

# RELATIONSHIP BETWEEN LOCUS OF CONTROL AND MENTAL ACCOUNTING OF AN INDIVIDUAL WITH RESPECT TO INVESTMENT IN GOLD AND GOLD ETFS



## ABSTRACT

*It has been viewed that behavioral factors undoubtedly play a role in decision making process. People receive information from different sources and process these in their mind while making a decision. People are creating separate mental accounts for different goals when it comes to spending/ investing. The aim of this study is to understand the relation that exists between mental accounting of an individual and his buying behavior towards the purchase of gold and gold exchange traded funds (ETFs) as an investment to the person's locus of control. The study was conducted on 114 individuals who invest in commodities and the results show that individuals with internal and external locus of control differs on their mental accounting while taking decision of investment in Gold and Gold ETFs. Individuals from different gender, age groups, education level and income level differ in their mental accounting for taking decisions to invest in Gold and Gold ETFs.*

*Key words: Locus of control, Mental Accounting, Gold exchange traded fund (ETF)*

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## INTRODUCTION

Mental Accounting is an economic concept established by Richard Thaler, renowned economist. This concept suggests that individuals divide their current and future assets into detached, non-transferable portions. The theory asserts that individuals assign different levels of utility to each asset group, which affects their buying behavior. All exposure units have attached to them experience values, which are denoted by  $x$ ,  $y$ ,  $z$ ,  $\xi$ , etc. Given a value/utility function, we want to determine if all or only some exposure units should be integrated (e.g. Bundled, etc.) or segregated (e.g. Unbundled, etc.). Thaler (1980, 1985) defined a pattern of optimal behavior depending on the type of exposure units with positive and negative experiences, concentrating on the case of two units. The actual or perceived experiences are reflected by a value function  $v$ : RR, which is increasing and, in order to reflect the degree of risk aversion, is also frequently assumed to be convex for non positive experiences ( $x_0$ ) and concave for non-negative experiences ( $x_0$ ). Mental accounting as the definition suggests is the set of cognitive operations used by individuals and households to organize, evaluate and keep track of financial activities. In fact, it is a tendency for people to split accounts based on a variety of subjective criteria, like the source of the money and intent for each account. It has huge consequences in everyday life in the form of how people spend money and how they save. Mental accounting is a psychological phenomenon that is used to treat one's money differently because of its source. Individuals carry different running tabs on their heads, for example, entertainment, account, vacation account, retirement account, etc. If they feel like they've overspent in one category, they will delay needed purchases in that specific category – even though they still spend on other items. The effect is usually irrational and detrimental on purchasing decisions and other behaviors. Mental Accounting affects individuals in the following way: 1. The source of the money affects how it is spent. For example, you may enjoy lavish dinners with the 'gift meal vouchers' given by your organization. But you will be conscious if you were paying out of your own pocket. 2. Your possibility of spending more are higher with credit cards than with cash. 3. You may consider tax refunds as 'free money'. Rather it is your own money. You may not use money received through tax refunds, birthday gift or lottery winnings on essential things like daily needs, utility bills, and paying off your credit card debt etc. But you will be more than happy to spend the same money on vacation or a latest mobile phone set. This is fungibility which means that Rs 100 in a lottery winning, Rs 100 in salary and Rs 100 tax refund should have the same significance and value to you since each Rs 100 has the same purchasing power in the market.

The concept of locus of control was developed by American psychologist Julian B. Rotter in the middle 1950s. He proposed that individuals differ a great deal as per 'where they place the responsibility for what happens to them'. When people understand and accept their own behavior and personality characteristics as responsible for behavioral consequences, they have an 'internal locus of control' and when people infer the consequences of their behavior to be controlled by fate, luck, or powerful others, they have 'external locus of control' (locus simply means location). It means that, when a person

develops through various stages of early life, he/ she learns different behaviors followed by some form of reinforcement. There are positive and negative reinforcements. These reinforcements increase an individual's expectancy that a particular behavior will produce a particular reinforcement. Once a particular expectancy is established, the removal of reinforcement will cause the expectancy of such a relationship between behavior and reinforcement to go away. As we mature, some will have frequent experiences in which our behavior directly influences reinforcement (when we are rewarded or punished immediately after the display of behavior), while for others, reinforcement will appear to result from actions outside of us (when we are rewarded or punished at a different time than the occurrence of behavior). According to Rotter the totality of one's specific learning experiences creates in us a generalized expectancy about whether reinforcement is internally or externally controlled. A psychologically healthy aspect is when one perceives to have control over those things which one is capable of influencing. A more internal locus of control is generally seen as desirable. Having an Internal locus of control can also be referred to as "self-agency", "personal control", "self-determination", etc. Research has found the following trends: 1. Males tend to be more internal than females. 2. As we get older we tend to become more internal. 3. Individuals who are higher up in the organizational ladder tend to be more internal.



## REVIEW OF LITERATURE

Mental accounting refers to the inconsistent scrutiny of the value of money depending upon where the money originated. According to Cheema and Soman (2006) mental accounts are "self-control devices that consumers employ to prevent excess spending and consumption." Consumers limit further expenses once a particular budget is exhausted and can control spending it in any specific category (e.g., once a weekly grocery budget is expended, it will control grocery expenditures for near future). Mental accounting violates economic notions of fungibility (i.e., money in one mental account is not a perfect substitute for money in another account), and it is actually important to study mental accounting to fully understand choice (Thaler, 1999). The use of money can be seen as a fungible resource which is used consistently to purchase goods within a single category, but not essentially among categories. Mental accounting is similar to related ideas in behavioural economics, like framing and is also known as choice bracketing Read et al. (1999). Odean (1998) used a data set that tracked the trades of investors with a large discount brokerage firm. He found out that investors were more likely to sell one of their stocks that had increased in price rather than one of their stocks that had decreased in price. According to behavioral portfolio theory (BPT) (Shefrin and Statman (2000); investors do not consider their portfolios as a whole. Instead, investors reflect on their portfolios as compilation of mental accounting sub-portfolios where each sub-portfolio is linked with a goal and every goal has a threshold level. According to Fisher and Statman (1997) mutual fund companies often advocate to construct portfolios as pyramids of assets with cash in the bottom layer and bonds in the middle layer. The stocks are in the top layer. Such a behavior is captured in the behavioral portfolio theory (BPT-



MA) by Shefrin and Statman (2000). An important principle of mental accounting theory is grouping and labelling of resources which is used to examine the positive cross-product impact of a promotion. Investors believe their portfolios as collections of mental accounting (MA) sub-portfolios where each sub-portfolio is coupled with a goal and each goal has a threshold level. A BPT sub-portfolio is subjugated when there is another sub-portfolio with the equivalent expected return and a lesser probability of failing to reach the threshold level. Monetary transactions lend themselves to multiple frames and to alternative accounting schemes. For example, the worth of unique items can be largely subjective. What is the worth of a painting by an unknown painter that is beautiful? What drives people to make such collector purchases are presumably a variety of narratives, motivated by personal, affective, and other considerations that are largely non-market based. Studies by Shefrin and Thaler (1988) suggest that people distinguish between wealth in groups such as "current spendable income", "current assets" and "future income". In the "current spendable income" group, people distinguish between different sources of income. Individuals demonstrate a higher marginal tendency of consumption for money received from sources such as a lottery win or a gift rather than money received through work bonus or overtime pay (Henderson and Peterson 1992, Thaler and Johnson 1990). Across diverse accounts, the mental accounting of money and time seems to be similar. For example, pension money is taken care of differently from checking-account money (Shefrin and Thaler 1981), and nonwork time is treated differently from work time (Rajagopal and Rha 2009). However, within mental accounts; the results for money and time differ significantly. Within a game account, for instance, people keep track of the money spent on tickets. This investment makes them keen to seek the benefit. Chances are that they may even brave snowstorms to attend the game (Soman 2001), because they desire to close the game account in the black rather than the red. Such philosophy reflects a sunk-cost effect (Arkes and Blumer 1985) because decisions are based on prior costs (ticket cost) rather than future costs (driving in a snowstorm) and benefits (attending the game).

Although mental accounting structures and money management practices; likely correspond, they do not necessarily represent each other perfectly. Congruence between mental and factual money management is crucial in situations of restricted financial resources in which the effective control of expenditures is essential to prevent or avert over-indebtedness. Over-indebtedness is always found to relate to money management; including financial planning (e.g. Chakravarty & Rhee, 1999; Kilborn, 2005). Money management services (e.g. number of bank accounts) and practices (e.g. preferred frequency of paying bills, putting money away for bills on time, use of precommitment methods for payment) have been identified as correlates of debt (e.g., Berthoud & Kempson, 1992; Hayhoe, Leach, & Turner, 1999; Lea, Webley, & Walker, 1995). Mental accounting structures, and their interplay influence the propensity to become over-indebted via their impact and dependency on self-control resources. People who have established rigid and corresponding mental accounting and money management systems are supposed to be more likely to successfully exert financial self-control – even in the case of adverse life events.

Moon et al. (1999) is the only study to date to consider the effect of the absolute saving level on mental accounting effects, reporting indication of a threshold effect where mental accounting effects are no longer observed above a certain level of absolute saving; thus meaning that when the saving becomes sufficiently large individuals make decisions that conform to rational economic behavior.

According to a study by Antonides et al. (2011) males tend to use less mental budgeting than females. This finding supplements the literature showing that gender is scarcely related to bias and cognitive heuristics, except for risky decision making (Croson & Gneezy, 2009). They also found that there is no effect on mental budgeting on age (suggesting no effect of experience with time), religion etc. A study by Friedline et al. (2012) suggests that individuals are more likely to have savings and make use of mental accounting when their parents have higher educational qualifications and have savings for them. Researches in behavioral finance provide generous evidence regarding the influence of personality traits on investor's behavior. Locus of control is an important dimension of perceived personal control. Internal locus of control means that an individual believes about the outcomes of his/ her actions depends on his/her decision skills. Researches in behavioral finance have linked internal locus of control with investor's risk assumption attitude and risk assumption behavior. An internal economic locus of control measures the extent to which a person believes that the economic results in his or her life are due to personal efforts, as opposed to the result of luck, change, fate, or the intervention and influence of others (Rotter, 1966; Furnham, 1986).

#### Research gaps:

1. Very few studies are done linking investment behavior and locus of control.
2. Investment behavior with respect to gold and gold ETFs is a new area
3. Such studies in Indian context are very few

#### Objectives of the Study

- To relate the buying patterns of individuals to their Locus of Control.
- To understand the behavior of individuals belonging to different demographic groups while they invest in gold and gold exchange traded funds (ETFs).



#### YPOTHESES

H1: There is no difference in Internal Locus of Control and External Locus of Control individuals on various factors affecting their buying behavior of Gold and Gold ETF.

H2: There is no difference in individuals belonging to different demographic groups on various factors affecting buying behavior of Gold and Gold ETF.



**RESEARCH METHODOLOGY**

*Sample*

For the study the technique of purposive sampling was used as the study has the focus on understanding the mental accounting done in taking decisions to invest in gold and gold ETFs in relation to their locus of control. To draw the sample the universe was identified who invests in gold and gold ETFs. Two hundred questionnaires were administered, but only 114 were found complete and usable for the study. Demographic details are given in table A.

*Tool Used*

The orientation of locus of control was assessed using Levenson (1973). The questionnaire has 24 statements which are scored on a scale of 1 to 5 (strongly agree to strongly disagree). High scores specify internal locus of control and low scores connote external locus of control. The questionnaire to understand mental accounting for taking decision to invest in gold and gold ETF was adapted from Paul (2013).

The questionnaire was subjected to factor analysis and we found seven relevant factors to measure the investment decision in gold and gold ETF. These factors are

1. Expected Returns and Rules for investment.
2. Investment Decision
3. Hedging
4. Knowledge of investment
5. Decision Dilemma due to Information Availability
6. Satisfaction with Decision
7. Confidence in Decision Making

These factors were then studied – once in relation with gold and second in relation with gold ETF.



**RESULTS AND DISCUSSION**

**Investment Decision and Locus of control**

The data collected from the respondents was subjected to statistical analysis. t- test was applied to find out the significant mean differences in the factors of investment decision of respondents having external or internal locus of control. The results show that the respondents having internal or external locus of control significantly differs in their mental accounting while considering factors of Hedging for Gold and Gold ETFs and Decision Dilemma due to Information Technology (Table 1). The table of mean (Table 2) shows that individuals with Internal LOC have higher mean than those with External LOC on Hedging for Gold and Gold ETFs. This shows that the individuals with internal locus of control plans more rigorously to avoid risk and losses because they consider themselves responsible for every decision that they make, hence are much more conscious than individuals with

external LOC. However the individuals with external locus of control are in a habit of throwing the responsibilities of their own decisions on others or destiny so they seem to be little less careful for the same. Hence, Hypothesis 1 is rejected.

Table 2 also shows that individuals with external LOC have higher mean on Decision dilemma due to information availability than those with internal LOC. This may be so because the individuals with external locus of control remain dependent on others for information gathering and also have a feeling that they are not empowered to take decisions. So they feel more confused in taking decisions.

**Investment Decision and Age**

One way ANOVA was applied to see the significant differences in the investment decisions taken by respondents from different age groups for Gold and Gold ETFs. The results of ANOVA (Table 3) and table of significant mean differences (Table 3a) shows that individuals in the age group of 30-40 years are significantly lower than the age groups above 40 years and below 30 years on their Investment Decisions for Gold ETF. This is because individuals in 30-40 age brackets are in the settling stages of their life and where they have increasing family responsibility in terms of having kids, providing them with education and arranging amenities of life. Thus, they prefer to invest in mediclaim, education plans, home loans etc more as compared to investing in commodities. Results also show that the respondents under the age of 30 invest more in Gold and Gold ETFs. This could be because they have lesser family liabilities and can think of investing beyond life necessities.

The results show that there is a significant difference in the knowledge of investment in Gold ETF and Satisfaction with the decision of Investment in Gold ETF amongst the individuals belonging to different age groups while doing their mental accounting to invest in gold ETF (Table 3). A quick look at the mean scores show that individuals above the age of 50 years are significantly lower on their knowledge of investments in Gold ETF as compared to the rest of the age groups (Table 3a). This could be so because investment in Gold ETFs is a relatively new investment scheme and Indians being risk avoiders feel comfortable in what they know and walk on the tried and tested paths specially at the older age where they do not want to face any kind of monetary loss of the money (as they have saved money to secure their old age).

**Investment Decision and Gender**

The t-test was applied to see the differences amongst males and females about their mental accounting while taking decisions. The result shows that males and females differ significantly only on knowledge of investment in gold with females being significantly higher than males on this knowledge. This is because females are generally known to be more conscious while decision making than males hence they would want to gather all knowledge before making an investment. Hence, Hypothesis 2 is also rejected.

**Investment Decision and Education**

The analysis of variance was applied to see the significant

differences amongst the individuals with different educational backgrounds in their mental accounting about investing in Gold and Gold ETFs. The results revealed that the individuals with the education of Post Graduation are significantly higher on Hedging for Gold as compared to the individuals with the educational background of graduation or tenth pass only (Table 5). The results are interesting and obvious as post graduates are more learned, they tend to collect information more thoroughly and keep their flip side plans also ready so that if there is adverse price movements in an asset they should have other investments to reduce the risk.

**Investment Decision and Income**

The analysis of variance was applied to see the significant differences amongst the individuals with different annual income levels in their mental accounting about investing in Gold and Gold ETFs. The results show that the individuals with the income below 1 lakh believes more in investing in gold followed by people with income above 10 lakh and the least investment in gold is done by individuals in the annual income level of 5-10 lakhs. The results also show that these individuals in 5-10 lakh income level are significantly lower than the individuals in the income bracket of below 1 lakh and above 10 lakh annually (Table 6). In India, possession of higher quantity of gold is considered as a symbol of one's economic condition. Also, it is a cultural practice to gift gold in the wedding of children. So people below the income level of 1 lakh annually try to invest in gold to meet such cultural practices.

This has brought lot of focus on understanding how behavior or personality of an individual effect his/ her financial decisions. The results of our study revealed that individuals with internal and external locus of control differ on their mental accounting on hedging for gold and gold ETF, and decision dilemma due to information availability. Individuals with internal locus of control (self reliant) are high on hedging for gold and gold ETF whereas the individuals with external locus of control (self-doubting) are higher on decision dilemma due to information availability. Individuals from different age groups differ on their mental accounting with respect to investment decision for gold ETF, knowledge of investment in gold ETF, and satisfaction with decision for gold ETF. Males and females differ in their mental accounting with respect to the knowledge of investment in gold. Individuals with different education level differ in their mental accounting with respect to hedging for gold and individuals with different income levels differ in their mental accounting with respect to invest decision in gold. Hunter and Kemp (2004) attempted to make the link between personality and investment decisions. They differentiated between people who chose to invest in risky companies and investors who chose to invest in 'normal' companies. They defined risky companies to be new e-commerce companies and found that e-commerce investors were significantly more open to experience. Similarly, our study is an attempt in differentiating between people who invest in gold and gold ETFs with respect to their locus of control and other demographic variables. Every investment has advantages and disadvantages. Also, features that matter to one investor may not be important to another. Understanding of such investor profile will help the financial industry to market and reach out properly to their said audience. The results help in understanding how to approach investors in order to have a win win situation.



**CONCLUSION**

Organizations today understand that people have “mental accounts” in mind in every economic decision, which may affect decisions made by consumers or investors.

**REFERENCES**

- Antonides, G., de Groot, I. M., & van Raaij, W. F. (2011). *Mental budgeting and the management of household finance*. *Journal of Economic Psychology*, 32(4), 546-555.
- Arkes, H. R., & Blumer, C. (1985). *The psychology of sunk cost*. *Organizational behavior and human decision processes*, 35(1), 124-140.
- Berthoud, R., & Kempson, E. (1992). *Credit and Debt: the PSI Report*. London: Policy Studies Institute.
- Chakravarty, S., & Rhee, E. Y. (1999). *Factors affecting an individual's bankruptcy filing decision*. SSRN Working Paper Series, from <http://ssrn.com/abstract=164351>
- Cheema A and Soman D (2006), “Malleable Mental Accounting: The Effect of Flexibility on the Justification of Attractive Spending and Consumption Decisions”, *Journal of Consumer Psychology*, 16(1), pp. 33-44
- Croson, R., & Gneezy, U. (2009). *Gender differences in preferences*. *Journal of Economic Literature*, 47(2), 1–27.
- Fisher, K. L., & Statman, M. (1997). *Investment advice from mutual fund companies*. *The Journal of Portfolio Management*, 24(1), 9-25.
- Friedline, T., Elliott, W., & Nam, I. (2012). *Predicting savings and mental accounting among adolescents: The case of college*. *Children and Youth Services Review*, 34(9), 1884-1895.
- Furnham, A. "Response Bias, Social Desirability and Dissimulation." *Personality and Individual Differences* 7, no. 3 (1986):385-400.
- Hayhoe, C. R., Leach, L., & Turner, P. R. (1999). *Discriminating the number of credit cards held by college students using credit and money attitudes*. *Journal of Economic Psychology*, 20(6), 643-656.
- Henderson, Pamela W. and Robert A. Peterson (1992), "Mental Accounting and Categorization," *Organizational Behavior and Human Decision Processes*, 51 (Feb-ruary), 92-117
- Hunter, K. and S. Kemp. "The Personality of E-commerce Investors." *Journal of Economic Psychology*, 25(4), (2004), pp. 529–537. J
- Kilborn, J. J. (2005). *Behavioral economics, overindebtedness & comparative consumer bankruptcy: Searching for causes and evaluating solutions*. *Bankruptcy Developments Journal*, 22(1), 13-45
- Lea, S. E. G., Webley, P., & Walker, C. M. (1995). *Psychological factors in consumer debt: Money management, economic socialization, and credit use*. *Journal of Economic Psychology*, 16(4), 681-701.
- Levenson, H. (1973). *Reliability and Validity of the I, P, and C Scales-A Multidimensional View of Locus of Control*
- Moon, P., Keasey, K., & Duxbury, D. (1999). *Mental accounting and decision making: The relationship between relative and absolute savings*. *Journal of Economic Behavior and Organization*, 38, 145–153.
- Odeon, T., 1998, *Are investors reluctant to realise their losses?*, *Journal of Finance*, 53, 1775-98
- Paul, Tarak (2013), "Mental Accounting of Mutual Fund Investors and Marketing Mix – a study from '4C' marketing mix perspective", *Asia Pacific Journal of Marketing & Management Review*, Vol.2



REFERENCES
• Rajagopal, P., & Rha, J. Y. (2009). <i>The mental accounting of time</i> . <i>Journal of Economic Psychology</i> , 30(5), 772-781.
• Read, D., Loewenstein, G., Rabin, M., Keren, G., & Laibson, D. (1999). <i>Choice bracketing</i> . In <i>Elicitation of Preferences</i> (pp. 171-202). Springer Netherlands.
• Rotter, J. B. (1966). <i>Generalized expectancies for internal versus external control of reinforcement</i> . <i>Psychological monographs: General and applied</i> , 80(1), 1.
• Shefrin, H. M., & Thaler, R. H. (1988). <i>The behavioral life-cycle hypothesis</i> . <i>Economic inquiry</i> , 26(4), 609-643.
• Shefrin, H., & Statman, M. (2000). <i>Behavioral portfolio theory</i> . <i>Journal of financial and quantitative analysis</i> , 35(02), 127-151.
• Shefrin, H., & Thaler, R. (1981). <i>An economic theory of self-control</i> . <i>The Journal of Political Economy</i> , 89(2), 392-406.
• Soman, D. (2001). <i>The mental accounting of sunk time costs: Why time is not like money</i> . <i>Journal of Behavioral Decision Making</i> , 14(3), 169-185.
• Taler, Richard and Eric J. Johnson (1990), "Gambling with the House Money and Trying to Break Even: The Effects of Prior Outcomes on Risky Choice," <i>Management Science</i> , 36 (June), 643-660
• Thaler R.H. (1999), "Mental Accounting Matters", <i>Journal of Behaviour Decision Making</i> , 12: 183- 206 <a href="http://www.roa.unimaas.nl/pdf_publications/2013/ROA_RM_2013_16.pdf">http://www.roa.unimaas.nl/pdf_publications/2013/ROA_RM_2013_16.pdf</a>
• Thaler, R. (1980). <i>Toward a positive theory of consumer choice</i> . <i>Journal of Economic Behavior &amp; Organization</i> , 1(1), 39-60.
• Thaler, R. (1985). <i>Mental accounting and consumer choice</i> . <i>Marketing science</i> , 4(3), 199-214.

**Table A showing Demographic Distribution of the sample**

Gender Wise Distribution of Sample			
Males	Females		
66	48		
Age Wise Distribution of Sample			
Below 30 Years	30-40 Years	40-50 Years	50-60 Years
34	32	31	17
Level of Education wise Distribution of Sample			
10th	Graduation	Post Graduation	
15	72	27	
Annual Income Level wise Distribution of Sample			
Below 1 Lakh p.a.	1-5 Lakh p.a.	5-10 Lakh p.a.	Above 10 Lakh p.a
21	35	32	26

**Table 1 Showing the Significant Mean Differences in the Factors of Investment Decision of Individual with External or Internal Locus of Control**

		Levene's Test for Equality of Variances		
		F	Sig.	Sig. (2-tailed)
Hedging for Gold	Equal variances assumed	1.997	.163	.006
	Equal variances not assumed			.021
Decision Dilemma due to Information Availability	Equal variances assumed	.391	.534	.003
	Equal variances not assumed			.006
Hedging for Gold ETF	Equal variances assumed	3.953	.052	.007
	Equal variances not assumed			.040

Note: Only significant results are quoted.

**Table 2: Showing the Mean Scores of Individuals with External or Internal Locus of Control on the Factors of Investment Decisions of Gold and Gold ETFs.**

	LOC	N	Mean
Hedging for Gold	Internal Locus of Control	86	4.04
	External Locus of Control	28	3.50
Decision Dilemma due to Information Availability	Internal Locus of Control	86	2.78
	External Locus of Control	28	3.50
Hedging for Gold ETF	Internal Locus of Control	86	3.92
	External Locus of Control	28	3.50

**Table 3: Analysis of Variance for the factors of Mental Accounting for Investment Decisions of individuals with respect to different age groups.**

		Sum of Squares	F	Sig.
Investment Decision for Gold ETF	Between Groups	3.987	.004	
	Within Groups	14.257		
	Total	18.243		

**Table 3: Analysis of Variance for the factors of Mental Accounting for Investment Decisions of individuals with respect to different age groups.**

		Sum of Squares	F	Sig.
Knowledge of Investment in Gold ETF	Between Groups	3.202	4.065	.011
	Within Groups	13.916		
	Total	17.118		
Satisfaction with Decision for Gold ETF	Between Groups	6.790	4.065	.011
	Within Groups	24.456		
	Total	31.246		

**Table 3a: Significant Mean Differences between Individuals from different Age Groups with respect to their Investment Decisions in Gold and Gold ETF's.**

		Below 30 Years	30-40 Years	40-50 Years	50-60 Years
<b>Investment Decision for</b>	Mean	3.26	2.59	3.13	2.92
<b>Gold ETF</b>	Pair wise Significant Difference	<i>30-40 years</i>			
Knowledge of Investment in Gold ETF	Mean	3.47	3.45	3.25	2.42
	Pair wise Significant Difference	<i>50-60 years</i>	<i>50-60 years</i>	<i>50-60 years</i>	
Satisfaction with Decision for Gold ETF	Mean	3.37	2.91	2.88	2.00
	Pair wise Significant Difference	<i>50-60 years</i>	<i>50-60 years</i>	<i>50-60 years</i>	

**Table 4: t-Test showing significant difference amongst the Males and Females on Knowledge of Investment in Gold.**

		Levene's Test for Equality of Variances		t-test for Equality of Means	
		F	Sig.	Sig. (2-tailed)	
\Knowledge of Investment in Gold	Equal variances assumed	2.273	.137	.022	
	Equal variances not assumed			.016	
<b>Mean Scores</b>					
Knowledge of Investment in Gold	Gender	N	Mean	Std. Deviation	Std. Error Mean
	Male	66	3.3030	.80709	.14050
	Female	48	3.7604	.58736	.11990

**Table 5: Analysis of variance and Mean Scores for the factors of investment decisions of individuals with respect to their educational qualifications**

		Sum of Squares	F	Sig.
Hedging for Gold	Between Groups	2.677	3.400	.041
	Within Groups	21.258		
	Total	23.935		
<b>Mean Scores and Pair wise Significant Difference</b>				
Hedging for Gold	Mean	3.33	3.54	4.02
	Pair wise Significant Difference	<i>Post Graduation</i>	<i>Post Graduation</i>	

**Table 6: Analysis of variance and Mean Scores for the factors of investment decisions of individuals with respect to their Annual Income Levels**

		Sum of Squares	F	Sig.	
Investment Decision for Gold	Between Groups	7.632	3.765	.016	
	Within Groups	35.806			
	Total	43.437			
<b>Mean Scores and Pair wise Significant Difference</b>					
Investment Decision for Gold	Mean	3.85	3.47	2.90	3.67
	Pair wise Significant Difference			Below 1 Lakh and Above 10 Lakh	