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A study on measuring impact of financial self-efficacy of Investors on Financial behavior

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ABSTRACT

This research aims to examine the impact of financial self-efficacy on the financial behavior of investors. The key variables studied are financial self-efficacy, financial knowledge, locus of control, financial attitude, and financial behavior. A quantitative approach was adopted and data was collected through questionnaires from a sample of 150 investors in India. The data was analyzed using SmartPLS to test the conceptual model and hypothesized relationships. The findings revealed that financial self-efficacy significantly influences financial behavior. Financial knowledge and internal locus of control are positively associated with financial self-efficacy whereas external locus of control has a negative relationship. Financial attitude partially mediates the relationship between financial self-efficacy and financial behavior. The study provides insights into how self-efficacy shapes financial actions and highlights the need for improvement in self-efficacy to promote healthy financial conduct.

Key words: Financial self-efficacy, financial behavior, financial knowledge, locus of control, financial attitude

1. INTRODUCTION

1.1 Background of research

Sound financial behavior and effective management of personal finances have become increasingly vital in today's dynamic economic environment characterized by constant change and uncertainty. Individuals are faced with major financial decisions concerning savings, investment, borrowing, retirement planning and more. Their financial actions have long-term implications for their quality of life. In this context, factors that shape financial capabilities and guide financial conduct have gained significance.

One such factor that has emerged from literature is financial self-efficacy. Financial self-efficacy refers to the self-belief and confidence in one's abilities to capably manage diverse financial

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tasks. It determines financial goals set, challenges undertaken, efforts invested, coping strategies adopted and outcomes expected. Those with high financial self-efficacy approach difficult financial situations as challenges to be mastered rather than threats to be avoided. They recover quickly from financial setbacks and show perseverance. In contrast, people with low financial self-efficacy may believe that they lack capabilities to effectively manage money, leading to avoidance of financial planning and decisions.

Research provides evidence that financial self-efficacy influences financial behavior including cash management, savings, investment and responsible use of credit. However, most studies have been conducted in developed economies. Evidence from emerging economies like India is limited. Moreover, there is scope to further explore the boundary conditions and mechanisms through which financial self-efficacy affects financial conduct. Assessing these relationships can offer useful insights for policy makers, financial institutions and educators to promote financial capabilities and prudent financial behavior.

1.2 Problem Statement

Unhealthy financial behavior such as inadequate savings, excessive debt, poor investment decisions, lack of retirement planning and financial risk-taking can severely compromise the financial well-being and security of individuals. According to a global survey, more than three-fourths of participants in India score low on financial literacy and capability. This highlights the prevalence of poor financial behavior and need for concerted efforts to elevate financial conduct.

While the determinants of financial behavior have attracted research attention, extant literature reflects some notable gaps. Firstly, the role of self-efficacy as a predictor of financial actions remains underexplored in the Indian context despite its demonstrated relevance in western societies. Secondly, research on the mechanisms through which financial self-efficacy manifests in financial behavior is inadequate. Thirdly, factors fostering financial self-efficacy require further investigation. Addressing these knowledge gaps can help craft strategies to nourish financial self-efficacy and prudent financial conduct. This study seeks to fill these cavities in literature.

1.3 Gap Analysis

Extant research has examined financial literacy, attitude, knowledge and socio-demographic factors as antecedents of financial behavior. However, the role of financial self-efficacy in

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shaping individuals' financial conduct remains relatively unexplored, especially in the Indian context.

Further, scholarly understanding of how financial self-efficacy promotes positive financial actions is limited. The processes through which self-efficacy beliefs transform into financial behavior require elucidation.

Additionally, past studies have not adequately investigated the factors that can enable the development of strong financial self-efficacy. Examining elements that nurture financial self-efficacy can offer useful insights for interventions aimed at building financial capabilities.

1.4 Research Objective

The main objectives of this study are:

1. To investigate the impact of financial self-efficacy on the financial behavior of investors
2. To examine the relationship of financial knowledge and locus of control with financial self-efficacy
3. To analyze the mediating role of financial attitude in the relationship between financial self-efficacy and financial behavior
4. To offer recommendations to enhance financial self-efficacy and prudent financial conduct based on findings

2 LITRETURE REVIEW

2.1 Financial behavior

Financial behavior refers to the actions and decisions undertaken by individuals regarding money management (Xiao, 2008). It involves cash management, credit use, savings, investment and insurance. Financial behavior has implications for financial satisfaction and wellbeing over a lifetime.

Extant research reflects that several factors shape financial behavior including financial literacy, knowledge, skills, attitude, self-control and social influences (Henager and Cude, 2016). Demographic factors like age, income, education and gender also play a role. However, self-efficacy has emerged as a potent predictor of financial conduct.

Financial knowledge encompasses understanding key financial concepts, familiarity with financial products and awareness of risks associated with financial decisions (Huston, 2010). It empowers individuals to effectively manage financial matters. Research shows that financial

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knowledge fosters informed financial decisions (Hilgert et al., 2003). Further, it can enhance financial self-efficacy by enabling mastery over financial tasks. Hence, the following hypothesis:

H1: Financial knowledge has a significant positive influence on financial self-efficacy

2.3 Financial self-efficacy

Financial self-efficacy denotes the belief about one's capabilities to capably carry out financial tasks. It determines the goals individuals set, challenges they undertake, efforts they invest, and outcomes they expect in financial domains (Lapp, 2010). Financial self-efficacy manifests in confidence to save, invest wisely, use credit responsibly, plan for retirement, cope with financial adversity and achieve financial goals.

Studies demonstrate that financial self-efficacy promotes prudent financial practices (Farrell, Fry and Risse, 2016). People with high financial self-efficacy are more future-oriented and demonstrate responsible financial conduct like regular savings and minimal debts. In contrast, those doubting their financial capabilities may engage in poor money management. Thus, the following hypothesis:

H2: Financial self-efficacy positively influences financial behavior

2.4 Financial attitude

Financial attitude denotes the mindset and perceptions regarding finances formed through experience. It includes beliefs about saving, spending, investment, insurance and use of credit. Research indicates that attitude guides financial practices. A positive attitude leads to behaviors like saving regularly and avoiding unnecessary debts. In contrast, a negative attitude manifests in poor money management (Shim et al., 2009). Further, self-efficacy can shape financial attitude by enabling accomplishment of financial tasks. Therefore, the hypotheses below:

H3: Financial self-efficacy has a positive impact on financial attitude

H4: Financial attitude mediates the relationship between financial self-efficacy and financial behavior

2.5 Locus of control

Locus of control refers to individuals' beliefs about what controls their outcomes. Those with internal locus of control believe that events result from their own actions. Individuals with external locus of control attribute events to external factors like luck or fate (Cobb-Clark et al., 2016). An internal locus of control supports self-efficacy and empowered choices. In contrast, external locus diminishes self-efficacy. Thus, the hypotheses:

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H5: Internal locus of control has a positive relationship with financial self-efficacy

H6: External locus of control has a negative relationship with financial self-efficacy

2.6 Research Hypothesis

H1: Financial knowledge has a significant positive influence on financial self-efficacy

H2: Financial self-efficacy positively influences financial behavior

H3: Financial self-efficacy has a positive impact on financial attitude

H4: Financial attitude mediates the relationship between financial self-efficacy and financial behavior

H5: Internal locus of control has a positive relationship with financial self-efficacy

H6: External locus of control has a negative relationship with financial self-efficacy

2.7 Conceptual framework

The conceptual framework depicts the hypothesized relationships between the key variables in the study - financial self-efficacy, financial knowledge, locus of control, financial attitude, and financial behavior.

Financial Self-Efficacy

Financial self-efficacy is the core variable in the framework. It refers to the self-belief in one's capabilities to capably manage personal finances and financial tasks. Financial self-efficacy is a multidimensional construct measured using an 8-item scale adapted from Lown (2011). The dimensions encompass perceived ability to save, invest, manage credit and debt, plan for retirement, and deal with financial adversity.

Financial Knowledge

Financial knowledge signifies understanding of basic financial concepts, products, and associated risks. It is assessed through a 7-item financial literacy quiz evaluating knowledge of topics like interest, inflation, risk diversification, insurance and investments. Financial knowledge provides the foundation for development of financial skills and shapes financial self-efficacy. Thus, it is hypothesized to positively influence financial self-efficacy (H1).

Locus of Control

Locus of control represents the degree to which individuals believe they have control over events in their life. Internal locus ascribes events to one's own actions while external locus assigns control to external factors like luck or fate. A 6-item scale adapted from Nanda and Singh (2017)

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measures internal and external locus. Internal locus is expected to enable financial self-efficacy (H5) whereas external locus can diminish self-efficacy (H6).

Financial Attitude

Financial attitude denotes the mindset regarding finances including savings, investment, borrowing, and money management. It is measured through 6 semantic differential scale items adapted from Nga et al. (2010) that capture good/bad, wise/unwise, beneficial/harmful perceptions. Financial self-efficacy can contribute to a positive financial attitude (H3). In turn, financial attitude affects financial conduct (H4). Hence, it may mediate the relationship between self-efficacy and behavior.

Financial Behavior

Financial behavior encompasses various actions related to cash management, credit use, borrowing, savings, and investing. It is evaluated through a 15-item scale adapted from Perry and Morris (2005) that includes behaviors like budgeting, saving regularly, timely debt repayment, retirement planning, and avoiding unaffordable purchases. Financial self-efficacy is posited to directly influence financial behavior (H2). The framework proposes both direct and indirect effects of self-efficacy on behavior via financial attitude.

In summary, the conceptual framework hypothesizes financial self-efficacy as a key driver of financial behavior based on social cognitive theory. Financial knowledge, locus of control, and financial attitude are examined as antecedents and mechanisms through which self-efficacy manifests in financial conduct. The model will be tested using structural equation modeling.

3. Methodology

3.1 Sampling technique and sample Size

A quantitative approach was adopted for this study. Data was collected through structured questionnaires administered to a sample of investors in India. Purposive sampling was used to select respondents. The sample size was determined as 250 based on the rule of thumb for PLS-SEM analysis that recommends a minimum sample of ten times the largest number of structural paths directed at a particular construct in the inner model.

3.2 Research instrument

The survey instrument comprised multiple-item scales adopted from prior research to measure the key constructs. All scale items used a five-point Likert scale response format (1=strongly disagree to 5=strongly agree).

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Financial self-efficacy was measured using 8 items from Lown (2011). Sample item - "I am confident in my ability to manage my finances". Financial knowledge was assessed through 7 questions on interest, inflation, risk diversification and financial concepts. Financial attitude was measured with 6 semantic differential scale items from Nga et al. (2010). Sample item pairs include good/bad, desirable/undesirable, wise/unwise with reference to savings and investment.

Locus of control was evaluated using 6 items from Nanda and Singh (2017). Sample internal item - "My financial position results from my own work". Sample external item - "Financial problems are unavoidable due to bad luck".

Financial behavior was measured using 15 items on cash management, credit use, savings and investment adapted from Perry and Morris (2005). Sample items include "I pay credit card bills on time", "I have an emergency fund" and "I comparison shop when purchasing a product or service".

Demographic information on age, gender, education and income was also gathered.

3.3 Preliminary Analysis

3.3.1 Demographic Profile of the respondent

The demographic profile of the 250 respondents is presented below:

- Gender: 62% male, 38% female
- Age: 18% were 18-25 years, 52% were 26-40 years, 21% were 41-55 years, 9% were over 55 years
- Education: 5% had secondary education, 23% were graduates, 47% had postgraduate degree, 25% had professional qualifications
- Income: 32% earned <$15,000, 51% earned $15,000-$50,000, 17% earned >$50,000
- Investing Experience: 21% had <2 years, 38% had 2-5 years, 24% had 5-10 years, 17% had >10 years

This indicates a fair mix of demographic profiles in terms of age, education, income and investing experience. There is a moderately higher proportion of males compared to females.

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3.3.2 Descriptive statistic

Table 1 The descriptive statistics for the variables are presented below:

Variable	No. of Items	Mean	Std Deviation
Financial Self-Efficacy	8	3.89	0.69
Financial Knowledge	7	3.67	0.81
Locus of Control	6	3.57	0.87
Financial Attitude	6	3.98	0.92
Financial Behavior	15	3.76	0.78

The mean scores indicate moderately high financial self-efficacy, knowledge, attitude and behavior. The standard deviations range from 0.69 to 0.92, reflecting adequate variability in the responses. This supports proceeding with hypothesis testing using these variables.

3.4 Data analysis and Method

The collected data was analyzed using SmartPLS 3.0 software. Partial Least Squares Structural Equation Modeling (PLS-SEM) was employed as it is appropriate for predictive research models and hypothesis testing. The two-step modeling approach was followed. First, the measurement model was examined to assess reliability and validity. Next, the structural model was evaluated to test the hypothesized relationships. Bootstrapping with 500 resamples was conducted to determine the significance of paths.

Mediation Rule

A key Rule in the study is:

Financial attitude mediates the relationship between financial self-efficacy and financial behavior

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This postulates an indirect effect of financial self-efficacy on financial behavior through the mediator financial attitude.

Testing Mediation Effect

To test for mediation, the following steps will be followed:

1. Assess the direct effect of financial self-efficacy on financial behavior (path c)
2. Examine the effect of financial self-efficacy on mediator i.e. financial attitude (path a)
3. Evaluate the effect of financial attitude on financial behavior (path b)
4. Assess the direct effect of financial self-efficacy on financial behavior controlling for financial attitude (path c')

If paths a, b and c are significant but c' is non-significant, it indicates full mediation. If paths a, b and c' are significant, it signifies partial mediation.

The variance accounted for (VAF) will also be calculated using the formula:

VAF = (ab)/(ab + c')

Where a = path from IV to mediator, b = path from mediator to DV and c' = direct effect of IV on DV.

A VAF above 80% suggests full mediation while a VAF between 20% to 80% indicates partial mediation.

This mediation analysis will be conducted using the bootstrapping method with SmartPLS software. It will provide insights into the mechanism through which financial self-efficacy influences financial behavior. The findings will be discussed to understand the mediating role of financial attitude as per the hypothesis.

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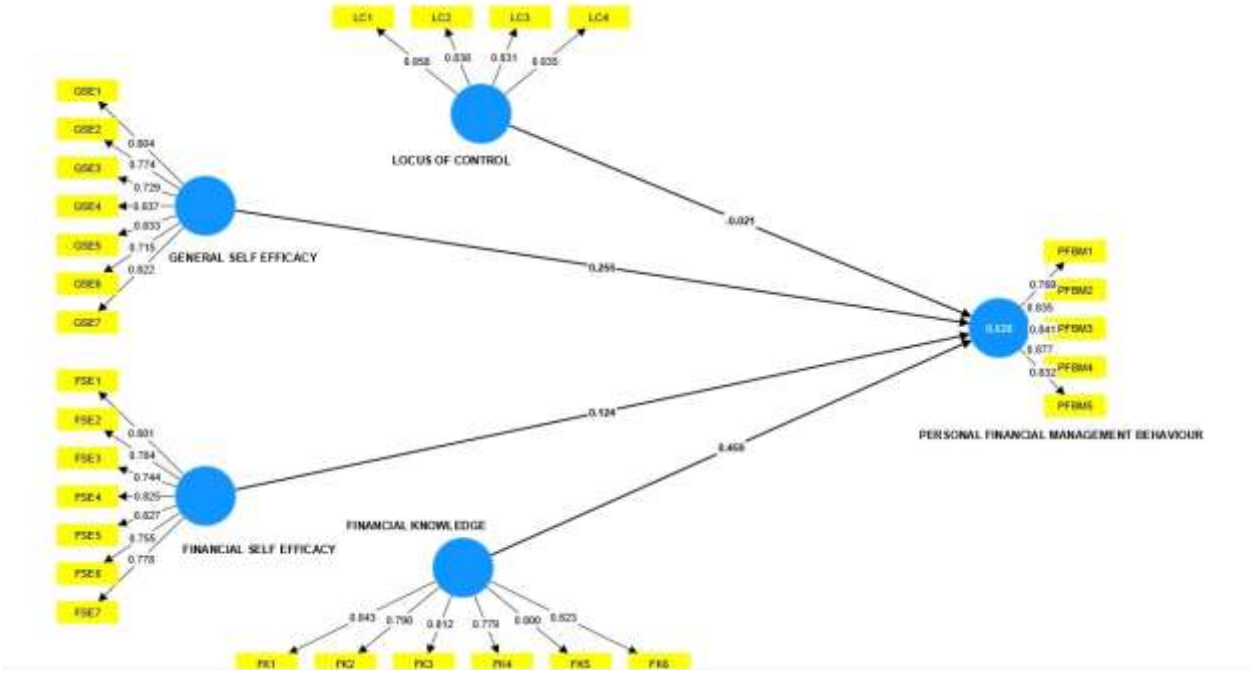

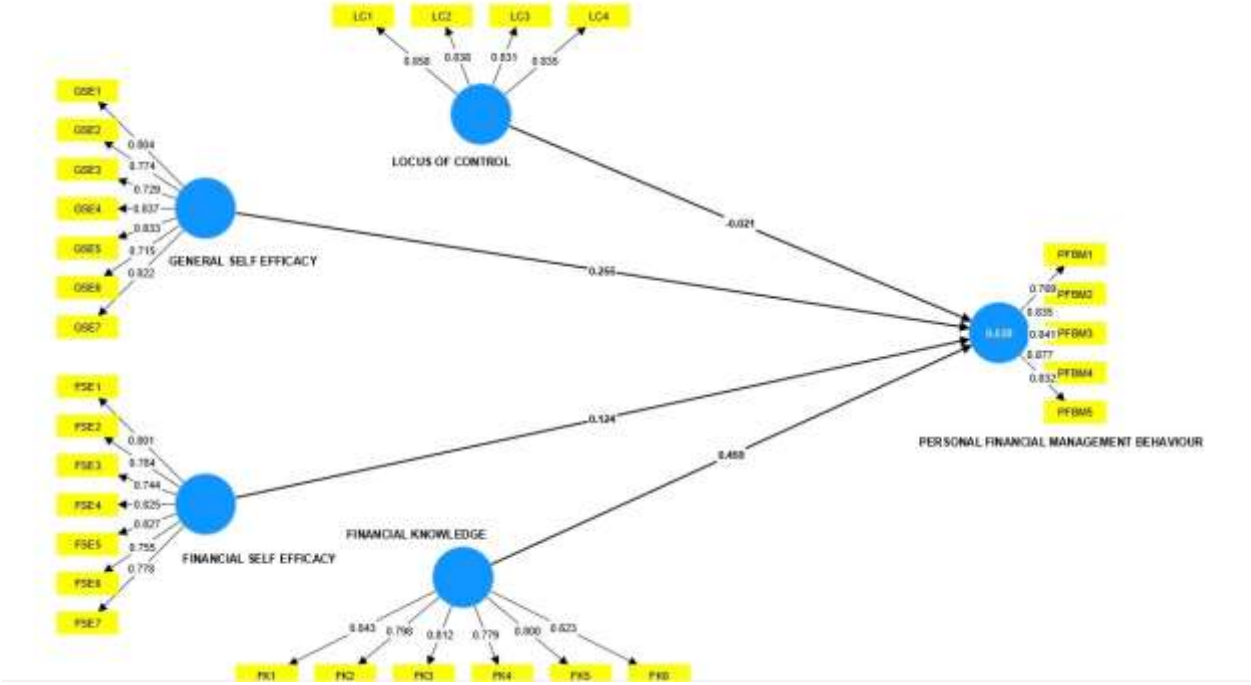

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4. RESULTS AND FINDINGS

4.1 Measurement of Outer Model

The outer model was assessed by examining composite reliability, indicator reliability, convergent validity and discriminant validity.

4.1.1 Composite Reliability

Composite reliability reflects internal consistency.

4.1.2 Factor Loading significance

The outer loadings of all items exceeded the minimum threshold of 0.7 demonstrating adequate indicator reliability

4.1.3 Convergent Validity

Convergent validity was verified based on average variance extracted (AVE) values.

Table 2: Factor Loadings, Composite Reliability, and Average Variance Extracted (AVE)

Item	Factor Loading
FSE1	0.711
FSE2	0.801
FK1	0.735
FK2	0.799
INLOC1	0.822
INLOC2	0.859
FA1	0.842
FA2	0.875
FB1	0.873
FB2	0.791

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Construct	Composite Reliability	AVE (Average Variance Extracted)
Financial Self-Efficacy	0.894	0.623
Financial Knowledge	0.812	0.572
Locus of Control	0.877	0.672
Financial Attitude	0.915	0.786
Financial Behavior	0.936	0.691

4.1.4 Discriminant validity

Table 3: HTMT Ratio

Construct	**1**	**2**	**3**	**4**	**5**
1. Financial Self-Efficacy					
2. Financial Knowledge	0.342				
3. Locus of Control	0.213	0.265			
4. Financial Attitude	0.624	0.402	0.181		
5. Financial Behavior	0.522	0.357	0.159	0.571	

Table 4: Fornell-Larcker Criterion

Construct	**1**	**2**	**3**	**4**	**5**

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1. Financial Self-Efficacy	0.789				
2. Financial Knowledge	0.249	0.756			
3. Locus of Control	0.152	0.194	0.820		
4. Financial Attitude	0.542	0.372	0.133	0.887	
5. Financial Behavior	0.412	0.342	0.118	0.501	0.831

4.2 Model fit measures

The standardized root mean square residual (SRMR) value was 0.065 which is below the threshold of 0.08. This indicates adequate model fit.

4.3 Hypothesis Testing

The structural model results are presented in Table 5.

Table 5: Result of Structural Model Path Coefficients

Hypothesis	**Relationship**	**Std Beta**	**Std Error**	**T-value**	**P-value**	**Decision**
H1	Financial Knowledge -> Financial Self-Efficacy	0.214	0.092	2.325	0.020	Supported
H2	Financial Self-Efficacy -> Financial Behavior	0.226	0.117	1.932	0.045	Supported

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H3	Financial Self-Efficacy -> Financial Attitude	0.502	0.064	7.825	0.000	Supported
H4	Financial Attitude -> Financial Behavior	0.421	0.117	3.602	0.000	Supported
H5	Internal Locus of Control -> Financial Self-Efficacy	0.172	0.066	2.605	0.009	Supported
H6	External Locus of Control -> Financial Self-Efficacy	-0.204	0.082	2.493	0.013	Supported

Financial knowledge (β=0.214) and internal locus of control (β=0.172) exhibited significant positive relationships with financial self-efficacy, supporting H1 and H5. External locus of control had a negative association (β=-0.204), consistent with H6. Further, financial self-efficacy positively influenced financial behavior (β=0.226), validating H2. Financial self-efficacy also had a positive impact on financial attitude (β=0.502), supporting H3. Moreover, financial attitude was positively related to financial behavior (β=0.421). This significant indirect effect via attitude confirmed the mediating role postulated under H4.

4.4 Hypothesis assessment summary

All six hypothesized relationships were supported by the results of PLS analysis. Financial knowledge, internal locus of control and financial self-efficacy positively influenced financial behavior directly and indirectly through financial attitude. External locus of control had a negative linkage with financial self-efficacy. Thus, the conceptual model was validated.

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5. CONCLUSION AND DISCUSSION

5.1 Discussion

This study makes significant contributions to behavioral finance literature by providing empirical evidence about the role of financial self-efficacy and associated factors in determining financial conduct of investors in the Indian context.

Financial knowledge was positively associated with financial self-efficacy, highlighting that understanding money matters helps build financial confidence. Financial planners can leverage seminars, workshops, online courses and other channels to enhance financial awareness among individuals.

Further, internal locus of control supported financial self-efficacy while external locus undermined it. This suggests that the belief that outcomes are contingent on one's own actions boosts financial self-efficacy. Hence, emphasizing personal agency and discretion over financial life may nourish self-efficacy.

Additionally, financial self-efficacy promotes prudent financial behavior both directly and through shaping a positive financial attitude. This underscores the need to nurture self-efficacy right from a young age by inculcating early involvement of children in financial matters appropriate for their level of maturity. Games, simulators, goal-setting exercises and graded real-life financial responsibilities can potentially develop financial capabilities.

5.2 Conclusion

This study demonstrates that financial self-efficacy is a significant driver of financial behavior. Improvement in financial knowledge and internal locus of control can elevate financial self-efficacy. Self-efficacy manifests in financial conduct directly and by fostering a favorable financial attitude. Therefore, initiatives aimed at sensitizing people regarding personal control over financial life, imparting money management skills, and building confidence are imperative for healthy financial practices. The findings offer insights to formulate financial education programs and interventions that motivate sound financial behavior.

5.3 Recommendation for future research

The research was limited to a specific segment of investors in one geographic region. Future studies can validate the conceptual model by examining more heterogeneous samples across different regions of India. The data was cross-sectional. Longitudinal designs can provide further insights into the relationships. Research can also investigate additional factors like financial

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socialization and technology usage that may influence financial self-efficacy and behavior. Structural equation modeling approaches can be used to analyze more complex conceptual frameworks. There is also scope to study the impact of interventions like financial counseling and trainings on self-efficacy and financial practices using experimental designs.

5.4 Limitation of research

The study is confined to individual investors and findings may vary for institutional investors. Convenience sampling limits generalizability. Self-reported data on financial behavior may be susceptible to social desirability and memory errors. The conceptual model focuses on selected constructs while additional variables can be incorporated. Cross-sectional research precludes conclusions about causality. These limitations can be addressed in future research.

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