Optimism and Self-Control : Complementary Predictors of Financial Risk-Taking Propensity Among Working Adults

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Abstract

Purpose : The article aimed to investigate the complementary strength of two behavioral traits, namely, optimism and self-control, on the financial risk-taking propensity of working adults in India. In addition, the moderating effect of gender on the relationship of optimism and self-control with financial risk-taking propensity was examined.

Methodology : The study adopted a cross-sectional-based survey approach with a sample consisting of 522 individuals of age 18 and above with diverse demographic characteristics. Purposive and convenience sampling techniques were employed for collecting data through a self-administered questionnaire. Structural equation modeling (SEM) was used to test the study's hypotheses using the IBM AMOS software.

Findings : The results revealed a positive association between optimism and financial risk-taking, while self-control showed a negative association. Further, the relationship between optimism and risk-taking propensity was moderated by gender, and this relationship was more pronounced among females. The study also revealed a contradictory finding which showed greater levels of optimism among females compared to males as opposed to prior research findings.

Practical Implications : The study finds its importance among academicians who want to explore the complementary strengths of optimism and self-control in various other decision-making contexts. Financial service providers can look into the behavioral traits of optimism and self-control of their clients while assisting them in making financial decisions.

Originality : The present study is unique as optimism and self-control as complementary predictors of the financial risk-taking propensity of working individuals have not been explored in the Indian context.

Keywords : **behavioral finance, optimism, self-control, financial risk-taking, gender study**

JEL Classification Codes : D14, D91, G11, G41

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An individual's decision to prefer risky assets over safe alternatives is generally proportional to the propensity to take financial risks. The risk-taking behavior of individuals has drawn the interest of a large number of researchers over several decades. Even though the study of risky behaviors found its origin in the field of psychology, there is a growing amount of research in other fields as well, making it a multi-disciplinary

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concept. Behavioral finance is one such multi-disciplinary field that addresses the impact of psychological factors on economic and financial decisions (Dangi & Kohli, 2018; Dzung et al., 2021; Isidore & Christie, 2018; Shobha & Chakraborty, 2017). Even though this field is rapidly growing, it is still in its infancy stages in India. In the area of behavioral finance, financial risk-taking propensity has been studied in association with various psychological factors and personality traits. Optimism and self-control are among the many traits that have an impact on the risk-taking propensity of individuals in the context of financial decision-making. These two traits are conceptually unique and are driven by a different set of theories, yet have complementary strengths in predicting and influencing behavior (Carver, 2014). Studies in the past have established optimism and self-control as independent predictors of risk-taking behavior in varying contexts (Bracha & Brown, 2012; Chira et al., 2008; Freeman & Muraven, 2010; Prosad et al., 2015; Weinstein, 1980). Optimism relates to the general positive expectancy of future life events (Scheier & Carver, 1985). Researchers have investigated the association of optimism with the history of successes of individuals in overcoming difficult situations (Scheier & Carver, 1985), perceived controllability of events (Scheier & Carver, 1992), degree of accuracy while processing risk-related information (Weinstein, 1980), the January effect (Ciccone, 2011), the ability to face illness (Carver et al., 2010), predicting academic performance (Rand et al., 2020), among many other contexts. Self-control, on the other hand, is the ability to act in a way beneficial to oneself by restraining from indulging in behaviors with negative consequences (Fudenberg & Levine, 2006). The impact of self-control has been explored in household wealth (Biljanovska & Palligkinis, 2018), disposition effect in stock market trading (Shefrin & Statman, 1985), and other areas of financial decision-making.

Despite the vast amount of literature on optimism and self-control and their consequences on various behavior-related aspects, most of the studies have been undertaken in developed economies. Moreover, very little has been explored about their combined impact on financial risk-taking, especially in an emerging economy like India. This paper provides valuable insights into the collective and complementary influence of optimism and self-control on financial risk-taking among working adults. The study on the role of two important psychological constructs in financial contexts would add empirically to the flourishing field of behavioral finance. We, through this study, have thus attempted to expand the boundaries of literature on optimism, self-control, and financial risk-taking propensity.

Review of Literature and Hypotheses Development

Optimism and Risk-Taking

Optimists are people who have a favorable approach to themselves and the world they live in (Scheier & Carver, 1985). The positive belief system of optimists makes them cope more actively with the problems and challenges they face than the pessimists or less optimistic persons (Reich & Zautra, 1981; Smith et al., 1989; Zautra & Simons, 1979). The literature documents contradictory findings of individuals displaying domain-specific optimism in opposition to the popular belief that optimism is a general trait. The study of Chira et al. (2008) investigated the level of optimism exhibited by business students when making financial and non-financial decisions. It was found that the students were extremely optimistic and overconfident concerning their driving ability and school performance; whereas, they were less optimistic about their investment ability, and as a general population, they were risk-averse. An individual, therefore, can be highly optimistic about some situations and, at the same time, be less optimistic or pessimistic about others. In the stock markets, optimistic investors overestimate their returns on risky assets (Barone-Adesi et al., 2008). The study by Prosad et al. (2015) assessed the optimism and pessimism bias in the Indian equity market. The data showed evidence of both excessive optimism and pessimism bias. The relationship between risk premium and optimism/pessimism estimates will be

negative when the investors are rational. But the study found the exact opposite relationship, showing that investors are biased and exhibit irrational behavior. They concluded that when investors suffer from biases, their perceived risk-return relationship is negative. Higher levels of optimism, therefore, can lead investors to take higher financial risks than required by underestimating risk and overestimating the returns. Underestimating real risks may cause failure to take adequate preventive measures and lead to disastrous outcomes. Hence, we hypothesize that :

- **H01 :** Optimism does not significantly impact the financial risk-taking propensity of individuals.
- **Ha1 :** Optimism has a significant positive impact on the financial risk-taking propensity of individuals.

Self-Control and Risk-Taking

Self-control problems not only affect consumption and savings habits, but also influence the borrowing decisions of individuals (Gathergood, 2012; Gathergood & Weber, 2014). Using an experimental approach, Freeman and Muraven (2010) tested the impact of different levels of self-control on risk-taking. The risk-taking propensity of one group of individuals whose self-control was temporality decreased was compared with the second group of individuals whose self-control was not decreased. Risk-taking capacity appeared to be directly associated with the self-control level of individuals. Self-control-depleted individuals took greater risks even when the benefits of such high risks were unknown. Strömbäck et al. (2017) explored the effect of psychological characteristics on an individual's positive financial behavior and financial well-being. The results showed that individuals with more self-control could save more, have better general financial behavior, feel less anxious about financial matters, and feel more secure in their current and future financial situations.

Jordan and Rand (2018) found that self-control leads to delay in gratification and risk aversion in economically relevant behavior from aggregated data from 28 studies. The study found a correlation between self-control and economic decision-making concerning intertemporal choice and discounting payoffs. The participants displayed reliance on reason compared to reliance on intuition for decision-making in the presence of adequate self-control. Hence, we hypothesize that:

- **H02 :** Self-control does not significantly impact the financial risk-taking propensity of individuals.
- **Ha2 :** Self-control has a significant negative impact on the financial risk-taking propensity of individuals.

Gender and Behavioural Traits

Optimism in itself does not have an established level of presence. The levels of optimism vary based on many factors, and prominent differences are found across demographic factors, especially gender (Bjuggren & Elert, 2019; Jacobsen et al., 2014). Males are often assumed to be more optimistic than females because they believe that they are more in control of positive events than their female counterparts (Darvill & Johnson, 1991). There is a common tendency to expect higher levels of optimism from males than females. The study by Jacobsen et al. (2014) has found this to be true. Through their empirical analysis, they found that men are more optimistic than women concerning a wide range of issues, including the economy and financial markets. The results of the study conducted by Darvill and Johnson (1991) did not show any significant gender differences in the mean optimism score. These ambiguous results provide scope for further testing of gender differences in the level of optimism and how its impact is translated into the propensity to take financial risks.

- **H03 :** The relationship between optimism and financial risk-taking does not differ across gender.

- **Ha3 :** Gender moderates the relationship between optimism and financial risk-taking.

Differences in self-control based on gender have been looked into in the past by several researchers from a psychological standpoint (Harrison et al., 2007; LaGrange & Silverman, 1999; Özbay, 2008; Tittle et al., 2003; Vazsonyi et al., 2001). Most studies focus on the impacts of self-control on negative behaviors across gender groups (Keane et al., 1993). In financial decision-making, the role of gender in assessing the impact of self-control in predicting financial behavior is very limited. Therefore, this study throws light on gender as a moderator in the relationship between self-control and financial risk-taking. Hence, it is hypothesized that :

- **H04 :** The relationship between self-control and financial risk-taking does not differ across gender.
- **Ha4 :** Gender moderates the relationship between self-control and financial risk-taking.

Males and females vary in various behavioral traits (Bjuggren & Elert, 2019; Jacobsen et al., 2014; Singh et al., 2016) as well as financial decision-making behavior, including financial risk-taking decisions (Bhattacharya & Dutta, 2019; Bollen & Posavac, 2018; Hari et al., 2018; Paramashivaiah et al., 2014; Twumasi Baffour et al., 2019). While most of these studies are explored in countries abroad, this study addresses gender differences in financial risk-taking in the Indian emerging economy. Hence, it is hypothesized that :

- **H05 :** Financial risk-taking does not vary across males and females.
- **Ha5 :** Financial risk-taking varies across males and females.

Theoretical Framework

The Expectancy - Value Theory

The expectancy-value theory is part of psychological theories of motivation, and the concept of optimism is linked to the expectancy-value theory (Carver & Scheier, 1998; Scheier & Carver, 1992). The theory provides a logical explanation of optimism's influence on an individual's life. The core theme of expectancy-value theory is that an individual's behavior is directed toward achieving a specific goal (Wigfield, 1994; Wigfield & Eccles, 2000). The goal is the outcome that initiates action, and optimists always seek to achieve a desirable goal. Expectancies refer to the level of confidence an individual possesses concerning achieving the desired outcome. Therefore, acting on the goal is proportionate to the level of expectancy that the desired outcome can be achieved. If individuals feel confident that the personal efforts put in will lead to a favorable outcome, they are more likely to fit their behavior to achieve it. Optimism works in the same way as explained by the expectancy-value theory.

Dual-Self Model

The work by Thaler and Shefrin (1981) formally presented the two-self economic models of self-control. Further, Fudenberg and Levine (2006) put forth the dual-self model of impulse control. The theory proposes that any choice an individual faces is a sort of game between the impulsive present self and the patient future self. The battle between the present and future self can result in two consequences in the context of savings and investment. In one consequence, importance is given to the present self, which leads to increased spending in the present and saving less for the future. The other consequence is the one in which the future self is weighed more than the present, leading to cutting down on current expenses to save for the future.

Objectives of the Study

The present study examines the following objectives:

(1) To analyze the impact of optimism and self-control on the financial risk-taking propensity of individuals.

(2) To examine gender-related differences in the level of financial risk-taking propensity.

(3) To inspect the moderating effect of gender between the behavioral predictors (optimism and self-control) and financial risk-taking propensity.

Research Methodology

Research Design and Data

The target population of the study was based on two criteria. The first criterion required participants to be adults, that is, 18 years and above, as they could make independent financial decisions. The second criterion required participants to belong to the working class as the financial risk-taking propensity of this category would be of more interest to investment management firms as well as financial advisors. The study used a self-administered questionnaire as a survey tool and employed a cross-sectional research design to collect the required data. As the respondents are required to fulfill two pre-set criteria to be a part of the sample, probability sampling techniques cannot be used as the information on the total number of the target population was not known to us. Therefore, the data were collected using purposive and convenient sampling techniques to identify the respondents. The questionnaire was administered online, and data were collected between January – April 2022. A total of 522 usable responses were analyzed after discarding incomplete and unengaged responses.

Measures

The independent variables: optimism and self-control, and the dependent variable: financial risk-taking propensity, are measured using Likert scale data. The Life Orientation Test-Revised (LOT-R) was used for measuring optimism adapted from Scheier et al. (1994). The scale consists of six items, of which three are reverse-coded. The responses for the scale items were recorded on a 5-point Likert scale that ranged from *strongly disagree* (1) to *strongly agree* (5).

The sample items of the questionnaire are "I usually expect the best to happen even when I am not sure about certain situations" and "If something can go wrong for me, it will." A high score indicates a high level of optimism. An adapted version of the 7-item scale by Gerhard et al. (2018) was used for measuring self-control. All items indicate a lack of self-control and are reverse-coded. The responses for the scale items were recorded on a 5-point Likert scale that ranged from *strongly disagree* (1) to *strongly agree* (5). The sample items of the questionnaire are "I find it very difficult to break bad habits" and "I sometimes do things which would make me regret about it later." A low score indicates a low level of self-control.

The scale provided by the DNB survey and validated by Kapteyn and Teppa (2011), consisting of six items, was used to measure the risk-taking propensity. The reworded version of the scale from Bucciol and Miniaci (2018) was adapted for the present study. Three out of six items are reverse coded. The level of agreement was recorded on a 5 - point Likert scale ranging from *strongly disagree* (1) to *strongly agree* (5). The sample items of the questionnaire are "I would never consider investments in shares because I find this too risky" and "I am prepared to take the risk of losing money when there is also a chance to gain money." Higher scores represent a

higher propensity to take a risk. The moderating variable, gender, which is a categorical variable, has been coded with 1 for males and 2 for females.

Statistical Tools and Techniques

The study used IBM SPSS and IBM AMOS software to analyze the data. The data were first checked for incomplete responses, missing values, and outliers. The incomplete responses were deleted from the data set, followed by the imputation of the series mean to fill in the missing values, as these values were less than 10% of the total responses (Hair et al., 2014). Tests of reliability, validity, and normality were carried out to ensure that the data could be subject to further analysis and hypothesis testing. Structural equation modeling (SEM) was used to test the hypotheses regarding the effects of optimism and self-control on financial risk-taking propensity. The moderation effect of gender was analyzed using multi-group analysis in AMOS.

Analysis and Results

Demographic Profile of the Respondents

The respondents consisted of 55.9% males and 44.1% females from various parts of India. The majority of the respondents belonged to the age category of 18–27 years ; most of them were single and working in the private sector. Graduates formed a major proportion of the sample, and the majority were in the income group of ₹20,001 – ₹60,000. The demographic details of the study's respondents are summarised in Table 1.

Table 1. ***Demographic Details***

Demographics	Number	Percentage
Gender		
Male	292	55.9
Female	230	44.1
Age		
18 – 27 years	197	37.7
28 – 37 years	170	32.6
38 – 47 years	90	17.2
48 – 57 years	51	9.8
Above 57 years	14	2.7
Marital Status		
Single	267	51.1
Married	255	48.9
Educational Level		
Pre-university or less	72	13.8
Diploma holder	45	8.6
Graduate	233	44.6
Post Graduate	164	31.4
Doctorate	8	1.5

Occupation		
Private sector employee	235	45.0
Government sector employee	208	39.9
Self - employed	79	15.1
Income		
Less than ₹20,000	132	25.3
₹20,001 – ₹60,000	268	51.3
₹60,001 – ₹100,000	82	15.7
Above ₹100,000	40	7.7

Note. *n* = 522.

Descriptive Statistics

The Cronbach's Alpha value of the three study variables was computed to understand if they are valid measurement instruments. The Alpha values exceeded the threshold value of 0.7 (Hair et al., 2014). The KMO value of sampling adequacy was above 0.6, indicating that the data can be subject to exploratory factor analysis (EFA). The EFA using the principal component analysis technique was carried out, and all items converged into the underlying three factors based on eigenvalue one.

Structural Equation Modelling

The SEM is a second-generation regression technique that is based on the assumption of normal distribution. The skewness and kurtosis statistics were used to test the normality assumption as they are considered as valid measures (Hair et al., 2014). All values were within the range of plus one and minus one, which confirms that the data is normally distributed. Once the data normality assumptions have been met, two steps have to be followed to carry out the SEM analysis. In the first step, a measurement model has to be constructed with all the study variables to carry out the confirmatory factor analysis (CFA). The reliability values and factor loading values from the CFA analysis are shown in Table 2. The factor loadings are above the threshold of 0.5 for each item. The average loading values of the constructs are above 0.7.

Table 2. ***Reliability and Factor Loading Values of the Study Variables***

Construct	Indicators	Factor Loadings	Average Loading	Cronbach's Alpha
Optimism *(OP)*	*O1*	0.713	0.724	0.868
	O2	0.687		
	O3	0.774		
	O4	0.711		
	O5	0.740		
	O6	0.720		
Self-Control *(SC)*	*S1*	0.696	0.710	0.877
	S2	0.703		
	S3	0.691		
	S4	0.731		

	S5	0.692		
	S6	0.720		
	S7	0.738		
Risk-Taking Propensity *(RTP)*	*R1*	0.610	0.787	0.906
	R2	0.850		
	R3	0.830		
	R4	0.819		
	R5	0.817		
	R6	0.795		

To establish convergent validity, the constructs must have an average variance extracted (AVE) value of 0.5 and above. All constructs fulfilled this criterion of convergent validity (Table 3). For the discriminant validity to be established, the values of average shared variance (ASV) and maximum shared variance (MSV) should be less than the average variance extracted, that is, ASV < AVE and MSV < AVE (Fornell & Larcker, 1981). The convergent and discriminant validity values are shown in Table 3. Both ASV and MSV values are less than the AVE for each of the constructs.

Table 4 provides the inter-correlation between the constructs. The square root of AVE replaces the diagonal values, and the off-diagonal values represent the correlation between the constructs. The diagonal values are greater than the correlation between the constructs, providing further evidence for the discriminant validity.

After meeting the validity criteria, the model fit indices of the measurement model are analyzed to see if the data fits the model well. The fit indices (χ^2 / *df*. – chi-square/degree of freedom = 1.382; goodness-of-fit index (GFI) = 0.962; adjusted goodness of fit index (AGFI) = 0.951; comparative fit index (CFI) = 0.989; root mean square error of approximation (RMSEA) = 0.027) established that the measurement model fitted the observed data and the second step of path analysis could be carried out for testing the hypotheses. The results of the path model or structural model using SEM have been displayed in Table 5. The model fit indices of the structural model are above the required threshold values (χ^2 / *df*. – chi-square/degree of freedom = 1.382; goodness-of-fit index

Table 3. ***Convergent and Discriminant Validity Values of Constructs***

Variables	Average Variance Extracted	Average Shared Variance	Maximum Shared Variance
Optimism	0.525	0.463	0.464
Self-Control	0.505	0.450	0.462
Risk-Taking Propensity	0.626	0.450	0.464

Table 4. ***Inter-Correlation Between Variables***

Variables	Optimism	Self-Control	Risk-Taking Propensity
Optimism	**0.725**		
Self-Control	–0.680	**0.710**	
Risk-Taking Propensity	0.681	–0.661	**0.791**

Table 5. ***Structural Model Path Estimates***

Hypothesized Path	Standardized Regression Estimates	Standard Error	Critical Ratio
Optimism → Risk-Taking Propensity	0.403***	0.074	6.822
Self-Control → Risk-Taking Propensity	–0.368***	0.062	–6.087

Note. $p < 0.05$ = *, $p < 0.01$ = **, $p < 0.001$ = ***.

(GFI) = 0.962; adjusted goodness of fit index (AGFI) = 0.951; comparative fit index (CFI) = 0.989; root mean square error of approximation (RMSEA) = 0.027), indicating a good model fit.

The results clearly display the significant complementary influence of optimism and self-control on the risk-taking propensity. Both the alternative hypotheses Ha1 and Ha2 stand accepted based on the significant path values and the direction of influence.

Moderation Analyses

The moderation effects of gender on the relationship between optimism and risk-taking propensity and between self-control and risk-taking propensity were checked by using multigroup analysis using SEM and chi-square difference tests. First, the structural model was estimated for males and females separately with no restrictions on paths (unconstrained model). The unconstrained model is identical to the structural model without male and female bifurcation. After that, the paths of interest were constrained one at a time to check for the moderating effects. Table 6 reveals the results of the comparison between the unconstrained model and the constrained models.

Table 6. ***Model Values on Moderating Effects of Gender***

Model	χ^2	*df*	$\Delta\chi^2$	Δdf	*p*
Unconstrained Model	407.827	298			
Constrained Model I (*OP* → *RTP*)	418.050	299	10.223	1	<0.05
Constrained Model II (*SC* → *RTP*)	408.960	299	1.133	1	>0.05

Note. *OP*: Optimism; *RTP* : Risk-Taking Propensity; *SC*: Self-Control.

In the constrained model I, the path estimates between optimism and risk-taking was made equal across groups. The chi-square difference between the unconstrained model and constrained model I reveals a significant difference, showing that gender moderates the relationship between optimism and risk-taking propensity, and therefore, the alternative hypothesis Ha3 is accepted. In constrained model II, the path estimate between self-control and risk-taking propensity is restricted. There is a non-significant difference between groups indicating the absence of the moderating effect of gender on the relationship between self-control and risk-taking propensity. The alternative hypothesis Ha4 is not accepted.

Table 7 demonstrates the significance of the relationship between the independent and dependent variables for the full sample and across both groups. The path estimates between Optimism → Risk-Taking Propensity are significant for the full sample as well as for males and females. The impact of the relationship is more pronounced for females compared to males. The relationship between Self-Control → Risk-Taking Propensity also has a significant path estimate for the full sample and male and female groups. The estimates of the male and female samples do not display much variation, and therefore, the impact of the relationship is similar for both groups.

Table 7. ***Impact of Optimism and Self-Control on Risk-Taking Propensity Across Male and Female Samples***

Parameters	Full sample *N* = 522 Estimates	Male *N* = 292 Estimates	Female *N* = 230 Estimates
Optimism → Risk-Taking Propensity	0.508	0.404	0.658
	(0.403) ***	(0.338) ***	(0.418) ***
Self-Control → Risk-Taking Propensity	–0.376	–0.455	–0.466
	(–0.368) ***	(–0.363) ***	(–0.335) ***

Note. Values in parentheses represent standardized regression estimates; $p < 0.05$ = *, $p < 0.01$ = **, $p < 0.001$ = ***.

Gender Differences in Financial Risk-Taking Propensity

An independent sample *t*-test is conducted to analyze the differences in risk-taking propensity based on gender. There is a significant difference in scores between male ($M = 4.120$, $SD = 0.953$) and female ($M = 3.603$, $SD = 1.209$) samples; $t\,(427.566) = 5.311$, $p < 0.001$. The male sample has a greater risk-taking propensity score than their female counterparts; thus, Ha5 stands accepted.

Discussion

The present research attempts to make a minuscule empirical and theoretical contribution to the existing body of knowledge in understanding the complementary strength of optimism and self-control in determining the financial risk-taking propensity of working individuals. Optimism has a significant positive impact on the financial risk-taking propensity of individuals. This positive relationship supports the expectancy-value theory. When individuals display higher levels of optimism, there is an increased expectancy of a positive outcome. This, in turn, leads to a greater value being placed on the propensity to take financial risks, which would lead to the expected positive outcome. The higher the level of optimism, the greater the propensity to take risks, and vice versa. The finding that optimism can alter the tendency to take risks aligns with earlier studies (Prosad et al. 2015; Weinstein 1980). But it contradicts the results of Chira et al. (2008), who found an association between lower levels of optimism and making risky financial decisions.

On the other hand, self-control has a significant inverse relationship with risk-taking propensity. As found in prior studies, self-control depletion leads to the acceptance of higher financial risks (Freeman & Muraven, 2010; Strömbäck et al., 2017). The lower the ability to control oneself, the higher the level of indulgence in risky behaviors. Lower levels of self-control provide greater weightage to the present self rather than a future self. But this can be paradoxically viewed as being beneficial in the context of financial risk-taking: the reason being savings and investment result from this increased risk-taking and lesser spending at present. Even then, excessive risk-taking as a result of low levels of self-control by borrowing money from others to make quick profits by choosing the wrong investments can prove to be disastrous.

Gender has a significant moderating effect on the relationship between optimism and risk-taking propensity. This relationship is greater for females compared to males. The result is contradictory to the findings of Freeman and Muraven (2010), who found that optimism had a higher significant impact on the risk-taking propensity of males. The results of the present study also contradict the general tendency to expect men to be more optimistic than women. The major reason for the contradiction may be that equal status is given to women in society. In India, a few decades back, women did not have recognition in society as they have today and were considered

subordinate to men. Allowing women to enter the labor market has made them independent and financially stable. With women sharing the same jobs as men and the emergence of more women leaders in corporate setups, there could be a possible reversal or equality in optimism levels across gender. Understanding this trend will be more important in the future, especially for financial service providers. The relationship between self-control and risk-taking propensity does not vary significantly between male and female samples. The analysis of the propensity to take risks across genders reveals that risk-taking propensity is greater among males, independent of optimism and self-control.

Theoretical and Managerial Implications

The study has been seen through two different lenses of theories, the expectancy-value theory and the dual-self theory. The results have added empirically to these theories and expanded the current literature. The study has also contributed to the growing field of behavioral finance and proved that psychological factors significantly drive financial decisions. The research findings shed light on how psychological factors affect financial decisions and help in understanding the behavior-related aspects of individuals while predicting their contextual decision-making.

As optimism and self-control significantly drive financial decision-making, financial intermediaries need to assess these cognitive factors of their clients before offering them financial products and services. Understanding if the clients exhibit unrealistic optimism and lack of self-control will help financial service providers to be able to point out these flaws effectively and assist them in taking the right level of investment risks. The study finds its importance among academicians who want to explore the complementary strengths of optimism and self-control in various other decision-making contexts. The results may also benefit individuals in understanding their behavior and thereby help them to make more informed decisions.

Conclusion

The current study is a narrow but deep analysis of the role of two significant factors in the field of psychology, optimism, and self-control, in influencing the financial risk-taking propensity of a relatively large sample of working adults across India. The assessment of the select psychological factors in determining financial risk-taking propensity has revealed the importance of cognitive factors in financial decision-making. Even when a group of individuals is exposed to the same situations and environment, cognitive differences affect how information is processed and decisions are made. It can be concluded that understanding these differences is very important, as the goods and services market is moving to a customized approach like never before. This knowledge is like the foundation upon which an individual's financial wellness could be built, strong and firm.

Limitations of the Study and Scope for Further Research

Every study comes with its limitations. Firstly, the present study makes use of self-reported measures to capture responses to psychological factors. The use of these measures may not often provide the true state of affairs of the respondents as compared to the experimental realistic set-up. Secondly, the study is conducted in India, which restricts the generalisability of results in other country contexts due to cross-cultural differences. Thirdly, the study uses an English language questionnaire that restricts the participation of individuals who did not have a good command of the language.

Previous studies have found a higher level of optimism among males. The current study has a surprising finding contradictory to the earlier research results, pointing to the presence of a higher level of optimism among

females as compared to males. This finding is intriguing as India is still a developing country with a patriarchal setup. The reasons for higher optimism among females, however, are beyond the scope of the present study. It would be interesting to take up this question as an entirely different study in the future with the help of qualitative techniques or mixed methods. Optimism, self-control, and related psychological factors tend to overlap among different research fields, making them multi-disciplinary. This study could be further extended with the help of a neuroscience perspective. Real-time changes in the brain could be analyzed through the use of the latest technology to get a better understanding of the financial decision-making process in the presence of psychological biases exhibited by individuals.

Authors' Contribution

Crystal Glenda Rodrigues conceived the idea for conducting the present study. The idea was conceptualized and the design of the research approach was developed by Dr. Gopalakrishna B. V. The literature review was undertaken by both authors, and a questionnaire was designed. Crystal Glenda Rodrigues collected and analyzed the study data using IBM SPSS and IBM AMOS software. The authors then interpreted the study's findings with discussion and deliberation and put forth the results, implications, and conclusions.

Conflict of Interest

The authors certify that they have no affiliations with or involvement in any organization or entity with any financial interest or non-financial interest in the subject matter or materials discussed in this manuscript.

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References

Barone-Adesi, G., Engle, R. F., & Mancini, L. (2008). A GARCH option pricing model with filtered historical simulation. *The Review of Financial Studies, 21*(3), 1223–1258. https://doi.org/10.1093/rfs/hhn031

Bhattacharya, A., & Dutta, A. (2019). Demographic factors impacting the financial risk tolerance of retail investors of urban West Bengal. *Indian Journal of Finance, 13*(9), 22–30. https://doi.org/10.17010/ijf/2019/v13i9/147096

Biljanovska, N., & Palligkinis, S. (2018). Control thyself: Self-control failure and household wealth. *Journal of Banking & Finance, 92*, 280–294. https://doi.org/10.1016/j.jbankfin.2016.10.010

Bjuggren, C. M., & Elert, N. (2019). Gender differences in optimism. *Applied Economics, 51*(47), 5160–5173. https://doi.org/10.1080/00036846.2019.1610714

Bollen, N. P., & Posavac, S. (2018). Gender, risk tolerance, and false consensus in asset allocation recommendations. *Journal of Banking & Finance, 87*, 304–317. https://doi.org/10.1016/j.jbankfin.2017.10.016

Bracha, A., & Brown, D. J. (2012). Affective decision making: A theory of optimism bias. *Games and Economic Behavior, 75*(1), 67–80. https://doi.org/10.1016/j.geb.2011.11.004

Bucciol, A., & Miniaci, R. (2018). Financial risk propensity, business cycles and perceived risk exposure. *Oxford Bulletin of Economics and Statistics, 80*(1), 160–183. https://doi.org/10.1111/obes.12193

Carver, C. S. (2014). Self-control and optimism are distinct and complementary strengths. *Personality and Individual Differences, 66*, 24–26. https://doi.org/10.1016/j.paid.2014.02.041

Carver, C. S., & Scheier, M. F. (1998). *On the self-regulation of behavior*. Cambridge University Press. https://doi.org/10.1017/CBO9781139174794

Carver, C. S., Scheier, M. F., & Segerstrom, S. C. (2010). Optimism. *Clinical Psychology Review, 30*(7), 879–889. https://doi.org/10.1016/j.cpr.2010.01.006

Chira, I., Adams, M., & Thornton, B. (2008). Behavioral bias within the decision making process. *Journal of Business & Economics Research (JBER), 6*(8), 11–20. https://doi.org/10.19030/jber.v6i8.2456

Ciccone, S. J. (2011). Investor optimism, false hopes and the January effect. *Journal of Behavioral Finance, 12*(3), 158–168. https://doi.org/10.1080/15427560.2011.602197

Dangi, M., & Kohli, B. (2018). Role of behavioral biases in investment decisions: A factor analysis. *Indian Journal of Finance, 12*(3), 43–57. https://doi.org/10.17010/ijf/2018/v12i3/121997

Darvill, T. J., & Johnson, R. C. (1991). Optimism and perceived control of life events as related to personality. *Personality and Individual Differences, 12*(9), 951–954. https://doi.org/10.1016/0191-8869(91)90184-D

Dzung, P. T., Tung, N. X., Van, L. H., & Thanh, N. T. (2021). Experimental evidences for prospect theory in Vietnam. *Indian Journal of Finance, 15*(5–7), 26–43. https://doi.org/10.17010/ijf/2021/v15i5-7/164491

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*(1), 39–50. https://doi.org/10.2307/3151312

Freeman, N., & Muraven, M. (2010). Self-control depletion leads to increased risk taking. *Social Psychological and Personality Science, 1*(2), 175–181. https://doi.org/10.1177/1948550609360421

Fudenberg, D., & Levine, D. K. (2006). A dual-self model of impulse control. *American Economic Review, 96*(5), 1449–1476. https://doi.org/10.1257/aer.96.5.1449

Gathergood, J. (2012). Self-control, financial literacy and consumer over-indebtedness. *Journal of Economic Psychology, 33*(3), 590–602. https://doi.org/10.1016/j.joep.2011.11.006

Gathergood, J., & Weber, J. (2014). Self-control, financial literacy & the co-holding puzzle. *Journal of Economic Behavior & Organization, 107*(Part B), 455–469. https://doi.org/10.1016/j.jebo.2014.04.018

Gerhard, P., Gladstone, J. J., & Hoffmann, A. O. (2018). Psychological characteristics and household savings behavior: The importance of accounting for latent heterogeneity. *Journal of Economic Behavior & Organization, 148*, 66–82. https://doi.org/10.1016/j.jebo.2018.02.013

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2014). *Multivariate data analysis: Pearson New International Edition* (7th ed.). Pearson Education Limited.

Hari, J., Pirsch, E., & Rawitzer, H. (2018). Women are scaredy-cats and men are conquerors? *Journal of Financial Services Marketing, 23*(2), 128–139. https://doi.org/10.1057/s41264-018-0045-x

Harrison, M. L., Jones, S., & Sullivan, C. (2007). The gendered expressions of self-control: Manifestations of noncriminal deviance among females. *Deviant Behavior, 29*(1), 18–42. https://doi.org/10.1080/01639620701382907

Isidore, R. R., & Christie, P. (2018). Investment behavior of secondary equity investors: An examination of the relationship among the biases. *Indian Journal of Finance, 12*(9), 7–20. https://doi.org/10.17010/ijf/2018/v12i9/131556

Jacobsen, B., Lee, J. B., Marquering, W., & Zhang, C. Y. (2014). Gender differences in optimism and asset allocation. *Journal of Economic Behavior & Organization, 107*(Part B), 630–651. https://doi.org/10.1016/j.jebo.2014.03.007

Jordan, M. R., & Rand, D. G. (2018). The role of character strengths in economic decision-making. *Judgment and Decision Making, 13*(4), 382–392. https://doi.org/10.1017/S1930297500009256

Kapteyn, A., & Teppa, F. (2011). Subjective measures of risk aversion, fixed costs, and portfolio choice. *Journal of Economic Psychology, 32*(4), 564–580. https://doi.org/10.1016/j.joep.2011.04.002

Keane, C., Maxim, P. S., & Teevan, J. J. (1993). Drinking and driving, self-control, and gender: Testing a general theory of crime. *Journal of Research in Crime and Delinquency, 30*(1), 30–46. https://doi.org/10.1177/0022427893030001003

LaGrange, T. C., & Silverman, R. A. (1999). Low self-control and opportunity: Testing the general theory of crime as an explanation for gender differences in delinquency. *Criminology, 37*(1), 41–72. https://doi.org/10.1111/j.1745-9125.1999.tb00479.x

Özbay, Ö. (2008). Self-control, gender, and deviance among Turkish university students. *Journal of Criminal Justice, 36*(1), 72–80. https://doi.org/10.1016/j.jcrimjus.2007.12.009

Paramashivaiah, P., Puttaswamy, & Ramya, S. K. (2014). Changing risk perception of women investors: An empirical study. *Indian Journal of Finance, 8*(6), 22–33. https://doi.org/10.17010/ijf/2014/v8i6/71909

Prosad, J. M., Kapoor, S., & Sengupta, J. (2015). Exploring optimism and pessimism in the Indian equity market. *Review of Behavioral Finance, 7*(1), 60–77. https://doi.org/10.1108/rbf-07-2013-0026

Rand, K. L., Shanahan, M. L., Fischer, I. C., & Fortney, S. K. (2020). Hope and optimism as predictors of academic performance and subjective well-being in college students. *Learning and Individual Differences, 81*, Article 101906. https://doi.org/10.1016/j.lindif.2020.101906

Reich, J. W., & Zautra, A. (1981). Life events and personal causation: Some relationships with satisfaction and distress. *Journal of Personality and Social Psychology, 41*(5), 1002–1012. https://doi.org/10.1037/0022-3514.41.5.1002

Scheier, M. F., & Carver, C. S. (1985). Optimism, coping, and health: Assessment and implications of generalized outcome expectancies. *Health Psychology, 4*(3), 219–247. https://doi.org/10.1037/0278-6133.4.3.219

Scheier, M. F., & Carver, C. S. (1992). Effects of optimism on psychological and physical well-being: Theoretical overview and empirical update. *Cognitive Therapy and Research, 16*(2), 201–228. https://doi.org/10.1007/bf01173489

Scheier, M. F., Carver, C. S., & Bridges, M. W. (1994). Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): A reevaluation of the life orientation test. *Journal of Personality and Social Psychology, 67*(6), 1063–1078. https://doi.org/10.1037/0022-3514.67.6.1063

Shefrin, H., & Statman, M. (1985). The disposition to sell winners too early and ride losers too long: Theory and evidence. *The Journal of Finance, 40*(3), 777–790. https://doi.org/10.1111/j.1540-6261.1985.tb05002.x

Shobha, T. S., & Chakraborty, S. (2017). Psychological factors contributing to the financial well-being of an individual: A review of empirical literature. *Indian Journal of Finance, 11*(10), 51–66. https://doi.org/10.17010/ijf/2017/v11i10/118775

Singh, H. P., Goyal, N., & Kumar, S. (2016). Behavioural biases in investment decisions: An exploration of the role of gender. *Indian Journal of Finance, 10*(6), 51– 62. https://doi.org/10.17010/ijf/2016/v10i6/94879

Smith, T. W., Pope, M. K., Rhodewalt, F., & Poulton, J. L. (1989). Optimism, neuroticism, coping, and symptom reports: An alternative interpretation of the life orientation test. *Journal of Personality and Social Psychology, 56*(4), 640–648. https://doi.org/10.1037/0022-3514.56.4.640

Strömbäck, C., Lind, T., Skagerlund, K., Västfjäll, D., & Tinghög, G. (2017). Does self-control predict financial behavior and financial well-being? *Journal of Behavioral and Experimental Finance, 14*, 30–38. https://doi.org/10.1016/j.jbef.2017.04.002

Thaler, R. H., & Shefrin, H. M. (1981). An economic theory of self-control. *Journal of Political Economy, 89*(2), 392–406. https://doi.org/10.1086/260971

Tittle, C. R., Ward, D. A., & Grasmick, H. G. (2003). Gender, age, and crime/deviance: A challenge to self-control theory. *Journal of Research in Crime and Delinquency, 40*(4), 426–453. https://doi.org/10.1177/0022427803256074

Twumasi Baffour, P., Mohammed, I., & Abdul Rahaman, W. (2019). Personality and gender differences in revealed risk preference: Evidence from Ghana. *International Journal of Social Economics, 46*(5), 631–647. https://doi.org/10.1108/ijse-07-2018-0346

Vazsonyi, A. T., Pickering, L. E., Junger, M., & Hessing, D. (2001). An empirical test of a general theory of crime: A four-nation comparative study of self-control and the prediction of deviance. *Journal of Research in Crime and Delinquency, 38*(2), 91–131. https://doi.org/10.1177/0022427801038002001

Weinstein, N. D. (1980). Unrealistic optimism about future life events. *Journal of Personality and Social Psychology, 39*(5), 806–820. https://doi.org/10.1037/0022-3514.39.5.806

Wigfield, A. (1994). Expectancy-value theory of achievement motivation: A developmental perspective. *Educational Psychology Review, 6*(1), 49–78. https://doi.org/10.1007/BF02209024

Wigfield, A., & Eccles, J. S. (2000). Expectancy-value theory of achievement motivation. *Contemporary Educational Psychology, 25*(1), 68–81. https://doi.org/10.1006/ceps.1999.1015

Zautra, A., & Simons, L. S. (1979). Some effects of positive life events on community mental health. *American Journal of Community Psychology, 7*(4), 441–451. https://doi.org/10.1007/bf00894385

Appendix

Construct	Indicator	Variable Statement
Optimism *(OP)* - measured on a 5-point Likert scale	*O1*	I usually expect the best to happen even when I am not sure about certain situations.
	O2	If something can go wrong for me, it will (R).
	O3	I always think positively about my future.
	O4	I usually don't expect things to happen the way I want (R).
	O5	I usually do not expect good things to happen to me (R).
	O6	Overall, I expect more good things to happen to me than bad.
Self-Control *(SC)* - measured on a 5-point Likert scale	*S1*	I find it difficult to break bad habits (R).
	S2	I get distracted easily (R).
	S3	I say the wrong things at the wrong time (R).
	S4	I do not complete my work on time because I get involved in activities of pleasure and fun during work time (R).
	S5	I sometimes do things that would make me regret it later (R).
	S6	I am not able to stop myself from doing something even when I know it is wrong (R).
	S7	I often act without thinking and evaluating carefully all options available in a given situation (R).
Risk-Taking Propensity *(RTP)* - measured on a 7-point Likert scale.	*R1*	I think it is more important to have safe investments and guaranteed returns than to take a risk to have a chance to get the highest possible returns (R).
	R2	I would never consider investments in shares because I find this too risky (R).
	R3	If I think an investment will be profitable, I am prepared to borrow money to make this investment.
	R4	I want to be certain that my investments are safe (R).
	R5	I get more and more convinced that I should take greater financial risks to improve my financial position.
	R6	I am prepared to risk losing money when there is also a chance to gain money.

Note. (R) indicates the items are reverse coded.

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