CHAPTER IV

RESULTS AND DISCUSSION

This chapter presents an analysis of the data and discusses the results of each objective of the research study. The data collected through the questionnaire included the dimensions of investment behaviour, personality traits, and government employees' intelligence. After tabulation and classification of data, the appropriate statistical tools were applied in the processes. The different dimensions in investment behaviour are analysed in relation to the psychological aspects like Multiple Intelligence and Big Five Personality Traits with the help of suitable statistical techniques. They are presented in different sections in this chapter.

The analysis presented in the order of objectives;

1. To study the Investment Pattern in relation to intelligence and personality of select Government employees in Kerala
2. To find out Investment Preferences of select Government employees in Kerala concerning their intelligence and personality
3. To identify Investment Decision Making behaviour of select Government employees in Kerala (Rational and irrational behaviour)
4. To assess the influence of demographic profile of the select Government employees on investment behaviour, and
5. To examine the effect of intelligence and personality of Government employees on their investment behaviour

The first objective of the study of investment pattern is placed in section 4.3 in the order of subdimensions like investment objectives, factors perceived, actual investment made and risk level perception. After the descriptive details of the investment pattern, the relationship of the investment pattern with intelligence and personality is discussed. Hypotheses tested here are H_{01a}, H_{01b}, H_{02a} and H_{02b}. The second objective of finding out the investment preferences are placed in section 4.4. After the descriptive analysis, the relationship of investment preferences with intelligence and personality, investment patterns, and investment decision-making are discussed. Hypotheses tested here are H_{03}, H_{06a}, H_{06b}, H_{06c} and H_{07}. The third objective of identifying the investment decision-making behaviour is placed in section 4.5. The first part of this section discusses the description of rational and irrational behaviour in the investment of government employees. Then, the influence of Multiple Intelligences, Big Five Personality Traits, investment objectives and factors perceived on investment decision-making (rational and irrational) are discussed. Hypotheses tested here are H_{05a}, H_{05b}, H_{08a}, and H_{08b}. the fourth

objective, assessing the influence of demographic profile on investment behaviour, is placed in section 4.6. The influence of gender, age, employment category, marital status, income level and volume of savings on investment behaviour are discussed here. Hypotheses tested here are H_{09a}, H_{09b}, H_{09c}, H_{09d}, H_{09e}, and H_{09f}. The fifth objective, examining the effect of intelligence and personality of Government employees on their investment behaviour, is placed as section 4.7. The conceptual model is tested here, and the hypothesis tested is H_{010}.

The discussion sequence is as follows:

4.1. Demographic Profile of The Respondents

4.2. Psychological Aspects of The Respondents

4.2.1. Multiple Intelligences of Government Employees – Cognitive Aspects

4.2.2. Personality of Government Employees – Behavioural Aspects

4.3. Investment Pattern

4.3.1. Investment Pattern of Select Government Employees

4.3.2. Investment Pattern on Investors' Psychological Aspects like Intelligence and Personality

4.4. Investment Preferences

4.4.1. Investment Preferences of Select Government Employees

4.4.2. Investment Preferences on Investors' Psychology, Investment Pattern and Investment Decision Making

4.5. Investment Decision Making

4.5.1. Investment Decision Making of Select Government Employees

4.5.2. Investment Decision Making Behaviour and its Relationship with Investors' Psychology and Investment Pattern

4.6. Influence of Demographic Profile of Select Government Employees on Investment Behaviour

4.6.1. Gender
4.6.2. Age
4.6.3. Category of Employment
4.6.4. Marital Status
4.6.5. Income Level
4.6.6. Volume of savings

4.7. Inter Effect of Intelligence and Personality of Investors on Their Investment Behaviour

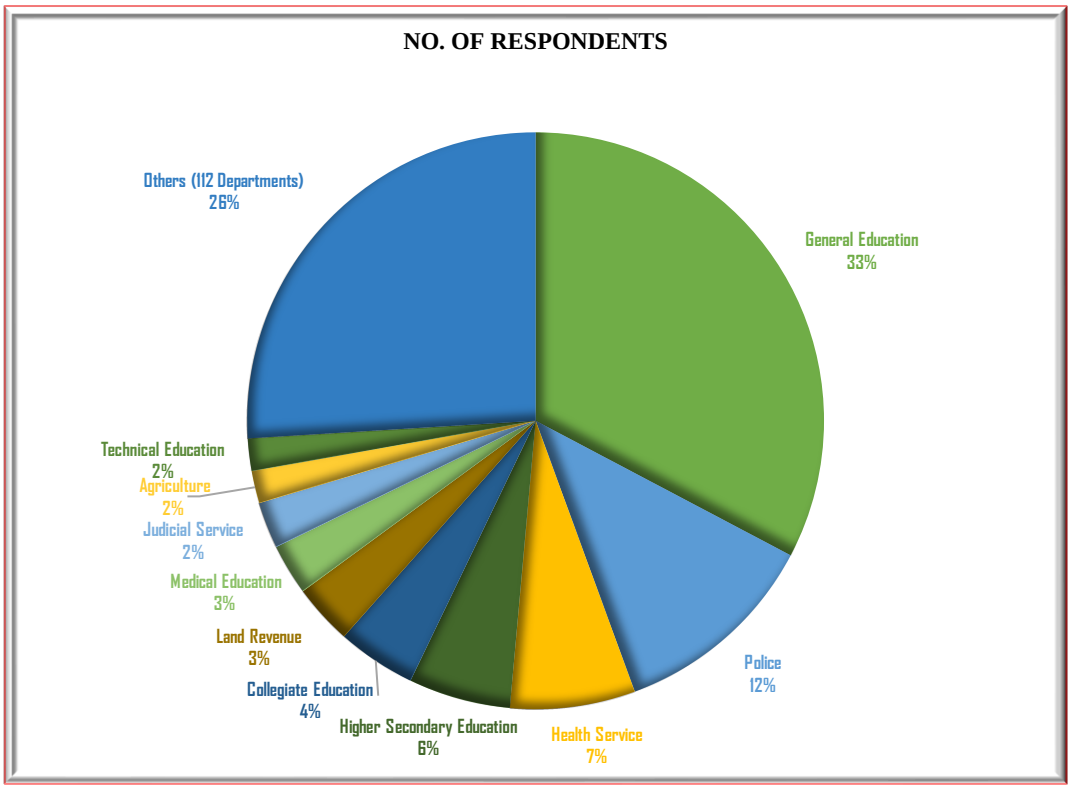
The results of analysed data were displayed here.

4.1. DEMOGRAPHIC PROFILE OF THE RESPONDENTS

The analysis of the demographic profile of the respondents is discussed here. The demographic profiles like gender, age, income level, marital status, volume of savings, the category and department of respondents are presented. The sample selected was proportionate to the number of employees in different departments under the Government of Kerala. The details of the respondents are discussed in Figure 4.1.

Figure 4.1

Department Wise Details of Respondents



Source: Primary data

As per the chart, the largest proportion is from the general education department, 32.6 per cent (115 respondents) and the least were from technical education and agriculture department; that is 1.8 per cent each (7 respondents). Other departments included certain departments with more employees; like Local Self Government Development (LSGD), Finance, Goods and Service Tax (GST), Motor Vehicle department, and Statistical Department. This category form 26 percent (100 respondents)

Table 4.1.

Demographic Profile of Respondents

Variables	Categories	No. of respondents	Percentage
Gender	Male	200	52.1
	Female	184	47.9
	Total	384	100
Age	21 - 30 years	13	3.4
	31 - 40 years	170	44.3
	41 - 50 years	119	31
	51 - 60 years	82	21.4
	Total	384	100
Categories of Grade II employees	Grade II (a)	168	43.8
	Grade II (b)	216	56.3
	Total	384	100
Marital Status	Single	35	9.1
	Married	326	84.9
	Separated	17	4.4
	Widow/Widower	6	1.6
	Total	384	100
Monthly Income level (Amount in INR.)	Below 40,000/	27	7.03
	40,000/ - 60,000/	108	28.13
	60,000/ - 80,000/	191	49.74
	80,000/ - 100,000/	47	12.23
	Above 100,000/	11	2.87
	Total	384	100
Volume of Savings (Percentage of Income)	Below 10%	38	9.9
	10% - 20%	113	29.4
	20% - 30%	111	28.9
	30% - 40%	92	24
	Above 40%	30	7.8
	Total	384	100

Source: Primary data

Table 4.1. shows that the majority of the respondents are male (52%) and female are 48 percent in total sample.

As per age, majority of respondents (44.3%) are from 31-40 years age group and least, (3.4%) are from 21-30 years age group. The percentage of participants from 51-60 and 41-50 are 21.4 percent and 31 percent respectively.

Among respondents, 43.8 percent from category (a) from Grade II employees and 56.3 percent from category (b).

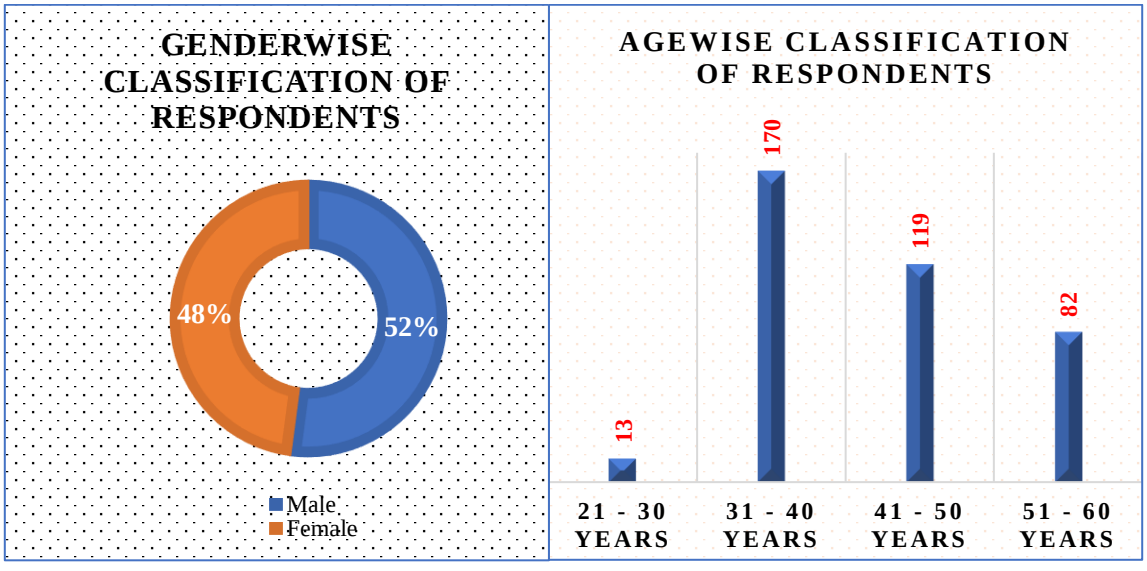
In marital status, 85 percent are married, and the rest 15 percent are either single, widow/er or separated.

The majority (49.7%) are from Rs.60,000 - Rs.80,000 income level, but above Rs.100,000 income group are the least (3%).

Around 29 percent of the sample are saving 10-20 percent or 20-30 percent of their income. Nearly 9.9 percent of them save only less than 10 percent of their income. Among the respondents, 24 percent can save 30-40 percent of revenue and 7.8 percent of them save more than 40 percent. A majority (82%) save between 10 and 40 percent of income.

Figure 4.2

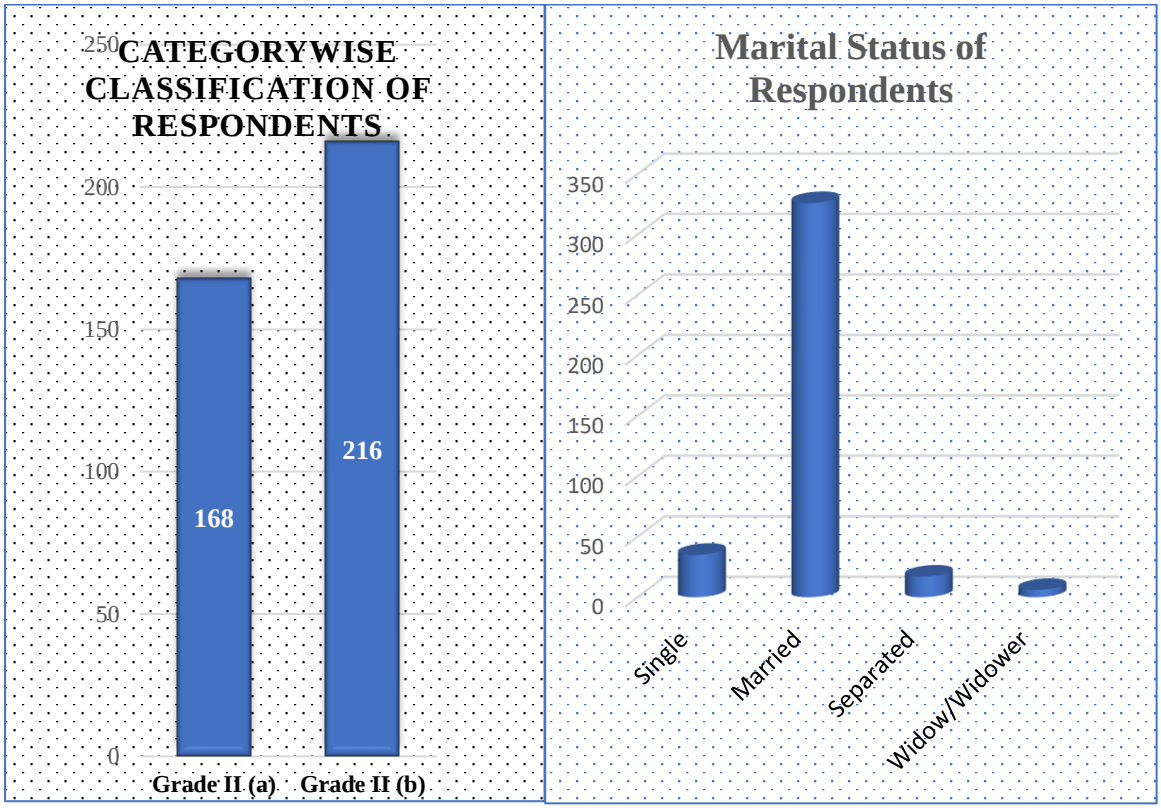
Details of Respondents – Gender and Age



Source: Primary data

Figure 4.3

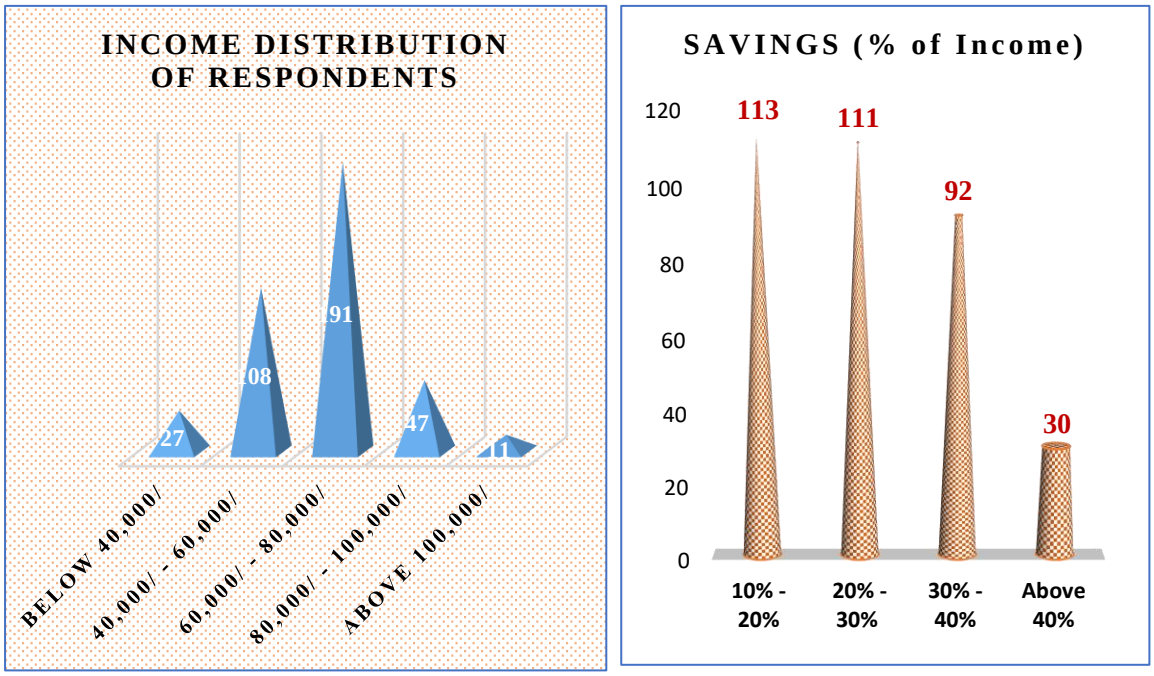
Details of Respondents – Category of Employment and Marital Status



Source: Primary data

Figure 4.4

Details of Respondents – Income and Savings



Source: Primary data

4.2. PSYCHOLOGICAL ASPECTS OF THE RESPONDENTS

The variables under psychological aspects are intelligence and personality. For intelligence, the Multiple Intelligences (Gardner, 1983) are studied in case of personality, Big Five Personality Traits (McCrae, and Costa, 1987) are studied.

4.2.1. Multiple Intelligences of Government Employees – Cognitive Aspects

For studying investors' intelligence, the Multiple Intelligence Inventory used nine dimensions of Multiple Intelligences like verbal, logical, spatial, Kinesthetic, musical, interpersonal, intrapersonal, naturalistic and existential. The mean scores of each intelligence depicted in Table 4.2.

Table 4.2

Multiple Intelligences of Government Employees

Multiple Intelligences	Mean	Std. Deviation
Verbal Intelligence	13.89	4.534
Logical Intelligence	12.85	4.447
Spatial Intelligence	13.01	4.230
Kinesthetic Intelligence	12.47	4.293
Musical Intelligence	12.58	4.788
Interpersonal Intelligence	13.94	4.392
Intrapersonal Intelligence	13.87	4.441
Naturalistic Intelligence	14.00	4.392
Existential Intelligence	11.30	4.650
Investors' Intelligence whole	13.10	1.667

Source: Primary data

Table 4.2 shows the Verbal, Logical, spatial, Kinesthetic, Musical, Interpersonal, Intrapersonal, Naturalistic and Existential intelligences respectively (Mean value 13.89, 12.85, 13.01, 12.47, 12.58, 13.94, 13.87, 14.00, and 11.30). The mean of intelligence as a whole is 13.10, with a standard deviation of 1.667. Hence it is proved that Naturalistic, Verbal, Interpersonal, Intrapersonal, and Logical intelligences are significantly contributing to wise investment.

4.2.2. Personality of Government Employees – Behavioural Aspects

Employees' personality traits are studied using the big five personality inventory, which included the five personality traits: Openness, Conscientiousness, Extroversion,

Agreeableness, and Neuroticism. Mean scores of each personality trait are depicted in Table 4.3.

Table 4.3

Big Five Personality Traits of Government Employees

Personality Traits	Mean	Std. Deviation
Openness	13.51	3.68
Conscientiousness	13.09	3.74
Extroversion	12.72	3.52
Agreeableness	12.86	3.63
Neuroticism	10.82	3.43
Investors' personality	12.60	1.94

Source: Primary data

Table 4.3 shows Mean scores of the personality traits like Openness, Conscientiousness, Extroversion, Agreeableness, and Neuroticism are 13.51, 13.09, 12.72, 12.86, and 10.82, respectively and standard deviation ranging from 3.433 to 3.739. The mean score of total personality is 12.60, and the standard deviation is 1.934. Hence it is observed that the personality traits like Openness, Conscientiousness, Extroversion, and Agreeableness more significantly influence their investors' personality.

4.3. INVESTMENT PATTERN

Investment pattern is the main focus of the investment behaviour of employees. In this section of the analysis, the results in relation to the investment objectives, factors affecting investment, risk level perceived by the respondents and actual investment made in different investment avenues are discussed.

4.3.1. Investment Pattern of Select Government Employees

Descriptive analysis of the factors influencing investment behaviour is discussed in Table 4.4.

Table 4.4

Factors Influencing Investment Perceived by Government Employees 1

Factors	Mean	Std. deviation	Rank
Return	4.09	0.78	II
Safety	4.14	0.89	I
Liquidity	3.77	0.81	III
Tax saving	3.57	0.10	VI
Diversification	3.41	1.04	VIII
Simplicity	3.56	1.06	VII
Affordability	3.61	1.07	V
Marketability	3.71	1.07	IV

Source: Primary data

Table 4.4 shows that safety has the highest mean value, 4.14 (Rank I) and the lowest standard deviation of 0.779. Return is the factor next to it with a mean value of 4.09 (Rank II). For liquidity and marketability, the mean value is 3.77 (Rank III) and 3.71 (Rank IV) respectively. All the four other factors have a similar mean, like 3.57 for tax savings, 3.41 for diversification, 3.56 for simplicity and 3.61 for affordability. The major factors influencing investment behaviour are Safety, Return, Liquidity and Marketability (Rank I, II, III, and IV). The other factors are Tax savings, Diversification, Simplicity and Affordability (Rank V, VI, VII and VIII).

For reducing the factors in further analysis, factor analysis has been conducted, and the factors are reduced to two, as shown in table 4.5.

Table 4.5

Factors Influencing Investment Perceived by Government Employees 2

Perceived Factors in investment behaviour	Factor grouping 1	2
Primary Factors		
Return		**0.852**
Safety		**0.510**
Liquidity		**0.671**
Marketability		**0.596**
Other factors		
Tax saving	**0.644**	
Diversification	**0.648**	
Simplicity	**0.787**	
Affordability	**0.803**	
Eigen Value	2.867	1.134
Percentage variance	40.95	16.2
Percentage cumulative variance	40.95	57.15
KMO Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.758

Source: Primary data

The KMO value in this study is 0.758, which is acceptable as sample adequacy, as shown in Table 4.5 The principal component analysis technique was employed for factor extraction to identify the factors groups. Two underlying factors (components) with an eigenvalue greater than 1 were extracted, explaining 57.15 percent of the variance. The first factor is named the primary factor, and the other is other factors.

Descriptive analysis of the objectives of investment is depicted in Table 4.6

Table 4.6

Investment Objectives of Government Employees 1

Objectives of Investment	Mean	Std. Deviation
Good Return	4.27	0.76
Capital Appreciation	3.73	0.78
Liquidity	3.84	0.88
Tax Savings	3.62	1.01
Children's education and career	3.94	1.12
Future Safety	4.06	1.01
Pension	3.65	1.16

Source: Primary data

Table 4.6 shows that a good return has the highest mean value, 3.94 and the lowest standard deviation of 0.758. Future safety is the next highest mean value of 4.06, (1.01 SD). Children's career is next to it, with a mean value of 3.94 (1.12 SD). For liquidity, the mean value is 3.84, and the standard deviation is (0.88 SD). All the other factors have a similar mean and standard deviation, like 3.62 for tax savings, 3.65 for pension, and 3.73 for capital appreciation. The main objectives of investment are good return, future safety, children education and career, liquidity, capital appreciation, pension and tax benefit.

Factor analysis has been conducted to reduce the dimensions of investment objectives in further investigation, and the factors are reduced to primary and secondary objectives, as shown in table 4.7.

Table 4.7

Investment Objectives of Government Employees 2

Objectives of investment	Factor grouping 1	2
Primary Objectives		
Good Return		**0.739**
Capital Appreciation		**0.765**
Liquidity		**0.594**
Other Objectives		
Tax Savings	**0.527**	
Children's education and career	**0.816**	
Future Safety	**0.813**	
Pension	**0.715**	
Eigen Value	2.429	1.445
Percentage variance	38.704	20.636
Percentage cumulative variance	34.704	55.34
KMO Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.651

Source: Primary data

The KMO value in this study is 0.651, which is acceptable as sample adequacy, as shown in Table 4.7. The Principal Component Analysis technique was employed for factor extraction to identify the factors groups. Two underlying factors (components) with an eigenvalue greater than 1 were extracted, explaining 55.34 percent of the variance. The first factor is named primary objectives, and the other is secondary objectives.

Actual investments of the Respondents

Actual investment done by the respondents in different investment avenues were studied. Fourteen investment avenues popular in Kerala are taken for the study. The descriptive research is shown in Table 4.8.

Table 4.8

Actual Investments made by Government Employees in different Investment Avenues 1

Investment avenues	No. of respondents invested	Percentage	Rank
Bank Deposit	273	71.09	I
Insurance	221	57.55	II
Chit Funds	177	46.09	III
Mutual Fund	151	39.32	IV
Post Office	146	38.02	V
Treasury Savings	144	37.50	VI
Cooperative sector	142	36.98	VII
Real Estate	138	35.94	VIII
Precious Metals	130	33.85	IX
Tax Saving Scheme	118	30.73	X
Stock Market	118	30.73	XI
Non-Banking Financial Corporations	062	16.15	XII
Commodity	051	13.28	XIII
Debt Market	022	05.73	XIV

Source: Primary data

Table 4.8 shows that the Bank Deposit is the most favourite investment avenue which has investment 71. 09 percent of respondents (Rank I). The debt market is the least used by only 5.73 percent (Rank XIV). In insurance (57.55%) and chit funds avenues (46.09%) more persons had invested than others (Rank II and III). NBFC and Commodity are the least invested avenues after the debt market (Rank XII and XIII). Around forty per cent of respondents had invested in the mutual fund, post office, treasury, and cooperative sector (Rank IV, V, VI and VII). In real estate, precious metals, tax-saving scheme, and the stock market around 30-35 percent had invested (Rank VII, IX, X, and XI). The major investment avenues are Bank deposits, Insurance and Chit funds.

For reducing the variables of selected avenues in further analysis, factor analysis has been conducted, and the factors are reduced to six. The result of the Factor analysis of the investment selected is depicted in table 4.9.

Table 4.9.

Actual Investments Made by Government Employees

in Different Investment Avenues 2

Investment avenues	Factor grouping					
	1	**2**	**3**	**4**	**5**	**6**
Safety and Security						
Bank Deposit	**0.758**					
Insurance	**0.632**					
Periodic Savings						
Treasury		**0.407**				
Chit Funds		**-0.704**				
Co operative		**0.635**				
Tax Consideration						
Post office			**0.551**			
Tax Savings			**0.640**			
Return Motive						
NBFC				**0.771**		
Real Estate				**0.568**		
Physical Assets						
Commodity					**0.779**	
Precious Metals					**0.733**	
Shares and Securities						
Stock Market						**0.706**
Mutual Fund						**0.403**
Debt Market						**0.72**
Eigen Value	1.63	1.35	1.31	1.17	1.12	1.08
Percentage variance	11.65	9.63	9.36	8.33	8.01	7.75
Percentage cumulative variance	11.65	21.28	30.64	38.97	46.98	54.72
KMO Test						
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.					0.527**	

Source: Primary data ($^{**}p < 0.01$, $^{*}p < 0.05$)

The KMO value in this study is 0.527, which is acceptable as sample adequacy as shown in Table 4.9. The principal component analysis technique was employed for factor extraction to identify the factors groups. Six underlying factors (components) with an eigenvalue greater than 1 were extracted, explaining 54.72 percent of the variance. The factors are named Safety and Security, Periodic Savings, Tax Consideration, Return Motive, Physical Assets, Shares and Securities.

The avenues under first factor is mostly selected, second factor is selected more, and the avenues included in third factor is often selected. The fourth factor selected while the fifth factor physical assets selected less and the sixth factor shares and securities are least selected by the respondents.

The respondents' perception on risk associated with investment avenues are shown in Table 4.10.

Table 4.10

Government Employees' Risk Level Perception on Different Investment Avenues 1

Investment avenues	Mean	Std. Deviation
Bank Deposit	1.73	0.89
Post office savings	1.77	0.89
Treasury savings	1.82	0.96
Chit Funds	2.44	0.93
NBFC	2.87	1.08
Cooperative sector	2.82	1.05
Insurance	2.70	0.98
Real estate	3.20	1.017
Tax savings scheme	2.83	1.05
Commodity	3.40	1.03
Precious metals	3.43	1.12
Stock market securities	3.83	1.21
Mutual fund	3.89	1.18
Debt Market securities	3.95	1.24

Source: Primary data

Table 4.10 shows that the bank deposit, post office savings and treasury are the avenues with low risk which have a mean below 2. The stock market, mutual fund and debt market are high

risk perceived avenues which have a mean above 3.5. All the other avenues are medium risk perceived, shows a mean in between 2 and 3.5.

For reducing the variables of risk perception in further analysis, a factor analysis has been conducted, and the factors are reduced to three, as shown in table 4.11.

Table 4.11

Government Employees' Risk Level Perception on Different Investment Avenues 2

Investment made	Factor grouping		
	1	2	3
Low Risk Perceived			
Bank Deposit	**0.732**		
Post Office savings	**0.714**		
Treasury	**0.644**		
Insurance	**0.499**		
Medium Risk Perceived			
Chit Fund		**0.71**	
NBFC		**0.855**	
Cooperative sector		**0.716**	
High Risk Perceived			
Real estate			**0.519**
Tax saving scheme			**0.608**
Commodity			**0.742**
Precious metals			**0.795**
Stock market			**0.752**
Mutual fund			**0.74**
Debt market			**0.77**
Eigen Value	4.126	2.945	1.34
Percentage variance	29.468	21.038	9.574
Percentage cumulative variance	29.468	50.506	60.08
KMO Test			
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.			0.527**

Source: Primary data ($^{**}p < 0.01$, $^{*}p < 0.05$)

The KMO value in this analysis is 0.527, which is acceptable as sample adequacy, as shown in Table 4.11. The principal component analysis technique was employed for factor extraction to identify the factors groups. Three underlying factors (components) with an eigenvalue greater than 1 were extracted, explaining 60.08 percent of the variance. The factors are named Low Risk perceived, Medium Risk perceived and High-Risk perceived avenues.

4.3.2. Investment Patterns and their Relationship with Investors' Psychology like Intelligence and Personality

In this section, the relationship of different factors of investment pattern with intelligence and personality of the investors are studied.

The relationship of Factors perceived on investment with investors' personality and intelligence is analysed using Pearson's coefficient of correlation and depicted in Table 4.12.

Hypotheses to be tested are:

$H_{01a.}$: There is no significant relationship between investors' intelligence and their factors perceived on investment.

H_{02a}: There is no significant relationship between investors' personality and their factors perceived on investment.

Table 4.12

Factors Perceived on Investment and their Relationship with Investors' Psychology like Intelligence and Personality

	Personality	Intelligence
Primary Factors perceived (Return, safety, liquidity and marketability)	.118*	.139**
Other Factors perceived (Tax savings, diversification, simplicity and affordability)	0.067	.151**

Source: Primary data (**p <0.01, *p <0.05)

Table 4.12 shows that the correlation coefficient of Investors' intelligence and primary factors are significant at 0.05 level and with primary factors and personality found to be

significant at 0.01 level. The correlation coefficient of intelligence and other factors is also significant at a 0.01 level. However, R-value is not found to be significant for personality and other factors. Thus, the personality and intelligence of the respondents are related to the primary perceived factors, and the intelligence is only significantly related to other factors perceived.

There is a significant relationship between investors' intelligence and their factors perceived on investment. Hence, the null hypothesis is rejected.

There is a significant relationship between investors' personality and their Primary factors perceived on investment. Hence, the null hypothesis is rejected.

There is no significant relationship between investors' personality and their other factors perceived on investment. Hence the null hypothesis is accepted.

Correlation analysis of investment objectives with Personality and Intelligence is depicted in Table 4.13.

Hypotheses to be tested are:

H_{01b}: There is no significant relationship between investors' intelligence and their investment objectives.

H_{02b}: There is no significant relationship between investors' personality and their investment objectives.

Table 4.13

Investment Objectives and their Relationship with Investors' Psychology like Intelligence and Personality

	Personality (R)	**Intelligence(R)**
Primary Objectives (Return, Capital appreciation and liquidity)	0.081	.168**
Other Objectives (Tax savings, children education, future safety and pension)	0.055	-0.042

Source: Primary data (**p <0.01, *p <0.05)

Table 4.13 shows that the correlation coefficient of Investors' intelligence and primary objectives are significant at the 0.01 level, and all other R values are not significant. The intelligence is significantly related to Primary objectives only, whereas intelligence of the respondents is not related to the other objectives.

There is a significant relationship between investors' intelligence and their Primary investment objectives. Hence, the null hypothesis is rejected.

There is no significant relationship between investors' intelligence and their Other investment objectives. Hence, the null hypothesis is accepted.

There is no significant relationship between investors' personality and their primary investment objectives and other objectives. So, in both cases, the null hypothesis is accepted.

The relationship of selection of investment avenues with investors' personality and intelligence is analysed using Pearson's coefficient of correlation and depicted in Table 4.14.

Hypotheses to be tested are:

H_{01c}: There is no significant relationship between investors' intelligence and actual selection of investment avenues

H_{02c}: There is no significant relationship between investors' personality and actual selection of investment avenues

Table 4.14

Actual Selection of Investment Avenues and their Relationship with Investors' Psychology like Intelligence and Personality

Variables	Personality (R)	Intelligence (R)
Safety and Security	-0.10	-.131*
Periodic Savings	-0.05	-.144**
Tax Consideration	-0.05	-0.04
Return Motive	0.10	0.02
Physical Assets	0.04	-0.08
Shares and Securities	-0.03	-0.03

Source: Primary data (**p <0.01, *p <0.05)

Table 4.14 shows that the correlation coefficient of safety and security avenues and periodic savings avenues with the intelligence is significant at 0.05 level. None of the other investment avenues are related significantly to investors' intelligence.

All the avenues selected are not significantly related to investors' personality.

There is a significant relationship with actual selection of investment avenues of the government employees and their intelligence whereas no significant relationship with their personality.

There is a significant relationship with actual selection of investment of the government employees and their intelligence on more and safe and secure investment avenues. Hence, the null hypothesis is rejected.

There is a significant relationship with actual selection of investment avenues of the government employees and their intelligence on preferences of investment avenues other than periodic savings and safe and secure avenues. Hence, the null hypothesis is accepted.

There is no significant relationship with actual selection of investment avenues of the government employees and their personality. Hence, the null hypothesis is accepted.

Table 4.15 shows that the correlation coefficient of risk level perception of different avenues on investors' personality and investors' intelligence.

Hypotheses to be tested are:

H_{01d}: There is no significant relationship between investors' intelligence and risk perception
H_{02d}: There is no significant relationship between investors' personality and risk perception

Table 4.15

Risk Perception on Investment Avenues and their Relationship with Investors' Psychology like Intelligence and Personality

Variables	Personality	Intelligence
High Risk perceived	.101*	0.01
Medium Risk perceived	0.07	0.08
Low Risk perceived	-0.03	0.09

Source: Primary data (*p <0.05)

Table 4.15 shows that the correlation coefficient of investors' personality and High risk perceived is significant at 0.05 level, and all other R values are not significant.

The personality is only significantly related to High-Risk level perception, whereas the personality and intelligence of the respondents are not related to the other objectives.

There is a significant relationship between investors' personality and their high Risk perception on investment avenues. Hence, the null hypothesis is rejected.

There is no significant relationship between investors' personality and their Medium and Low risk perception on investment avenues. The null hypothesis is accepted.

There is no significant relationship between investors' intelligence and all levels of Risk level perception on different investment avenues. Hence, null hypothesis is accepted.

4.3.3. Summary of Hypotheses Testing on the Variable Investment Pattern

Summary of hypotheses testing, inference and conclusion related to the variable investment pattern are depicted in Table 4.16 and 4.17.

Table 4.16

Investment Pattern and Investors' Intelligence

Sl. No.	Hypotheses	Decision H_0	Conclusion
H_{01}:	**There is no significant relationship between investors' intelligence and investment pattern**		
H_{01a}:	There is no significant relationship between investors' intelligence and Factors perceived on investment	Reject	There is a relationship
H_{01b}:	There is no significant relationship between investors' intelligence and investment objectives	Reject	There is a relationship
H_{01c}:	There is no significant relationship between investors' intelligence and the actual selection of investment avenues	Reject	There is a relationship
H_{01d}:	There is no significant relationship between investors' intelligence and risk perception	Reject	There is a relationship

In this research results, the existence of relationship between intelligence and investment pattern is proved. Arora & Kumari (2020) also reported the same result. Lam &Kirby (2002), Hollander (2012), and Von Stumm (2013) reported the role of intelligence in all activities of the community and the financial involvement of individuals. This result aligns with these reports.

Table 4.17

Investment Pattern and Investors' Personality

H_{02}:	**There is no significant relationship between Investors' Personality and Investment Pattern**		
Sl. No.	**Hypotheses**	**Decision H_0**	**Conclusion**
H_{02a}:	There is no significant relationship between investors' personality and Factors perceived on investment	Accept	There is no relationship
H_{02b}:	There is no significant relationship between investors' personality and investment objectives	Accept	There is no relationship
H_{02c}:	There is no significant relationship between investors' personality and actual selection of investment avenues	Accept	There is no relationship
H_{02d}:	There is no significant relationship between investors' personality and risk perception.	Accept	There is no relationship

The analysis of this study found there is no relationship between personality and investment pattern. Gakhar and Prakash (2017) and Rekha and Prakash (2020) proved the relationship between investment pattern and investors' personalities. The result of the present study does not support their results.

4.4. INVESTMENT PREFERENCES

Investment preferences are the main focus of the investment behaviour of employees in this section. The analysis and results of employees' preferences of different investment avenues are displayed here.

4.4.1. Investment Preferences of Select Government Employees

Preferences of government employees on different investment avenues are studied through a questionnaire, and the descriptive analysis of the same is shown in table 4.18.

Table 4.18

Government employees' Preferences on different Investment Avenues 1

Investment avenues	Mean	Std. Deviation	Rank
Bank Deposit	4.08	0.90	**I**
Post office deposit	3.75	0.98	**IV**
Treasury savings	3.74	1.04	V
Chit Fund	3.82	1.05	**III**
NBFC	3.30	1.16	IX
Cooperative sector	3.59	1.22	VI
Insurance	3.91	1.03	**II**
Real estate	3.43	1.15	VII
Tax savings scheme	3.41	1.13	VIII
Commodity	2.90	1.20	XIII
Precious metals	3.22	1.24	X
Stock market	3.11	1.33	XI
Mutual fund	3.01	1.32	XII
Debt market	2.56	1.22	**XIV**

Source: Primary data

As per Table 4.18, the highest mean value and the lowest standard deviation are for bank deposit preferences, that is 4.08 and 0.90 (Rank I). Insurance, chit funds, post office deposits and Treasury savings are the avenues with higher mean values like 3.91, 3.82, 3.75 and 3.74 (Ranks II, III, IV &V). These avenues show the standard deviation of 1.03,1.05,0.98 and 1.04, respectively. Debt market, commodity, and mutual funds are the least preferred avenues as the mean value are 2.56, 2.90 and 3.01, (Last Ranks XIV, XIII & XII) and they show the standard deviation of 1.22, 1.20 and 1.32, respectively. All the other avenues like the cooperative sector, real estate, tax savings scheme, NBFC, precious metals and stock market show the medium preferences that 3.59, 3.43, 3.41, 3.30, 3.22, and 3.11 (Mid Ranks VI, VII, VIII, IX, X &XI). The mostly preferred investment avenues are bank deposits, insurance, chit funds and post office savings.

Factor analysis has been conducted to reduce the dimensions in the preferences of different investment avenues in further investigation, and the factors are reduced to four factors like Less Risk Avenues, Medium Risk Avenues, Risky Avenues and High Risk Avenues. the result of factor analysis depicted in Table 4.19.

Table 4.19

Government employees' Investment Preferences on different Investment Avenues 2

Preferences on investment avenues	Factor grouping			
	1	2	3	4
LESS RISK AVENUES				
Bank Deposit	**0.76**			
Post Office	**0.77**			
Treasury	**0.66**			
MEDIUM RISK AVENUES				
Chit Fund		**0.45**		
NBFC		**0.78**		
Co operative		**0.79**		
Insurance		**0.57**		
RISKY AVENUES				
Real Estate			**0.68**	
Tax Savings Scheme			**0.66**	
Commodity			**0.84**	
Precious Metals			**0.66**	
HIGH RISK AVENUES				
Stock Market				**0.85**
Mutual Fund				**0.90**
Debt Market				**0.81**
Eigen Value	03.78	01.92	1.51	1.32
Percentage variance	27.01	13.71	10.77	9.49
Percentage cumulative variance	27.01	40.72	51.49	60.93
KMO Test				
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.			0.73	

Source: Primary data

The KMO value in this study is 0.727, which is acceptable as sample adequacy as shown in Table 4.19 The principal component analysis technique was employed for factor extraction to identify the factors groups. Four underlying factors (components) with an eigenvalue greater

than 1 were extracted, explaining 60.93 percent of the variance. The factors are named as Preferences in Less Risky Avenues, Preferences in Medium Risky Avenues, Preferences in Risky Avenues and Preferences in High Risky Avenues.

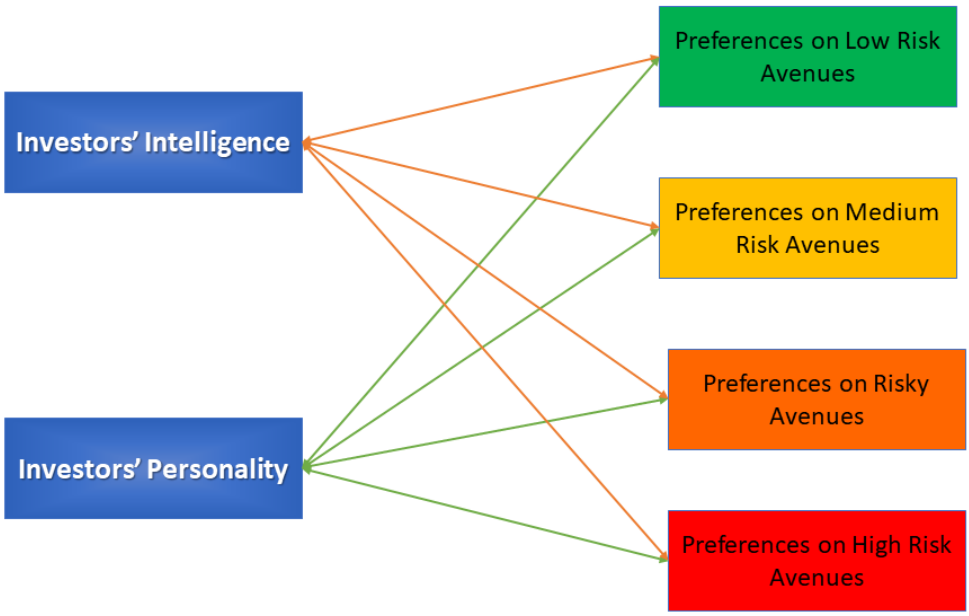
4.4.2. Investment Preferences on Investors' Psychology, Investment Pattern and Investment Decision Making

In this section, the analysis of investment preferences in relation to the investors' intelligence, investors' personality, factors perceived and objectives of investment, rational behaviour and irrational behaviour are presented.

4.4.2.1. Government employees' Investment Preferences and their Relationship with Investors' Psychology like Intelligence and Personality

The variables are shown in the diagram in Figure 4.5.

Figure 4.5
Investment Preferences and Investors' Psychology
(Intelligence and Personality)



Source: Compiled from Reviews of Related Researches

Canonical Correlation Analysis (CCA) was performed on investment preference data with two predictor variables of investor psychology. The criterion set had four variables: preferences in less risky avenues, preferences in medium risky avenues, preferences in risky avenues and

preferences in high risky avenues. The predictor variables are investors' intelligence and investors' personality. Table 4.20 shows the result of Canonical correlation analysis.

Hypothesis to be tested is:

H_{03}: There is no significant relationship of intelligence and personality of Government employees with their investment preferences

Table 4.20

Investment Preferences and their Relationship with Investors' Psychology like Intelligence and Personality

Canonical Correlation for Intelligence and Personality Predicting Investment Preferences for Canonical variates 1 and 2							
	Canonical variate 1			**Canonical variate 2**			
Variable Preferences of avenues with:	**Co-ef**	**r_s**	**r_s^2 (%)**	**Co-ef**	**r_s**	**r_s^2 (%)**	**h^2 (%**
Low risk	0.94	**0.93**	86.29	-0.13	-0.02	0.03	**86.32**
Medium risk	0.16	0.39	15.39	-0.04	0.32	10.06	25.45
Risky	-0.35	-0.06	0.32	0.47	**0.68**	46.845	**47.17**
High risk	0.23	0.21	4.39	0.77	**0.90**	81.34	**85.73**
R_c		0.24			0.72		
Investors' personality	0.695	**0.77**	59.54	-0.73	**-0.64**	40.46	**100**
Investors' intelligence	0.641	**0.72**	52.44	0.78	**0.69**	47.56	**100**
Explained Variance (%)		26.60			34.60		**61.166**
Wilk's Lambda (F value, p value)				0.94 (3.11<0.01)			

Source: Primary data (R_c – Canonical correlation)

Table 4.20 includes the model fit of Canonical Correlation, the results of Multivariate tests were performed to test whether the maximal correlation and those orthogonal successive correlations that follow were significantly different from zero. Wilks' lambda is 0.94 and its F value is 0.311(<0.01) As the result of Wilks' test was significant at 0.01 level of significance, the null hypothesis was rejected. It can be concluded that canonical correlations were significantly different from zero.

There is a significant relationship of Investment preferences with Investors' intelligence and personality. Hence, the null hypothesis is rejected. This indicated that the investment preferences and intelligence and personality are significantly related.

Table 4.20 also shows the canonical correlation for intelligence and personality Predicting Investment preferences. It presents the standardized canonical function coefficients (Co-ef) and structure coefficients (r_s) for all variables across both functions. The squared structure coefficients (r_s^2) are also given, which represent the percentage of shared variance between the variables. The last column lists the communality coefficients (h^2), which represent the amount of variance in the observed variable that was reproducible across the variates.

Two variates presented useful with 26.6 percent and 34.6 percent explained variance. Canonical correlation is seen 0.24 and 0.72 respectively for the first and second variates. In Canonical variate 1, the Preferences of Low risk avenues is primary contributor. The Structure coefficient of preferences on Low risk avenues is (r_s) 0.93. All other criterion variables and all other criterion variables like preferences of Medium risk, Risky and high risk avenues are secondary contributors. The Structure coefficients (r_s) 0.39, -0.06 and 0.21 respectively. But both the predictor variables like Investors' personality and intelligence are contribute towards Covariate 1. The Structure coefficients (r_s) 0.77 and 0.72 respectively.

Preferences of risky and high risky avenues are contributing primarily towards Canonical variate 2 along with both the predictor variables like Investors' personality and intelligence. The Structure coefficients (r_s) 0.68, 0.90, -0.64 and 0.69 respectively. The preferences of low and medium risk avenues are secondary contributors to Covariate 2. intelligence. The Structure coefficients (r_s) are -0.02 and 0.32 respectively.

Thus, the analysis evidenced that the preferences on medium risk avenues are not much dependent on the intelligence and personality but all other avenues are preferred in relation to personality and intelligence of investors.

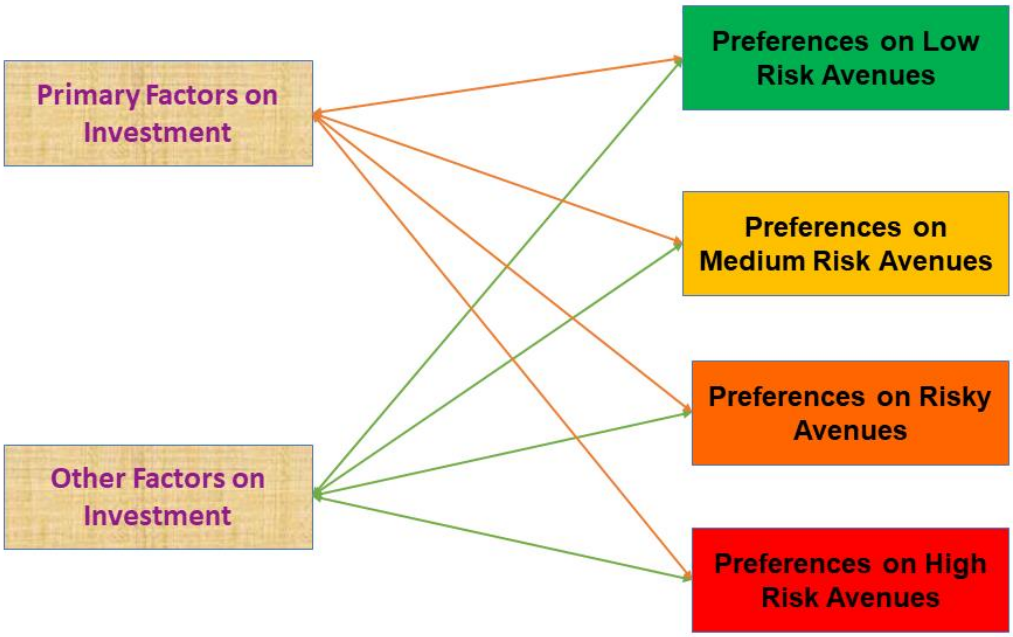
4.4.2.2. Government employees' Investment Preferences and their Relationship with Factors Perceived on Investment (Primary Factors and Other Factors)

The variables are shown in the diagram in Figure 4.6.

Figure 4.6

Investment Preferences and Factors Perceived on Investment

(Primary Factors and Other Factors)



Source: Compiled from Reviews of Related Researches

Canonical Correlation Analysis (CCA) was performed on investment preference data with two predictor variables of perceived factors in investment decision making. The criterion set had four variables: Preferences in less risky avenues, preferences in medium risky avenues, preferences in risky avenues and preferences in high risky avenues. The predictor variables are primary factors including return, safety, liquidity and marketability and other factors including tax savings, diversification, simplicity and affordability. The hypothesis tested here is:

H_{06a}: There is no significant relationship between factors perceived on investment and investment preferences

Table. 4.21

Investment Preferences and their Relationship with Factors Perceived on Investment

Canonical Correlation for Primary factors and Other factors Predicting Investment Preferences for Canonical variates 1 and 2

	Canonical variate 1			**Canonical variate 2**			
Variable Preferences of avenues with:	**Co-ef**	**r_s**	**r_s^2 (%)**	**Co-ef**	**r_s**	**r_s^2 (%)**	**h^2 (%**
Low risk	0.03	-0.12	1.51	0.998	**0.99**	98.32	**99.82**
Medium risk	0.28	**-0.58**	33.86	-0.00	0.24	5.92	39.78
Risky	-0.14	**-0.49**	24.39	0.01	0.16	2.40	26.79
High risk	-0.81	**-0.95**	89.77	-0.13	-0.08	0.58	**90.35**
R_c		0.754			0.141		
Primary Factors	0.11	-0.35	12.34	1.11	**0.94**	87.66	**100**
Other Factors	-1.05	**-0.995**	98.95	-0.39	0.10	1.049	**100**
Explained Variance (%)		37.38			26.80		**64.18**
Wilk's Lambda (F value, p value)			0.93 (3.88<0.01)				

Source: Primary data (R_c – Canonical correlation)

Table 4.21 includes the model fit of Canonical Correlation, the results of Multivariate tests were performed to test whether the maximal correlation and those orthogonal successive correlations that follow were significantly different from zero. Wilks' lambda is 0.93 and its F value is 3.88 (<0.01). The result of Wilks' test was significant at .01 level of significance and thus the null hypothesis was rejected. It can be concluded that canonical correlations were significantly different from zero.

There is a significant relationship between Investment preferences with factors perceived on investment. Hence, the null hypothesis is rejected.

Table 4.21 shows the canonical solution for Factors in investment decisions perceived by the government employees predicting Investment preferences. Two variates presented useful with 37.38 percent and 26.80 percent explained variance. Canonical correlation is seen 0.754 and 0.141 respectively for the first and second variates.

In Canonical variate1, all the criterion variables are primary contributors other than the preferences of low risk avenues which has structure coefficient (r_s) of -0.12. Other factors which has structure coefficient (r_s) of -0.995 from the predictor variables contribute towards variate 1 than the primary factors; r_s is -0.35. Preferences of medium risk, risky and high risk avenues have structure coefficients (r_s) -0.58, -0.49, -0.95 respectively.

Preferences of Low risk avenues (r_s is 0.99) are contributed primarily towards Canonical variate 2 along with primary factors (r_s is 0.94) from the predictor variables. All other variables are contributed secondary towards variate 2.

This analysis evidenced that all the criterion variables like preferences of low risk avenues, medium risk avenues, risky avenues and high risk avenues are dependent on factors perceived on investment.

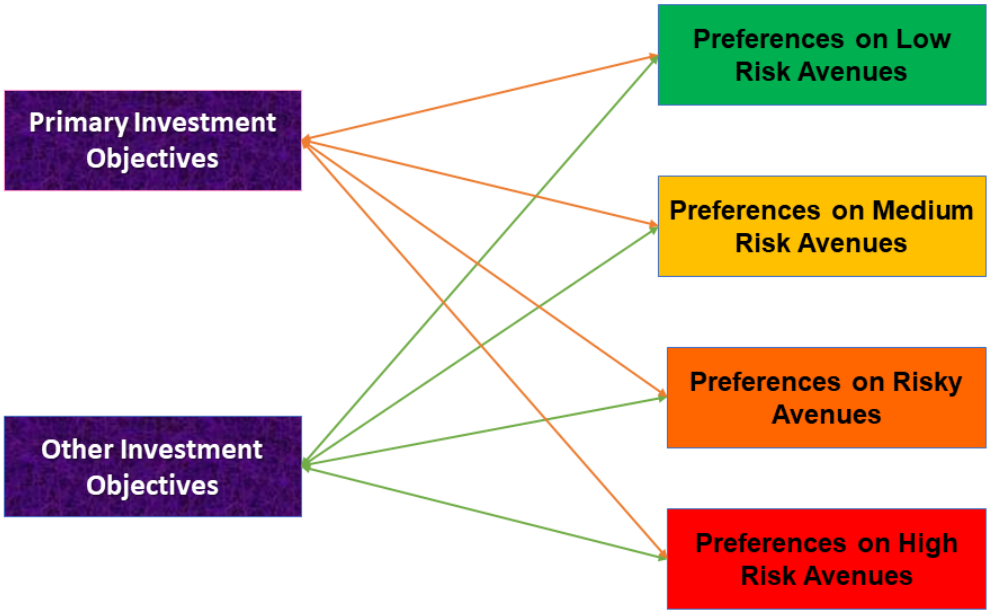
4.4.2.3 Government employees' Investment Preferences and their Relationship with Objectives of Investment

The variables are shown in the diagram in Figure 4.7.

Figure 4.7

Investment Preferences and Objectives of Investment

(Primary Objectives and Other Objectives)



Source: Compiled from Reviews of Related Researches

Canonical Correlation Analysis was performed on investment preference data with two predictor variables of objectives in Investment. The criterion set had four variables: Preferences in less risky avenues, preferences in medium risky avenues, preferences in risky avenues and preferences in high risky avenues. The predictor variables are primary objectives including return, capital appreciation, and liquidity and other objectives including tax savings, children's education and career, future safety and pension.

The hypothesis tested here is:

H_{06b}: There is no significant relationship between investment objective and investment preferences

Table 4.22

Relationship of Investment Preferences with Objectives of Investment

Canonical Correlation for Primary Objectives and Other Objectives Predicting Investment Preferences for Canonical variates 1 and 2							
	Canonical variate 1			**Canonical variate 2**			
Variable Preferences of avenues with:	**Co-ef**	**r_s**	**r_s^2 (%)**	**Co-ef**	**r_s**	**r_s^2 (%)**	**h^2 (%**
Low risk	-0.40	**-0.64**	40.79	0.92	**0.74**	55.18	**95.97**
Medium risk	-0.53	**-0.76**	57.87	-0.28	-0.11	1.30	**59.17**
Risky	-0.52	**-0.71**	50.89	-0.61	-0.44	18.89	**69.77**
High risk	0.15	-0.22	4.69	0.31	0.06	0.31	5.00
R_c		0.50			0.17		
Primary Objectives	-0.24	**-0.46**	21.07	1.00	**0.89**	78.92	**100**
Other Objectives	-0.92	**-0.97**	94.67	-0.47	-0.23	5.33	**100**
Explained Variance (%)		38.56			18.92		**52.48**
Wilk's Lambda (F value, p value)			0.73 (16.13<0.01)				

Source: Primary data (R_c – Canonical correlation)

Table 4.22 includes the model fit of Canonical Correlation. The p values of the Wilks' test were 0.73, F value of 16.13 which is significant at .01 level of significance. The null hypothesis was rejected. It can be concluded that canonical correlations were significantly different from zero.

There is a significant relationship of Investment preferences with primary and other objectives on investment. Hence, the null hypothesis is rejected. This indicated that the investment preferences and objectives in Investment are significantly related.

Table 4.22 shows the canonical correlation for objectives of investment by the government employees predicting Investment preferences. Two variates presented useful with 38.56 percent and 18.92 percent explained variance. Canonical correlation is seen 0.50 and 0.17 respectively for the first and second canonical variates.

In canonical variate1, all the criterion variables are primary contributors other than the preferences of high-risk avenues (r_s is -0.22) like low risk, medium risk, and risky avenues which have structure coefficients -0.64, -0.76 and -0.71 respectively. Both the objectives from the predictor variables which have structure coefficients -0.46 and -0.97 respectively; contribute towards variate 1.

Preferences of Low risk avenues (r_s is -0.74) had contributed primarily towards variate 2 along with Primary objectives (r_s is -0.89) from the predictor variables.

The analysis evidenced that all the criterion variables other than Preferences on high risk investment avenues are dependent on objectives in investment.

4.4.2.4. Investment Preferences and their Relationship with Risk Level Perceptions of different Avenues

Hypotheses to be tested are:

H_{06c}: There is no significant relationship between Investment preferences and risk level perception of different investment avenues

Relationship between risk level perception and investment preferences are shown in Table 4.23.

Table 4.23

Investment Preferences and their Relationship with Risk Level Perceptions of different Investment Avenues

Sl. No.	Investment avenues	R value	Significance
1	**Bank Deposit**	-0.28**	0.00
2	**Post Office**	-0.05	0.29
3	**Treasury Savings**	0.06	0.25
4	**Chit Funds**	-0.20**	0.00
5	**Non-Banking Financial Corporations**	-0.18**	0.00
6	**Cooperative sector**	-0.23**	0.00
7	**Insurance**	-0.12*	0.02
8	**Real Estate**	-0.19**	0.00
9	**Tax Saving Scheme**	-0.13*	0.01
10	**Commodity**	-0.20**	0.00
11	**Precious Metals**	-0.06	0.25
12	**Stock Market**	-0.23**	0.00
13	**Mutual Fund**	-0.24**	0.00
14	**Debt Market**	-0.22**	0.00

Source: Primary data (**p <0.01, *p <0.05)

The preferences of avenues like bank deposit, chit funds, NBFCs, cooperative sector, real estate, commodity, stock market, mutual fund, and debt market, showing a highly significant ($p < 0.01$) negative correlation coefficient with their risk level perception.

Preferences of insurance and tax saving scheme are showing a significant negative correlation ($p < 0.05$).

Post office savings and precious metals have negative and treasury savings has positive correlation which are not significant ($p > 0.05$).

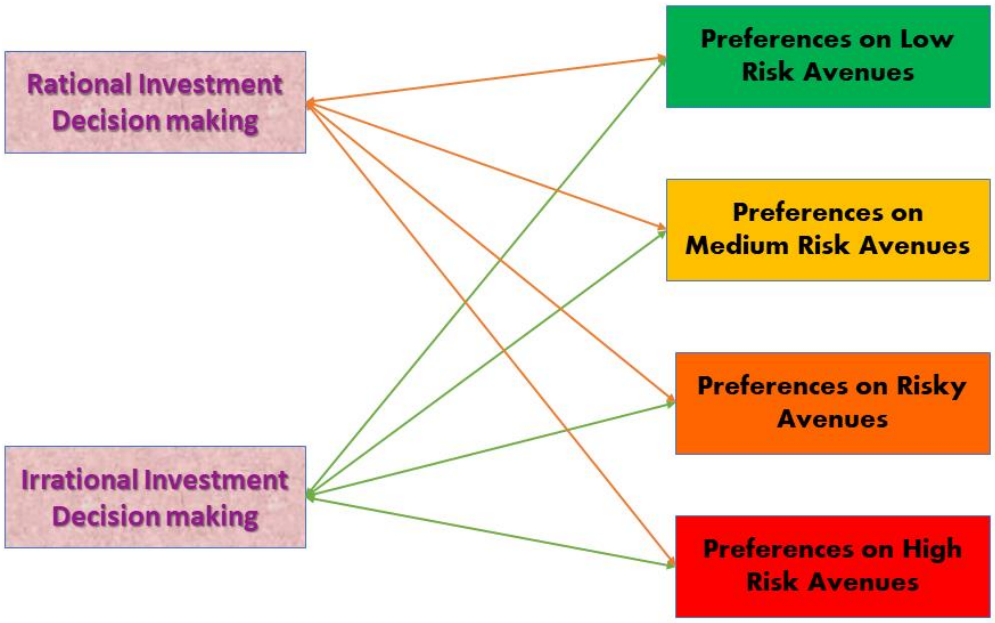
There is a significant relationship between investment preferences and their risk level perception. Hence, the null hypothesis is rejected.

4.4.2.5. Investment Preferences and their Relationship with Investment Decision Making

Figure 4.8

Investment Preferences and Investment Decision Making

(Rational Behaviour and Irrational Behaviour)



Source: Compiled from Reviews of Related Researches

Canonical Correlation Analysis (CCA) was performed on investment preference data with two predictor variables of investment decision making. The criterion set had four variables: Preferences in less risky avenues, preferences in medium risky avenues, preferences in risky avenues and preferences in high risky avenues. The predictor variables are Rational behaviour and Irrational behaviour in decision making.

Hypothesis to be tested is:

H_{07}: There is no significant relationship between investment preferences and investment decision making

Table 4.24

Relationship of Investment Preferences with Investment Decision Making

Canonical Correlation for Rational and Irrational Behaviour on Decision making Predicting Investment Preferences for Canonical variates 1 and 2							
	Canonical variate 1			**Canonical variate 2**			
Variable Preferences of avenues with:	**Co-ef**	**r_s**	**r_s^2 (%)**	**Co-ef**	**r_s**	**r_s^2 (%)**	**h^2 (%**
Low risk	0.70	**0.75**	56.69	0.52	0.53	28.08	**84.77**
Medium risk	0.56	**0.52**	27.16	-0.43	-0.14	1.89	29.04
Risky	-0.50	0.28	7.77	0.85	**0.69**	47.27	**55.04**
High risk	-0.24	0.19	3.67	-0.38	-0.21	4.45	8.12
R_c		0.293			0.1		
Rational Decision making	1.09	**0.95**	90.201	0.125	-0.31	9.80	**100.00**
Irrational Decision making	-0.35	0.11	1.292	-1.046	**-0.99**	98.71	**100.00**
Explained Variance (%)		23.82			20.42		**44.24**
Wilk's Lambda (F value, p value)				0.904 (4.88<0.01)			

Source: Primary data (R_c – Canonical correlation)

Table 4.24 includes the model fit of Canonical Correlation, the results of Multivariate tests were performed to test whether the maximal correlation and those orthogonal successive correlations that follow were significantly different from zero. Wilks' lambda is 0.904 and its F value is 4.88 (<0.01). The result of Wilks' test was significant at .01 level of significance and thus the null hypothesis was rejected. It can be concluded that canonical correlations were significantly different from zero.

There is a significant relationship between Investment preferences with investment decision making. Hence, the null hypothesis is rejected.

Table 4.24 also shows the canonical correlation for intelligence and personality Predicting Investment preferences. It presents the standardized canonical function coefficients (Co-ef) and

structure coefficients (r_s) for all variables across both functions. The squared structure coefficients (r_s^2) are also given, which represent the percentage of shared variance between the variables. The last column lists the communality coefficients (h^2), which represent the amount of variance in the observed variable that was reproducible across the variates.

Two variates presented useful with 23.82 percent and 20.42 percent explained variance. Canonical correlation is seen 0.29 and 0.10 respectively for the first and second variates.

The canonical correlation for Rational and Irrational decision-making Predicting Investment preferences. In variate1, the preferences of low risk and medium risk avenues are primary contributors which have structure coefficients (r_s) 0.75 and 0.52 respectively. All other criterion variables like preferences on risky avenues and high risk avenues are secondary contributors which have structure coefficients (r_s) 0.28 and 0.19 respectively. At the same time rational behaviour which have structure coefficient (r_s) 0.95 from the predictor variables contribute towards variate1 than the irrational behaviour which have structure coefficient (r_s) 0.11.

Preferences of risky avenues are contributed primarily towards variate 2 along with Irrational behaviour from the predictor variables. Both have structure coefficients (r_s) 0.69 and -0.99 respectively. Preferences of low and medium risk avenues are secondary contributors to variate 2 which have structure coefficients (r_s) 0.53 and -0.14 respectively. The criterion variable rational behaviour also contributes to variate 2 with structure coefficients (r_s) -0.31. The analysis evidenced that the preferences on medium risk avenues and High-risk avenues are not much dependent to Investment decision making. All other avenues are preferred in relation to Rational and Irrational behaviour of investors.

4.4.3. Summary of Hypotheses testing on the Variable Investment Preferences

Summary of hypotheses testing, inference and conclusion on the variable investment preferences are depicted in Table 4.25, 4.26 and 4.27.

Table 4.25

Investment Preferences and their Relationship with Intelligence and Personality

Sl. No.	Hypothesis	Decision H_0	Conclusion
H_{03}:	There is no significant relationship between intelligence and personality of investors and their investment preferences	Reject	There is a relationship

The result of this research evidenced the relationship between intelligence and personality, and investment preferences. Stanovich et al. (2013) and, Jabeen et al. (2018), Arora and Kumari (2020) proved the relationship between cognitive ability and intelligence on investment preferences of investors. Regarding the personality of investors and investment preferences, Showndhariya and Kavitha (2018) and De Bortoli et al. (2019) have reported the same result.

Table 4.26

Investment Preferences and their Relationship with Investment Pattern

H_{06}:	**There is no significant relationship between investment pattern and investment preferences**		
Sl. No.	**Hypotheses**	**Decision H_0**	**Conclusion**
H_{06a}:	There is no significant relationship between factors perceived on investment and investment preferences	Reject	There is a relationship
H_{06b}:	There is no significant relationship between investment objective and investment preferences	Reject	There is a relationship
H_{06c}:	There is no significant relationship between risk perceived on investment and investment preferences	Reject	There is a relationship

All the dimensions of Investment pattern are related to investment preferences according to the result of the study. Kumari (2016), Com et al. (2018), Sarkar and Sahu (2018), Sudha and Parimala (2018) and Chandrakumar (2018) have reported the same results.

Table 4.27

Investment Preferences and their Relationship with Investment Decision Making

Sl. No.	**Hypothesis**	**Decision H_0**	**Conclusion**
H_{07}:	There is no significant relationship between investment preferences and investment decision making	Reject	There is a relationship

There is a significant relationship between investment preferences and investment decision making, as per this research. Suman and Tejinder (2020), Ankurita and Pooja (2020), and Gautami et al. (2020) have also proved the investment awareness, investment preferences and investment decision making of investors, especially women investors.

4.5. INVESTMENT DECISION MAKING

Investment decision making of the government employees is studied with the help of a questionnaire including statements related to rational and irrational decision making. Rational decision making included the statements related to the eight dimensions, namely return, risk, social consideration, personal consideration, environmental consideration, influencing persons, information dependence, and evaluation. The irrational decision-making included statements related to the eight dimensions, namely, anchoring, gamblers' fallacy, herding, mental accounting, overconfidence, regret aversion, availability bias, and representativeness.

4.5.1. Investment Decision Making Behaviour of Select Government Employees

The weighted score of Rational and Irrational decision making is displayed in table 4.28.

Table 4.28

Investment Decision Making Behaviour

Investment Decision making	Mean	Std. Deviation
Rational Behaviour	3.49	0.37
Irrational Behaviour	3.58	0.49

Source: Primary data ($^{**}p < 0.01$, $^{*}p < 0.05$)

Table 4.28 shows that the mean value of Rational decision is 3.49, Irrational decision is 3.58, and the standard deviations are 0.37 and 0.49, respectively.

The eight dimensions of rational decision making are studied using descriptive statistics, and the result is shown in Table number 4.29.

Table 4.29

Rational Decision Making Dimensions

Dimensions	Mean	Std. Deviation
Return	3.62	0.67
Economic consideration	3.42	0.73
Influencing persons	3.33	0.65
Information dependence	3.60	0.67
Social Consideration	3.55	0.73
Risk	3.39	0.76
Evaluation	3.58	0.67
Sustainability	3.44	0.98

Source: Primary data

All the dimensions have a similar mean ranging from 3.62 to 3.33 and a standard deviation ranging from 0.98 to 0.67. Return and Information dependence have a high mean; that is 3.62 and 3.60, Influencing persons and Economic consideration shows a low score like 3.33 and 3.42. Hence it indicates that Return and Information dependence are the most significant factors considered in Rational decision making of investment.

The eight prominent behavioural biases are included in the irrational decision making, and the descriptive statistics of the biases are depicted in Table 4.30.

Table 4.30

Irrational Decision Making Dimensions

Biases in Decision making	Mean	Std. Deviation
Anchoring Bias	10.31	2.957
Gamblers' fallacy	10.46	3.030
Herding Bias	10.69	2.875
Mental Accounting	10.88	2.608
Overconfidence Bias	10.89	2.786
Regret Aversion Bias	10.86	2.661
Availability Bias	10.84	2.753
Representative Bias	10.90	2.801

Source: Primary data

Table 4.30 evidenced that Representative bias, overconfidence, mental accounting, regret aversion and availability bias show higher mean scores like 10.90, 10.89, 10.88, 10.86 and 10.84. Herding, gamblers' fallacy and anchoring show mean scores of 10.69, 10.46 and 10.31. Gamblers' fallacy and anchoring bias have high scores of standard deviations of 3.03 and 2.957. All the other biases show a variation between 2.875 to 2.661. Hence it indicates that Representative bias, overconfidence, mental accounting, regret aversion and availability bias are the most significant factors considered in Irrational decision making of investment.

4.5.2. Investment Decision Making Behaviour and its Relationship with Investors' Psychology and Investment Pattern

In this section, the influencing factors of investment decision making are analysed. The section has two significant parts Rational decision making and Irrational decision making. The influencing factors taken as independent factors are intelligence, personality, factors perceived, and investment objectives. First part included rational decision making.

4.5.2.1. Rational Behaviour in Investment Decision Making

This part reveals the relation of investors' intelligence, personality traits, behavioural biases, objectives and factors perceived on rational decision making.

4.5.2.1.1 Government Employees' Intelligence and its Influence on Rational Behaviour in Investment Decision Making

This section has attempted to study Multiple Intelligence as independent variables and rational decision making as the dependent variable.

The hypothesis is

H_{04a}: There is no significant relationship between Multiple Intelligence and rational decision making on investment

Table 4.31

Influence of Multiple Intelligences on Rational Decision Making

Variable	B	β	SE
Constant (α)	68.05*		3.59
Verbal Intelligence	0.43	0.23	0.10
Logical Intelligence	0.27	0.14	0.10
Spatial Intelligence	0.28	0.14	0.11
Kinesthetic Intelligence	0.00	0.00	0.10
Musical Intelligence	0.06	0.03	0.09
Interpersonal Intelligence	0.06	0.03	0.11
Intrapersonal Intelligence	-0.07	-0.04	0.11
Naturalistic Intelligence	-0.04	-0.02	0.1
Existential Intelligence	-0.08	-0.05	0.10
R^2		0.07	
AR^2		0.05	
F		3.04	

Source: Primary data (*p <0.05)

Table 4.31 shown that the result of the regression model has been tested using ANOVA. The value of the F – ratio is equal to 3.035 ($p < 0.05$). It shows that the model is a good fit. It also indicates that adjusted R^2 is equal to 0.046. In the model R is 0.265 which indicates that 26.5 percent of association between dependent and independent variables. R square is 0.07 which indicates 7 percent of variation of independent variable (Rational Investment Decision making) can be explained with the help of independent variable (Multiple Intelligence). Further, beta value reveals significant relationship of independent variable dimensions with dependent variable.

Based on the analysis following model equation has been formulated to see the effect of Multiple Intelligence in rational investment decision making.

Rational decision making = $\alpha + \beta_1 I_1 + \beta_2 I_2 + \beta_3 I_3 + \beta_4 I_4 + \beta_5 I_5 + \beta_6 I_6 + \beta_7 I_7 + \beta_8 I_8 + \beta_9 I_9$

Where α = constant, $\beta_1 I_1$ to $\beta_9 I_9$ represents coefficient of regression for independent factor, that is Multiple Intelligences.

Rational Decision making = 68.05 + 0.23Verbal Intelligence +0.14 Logical Intelligence + 014 Spatial Intelligence + 0.00 Kinesthetic Intelligence + 0.03 Interpersonal Intelligence- 0.04 Intrapersonal Intelligence - 0.02 Naturalistic Intelligence - 0.05 Existential Intelligence.

Among the Multiple Intelligences, Verbal, Logical, Spatial, Musical and Interpersonal intelligences have a positive influence, and Intrapersonal, Naturalistic and Existential have negative influence while Kinesthetic has no influence.

There is a significant relationship between Multiple Intelligence and rational decision making on investment. The null hypothesis is rejected.

4.5.2.1.2. Government Employees' Personality and its Influence on Rational Behaviour in Investment Decision Making

This section has attempted to study the Big Five Personality Traits as independent variables and rational decision making as the dependent variable.

The hypothesis is

H_{05a}: There is no significant relationship between the personality traits of the government employees and rational decision making on investment

Table 4.32

Influence of Big Five Personality Traits on Rational Decision Making

Variable	B	β	SE
Constant (α)	80.60*		3.13
Openness	0.26	0.11	0.13
Conscientiousness	-0.09	-0.04	0.15
Extroversion	0.01	0.00	0.15
Agreeableness	0.07	0.03	0.12
Neuroticism	-0.33	-0.13	0.13
R^2		0.03	
AR^2		0.02	
F value		2.68	

Source: Primary data (*p <0.05)

Table 4.32 shown that the result of the regression model has been tested using ANOVA. The value of the F – ratio is equal to 2.68 ($p < 0.05$). It shows that the model is a good fit. It also indicates that adjusted R^2 is equal to 0.021. In the model R is 0.173 which indicates that 17.3 percent of association between dependent and independent variables. R square is 0.03 which indicates 3 percent of variation of independent variable (Rational Investment Decision making) can be explained with the help of independent variable (Big Five Personality Traits). Further, beta value reveals significant relationship of independent variable dimensions with dependent variable.

Based on the analysis following model equation has been formulated to see the effect of Multiple Intelligence in rational investment decision making.

Rational decision making = $\alpha + \beta_1 P_1 + \beta_2 P_2 + \beta_3 P_3 + \beta_4 P_4 + \beta_5 P_5$

Where α = constant, $\beta_1 P_1$ to $\beta_5 P_5$ represents coefficient of regression for independent factor, that is Big Five Personality Traits.

Rational decision making = 80.60+ 0.26 Openness – 0.09 Conscientiousness + 0.01 Extroversion + 0.07 Agreeableness – 0.33 Neuroticism.

Among the personality dimensions, Openness, Extroversion, and Agreeableness have a positive influence and Conscientiousness, and Neuroticism has a negative influence on rational decision making.

There is a significant relationship between the personality traits of the government employees and rational decision making on investment. Hence, the null hypothesis is rejected.

4.5.2.1.3. Government Employees' Behavioural Biases and their Influence on Rational Behaviour in Investment Decision Making

This section has attempted to study Behavioural biases as independent variables and rational decision making as the dependent variable. Behavioural biases are the dimensions of irrational decision making.

The hypothesis is

H_0: There is no significant relationship between behavioural biases and rational decision making on investment

Multiple regression has been used to find the intercept and coefficients for the regression model:

Table 4.33

Influence of Behavioural Biases on Rational Decision Making

Variable	B	β	SE
Constant (α)	54.096**		2.95
Anchoring Bias	0.51	0.18	0.14
Gamblers' fallacy	0.16	0.06	0.15
Herding Bias	0.64	0.21	0.15
Mental Accounting	-0.02	-0.01	0.17
Overconfidence Bias	0.07	0.02	0.15
Regret Aversion Bias	0.17	0.05	0.16
Representative Bias	0.59	0.19	0.15
Availability Bias	0.34	0.11	0.15
R^2		0.21	
AR^2		0.19	
F value		12.48	

Source: Primary data (**p <0.01)

Table 4.33 shown that the result of the regression model has been tested using ANOVA. The value of the F – ratio is equal to 12.48 ($p < 0.01$). It shows that the model is a good fit. It also indicates that adjusted R^2 is equal to 0.21.

In the model R is 0.458 which indicates that 45.8 percent of association between dependent and independent variables. R square is 0.21 which indicates 2.1 percent of variation of independent variable (Rational behaviour in investment decision making) can be explained with the help of independent variable (Big Five Personality Traits). Further, beta value reveals significant relationship of independent variable dimensions with dependent variable.

Based on the analysis following model equation has been formulated to see the effect of Multiple Intelligence in rational investment decision making.

Rational decision making = $\alpha + \beta_1 B_1 + \beta_2 B_2 + \beta_3 B_3 + \beta_4 B_4 + \beta_5 B_5 + \beta_6 B_6 + \beta_7 B_7 + \beta_8 B_8$

Where α = constant, $\beta_1 B_1$ to $\beta_8 B_8$ represents coefficient of regression for independent factor, that is Behavioural biases.

Rational decision making = 54.096 + 0.51 Anchoring + 0.16 Gamblers' Fallacy + 0.64 Herding - 0.02 Mental Accounting + 0.07 Overconfidence + 0.17 Regret aversion + 0.59 Representativeness + 0.34 Availability bias.

Among the behavioural biases, Mental accounting only has a negative influence, and all other biases positively impact rational decision making.

There is a significant relationship between behavioural biases and rational decision making on investment. The null hypothesis is rejected.

4.5.2.1.4. Government Employees' Investment Objectives and Factors Perceived and their Influence on Rational Behaviour in Investment Decision Making

This section has attempted to study the perceived factors in investment behaviour and investment objectives as independent variables and rational decision making as the dependent variable.

The hypothesis is

H_{08a}: There is no significant relationship of factors of investment behaviour perceived by the respondents and objectives of investment with rational decision making on investment

Table 4.34

Influence of Factors Perceived and Objectives on Rational Decision Making

Variable	Model 1			Model 2		
	B	**β**	**SE**	**B**	**β**	**SE**
Constant (α)	79.06		3.14	74.60		3.32
Primary factors perceived	0.16	0.03	0.28			
Other factors perceived	-0.05	-0.02	0.15			
Primary objectives				0.35	0.07	0.26
Secondary objectives				0.11	0.04	0.14
R^2	0.001			0.008		
AR^2	-0.004			0.003		
F	0.165			1.528		

Source: Primary data

Table 4.34 shows the result of the regression models has been tested using ANOVA. The value of F – ratio is equal to 0.165 ($p > 0.05$) and 1.528 ($p > 0.05$) which shows that the model is not fit. So, the analysis shows no influence for objectives and factors perceived in rational decision making. It reveals that the Factors perceived and objectives of investment account for below 1 percent of the variance in rational decision making.

There is no significant relationship of factors of investment behaviour perceived by the respondents and objectives of investment with rational decision making on investment. The null hypothesis is accepted

4.5.2.2. Irrational Behaviour in Investment Decision Making

This part reveals the relation of investors' intelligence, personality traits, prudence, objectives and factors perceived on irrational decision making.

4.5.2.2.1. Government Employees' Multiple Intelligences and their Influence on Irrational Behaviour in Investment Decision Making

This section has attempted to study Multiple Intelligence as independent variables and irrational decision making as the dependent variable.

The hypothesis is

H_{04b}: There is no significant relationship between Multiple Intelligence and irrational decision making on investment

Table 4.35

Influence of Multiple Intelligences on Irrational Decision Making

Variable	B	β	SE
Constant (α)	81.815		5.08
Verbal Intelligence	0.13	0.05	0.14
Logical Intelligence	0.08	0.029	0.15
Spatial Intelligence	0.003	0.001	0.15
Kinesthetic Intelligence	-0.096	-0.035	0.15
Musical Intelligence	0.02	0.008	0.13
Interpersonal Intelligence	-0.18	-0.065	0.15
Intrapersonal Intelligence	0.01	0.002	0.15
Naturalistic Intelligence	0.26	0.096	0.14
Existential Intelligence	0.08	0.032	0.14
R^2		0.016	
AR^2		-0.008	
F value		0.663	

Source: Primary data

Table 4.35 shows the result of the regression model has been tested using ANOVA. The value of F – ratio is equal to 0.663 ($p > 0.05$), which shows that the model is not fit. It also indicates that adjusted R^2 is equal to -0.008.

It reveals that intelligence accounts for 1.6 percent of the Irrational decision-making variance. Among the Multiple Intelligences, Verbal, Logical, Spatial, Musical, Intrapersonal, Naturalistic and Existential intelligences have a slight positive influence. Kinesthetic and Interpersonal have a little negative impact.

There is no significant relationship between Multiple Intelligence and irrational decision making on investment. The null hypothesis is accepted.

4.5.2.2.2. Government Employees' Big Five Personality Traits and their Influence on Irrational Behaviour in Investment Decision Making

This section has attempted to study the Big Five Personality Traits as independent variables and irrational decision making as the dependent variable.

The hypothesis is

H_{05b}: There is no significant relationship between the personality traits of the government employees and irrational decision making on investment

Table 4.36

Influence of Big Five Personality Traits on Irrational Decision Making

Variable	B	β	SE
Constant (α)	81.55*		4.27
Openness	0.65	0.20	0.18
Conscientiousness	0.098	0.03	0.20
Extroversion	-0.34	-0.10	0.21
Agreeableness	-0.14	-0.05	0.17
Neuroticism	0.04	0.01	0.18
R^2		0.05	
AR^2		0.03	
F value		3.55	

Source: Primary data ($^*p < 0.05$)

Table 4.36 shown that the result of the regression model has been tested using ANOVA. The value of the F – ratio is equal to 3.55 ($p < 0.05$). It shows that the model is a good fit. It also indicates that adjusted R^2 is equal to 0.03.

In the model R is 0.223 which indicates that 22.3 percent of association between dependent and independent variables. R square is 0.05 which indicates 5 percent of variation of independent variable (Irrational Investment Decision making) can be explained with the help of independent variable (Big Five Personality Traits). Further, beta value reveals significant relationship of independent variable dimensions with dependent variable.

Based on the analysis following model equation has been formulated to see the effect of Big Five Personality Traits in rational investment decision making.

Irrational decision making = $\alpha + \beta_1 P_1 + \beta_2 P_2 + \beta_3 P_3 + \beta_4 P_4 + \beta_5 P_5$

Where α = constant, $\beta_1 P_1$ to $\beta_5 P_5$ represents coefficient of regression for independent factor, that is Big Five Personality Traits.

Irrational decision making = 81.55 + 0.65 Openness + 0.098 Conscientiousness - 0.34 Extroversion - 0.14 Agreeableness + 0.04 Neuroticism.

Among the personality variables, Openness, Conscientiousness, and Neuroticism have a positive influence and Extroversion, and Agreeableness have a negative effect on irrational decision making.

There is a significant relationship between the personality traits of the government employees and irrational decision making on investment. The null hypothesis is rejected.

4.5.2.2.3. Government Employees' Prudence and their Influence on Irrational Behaviour in Investment Decision Making

This section has attempted to study Prudence as the independent variable and rational decision making as the dependent variable. Prudence includes different dimensions of rational decision making.

The hypothesis is

H_0: There is no significant relationship between Prudence and Irrational decision making on investment

Table 4.37

Influence of Prudence on Irrational Decision Making

Variable	B	β	SE
Constant (α)	39.61**		5.29
Return	0.45	0.03	0.88
Economic consideration	3.50	0.22	0.81
Influencing persons	-0.12	-0.01	0.87
Information dependence	3.04	0.17	0.87
Social Consideration	2.11	0.13	0.84
Risk	0.03	0.00	0.74
Evaluation	3.45	0.20	0.83
Sustainability	0.62	0.05	0.60
R^2		0.22	
AR^2		0.20	
F value		13.16	

Source: Primary data (**p <0.01)

Table 4.37 shown that the result of the regression model has been tested using ANOVA. The value of the F – ratio is equal to 13.16 ($p < 0.01$). It shows that the model is a good fit. It also indicates that adjusted R^2 is equal to 0.20.

In the model R is 0.469 which indicates that 46.9 percent of association between dependent and independent variables. R square is 0.22 which indicates 22 percent of variation of independent variable (Irrational Investment Decision making) can be explained with the help of independent variable (Prudence). Further, beta value reveals significant relationship of independent variable dimensions with dependent variable.

Based on the analysis following model equation has been formulated to see the effect of prudence in irrational investment decision making.

Irrational decision making = $\alpha + \beta_1 B_1 + \beta_2 B_2 + \beta_3 B_3 + \beta_4 B_4 + \beta_5 B_5 + \beta_6 B_6 + \beta_7 B_7 + \beta_8 B_8$

Where α = constant, $\beta_1 B_1$ to $\beta_8 B_8$ represents coefficient of regression for independent factor, that is Prudence.

Irrational decision making = 39.61 + 0.45 Return + 0.35 Economic consideration - 0.12 Influencing person + 3.04 Information dependence + 2.11 Social consideration + 0.03Risk + 3.45 Evaluation + 0.62 Sustainability.

Among the dimensions of Prudence, influencing persons only have a negative influence, and all other dimensions have a positive influence on Irrational decision making.

There is a significant relationship between Prudence and Irrational decision making on investment. The null hypothesis is rejected.

4.5.2.2.4. Government Employees' Investment Objectives and Factors Perceived and their Influence on Irrational Behaviour in Investment Decision Making

This section has attempted to study the perceived factors in investment behaviour and investment objectives as independent variables and irrational decision making as the dependent variable.

The hypothesis is

H_{08b}: There is no significant relationship of factors of investment behaviour perceived by the respondents and objectives of investment with irrational decision making on investment

Table 4.38

Influence of Factors Perceived and Objectives on Irrational Decision Making

Variable	Model 1			Model 2		
	B	β	SE	B	β	SE
Constant (α)	96.42*		4.30	91.92		4.57
Primary factors on investment perceived	-0.78	-0.11	0.39			
Other factors on investment perceived	-0.14	-0.04	0.21			
Primary objectives				-0.41	-0.06	0.36
Secondary objectives				-0.08	-0.022	0.195
R^2	0.02			0.005		
AR^2	0.01			0.0		
F	3.08			0.92		

Source: Primary data (*p <0.05)

Table 4.38 shows the result of the regression model has been tested using ANOVA. The value of F – ratio is equal to is equal to 3.08 ($p < 0.05$) for perceived factors which shows that the model is a good fit. It also indicates that adjusted R^2 is equal to 0.01.

In the model R is 0.141 which indicates that 14.1 percent of association between dependent and independent variables. R square is 0.02 which indicates 2 percent of variation of independent variable (Irrational Investment Decision making) can be explained with the help of independent variable (Perceived factors). Further, beta value reveals significant relationship of independent variable dimensions with dependent variable.

Irrational decision making = $\alpha + \beta_1 F_1 + \beta_2 F_2$

Where α = constant, $\beta_1 F_1$ and β_2 F2 represents coefficient of regression for independent factors, Primary factor perceived and other factors perceived.

Irrational decision making = 92.42 - 0.11 Primary Factors perceived - 0.04 Other Factors perceived.

There is no significant relationship between factors of investment behaviour perceived by the respondents and irrational decision making on investment. The null hypothesis is rejected.

The table reveals that objectives of investment account for only 0.05 percent of the variance in Irrational decision making. The result of the regression models has been tested using ANOVA. The value of F – ratio is equal to 0.92 ($p > 0.05$) for objectives which shows that the model is not fit. So, the analysis shows no influence for objectives.

H_0: There is no significant relationship between objectives of investment and irrational decision making on investment. The null hypothesis is accepted.

4.5.3. Summary of Hypotheses testing on the Variable Investment Decision Making

Summary of hypotheses testing, inference and conclusion on the variable investment decision making are depicted in Table 4.39, 4.40 and 4.41.

Table 4.39

Intelligence and its Influence on Investment Decision Making

Sl. No.	Hypotheses	Decision H_0	Conclusion
H_{04}:	**There is no significant relationship between investors' intelligence and investment decision making**		
H_{04a}:	There is no significant relationship between investors' Multiple Intelligence and rational investment decision making	Reject	There is a relationship
H_{04b}:	There is no significant relationship between investors' intelligence and irrational investment decision making	Accept	There is no relationship

From this result, it is evidenced that intelligence and rational investment decision-making have a significant relationship, whereas intelligence has no significant relationship with irrational investment decision-making. Sarwar and Afaf (2016), Woods et al. (2017), and Jabeen et al. (2018) reported the relationship between cognitive mental factors or intellectual ability and rational decision making. Nevertheless, in the case of irrational behaviour of decision making, the results contradict the existing results of Raheja and Dhiman (2019) and Arora and Kumari (2020), who proved the relationship of intelligence with irrational behaviour or biases in investment decision making.

Table 4.40

Personality Traits and its Influence on Investment Decision Making

Sl. No.	Hypotheses	Decision H_0	Conclusion
H_{05}:	**There is no significant relationship between investors' personality and investment decision making**		
H_{05a}:	There is no significant relationship between investors' personality and rational investment decision making	Reject	There is a relationship
H_{05b}:	There is no significant relationship between investors' personality and irrational investment decision making	Reject	There is a relationship

The result evidenced the relationship of personality with the investment decision making (rational and irrational). Chitra and Sreedevi (2011), Rizvi and Fatima (2014), Ahmad et al. (2016) and Oehler et al. (2018) have reported the same result. Babu and Nagaraj (2016), Gakhar and Prakash (2017), Kourtidis et al. (2017) and Sarwar et al. (2020) have reported that personality is not related to the irrational behaviour or biases in investment decision making.

Table 4.41

Investment Pattern and its Influence on Investment Decision Making

H_{08}:	**There is no significant relationship between investment pattern and investment decision making**		
Sl. No.	**Hypotheses**	**Decision H_0**	**Conclusion**
H_{08a}:	There is no significant relationship between factors perceived, investment objectives and rational investment decision making	Accept	There is no relationship
H_{08b}:	There is no significant relationship between factors perceived, investment objectives and irrational investment decision making	Accept	There is no relationship

The result of this result evidenced that there is no relationship between investment patterns and investment decision-making. Reviews got different results as Rejani (2020) and Quaicoe and

Eleke-Aboagye (2021) proved the relationship between pattern and decision making of urban investors.

4.6. Influence of Demographic Profile of Select Government Employees on their Investment Behaviour

This section reveals the role of demographic profile of government employees on their investment related behaviour. The significant difference between different groups in the demography are studied here with the help of comparing means using independent sample t test and ANOVA. The major hypothesis is:

H_{09}: There is no significant difference in investment behaviour among the government employees according to their gender, age, category of employment, marital status, income level and volume of savings

4.6.1. Gender

The gender wise differences in the investment behaviour were studied using independent sample t test for each dependent variable.

The results of gender wise comparison of investors' intelligence and investors' personality are consolidated in Table 4.42.

The hypothesis to be tested is:

H_{09a1}: There is no significant difference among government employees in their intelligence and personality according to their gender

Table 4.42

Investors' Intelligence and Investors' Personality - Comparison between Male and Female Respondents

Variable	Male		Female		t(382)	p
	M	SD	M	SD		
Investors' intelligence	13.05	1.64	13.16	1.7	-0.69	0.49
Investors' personality	12.62	2.03	12.58	1.83	0.18	0.86

Source: Primary data

In table 4.42, The Mean parameter value of each of the analyses are shown for male (n -200) and female (n -184) as well as the results of t test (equal variance assumed) comparing the parameter estimates for both groups. The t value is not significant at 0.05 level. There is no significant difference between male and female in intelligence and personality and thus, Null hypothesis is accepted.

The results of gender wise comparison of investment objectives and factors perceived are consolidated in Table 4.43.

The hypothesis to be tested is:

H_{09a2}: There is no significant difference among government employees in their factors perceived and objectives of investment according to their gender

Table 4.43

Investment Objectives and Factors Perceived – Comparison between Male and Female Respondents

Variable	Male		Female		t(382)	p
	M	SD	M	SD		
Primary factors (Return, safety, liquidity and marketability)	3.83	0.6	3.89	0.55	-1.17	0.24
Other factors (Tax savings, diversification, simplicity and affordability)	3.42	0.76	3.66	0.81	-2.98	**0.00
Primary Objectives (Return, Capital appreciation and liquidity)	3.92	0.61	3.97	0.55	-0.86	0.39
Other Objectives (Tax savings, children education, future safety and pension)	3.77	0.78	3.87	0.81	-1.18	0.24

Source: Primary data (**p <0.01)

In Table 4.43, the Mean parameter value of each of the analyses are shown for male (n -200) and female (n -184) as well as the results of t test (equal variance assumed) comparing the parameter estimates for both groups. The t value is significant at 0.05 level in case of the other

factors of investment decisions. So, there is a significant difference between male and female in the other factors perceived.

All other t values are not significant at 0.05 level and thus there is no significant difference between male and female in investment objectives and primary factors perceived.

The results of gender wise comparison of investment preferences are consolidated in Table 4.44.

The hypothesis here tested is:

$H_{09a3:}$ There is no significant difference among government employees in their investment preferences according to their gender

Table 4.44

Investment Preferences – Comparison between Male and Female Respondents

Variable	Male		Female		t(382)	p
	M	SD	M	SD		
Preference of:						
Bank deposit	4.04	0.95	4.11	0.86	-0.80	0.42
Post office	3.66	1.00	3.85	0.94	-2.00*	0.05
Treasury	3.73	1.09	3.75	0.97	-0.24	0.81
Chit fund	3.71	1.02	3.95	1.07	-2.30*	0.02
NBFC	3.36	1.13	3.24	1.19	0.93	0.35
Cooperative	3.57	1.2	3.61	1.25	-0.39	0.70
Insurance	3.85	1.04	3.97	1.02	-1.17	0.24
Real estate	3.42	1.04	3.45	1.27	-0.22	0.83
Tax savings scheme	3.31	1.04	3.52	1.22	-1.79	0.07
Commodity	2.92	1.23	2.87	1.17	0.41	0.68
Precious metals	3.09	1.19	3.37	1.27	-2.27*	0.02
Stock market	3.22	1.35	3.01	1.3	1.55	0.12
Mutual fund	3.1	1.32	2.91	1.32	1.35	0.18
Debt market	2.61	1.24	2.51	1.21	0.84	0.40

Source: Primary data (*p <0.05)

In table 4.44, The Mean parameter value of each of the analyses are shown for male (n -200) and female (n -184) as well as the results of t test (equal variance assumed) comparing the

parameter estimates for both groups. Preferences on Post office, Chit fund, and precious metals are significantly different between male and female respondents with t values of 2.00, 2.30 and 2.27 ($p < 0.05$). All the other factors are not influenced by gender of the respondents.

Women prefer more the investment in precious metals, post office, and Chit funds than men. Men prefer more the investment in stock and NBFCs.

There is a significant difference between male and female government employees on their investment preferences. Hence the null hypothesis is rejected.

The results of gender wise comparison of investment decision making are consolidated in Table 4.45.

The hypothesis tested here is:

H_{09a4}: There is no significant difference among government employees in their investment decision making according to their gender

Table 4.45

Investment Decision Making – Comparison between Male and Female Respondents

Variable	Male		Female		t(382)	p
	M	SD	M	SD		
Rational Decision making	80.46	9.07	80.23	7.97	0.26	0.80
Irrational Decision making	86.94	11.29	84.65	12.16	1.91	0.06

Source: Primary data

In table 4.45, The Mean parameter value of each of the analyses are shown for male (n -200) and female (n -184) as well as the results of t test (equal variance assumed) comparing the parameter estimates for both groups. The t value is not significant at 0.05 level.

There is no significant difference between male and female in rational and irrational behaviour in decision making. Null hypothesis is accepted.

Summary of Hypotheses Testing on Investment Behaviour asper Gender

Summary of hypotheses testing in related to gender wise analysis of investment behaviour is depicted in Table 4.46.

Table 4.46

Government Employees' Investment Behaviour according to their Gender

Sl. No	Hypotheses	Decision on H_0	Conclusion
H_{09a}: There is no significant difference among government employees in their investment behaviour according to their gender			
H_{09a1}:	There is no significant difference among select government employees in their intelligence and personality according to their gender	Accept	There is no difference
H_{09a2}:	There is no significant difference among select government employees in their factors perceived and objectives of investment according to their gender	Accept	There is no difference
H_{09a3}:	There is no significant difference among select government employees in their investment preferences according to their gender	Reject	There is a difference
H_{09a4}:	There is no significant difference among select government employees in their investment decision making according to their gender	Accept	There is no difference

There is a significant difference among select government employees in their investment preferences according to their gender and no difference in any of the other dimensions like pattern and preferences. Suriyamurithi et al. (2012), Varghese (2015) and Lall (2018) proved the difference between males and females in investment preferences. Pandian and Thangadurai (2013) and Kumar and Kumar (2020) reported the gender differences in investment preferences and decision making. Kandregula et al. (2020) have reported a significant difference in investment decision-making according to investors' gender.

Kaur and Chikkara (2008) proved the difference between men and women according to investors' intelligence. However, here, it needs to be evidenced in the analysis.

4.6.2. Age

The age wise differences in the investment behaviour were studied using one-way ANOVA for each dependent variable.

The results of age wise comparison of investors' intelligence and investors' personality are consolidated in Table 4.47.

The hypothesis tested here is:

H_{09b1}: There is no significant difference among government employees in their intelligence and personality according to their age

Table 4.47

Investors' Intelligence and Personality – Comparison among different Age Groups

Measure	20-30 years		30-40 years		40-50 years		50-60 years		F	p
	M	SD	M	SD	M	SD	M	SD		
Investors' intelligence	13.38	2.81	13.17	1.77	13.04	1.53	13.00	1.41	0.47	0.70
Investors' personality	12.60	1.30	12.54	2.12	12.77	1.87	12.48	1.71	0.37	0.77

Source: Primary data

The differences of investors' intelligence and personality based on different age group is analyzed and shown in table 4.46 the F value is not significant at 0.05 level.

In investors' intelligence and personality there is no difference among different age groups. Null hypothesis is accepted.

The results of age wise comparison of investment objectives and factors perceived are consolidated in Table 4.48.

The hypothesis tested here is:

H_{09b2}: There is no significant difference among government employees in their investment objectives and factors perceived according to their age

Table 4.48

Investment Objectives and Factors Perceived – Comparison among different Age Groups

Measure	20-30 years		30-40 years		40-50 years		50-60 years		F	p
	Mean	SD	Mean	SD	Mean	SD	Mean	SD		
Primary factors (Return, safety, liquidity and marketability)	3.77	0.53	3.83	0.57	3.93	0.52	3.83	0.67	1	0.39
Other factors (Tax savings, diversification, simplicity and affordability	3.02	0.86	3.53	0.77	3.53	0.75	3.63	0.86	2.28	0.08
Primary Objectives (Return, Capital appreciation and liquidity)	3.97	0.48	3.89	0.55	4.03	0.53	3.94	0.71	1.24	0.29
Other Objectives (Tax savings, children education, future safety and pension)	3.21	1.00	3.77	0.78	3.91	0.7	3.86	0.87	3.43*	0.02

Source: Primary data ($^{*}p < 0.05$)

In Table 4.48, the differences of other objectives of investment based on different age group is found significant as the F value is significant at 0.05 level. The Primary and other factors perceived and primary objectives are not found significant at 0.05 level. But the other objectives significant at 0.05 level.

The other objectives like tax savings, diversification, simplicity and affordability are differing significantly according to age. Thus, age is a significant matter in the investment objective.

Hence, for primary and other factors perceived the null hypothesis accepted. For primary objective the null hypothesis is accepted and in case of other objectives null hypothesis is rejected.

The results of age wise comparison of investment preferences are consolidated in Table 4.49.

The hypothesis tested here is:

H_{09b3}: There is no significant difference among government employees in their investment preferences according to their age

Table 4.49

Investment Preferences – Comparison among different Age Groups

Preference of:	20-30 years		30-40 years		40-50 years		50-60 years		F	p
	M	SD	M	SD	M	SD	M	SD		
Bank deposit	3.54	1.13	4.16	0.90	4.03	0.91	4.05	0.85	2.14	0.10
Post office	3.62	1.33	3.72	0.98	3.73	1.03	3.87	0.81	0.54	0.65
Treasury	3.46	1.61	3.55	1.15	3.91	0.88	3.91	0.79	4.08	**0.0
Chit fund	3.62	1.12	3.83	1.13	3.80	0.97	3.88	1.00	0.27	0.85
NBFC	2.69	1.18	3.21	1.17	3.47	1.16	3.35	1.10	2.52	0.06
Cooperative	2.69	1.25	3.59	1.22	3.66	1.20	3.62	1.23	2.53	0.06
Insurance	3.54	1.05	4.00	0.96	3.83	1.00	3.89	1.19	1.24	0.30
Real estate	2.46	1.51	3.32	1.13	3.49	1.16	3.73	1.03	5.72	**0.0
Tax savings scheme	2.46	1.27	3.41	1.18	3.41	1.11	3.56	0.97	3.62	*0.01
Commodity	2.08	0.86	2.88	1.25	2.89	1.13	3.07	1.19	2.67	0.05
Precious metals	2.85	1.52	3.35	1.28	3.11	1.11	3.17	1.25	1.42	0.24
Stock market	2.62	1.61	3.20	1.42	3.01	1.23	3.17	1.22	1.15	0.33
Mutual fund	2.69	1.25	2.95	1.39	2.99	1.27	3.21	1.28	0.99	0.40
Debt market	2.08	1.3	2.51	1.24	2.57	1.23	2.73	1.14	1.33	0.26

Source: Primary data ($^{**}p < 0.01$, $^{*}p < 0.05$)

The differences of investment preferences based on different age group is analyzed and shown in Table 4.49. The F value is significant in case of preferences in Treasury savings, Real estate and Tax saving scheme. Age group above 40 years prefer treasury savings than others. The real estate investment is least preferred by the age group below forty years. The age group below thirty years show low preferences in real estate and tax saving scheme investments.

There is a significant difference among government employees on their investment behaviour according to their age. Asper the result, the null hypothesis is rejected.

There is a significant difference between different age groups on their preferences on different investment avenues.

The results of age wise comparison of investment decision making are consolidated in Table 4.50.

The hypothesis tested here is:

H_{09b4}: There is no significant difference among government employees in their investment decision making according to their age

Table 4.50

Investment Decision Making – Comparison among different Age Groups

Measure	20-30 years		30-40 years		40-50 years		50-60 years		F	p
	Mean	SD	Mean	SD	Mean	SD	Mean	SD		
Rational Decision making	79.13	10.06	79.77	7.83	80.34	8.69	80.99	9.51	0.89	0.45
Irrational Decision making	86.77	8.71	89.88	12.90	83.10	9.33	81.29	10.10	14.30	**0.0

Source: Primary data (**p <0.01)

The differences of investment decision making based on different age group is analyzed and shown in Table 4.50. The F value is significant in case of Irrational decision making. Irrational decision making shows a low mean to age group above 40 years than others. On account of rational decision making, there is negligible differences between different age groups.

The result shows that the mean value of rational decision making are increasing according to age.

There is a significant difference among government employees on their investment decision making according to their age. Asper the result, the null hypothesis is rejected. There is a significant difference on rational decision making among different age groups.

Summary of Hypotheses Testing on Investment Behaviour asper Age

Summary of hypotheses testing in related to age wise analysis of investment behaviour is depicted in Table 4.51.

Table 4.51

Government Employees' Investment Behaviour according to their Age

Sl. No	Hypotheses	Decision on H_0	Conclusion
H_{09b}: There is no significant difference among government employees in their investment behaviour according to their age			
H_{09b1}:	There is no significant difference among select government employees in their intelligence and personality according to their age	Accept	There is no difference
H_{09b2}:	There is no significant difference among select government employees in their factors perceived and objectives of investment according to their age	Reject	There is a difference
H_{09b3}:	There is no significant difference among government employees in their investment preferences according to their age	Reject	There is a difference
H_{09b4}:	There is no significant difference among select government employees in their investment decision making according to their age	Reject	There is a difference

There is a significant difference among different age groups according to investment pattern, preferences and decision making as per the result of the study. Pandian and Thangadurai (2013), Lall (2018), Kumar and Kumar (2020) and Kandregula et al. (2020) have reported agewise differences in investment preferences and decision making. Nevertheless, Panwar (2021) has found there is no difference in investment pattern according to the age of the investors.

4.6.3. Category of Employment

The category wise difference in the investment behaviour are studied using independent sample t test for each dependent variable. The results of category wise comparison of investors' intelligences and investors' personality are consolidated in Table 4.52.

The hypothesis tested here is:

H_{09c1}: There is no significant difference among government employees in their intelligence and personality according to their category of employment

Table 4.52

Investors' Intelligence and Personality – Comparison between Categories Grade II (a) and II (b) Employees

Variable	Grade II a		Grade II b		t(382)	p
	M	SD	M	SD		
Investors' intelligence	12.97	1.53	13.20	1.77	-1.36	0.17
Investors' personality	12.77	1.98	12.46	1.89	1.57	0.12

Source: Primary data

In table 4.52, Mean parameter value of each of the analyses are shown for Grade II a (n -168) and Grade II b (n -216) as well as the results of t test (equal variance assumed) comparing the parameter estimates for both groups. The t value of both intelligence and personality are not significant at 0.05 level.

There is no significant difference between both category II (a) and (b) in their intelligence and personality. Thus, null hypothesis is accepted.

The results of category wise comparison of investment objectives and factors perceived are consolidated in Table 4.53.

The hypothesis tested here is:

H_{09c2}: There is no significant difference among government employees in their investment objectives and factors perceived according to their category of employment

Table 4.53

Investment Objectives and Factors Perceived – Comparison between Categories Grade II (a) and II (b) Employees

Variable	Grade II a		Grade II b		t(382)	p
	M	SD	M	SD		
Primary factors (Return, safety, liquidity and marketability)	3.9	0.57	3.82	0.58	1.35	0.18
Other factors (Tax savings, diversification, simplicity and affordability	3.58	0.82	3.5	0.77	0.91	0.36
Primary Objectives (Return, Capital appreciation and liquidity)	3.96	0.56	3.93	0.60	0.48	0.63
Other Objectives Tax savings, children education, future safety and pension	3.85	0.80	3.80	0.79	0.61	0.54

Source: Primary data

In table 4.53, Mean parameter value of each of the analyses are shown for Grade II a (n -168) and Grade II b (n -216) as well as the results of t test (equal variance assumed) comparing the parameter estimates for both groups. The t value of the factors and objectives are not significant at 0.05 level. There is no significant difference between both category II (a) and (b) in their perceived factors in investment and objectives of investment. Thus, null hypothesis is accepted. The results of category wise comparison of investment preferences are consolidated in Table 4.54.

The hypothesis tested here is:

H_{09c3}: There is no significant difference among government employees in their investment preferences according to their category

Table 4.54

Investment Preferences – Comparison between Categories Grade II (a) and II (b) Employees

Preferences of:	Grade II a		Grade II b		t(382)	p
	M	SD	M	SD		
Bank Deposit	4.09	0.85	4.06	0.94	0.26	0.79
Post office deposit	3.76	0.98	3.75	0.97	0.11	0.92
Treasury savings	3.79	1.04	3.69	1.03	0.91	0.36
Chit Fund	3.84	1.02	3.81	1.08	0.27	0.79
NBFC	3.36	1.17	3.26	1.15	0.82	0.41
Co-operative sector	3.53	1.20	3.63	1.24	-0.83	0.41
Insurance	3.92	1.01	3.90	1.05	0.13	0.90
Real estate	3.43	1.18	3.44	1.14	-0.06	0.96
Tax savings scheme	3.36	1.13	3.45	1.13	-0.79	0.43
Commodity	2.84	1.22	2.94	1.19	-0.82	0.42
Precious metals	3.08	1.24	3.33	1.22	-1.938*	0.05
Stock market	3.16	1.41	3.08	1.26	0.60	0.55
Mutual fund	2.98	1.37	3.03	1.29	-0.34	0.74
Debt market	2.46	1.25	2.64	1.20	-1.44	0.15

Source: Primary data (*p <0.05)

In table 4.54, Mean parameter value of each of the analyses are shown for Grade II a (n -168) and Grade II b (n -216) as well as the results of t test (equal variance assumed) comparing the parameter estimates for both groups. Preferences on Precious metals are significantly different between Grade II a and Grade II b respondents with t values of 1.93 ($p < 0.05$). All the other avenues are not influenced by employment category of the respondents.

There is a significant difference between Category (a) and (b) government employees on their investment preferences on precious metals. Hence the null hypothesis is rejected on account of precious metals.

For all the other investment avenues the assumption was true and null hypothesis is accepted.

The results of category wise comparison of investment decision making are consolidated in Table 4.55.

H_{09c4}: There is no significant difference among government employees in their investment decision making according to their category of employment

Table 4.55

Investment Decision Making – Comparison between Categories Grade II (a) and II (b) Employees

Variable	Grade II a		Grade II b		t	p
	M	SD	M	SD	(382)	
Rational decision making	81.35	7.60	79.58	9.17	2.02*	0.04
Irrational decision making	85.75	10.86	85.91	12.43	-0.13	0.90

Source: Primary data (*p <0.05)

In Table 4.55, Mean parameter value of each of the analyses are shown for Grade II a (n -168) and Grade II b (n -216) as well as the results of t test (equal variance assumed) comparing the parameter estimates for both groups. Rational decision making is significantly different between Grade II a and Grade II b respondents with t values of 2.02 ($p < 0.05$). Irrational behaviour of decision making is not influenced by employment category of the respondents.

There is a significant difference between Category (a) and (b) government employees on their investment decision making. Hence the null hypothesis is rejected.

There is no difference in irrational decision making according to category of employees. Here, the null hypothesis is accepted.

Summary of Hypotheses Testing on Investment Behaviour asper Category of Employment

Summary of hypotheses testing in related to category wise analysis of investment behaviour is depicted in Table 4.56.

Table 4.56

Government Employees' Investment Behaviour according to their Category of Employment

Sl. No	Hypotheses	Decision on H_0	Conclusion
H_{09c}: There is no significant difference among government employees in their investment behaviour according to their category of employment			
H_{09c1}:	There is no significant difference among select government employees in their intelligence and personality according to their category of employment	Accept	There is no difference
H_{09c2}:	There is no significant difference among government employees in their factors perceived and objectives of investment according to their category of employment	Accept	There is no difference
H_{09c3}:	There is no significant difference among select government employees in their investment preferences according to their category of employment	Reject	There is a difference
H_{09c4}:	There is no significant difference among government employees in their investment decision making according to their category of employment	Reject	There is a difference

The study found there is a significant difference between Category II (a) and II (b) according to their investment preferences and decision-making. But there is no difference in other factors of investment behaviour.

4.6.4. Marital Status

The differences in the investment behaviour of employees with respect to their marital status were studied using one-way ANOVA for each dependent variable.

The results of comparison of investors' intelligence and investors' personality according to marital status are consolidated in Table 4.57.

The hypothesis tested here is:

H_{09d1}: There is no significant difference among government employees in their intelligence and personality according to their marital status

Table 4.57

Investors' Intelligence and Personality – Comparison of Employees with different Marital Status

Measure	Single		Married		Separated		Widow/er		F	p
	M	SD	M	SD	M	SD	M	SD		
Investors' intelligence	11.51	0.64	13.1	1.66	13.71	1.99	11.67	1.37	2.27	0.08
Investors' personality	12.82	2.06	12.58	1.94	12.29	1.56	13.23	2.09	0.52	0.67

Source: Primary data

The differences of investors' intelligence and personality based on marital status is analyzed and shown in table 4.57. The F value is not significant at level.

There is no significant difference in intelligence and personality among government employees according to marital status. Thus, null hypothesis is accepted.

The results of comparison of objectives of investment and factors perceived on investment according to marital status are consolidated in Table 4.58.

The hypothesis is tested is:

H_{09d2}: There is no significant difference among government employees in the objectives of investment and factors perceived on investment according to their marital status

Table 4.58

Investment Objectives and Factors Perceived – Comparison of Employees with different Marital Status

Measure	Single		Married		Separated		Widow/er		F	p
	M	SD	M	SD	M	SD	M	SD		
Primary factors (Return, safety, liquidity and marketability)	3.68	0.58	3.88	0.58	3.82	0.57	3.75	0.55	1.39	0.25
Other factors (Tax savings, diversification, simplicity and affordability	3.2	0.77	3.58	0.79	3.4	0.82	3.83	0.49	2.86*	0.04
Primary Objectives (Return, Capital appreciation and liquidity)	3.9	0.55	3.96	0.59	3.86	0.57	3.94	0.61	0.2	0.90
Other Objectives (Tax savings, children education, future safety and pension	3.19	0.81	3.88	0.78	3.72	0.53	4.08	0.47	9.00**	0.00

Source: Primary data (**p <0.01, *p <0.05)

The differences of Objectives of investment and Factors perceived based on marital status is analyzed and shown in table 4.58. The F value in case of other factors perceived and other objectives of investment are significant at 0.05 level.

The married and widow/er are more mean value in other factors perceived and other objectives, so, they are more specific regarding tax savings, children education and future safety.

There is a significant difference in the objectives and factors perceived on investment according to marital status. Thus, null hypothesis is rejected.

The results of comparison of investment preferences according to marital status are consolidated in Table 4.59.

The hypothesis tested here is:

H_{09d3}: There is no significant difference among government employees in investment preferences according to their marital status

Table 4.59

Investment Preferences – Comparison of Employees with different Marital Status

Measure	Single		Married		Separated		Widow/er		F	p
	M	SD	M	SD	M	SD	M	SD		
Bank deposit	4.14	0.73	4.07	0.91	4.00	1.23	4.33	0.52	0.27	0.84
Post office	3.43	1.12	3.79	0.95	3.71	0.92	3.5	1.38	1.62	0.19
Treasury	3.49	1.27	3.77	1.01	3.59	0.87	3.83	1.47	0.93	0.43
Chit fund	3.63	1.06	3.86	1.04	3.76	1.09	3.17	1.33	1.32	0.27
NBFC	3.23	1.29	3.33	1.16	3.12	0.86	2.67	1.21	0.86	0.46
Cooperative	3.66	1.31	3.59	1.23	3.35	1.00	3.67	1.37	0.25	0.86
Insurance	3.89	1.05	3.93	1.02	3.47	1.13	4.33	0.82	1.41	0.24
Real estate	2.80	1.16	3.48	1.14	3.59	0.94	3.83	1.33	4.19	**0.01
Tax savings scheme	2.77	1.06	3.47	1.13	3.35	0.86	4.00	1.27	4.72	**0.0
Commodity	2.77	1.35	2.89	1.18	3	1.17	3.67	1.37	1.00	0.39
Precious metals	3.06	1.55	3.23	1.2	3.12	1.17	3.83	1.17	0.75	0.53
Stock market	3.06	1.53	3.11	1.32	3.06	0.97	3.83	1.47	0.62	0.6
Mutual fund	3.00	1.33	3	1.35	2.88	0.78	3.83	1.17	0.83	0.48
Debt market	2.66	1.21	2.53	1.23	2.65	0.93	3.17	1.47	0.64	0.59

Source: Primary data (**p <0.01, *p <0.05)

The differences of investment preferences based on marital status is analyzed and shown in table 4.59 Investment preferences on Real estate and tax saving schemes are significantly differed among different groups and all other investment related variables are not influenced by marital status of the employees.

The employees who have status single shows very low preferences on real estate and tax saving scheme than other groups.

There is a significant difference among government employees on their investment behaviour according to their marital status. Hence, null hypothesis is rejected.

The results of comparison of investment decision making according to marital status are consolidated in Table 4.60.

The hypothesis tested here is:

H_{09d4}: There is no significant difference among government employees in investment decision making according to their marital status

Table 4.60

Investment Decision Making – Comparison of Employees with different Marital Status

Measure	Single		Married		Separated		Widow/er		F	p
	M	SD	M	SD	M	SD	M	SD		
Rational Decision making	82.14	7.95	79.97	8.6	83.88	6.16	80.5	13.16	1.7	0.17
Irrational Decision making	89.43	12.16	85.2	11.51	90.94	9.37	85.17	22	2.51	0.06

Source: Primary data

The differences of investment decision making based on marital status is analyzed and shown in Table 4.60. F value of both rational and irrational behaviour are not significant at 0.05 level.

There is no significant difference in investment decision making among government employees according to marital status. Thus, null hypothesis is accepted.

Summary of Hypotheses Testing on Investment Behaviour asper Marital Status

Summary of hypotheses testing of investment behaviour in accordance with marital status of respondents are consolidated in Table 4.61.

Table 4.61

Government Employees' Investment Behaviour according to their Marital Status

Sl. No	Hypotheses	Decision on H_0	Conclusion
H_{09d}: There is no significant difference among government employees in their investment behaviour according to their marital status			
H_{09d1}:	There is no significant difference among select government employees in their intelligence and personality according to their marital status	Accept	There is no difference
H_{09cd2}:	There is no significant difference among select government employees in their factors perceived and objectives of investment according to their marital status	Reject	There is a difference
$H_{09d3:}$	There is no significant difference among select government employees in their investment preferences according to their marital status	Reject	There is a difference
H_{09d4}:	There is no significant difference among select government employees in their investment decision making according to their marital status	Accept	There is no difference

The study evidenced that There is a significant difference among select government employees in their investment pattern and preferences according to their marital status. However, there is no difference in other factors of investment behaviour. Pandian and Thangadurai (2013) and Kumar and Kumar (2020) have reported the same result regarding investment preferences.

4.6.5. Income level

The differences in the investment behaviour of employees according to their income level were studied using one-way ANOVA for each dependent variable.

The results of income wise comparison of investors' intelligence and investors' personality are consolidated in Table 4.62.

The hypothesis tested here is:

H_{09e1}: There is no significant difference among government employees in their intelligence and personality according to their income level

Table 4.62

Investors' Intelligence and Personality – Comparison among different Income Groups

Measure	<40,000		40,000-60,000		60,000-80,000		80,000-100,00		>100,00		F	p
	M	SD	M	SD	M	SD	M	SD	M	SD		
Investors' intelligence	14.37	2.66	13.31	1.67	12.90	1.55	12.66	0.94	13.45	1.29	6.3**	**0.0**
Investors' personality	12.41	2.11	12.82	1.91	12.61	1.94	12.15	1.98	12.78	1.32	1.07	**0.3**

Source: Primary data (**p <0.01)

The income wise differences of investors' intelligence and personality are analyzed and shown in Table 4.61. F value of Investors' intelligence has significantly differed among different income at 0.05 level. Whereas F value of investors' personality has not differed significantly at 0.05 level.

The persons with high score in investors' intelligence have high or low income while the persons with low score in investors' intelligence have average income.

There is a significant difference between different income groups in their investors' intelligence. So, null hypothesis is rejected in this case.

There is no significant difference between different income groups in their investors' personality. So, null hypothesis is accepted.

The results of income wise comparison of investment objectives and factors perceived on investment are consolidated in Table 4.63.

The hypothesis tested here is:

H_{09e2}: There is no significant difference among government employees in their investment objectives and factors perceived according to their income level

Table 4.63

Investment Objectives and Factors Perceived – Comparison among different Income Groups

Measure	<40,000		40,000-60,000		60,000-80,000		80,000-100,00		>100,00		F	p
	M	SD	M	SD	M	SD	M	SD	M	SD		
Primary factors (Return, safety, liquidity and marketability)	3.99	0.55	3.96	0.57	3.78	0.59	3.77	0.49	4.25	0.52	3.69**	0.01
Other factors (Tax savings, diversification, simplicity and affordability	3.67	1.02	3.57	0.72	3.43	0.80	3.77	0.72	3.66	0.81	2.18	0.07
Primary Objectives (Return, Capital appreciation and liquidity)	4.2	0.54	4.03	0.55	3.86	0.60	3.91	0.56	4.12	0.40	3.16**	0.01
Other Objectives (Tax savings, children education, future safety and pension)	4.01	0.92	3.77	0.75	3.74	0.81	4.14	0.59	3.75	1.00	2.92*	0.02

Source: Primary data (**p <0.01, *p <0.05)

The income wise differences of factors perceived on investment and objectives of investment are analyzed and shown in Table 4.63. Primary factors, primary and secondary objectives show a significant F value. The other perceived factors show no significant differences between different income groups.

There is a significant difference between different income groups according to investment objectives and Primary factors perceived. Thus, null hypothesis is rejected.

The results of income wise comparison of investment preferences are consolidated in Table 4.64.

The hypothesis tested here is:

H_{09e3}: There is no significant difference among government employees in their investment preferences according to their income level

Table 4.64

Investment Preferences – Comparison among different Income Groups

Preferences of:	<40,000		40,000-60,000		60,000-80,000		80,000-100,00		>100,00		F	p
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD		
Bank deposit	4.52	0.98	4.29	0.85	3.94	0.92	3.96	0.78	3.73	0.79	4.9**	0.00
Post office	3.81	0.96	3.78	0.94	3.70	1.02	3.83	0.92	3.91	0.83	0.35	0.85
Treasury	3.22	1.19	3.82	1.03	3.73	1.06	3.81	0.85	4.00	0.78	2.12	0.08
Chit fund	3.93	1.07	3.95	1.01	3.73	1.11	3.81	0.95	3.91	0.70	0.85	0.49
NBFC	2.67	1.07	3.25	1.17	3.39	1.14	3.49	1.08	3.09	1.45	2.80*	0.03
Cooperative	3.30	1.30	3.65	1.16	3.60	1.24	3.74	1.13	2.82	1.47	1.75	0.14
Insurance	3.63	1.18	4.00	0.88	3.91	1.09	3.89	1.01	3.73	1.10	0.8	0.53
Real estate	3.11	1.12	3.11	1.18	3.60	1.11	3.72	1.04	3.27	1.35	4.5**	0.00
Tax savings Scheme	3.93	1.21	3.26	1.20	3.42	1.12	3.38	0.87	3.55	1.29	1.96	0.10
Commodity	3.00	1.21	2.73	1.22	2.90	1.17	3.11	1.18	3.27	1.42	1.2	0.31
Precious metals	3.44	1.28	3.31	1.25	3.17	1.23	2.96	1.22	3.82	0.98	1.66	0.16
Stock market	2.96	1.43	3.06	1.33	3.12	1.30	3.17	1.40	3.73	1.19	0.75	0.56
Mutual fund	3.11	1.33	2.81	1.33	2.93	1.39	3.05	1.31	3.06	1.29	0.51	0.73
Debt market	2.41	1.45	2.56	1.29	2.54	1.14	2.74	1.24	2.55	1.37	0.39	0.82

Source: Primary data (** $p < 0.01$, * $p < 0.05$)

The income wise differences of investment preferences are analyzed and shown in Table 4.64. Investment preferences on Bank deposit, NBFC and real estate are significantly differing among different income level and all other investment related variables are not influenced by income levels of the employees. Low- and medium-income groups had preferred bank deposit while medium and high-income group preferred real estate. The middle-income group shows preference on NBFC than the low and high-income groups.

There is a significant difference among government employees on their investment behaviour according to their income level. Hence the null hypothesis is rejected.

The results of income wise comparison of investment decision making are consolidated in Table 4.65.

The hypothesis tested here is:

H_{09e4}: There is no significant difference among government employees in their investment decision making according to their income level

Table 4.65

Investment Decision Making – Comparison among different Income Groups

Measure	<40,000		40,000-60,000		60,000-80,000		80,000-100,00		>100,00		F	p
	M	SD	M	SD	M	SD	M	SD	M	SD		
Rational Decision making	78.15	5.80	81.65	7.88	79.94	9.01	80.79	9.28	78.36	8.29	1.37	**0.25**
Irrational Decision making	85.26	6.32	89.77	11.65	84.41	11.75	83.06	12.4	85.36	12.5	4.5**	**0.00**

Source: Primary data (**p <0.01)

The income wise differences of investment decision making are analyzed and shown in table 4.65 Irrational decision making shows a significant F value and rational decision-making shows not significant.

Average income groups have low mean in irrational decisions while high and low-income group have high mean irrational decision.

There is a significant difference between different income groups in their irrational decision making. Here, null hypothesis is rejected.

There is no significant difference between different income groups in their rational decision making. Here, null hypothesis is accepted.

Summary of Hypotheses Testing on Investment Behaviour asper Income Level

Summary of hypotheses testing of investment behaviour in accordance with income level of respondents are consolidated in Table 4.66.

Table 4.66

Government Employees' Investment Behaviour according to their Income Level

Sl. No	Hypotheses	Decision on H_0	Conclusion
H_{09e}: There is no significant difference among government employees in their investment behaviour according to their income level			
H_{09e1}:	There is no significant difference among select government employees in their intelligence and personality according to their income level	Reject	There is a difference
H_{09e2}:	There is no significant difference among select government employees in their factors perceived and objectives of investment according to their income level	Reject	There is a difference
H_{09e3}:	There is no significant difference among select government employees in their investment preferences according to their income level	Reject	There is a difference
H_{09e4}:	There is no significant difference among select government employees in their investment decision making according to their income level	Reject	There is a difference

The result of present study evidenced there is a significant difference among government employees in their investment behaviour according to their income level. All the dimensions of investment behaviour are proved to be different among different income groups. Thangadurai (2013) and Kumar and Kumar (2020) have reported the same result regarding investment preferences.

4.6.6. Volume of Savings

The differences in the investment behaviour of employees according to their volume of savings were studied using one-way ANOVA for each dependent variable.

Comparison of different savings group on their intelligence and personality are depicted in table 4.67.

The hypothesis tested:

H_{09f1}: There is no significant difference among government employees in their intelligence and personality according to their volume of savings

Table 4.67

Investors' Intelligence and Personality – Comparison among Groups of Employees with different Volume of Savings

Measure	<10%		10-20%		20-30%		30-40%		>40%		F	p
	M	SD	M	SD	M	SD	M	SD	M	SD		
Investors' intelligence	13.55	2.52	13.07	1.75	13.03	1.50	13.09	1.49	12.9	1.00	0.81	**0.5**
Investors' personality	12.46	2.49	12.64	1.95	12.57	1.80	12.73	1.89	12.4	1.79	0.28	**0.8**

Source: Primary data

The differences of investors' intelligence and personality based on volume of savings is analyzed and shown in table 4.67. Both the F values are not significant at 0.05 level. Thus, there is no significant difference among the intelligence and personality of government employees according to volume of savings. Thus, the null hypothesis is accepted.

The differences of factors perceived and objectives of investment based on volume of savings is analyzed and shown in table 4.68.

The hypothesis tested:

H_{09f2}: There is no significant difference among government employees in their factors perceived and objectives of investment according to their volume of savings

Table 4.68

Investment Objectives and Factors Perceived – Comparison among Groups of Employees with different Volume of Savings

Measure	<10%		10-20%		20-30%		30-40%		>40%		F	p
	M	SD	M	SD	M	SD	M	SD	M	SD		
Primary factors (Return, safety, liquidity and marketability)	4.01	0.56	3.75	0.63	3.83	0.56	3.89	0.55	4.09	0.48	3.18**	0.01
Other factors (Tax savings, diversification, simplicity and affordability	3.66	0.87	3.35	0.80	3.54	0.72	3.58	0.79	3.94	0.78	3.89**	0.00
Primary Objectives (Return, Capital appreciation and liquidity)	4.16	0.51	3.88	0.66	3.93	0.55	3.95	0.51	3.96	0.62	1.65	0.16
Other Objectives (Tax savings, children education, future safety and pension)	3.89	0.93	3.62	0.84	3.89	0.71	3.77	0.74	4.36	0.59	5.96**	0.00

Source: Primary data (**p <0.01, *p <0.05)

In table 4.68, Primary and secondary factors perceived and secondary objectives of investment are significantly differing among different groups as the F value is significant at 0.05 level. Whereas the primary objectives of investment are not differing significantly.

There is a significant difference in volume of savings according to factors perceived on investment. Thus, the null hypothesis is rejected.

There is a significant difference in volume of savings according to other objectives of investment. Thus, the null hypothesis is rejected. There is no significant difference in volume of savings according to primary objectives of investment. Thus, the null hypothesis is accepted.

The differences of investment preferences based on volume of savings is analyzed and shown in table 4.69.

The hypothesis tested:

H_{09f3}: There is no significant difference among government employees in their investment preferences according to their volume of savings.

Table 4.69

Investment Preferences – Comparison among Groups of Employees with different Volume of Savings

Preferences on:	<10%		10-20%		20-30%		30-40%		>40%		F	p
	M	SD	M	SD	M	SD	M	SD	M	SD		
Bank deposit	4.13	0.91	3.96	1.11	4.17	0.76	4.21	0.67	3.67	1.03	2.85*	0.02
Post office	3.58	1.00	3.65	1.01	3.84	0.94	3.88	0.95	3.60	1.00	1.38	0.24
Treasury	3.50	1.23	3.59	1.08	3.76	1.01	3.93	0.89	3.90	1.03	2.11	0.08
Chit fund	3.84	0.97	3.60	1.18	3.92	1.02	3.87	0.98	4.13	0.86	2.21	0.07
NBFC	3.24	1.03	3.27	1.15	3.41	1.17	3.16	1.15	3.57	1.31	1.00	0.41
Cooperative	3.63	1.10	3.34	1.29	3.71	1.22	3.71	1.16	3.67	1.21	1.75	0.14
Insurance	3.82	1.11	3.74	1.08	4.02	0.96	3.95	1.04	4.13	0.90	1.51	0.20
Real estate	3.50	1.11	3.23	1.17	3.50	1.04	3.45	1.23	3.80	1.22	1.79	0.13
Tax savings scheme	3.42	1.29	3.39	1.16	3.50	1.06	3.25	1.16	3.63	0.93	0.92	0.45
Commodity	3.03	1.31	2.74	1.22	2.96	1.20	2.95	1.15	2.90	1.13	0.70	0.59
Precious metals	3.26	1.27	2.89	1.26	3.44	1.16	3.39	1.18	3.07	1.34	3.52	0.01
Stock market	3.11	1.35	2.99	1.36	3.25	1.30	3.07	1.32	3.23	1.36	0.63	0.64
Mutual fund	2.71	1.16	2.98	1.38	3.23	1.34	2.89	1.28	3.00	1.34	1.49	0.21
Debt market	2.37	1.20	2.50	1.28	2.69	1.22	2.57	1.17	2.50	1.25	0.64	0.64

Source: Primary data (* $p < 0.05$)

Table 4.69 depicts investment preferences on Bank deposit are significantly differing among different groups and all other investment related variables are not influenced by volume of savings of the employees.

The employees with savings of less than thirty percentage preferred bank deposit than the other groups.

There is a significant difference among government employees on their preferences of bank deposit according to their volume of savings on income. Hence, the null hypothesis is rejected.

There is no significant difference among government employees on their preferences of investment avenues other than bank deposit according to their volume of savings on income. Hence, the null hypothesis is accepted.

The differences of investment decision making based on volume of savings is analyzed and shown in Table 4.70.

The hypothesis tested:

H_{09f4}: There is no significant difference among government employees in their investment decision making according to their volume of savings

Table 4.70

Investment Decision Making – Comparison among Groups of Employees with different Volume of Savings

Measure	<10%		10-20%		20-30%		30-40%		>40%		F	p
	M	SD	M	SD	M	SD	M	SD	M	SD		
Rational Decision making	78.13	6.15	78.5	9.99	81.2	8.96	82.2	6.98	81.2	6.47	3.4**	**0.01**
Irrational Decision making	83.21	9.48	85.0	11.6	88.4	13.4	86.5	10.4	80.9	10.5	3.4**	**0.01**

Source: Primary data (**p <0.01)

The differences of investment decision making based on volume of savings is analyzed and shown in Table 4.70 Rational and irrational decision making are significantly differing among different groups.

The employees who save more than twenty percentage of their income have high mean in rational decision making and the group with savings of ten to forty percentages have high value in irrational decision making.

There is a significant difference among government employees on their investment decision making according to their volume of savings on income. Hence, the null hypothesis is rejected.

Summary of Hypotheses Testing on Investment Behaviour asper Volume of Savings

Summary of hypotheses testing of investment behaviour in accordance with volume of savings of respondents are consolidated in Table 4.71.

Table 4.71

Government Employees' Investment Behaviour according to their Volume of Savings

Sl. No	Hypotheses	Decision on H_0	Conclusion
H_{09f}: There is no significant difference among government employees in their investment behaviour according to their volume of savings			
H_{09f1}:	There is no significant difference among select government employees in their intelligence and personality according to their volume of savings	Accept	There is no difference
H_{09f2}:	There is no significant difference among select government employees in their factors perceived and objectives of investment according to their volume of savings	Accept	There is no difference
H_{09f3}:	There is no significant difference among select government employees in their investment preferences according to their volume of savings	Reject	There is a difference
H_{09f4}:	There is no significant difference among select government employees in their investment decision making according to their volume of savings	Reject	There is a difference

The result of the present study proved there is a significant difference among select government employees in their investment preferences and decision-making according to their volume of savings.

4.7. Inter Effect of Intelligence and Personality of Select Government Employees on their Investment Behaviour

For analysing the inter effect of intelligence and personality (independent variables) on the investment pattern, investment preferences and investment decision-making (dependent variables), Structural Equation Modelling (SEM) is used. In this process, confirmatory factor analysis is used to examine the impact of each statement in measuring the respective variables. This enabled the study to confirm all constructs for the model are relevant.

Confirmatory Factor Analysis has been done for confirming the factors taken for the study. The dimensions of investment behaviour under investment pattern, investment preferences and investment decision making are proved using the analysis.

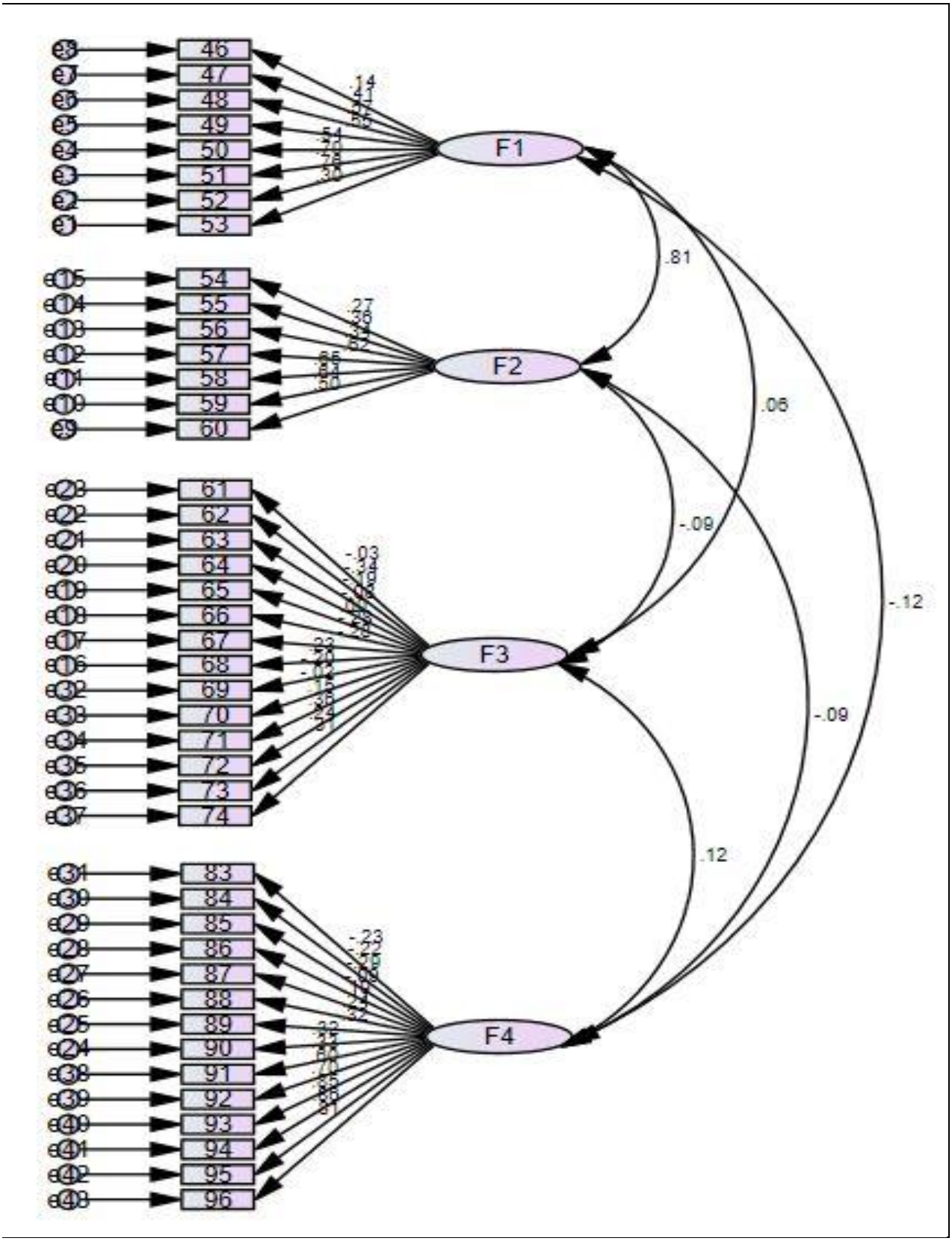
4.7.1. Investment Pattern

Model of Government Employees' investment pattern of according to Confirmatory Factor analysis (CFA) are discussed here. F1, F2, F3 and F4 are the constructs in the variable investment pattern named as Factor perceived, Objectives of investment, Actual investment made and Risk perception respectively.

All the constructs under the variable investment pattern are confirmed and the statements in the questionnaire are found relevant. The details of CFA are found in Figure 4.9.

Figure 4.9

Measurement Model of Constructs in Investment Pattern



Source: Primary data

Table 4.72

Constructs in Investment Pattern – Model Fit

Name of Index	Index value	Adequate fit
CMIN/Df **(**Chi Square)	3.59	<5.0
CFI (Comparative Fit Index)	0.81	>0.70
NFI (Normal Fit Index)	0.73	>0.70
PCFI (Comparative Fit Index)	0.48	>0.40
PNFI (Normal Fit Index)	0.41	>0.40
RMSEA (Root Mean Square of Approximation)	0.08	<0.09

Source: Primary data

CMIN/Df is the measure of discrepancy between the fitted and sample covariance matrix as per Table 4.72. CFI is the NFI revised wherein discrepancy between the hypothesis model and data computed. NFI is the relative model location of the model between the independent and saturated model. PCFI is the modified CFI model where in loss of degree of freedom is considered. PNFI is the modified NFI model where in loss of degree of freedom is considered, RMSEA define model efficiency to fit population covariance matrix.

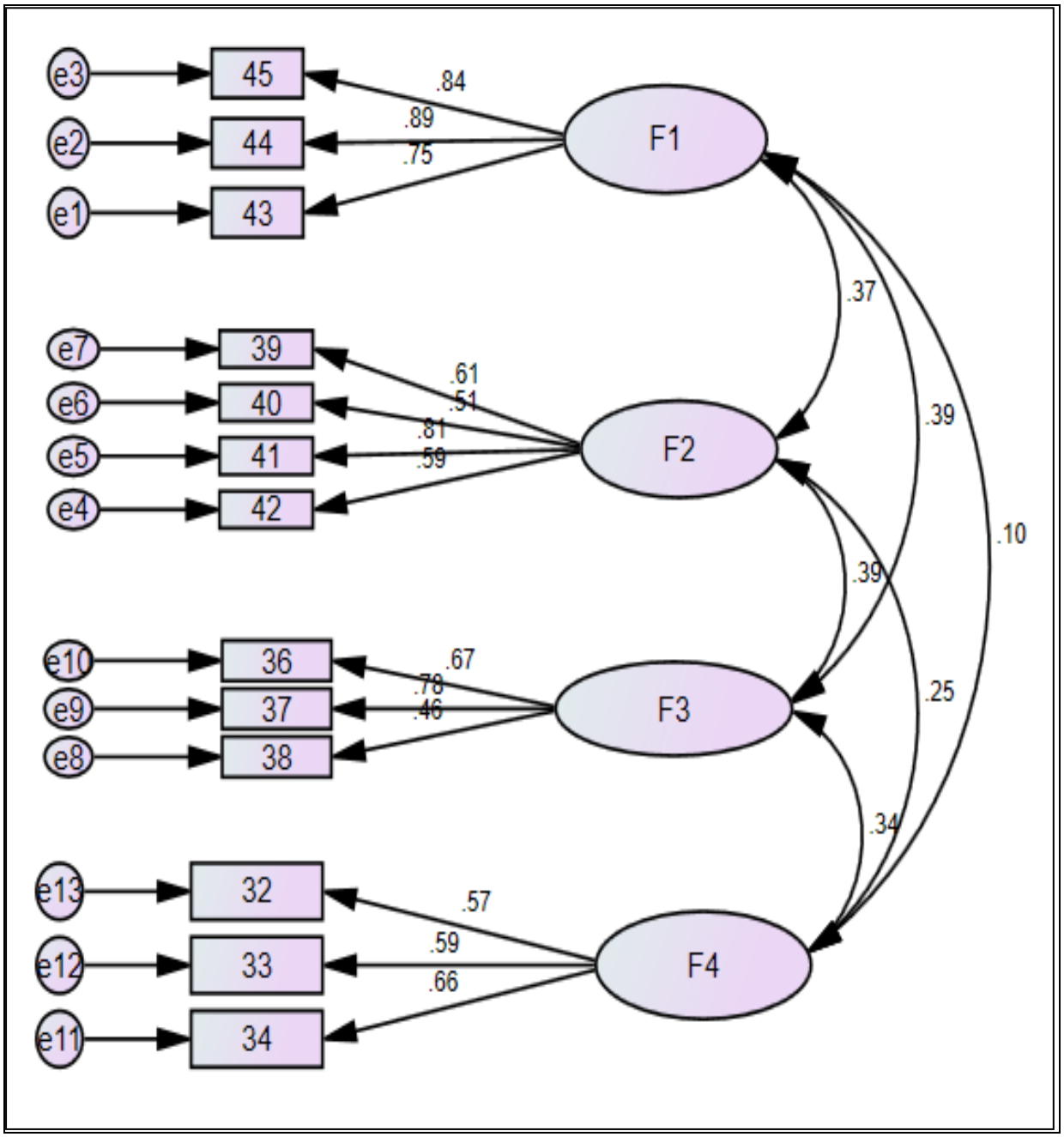
All the indices values are fulfilled the required criteria like, CMIN/Df is 3.59 (<5), CFI is 0.81 (>0.70) and RMSEA is 0.082 (<0.09). (Hooper et al., 2008). The other indices like, NFI is 0.733 (>0.70), PCFI is 0.48 (>0.40), and PNFI is 0.41 (>0.40). Hence, the model as fulfil all the requirement, thus these constructs are suitable for building the model.

4.7.2. Investment Preferences

Model of Government Employees' investment preferences according to Confirmatory Factor Analysis (CFA) are discussed here. All the constructs under the variable investment preferences are confirmed and the details of CFA are found in Figure 4.10.

Figure 4.10

Measurement Model of Constructs in Investment Preferences



Source: Primary data

F1, F2, F3 and F4 are the factors in the variable investment preferences asper the CFA. These constructs are named as High-Risk avenues, Risky avenues, Medium risk avenues and Less risk avenues.

Table 4.73

Constructs in Investment Preferences – Model Fit

Name of Index	Index value	Adequate fit
CMIN/Df **(**Chi Square)	4.47	<5.0
CFI (Comparative Fit Index)	0.86	>0.70
NFI (Normal Fit Index)	0.83	>0.70
PCFI (Comparative Fit Index)	0.65	>0.40
PNFI (Normal Fit Index)	0.63	>0.40
RMSEA (Root Mean Square of Approximation)	0.09	<0.09

Source: Primary data

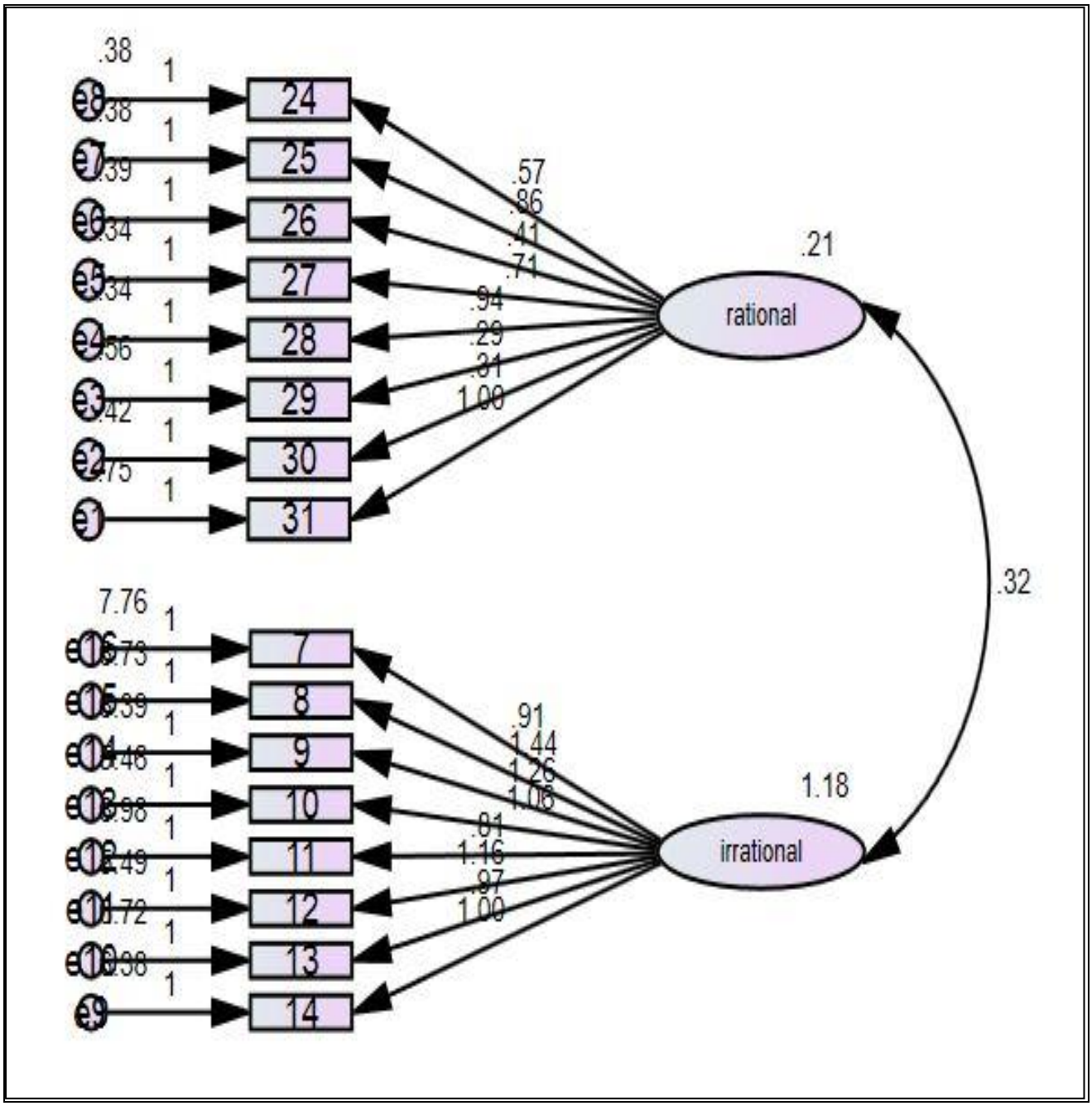
As per Table 4.73, all the indices values are approximately fulfilled the required criteria like, CMIN/Df is 4.47 (<5), CFI is 0.86 (>0.70) and RMSEA is 0.09 (<0.09) (Hooper et al., 2008). The other indices like, NFI is 0.83 (>0.70), PCFI is 0.65 (>0.40), and PNFI is 0.63 (>0.40). Hence this goodness of final model fit has shown in the above model fitting table No. 4.59.

4.7.3. Investment Decision Making

Model of Government Employees' investment decision making according to Confirmatory Factor analysis are discussed here. Rational Decision-Making and Irrational Decision-Making are the constructs in the variable investment decision making. Both the constructs under the variable investment decision making are confirmed and the details of CFA are found in Figure 4.11.

Figure 4.11

Measurement Model of Constructs in Investment Decision Making



Source: Primary data

Table 4.74

Constructs in Investment Decision making – Model fit

Name of Index	Index value	Adequate fit
CMIN/Df **(**Chi Square)	1.896	<5.0
CFI (Comparative Fit Index)	0.90	>0.70
NFI (Normal Fit Index)	0.82	>0.70
PCFI (Comparative Fit Index)	0.68	>0.40
PNFI (Normal Fit Index)	0.62	>0.40
RMSEA (Root Mean Square of Approximation)	0.048	<0.09

Source: Primary data

Table 4.74 shows CMIN/Df is1.896 (<5). CFI is 90 (>0.70). NFI 0.82 (>0.70). PCFI is 0.68 (>0.40). PNFI is 0.62 (>0.40) and RMSEA 0.048 (<0.09). All the index values are in between the adequate fit value. Hence this goodness of final model fit has shown in the above model fitting table.

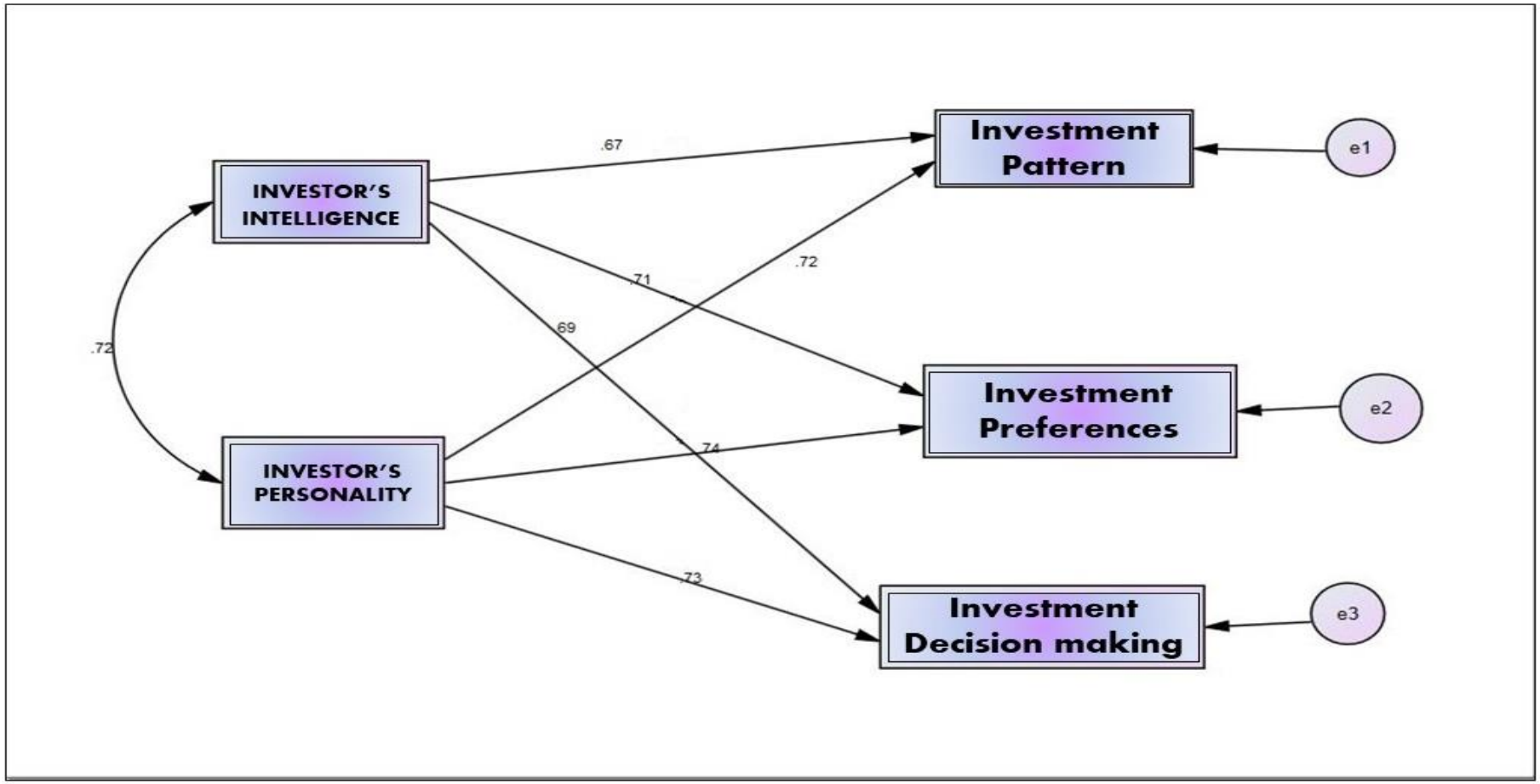
4.7.4. Interrelationship Model Evaluation

The hypothesis to be tested here is:

H_{010}: There is no significant inter effect of intelligence, personality on the investment pattern, investment preferences and investment decision making.

Figure 4.12

Path Diagram for model



Source: Primary data

Table 4.75

Influence of Investors' Intelligence and Personality together on Investment Behaviour in Default Model

			Estimate	SE	CR	P	Label
Investment Pattern	<---	Investors Intelligence	.67	.008	3.390	***	par_2
Investment Pattern	<---	Investors Personality	.72	.007	1.631	***	par_3
Investment Preference	<---	Investors Intelligence	.71	.019	2.083	***	par_4
Investment Preference	<---	Investors Personality	.75	.016	.955	***	par_5
Investment Decision Making	<---	Investors Intelligence	.695	.026	1.314	***	par_6
Investment Decision Making	<---	Investors Personality	.73	.022	1.093	***	par_7

Source: Primary data (*** p value <0.001)

Examining the linkage and estimation for Confirmatory Factor Analysis in SEM. The 'p-value' is relevant in order to assess whether there is a significant relationship between the dependent and independent variables. This 'p-value' must be less than 0.05 for the relationship to exist (Kock, 2016). In this case, All the p- value is less than 0.001level, therefore there is a significant relationship.

As per Table 4.75, all the estimates are significant (p value <0.001). Thus, the 'Estimate' value of the variables is relevant. In the case investors' intelligence, (0.67, 0.71, 0.695) all the dependent variables show the estimate value less than that of investors' personality (0.72, .75, .73). So, there is an inter effect of intelligence and personality on investment pattern, preferences and decision making.

Table 4.76

Relationship Between Investors' Intelligence and Personality in Default Model

			Estimate
Investors Intelligence	<-->	Investors Personality	0.728

Source: Primary data

Table 4.76 shows Investors' intelligence and investors' personality, the estimate is 0.728 which is significantly high correlation.

Table 4.77

Co - Variance Between Independent Variables and Latent Variables

	Estimate	**SE**	**CR**	**P**	**Label**
Investors' Intelligence	2.623	.190	13.838	***	par_8
Investors' Personality	3.731	.270	13.838	***	par_9
e1	.063	.005	13.838	***	par_10
e2	.356	.026	13.838	***	par_11
e3	.685	.049	13.838	***	par_12

Source: Primary data (*** p value <0.001)

All the Estimate values of the variables are significant (p value <0.001) including latent variables. In the case investors' intelligence, 2.62 show the estimate value less than that of Investors' personality, 3.73. e1, e2, and e3 are lower estimate value. As all p values are significant at 0.01level, there is a significant relationship between the variables.

Table 4.78

Summary of Model Evaluation – Model Fit

Fit statistic	Recommended	Obtained
Chi Square significance	p < = 0.05	0.000
Goodness of Fit index	> 0.80	0.976
Adjusted Goodness of Fit Index	> 0.80	0.882
Normed Fit Index	> 0.80	0.859
Relative Fit Index	> 0.80	0.814
Comparative Fit index	> 0.80	0.824
Tucker Lewis Index	> 0.80	0.874
RMSEA	< 0.05	0.013
RMR	<0.02	0.011

Source: Primary data

GFI obtained is 0.976 as against the recommended value of above 0.80, The AGFI is 0.882 as against the recommended value of above 0.80 as well. The NFI, RFI, CFI, TLI are 0.859, 0.814, 0.824, 0.874 respectively as against the recommended level of above 0.80.

Root Mean Square Error of Approximation (RMSEA) is 0.013 and is well below the recommended limit of 0.05, and Root Mean Square Residual (RMSR) is also well below the recommended limit of 0.02 at 0.011. This can be interpreted as meaning that the model explains the correlation to within an average error of 0.011. Hence the model shows an overall acceptable fit. The model is an identified model. The confirmatory factor analysis showed an acceptable overall model fit and hence, the theorized model fit well with the observed data. It can be concluded that the hypothesized factors CFA model fits the sample data very well.

Thus, the conceptual model developed proved that the investors' personality, investors' intelligence together influences the investment behaviour specifically investment pattern, investment preferences and investment decision making. The estimate value of Investors' personality (0.72, .75, .73) is greater than the estimate value of Investors' intelligence (0.67, 0.71, 0.695). It implies that personality is more significant in investment behaviour and so the personality or behavioural aspects are more prevalent than intelligence or cognitive aspects.

There is a significant inter effect of intelligence, personality on the investment pattern, investment preferences and investment decision making. Hence, the null hypothesis is rejected.

Summary of Hypothesis testing of Investors' Intelligence and Personality on Investment Behaviour in Direct Relationship

Table 4.79

Inter Effect of Investors' Intelligence and Personality on Investment Pattern, Preferences and Decision Making

Sl. No.	Hypothesis	Decision H_0	Conclusion
H_{010}:	There is no significant inter effect of intelligence and personality on investment pattern, investment preferences and investment decision-making.	Reject	There is interrelationship

The research study proved the inter effect of investors' intelligence and personality on different dimensions of investment behaviour like pattern, preferences and decision making. There are a few pieces of research with this objective, and the results of Raheja (2018), Ahmad (2018), and Sashikala and Chitramani (2019) support this result.