern and the occupation level of the sample respondents **(CV=.013**, **P=0.906).**

Figure – 2: Bar Graph showing the Distribution of Sample Respondents based on Occupation

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Source: Survey data

Table – 4: Bar Graph showing the Distribution of Sample Respondents based on Annual Income

Variable	Sub variable		Single avenue	Multiple avenues	Total	Test Statistics
Income (per annum)	100-150K	F	18	18	36	CV=0.009 P=0.999
		%	3.0%	3.0%	3.0%	
	151-200 K	F	48	46	94	
		%	8.0%	7.7%	7.8%	
	201-250 K	F	55	53	108	
		%	9.2%	8.8%	9.0%	
	251-300 K	F	87	88	175	
		%	14.5%	14.7%	14.6%	
	301K+	F	392	395	787	
		%	65.3%	65.8%	65.6%	

Source: Survey data

The table 4 demonstrates that majority of the respondents, i.e., 65.6% of the respondents are of the income slab of 3,00,001 and above. 14.6% of the respondents are of the income slab of 2,50,001-3,00,000, 9% of the respondents are of the income slab of 2,00,000-2,50,000, 7.8% of the respondents are of the income slab of 1,50,001-2,00,000 and 3% of the respondents are of the income slab of 1,00,001-1,50, 000.When the single and multiple investment decisions are considered, the pattern of distribution of the income slab is the same. Cramer's V shows that there is no significant relationship between the income levels and the investment pattern of the sample respondents**(CV=0.009, P=0.999**).

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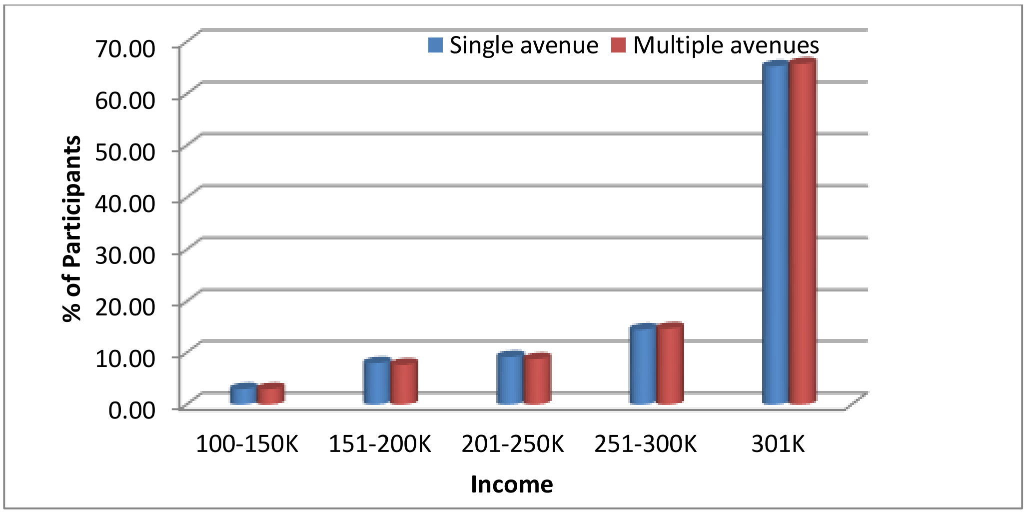
Figure – 3: Showing the Distribution of Sample Respondents Based on Annual Income



Source: Survey data

Table 5 clearly indicates that, male respondents, 75 of them have invested in shares, out of which 60% have strongly agreed on the influence of the bias. With regard to the male respondents who have invested in mutual funds, 66.67% of them have agreed that they highly rely on the opinions given by friends, relatives, neighbours in making investment decisions. 66.67% of the male respondents who have invested in bank deposits have agreed that they follow the crowd in making investment decisions. While making investment in insurance schemes,50% of the male respondents have considered the opinion of people in the society rather than being practical in their approach. However, 46.7% of male respondents who have invested in gold have agreed and 30.78% of the male respondents who have invested in post office deposits have strongly agreed on the influence of social proof bias on investment decision making process. The chi-square value is 98.26 and the p value is 0.000 which indicates a significant difference in the opinion expressed by male respondents towards each investment avenue.

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With regard to the female respondents,40 of them have invested in shares, out of which 67.67% have strongly agreed on the influence of the social proof bias. Mutual funds are subject to market risk, however 50 of the female sample respondents have invested in mutual funds, out of which 50% have agreed on the influence of the society in making investment decisions. Bank deposits is a traditional but still a popular investment avenue, in the present research, 40 women respondents have invested in bank deposits wherein, 40% have strongly agreed on the influence of social proof bias. From the total sample respondents, 40 female respondents have invested in insurance however, we find that 62.5%

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Table - 5: Gender Wise Perception of Investors with Single Investment Avenues towards Social Proof Bias

MALE

Investment Avenues		Social proof bias					Test statistics	
		SD	**D**	**SOA**	**A**	**SA**	**Overall**	**Invest**
Shares 75	F	10	5	0	15	45	Chi-square 98.260	CV = .183 P=0.000
	%	13.3%	6.6%	-	20%	60%		
Mutual funds 75	F	13	2	5	50	5		
	%	17.3%	2.7%	6.7%	66.67%	6.6%		
Bank Deposits 60	F	6	4	5	40	5		
	%	6%	6.7%	8.3%	66.67%	8.33%		
Insurance 60	F	5	5	5	30	15		
	%	8.33%	8.33%	8.33%	50%	25%		
Gold 15	F	1	1	1	7	5		
	%	6.67%	6.66%	6.64%	46.7%	33.33%		
Post office deposits 65	F	4	6	15	15	20		
	%	6.15%	9.23%	23.07%	23.07%	30.78%		
Total		**39**	**23**	**31**	**162**	**95**		

FEMALE

Investment Avenues		Social proof bias					Test statistics	
		SD	**D**	**SOA**	**A**	**SA**	**Overall**	**Invest**
Shares 40	F	3	4	3	5	25	Chi-square 67.231	CV = .118 P=0.000
	%	7.5%	10%	7.5%	12.5%	62.5%		
Mutual funds 50	F	1	6	3	25	15		
	%	2%	12%	6%	50%	30%		
Bank Deposits 40	F	0	8	2	16	14		
	%	-	20%	5%	40%	35%		
Insurance 40	F	3	2	4	25	6		
	%	7.5%	5%	10%	62.5%	15%		
Gold 40	F	1	2	8	7	22		
	%	2.5%	5%	20%	17.5%	55%		
Post office deposits 40	F	4	4	6	17	8		
	%	10%	10%	15%	42.5%	20%		
Total			**12**	**26**	**26**	**94**	**90**	

Source: Primary data.

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Have agreed on the influence of social proof bias.40 female respondents have invested in gold. Gold being one of the popular investment avenue among the female respondents.55% of the female respondents who have invested in gold have strongly agreed on being influenced by the social proof bias and 40 female respondents have invested in post office deposits, out of which 42.5% have agreed on the influence of the bias. The chi-square value is 67.23 and p value =0.000 which indicates that there is a significant difference in the opinion expressed by female respondents towards each of the investment avenue.

Table 6: Gender Wise Perception of Investors withMultiple Investment Avenues towards Social Proof Bias

MALE									FEMALE								
Investment Avenues		Social proof bias					Test statistics		Investment Avenues		Social proof bias					Test statistics	
		SD	D	SOA	A	SA	Overall	Invest			SD	D	SOA	A	SA	Over all	Invest
Shares 238	F	07	18	13	105	95	Chi-square 73.7	CV = .183 P=0.000	Shares 152	F	5	6	06	48	87	Chi-square 23.2	CV = .118 P=0.000
	%	2.9%	7.6%	5.4%	44.1%	39.92%				%	3.2%	3.9%	3.9%	31.5%	57.2%		
Mutual funds 264	F	10	23	10	112	109			Mutual funds 171	F	3	7	04	58	99		
	%	3.7%	8.7%	3.7%	42.4%	41.28%				%	1.7%	4.1%	2.3%	33.9%	57.9%		
Bank Deposits 270	F	02	24	05	96	143			Bank Deposits 174	F	07	11	05	49	102		
	%	0.7%	8.8%	1.8%	35.5%	52.96%				%	4.0%	6.3%	2.8%	28.1%	58.62%		
Insurance 217	F	02	04	03	84	124			Insurance 140	F	04	09	07	37	83		
	%	0.9%	1.8%	1.3%	38.7%	57.15%				%	2.8%	6.4%	5%	26.4%	59.28%		
Gold	F	04	09	04	93	110			Gold	F	5	02	04	39	90		

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220	%	1.8%	4.0%	1.82	42.27%	50%			140	%	3.57	1.43%	2.9%	27.8%	64.2%		
Post office deposits 120	F	02	06	02	23	87			Post office deposits 80	F	05	10	3	20	42		
	%	1.67	5.0%	1.6%	19.16%	72.5%				%	6.2%	12.5%	3.75	25.0%	52.5%		
Total		**27**	**84**	**37**	**513**	**668**			**Total**		**29**	**45**	**29**	**251**	**503**		

Source: Primary data
Note: Multiple responses allowed.

The above table 6depicts information pertaining to the influence of social proof bias on male and female respondents who have invested in multiple investment avenues. These investors have invested in a portfolio of investment avenues wherein 238 male respondents have preferred shares as one of the investment avenues wherein 44.1% of them have agreed on the influence of social proof bias, 264 male respondents have invested in mutual funds out of which 42.4% have agreed on the influence of the bias,270 of the male respondents have invested in bank

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deposits, wherein,52.96% have agreed on the influence of social proof bias, 217 male investors have invested in insurance wherein 57.15% have agreed on the influence of social proof bias, 220 male respondents have invested in gold wherein 50% have agreed on the influence of social proof bias,120 male respondents have invested in post office deposits wherein 72.5% have strongly agreed on the influence of social proof bias.The chi-square value is **73.7**and the p value is **0.000** which indicates a significant difference in the opinion expressed by male respondents towards each investment avenue from within the multiple investment avenues.

The data shows the perception of female respondents towards social proof bias .There are 152 female respondents who have preferred investing in shares as one of the investment avenue wherein 57.23% have strongly agreed on the influence of social proof bias while investing, 171 female respondents have invested in mutual funds ,out of which 57.9% have strongly agreed on the influence of the society in making investment decisions, 174 female respondents have invested in bank deposits, wherein 58.62%have strongly agreed on the influence of herd mentality ,140 female respondents have taken up insurance ,wherein 59.29% have strongly agreed on the influence of social proof bias.140 female respondents have preferred investing in gold as one of the investment avenues wherein 64.29% have agreed on the influence of social proof bias. Out of 80 female respondents who have invested in post office deposits,52.6% have strongly agreed on the influence of social proof bias influencing them while investing in post office deposit schemes.The chi- square value is **23.2**and p value =**0.000** which indicates that there is a significant difference in the opinion expressed by female respondents towards each of the investment avenue.

6. Findings

1. It is evident from the study that investors are subject to social proof bias while making investment decisions.
2. With regard to the investors who have invested in individual investment avenues, we can find that male respondents who have invested in Mutual funds, Bank deposits and Shares are more influenced by herd mentality and female investors who have invested in invested in Shares, Insurance and Gold are more subject to social proof bias.

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3. Regarding the investors who have invested in multiple investment avenues, we find that the male respondents who have invested in Insurance and Gold from within multiple investment avenues are influenced by social proof bias. We find that female respondents who have invested in Gold and Mutual funds from within multiple investment avenues are more influenced by social proof bias.

7. Suggestions

1. Individuals should consult financial experts before making investment decisions. Financial experts will have expertise knowledge about the market conditions, they will be in a position to suggest the best avenue by considering one's demographic profile.
2. Investors should not always be carried away by the crowd in making investment decisions. Proper analysis and budgeting is very essential to avoid committing errors in making investment decisions.
3. Both male and female investors should be practical in making their investment decisions rather than being carried away by emotions.

8. Conclusion:

Making investment decisions is very complex in the present competitive arena. Many investors are carried away by emotions while making investment decisions which leads to heavy loss. Behavioural finance is anew area of finance which states that there are chances for individuals to be carried away by emotions in making investment decisions. Social bias is one such behavioural bias wherein investors rely too much on the information provided by others in making investment decisions. There is an urging need to create awareness among the investors about the behavioural biases influencing investment decisions and to be practical in making investment decisions.

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