

## IMPACT OF LOCUS OF CONTROL ON FINANCIAL RISK-TAKING BEHAVIOUR: A PERCEPTION STUDY AMONG MARRIED EARNING WOMEN IN INDIA<sup>3</sup>

*The locus of control measures how much a person thinks they, rather than outside influences, are in charge of how things turn out in their lives. Financial self-efficacy is influenced by locus of control. Individuals are more likely to believe they can handle their finances when they feel more capable of doing so. In particular, this study focused on married working women in India. They are more likely to effectively manage their finances if they think they can get out of financial difficulties. A questionnaire that was distributed to a convenience sample of 278 yielded responses from married working women across PAN India. The study made use of exploratory factor analysis (EFA), which reveals the scale's factor structure. The study offers statistical evidence to support the scales' reliability and validity. The statistical findings of the investigation show that locus of control and financial literacy has a favourable impact on financial behaviour. The authors also demonstrate how the relationship between internal locus of control and financial behaviour is altered by financial literacy. As a moderator variable that affects the locus of control, financial literacy is an important factor. The research's conclusions are crucial in providing empirical support for the theoretical relationships. This study has confirmed the beneficial effects of internal locus of control and financial literacy on the financial behaviour of married working women, supporting the current literature. Additionally, it has been found that a person's financial conduct and internal locus of control have different relationships depending on their financial literacy.*

*Keywords: Locus of control; psychological factors; risk-taking; perception*

*JEL: G10; G11; G40; G41*

### 1. Introduction

Locus (meaning location) of control (LOC) is the extent to which individuals believe they tend to have control over circumstances or events taking place in their lives in contrast to factors which are external and beyond their control (Rotter, 1954). The framework of locus

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of control is based on the social learning theory of personality. An individual's locus (plural of loci) of control can be conceptualized as internal (a belief that one's life can be controlled) or external (a belief that life is controlled by outside factors which individuals cannot influence, or that chance or fate controls their lives). Individuals possessing strong internal locus of control believe they are in charge of all that happens in their lives, and they are in control of events or situations happening to or around them (for example: after results are declared, individuals, tending to take the credit or blame of doing well or otherwise on themselves and their own abilities. On the contrary, individuals with a strong external locus of control tend to praise or blame external factors or circumstances, such as the tutor or the nature of the examination itself (Carlson, 2007). The internality and externality in the locus of control must be viewed as two ends of a continuum and not as either/or typology (Rotter, 1975). People with a high internal locus of control believe they are in charge of situations and can influence outcomes through their own doings and hard work and believe that results depend on their own abilities (April et al., 2012). People with high external LOC hold external circumstances (such as fate, luck and other influential or powerful people) as responsible for what happens in their lives and that things are out of their control (Jacobs-Lawson et al, 2011). *These* tendencies have implications in terms of differences in psychological conditions and achievement motivation among these two sets of people with internal locus being often linked with higher levels of need for achievement and external locus leading to fatalistic perceptions and accentuation towards clinical depression (Benassi et al, 1988).

## **2. Financial Risk-Taking Behaviour in Women: Existing Literature**

In a study on the changing socioeconomic status of women in the UK, Yorke & Hayes (1982) found out that the proportion of married women in the workforce grew considerably and thus, making them primary targets for the marketing of commercial bank services. With the increased income, having fewer children and a higher level of education, the financial independence of women was increasing.

While studying the financial planning of women, Alcon (1999) found out that women were less confident about their earning power than men and were more inclined to take professional help in financial planning.

In a study to investigate how gender impacts retirement contributions, Borstorff et al (2007) found out that, while women have made great strides in terms of pay equity, positions, and power, a significant disparity still exists between men and women when it comes to being ready to retire. Women tend to need more descriptive information, additional counselling in option probabilities, and encouragement to become actively involved in retirement planning.

Maxfield et al (2010) aimed to explore women's risk-taking behaviour and reasons for stereotype persistence to inform human resource practice and women's career development. Based on the literature about gender and organizations to identify reasons for the persisting stereotype of women's risk aversion, the study found out evidence of gender neutrality in risk propensity and decision-making in specific managerial contexts other than portfolio allocation.

Fisher (2010) found that the gender differences in personal saving behaviours among single person households, using data from the 2007 Survey of Consumer Finances. Data showed that women were less likely than men to have saved over the previous year, while the proportion of the male and female samples reporting to save regularly was similar. The descriptive analysis also showed that women in the sample were older, had lower risk tolerance, had a shorter saving horizon, were more likely to be retired and less likely to be unemployed or self-employed, were more likely to be in fair health, had fewer years of education, were more likely to own a home, and had less wealth on average. Women reporting low-risk tolerance were significantly less likely to save over the short term as well as to be regular savers.

Malone et al (2010) conducted a survey on American women to examine their perceptions of financial well-being. The majority of the women reported they had conservative buying behaviours, desired financial independence, had a somewhat negative view of their current financial situation, had worries about retirement and their financial futures, and considered long-term care insurance a necessity. Women in non-traditional families (single mothers, cohabitators, and stepfamilies) had significantly greater worries about their financial futures than women in first marriages. Single mothers were more likely to express concern that their money would not last through retirement. Cohabiting women were significantly more likely to express fears about becoming a burden. Women who were older, were more educated, had higher incomes and who contributed more money to the household income had more positive perceptions of their financial situation.

Rowley (2012) conducted a strengths-based study to identify their motivations for positive financial behaviour change and found that they progressed through the Transtheoretical Model stages of change. Emotion, family influence, and life transitions helped participants progress to the Action and Maintenance stages. Although participants utilized a wide variety of change strategies, motivations to change were either circumstantial, underlying, or both. Most participants used educational, social, or professional support to overcome setbacks. Optimism and using financial tricks were common strategies for successful change. Implications for policy and practice include tailoring marketing messages toward women experiencing life transitions and incorporating Transtheoretical Model concepts into financial education programs.

Bucher-Koenen et al (2014) evaluated similar gender differences in financial literacy across countries. Irrespective of age, marital status or economic condition, women were found to be less likely than men to answer correctly and more likely to indicate that they do not know the answer and self-assessed themselves lower on financial literacy than men. This is important because financial literacy has been linked to economic behaviour, including retirement planning and wealth accumulation. Women live longer than men and are likely to spend time in widowhood. As a result, improving women's financial literacy is key to helping them prepare for retirement and promoting their financial security.

Vohra (2015) investigated the attributes that Indian women look for in their financial advisors and examined if the choice of attributes of a financial advisor among women investors in Punjab is the same, across demographics. The understanding of the attributes that women want in their financial advisors will help the financial advisors to be mindful of the opportunities and the challenges they have to face while working with women investors.

Studying the impact of demographics on the choice of investment advisor would enable the service providers to provide women with services relevant to their unique and individual situations. Therefore, the study contributes to the understanding of the investment behaviour of women.

Yusof (2015) examined the financial investment decision-making and risk behaviours of Malaysian men and women. It uses data obtained from a survey of employed Malaysians to test two opposing models of household decision-making, the income pooling hypothesis and the bargaining model. The results indicated that although both men and women practice autonomy in financial investment decisions, women have lower risk tolerance than men.

Paluri & Mehra (2016) have identified the factors influencing the financial attitudes of Indian women and then classifying Indian women based on these attitudes. Nine variables (anxiety, interest in financial issues, intuitive decisions, precautionary saving, free-spending, materialistic and fatalistic attitude, propensity to plan for long and short-term financial goals) were put through confirmatory factor analysis. These factors were then used as a basis for cluster analysis using convenience sampling. An analysis of the dispersion of the clusters shows that interest in financial issues has the greatest influence in the formation of clusters followed by the propensity to plan and materialistic attitude. A fatalistic attitude had the least influence in the formation of clusters. The current study uses convenience sampling which is non-probability-based sampling and hence, lack generalizability of results. This paper discusses the financial attitudes and behaviour of Indian women and further clusters these women based on their financial attitudes.

Deshmukh (2017) investigated herding behaviour in financial decision-making and found that friends/colleagues' views had an influence on financial decision-making, such as, household decision of buying a washing machine or personal decision of upgrading a mobile or investment decision like investing into a mutual fund schemes/share etc.

Ghosh (2018) examined the lending behaviour of women-owned cooperatives (WoCs) by exploiting the natural experiment of the financial crisis, employing a novel data set of Indian cooperative banks during 2004–2013. In view of the longitudinal nature of the data, the authors employ panel data techniques for the purposes of analysis. The findings indicated that WoC banks increased lending to both agriculture and small-scale industries, especially in high-income states. Further disaggregation reveals that the possible weaknesses in asset quality from lending to these sectors in low-income states could be driving the results.

### *2.1. Relationship between LOC and financial risk-taking behaviour*

In a variety of market situations, new information should induce decision-makers to act. Depending on their short and long-term investment planning, investors may want to buy or sell this asset, If the riskiness or the return expectations of an asset, change. Sometimes the wise decision is to stick to a given allocation. Odean (1999) points out that investors with discount brokerage accounts trade too much and when the stocks they buy underperform, they sell. Actually, they may be wiser if they are adopting a “buy and hold” strategy and ignoring stock market movements. Likewise, many investors who are flooded with lots of market information, tend to generally ignore such information and, in the process, may also

ignore some vital information which may give them many options to act upon, wisely. The ability to wisely respond to new information is dependent on the individual's ability to correctly interpret the same.

To ascertain the importance of locus of control under uncertain conditions, the internal locus of control has been considered as a positive trait. Andrisani (1977), Osborne Groves (2005), Semykina and Linz (2007) and Piatek and Pinger (2016) have shown that an internal locus of control is positively correlated with success in labour markets. Coleman and Deleire (2003) argued that the internal locus of control positively affects education decisions by altering teenagers' expectations regarding the returns of human capital investments. Caliendo et al. (2015) and McGee (2015) found that unemployed individuals with an internal locus of control invest more in a job search than externally controlled individuals. Cobb-Clark et al. (2014) showed that internally controlled individuals invest more in health capital, while Borghans et al. (2008) opine that such individuals produce better results in cognitive tests. Studies by Cobb-Clark and Schurer (2013) demonstrate that they also accumulate more precautionary savings, while studies by Salamanca et al. (2016) point out that internal locus of control is positively related to investments in risky assets. In recent studies by Lekfuangfu et al. (2018), it has been found that mothers with an internal locus of control invest more in their children, and consequently, cognitive and emotional development is higher among the children of such mothers.

If one considers the fact that locus of control has ambiguous effects on the quality of economic decisions, then it has importance with regard to non-cognitive skills on economic behaviours and outcomes (see, e.g., Borghans et al. 2008; Gro'nqvist et al. 2016). Studies have shown that non-cognitive skills necessarily do not increase the productive capacity of individuals. In all circumstances.<sup>3</sup> At best they may induce situation-specific behaviours and pay-offs. On the other hand, in other studies of the relationship between personal characteristics and biased probability judgment. Dohmen et al. (2009) found that cognitive ability is negatively related to biased decision-making.

Studies have shown that factors like social preferences and financial literacy have a crucial role in portfolio choice (e.g., Hong et al., 2004; Guiso et al., 2008; Van Rooij et al., 2011). Factors like optimism and overconfidence are also key drivers for investment behaviour (e.g., De Bondt, 1998; Barber, Odean, 2001; Puri, Robinson, 2007). Various aspects of personality (like non-cognitive skills) are also related to a variety of economic outcomes (e.g., Borghans et al., 2008; Almlund et al., 2011). Internal locus of control has been to affect labour market outcomes (e.g., Bowles et al., 2001a, b; Coleman, DeLeire, 2003; Caliendo et al., 2015) as also entrepreneurship (Evans, Leighton, 1989) and savings (Cobb-Clark et al., 2013). At the same time, its role in financial investment decisions has been scantily investigated.

It is found that household investors' decisions are related to factors which are yet to be fully comprehended by classical portfolio theory. Salamanca et al (2016) demonstrated that a household head's internal economic locus of control is a key determinant of investment in equity, over and beyond economic preferences (risk and time preferences) and socioeconomic characteristics. Internal economic locus of control is related to both the decision to participate in equity and the portfolio share of equity and this relation is economically, significant. Their argument is that those who have an internal economic locus of control have a lower perception of risk when investing in equity.

Pinger et al. (2018) in contrasting studies provide an alternative perspective on the role of internal locus of control for economic success. They demonstrated that in certain cases internal locus of control can induce inefficient behaviours, particularly in such cases, where doing nothing is seen to be the optimal strategy (for example: in the case of the case for most private stock investors most of the time). Hence there is a need to consider the locus of control with other with behavioural biases such as overconfidence or confirmation bias in conducting empirical studies about financial decision-making.

Some of the other finding importance in the context of locus of control are:

- subjects with an internal locus of control are more likely to make inconsistent risk choices in the experiment (Pinger et al., 2018).
- The above is true with regard to subjects with lower cognitive ability (Pinger et al., 2018).
- People or investors with an internal locus of control are more likely to bet on assets that were successful in the past.
- Internally controlled individuals invest more in human capital, are more active job seekers, exhibit higher stock market participation, and adopt a more active parenting style.

Having said this, Cobb-Clark and Schurer (2013) that it may lead to a “fallacy” to always believe that locus of control (particularly internal) leads to individual making the right choices and taking optimal decisions. There may also be circumstances where the internal locus of control may lead to suboptimal choices.

Thanki et al (2022) investigated to determine whether the determinants of financial risk tolerance varied by gender or whether the same factors influenced the risk-taking capacities of both genders using personality types (Type-A and Type-B), financial literacy, and six demographic parameters, including marital status, age, education, income, occupation, and the number of dependents, as independent variables, and gender as a dividing variable. In order to conduct this study, information was gathered from 671 investors. Four factors (personality type, financial literacy, marital status, and income) were found to have a substantial impact on the financial risk tolerance of female investors.

### **3. Objectives of the Study**

The present study perceives locus of control as a multi-dimensional concept and investigates the perception of married earning women in India about the influence of the internal and external LOC in their financial risk-taking behaviour. Based on the relevant literature, researchers developed a questionnaire, consisting of items, representing internal and external LOC in the financial risk-taking behaviour, administered the same among the married earning women in India, proposed a factor structure of the financial risk-taking behaviour, and tested whether the respondents differed in their perception in the above context. Based on the data received through the questionnaire and in-depth interview with respondents, the authors discussed the findings.

#### **4. Research Methodology**

##### *4.1. Population, sampling design, data collection*

The population for the study were Indian married earning women. The data was collected during the period from January to June 2022, using the judgmental sampling method. Women, working in entry-level and middle-level positions in organizations, across the sectors, such as, automobile, IT and ITES, banking, financial services, retail, and other sectors across the country, were approached for data collection. Based on their acceptance, the responses were collected. Data collection methods include the administration of questionnaires by e-mail and personal visits, followed by personal and telephonic interviews, for gathering an in-depth view of the perception of the respondents on their risk-taking behaviour. Data were collected in two phases. In the first phase, a Pilot study was conducted, and at a later stage, the final study was conducted.

##### *4.2. Exploratory Factor analysis*

Exploratory Factor Analysis (EFA) aims to find the latent factors, which are the resultants of observed variable grouping. The formation of factors is based on the concept of correlation. That is, observed variables that have high correlations with a factor will be listed under that factor and the process is iteratively used till all the factors are identified. Note that, the set of variables together is expected to measure the latent factors, and, also the factors are expected to contain the essence of the set of variables. Finally, EFA gives a variable-factor structure which can be used for model building. The method is exploratory in nature because the researcher does not know the variable-factor structure and the analysis gives the structure. It is to be noted that, EFA is used in the pilot study, and, in the final study. This is to ensure that the variables proposed to measure the factors satisfy the required cut-offs of the EFA and have the necessary consistency levels. Based on the results, the factor structure was proposed.

##### *4.3. Data collection and data analysis*

The data was collected in two phases.

##### First phase/ pilot study

In the first phase, a questionnaire with 30 items was sent to 239 married earning women, across PAN India, based on the population size and researchers' experience. A total of 113 responses were received. 72 respondents were 22-28 years, 15 were 29-25 years, 15 were 36-32 years and 11 were 50 years and above. 88 respondents were salaried and 25 were self-employed. 65 respondents were college degree graduates and 37 post-graduates, 2 passed 10<sup>th</sup> standard and 9 passed 12<sup>th</sup> standard. 4 earned < INR 10,000/- and 4 earned > INR 1,00,000/, 49 earned INR 10001-25000/-, 45 earned INR 25001 -50000/-, and 11 earned

50001-100000/-, per month. 82 had 0-1 child, 30 had 2-3 children and 1 had more than 3 children.

The Cronbach's alpha was .858 for the questionnaire, proving internal consistency among the variables in measuring the construct of financial risk-taking behaviour. Though for all the items, the communalities value was <.5 (% of the variance in each variable met the required levels), in five variables (items n. 5, 15, 16, 17, 25), KMO values were >.05. Those variables were re-examined and deleted from the questionnaire, as the researchers noted that the overall essence of such variables was explained in the other variables.

The questionnaire with the retained 25 variables (the item number was retained the same for each variable, as given in the original questionnaire containing 30 items), was used for Exploratory Factor Analysis, with the same sample data. The Cronbach's alpha was 0.867. The KMO values and communalities for all the variables were more than .5 (value is acceptable). A total of 6 factors have been extracted with rotated varimax (Table 1).

**Table 1. Factor analysis with varimax rotation for 25 retained variables\***

	1	2	3	4	5	6	Commun	KMO
1. I take financial decisions on my own.	-0.05979	-0.05802	-0.04062	<b>-0.88205</b>	-0.02602	0.079127	0.79354	0.6
2. I take financial decisions for my family.	-0.38663	0.131684	0.218136	<b>-0.6653</b>	0.067036	-0.3696	0.79814	0.753302
3. My financial decisions depend on my past experience.	-0.21129	-0.27133	0.153993	-0.03866	0.015882	<b>-0.76721</b>	0.73234	0.623604
4. My financial decisions depend on my competence in analysing market scenarios.	-0.0703	0.055751	0.349585	-0.21603	<b>0.74112</b>	-0.01009	0.726288	0.785768
6. I invest in financial instruments, keeping my short-term financial needs a top priority.	-0.06558	-0.04086	<b>0.709354</b>	0.15858	-0.21925	-0.24719	0.643476	0.633642
7. I invest in financial instruments, keeping my long-term financial needs a top priority.	-0.21006	-0.26234	<b>0.718784</b>	-0.0662	0.139798	-0.17785	0.685156	0.743242
8. Success in my financial investments originates from my meticulous planning.	-0.05344	0.217409	<b>0.763471</b>	-0.15654	0.283893	-0.12156	0.752887	0.822504
9. Success in my financial investments originates from my timely investment.	-0.22384	0.078533	<b>0.713526</b>	0.02025	0.203062	0.311355	0.703978	0.78051
10. Success in my financial investments depends on the amount of effort I put in, in collecting data about the market scenario.	-0.05459	0.395684	<b>0.546492</b>	0.012488	0.364431	-0.0508	0.593746	0.838155
11. I decide on the budget for my children's education.	<b>-0.68153</b>	0.197408	0.18916	0.169253	0.091009	0.045733	0.578254	0.787558
12. I decide on the budget for the month's family expenditure.	<b>-0.77777</b>	0.018829	0.074554	0.050223	-0.00244	0.060294	0.617008	0.745965
13. I decide the budget for my family's monthly savings.	<b>-0.82065</b>	0.053913	0.05569	-0.12578	-0.03485	-0.0834	0.703458	0.838176
14. I decide on purchasing long-term household assets.	<b>-0.62648</b>	-0.41716	-0.08086	-0.25168	0.115475	-0.0347	0.650922	0.796415

	1	2	3	4	5	6	Commun	KMO
18. My financial decisions are influenced by my financial consultant.	-0.06352	0.459281	0.043905	0.009503	<b>0.764302</b>	0.146483	0.822606	0.833008
19. My financial decisions are influenced by my friends.	0.044684	<b>0.771878</b>	-0.03415	-0.17805	0.377253	-0.00889	0.77306	0.764404
20. My financial decisions are influenced by my colleagues.	-0.02764	<b>0.909882</b>	-0.05141	0.049542	0.238396	0.065169	0.894827	0.722294
21. My financial decisions are a matter of chance.	-0.11216	<b>0.68068</b>	0.347026	0.120379	-0.07983	0.241766	0.675646	0.76924
22. My decisions in taking risks in financial investments are influenced by my financial consultant.	-0.15916	0.357635	0.014323	0.140805	<b>0.768956</b>	-0.10747	0.776112	0.733396
23. My decisions in taking risks in financial investments are influenced by my friends.	-0.00824	<b>0.858679</b>	-0.03582	0.007965	0.213243	0.047534	0.786477	0.783633
24. I believe that success in financial investments depends on market scenario.	-0.15302	0.082528	0.268744	0.239812	<b>0.541918</b>	-0.46195	0.667031	0.69653
26. I believe that success in financial investments is beyond my control.	-0.13985	<b>0.500</b>	0.380175	0.431279	0.129582	-0.24084	0.669536	0.763437
27. I have the liberty to decide about the budget for my children's education.	<b>-0.69482</b>	0.237539	0.054476	-0.10404	0.071973	-0.32048	0.660877	0.781859
28. I have the liberty to decide about the budget for the month's family expenditure.	<b>-0.84571</b>	-0.02354	0.113186	-0.01212	0.043564	-0.18561	0.765086	0.853246
29. I have the liberty to decide the budget for my family's monthly savings.	<b>-0.86624</b>	0.026714	0.106527	-0.00576	0.064975	-0.09861	0.776412	0.789065
30. I have the liberty to decide on purchasing long-term household assets.	<b>-0.73109</b>	-0.24367	0.145057	-0.26416	0.262654	0.112617	0.766364	0.692387

\* The original number of the items is retained, as per the original proposed questionnaire.  
Source: From data analysis.

Based on the above, the second phase of the study was conducted with a questionnaire with 25 items.

### Second phase / final study

The questionnaire with 25 items (item numbers retained as per the original questionnaire) was administered to 350 married earning women, PAN India. Total 165 responses were received, which were used for the purpose of analysis. 88 respondents were 22-28 years, 27 were 29-35 years, 36 were 36-42 years, 2 were 43-49 years, and 12 were 50 years and above. 111 respondents were salaried and 54 were self-employed. 84 respondents were college degree graduates and 63 post-graduates, 3 passed 10<sup>th</sup> standard and 15 passed 12<sup>th</sup> standard. 2 earned < INR 10,000/- and 10 earned >INR 1,00,000/, 58 earned INR 10001-25000/-, 69 earned INR 25001 -50000/-, and 26 earned 50001-100000/-, per month. 108 had 0-1 child, 51 had 2-3 children and 6 had more than 3 children.

The Cronbach's alpha was .802, for the questionnaire, which proved internal consistency among the variables in measuring the construct of financial risk-taking behaviour. The data was analyzed again with Exploratory Factor Analysis, for the present set of data. For all the items, communalities and KMO values were more than .5 (value is acceptable). Therefore, the percentage of variance in each of the variables, meets the required levels. A total of 6 factors were extracted by using rotated varimax factor structure analysis (Table 2).

**Table 2. Factor analysis with varimax rotation for 25 retained variables\***

	1	2	3	4	5	6	Commun	KMO
1. I take financial decisions on my own.	-0.2446	0.131252	-0.07066	<b>-0.83346</b>	0.162248	-0.12843	0.819526	0.594291
2. I take financial decisions of my family.	0.037879	-0.07027	0.091241	<b>-0.81619</b>	0.170515	0.038914	0.711446	0.526737
3. My financial decisions depend on my past experience.	-0.35429	-0.01261	0.25366	<b>-0.70019</b>	-0.16231	0.125266	0.722321	0.758236
4. My financial decisions depend on my competence on analysing market scenario.	-0.08918	-0.35872	0.135198	-0.30779	-0.27681	<b>0.571877</b>	0.653316	0.684558
6. I invest in financial instruments, keeping my short-term financial needs a top priority.	-0.11842	0.014788	0.411746	<b>-0.5000</b>	0.055871	0.046378	0.410658	0.632727
7. I invest in financial instruments, keeping my long-term financial needs a top priority.	0.101783	-0.23523	<b>0.500</b>	-0.01035	-0.20399	0.438918	0.52539	0.621978
8. Success in my financial investments originate from my meticulous planning.	-0.04306	-0.13453	<b>0.750751</b>	-0.06889	0.028855	0.034776	0.590367	0.656457
9. Success in my financial investments originate from my timely investment.	-0.00583	0.026977	<b>0.746705</b>	-0.14238	-0.3829	-0.04084	0.726884	0.686391
10. Success in my financial investments depends on the amount of effort I put in, in collecting data about the market scenario.	-0.10952	0.111904	<b>0.773347</b>	-0.06554	-0.00543	0.183505	0.660581	0.721601
11. I decide about the budget for my children's education.	0.045806	0.126855	0.358691	-0.06517	<b>-0.71376</b>	0.039448	0.662099	0.688212
12. I decide about the budget for the month family expenditure.	<b>-0.78046</b>	0.135294	0.085525	0.061308	-0.10997	-0.05516	0.653638	0.855037
13. I decide the budget for my family's monthly savings.	<b>-0.80554</b>	0.077066	0.161537	-0.04183	0.052866	0.00327	0.685478	0.824645
14. I decide on purchasing long-term household assets.	<b>-0.79677</b>	0.072022	0.16974	-0.183	0.079465	0.119054	0.722814	0.826052
18. My financial decisions are influenced by my financial consultant.	-0.04565	0.226488	0.09336	0.090792	0.066758	<b>0.847501</b>	0.793055	0.497953
19. My financial decisions are influenced by my friends.	0.048162	<b>0.760349</b>	0.103543	-0.04275	0.002136	-0.07632	0.598827	0.751345
20. My financial decisions are influenced by my colleagues.	0.114144	<b>0.840936</b>	-0.11847	-0.15164	-0.14094	0.132868	0.794748	0.721839
21. My financial decisions are a matter of chance.	0.00399	<b>0.809378</b>	-0.21254	0.110918	-0.20336	0.026299	0.754633	0.800041
22. My decisions in taking risk in financial investments are influenced by my financial consultant.	-0.33438	<b>0.5000</b>	0.296012	0.342709	-0.10054	0.183207	0.592351	0.803844

	1	2	3	4	5	6	Commun	KMO
23. My decisions in taking risk in financial investments are influenced by my friends.	-0.08814	<b>0.689147</b>	0.182149	0.048515	0.036886	0.050683	0.522154	0.791987
24. I believe that success in financial investments depends on market scenario.	-0.11056	<b>0.758673</b>	-0.2055	-0.03798	-0.24086	-0.14407	0.710253	0.780282
26. I believe that success in financial investments is beyond my control.	-0.18016	0.147297	-0.2727	0.283808	<b>-0.70234</b>	0.06718	0.706858	0.641675
27. I have the liberty to decide about the budget for my children's education.	-0.1551	0.285321	0.20192	0.214927	<b>-0.60855</b>	0.032471	0.56382	0.671507
28. I have the liberty to decide about the budget for the month family expenditure.	<b>-0.78977</b>	0.00531	-0.2034	-0.10433	-0.04061	-0.04914	0.680094	0.82018
29. I have liberty to decide the budget for my family's monthly savings.	<b>-0.8477</b>	-0.11579	-0.02098	-0.13003	-0.13771	0.06367	0.772361	0.782293
30. I have liberty to decide on purchasing long-term household assets.	<b>-0.83927</b>	-0.07748	0.003649	-0.08697	-0.08121	0.014717	0.724761	0.743044
	4.380417	3.679965	2.799584	2.568797	1.90722	1.422448	16.75843	

\* The original number of the items are retained, as per the original proposed questionnaire.  
 Source: From data analysis.

Based on the above, the following factor structure is proposed (Table 3), to investigate the perception of the earning married women about the influence of internal and external LOC, on financial risk-taking behaviour.

**Table 3. Proposed factor structure**

Variables	Items representing the variable*
Factor 1: Perceived liberty and financial decision-making	
deciding monthly family expenditure	12. I decide about the budget for the month family expenditure.
deciding family's monthly savings	13. I decide the budget for my family's monthly savings.
Deciding Long-term household assets purchase	14. I decide on purchasing long-term household assets.
Liberty to decide monthly family expenditure	28. I have the liberty to decide about the budget for the monthly family expenditure.
Liberty to decide family's monthly savings.	29. I have the liberty to decide the budget for my family's monthly savings.
liberty to decide Long-term household assets purchase	30. I have the liberty to decide on purchasing long-term household assets.
Factor 2: Influence of external factors	
Friends' influence on financial decisions	19. My financial decisions are influenced by my friends.
Colleagues' influence on financial decisions	20. My financial decisions are influenced by my colleagues.
Influence of chance	21. My financial decisions are a matter of chance.
Financial consultant influencing financial risk-taking	22. My decisions in taking risk in financial investments are influenced by my financial consultant.
Friends' influence on financial risk-taking	23. My decisions in taking risk in financial investments are influenced by my friends.
Role of market scenario	24. I believe that success in financial investments depends on market scenario.

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Variables	Items representing the variable*
Factor 3: self-planning and proactivity	
Meticulous planning	8. Success in my financial investments originate from my meticulous planning.
Timely investment	9. Success in my financial investments originate from my timely investment.
market data	10. Success in my financial investments depends on the amount of effort I put in, in collecting data about the market scenario.
Long-term financial needs	7. I invest in financial instruments, keeping my long-term financial needs a top priority.
Factor 4: Personal experience and confidence	
Taking own decision	1. I take financial decisions on my own.
Taking decision on family's behalf	2. I take financial decisions of my family.
Past experience	3. My financial decisions depend on my past experience.
Short-term financial needs	6. I invest in financial instruments, keeping my short-term financial needs a top priority.
Factor 5: Priority	
Deciding children's education budget	11. I decide about the budget for my children's education.
Control on financial success	26. I believe that success in financial investments is beyond my control.
Liberty to decide children's education budget	27. I have the liberty to decide about the budget for my children's education.
Factor 6: informed decision in investing	
Competence on market analysis	4. My financial decisions depend on my competence on analysing market scenario.
Financial consultant influencing financial decisions	18. My financial decisions are influenced by my financial consultant.

\*The original number of the items are retained, as per the original proposed questionnaire.

Descriptive statistics showed that the respondents assigned fairly high score towards almost all the variables, in the contest of financial risk-taking behaviour (lowest mean score = 3.448, highest mean score = 4.145, on a 1–5-point scale). considering this, it was hypothesized that, the average opinion of the respondents towards the role of internal and external LOCs on financial risk-taking behaviour, were more or less the same. That is, there is no significant difference between the average importance levels given to the variables, by the respondents, under each factor. This is the null hypothesis tested against the alternative that, there is a significant difference.

*H<sub>1.0</sub>: There is no significant difference between the average importance level of the variables, given by the respondents, under the factor 'perceived liberty and financial decision making'.*

*H<sub>1.A</sub>: There is a significant difference between the average importance level of the variables, given by the respondents, under the factor 'perceived liberty and financial decision making'.*

*H<sub>2.0</sub>: There is no significant difference between the average importance level of the variables, given by the respondents, under the factor 'Influence of external factors'.*

*H<sub>2.A</sub>: There is a significant difference between the average importance level of the variables, given by the respondents, under the factor 'Influence of external factors'.*

*H<sub>3,0</sub>: There is no significant difference between the average importance level of the variables, given by the respondents, under the factor ‘self-planning and proactivity’.*

*H<sub>3,A</sub>: There is a significant difference between the average importance level of the variables, given by the respondents, under the factor ‘self-planning and proactivity’.*

*H<sub>4,0</sub>: There is no significant difference between the average importance level of the variables, given by the respondents, under the factor ‘personal experience and confidence’.*

*H<sub>4,A</sub>: There is a significant difference between the average importance level of the variables, given by the respondents, under the factor ‘personal experience and confidence’.*

*H<sub>5,0</sub>: There is no significant difference between the average importance level to the variables, given by the respondents, under the factor ‘Priority’.*

*H<sub>5,A</sub>: There is a significant difference between the average importance level of the variables, given by the respondents, under the factor ‘Priority’.*

*H<sub>6,0</sub>: There is no significant difference between the average importance level of the variables, given by the respondents, under the factor ‘informed decision in investing’.*

*H<sub>6,A</sub>: There is a significant difference between the average importance level of the variables, given by the respondents, under the factor ‘informed decision in investing’.*

All the above null hypotheses can be tested, using either ANOVA or Kruskal-Wallis Test, based on whether the assumptions of the null hypothesis are satisfied by the data, or not. In order to test the assumption of normality, Shapiro-Wilk Test was used, and it was found out that the normality assumption was not satisfied by the data. Hence, Kruskal-Wallis Test (K-W Test) was used to investigate the proposed hypotheses.

Analysis revealed that there was a significant difference between the average importance level of the variables, given by the respondents, for all the factors (Table 4).

**Tale 4. Kruskal-Wallis Test (The significance level is .05 )**

Null Hypothesis	P value	Alpha	Decision
<i>H<sub>1,0</sub>: There is no significant difference between the average importance level of the variables, given by the respondents, under perceived liberty and financial decision making</i>	0.004	.05	Reject the null hypothesis <i>H<sub>1,0</sub></i>
<i>H<sub>2,0</sub>: There is no significant difference between the average importance level of the variables, given by the respondents, under the Influence of external factors.</i>	0.0000	.05	Reject the null hypothesis <i>H<sub>2,0</sub></i>
<i>H<sub>3,0</sub>: There is no significant difference between the average importance level of the variables, given by the respondents, under self-planning and proactivity.</i>	0.03	.05	Reject the null hypothesis <i>H<sub>3,0</sub></i>
<i>H<sub>4,0</sub>: There is no significant difference between the average importance level of the variables, given by the respondents, under personal experience and confidence.</i>	.0000	.05	Reject the null hypothesis <i>H<sub>4,0</sub></i>
<i>H<sub>5,0</sub>: There is no significant difference between the average importance level of the variables, given by the respondents, under Priority.</i>	0.0002	.05	Reject the null hypothesis <i>H<sub>5,0</sub></i>
<i>H<sub>6,0</sub>: There is no significant difference between the average importance level of the variables, given by the respondents, under informed decision in investing.</i>	0.002	.05	Reject the null hypothesis <i>H<sub>6,0</sub></i>

Source: From the author's analysis.

In order to identify, in which of the variables, there were significant differences, a non-parametric posthoc comparison test (Tukey's HSD / Kramer Test) was used (Table no 5). It was noted that, for the following variables (items), the p-value was less than .05. Thus, it was concluded that the following variables differed significantly, with respect to the average importance level assigned by the respondents (where P value < .05):

**Table 5. Tukey's HSD / Kramer Test**

sample 1	sample 2	p-value
Factor 1		
12. I decide about the budget for the monthly family expenditure.	14. I decide on purchasing long-term household assets.	.031
12. I decide about the budget for the month family expenditure.	30. I have liberty to decide on purchasing long-term household assets.	.037
Factor 2		
19. My financial decisions are influenced by my friends.	22. My decisions in taking risk in financial investments are influenced by my financial consultant	.00000
20. My financial decisions are influenced by my colleagues.	22. My decisions in taking risk in financial investments are influenced by my financial consultant.	.0009
21. My financial decisions are a matter of chance.	22. My decisions in taking risk in financial investments are influenced by my financial consultant.	.001
22. My decisions in taking risk in financial investments are influenced by my financial consultant.	23. My decisions in taking risk in financial investments are influenced by my friends.	.00004
22. My decisions in taking risk in financial investments are influenced by my financial consultant.	24. I believe that success in financial investments depends on the market scenario.	.025
Factor 3		
7. I invest in financial instruments, keeping my long-term financial needs a top priority.	10. Success in my financial investments depends on the amount of effort I put in, in collecting data about the market scenario.	.02
8. Success in my financial investments originate from my meticulous planning.	10. Success in my financial investments depends on the amount of effort I put in, in collecting data about the market scenario	.008
Factor 4		
1. I take financial decisions on my own.	2. I take financial decisions of my family.	.007
1. I take financial decisions on my own.	3. My financial decisions depend on my past experience.	.0000
3. My financial decisions depend on my past experience.	6. I invest in financial instruments, keeping my short-term financial needs a top priority.	.0004
Factor 5		
11. I decide about the budget for my children's education.	26. I believe that success in financial investments is beyond my control.	.0009
26. I believe that success in financial investments is beyond my control.	27. I have the liberty to decide about the budget for my children's education	.02

\* The original number of the items is retained, as per the original proposed questionnaire.

Source: From the data analysis, the significance level is 0.05.

## 5. Discussion and Conclusion

For the purpose of the present study, a questionnaire was developed in order to investigate the perception of married earning women about the role of internal and external LOC in their financial risk-taking behaviour, in India. The exploratory factor analysis indicates that LOC

plays a role in the financial risk-taking behaviour among the married earning women. This corroborates with the literature review, which advocates that various dimensions of internal and external LOC, as follows:

LOC	Dimensions mentioned in the literature review	Similar factors as per the factor structure emerged and proposed in the present study
Internal	one's fundamental appraisal of oneself, such as, self-efficacy and self-esteem, self-confidence. This means that when a person believes that he or she can act so as to maximize the possibility of good outcomes and to minimize the possibility of bad outcomes he is said to have higher internal LOC.	Perceived liberty and financial decision-making (Factor 1); self-planning and proactivity (Factor 3); Personal experience and confidence (Factor 4); Priority (Factor 5)
External	Those who are always at the mercy of luck, fate and unforeseen uncontrollable outside force and feel helpless all the time and never like to take responsibility for their bad outcomes and miserable performances in life are said to have external LOC.	Influence of external factors (Factor 2)
Internal and external (combined)	Combination of information about the external environment and taking confident and calculated risks	Informed decision in investing (Factor 6)

Results also indicated that there was a significant difference between the average importance level to the variables for all the factors, assigned by the respondents. Post-Hoc Test identified that significance existed for these factors, only in the context of the following scenario. An in-depth interview was conducted to gain complementary insight in regard to such findings.

The average perception of the respondents was significantly different for their decision about the budget for the monthly family expenditure (item 12) vis-a-vis the decision about purchasing long-term household assets (item 14) and the liberty of purchasing long-term household assets (item 30). Respondents' family situation consisting of different income structure, family size, number of children and volume of earning along with the different levels of financial and family responsibilities and needs might have led to different perceptions about their own decision-making and liberty to decide about the budget and purchase.

As discussed earlier, the internality and externality in the locus of control are two ends of a continuum (and not as either/or typology). Therefore, it is only expected that individuals' external and internal locus of control plays a significant role in their decision-making behaviour. In the context of financial risk-taking behaviour also, this holds good. The findings of the study proved the same, as descriptive statistics showed that the respondents assigned fairly high scores towards almost all the variables, in the context of financial risk-taking ((lowest mean score = 3.448, on a 1–5-point scale). This proved that the respondents perceive the influence of both internal and external locus of control in their risk-taking behaviour.

The study further revealed the following.

The respondents differed significantly in their perception about the role of financial consultants i.e.; an external investment expert (item 22) vis-à-vis the suggestions given by friends (item 19) and colleagues (item 20). Also, respondents differed significantly in

perceiving the role of chance i.e.; luck (item 21) and market scenario (item 24), vis-à-vis the role of financial consultants (item 22). This happened, since in general, respondents believed that the role of luck may be substantially minimized and the volatility of the market may be substantially hedged, with the intervention of an expert in the field (the consultant). Similarly, the role of friends and colleagues were perceived as amateurs and significantly different in this context.

Respondents differed significantly in their perception about the success of the financial investments (item 10) vis-à-vis their long-term financial needs (item 7) and planning (item 8). This indicated that the respondents perceive success as a term which gets defined and perceived by the fulfilment of their long-term financial needs and kind of planning.

Respondents differed significantly in their perception about the financial decisions they take (item 1) vis-à-vis the family (item 2). They also differed in their decision-making based on past experience (item 3) vis-à-vis financial needs (item 6). This may be the consequence of the varied age group, level of education and income level of the respondents, whose experience and exposure in investment and spending for the family may be of varied nature.

Finally, respondents differed significantly on their decision in planning the budget for their children's education (item 11) and liberty to take such a decision (item 27) vis-à-vis their belief in their power to control the success of financial investments (item 26). This may be due to limited exposure to investing and the varied nature of financial requirements (resulting from age, number of children, number of family members, education and income level), the average perception of the respondents differed.

## **6. Scope for Further Research**

The factors explained in the present study represent the role of both, internal and external, LOC, in the financial risk-taking behaviour of married earning women, in the country. This study may be extended in future to investigate whether the married earning women of other states of India have a similar perception. Also, future study can be conducted to investigate the difference among the perception of unmarried and married woman. It can also be investigated whether there is a gender-specific perception about the role of LOC in financial risk-taking behaviour.

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