

Effects of Self-Esteem on Financial Behavior Through Self-Regulation and Anxiety: Evidence from Millennials in India

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Millennials face unique financial challenges and behavioral tendencies, influenced not only by sociodemographic factors and financial knowledge levels, but also by psychological characteristics. This study examines the role of self-esteem on millennials' financial behavior, proposing that self-esteem relates to financial behavior both directly and indirectly through self-regulation and anxiety. Drawing on data from a multistage random sample of 500 millennials, analyzed using Ordinary Least Squares (OLS) regression, this study reveals that self-esteem is significantly related to millennials' financial behavior, controlling for financial knowledge and sociodemographic factors. The relationship between self-esteem and financial behavior could be both direct and indirect through self-regulation and anxiety. The indirect effects of self-esteem on financial behavior suggest that millennials with high self-esteem are likely to exhibit more self-regulation and less anxiety and thus engage in responsible financial behavior. This study highlights the potential benefits of integrating psychological dimensions such as self-esteem and emotional resilience into financial education and policy, providing impactful implications for policymakers, financial therapists, and mental health professionals.

Keywords: millennials, self-esteem, self-regulation, anxiety, financial knowledge, financial behavior

INTRODUCTION

Evidence from various psychological studies shows that the need for self-esteem is strong and pervasive among human beings. Self-esteem is the subjective assessment of an

individual about one's worth (Donnellan et al., 2011). It is the evaluation that individuals make about themselves (Pyszczynski et al., 2004). Branden (2001) suggested that self-evaluation, which is ubiquitous in individuals' psychology, is the most significant factor for their behavior. Self-esteem profoundly influences an individual's thoughts, desires, emotions, values, and goals. Rosenberg et al. (1995) suggested that every individual has a general attitude towards oneself, known as self-esteem. In other words, self-esteem is the perception that a person is competent to live and worthy of living (Branden, 2001). This self-perception influences how a person behaves in various situations and their subsequent outcomes (Drago, 2011).

Recently, several researchers have revealed a link between self-esteem and financial behavior (Antony et al., 2024; Tang & Baker, 2016). Financial behavior refers to the personal actions related to managing financial resources (Xiao, 2008). Individuals with high self-esteem tend to engage in responsible financial practices (Antony et al., 2024; Tang & Baker, 2016).

Psychological literature sheds light on the fact that individuals with high self-esteem tend to employ more self-regulatory strategies (Baumeister et al., 2003). Self-regulation is a human's ability to control impulses and adjust behaviors in accordance with defined ideas or goals (Baumeister & Vohs, 2007). Individuals with high self-regulation exhibit greater effectiveness in managing and directing their behavior to achieve specific targets. This heightened ability to self-regulate permits them to stay focused, maintain motivation, and overcome barriers in pursuit of their objectives (Di Paula & Campbell, 2002).

Likewise, prior studies have shown that self-esteem serves as an anxiety-reducing mechanism among individuals (Crocker & Park, 2004; Greenberg et al., 1992). According to Xi (2020), "Anxiety is an uneasy personal feeling and manifests as non-adaptive physical and mental reactions when people have intrusive thoughts about an uncertain future" (p. 10). Greater self-esteem mitigates the anxiety and related defensive actions (Pyszczynski et al., 2004).

The existing literature shows how self-regulation and anxiety relate to financial behavior. Individuals with high self-regulation are more likely to indulge in positive financial behavior (van Raaij, 2016), while those with higher levels of anxiety tend to exhibit undesirable financial behavior (Grable et al., 2019).

Although a few studies have shown a direct relationship between self-esteem and financial behavior (Antony et al., 2024; Tang & Baker, 2016), no adequate studies were found to examine the role of self-regulation and anxiety in this relationship. This study aims to extend the growing body of personal finance literature by exploring the indirect relationship between self-esteem and financial behavior through self-regulation and anxiety, focusing on millennials — a substantial demographic group.

Importance of Financial Behavior of Millennials

Each generation shapes the economy, but millennials have increased capacity and a distinct influence (Lusardi, 2019). Evidence suggests that millennials are poised to become the largest segment of the labor market (Schawbel, 2012), and their financial behavior is expected to have a greater impact on the global economy than that of their predecessors. Compared to earlier generations, millennials have grown up in a multifaceted manner during a period of rapid economic changes, shaping their higher career expectations (Lusardi & Oggero, 2017). Millennials, often referred to as the "instant gratification generation," have high expectations for their professional and personal lives (Bishop, 2006).

However, evidence suggests that despite positive trends in millennials' saving behavior, this generation remains burdened by significant debt, making it difficult for them to meet their financial obligations (de Bassa Scheresberg & Lusardi, 2014). Earlier studies indicate that a reasonable portion of millennials experience a sense of being overwhelmed by their debt burden. Approximately half of those with student loans are concerned about their ability to repay them. In addition, many millennials maintain credit card balances, incurring high interest charges and fees (de Bassa Scheresberg & Lusardi, 2015). A U.S. study by Taylor and Keeter (2010) observed that millennials are the most dissatisfied segment of the population regarding their current earnings in relation to their desired lifestyles. It sheds light on the fact that millennials struggle to meet their obligations with their earnings. Literature shows that even though financial knowledge is necessary for engaging in responsible financial practices, it is not enough. Moreover, psychological factors determine the differences in millennials' financial behavior (Rey-Ares et al., 2021; She et al., 2024).

Unlike previous generations, millennials in India face several unique issues, including an increase in the cost of living, student debt burdens, and an increase in under or unemployment. These issues, in turn, often hinder financial independence. Additionally, millennial spending and saving patterns differ significantly from those of older generations, as they prioritize experiential spending, utilize digital financial tools, and prefer flexible career paths over traditional financial measures of security. In recent decades, governments and employers have shifted the responsibility for saving and investing onto individuals. The transition from state-supported pension schemes to contributory pension schemes in some states and sectors has necessitated that individuals save independently to secure their financial future (Lusardi & Oggero, 2017).

Recently, significant changes have altered the way young individuals manage their finances. The major contributors to the change include a significant rise in the adoption of financial technology, including the use of mobile banking, digital payment systems, and micro-investments. India's vast cultural, linguistic, demographic, and economic diversity offers a unique context for assessing and studying the financial behavior of millennials. By studying Indian millennials, this research offers insights into how financial decision-making patterns evolve in a rapidly changing economic environment, where both traditional and modern financial practices coexist.

Kerala, a southern State in India, is well-known for its exceptional social and economic development. One of the major highlights of this State is its highest literacy rate. This, in turn, reflects the importance placed on formal education and its impact on the social

life of the people. In addition to the increased literacy rate, the state is also renowned for its high financial literacy, supported by an excellent Human Development Index (HDI) and a higher-than-average per capita income (Reserve Bank of India, 2023). Kerala has progressive social policies and a well-structured healthcare system, both of which significantly contribute to its high quality of life. These socioeconomic features make it an ideal setting for studying financial behavior, specifically among millennials. The findings from this study may provide valuable, generalizable insights for shaping financial education strategies in other developing regions.

LITERATURE REVIEW AND THEORY

The foundation of this research is mainly based on the sociometer theory of self-esteem (Leary & Baumeister, 2000). Sociometer theory suggests that self-esteem serves as a subjective monitor of the extent to which an individual is accepted or rejected by others. It monitors one's perceived eligibility for inclusion in—or exclusion from—social groups (Leary, 2012; Leary & Baumeister, 2000). Leary and Baumeister (2000) suggest that better self-regulation, less anxiety, more adaptive behaviors, and motivation in individuals to engage more effectively in social settings are positive outcomes of high self-esteem. On the other hand, disrupted self-regulation, heightened anxiety, and maladaptive behaviors, particularly in social contexts, are negative results of low self-esteem.

Direct Effect of Self-Esteem on Financial Behavior

Researchers have studied personal financial behavior from different contexts (Hilgert et al., 2003; Mandell & Klein, 2009; Ramalho & Forte, 2019; Robb & Woodyard, 2011; Strömbäck et al., 2017; Tang & Baker, 2016; Xiao, 2008; Yong et al., 2018). The behavior of human beings relevant to the management of financial resources, including cash, credit, and savings, is referred to as financial behavior (Xiao, 2008). Xiao et al. (2014) categorized financial behavior as either desirable or risky, or positive or negative. Robb and Woodyard (2011) observed that maintaining sufficient funds for future contingencies, preparing for retirement, regularly paying off credit card balances, securing a copy of a credit report, managing risks, and avoiding overdrafting a checking account are responsible financial practices.

Recently, researchers have provided empirical evidence highlighting the crucial role of self-esteem as a psychological attribute in shaping individuals' financial behavior (Antony et al., 2024; Tang & Baker, 2016). Results from the study conducted among adults in the United States showed that self-esteem is linked to financial behavior, controlling for objective financial knowledge and other socioeconomic factors. The direct effect of self-esteem on financial behavior is especially apparent in areas such as savings, investment, and credit management (Tang & Baker, 2016).

Research has shown a positive relationship between individuals' self-esteem and their tendency to engage in various types of financial planning. Individuals with high self-esteem are more likely to engage in financial planning practices compared to those with low self-esteem (Neymotin, 2010). Sages and Grable (2011) revealed that the higher one's self-

esteem in the prior period, the more measures and precautions will be taken to plan financial activities for the future. Sages (2012) suggested that individuals with high self-esteem are more likely to be engaged in their preretirement planning.

Evidence suggests a relationship between self-esteem levels and buying behavior. Specifically, high self-esteem is associated with planned buying behavior, while low self-esteem is associated with compulsive buying behavior (Yurchisin & Johnson, 2004). Low self-esteem is ultimately a state of powerlessness, and consumers attempt to overcome this powerlessness by purchasing expensive goods or services to display wealth and social status (Pitfield, 2016). The desire for status-symbol products prompts consumers to overspend, resulting in greater credit card usage and related issues for low-income earners (Dittmar et al., 2007; Omar et al., 2014; Pirog & Roberts, 2007). Similarly, individuals who experience self-threat, or a perception that undermines a person's self-image, are more likely to engage in more materialistic consumption, which can create financial problems among low-income earners (Pitfield, 2016).

Individuals with low self-esteem often experience a fear of social exclusion (Crocker & Park, 2004; Leary, 2012; Leary & Baumeister, 2000). To achieve peer acceptance and compensate for low self-esteem, individuals with low incomes often consume excessively, which ultimately leads to more financial problems (Isaksen & Roper, 2008).

Indirect Effect of Self-Esteem on Financial Behavior Through Self-Regulation

Self-regulation is the human capacity that enables people to exert control over their impulses and respond in a more desirable manner (Vohs et al., 2008). An individual's response to choices with intertemporal effects is influenced by self-regulation (Baumeister et al. 2006). The mechanism through which impulses are restrained and unwanted actions are replaced by more amicable ones is technically referred to as self-regulation (Howlett et al., 2008). Baumeister et al. (1998) observed that self-regulation is a multifaceted concept having elements such as: (a) setting up of goals and standards, (b) monitoring of the gap between the current state and the targeted state, and (c) the actions that transform a person from the current state to the desired state.

Existing literature has demonstrated a relationship between self-esteem and self-regulation (Mruk, 2006). How individuals organize their sense of self is crucial for effective self-regulation (Ditzfeld & Showers, 2013). Self-esteem enables a person to shape, design, and regulate their personal behavior effectively (Mruk, 2018). As individuals have various levels of self-esteem, they differ in their self-regulatory strategies (Park & Crocker, 2013). It indicates that individuals with high self-esteem employ more self-regulatory strategies (Baumeister et al., 2003) and are more effective in self-regulating goal-directed behavior (Di Paula & Campbell, 2002). Crocker and Park (2003) suggested that contingencies of self-esteem play a major role in self-regulation by influencing how individuals manage their behaviors and emotions in response to their self-worth (Park & Crocker, 2013).

Research indicates that self-regulation is a key psychological factor influencing an individual's financial behavior. Palmer et al. (2021) suggested that there is a positive

relationship between self-regulation and financial management practices. Self-regulation is essential, as it enables people to avoid impulsive consumption and limit their consumption in a responsible manner (Vohs et al., 2008). Self-regulation plays a significant role in cash management, which is the foundation of effective financial behavior. Self-regulation enables people to avoid overspending, reduce or avoid the practice of buying things without preplanning, and ensure strict adherence to budgets. Individuals with low self-regulation tend to have a strong preference for present consumption over future consumption. These individuals usually save less and borrow more, compared to those with high self-regulation. Moreover, self-regulation helps people protect themselves from excessive credit and related financial problems (van Raaij, 2016). Howlett et al. (2008) observed that self-regulation has a positive impact on one's likelihood of contributing to a retirement plan.

Indirect Effect of Self-Esteem on Financial Behavior Through Anxiety

The American Psychological Association (APA, 2018) suggested that anxiety is characterized by consistent intrusive thoughts and concerns that lead to perpetual worries and tension. It results in feelings of fear, worry, and a constant sense of being overwhelmed. It is excessive, difficult to manage, and often presents with numerous symptoms, both psychological and physical. Excessive worry is the cardinal feature of generalized anxiety disorder. Generalized anxiety disorder has the symptoms of consistent, excessive, and unrealistic worry about everyday happenings. This worry could relate to finance, family, health etc. (Grenier et al., 2018; Leonard & Abramovitch, 2018; Roomruangwong et al., 2018).

Prior studies have shown that there is an inverse relationship between self-esteem and anxiety. The higher the self-esteem, the lower the anxiety and related defensive actions (Crocker & Park, 2004; Greenberg et al., 1992; Nguyen et al., 2019; Pyszczynski et al., 2004). Results of a longitudinal study conducted among Chinese college students revealed that anxiety levels are negatively related to self-esteem (Liu et al., 2022). Similar findings were observed among Spanish college students, showing that low self-esteem was a significant and positive predictor of anxiety (Ramón-Arбуés et al., 2020). According to Terror management theory, self-esteem serves as a buffer against anxiety (Pyszczynski, et al., 2004). When self-esteem is low or absent, this protective buffer leaves individuals more vulnerable to feelings of anxiety (Doron et al., 2013).

Evidence has revealed that anxiety is linked with various aspects of financial behavior. Specifically, behaviors such as spending more than what is earned, failing to pay bills on time, and reaching the maximum limits on credit cards are associated with elevated levels of anxiety (Sages et al., 2013). Those who are more anxious will likely hold conservative assets in their portfolio, and the higher the level of anxiety, the lower the savings (Gambetti & Giusberti, 2012). Similarly, individuals who are less anxious tend to exhibit more responsible financial behaviors in areas such as financial goal setting, savings, and spending (Hayhoe et al., 2012). Grable et al. (2019) suggested that there is an inverse relationship between anxiety and financial behavior. When financial knowledge is held constant, higher levels of anxiety have been found to relate to a decrease in desirable financial behaviors.

Financial Knowledge and Financial Behavior

A large body of evidence supports the relationship between financial knowledge and financial behavior, suggesting that those who are financially savvy tend to be engaged in responsible financial behavior (Antony & Thomas, 2023; Chen & Volpe, 1998; Grable et al., 2019; Lusardi & Mitchell, 2007; Ramalho & Forte, 2019; Robb, 2011; Robb & Woodyard, 2011; Yong et al., 2018). Even though the role of financial knowledge on financial behavior is important, financial knowledge itself is not enough to engage in responsible financial practices (Antony et al., 2024, Antony & Thomas 2023; Hadar et al., 2013; Tang & Baker, 2016).

Sociodemographic Factors and Financial Behavior

The literature indicates that financial behavior is influenced by various sociodemographic factors. Results have shown that compared to men, women were more likely to engage in positive financial behavior (Lind et al., 2020). Henager and Cude (2016) reported that being employed has a positive contribution to responsible financial practices. Evidence suggests that individuals with higher incomes and more education tend to engage in more desirable financial practices. Similarly, being older increases the likelihood of engaging in desirable financial practices, while being single or separated increases the likelihood of engaging in undesirable financial practices (de Bassa Scheresberg, 2013). Altogether, the literature suggests that sociodemographic factors, such as gender, age, education, occupation, income, and marital status, are related to financial behavior.

Personal Financial Behavior in the Indian Context

The Committee on Household Finance (2017) reported that average Indian households are reluctant to engage in positive financial practices. Through a nationwide study, the National Council for Financial Education (NCFE, 2019) found that nearly half of the respondents failed to engage in desirable financial behaviors. A study conducted in Kerala, India, reported a positive relationship between financial knowledge and financial behavior (Antony & Thomas, 2023). Recently, Antony et al. (2024) found that self-esteem is positively related to the financial behavior of household financial officers in Kerala, controlling for financial knowledge and sociodemographic factors. Although financial behavior is studied from various perspectives, there is a notable lack of studies that investigate it by considering psychological factors.

Current Study

Although a few studies have shown a link between self-esteem and financial behavior (Antony et al., 2024; Pitfield, 2016; Tang & Baker, 2016), no prior studies have investigated the role of self-regulation and anxiety in the relationship between self-esteem and financial behavior. From the available evidence, it can be presumed that self-esteem is related to financial behavior directly and indirectly through self-regulation and anxiety. Financial knowledge and sociodemographic factors, as identified in the literature, are also included in the model as covariates. As such, we formulated the following hypotheses.

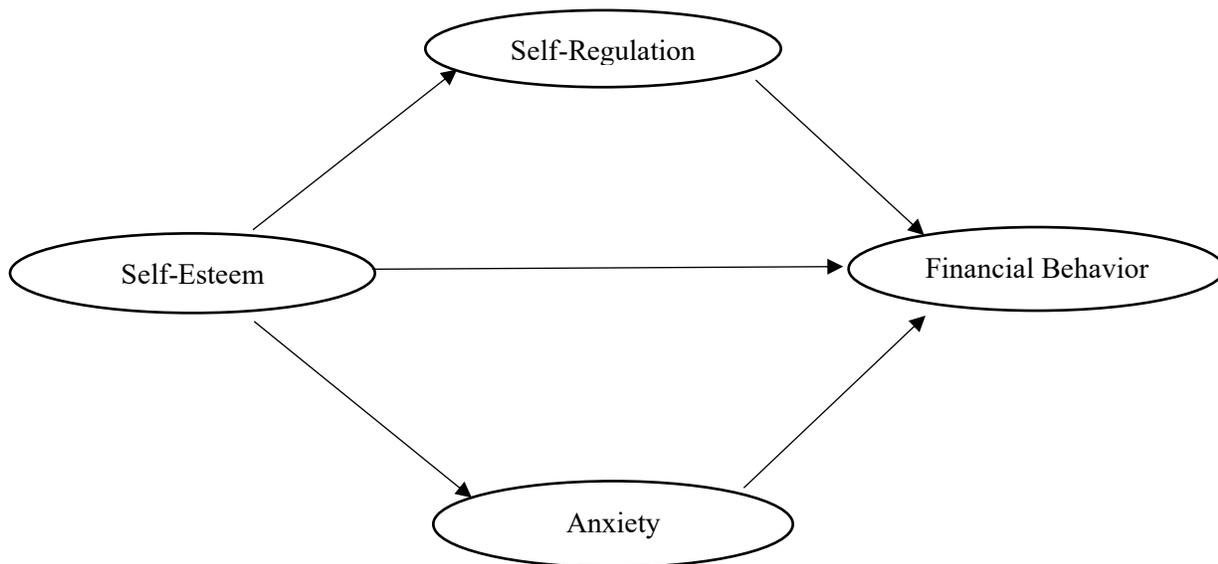
H1: Self-esteem is directly and positively related to financial behavior, conditional on financial knowledge and sociodemographic factors.

H2: Self-esteem is indirectly and positively related to financial behavior, through self-regulation, conditional on financial knowledge and sociodemographic factors.

H3: Self-esteem is indirectly and positively related to financial behavior, through anxiety, conditional on financial knowledge and sociodemographic factors.

Figure 1.

Conceptual Model for Direct and Indirect Effects of Self-Esteem on Financial Behavior.



METHODS

Participants and Procedure

This study was conducted among millennials in Kerala, India. Millennials are defined as persons born between 1981 and 1999. Through a multistage random sampling process, we selected and interviewed 500 respondents, obtaining responses from them.

Initially, the entire state of Kerala was divided into three zones, viz, South, Central, and North. Then, one district from each zone was randomly selected, followed by one Panchayat and one Municipality (the local bodies constituted for local planning, development, and administration in the rural areas and urban areas, respectively) from each district. Further, one ward (the smallest administrative unit of Panchayats/Municipalities) was selected from each Panchayat and Municipality. Thus, we had six wards representing the entire State of Kerala.

In the next stage, 84 households were randomly selected from the South and Central zones, and 82 from the North zone, to complete the sample size of 500. From each household, the researcher contacted persons in the age cohort and collected responses from them. Data was collected from 500 participants with no missing observations. All respondents gave their informed consent. The study was approved by the Institutional Research Ethics Committee of St. Berchmans College (Autonomous), Kerala, India.

Measurement of Variables

The study employed previously validated scales to measure self-esteem, self-regulation, anxiety, and financial behavior among millennials.

Self-Esteem

Self-esteem was measured by using the ten-item scale developed by Rosenberg (1965). The items include: (a) On the whole, I am satisfied with myself, (b) At times I think I am no good at all, (c) I feel that I have a number of good qualities, etc. Responses ranged from 1 (*Strongly disagree*) to 5 (*Strongly agree*). The Cronbach's alpha of the scale was .88, suggesting excellent reliability.

Self-Regulation

Self-regulation was measured by using the ten-item scale developed by Diehl et al. (2006). The items include: (a) I can concentrate on one activity for a long time, if necessary, (b) If I am distracted from an activity, I don't have any problem coming back to the topic quickly, (c) If an activity arouses my feelings too much, I can calm myself down so that I can continue with the activity soon etc. Responses ranged from 1 (*Not at all true*) to 5 (*Completely true*). The reliability coefficient was $\alpha = .89$.

Anxiety

Anxiety among millennials was measured by using the Generalized Anxiety Disorder (GAD-7) Scale developed by Spitzer et al. (2006). The items include: (a) Feeling nervous, anxious, or on edge, (b) Not being able to stop or control worrying, (c) Worrying too much about different things, etc. Responses ranged from 1 (*Not at all*) to 5 (*Nearly every day*). The scale offered an adequate level of internal consistency (Cronbach's alpha = .79).

Financial Behavior

The financial behavior of millennials was measured using a ten-item scale developed by Joo and Grable (2004). The items include: (a) I set money aside for savings, (b) I set money aside for retirement, (c) I had a plan to reach my financial goals, etc. Responses ranged from 1 (*Never*) to 5 (*Always*). The Cronbach's alpha for the scale was .80.

Covariates

Control variables include millennials' financial knowledge and sociodemographic factors. Although financial knowledge is not the primary focus of this research, it is included as a control variable due to its potential influence on financial behavior. Financial knowledge was assessed using the NCFE measure (2019), which was developed within the framework as recommended by the International Network on Financial Education (INFE, 2011). Financial knowledge is the basic understanding of concepts and products in personal finance (Lind et al., 2020). The respondents were asked to provide their responses to eight questions, which covered topics such as division, the time value of money, and the computation of simple and compound interest, among others. The sociodemographic variables were coded as 0 -1 dummies. They include: gender (female =1), education (college level=1), occupation (permanent job = 1), marital status (married=1), and annual income (\geq ₹200000 = 1).

Data Analysis

The data collected from respondents were analyzed using SPSS. Since we used composite scores for all measures, which do not involve any complex latent relationships, the present study employed ordinary least squares regression analysis, as implemented through the PROCESS macro version 4.0 (Hayes, 2022), to test the direct and indirect effects of self-esteem on financial behavior. A bootstrap estimation approach was used to examine the significance of the indirect effects of self-esteem on financial behavior. Before conducting regression analysis, a correlation analysis was performed to check for possible multicollinearity among the independent variables.

RESULTS

Table 1 shows the descriptive statistics on all measures and covariates. Millennials had an average self-esteem score of 3.96 out of 5. Their self-regulation score averaged 4.02, anxiety score averaged 2.97, and financial behavior score averaged 3.69 out of 5. Table 2 shows the correlation coefficients between self-esteem, self-regulation, anxiety, and financial behavior. Self-esteem is positively correlated with self-regulation and financial behavior and negatively correlated with anxiety. The relationship between self-regulation and financial behavior is positive, whereas between anxiety and financial behavior is negative. The relationships were still significant after controlling for covariates. No problematic multicollinearity was found among the independent variables.

Table 1.*Descriptive Statistics.*

	Mean	SD	Min	Max
Self-esteem	3.96	.37	2.40	4.80
Self-regulation	4.02	.55	1.70	5.00
Anxiety	2.97	.64	1.71	4.00
Financial behavior	3.69	.56	1.50	4.50
<i>Covariates</i>	<i>n (%)</i>			
Gender (1= Female)	289 (57.8)			
Education (1= College level)	371 (74.2)			
Occupation (1= Permanent job)	335 (67.0)			
Marital status (1= Married)	344 (68.8)			
Income (1= ≥ ₹200000)	307 (61.4)			
Financial knowledge	5.31	1.44	1.00	8.00

Table 2.*Correlation Coefficients Between Self-Esteem, Self-Regulation, Anxiety, and Financial Behavior.*

	Self-esteem	Self-regulation	Anxiety	Financial behavior
<i>Pearson correlations</i>				
Self-esteem	-			
Self-regulation	.275**	-		
Anxiety	-.169**	-.465**	-	
Financial behavior	.332**	.633**	-.681**	-
<i>Partial correlations (controlling for covariates)</i>				
Self-esteem	-			
Self-regulation	.242**	-		
Anxiety	-.127**	-.358**	-	
Financial behavior	.306**	.552**	-.586**	-

Note. ** $p < .01$.

Table 3.

Path Analysis Results for the Effects of Self-Esteem on Financial Behavior.

Variables	Coefficients	SE	t	LLCI	ULCI
<i>Model 1 (DV: Self-regulation)</i>					
Self-esteem (a_1)	.3347*	.0604	5.5393	.2160	.4534
<i>Model 2 (DV: Anxiety)</i>					
Self-esteem (a_2)	-.1946*	.0685	-2.8421	-.3292	-.0601
<i>Model 3 (DV: Financial behavior)</i>					
Self-esteem (c')	.2162*	.0432	5.0005	.1313	.3012
Self-regulation (b_1)	.3385*	.0333	10.1797	.2732	.4039
Anxiety (b_2)	-.3768*	.0293	-12.8420	-.4344	-.3191
Financial knowledge	.0495*	.0120	4.1245	.0259	.0731
Gender (1= Female)	-.0303	.0332	-.9144	-.0955	.0348
Education (1= College level)	.0247	.0369	.6695	-.0478	.0972
Occupation (1= Permanent job)	.0201	.0350	.5757	-.0486	.0889
Marital status (1= Married)	-.0105	.0354	-.2977	-.0800	.0590
Income (1= \geq ₹200000)	.0764*	.0337	2.2654	.0101	.1427

Note. * $p < .05$.

Using OLS regression-based path analysis, it was found that self-esteem is significantly related to financial behavior. The relationship between self-esteem and financial behavior is both direct and indirect through self-regulation and anxiety, holding financial knowledge and sociodemographic factors constant. As shown in Table 3, self-esteem significantly predicts financial behavior, controlling for self-regulation, anxiety, financial knowledge, and sociodemographic factors (Model 3), which gives support for H₁.

Further, it shows that millennials with higher self-esteem tend to have higher self-regulation and less anxiety, and millennials who have higher self-regulation and less anxiety tend to be engaged in responsible financial practices. As shown in Table 4, the bootstrap confidence intervals for the indirect effects, based on 5,000 bootstrap samples, were entirely above zero, providing support for H₂ and H₃. Even though the indirect effects of self-esteem on financial behavior through self-regulation and anxiety are significant, the difference between the indirect effects is not significant ($C1 = .0400$; bootstrap confidence interval ranged from $-.0378$ to $.1279$).

Direct Effect of Self-Esteem on Financial Behavior

The direct effect of self-esteem, $c' = .2162$, suggests that two millennials who differ by one unit in their self-esteem are estimated to differ by .2162 units in their reported financial behavior, holding self-regulation, anxiety, financial knowledge, and sociodemographic factors constant. The coefficient is positive, meaning that millennials with higher self-esteem but equal levels of self-regulation, anxiety, financial knowledge, and sociodemographic factors are estimated to be 0.2162 units higher in reported financial behavior.

Indirect Effect of Self-Esteem on Financial Behavior Through Self-Regulation

The indirect effect of self-esteem on financial behavior through self-regulation, $a_1b_1 = .3347 (.3385) = .1133$ suggests that two millennials who differ by one unit in their self-esteem but equal on anxiety, financial knowledge and sociodemographic factors are estimated to differ by .1133 units in their reported financial behavior as a result of the tendency for those having relatively more self-esteem to have more self-regulation, which in turn results in responsible financial behavior.

Indirect Effect of Self-Esteem on Financial Behavior Through Anxiety

The indirect effect of self-esteem on financial behavior through anxiety, $a_2b_2 = (-.1946) (-.3768) = .0733$ suggests that two millennials who differ by one unit in their self-esteem but equal on self-regulation, financial knowledge and sociodemographic factors are estimated to differ by .0733 units in their reported financial behavior as a result of the tendency for those having relatively more self-esteem to have less anxiety, which in turn results in responsible financial behavior.

Total Effect of Self-Esteem on Financial Behavior

The total effect of self-esteem on financial behavior is derived by summing the direct and indirect effects, or by regressing financial behavior on self-esteem by itself: $c = c' + a_1b_1 + a_2b_2 (.4029 = .2162 + .1133 + .0733)$. Two millennials who differ by one unit in self-esteem are estimated to differ by .4029 units in their reported financial behavior. The positive sign indicates that millennials with greater self-esteem tend to exhibit responsible financial behaviors.

Table 4.

Total, Direct, and Indirect Effects of Self-Esteem on Financial Behavior.

	Effect	SE	t	LLCI	ULCI
Total effect	.4029*	.0565	7.1298	.2918	.5139
Direct effect	.2162*	.0432	5.0005	.1313	.3012
Indirect effect	Effect	Boot SE		Boot LLCI	Boot ULCI
<i>Total</i>	.1866	.0530		.0820	.2931
<i>Self-regulation</i>	.1133	.0399		.0415	.1987
<i>Anxiety</i>	.0733	.0261		.0196	.1221
<i>(C1)</i>	.0400	.0416		-.0378	.1279

Note. * $p < .05$.

DISCUSSION

Financial management is a significant concern for individuals, as it plays a critical role in financial satisfaction, which is a key determinant of overall life satisfaction (Xiao et al., 2009). Although researchers have explored financial behavior from various perspectives, a comprehensive understanding of its determinants remains elusive. Traditionally, financial education programs aimed to impart objective knowledge. However, recent insights have highlighted the significance of psychological factors. The present study aims to critically examine the roles of self-esteem, self-regulation, and anxiety in influencing financial behavior, thereby contributing to the literature on personal finance.

The study examined the role of self-esteem on financial behavior. As expected, self-esteem is directly and positively associated with financial behavior, consistent with prior studies (Antony et al. 2024; Tang & Baker, 2016). The direct effect of self-esteem on financial behavior suggests that millennials with more self-esteem but who are equal in self-regulation, anxiety, financial knowledge, and sociodemographic factors tend to be engaged in more desirable financial behaviors, which supports H₁.

Further, this study showed the indirect effect of self-esteem on financial behavior through self-regulation. Even though the relationships of self-esteem with self-regulation (Baumeister et al., 2003; Park & Crocker, 2013) and self-regulation with financial behavior (Palmer et al., 2021; van Raaij, 2016) are in line with existing literature, this study contributes to the literature in such a way that millennials with higher self-esteem are more likely to exhibit greater self-regulation, which in turn leads to more responsible financial practices, holding other factors constant. It provides support for H₂.

Similarly, our research extends the literature by revealing the role of anxiety in the relationship between self-esteem and financial behavior. Results suggested that the higher the self-esteem, the lower the anxiety and thus responsible financial behavior among millennials, which gives support for H₃. The relationships of self-esteem with anxiety (Crocker & Park, 2004; Nguyen et al., 2019) and anxiety with financial behavior (Grable et al., 2019; Hayhoe et al., 2012) are in line with prior studies.

These results suggest that, as a positive psychological trait, self-esteem has a direct effect on financial behavior. Moreover, self-esteem enhances self-regulation and alleviates anxiety, which in turn promotes more responsible financial practices. Overall, these results align with the sociometer theory of self-esteem (Leary, 2012; Leary & Baumeister, 2000). The findings also highlight a significant relationship between financial knowledge and financial behavior, supporting the existing literature (Antony & Thomas, 2023; Grable et al., 2019; Lusardi & Mitchell, 2007). Among the sociodemographic factors, only income was related to financial behavior. The relationship between income and financial behavior is positive, which is also supported by existing literature (de Bassa Scheresberg, 2013).

The research has implications for policymakers, financial therapists, and mental health professionals. To improve the psychological aspects of financial management among millennials, policymakers should emphasize the role of financial therapists and mental health professionals. Although numerous programs are organized by the Reserve Bank of India, the Securities and Exchange Board of India, and other entities, the majority of them

focus on disseminating financial knowledge rather than developing psychological traits (Antony & Thomas, 2023). The study's findings suggest that traditional financial literacy programs could benefit from incorporating psychological elements. Policies could therefore emphasize holistic financial education that addresses not only financial knowledge but also psychological aspects, such as self-worth and emotional resilience. Policy initiatives could focus on strengthening mental health support for young adults, potentially providing early interventions in such a way as to develop self-regulation and anxiety management skills.

Financial therapists can benefit from this study by gaining a deeper understanding of the role of self-esteem in financial decision-making. It includes assessment of clients' self-esteem, self-regulation tendencies, and anxiety levels, tailoring advice that aligns with their emotional and psychological profiles. Nelson et al. (2015) suggested that financial therapists should clearly learn the emotional aspects of financial behavior. Before rendering advice to clients, it is essential to assess their level of self-esteem and the factors that affect it (Hira & Mugenda, 1998). Interventions can be planned and arranged to provide both psychological support and financial guidance to clients in need. Financial therapists should strive to foster positive self-perception among their clients, as this enhances self-regulation, reduces anxiety, and promotes responsible financial behavior. Therapeutic approaches should be adapted and customized to support each client's unique circumstances.

As suggested by Grable et al. (2019), for those cases or clients presenting with anxiety, low financial knowledge, or risky financial behaviors, it is important that treatment plans align with their individual goals. This often necessitates collaboration with mental health professionals to ensure comprehensive care. Goetz and Gale (2014) suggested four different ways through which financial and mental health professionals can collaborate successfully: (a) professional referral, (b) parallel services, (c) consultative services, and (d) integrative services.

When working with millennials experiencing low self-esteem or high anxiety, mental health practitioners could integrate discussions about millennials' financial behavior. Self-regulation is one of the most desirable traits that millennials need to develop, as it fosters responsible financial behavior. Since anxiety shapes financial decision-making and the quality of decisions taken, therapists can incorporate financial stress management into anxiety treatment, potentially offering group workshops or resources to help clients build and strengthen financial confidence.

Moreover, financial institutions might develop targeted products for millennials in a customized manner by incorporating behavioral insights, such as automated savings tools that align with self-regulation practices and reduce the impact of anxiety on spending. Since the literacy rate is high in the State of Kerala, responsible financial management among millennials can be ensured by offering financial education and therapy at their workplaces. Millennials who perceive themselves as financially inexperienced or lacking competence in managing financial matters should seek professional advice.

Branden (1994) suggested that since self-esteem is a product of internal practices, enhancing self-esteem requires understanding these practices and incorporating them into

one's personal life. For instance, in the workplace, create an environment that supports the practices that may improve self-esteem. Branden suggested six practices for strengthening self-esteem, namely, the practice of (a) living consciously, (b) self-acceptance, (c) self-responsibility, (d) self-assertiveness, (e) living purposefully, and (f) personal integrity.

Given the well-established and consistent relationship between self-esteem and financial behavior, as demonstrated in previous studies, this study aims to enhance the existing knowledge by investigating the significance of self-regulation and anxiety in this relationship. The findings shed light on the need for collaboration among financial educators, financial therapists, and mental health professionals to strengthen millennials' financial management behaviors. A balanced approach that integrates psychological traits with financial knowledge can properly equip millennials to follow responsible financial practices and achieve greater satisfaction from their available financial resources. As suggested by researchers (Antony et al., 2024; Joo & Grable, 2004), the combined initiatives of both financial educators and financial practitioners may likely result in financial satisfaction through responsible financial behaviors.

The findings of this study have broader implications for understanding financial behavior across diverse populations, as it focuses on millennials in Kerala. The economic challenges, technological disruptions, and psychological pressures faced by millennials in India are not totally different from those experienced by their counterparts in other countries. The impact of self-esteem, self-regulation, and anxiety on financial behavior is a universally significant concern, making this study valuable beyond the Indian context. Moreover, given India's internal diversity in culture, demography, traditions, lifestyle, occupation, and financial access, the findings can contribute to shaping financial behavior models applicable to all types of economies—emerging and developed.

Limitations

The limitations of the present research should be acknowledged. Due to the cross-sectional nature of the data, it was not possible to establish a cause-and-effect relationship between the variables.

In this study, our primary objective was to investigate indirect pathways between self-esteem and financial behavior, mediated by self-regulation and anxiety. The PROCESS macro, developed by Hayes (2022), is widely accepted in behavioral and psychological studies for analyzing indirect effect (mediation) and interaction effect (moderation) using OLS regression. While CFA is a robust method for validating measurement models, our study employed well-established and psychometrically validated instruments from prior research. Given this and the analytical focus on estimating indirect effects rather than measurement validation, we chose OLS regression as the appropriate analytical tool, treating subjective constructs as observed variables. This choice aligns with existing literature (Antony & Thomas, 2023; Lee et al., 2023; Lind et al., 2020; Robb & Woodyard, 2011; Strömbäck et al., 2017).

The present study only focused on millennials in Kerala, India. Further research can be conducted in other contexts to check the robustness of the findings. Moreover, future researchers can examine the role of financial self-regulation and financial anxiety in the relationship between self-esteem and financial behavior.

CONCLUSION

The current research has aimed to check whether self-esteem relates to financial behavior through self-regulation and anxiety. Even though the concept of self-esteem has drawn attention among researchers in personal finance, no adequate study has been done to examine its effects on financial behavior through self-regulation and anxiety. By revealing both the direct and indirect relationships between self-esteem and financial behavior among millennials, this study enhances the understanding of the psychological drivers behind financial decision-making. Overall, the results are in line with existing literature in such a way that financial knowledge is essential, but not sufficient to engage in responsible financial practices (Antony et al., 2024; Antony & Thomas, 2023; Hadar et al., 2013; Tang & Baker, 2016). Moreover, this research gives a deeper understanding of how financial education and policy frameworks can be tailored to address the needs of younger populations worldwide.

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APPENDIX

Appendix A.

Self-Esteem Measure.

Sl. No.	Items
1.	On the whole, I am satisfied with myself.
2.	At times I think I am no good at all. ^a
3.	I feel that I have a number of good qualities.
4.	I am able to do things as well as most other people.
5.	I feel I do not have much to be proud of. ^a
6.	I certainly feel useless at times. ^a
7.	I feel that I am a person of worth, at least on an equal plane with others.
8.	I wish I could have more respect for myself. ^a
9.	All in all, I am inclined to feel that I am a failure. ^a
10.	I take a positive attitude toward myself.

^a Reverse coded.

Appendix B.

Self-Regulation Measure.

Sl. No.	Items
1.	I can concentrate on one activity for a long time, if necessary.
2.	If I am distracted from an activity, I don't have any problem coming back to the topic quickly.
3.	If an activity arouses my feelings too much, I can calm myself down so that I can continue with the activity soon.
4.	If an activity requires a problem-oriented attitude, I can control my feelings.
5.	It is difficult for me to suppress thoughts that interfere with what I need to do. ^a
6.	I can control my thoughts from distracting me from the task at hand.
7.	When I worry about something, I cannot concentrate on an activity. ^a
8.	After an interruption, I don't have any problem resuming my concentrated style of working.
9.	I usually have a whole bunch of thoughts and feelings that interfere with my ability to work in a focused way. ^a
10.	I stay focused on my goal and don't allow anything to distract me from my plan of action.

^a Reverse coded.

Appendix C.*Anxiety Measure.*

Sl. No.	Items
1.	Feeling nervous, anxious, or on edge
2.	Not being able to stop or control worrying
3.	Worrying too much about different things
4.	Trouble relaxing
5.	Being so restless that it is hard to sit still
6.	Becoming easily annoyed or irritable
7.	Feeling afraid, as if something awful might happen

Appendix D.*Financial Behavior Measure.*

Sl. No.	Items
1.	I set money aside for savings.
2.	I set money aside for retirement.
3.	I had a plan to reach my financial goals.
4.	I had a weekly or monthly budget that I followed.
5.	I paid credit card bills in full and avoided finance charges.
6.	I reached the maximum limit on a credit card. ^a
7.	I spent more money than I had. ^a
8.	I had to cut living expenses. ^a
9.	I had to use a credit card because I ran out of cash. ^a
10.	I had financial troubles because I did not have enough money. ^a

^a Reverse coded.