Investor Traits and Risk Tolerance Post-COVID-19: The Moderating Role of Financial Advice in Pakistan

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Abstract

Purpose: This study examines the impact of personal characteristics (age, gender, education, market exposure, and marital status) on individual investors' risk tolerance in Pakistan post-COVID-19. Additionally, the moderating role of financial advice in influencing this relationship is explored.

Methodology: A quantitative research design was employed, with data collected via an online survey of 382 retail investors in Pakistan. The data was analyzed using the generalized ordered logistic regression model to test the relationship between personal characteristics and risk tolerance, moderated by financial advice.

Findings: Results indicate that gender, age, education, and market exposure are all good predictors of risk tolerance. Financial advice is a significant moderator; it significantly enhances the risk tolerance for groups that are generally more conservative - women and older respondents.

Implications: The findings have several implications that are useful for both practicing financial advisors and policymakers. Advisors can have demographic-specific guidance for their clients, while policymakers can design focused financial literacy programs. Individual investors could make better choices on risk exposure, knowing the influence of personal traits and how professional advice works.
Novelty: This is a new integration of the Life Cycle Hypothesis and financial advice as a moderating variable, leading to a better theoretical understanding of investor behavior. The results offer new insights into how personal characteristics and external guidance shape risk tolerance in emerging markets such as Pakistan.
Future Research: Future studies should try to find more personal characteristics, including personality and cultural variables, and analyze how changes in life events or deviations in income may affect risk tolerance. Other fruitful areas of possible research could include an investigation into the impact that digital financial advice services may have on investor behavior.

Keywords: *Investor Behavior, Risk Tolerance, Financial Advice, Ordered Logistics Regression, Covid-19*

1. Introduction

The pandemic has brought about shifted financial markets, changed investor behavior, and also risk appetite in many parts of the world (Huber et al., 2021). In turn, these could be more pronounced in emerging markets such as those of Pakistan, with its own unique set of economic and cultural dynamics at play (Mushafiq, 2023). This has caused investors to face greater intricacy and uncertainty associated with making their decisions. Personal characteristics such as age, gender, education, market exposure, and marital status have been recognized as the main risk tolerance determinants (Lobão, 2024). Therefore, the study of these characteristics is required in order to understand how people respond to this heightened volatility.For example, younger investors accept a higher degree of risk due to their longer investment horizon (Blake et al., 2014). Similarly, an older or less-experienced investor implements more conservative strategies through which they can ensure stability rather than potential return (Baeckström et al., 2021a, 2021c; Baeckström et al., 2018; Kappal & Rastogi, 2020; Monne et al., 2024; Sarkar & Sahu, 2018). Even though the characteristics of a person relate to one's risk tolerance, the financial world after the pandemic may be different, and not yet explored, at least for those under-researched markets like Pakistan (Khan et al., 2024).

At the same time, the growing dependence on the use of professional investment advice became a critical driver for shaping perceptions of risk in this new era (Singh & Biswas, 2024).

Professional counsel is increasingly turned to as a mechanism to reduce uncertainty and enable investors to get better and more strategic decisions. Aside from this primary effect on risk tolerance level, financial advice can also act as a moderator that may alter how personal factors drive investor behavior in the post-COVID period (Hunjra et al., 2024; Rahman et al., 2023).

The present study, therefore, tries to test the effect of investors' personal characteristics, such as age, gender, education, market exposure, and marital status, on their risk tolerance behavior post-COVID-19. Moreover, this study explores the moderating role of financial advice for the established relationship. The specific research objectives are as under:

1. To assess the influence of an investor's personal characteristics on their risk tolerance.
2. To identify the influence of financial advice as determining factor of risk tolerance.
3. The study investigates the moderating role of financial advice for the established relationship.

It is also significantly a relevant study since it would explain how the dynamics of individual investor behavior across Pakistan have changed since the COVID-19 pandemic. The present study has focused on personal variables, including age, gender, education, market experience, and marital status, which affect the tolerance of risk among Pakistani investors. Given the drastic changes the pandemic has brought to international financial markets, such an understanding of the influences will be crucial for investors and financial professionals in Pakistan. This paper identifies not only the direct impacts of these characteristics on risk tolerance but also develops a critical role of financial advice in shaping investor behavior. In turn, financial advice is both a determinant and acts as a moderator in the relationship that exists between personal characteristics and risk tolerance. This further justifies how informed guidance may weaken or amplify risk-taking behavior. These propositions are of particular importance to financial advisors, policymakers, and institutions in Pakistan because it helps them develop specific strategies that are congenial to different investor profiles in the light of changed dimensions after COVID-19.

This has contributed significantly to the scant literature by providing empirical evidence on the determinants of risk tolerance among individual investors in Pakistan during the post-COVID-19 era. It extends the literature on how personal variables such as age, gender, education, market exposure, and marital status impinge on risk behavior-the growing interest in these volatile economic times. Hence, the research underlines financial advice as a moderating role and hence offers a different perspective on the importance of shaping investors' decisions.

These findings can be used to develop client-specific financial strategies that shall help practitioners and policymakers in Pakistan to understand particular investor needs.

The study is organized in the following manner: Section 2 undertakes the literature review, theoretical underpinning, and hypotheses development. Section 3 discusses the methodology of research adopted for collecting and analyzing data. Section 4 presents the analysis of data and discussion, interpreting findings against the perspective of existing literature. Finally, Section 5 concludes with the major findings, providing recommendations and implications for investors, financial advisers, and policy-makers in Pakistan.

2. Literature Review

2.1 Theoretical Underpinning of the study

The theoretical framework of the present research relies on behavioral finances and decision-making theories on how cognitive biases affect the level of investors' risks. The Prospect theory proposes that individuals' behavior in regard to risk is led by their perception of gains and losses (Altman, 2010). The study stated that personal factors such as age and exposure to markets being the strong determinants of risk. For research approach, the study is informed by the Social Learning Theory as proposed by Bandura (1977) on how investors could be influenced in changing their behaviors through observation from one another and interaction on financial advice. Most relevant, however, is the Life Cycle Hypothesis by Ando and Modigliani (2005), which postulates that there is variation in risk tolerance across different stages of an investor's life, something consistent with the present study regarding personal characteristics and financial advice.

2.2 Critical review and Hypothesis Development

Individual investors' risk tolerance in the financial markets is influenced by various personal characteristics, including gender, age, education, market exposure, and marital status. Indeed, there is documented evidence that men are more tolerant of risk compared to women. For example, Baeckström et al. (2021a) stated that men have riskier investment behavior partly due to overconfidence. Of course, the more important determining factors of risk tolerance include age. According to Blake et al. (2014), younger investors would be more tolerant of higher risk compared to older investors. Thus they attributes to the fact that the longer investment horizons enjoyed by younger investors provide them with ample time to recover from losses. Moreover, education is also an important factor, as the level of education increases, especially, the financial literacy and hence the risk tolerance also increases (Bayar et al., 2020; Nguyen et al.,

2022; Tharayil, 2023). Analogically, the more market exposure an investor has, the higher their risk tolerance may become (Lejarraga et al., 2016). Marital status finally, impacts one's propensity towards risk tolerance. It is something which seems to be the case as married individuals have shown lesser risk tolerance tendencies than single investors (Oztop & Kuyu, 2020). Together, these various factors combine in a substantial manner to affect how individual investors approach risk in financial markets.

H_1*: *Investor's Personal Characteristics significantly determine their behavior towards risk.

Financial advice largely determines risk tolerance and shapes investors' choices in financial markets. For example, research evidence by Hackethal et al. (2012) suggests that professional advice on finance increases investors' risk tolerance.They further stated the reason that it creates confidence and further clarity about the existing market opportunities. Moreover, advisors bridge the knowledge gap to guide investors in areas where they do not comprehend complex financial products and risks. Indeed, Baeckström et al. (2018) found that investors who regularly seek financial advice tend to have higher levels of risk tolerance, largely because tailored risk management strategies and diversified portfolios cut down fear and uncertainty. As Baeckström et al. (2021a) also noted that professional advice has also been known to foster disciplined investment behavior in a manner that dampens reactions to volatility. However, financial advice is effective only when the investor has faith in the adviser as perceived bias in advice (Athota et al., 2023) . Overall, financial advice generally empowers investors to take calculated risks and make informed decisions, leading to a positive effect on risk tolerance in financial markets.

H_2*: *Financial advice significantly enhances the risk rolerence of individual investors.

Financial advice plays a crucial moderating role in shaping the relationship between personal characteristics—such as gender, age, education, market exposure, and marital status—and risk tolerance among investors. Existing literature supports this mechanism. For example, Hackethal et al. (2012) suggesting that financial advice enhances confidence in naturally risk-tolerant groups, like men and younger investors, by helping them make informed, calculated decisions. In contrast, financial advice compensates for risk aversion in women and older investors, encouraging them to take on more risk through clear guidance (Baeckström et al., 2021a). Similarly, Tharayil (2023) found that financial advice helps less-educated investors overcome their inherent risk aversion by providing personalized explanations and risk management strategies. For investors with limited market exposure, financial advice deepens their understanding of market dynamics, making them more comfortable with risk-taking

(Lejarraga et al., 2016). Married investors, who often prioritize financial security, may find their risk tolerance moderated through advice that balances risk-taking with long-term family financial goals (Oztop & Kuyu, 2020). Thus, financial advice reshapes the influence of personal characteristics on risk tolerance, enabling more informed and balanced investment decisions.

H_3*: *Financial advice significantly moderate the impact of investor's personal characteristics towards their risk tolerance.

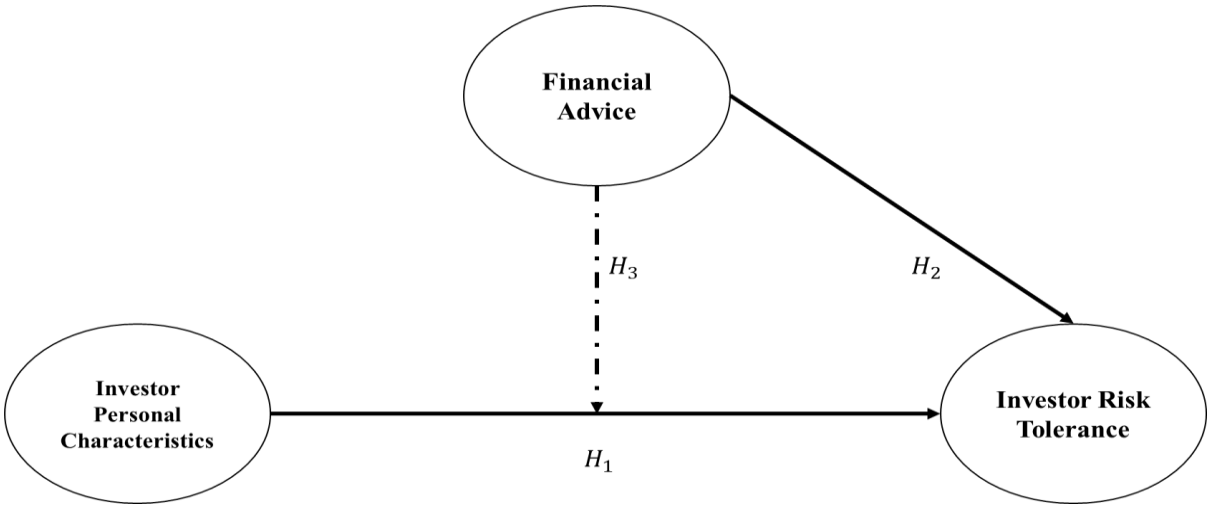

Figure 1: Conceptual Model (Life Cycle theory)

Figure 1 report the conceptual model of this study. It indicates first hypothesis to test the impact of investor's personal characteristics on their risk tolerance. Furthermore, it indicates the second hypothesis to test the impact of financial advice on investor's risk tolerance. Moreover, the third hypothesis indicates the moderating impact of financial advice in relation to investor's personal characteristics, and their risk tolerance. The study test the life cycle theory.

3. Research Methodology

3.1 Research Design

The researcher adopted a quantitative research design due to the study's objective to quantify relationships and analyze data statistically. It is essential for generalizing findings to a broader population (Creswell & Creswell, 2017). To achieve this, the researcher collected quantitative survey data from retail investors in Pakistan using online platforms like investment forums, ensuring a wide and diverse sample. The choice of positivism as the research philosophy aligns with the emphasis on objective reality, where hypotheses are tested through observable and measurable variables (Collis & Hussey, 2021). Moreover, the researcher employed a deductive

reasoning approach, beginning with existing theories to formulate hypotheses, which were then tested against the collected data (Saunders et al., 2015).

3.2 Research instruments and Data collection

The research instrument for this study is self-directed close ended online survey questionnaire. The first section contains the questions related to the personal characteristics of the target respondents. These include gender, age, education level, marital status, market exposure, and financial advice. The next section reports the risk tolerance level. The research shared online survey questionnaire of this study among 400 target respondants online using investment forums at facebook, Linkedline, instagrame, etc. However, the researcher was able to receive complete responses from 382 individual investors from Pakistan. It indicated as response rate of 96%.

The researcher used convenience sampling to collect close-ended survey data from individual investors in Pakistan via online platforms like Facebook, LinkedIn, and Instagram investment forums. This is a non-probability sampling method that is appropriate for specific, accessible groups. This is especially the case in exploratory studies where representativeness is less critical (Etikan et al., 2016). Active investors are found in online forums, hence making an ideal spot for collecting relevant data in a timely manner (Couper, 2000). Additionally, online settings are ideal for convenience sampling, in which conventional survey techniques may face challenges in reaching the targeted population (Wright, 2005).

The research focuses on the individual investors of Pakistan, both in the stock and forex markets, respectively. These are budding sectors within the financial markets, with rapidly growing access to trading platforms, enhancements in financial literacy, and awareness of investment opportunities (Awais et al., 2016). The inclusion of stock and forex traders is quite crucial in this study, mainly because these markets present different risks that can also comprehensively analyze investor behavior. This becomes a highly relevant population in light of the study on risk tolerance and investment behavior in the strenuous and ever-evolving financial landscape in Pakistan (Rasool & Ullah, 2020).

3.3 Variable Measurement

Table 1: Variable Measurement & Sources

Variable Type	Variable Title	Dimensions & Measure
DV	Investor' Behavior towards risk Tolerance	• Risk Tolerance Level (1-5) lowest to highest (Baeckström et al., 2021b)

IVs	(IBRT) Investor's Characteristics (InvChar)	• Gender (Male = 1, Female = 0) • Age (Younger = 1, Middle Aged = 2, Older Aged = 3) • Education Level (Undergraduate = 1, Graduate = 2, Master's = 3) • Market Exposure (Low = 1, High = 2) • Marital Status (Single =1, Married = 2, Divorced/separated = 3)
Moderating	Financial Advice (FAdvice)	• Advised = 1 (Wealth Manager, Private Bank, Professional Financial Advisor, Robo-advisor) • Self-direct = 0 (Friend & Family, I do not receive financial advice)

Table 1 presents the measurement of the variables involved in this study. The dependent variable of the study is investor's behavior in regard to risk tolerance, measured on a five-point Likert scale ranging from strongly disagree to strongly agree. Furthermore, investor characteristics, including age, gender, education level, marital status, and market exposure, are the independent variables of this study. Finally, the study has used financial advice as the moderating variable of the study. The variable was measured as suggested by the researcher: equal to one and self-suggested: equal to zero.

In this study, the generalized ordered logistic regression model was adopted due to structure of variables. The ordered logistic regression (OLR) was used in testing the hypotheses of the study because the method was mainly advanced for ordinal dependent variables when the response categories have a natural order (Long & Freese, 2006). OLR assumes proportional odds, meaning the relationship between a set of outcome groups is equally the same. This generally gives the model an analysis that is more parsimonious and interpretable if the proportional odds assumption were actually met when all categories in the dependent variable are concerned (Agresti, 2012). OLR will be chosen since the core of this study will be to understand how the predictors influence the likelihood of the respondents being higher or lower in an ordinal scale (Williams, 2006).

Equation 1 describe the structure of this model.

$$\Pr(Y_i > j) = \frac{\exp(a_j + X_i\beta_j)}{1-[\exp(a_j + X_i\beta_j)]}$$

Where, **j** = number of categories of DV, $\boldsymbol{a_j}$ = constant term of each category, X_i = IVs,

β_j = Slope coefficients of IVs.

4. Results and Discussion

Table 2: Summery Statistics

Personal Characteristics	Categories	N	%
Gender	Female	110	28.8
	Male	272	71.2
Age	Younger (18-35)	195	51.0
	Middle Aged (36-55)	124	32.5
	Older (>55)	63	16.5
Education Level	Undergraduate	72	18.8
	Graduate	100	26.2
	Postgraduate	210	55.0
Marital Status	Single/Engaged	127	33.2
	Marital	122	31.9
	Divorced/separated	133	34.8
Market Exposure	*Low*	198	51.8
	High	184	48.2
Financial Advice	Self-Directed	186	48.7
	Advice	196	51.3

The summary statistics of individual investors in Pakistan provide dramatic insightful trends shaped by culture, education, and economic factors. The sample is predominantly composed of males at 71.2%, a reflection of the traditional gender division where men have better access to financial resources and opportunities for investment-a trend molded by cultural norms that often restrict womanly financial decision-making. The age distribution is dominated by the sample of young investors, ranging between 18 and 35 years, constituting 51.0%, which is in harmony with the demographic features of Pakistan-young population-and their increasing participation in financial markets possibly due to digital access and availability of information. Middle-aged investors account for 32.5%, arguably at their peak earning years and very eager to grow their wealth, while older investors comprise 16.5%, which is indicative of a more conservative approach in favor of safer investments. Education follows, with 55.0% of them having postgraduate degrees; thus, proving the relation between higher education and active market participation since educated investors would be more equipped with financial literacy and analytical skills needed in complex investment decisions. Also, the sample is relatively evenly distributed in marital status: single or engaged, 33.2%; married, 31.9%; and divorced or separated, 34.8%, which might suggest that this group could not differ greatly in investment

behavior according to marital status, although some factors related to post-divorce restructuring or financial independence must be considered. Market exposure is evenly split, with 51.8% having low exposure and 48.2% high exposure, reflecting a diverse investor base ranging from cautious newcomers to confident, experienced investors. The nearly even split between self-directed investors (48.7%) and those seeking financial advice (51.3%) highlights the evolving financial advisory landscape in Pakistan, where access to information empowers self-directed investors, while others still prefer professional guidance. These findings provide critical insights for financial institutions, policymakers, and researchers aiming to understand and engage with Pakistan's diverse and evolving investor population.

Table 2: Ordered Logistic Regression

	Model 1	**Model 2**	**Model 3**
Gender (Female/Male)	-1.535**	-1.501*	-1.610
	(0.319)	(0.313)	(0.487)
Age	-0.636*	-0.633*	-0.558**
	(0.164)	(0.163)	(0.161)
Education	1.272*	1.270*	1.210*
	(0.162)	(0.162)	(0.203)
Marital Status	0.863	0.864	1.006
	(0.103)	(0.103)	(0.173)
Exposure	1.419**	0.566**	0.846**
	(0.546)	(0.504)	(0.880)
Financial Advice		0.387*	1.178*
		(0.321)	(3.053)
Gender × Financial Advice			0.926**
			(0.388)
Age × Financial Advice			2.516**
			(1.820)
Education × Financial Advice			1.215**
			(0.318)
Marital Status × Financial Advice			0.723*
			(0.176)
Exposure × Financial Advice			0.204**
			(0.397)
Constant	4.096**	0.0221***	0.0461***
	(1.903)	(0.0378)	(0.0943)
Observations	382	382	382
Pseudo R2	0.0115	0.0126	0.0159
Prob > chi2	0.0186	0.0112	0.0056

The ordered logistic regression analysis across three models provides key insights into the factors influencing risk tolerance among individual investors in Pakistan, focusing on personal characteristics and financial advice. Model 1 shows that gender significantly affects risk tolerance, with females less likely to take risks than males (coefficient: -1.535**). This aligns

with studies showing that women are generally more risk-averse due to cultural norms that limit their financial participation (Baeckström et al., 2021a). Age also negatively impacts risk tolerance (-0.636*), supporting the idea that older investors prefer safer investments, likely due to increased responsibilities and a focus on financial security (Blake et al., 2014). Education positively influences risk tolerance (1.272*), which is consistent with research suggesting that higher education improves financial literacy and confidence in making investment decisions (Bayar et al., 2020; Nguyen et al., 2022; Tharayil, 2023). Market exposure has a strong positive effect on risk tolerance (1.419**), indicating that greater familiarity with the market increases comfort with risk-taking (Lejarraga et al., 2016). Marital status, however, does not significantly impact risk tolerance, suggesting it may not be a key factor in this context, contrary to some findings that link marital status to increased risk aversion (Oztop & Kuyu, 2020).

Model 2 adds financial advice as a variable, showing that it positively influences risk tolerance (0.387*). This supports the notion that financial advisors boost investor confidence, making them more willing to take risks (Athota et al., 2023; Baeckström et al., 2021a, 2021c; Hackethal et al., 2012). The inclusion of financial advice does not change the significance of the other variables, reinforcing the role of gender, age, education, and market exposure in determining risk tolerance.

Model 3 introduces interaction terms between personal characteristics and financial advice. The interaction between gender and financial advice (0.926**) suggests that advice increases risk tolerance in females, aligning with findings that financial guidance helps reduce the gender gap in risk-taking (Athota et al., 2023; Baeckström et al., 2021a, 2021c; Hackethal et al., 2012). The interaction between age and financial advice (2.516**) shows that older investors benefit significantly from advice, which helps them overcome age-related risk aversion (Blake et al., 2014). Education and financial advice also interact positively (1.215**), indicating that advice enhances the confidence of educated investors, enabling them to take more risks (Bayar et al., 2020; Nguyen et al., 2022; Tharayil, 2023). Marital status and financial advice interact positively (0.723*), suggesting that advice helps married or transitioning individuals make more confident investment decisions (Oztop & Kuyu, 2020). The interaction between market exposure and financial advice (0.204**) confirms that advice strengthens the relationship between market experience and risk tolerance, helping investors use their market knowledge more effectively (Lejarraga et al., 2016).

The constant values across all models are positive and significant, indicating that other unmeasured factors may influence risk tolerance. The **Pseudo R^2** increases from 0.0115 in Model 1 to 0.0159 in Model 3, suggesting a slight improvement in explanatory power when financial advice and interaction terms are included. The **Prob > chi^2** values (0.0186, 0.0112, 0.0056) indicate that all models are statistically significant. In conclusion, gender, age, education, and market exposure are key factors in determining risk tolerance among individual investors in Pakistan. Financial advice plays a critical role, especially in increasing the risk tolerance of typically more risk-averse groups like females, older individuals, and those with less market exposure. This highlights the importance of professional guidance in financial decision-making.

5. Conclusion and Recommendations

5.1 Conclusion

The present study investigates the impact of personal attributes and financial advice on risk tolerance by individual investors in the case of Pakistan. This study has identified that the factors of gender, age, education, and market exposure are those which have a significant effect on risk tolerance, and financial advice moderates the outcome. Specifically, the results of this study have indicated that financial advice increases the risk tolerance of individual investors, particularly for groups like females and older persons who usually tend to be more risk-averse. These two results bring into sharp relief why it is vital to understand the shaping of investment behavior by personal characteristics and guidance in an external environment, thereby providing useful insights into the financial decision-making processes of investors in emerging markets like Pakistan.

5.2 Theoretical Implications

The findings of this study are based on the Life Cycle Hypothesis of Ando and Modigliani (2005) which suggests that an individual's stage in life affects his risk tolerance. This hypothesis, therefore, lends credibility to the rationale of the present study, which is centered on personal variables such as age, gender, and education, in conjunction with financial advice, to arrive at investment behavior. Following the Life Cycle Hypothesis, there may be younger investors who can be more risk tolerant because they have less financial responsibilities, but older investors might be more conservative and concerned about financial security. This study provides an extension to the above framework by describing the moderating role of financial advice in such tendencies, particularly for those who tend to be more risk-averse, such as

females and older respondents. Therefore, this study, by integrating the Life Cycle Hypothesis with personal traits, develops the theoretical explanation of how life stages interact with guidance from the outside to impact risk tolerance and provides a more critical look at investor behavior in emerging markets like that of Pakistan.

5.3 Practical Implications

The findings of this study have a number of practical implications for financial advisors, policy, and individual investors. Financial advisors should take personal characteristics, such as gender, age, and education, into consideration when they provide advice, with the aim of improving the risk tolerance of their clients. For example, methods by which financial literacy in women and elderly investors can be enhanced will help them in more balanced risk-taking behavior. Policymakers may also gain from these insights in the construction of educational programs that emphasize selected demographic groups with a view to improving inclusiveness and an informed investor population. To individual investors, the importance of personal characteristics as a determinant of risk tolerance will aid in making better financial decisions. Surely, there is also a need to seek professional financial advice, especially for those who are disposed to generally being more risk-averse. By inculcating these pragmatic suggestions, the stakeholders will be much better equipped to support the creation of a resilient and confident investor community in Pakistan.

5.4 Limitations

Despite these insights into the determinants of risk tolerance, this study has its limitations. First, the sample consists only of individual investors in Pakistan. This will not allow for generalization across markets. Further, the data was self-reported, and this has its shortcomings in such ways as social desirability bias or not being in a correct position to make accurate self-assessments. The cross-sectional nature of data also tends to limit the chances of establishing causality among variables. This too could be addressed in further research by using longitudinal data and increasing the sample to include investors from a wide variety of countries and contexts.

5.5 Suggestions for Future Research

Further investigations should be done on the effects of other personal characteristics, such as personality and culture, on risk tolerance in order to have a more complete picture of investor behavior. Furthermore, future studies can be made to see the modifications in risk tolerance

after changes in a person's personal situation, like income level or life events. This would also provide a wider cross-cultural understanding once more countries, especially from emerging markets, get included within the study. Finally, it would be rewarding to explore how the role of digital financial advisory services unfolds and reveals new frontiers to investor behavior.

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