AN EMPIRICAL ANALYSIS OF INTER LINKAGES BETWEEN FINANCIAL ATTITUDES, FINANCIAL BEHAVIOUR AND FINANCIAL KNOWLEDGE OF SALARIED INDIVIDUALS

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ABSTRACT

Financial literacy is the ability to make informed judgments and to take effective decisions regarding the use and management of money. Past research on financial literacy had indicated that levels of financial literacy are low across the world. Various initiatives such as financial education programs are being taken by governments, organizations and agencies to improve the level of financial literacy among the population. For financial education programs to be effective they must be built around the various dimensions of financial literacy such as financial knowledge, financial behaviour and financial attitudes so that people benefit the most out of financial literacy programs. Thus in order to improve the financial literacy of the population, focus should not only be on financial knowledge and financial awareness but assessment of financial attitude and financial behaviour is also necessary. Also inter linkages between financial attitudes; financial behaviour and financial knowledge must be studied thoroughly, in order to know the relationship between different dimensions of financial literacy. The results of the study suggests that it is not only financial knowledge which shapes overall financial literacy of an individual but financial attitudes and financial behaviour of the individual has a considerable effect on overall financial literacy of an individual. Thus in order to improve the level of financial literacy amongst the population, financial education programs should not only aim at increasing financial knowledge of the population but must also focus on developing positive financial behaviour and favourable financial attitudes among the population.

Keywords*: Financial Literacy, Financial Knowledge, Financial Behaviour, Financial Attitudes.*

Introduction:

The Organization for Economic Co-operation and Development (OECD) has defined financial literacy as "a combination of awareness, knowledge, skill, attitude and behaviour necessary to make sound financial decisions and ultimately achieve individual well being". Financial literacy is the ability to make informed judgments and to take effective decisions regarding the use and management of money (Noctor et al. 1992). Financially literate individuals make informed decisions about their money and minimize their chances of being misled on financial matters (Beal and Delpachitra, 2003). Past research on financial literacy had indicated that levels of financial literacy are low across the world. Various initiatives such as financial education programs are being taken by governments, organizations and agencies to improve the level of financial literacy among the population. For financial education programs to be effective they must be built around the various dimensions of financial literacy such as financial knowledge, financial behaviour and financial attitudes so that people benefit the most out of financial literacy programs. In previous studies on financial literacy, researchers have used different dimensions of financial literacy. Few researchers have used financial literacy and financial knowledge interchangeably and others have only considered financial knowledge and

took it synonymous to financial literacy. OECD has given a comprehensive view of financial literacy. According to OECD, financial literacy is a combination of financial attitudes, financial behaviour and financial knowledge. Thus in order to improve the financial literacy of the population, focus should not only be on financial knowledge and financial awareness but assessment of financial attitude and financial behaviour is also necessary. Also inter linkages between financial attitudes; financial behaviour and financial knowledge must be studied thoroughly, in order to know the relationship between different dimensions of financial literacy. Financial knowledge could have an influence on both financial attitudes and financial behaviour. Also there could be a relationship between financial attitudes and financial behaviour such as poor financial attitude could lead to less desirable financial behaviour and vice-versa. Thus it becomes important to gain insights into interrelationships between these dimensions of financial literacy, so as to develop a comprehensive financial literacy model which explains how individuals can improve their financial literacy levels.

Literature Review:

Financial literacy has been studied from different aspects. Government entities, private organizations and individuals have conducted surveys in different countries to measure financial literacy level of their population. Most of the studies have used objective test approach to measure financial literacy of the population. The objective tests used by various researchers differ in the way they measure financial literacy. Some researchers have taken only basic concepts of financial numeracy to assess the level of financial literacy. Other researchers have used only a particular dimension of personal finance to measure financial literacy. Very few researchers have used all the dimensions of personal finance to assess the level of financial literacy. Lusardi and Mitchell (2006) designed the financial literacy test for Health and Retirement Survey (HRS). This test comprised of three questions to assess the respondents' understanding of the concepts of compound interest, inflation and diversification of risk. This test of Lusardi and Mitchell became very popular with other researchers as well. Cole et al. (2008) measured financial literacy in India and Indonesia using the questions developed by Lusardi and Mitchell. Almenberg and Soderberg (2011) also used these questions to assess the level of financial literacy in Sweden. Klapper and Panos (2011) measured the level of financial literacy of Russian population by using three questions developed by Lusardi and Mitchell. Alessie et al. (2008) used Dutch DNB Household Survey to assess financial literacy of respondents. This survey added two more questions to the already existing three questions of Lusardi and Mitchell. Many researchers have also used the questions developed by Jump Start Coalition such as Mandell (1998, 2004 and 2008) and Mandell and Klein (2007). The Jump Start Coalition conducts Personal Financial Literacy Survey in the United States twice a year for high school students. This survey contains multiple choice questions on income, saving and investing, money management and spending and credit. Other researchers such as Chen and Volpe (1998, 2002) and Volpe et al. (1996) also measured financial literacy of college students of USA by giving objective tests to measure their knowledge in the areas of insurance, savings, borrowings and investing. Previous research has also made an attempt to measure the level of financial literacy (Hogarth, 2002; Hilgert and Hogarth, 2003) as well as the effectiveness of financial education programs (Hira and Loibl, 2005; Huddleston and Danes, 1999) aimed at improving the levels of financial literacy of the population. The broad results of previous studies indicate that levels of financial literacy are unacceptably low across the world. Measurement of financial literacy through surveys in various countries has demonstrated low levels of financial literacy among populations (Danes and Hira, 1987; Volpe and Chen, 2006; Al-Tamimi and Kalli, 2009; Bhushan and Medury, 2013). It has been observed that even basic financial understanding among consumers is low; hence they are vulnerable in matters relating to management of their personal finances. It has been observed that levels of financial literacy are not very encouraging in developed nations not to mention about developing countries. Financial literacy levels are found to be especially low for certain groups of population such as less educated, young, minorities and those earning less income. By reviewing the literature it can be said that in most of the studies on measurement of financial literacy of the population, only one dimension of financial literacy i.e. financial knowledge is considered and other dimensions such as financial attitudes and financial behaviour were not considered. Atkinson and Messy (2012) addressed that behaviour was the most essential element of financial literacy because certain behaviour could enhance or reduce financial well-being.

Objectives:

1. To study inter linkages between financial attitudes, financial behaviour and financial knowledge so as to develop a comprehensive financial literacy model which is helpful in improving the level of financial literacy of individuals.

Research Design:
Sampling:

For the purpose of this study, Himachal Pradesh is taken as an area of study. All those salaried individuals of Himachal Pradesh whether in government or non-government job and those who fall under income tax bracket were considered as the

population for this study. For the purpose of the study, multistage sampling has been adopted for collection of the data. There are total of twelve districts in Himachal Pradesh. Out of these three districts namely Shimla, Solan and Kangra were selected randomly (first stage). The selected districts are further divided on the basis of sub-divisions. Shimla district is divided into 7 sub-divisions namely 1) Shimla, 2) Theog, 3) Rampur, 4) Rohru, 5) Chopal, 6) Shimla rural and 7) Dodrakwar. Solan district is divided into 4 sub-divisions namely 1) Arki, 2) Kandaghat, 3) Nalagarh and 4) Solan. Kangra district is divided into 8 sub-divisions namely 1) Kangra, 2) Dharamshala, 3) Nurpur, 4) Dehra, 5) Jaisinghpur, 6) Palampur, 7) Baijnath and 8) Jawali. In each of the selected districts further 2 sub-divisions were selected randomly (second stage). For Shimla district Shimla (urban) and Theog sub-divisions were selected, for Solan district Nalagarh and Solan sub-divisions were selected and for Kangra district Kangra and Baijnath sub-divisions were selected. From each selected sub-division, the required number of salaried individuals was selected based on purposive sampling by using some criteria like place of work, occupational status and the attitude of the respondents to cooperate for the study, so as to get the representative sample of the population. Total of 516 questionnaires were used for the purpose of this study.

Sample Characteristics:

Table 1 shows the characteristics of the sample used for the purpose of this study. Sample for this study constitute 68.8% males whereas females constitute 31.2% of the total respondents. Respondents in the sample fall in almost every age category. 19.6% of the respondents fall in the age group of 20-30 years, 29.7% of the respondents fall in the age group of 31-40 years, 30.6% of the respondents fall in the age group of 41-50 years, 17.4% of the respondents fall in the age group of 51-60 years and only 2.7% of the respondents are above the age of 60 years.

Table 1: Demographic and Socioeconomic Details of the Respondents

		Frequency	Percentage
Gender	Male	355	68.8
	Female	161	31.2
Age (Years)	20-30	101	19.6
	31-40	153	29.7
	41-50	158	30.6
	51-60	90	17.4
	More than 60	14	2.7
Marital Status	Unmarried	110	21.3
	Married	406	78.7
Education	10+2	39	7.6
	Graduation	237	45.9
	Post Graduation	220	42.6
	PhD	20	3.9
Income Per Annum (In Rs.)	2-5 lacs	315	61.0
	5-10 lacs	177	34.3
	10-15 lacs	24	4.7
Nature of Employment	Government	241	46.7
	Non-Government	275	53.3
Place Of Work	Urban	280	54.3
	Rural	236	45.7
Geographic Region	Shimla	187	36.2
	Solan	178	34.5
	Kangra	151	29.3

Source: *Primary Data*

Most of the respondents (78.7%) are married and remaining (21.3%) are unmarried. In the sample 7.6% respondents are those who have studied up to 10+2. Graduates constitute 45.9% of the total respondents and 42.6% respondents are post graduates. Also 3.9% respondents hold PhD degrees. Sample consists of 46.7% respondents working in government sector and rest work in non-government sector. Respondents in the sample fall in three income categories. Most of the respondents i.e. 61% earn Rs. 2-5 lacs annually followed by 34.3% who earn an annual income of Rs. 5-10 lacs. Also 4.7% of the total respondents earn Rs. 10-15 lacs per annum. 54.3% respondents' work in urban areas and rest of them (45.7%) work in rural areas. The respondents in the sample come from three districts of Himachal Pradesh namely Shimla, Solan and Kangra and proportion of respondents from these districts is 36.2%, 34.5% and 29.3% respectively. Thus respondents are almost equally divided among three different districts.

Methodology:

Primary data from the respondents was collected by using a non-disguised structured questionnaire. The questionnaire was prepared with utmost care incorporating all necessary information by using close-ended questions, attitudinal rating questions as well as knowledge testing questions. In order to understand financial attitudes of the respondents, total of 13 items were used and responses were measured on 5 point Likert scale. Further by carrying out factor analysis, 4 financial attitude factors namely 1. Belief in Financial Planning; 2. Risk Taking Attitude; 3. Stress in Dealing with Finances and 4. Satisfaction with Financial Situation have been extracted. Similarly for gaining an insight on financial behaviour of the respondents, total of 12 items were used and responses were measured on 5 point Likert scale. With the help of factor analysis, 4 financial behaviour factors namely 1. Financial Planning Behaviour; 2. Savings Behaviour; 3. Bill and Loan Payment Behaviour and 4. Responsible Investment behaviour have been extracted. In order to measure financial knowledge of respondents, 13 questions about personal finance were asked from them. The questions

were asked in order to measure respondent's knowledge in the areas of financial numeracy, savings and investments, borrowings, insurance, risk and return. Total financial knowledge score for each respondent was calculated by giving one mark for each correct answer and no marks for incorrect answer. Also for incorrect answers no negative marking was done. Thus the maximum financial knowledge score can be 13. To study the inter linkages between financial attitudes, financial behaviour and financial knowledge, Karl Pearson's correlation coefficient was calculated between financial attitude factors, financial behaviour factors and financial knowledge score.

Results and Discussion:

Correlation among Financial Attitudes:

1. 'Belief in financial planning' was found to be positively correlated with 'Satisfaction with financial situation' and negatively correlated with 'Stress in dealing with finances' (Table 2). This clearly indicates that those respondents who believe in financial planning are more satisfied with their financial situation and those who do not believe in financial planning remain stressed out with their finances.

Table2: Intra Attitude Correlations

		Belief in Financial Planning	Risk Taking Attitude	Stress in Dealing with Finances	Satisfaction with financial situation
Belief in Financial Planning	Pearson Correlation	1	-.007	-.123**	.292**
	Sig. (2-tailed)		.879	.005	.000
	N	516	516	516	516
Risk Taking Attitude	Pearson Correlation	-.007	1	.270**	-.063
	Sig. (2-tailed)	.879		.000	.154
	N	516	516	516	516
Stress in Dealing with Finances	Pearson Correlation	-.123**	.270**	1	-.244**
	Sig. (2-tailed)	.005	.000		.000
	N	516	516	516	516
Satisfaction with financial situation	Pearson Correlation	.292**	-.063	-.244**	1
	Sig. (2-tailed)	.000	.154	.000	
	N	516	516	516	516

**. Correlation is significant at the 0.01 level (2-tailed).

2. 'Risk taking attitude' towards finances was found to be positively correlated with 'Stress in dealing with finances' which means that those respondents who are willing to take risk feel stressed about their financial situation.
3. 'Stress in dealing with finances' was found to be negatively correlated with 'Belief in financial planning' and 'Satisfaction with financial situation' and positively correlated with 'Risk taking attitude' which indicates that those respondents who feel stressed out with their finances do not carry positive attitude towards belief in financial planning and thus they are not satisfied with their financial situation. Thus in order to remain satisfied with their financial situation it is important for individuals to have a belief in financial planning process.

By studying interrelationship between different financial attitude factors it can be said that respondents having belief in financial planning are more satisfied with their financial situation and feel less stressed about their finances.

Correlation among Financial Behaviours:

1. 'Financial planning behaviour' was found to be positively correlated with 'Savings behavior', 'Bill and loan payment behaviour' and 'Responsible investment behaviour' (Table 3). Thus it can be said that an individual who follows financial planning process is an active saver as well as demonstrates financially responsible behaviour.

Table 3: Intra Behaviour Correlations

		Financial Planning Behaviour	Savings Behaviour	Bill and Loan Payment Behaviour	Responsible Investment Behaviour
Financial Planning Behaviour	Pearson Correlation	1	.512**	.222**	.416**
	Sig. (2-tailed)		.000	.000	.000
	N	516	516	516	516
Savings Behaviour	Pearson Correlation	.512**	1	.200**	.277**
	Sig. (2-tailed)	.000		.000	.000
	N	516	516	516	516
Bill and Loan Payment Behaviour	Pearson Correlation	.222**	.200**	1	.436**
	Sig. (2-tailed)	.000	.000		.000
	N	516	516	516	516
Responsible Investment Behaviour	Pearson Correlation	.416**	.277**	.436**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	516	516	516	516

**. Correlation is significant at the 0.01 level (2-tailed).

2. 'Savings behaviour' was also positively correlated with 'Financial planning behaviour', 'Bill and loan payment behaviour' and 'Responsible investment behaviour'. The highest degree of association of 'Savings behaviour' was found with 'Financial planning behaviour' which points out to the fact that those who actively follow the principles of financial planning are also active savers. This implies that financial planning inculcates financial discipline as well as the habit of active savings among the people.
3. 'Bill and loan payment behaviour' was found to be positively correlated with 'Financial planning behaviour', 'Savings behaviour' as well as

'Responsible investment behaviour'. The highest degree of association of 'Bill and loan payment behaviour' was found with 'Responsible investment behaviour', which indicates that individuals who portray financially responsible behavior also exhibits favourable "Bill and loan payment behaviour'.

Correlation between financial attitude and financial behavior:

The relationship between different financial attitude factors and different financial behavior factors were explored (Table 4). The following facts came into highlight after studying the correlation among financial attitude and financial behaviour factors:

1. 'Belief in financial planning' was found to be positively correlated with all financial behaviour factors such as 'Financial planning behaviour', 'Savings behaviour', 'Bill and loan payment behaviour' and 'Responsible investment behaviour'. Thus it can be said that an individual who believes in the process of financial planning also exhibits positive financial behaviour.
2. 'Risk taking attitude' was found to be negatively correlated with 'Savings behaviour' which means that those individuals who are risk takers are not active savers.
3. 'Satisfaction with financial situation' was also found to be positively correlated with all financial behaviour factors such as 'Financial planning behaviour', 'Savings behaviour', 'Bill and loan payment behaviour' and 'Responsible investment behaviour'. This indicates that individuals who remain satisfied with their financial situation, exhibits positive financial behaviour.

Table 4: Correlation between Financial Attitude and Financial Behaviour

		Financial Planning Behaviour	Savings Behaviour	Bill and Loan Payment Behaviour	Responsible Investment Behaviour
Belief in Financial Planning	Pearson Correlation	.496**	.388**	.190**	.358**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	516	516	516	516
Risk Taking Attitude	Pearson Correlation	.054	-.313**	.050	.097*
	Sig. (2-tailed)	.223	.000	.253	.028
	N	516	516	516	516
Stress in Dealing with Finances	Pearson Correlation	-.085	.025	-.059	-.056
	Sig. (2-tailed)	.053	.577	.183	.208
	N	516	516	516	516
Satisfaction with financial situation	Pearson Correlation	.457**	.267**	.109*	.132**
	Sig. (2-tailed)	.000	.000	.013	.003
	N	516	516	516	516

*Correlation is significant at the 0.05 level (2-tailed).
**Correlation is significant at the 0.01 level (2-tailed).

Correlation between financial attitude and financial Knowledge:

In order to assess the relationship between financial knowledge and various financial attitude factors, correlation was calculated between financial knowledge score and mean scores of various financial attitude factors (Table 5). From the analysis of the results, it was revealed that financial knowledge of an individual was positively correlated with two financial attitude factors - 'Belief in financial planning' and 'Satisfaction with financial situation', but the degree of correlation was not very high, although the relationship is statistically significant. The results indicate that those with higher financial knowledge as well as higher numeracy skills believe in the process of financial planning as well as remain satisfied with their financial situation.

Table 5: Correlation between Financial Attitude and Financial Knowledge

		Belief in Financial Planning	Risk Taking Attitude	Stress in Dealing with Finances	Satisfaction with financial situation
Financial Knowledge	Pearson Correlation	.109*	.011	-.017	.087*
	Sig. (2-tailed)	.013	.812	.703	.048
	N	516	516	516	516

*. Correlation is significant at the 0.05 level (2-tailed).

Correlation between financial behaviour and financial Knowledge:

The relationship between financial knowledge of respondents and their financial behaviour was explored by calculating correlation among financial knowledge score and mean score of various financial behaviour factors (Table 6). The correlation results reveal that financial knowledge was positively correlated with 'Financial planning behaviour', 'Bill and loan payment behaviour' and 'Responsible investment behaviour' but the degree of association is not very strong. Thus it can be said that individuals with higher financial knowledge exhibits financial planning behaviour, pay their bill and loan payments on time and also demonstrates financially responsible behaviour in terms of comparing price while shopping and using internet for gathering information. It was also found that there does not exist statistically significant correlation between financial knowledge and 'Savings behaviour' which indicates that financial knowledge is not the only factor which prompts individuals to save regularly as well as actively.

Table 6: Correlation between Financial Behaviour and Financial Knowledge

		Financial Planning Behaviour	Savings Behaviour	Bill and Loan Payment Behaviour	Responsible Investment Behaviour
Financial Knowledge	Pearson Correlation	.106*	.004	.106*	.145**
	Sig. (2-tailed)	.016	.934	.016	.001
	N	516	516	516	516

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

Correlation between financial attitude, financial behavior and financial knowledge:

In order to assess the relationship between financial knowledge, financial attitude and financial behaviour, correlation among the three dimensions of financial literacy was calculated (Table 7). The results of correlation analysis reveal that financial knowledge was positively correlated with financial attitude and financial behaviour but the degree of association is very less. Thus there is some support for the notion that high financial knowledge will lead to positive financial behaviour and favourable financial attitudes. Also, the less degree of association among three dimensions which we have used for measuring financial literacy i.e. financial knowledge, financial attitude and financial behaviour justifies such a combined measure to determine the level of financial literacy among the population.

Table7.: Correlation between Financial Attitude, Financial Behaviour and Financial Knowledge

		Financial Attitudes	Financial Behaviour	Financial Knowledge
Financial Attitudes	Pearson Correlation	1	.415**	.100*
	Sig. (2-tailed)		.000	.023
	N	516	516	516
Financial Behaviour	Pearson Correlation	.415**	1	.127**
	Sig. (2-tailed)	.000		.004
	N	516	516	516
Financial Knowledge	Pearson Correlation	.100*	.127**	1
	Sig. (2-tailed)	.023	.004	
	N	516	516	516

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Conclusions:

By studying the inter linkages between various dimensions of financial literacy i.e. financial attitudes, financial behaviour and financial knowledge, it has become clear that these dimensions of financial literacy are significantly related to each other. By studying the correlation between financial attitudes and financial behaviour it was found that an individual who believes in the process of financial planning also exhibits positive financial behaviour. It was also found that those individuals who are risk takers are not active savers and those individuals who remain satisfied with their financial situation exhibits positive financial behaviour. Correlation among financial knowledge and financial attitudes indicates that individuals with higher financial knowledge as well as higher financial numeracy skills believe in the process of financial planning as well as remain satisfied with their financial situation. By studying the correlation among financial behaviour and financial knowledge it was found that there does not exist statistically significant correlation between financial knowledge and 'Savings behaviour' which indicates that financial knowledge is not the only factor which prompts individual to save actively and regularly. The results of correlation among financial knowledge, financial behaviour and financial attitudes reveal that financial knowledge is positively correlated with financial attitude and financial behaviour but the degree of association is very less. Thus there is some support for the notion that high financial knowledge will lead to positive financial behaviour and favourable financial attitudes. This also signifies the fact that it is not only financial knowledge which shapes overall financial literacy of an individual but financial attitudes and financial behaviour of the individual has a considerable effect on overall financial literacy of an individual. Thus in order to improve the level of financial literacy amongst the population, financial education programs should not only aim at increasing financial knowledge of the population but must also focus on developing positive financial behaviour and favourable financial attitudes among the population. Then only real benefits of any financial education program can be achieved.

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