

## International Journal of Economics and Financial Issues

ISSN: 2146-4138

available at http://www.econjournals.com

International Journal of Economics and Financial Issues, 2025, 15(1), 139-147.



## An Assessment of Risk-Taking Behavior of Individual Investors: Role of Financial Literacy and Emotions

## Ayisha Shaikh\*, Matloob Ullah Khan

Department of Management, Jamia Hamdard, New Delhi, India. \*Email: ayishashaikh@jamiahamdard.ac.in

Received: 25 August 2024

Accepted: 13 November 2024

DOI: https://doi.org/10.32479/ijefi.17437

#### ABSTRACT

This paper studies the impact of emotions such as locus of control, overconfidence, risk avoidance, agreeableness, and financial literacy on risk-taking behavior. Data was collected from 338 individual investors from Delhi-NCR and analyzed through PLS-SEM 4 (V.4.0.9.2) to understand the direct and inverse association among the construct and to identify what influenced their investment choices the most. According to the data interpretation, a strong association between agreeableness and risk-taking behavior was evident; the study's findings indicate that investors were heavily impacted by their peer group while making investment decisions. It also concludes that financial literacy induces overconfidence but does not result in risk-taking behavior of individual investors.

Keywords: Agreeableness, Financial Literacy, General Risk-Aversion, Locus of Control, Overconfidence, Risk-Taking Behavior JEL Classifications: G0, G2, G4

## **1. INTRODUCTION**

The process of decision-making is complex, especially when making financial choices. Discarding the traditional choices of investment such as fixed deposits, post office savings accounts, real estate, and insurance products, which are considered less risky, Indian investors are shifting to the stock market and mutual funds (Kumar, 2023). This paradigm shift can be attributed to affordable investment choices with SIPs starting with as low as Rs. 500, quick and easy on boarding, and a paperless process, to name a few. However, very few insights are available as to what is influencing them to move to risky investment choices. The horizon of research on financial investment choices has expanded worldwide, but the study of the same in India is found to be limited. Many studies have concluded that investors's decisions are strongly determined by emotions and financial behavioral bias and are not at all rational.

The behavioral finance subject area has drawn attention to the psychological basis of an individual's irrational behavior. It is

predicated that no one behaves rationally, that aberrations from investors' rational behavior are structured rather than random, and that judgments of probability prevail over stochastic estimates (Dinç Aydemir and Aren, 2017). As a result, the focus is now on the psychological or attitudinal drivers of financial behavior. This paper attempts to evaluate the factors that govern the risk-taking behavior of a retail investor, taking into consideration the influence of the behavioral and emotional aspects.

## 2. THE REVIEW OF LITERATURE AND HYPOTHESIS DEVELOPMENT

Risk tolerance is multi-dimensional, with emotions, financial literacy, behavioral finance biases, as well as variables such as age, gender, and income affecting the same. A plethora of research is available on risk tolerance, but very few discuss the risk-taking behavior of retail investors. Furthermore, the majority of financial advisors as well as individual investors frequently erroneously

This Journal is licensed under a Creative Commons Attribution 4.0 International License

confuse an individual's risk-taking behavior with their financial risk tolerance (FRT) (Van de Venter, 2012). Risk tolerance has been interpreted as the acceptance of "behaviors in which the outcomes remain uncertain with the possibility of an identifiable negative outcome (Grable and Joo, 2004). The willingness of individual investors to take risks is termed risk-taking behavior. (Grable and Joo, 2004) Risk-taking behavior is different from risk tolerance since the latter is a post-investment choice scenario of how much is the capacity to tolerate risk. Risk-taking behavior is an amalgamation of risk appetite and risk tolerance. Risk tolerance, or one's degree of comfort or discomfort with a financial risk, can have a big impact on one's possibility of engaging in risky behavior (Kannadhasan, 2015). Some studies showed a favorable correlation between an investor's risk tolerance and their risktaking behavior (Coleman, 2003; Chang et al., 2004; Grable et al., 2009). Nevertheless, the correlation between individual risk tolerance and risk-taking behavior vanished when emotional factors were taken into account (Bhandari et al., 2021). Individual variations in risk-taking behaviors are among the variables of greatest significance in the explanation of a variety of real-life behaviors, including financial decisions (Noussair et al., 2014).

Risk taking is a pre-requisite before the investment decision, while risk tolerance is a measurement of acceptance of losses post-investment (Grable et al., 2009). Hence, it is a pre-requisite factor for the risk assessment of individual investors. Moreover, the degree of perceived risk aversion, risk-taking, and risk perception may vary among cultures as well (Blais and Weber, 2006). The estimation of financial risk-taking behavior and its link to other parameters are made more complex by the inclusion of attributes like ethnic group variances (Khalid, 2020; Shafi, 2014; Fisher et al., 2017). This is because socio-cultural differences resulting from various ethnic backgrounds have a significant impact on an individual's capacity to tolerate financial risk (Fisher et al., 2017). For example, it has been discovered that white people have a higher risk-taking behavior than non-White people (Yao et al., 2005). In a similar vein, Rahman (2020) found a substantial correlation between an individual's race and their degree of overconfidence. As a result, since ethnicity plays an important role in determining individual financial risk tolerance, there are still unanswered concerns about what factors influence financial risk-taking behavior (Anbar and Melek, 2010). Hence, this paper attempts to address these two major research gaps and conducts a study to understand the risk-taking behavior of individual investors in the Indian context. Some existing literature of such studies in India, for example (Sehrawat et al., 2021), has evaluated the influence of emotional parameters on financial behavior and financial wellbeing. The demographic variables, such as age, education, income, gender, and others, distinguish between the risk tolerance levels of retail investors in India, according to Mishra and Mishra (2014). Greater materialism, youth, and male gender are all substantially related to above-average risk tolerance. (Kannadhasan et al., 2016) have investigated how emotional factors including self-esteem, personality type, and thrill-seeking affect risk-taking. While several studies (Mishra and Mishra, 2014) showed a connection between demographic factors and financial risk acceptance in India, no studies have found for risk-taking behavior. After a thorough review of literature, there is not much research on some of the key factors that influence risk-taking behavior in India, including general risk aversion, financial literacy, and emotional factors like overconfidence, locus of control and agreeableness, which are the subjects of this paper.

# **2.1. Determinants of Risk-Taking Behavior** *2.1.1. General risk aversion*

A person who avoids social, recreational, health, and ethical risks is said to be risk averse in general (Highhouse et al., 2017). In the world of finance, risk aversion is defined as the correspondingly reduced demand for return when risk is higher (Montesano, 1990). According to Colasante and Riccetti (2021), there is a correlation between taking financial risks and avoiding general risks. The correlation between financial and general risks is not close to 1, and there is a greater aversion to non-financial risks, particularly health risks. For example, the decision maker might believe that the risks and benefits in the two domains are distinct, which could cause the same person to appear to take different risks in various circumstances (Blais and Weber, 2006). Risk aversion, which refers to an individual's tendency to avoid or minimize risk, has been studied comprehensively in the context of personal financial planning (Hanna, 2011). A direct proportionate relationship between financial and non-financial risk became apparent during the investigation of an individual's consistency in taking financial and non-financial risks (Colasante and Riccetti, 2021). It has also been observed that risk aversion in general depends on culture (Dohmen et al., 1997). However, as recent research has shown, risk aversion is not a static trait but rather has a dynamic characteristic that can be influenced by contextual factors like age, culture, and income (Kannadhasan, 2015). Given that Indians are generally less risk adverse (Sneha et al., 2021), this study aims to determine if there is a relationship between overall risk aversion and financial risk-taking behavior.

 $H_1$ : Financial risk-taking behavior is strongly and negatively correlated with general risk aversion.

#### 2.1.2. Financial literacy

Financial literacy can be defined as "a person's ability to understand and use financial concepts (Song et al., 2023; Almanaseer et al., 2024; Ahmad, 2024). There is no impact of the individual's education qualification on financial literacy or knowledge. Numerous researchers have investigated the impact of financial knowledge or financial literacy, which are used interchangeably in this study, on financial behavior. For example, Dinc Aydemir and Aren (2017) concluded that financial literacy has an inverse relationship with intentions for risky investments, and Grable and Joo (2004) investigated financial literacy as an environmental factor that affects financial risk-taking. Though financial knowledge and financial literacy have been used interchangeably, minor differences between them can be attributed to the practical application of financial knowledge during decisionmaking as financial literacy (Huston, 2010). Lim et al. (2018) have studied financial literacy as a mediating variable between financial knowledge and intention to invest. Higher financial literacy has been identified to influence risk-taking behavior among Chinese households (Korkmaz et al., 2021). Thus, more financial literacy has been associated with greater financial risk tolerance (Hermansson and Jonsson, 2021; Song et al., 2023; Weixiang et al., 2022). Indians are switching from the non-risky choices of investment to the risky choices of investment, and financial literacy seems to play a key role in the same; hence, we develop the following hypothesis.

 $H_2$ : Financial literacy has a strong and direct relationship with financial risk-taking behavior.

Overconfidence and financial literacy have also been found to be strongly correlated, which may have an indirect impact on risk-taking behavior. When it comes to investing decisions, an individual's risk-taking behavior can be greatly influenced by two important factors: overconfidence and financial literacy (Dittrich et al., 2005). Research has consistently shown that individuals with lower levels of financial literacy tend to exhibit higher levels of overconfidence, which can lead to poor financial decision-making and increased risk-taking (Statman, 2010). One study found that individuals with higher levels of debt literacy, or the ability to understand and make informed decisions about personal debt, were less likely to be overly indebted (Ul Abdin et al., 2022). This suggests that a lack of financial knowledge can contribute to overconfidence, leading to poor borrowing decisions and increased financial risk. Another study on investment literacy found that individuals with higher investment literacy were less likely to exhibit overconfidence, which in turn led to more prudent investment behaviors (Vörös et al., 2021). Hence we can anticipate that there is an influence of financial literacy on overconfidence and in risk-taking behavior. The study's examination of the mediating function of overconfidence between financial literacy and risk-taking behavior led to the derivation of the following two hypotheses: Financial literacy moderates the link between overconfidence and investment decisions (Ahmad and Shah, 2022).

 $H_3$ : Financial literacy has a negative relationship with overconfidence.

 $H_4$ : Financial literacy and risk-taking behavior with overconfidence as a mediator have a strong and indirect association.

 $H_5$ : Overconfidence has a strong correlation with financial risk-taking behavior.

### 2.1.3. Emotions

Locus of control and agreeableness have been researched and found to affect financial risk tolerance. (Song et al., 2023) concluded that emotional intelligence has a direct moderating association between financial literacy and financial risk tolerance. The degree to which a person feels in control of the things that happen to them is known as their locus of control (Kesavayuth et al., 2018). Financial prosperity is significantly influenced by an individual's perception of control over their outcomes (Perry and Morris, 2005). In recent years, the study of behavioral finance has attracted a lot of attention as scholars attempt to comprehend the psychological aspects that affect financial judgment. Numerous researches have focused on the Big Five personality model, which includes neuroticism, agreeableness, extraversion, conscientiousness, and openness (Rodrigues et al., 2023). According to current study, a person's financial actions and results may be significantly influenced by a variety of personality qualities (Choung et al., 2022). For example, those with high levels of neuroticism are more likely to face financial difficulties, whereas people with high levels of conscientiousness are more likely to be financially responsible and show better financial well-being (Campos-Vazquez et al., 2014).

According to Mutlu et al. (2010), LOC is a crucial intrapersonal aspect of empowerment that has a significant direct and indirect impact on financial behaviors. (Ul Abdin et al., 2022) have argued that locus of control affects the investment performance of retail investors. Higher agreeableness leads to a lower level of an individual's risk tolerance (Rabbani et al., 2019). (Costa et al., 2017) in the bibliometric analysis have highlighted the influence of locus of control and agreeableness on decisions regarding financial aspects. The locus of control affects different cohorts of age and gender differently (Kesavayuth et al., 2018). The reason for studying only agreeableness from the Big 5 personality traits is because agreeableness has been identified to highly influence the financial risk tolerance of investors in India (Rai et al., 2021). (Pinjisakikool, 2018) studied a large Dutch population to conclude that agreeableness and overconfidence are strong predictors of their financial risk behavior. Strong internal locus of control has a greater impact on agreeableness (Mutlu et al., 2010); hence, the study also focuses on the effect of locus of control on agreeableness, which can influence the risk-taking behavior. Hence we try to understand whether it has the same influence on the risktaking behavior in the Indian context. The following hypothesis can be derived from the literature.

The following hypothesis can be derived from the literature.

 $H_6$ : locus of control has a direct relationship with financial risk-taking behavior.

 $H_{\gamma}$ : Agreeableness has a direct association with financial risk-taking behavior.

H<sub>s</sub>: Locus of Control strongly influences agreeableness

 $H_9^{\circ}$ : There is a strong and indirect impact of locus of control and risk-taking behavior with agreeableness as a mediator.

The foundation for this study's conceptual model is based on the parameters discussed above.

We define the output component as financial risk-taking behavior, and the input components as general risk aversion, financial literacy, and emotional components including overconfidence, locus of control, and agreeableness. Based on the formerly reviewed literature and theoretical models of financial risk tolerance, we have developed a revised conceptual model for this study, which is depicted in Figure 1.

## **3. METHODOLOGY**

This study employs a non-probability purposive sampling method, where the responses were collected from individual investors through a structured questionnaire. The criteria for selection of candidates were that they should be investing in any kind of financial instrument, they should be 18 years and older, and they should be residents of India. Using validated risk-taking capacity scales, a self-structured questionnaire was prepared after an extensive literature review. Figure 1: Conceptual model, Source: Self-depiction



This study applied a quantitative research methodology. The questionnaire was divided into 5 sections, with the foremost section comprising personal information like age, gender, income, education, and a filter question to ascertain whether the individual invests in any kind of financial instrument. The second section consisted of a 5-item scale adopted from the Dospert scale (Blais and Weber, 2006) to assess general risk aversion; the third section consists of an 11-item, 6-item scale to measure overconfidence adopted from Ul Abdin et al. (2022), 5-item scale of financial literacy (Chai et al., 2012).

The fourth section contains a 5-item scale to assess the locus of control adopted from Dinç Aydemir and Aren (2017), and the final section has a 6-item scale to measure the financial risk-taking behavior (Grable and Joo, n.d.) and a 3-item scale to measure the personality trait of agreeableness (Kannadhasan et al., 2016).

### 4. DATA ANALYSIS AND RESULTS

The responses were gathered through an online survey using Google Forms and through a structured questionnaire to test the hypothesis between the period of January 2024 and March 2024. A minimum of 200 respondents was suggested by Hair et al. (2006) as the sample size. Furthermore, Brysbaert (2019) contended that while there may be a little financial expense associated with using more participants than are strictly necessary, using fewer individuals increases the possibility of deriving inaccurate findings. For this reason, in light of the published research, we sought to get a sample size >200 in order to make significant findings. Under time and budgetary restrictions, a suitable sample of 414 completed forms was collected, of which 76 were from individuals who were not fit for our study. Hence, after discarding unfit forms, we were left with 338 suitable responses. The demographic characteristics of the respondents are depicted in Table 1.

The data was analyzed using PLS-SEM 4 (V.4.0.9.2) to understand and develop a model that shows the interrelationship between the endogenous and exogenous variables (Hair et al., 2021). It combines the traits of multiple regression and factor analysis, which helps in the simultaneous analysis of the effects of

Demogr	aphic Characteristics of	f the Respond	lent
Characteristics	Particulars	Frequency	Percentage
Gender	Male	249	73.67
	Female	89	26.33
Age	18-25	157	46.45
	26-35	87	25.74
	36-45	66	19.53
	46-55	22	6.51
	56 and above	6	1.78
Education	10th Pass	1	0.30
	12 <sup>th</sup> Pass	24	7.10
	Graduate	147	43.49
	Post Graduate	136	40.24
	Doctorate	27	7.99
	Post Doctorate	3	0.89
Household	Less than Rs. 25,000	50	14.79
Income			
per month	Rs. 25,000- Rs. 49,999	70	20.71
	Rs. 50,000- Rs. 99,999	78	23.08
	Rs. 1,00,000-	41	12.13
	Rs. 1,49,000		
	Rs. 1,50,000 and above	99	29.29

exogenous variables, in this case general risk aversion (GRA), financial literacy (FL), locus of control (LOC), overconfidence (OC), and agreeableness (AG), on the endogenous variable of financial risk-taking behavior (RTB), both directly and indirectly. This study employed bootstrapping with 5000 samples to assess for statistical significance at a confidence level of 95%.

#### 4.1. Measurement Model Assessment

The internal consistency and reliability measures are given in Table 2. The Cronbach's alpha of two variables, namely agreeableness and general risk aversion, is lower than the prescribed standard of above 0.8. Cronbach's alpha relies heavily on the idea that all indicators are equally reliable because it is highly impacted by the number of units in the construct. Since the reliability is established via composite reliability (Peterson and Kim, 2013), which is much above the minimum requirement, we keep both variables in our study. As a result, we can say that all the endogenous indicators have required interior consistency.

#### **Table 2: Measures of Internal Consistency**

	<b>Cronbach's</b>	Composite	Average variance
	alpha	reliability	extracted (AVE)
AG	0.538	0.765	0.53
FL	0.83	0.88	0.595
GRA	0.583	0.783	0.546
LOC	0.762	0.848	0.583
OC	0.696	0.814	0.525
RTB	0.81	0.867	0.568

#### Table 3: Heterotrait-Monotrait Ratio

	AG	FL	GRA	LOC	OC	RTB
AG						
FL	0.322					
GRA	0.237	0.18				
LOC	0.651	0.164	0.191			
OC	0.504	0.829	0.145	0.32		
RTB	0.886	0.183	0.221	0.476	0.322	

**Table 4: Fornell Larcker** 

Variable	AG	FL	GRA	LOC	OC	RTB
AG	0.728					
FL	0.008	0.771				
GRA	-0.03	0.038	0.739			
LOC	0.444	-0.021	0.017	0.764		
OC	0.266	-0.646	-0.015	0.208	0.724	
RTB	0.589	-0.004	-0.142	0.379	0.235	0.753

The reflective measurement model, as depicted in Figure 1, shows the factor loading of each item of the construct exceeds 0.7 or has an average variance extracted exceeding 0.5 (Hair, 2011); the AVE of each construct is more than 0.5, which satisfies the convergent validity of all the constructs in the data. The discriminant validity of the data was established using all 3 parameters: HTMT (Table 3), Fornell-Larcker (Table 4), and cross-loading (Table 5). Certain authors have claimed that the acceptable value threshold should be used to verify discriminant validity through HTMT. All constructs meet the acceptable HTMT requirement of the literature, which is <0.85 (Henseler et al., 2015), except the HTMT of agreeableness and risk-taking behavior, which is 0.886. According to some authors, the HTMT threshold must be <0.90 to be considered acceptable and to demonstrate discriminant validity (Henseler et al., 2015; Gold et al., 2001). When a construct has more in common with its indicators than with the indicators of other constructs, according to the Fornell-Locker criterion, discriminant validity will be established (Fornell and Larcker, 1981), which is clear in Table 4. According to Hair et al. (2011), an indicator's outer loading with its concept should be more than any of its cross-loadings (correlations) with other constructs, which is established in Table 5. Hence, the discriminant validity criterion is met.

The risk-taking behavior of individuals has been assessed to find an impact of general risk aversion, locus of control, overconfidence, financial literacy, and agreeableness on the same. It examined how overconfidence mediated the relationship between financial literacy and risk-taking behavior as well as how agreeability mediated the association among locus of control and risk-taking conduct.

Table 5:	Cross L	oadings				
	AG	FL	GRA	LOC	OC	RTB
AG_1	0.821	0.158	0.021	0.4	0.091	0.481
AG 2	0.506	-0.258	-0.146	0.138	0.344	0.372
AG_3	0.813	0.016	0.012	0.379	0.216	0.431
FL_1	-0.026	0.78	0.122	-0.008	-0.515	-0.082
FL_2	0.068	0.822	0.064	-0.018	-0.563	0.041
FL_3	0.039	0.816	-0.026	-0.059	-0.53	0.084
FL_4	-0.05	0.727	-0.036	-0.034	-0.484	-0.11
FL_5	-0.014	0.705	0.012	0.058	-0.368	0.054
GRA_1	-0.086	-0.026	0.71	-0.031	0.018	-0.1
GRA_2	0.03	-0.038	0.727	0.037	0.014	-0.112
GRA_3	-0.017	0.155	0.777	0.028	-0.068	-0.1
LOC_1	0.288	-0.114	-0.089	0.71	0.18	0.336
LOC_2	0.455	0.133	0.102	0.822	0.088	0.28
LOC_3	0.266	-0.098	0.001	0.731	0.176	0.3
LOC_4	0.318	-0.026	0.018	0.787	0.215	0.244
OC_2	0.241	-0.344	0.012	0.111	0.616	0.169
OC_3	0.129	-0.547	0.003	0.064	0.815	0.192
OC_4	0.173	-0.457	-0.078	0.266	0.685	0.042
OC_5	0.249	-0.5	0.011	0.182	0.765	0.257
RTB_1	0.403	-0.08	-0.16	0.251	0.211	0.748
RTB_2	0.359	0.054	-0.142	0.249	0.052	0.718
RTB_3	0.486	0.065	-0.114	0.364	0.175	0.826
RTB_4	0.551	0.098	-0.013	0.32	0.122	0.739
RTB_5	0.385	-0.174	-0.127	0.219	0.317	0.73

#### 4.2. The Structural Model

The structural model that evaluated the hypothesis was run using PLS-SEM after confirming that the convergent and discriminant validity of the data were met. This model is shown in Figure 2. The path coefficient, t-values, and P-values for the direct hypothesis are as follows:

Of the 7 direct hypotheses, 3 were found to be not statistically significant. Of the two hypotheses with a mediating variable, a study of the indirect effect was conducted (Preacher & Hayes, 2004, 2008), of which one is statistically significant while the other is not. With a confidence level of 95%, we accept that agreeableness has the highest impact on risk-taking behavior, which is persistent in the study (Rai et al., 2021) for India. When it comes to investing, Indians are heavily influenced by their social and peer group. A T-value of 2.311, which is higher than 1.96, indicates that general risk aversion influences risk-taking behavior as well. The direct influence of Locus on control on risktaking behavior is insignificant, but the indirect effect of Locus of Control with mediation from agreeableness is highly significant, as shown in Table 7 with a P-value of 0 and a T-value of 4.859. The analysis shows that financial literacy and overconfidence do not impact the risk-taking behavior of individuals. Overconfidence is a multi-faceted construct that can affect diverse investment decision-making differently (Vörös et al., 2021). Table 6 shows the results for mediation analysis. The T-value must be more than 1.96 and the significant p-value must be less than 0.05 when H9 is accepted as the null hypothesis. As a result, there is an indirect association, heavily mediated by agreeableness, between locus of control and risk-taking behavior.

The structural model with the mediation effect as shown in Figure 3 shows the significance of the relationship between the independent and dependent variable with their respective beta values and



#### Figure 2: The structural (inner) model

Figure 3: The structural model, mediation effect



Table 7: Mediation Analysis: Indirect Effect, PLS-SEM output

Hypothesis	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics ( O/STDEV )	P values
H4 $FL_{-} > OC_{-} > RTE$	B0.082	-0.077	0.062	1.32	0.187

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics ( O/STDEV )	P values
$AG > RTB_$	0.489	0.49	0.066	7.374	0
$FL_ \rightarrow OC_$	-0.646	-0.653	0.055	11.69	0
$FL \rightarrow RTB$	-0.001	-0.002	0.069	0.009	0.993
$GRA_ \rightarrow RTB_$	-0.13	-0.142	0.056	2.311	0.021
$LOC \rightarrow AG$	0.444	0.453	0.069	6.414	0
$LOC> RTB_$	0.356	0.364	0.073	4.859	0
OC > RTB	0.126	0.117	0.092	1.368	0.171

Table 8: Mediation Analysis: Indirect Effect, PLS-SEM outp
--

t-values that displays the significance of path co-efficient of each variable. The figure displays the direct and indirect effect of financial literacy and locus of control. H4 is rejected as shown in Table 6, which shows that financial literacy does not impact risk-taking behavior either directly or indirectly. This is in line with other research conducted in Delhi-NCR, where financial literacy has a statistically insignificant impact on investment decision-making (Adil et al., 2022).

Although there is no direct correlation between overconfidence and risk-taking behavior, empirical results show a strong correlation between general risk aversion, emotions like agreeableness, and locus of control, and risk-taking behavior. Financial literacy also influences overconfidence but fails to influence risk-taking behavior as shown in Table 8. This finding suggests that people are more influenced by their peers than by their financial literacy, which may encourage them to take risks. The p value of all the path is significant and less than 0.05 except the relationship between financial literacy and risk taking behavior with the p-value 0.993 and overconfidence and risk taking behavior with the p-value of 0.171. Hence the positive influencers for risk taking behavior are agreeableness, general risk aversion and locus of control.

### **5. CONCLUSION**

An empirical study pertaining to risk-taking behavior in a developing country can help the financial advisors with risk assessment of their clients. It becomes crucial here to understand that risk-taking behavior and risk tolerance are different from each other and need to be studied independently.

The contribution of the study is two-fold. First of all, the study finds that, despite their financial literacy, Indian investors lack confidence and heavily rely on friends and peers to help them make investment decisions. Furthermore, if one recognizes the external causes that influenced investment changes rather than placing the blame on oneself, financial literacy lessens overconfidence. If the investors are given an external stimulus of financial literacy, their losses can be minimized. It comes to the conclusion that financial literacy does not lead to risk-taking behavior—rather, it breeds overconfidence. Individual investors' risk-taking behavior is influenced by both general risk aversion and locus of control, with the latter being indirectly influenced by agreeableness and the former directly.

This study's strength is in the way it adds to the literature by combining the financial literacy and emotional perspectives on a different facet of risk assessment into a single framework and then applying it to a new setting in a developing nation (India). This work is a sincere effort to add to the expanding corpus of scholarly works in the area. Nonetheless, there is still room for improvement. The respondents in this study are from metropolitan regions; more research on rural populations may be undertaken. Due to the fact that the study's conclusions are based on a single sample and no power analysis of the model has been done, caution should be used when extrapolating the findings.

## REFERENCES

- Adil, M., Singh, Y., Ansari, M.S. (2022), How financial literacy moderate the association between behaviour biases and investment decision? Asian Journal of Accounting Research, 7(1), 17-30.
- Ahmad, K. (2024), The influence of financial literacy, risk orientation and qualified accountants on performance in micro, small and medium enterprises: The mediating role of management accounting. International Review of Management and Marketing, 14(6), 317-324.
- Ahmad, M., Shah, S.Z.A. (2022), Overconfidence heuristic-driven bias in investment decision-making and performance: Mediating effects of risk perception and moderating effects of financial literacy. Journal of Economic and Administrative Sciences, 38(1), 60-90.
- Almanaseer, S.R., Al-Slehat, Z.A.F., Al Sharif, B.M., Aloshaibat, S.D., Al-Haraisa, Y.E., Almahasneh, M.A. (2024), Financial literacy and mobile banking usage: The moderating role of demographic characteristics. International Review of Management and Marketing, 14(6), 424-432.
- Anbar, A., Eker, M. (2010), An empirical investigation for determining of the relation between personal financial risk tolerance and demographic characteristic. Ege Academic Review, 10(2), 503-522.
- Bhandari, S., Hallowell, M.R., Alruqi, W., Salas, R. (2021), Modeling the relationship between personal risk tolerance, work-related risk tolerance, and risk-taking behavior of construction workers. Journal of Construction Engineering and Management, 147(4), 04021016.
- Blais, A.R., Weber, E.U. (2006), A Domain-specific risk-taking (DOSPERT) scale for adult populations. Judgment and Decision Making, 1(1), 1301089.
- Brysbaert, M. (2019), How many participants do we have to include in properly powered experiments? A tutorial of power analysis with reference tables. Journal of Cognition, 2(1), 16.
- Campos-Vazquez, R.M., Cuilty, E. (2014), The role of emotions on risk aversion: A Prospect Theory experiment. Journal of Behavioral and Experimental Economics, 50, 1-9.
- Chai, M.T., Chia, Y.K., Fong, S.N., Lew, W.C., Tan, C.T. (2012), RMP15 T1G3 Determinants of Saving Behaviour Among the University Students in Malaysia. Faculty of Business and Finance Department of Commerce and Accountancy [Research Projects].
- Chang, C.C., DeVaney, S.A., Chiremba, S.T. (2004), Determinants of subjective and objective risk tolerance. Journal of Personal Finance, 3(3), 53-67.

Choung, Y., Chatterjee, S., Pak, T.Y. (2022), Depression and financial

planning horizon. Journal of Behavioral and Experimental Economics, 98, 101877.

- Colasante, A., Riccetti, L. (2021), Financial and non-financial risk attitudes: What does it matter? Journal of Behavioral and Experimental Finance, 30, 100494.
- Colasante, A., Riccetti, L. (n.d.), Risk Aversion, Prudence and Temperance: It is a Matter of Gap between Moments. Available from: https://ssrn.com/abstract=3355602
- Coleman, S. (2003), Risk Tolerance and the Investment Behavior of Black and Hispanic Heads of Household. Available from: http://ssrn.com/ abstract=2265572
- Costa, D.F., de Melo Carvalho, F., de Melo Moreira, B.C., do Prado, J.W. (2017), Bibliometric analysis on the association between behavioral finance and decision making with cognitive biases such as overconfidence, anchoring effect and confirmation bias. Scientometrics, 111(3), 1775-1799.
- Dinç Aydemir, S., Aren, S. (2017), Do the effects of individual factors on financial risk-taking behavior diversify with financial literacy? Kybernetes, 46(10), 1706-1734.
- Dittrich, D.A.V., Güth, W., Maciejovsky, B. (2005), Overconfidence in investment decisions: An experimental approach. The European Journal of Finance, 11(6), 471-491.
- Dohmen, T., Falk, A., Huffman, D., Sunde, U. (1997), Individual risk attitudes: Measurement, determinants and behavioral consequences. Journal of the European Economic Association, 9, 522-550.
- Fisher, P.J., Yao, R. (2017), Gender differences in financial risk tolerance. Journal of Economic Psychology, 61, 191-202.
- Fornell, C., Larcker, D.F. (1981), Evaluating structural equation models with unobservable variables and measurement error. Journal of Marketing Research, 18(1), 39.
- Gold, S. M., Heesen, C., Schulz, H., Guder, U., Mönch, A., Gbadamosi, J.,
  & Schulz, K. H. (2001), Disease specific quality of life instruments in multiple sclerosis: validation of the Hamburg Quality of Life Questionnaire in Multiple Sclerosis (HAQUAMS). Multiple Sclerosis Journal, 7(2), 119-130.
- Grable, J., Roszkowski, M., Joo, S.H., O'Neill, B., Lytton, R.H. (2009), A test of the relationship between self-classified financial risk-tolerance and investment risk-taking behaviour. International Journal of Risk Assessment and Management, 12(2/3/4), 396.
- Grable, J.E., Joo, S.H. (2004), Environmental and Biopsychosocial Factors Associated with Financial Risk Tolerance. Available from: http://ssrn.com/abstract=2260471
- Hair, J.F. (2011), Multivariate data analysis: An overview. In: International Encyclopedia of Statistical Science. Berlin, Heidelberg: Springer. p904-907.
- Hair, J.F., Hult, G.T.M., Ringle, C.M., Sarstedt, M., Danks, N.P., Ray, S. (2021), Partial Least Squares Structural Equation Modeling (PLS-SEM) Using R. Germany: Springer International Publishing.
- Hair, Jr. J.F. (2006), Successful Strategies for Teaching Multivariate Statistics. In: Proceedings of the 7<sup>th</sup> International Conference on ICOTS-7, p1-5.
- Hanna, S.D. (2011), The demand for financial planning services. Journal of Personal Finance, 10(1), 36-62.
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015), A new criterion for assessing discriminant validity in variance-based structural equation modeling. Journal of the academy of marketing science, 43, 115-135.
- Hermansson, C., Jonsson, S. (2021), The impact of financial literacy and financial interest on risk tolerance. Journal of Behavioral and Experimental Finance, 29, 100450.
- Highhouse, S., Nye, C.D., Zhang, D.C., Rada, T.B. (2017), Structure of the Dospert: Is there evidence for a general risk factor? Journal of Behavioral Decision Making, 30(2), 400-406.
- Huston, S.J. (2010), Measuring financial literacy. Journal of Consumer Affairs, 44(2), 296-316.

- Kannadhasan, M. (2015), Retail investors' financial risk tolerance and their risk-taking behaviour: The role of demographics as differentiating and classifying factors. IIMB Management Review, 27(3), 175-184.
- Kannadhasan, M., Aramvalarthan, S., Mitra, S.K., Goyal, V. (2016), Relationship between biopsychosocial factors and financial risk tolerance: An empirical study. Vikalpa, 41(2), 117-131.
- Kesavayuth, D., Ko, K.M., Zikos, V. (2018), Locus of control and financial risk attitudes. Economic Modelling, 72, 122-131.
- Khalid, M., Abbas, Q., Malik, F., Ali, S. (2020), Impact of audit committee attributes on financial distress: Evidence from Pakistan. International Journal of Financial Engineering, 7(1), 2050005.
- Korkmaz, A.G., Yin, Z., Yue, P., Zhou, H. (2021), Does financial literacy alleviate risk attitude and risk behavior inconsistency? International Review of Economics Finance, 74, 293-310.
- Kumar, R. (2023), Why the retail investor is going to drive India's growth story in 2023. Available from: https://economictimes.indiatimes. com/markets/stocks/news/why-the-retail-investor-is-going-todrive-indias-growth-story-in-2023/articleshow/96701663.cms?utm\_ source=contentofinterest&utm\_medium=text&utm\_campaign=cppst
- Lim, T.S., Mail, R., Abd Karim, M.R., Ahmad Baharul Ulum, Z.K., Jaidi, J., Noordin, R. (2018), A serial mediation model of financial knowledge on the intention to invest: The central role of risk perception and attitude. Journal of Behavioral and Experimental Finance, 20, 74-79.
- Mishra, S., Mishra, M. (2014), Financial risk tolerance: A literature review. Siddhant- A Journal of Decision Making, 14(1), 10.
- Montesano, A. (1990), On the definition of risk aversion. Theory and Decision, 29(1), 53-68.
- Mutlu, T., Balbag, Z., Cemrek, F. (2010), The role of self-esteem, locus of control and big five personality traits in predicting hopelessness. Procedia Social and Behavioral Sciences, 9, 1788-1792.
- Noussair, C.N., Trautmann, S.T., Van de Kuilen, G. (2014), Higher order risk attitudes, demographics, and financial decisions. Review of Economic Studies, 81(1), 325-355.
- Perry, V.G., Morris, M.D. (2005), Who is in control? The role of selfperception, knowledge, and income in explaining consumer financial behavior. Journal of Consumer Affairs, 39(2), 299-313.
- Peterson, R.A., Kim, Y. (2013), On the relationship between coefficient alpha and composite reliability. Journal of Applied Psychology, 98(1), 194-198.
- Pinjisakikool, T. (2018), The influence of personality traits on households' financial risk tolerance and financial behaviour. Journal of Interdisciplinary Economics, 30(1), 32-54.
- Preacher, K.J., Hayes, A.F. (2004), SPSS and SAS procedures for estimating indirect effects in simple mediation models. Behavior Research Methods, Instruments, Computers, 36(4), 717-731.
- Preacher, K.J., Hayes, A.F. (2008), Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. Behavior Research Methods, 40(3), 879-891.
- Rabbani, A.G., Yao, Z., Wang, C. (2019), Does personality predict financial risk tolerance of pre-retiree baby boomers? Journal of Behavioral and Experimental Finance, 23, 124-132.
- Rahman, M. (2020), Propensity toward financial risk tolerance: An analysis using behavioural factors. Review of Behavioral Finance, 12(3), 259-281.
- Rai, K., Gupta, A., Tyagi, A. (2021), Personality traits leads to investor's financial risk tolerance: A structural equation modelling approach. Management and Labour Studies, 46(4), 422-437.
- Rodrigues, C.G., Gopalakrishna, B.V. (2023), Financial risk tolerance of individuals from the lens of big five personality traits - a multigenerational perspective. Studies in Economics and Finance, 41, 88-101.
- Sehrawat, K., Vij, M., Talan, G. (2021), Understanding the path toward

financial well-being: Evidence from India. Frontiers in Psychology, 12, 638408.

- Shafi, M. (2014), Determinants influencing individual investor behavior in stock market: A cross country research survey. Arabian Journal of Business and Management Review, 62(1100), 1-12.
- Sneha, P., Sinha, N., Varghese, A., Durani, A., Patel, A. (2021), Bureaucratic indecision and risk aversion in India. Indian Public Policy Review, 2, 55-87.
- Song, C.L., Pan, D., Ayub, A., Cai, B. (2023), The interplay between financial literacy, financial risk tolerance, and financial behaviour: The moderator effect of emotional intelligence. Psychology Research and Behavior Management, 16, 535-548.
- Statman, M. (2010), Beyond Risk Tolerance: Regret, Overconfidence, Personality and Other Investor Characteristics. Santa Clara: Santa Clara University.
- Ul Abdin, S.Z., Qureshi, F., Iqbal, J., Sultana, S. (2022), Overconfidence

bias and investment performance: A mediating effect of risk propensity. Borsa Istanbul Review, 22(4), 780-793.

- Van de Venter, G., Michayluk, D., Davey, G. (2012), A longitudinal study of financial risk tolerance. Journal of Economic Psychology, 33(4), 794-800.
- Vörös, Z., Szabó, Z., Kehl, D., Kovács, O.B., Papp, T., Schepp, Z. (2021), The forms of financial literacy overconfidence and their role in financial well-being. International Journal of Consumer Studies, 45(6), 1292-1308.
- Weixiang, S., Qamruzzaman, M., Rui, W., Kler, R. (2022), An empirical assessment of financial literacy and behavioral biases on investment decision: Fresh evidence from small investor perception. Frontiers in Psychology, 13, 977444.
- Yao, R., Gutter, M. S., & Hanna, S. D. (2005), The financial risk tolerance of Blacks, Hispanics and Whites. Journal of Financial Counseling and Planning, 16(1).