

A Study on the Mechanisms of Gender Influence on Investment Performance: A Review Based on the Chain Mediation of Financial Literacy and Emotional Stability

Xiaochun Feng

Shanghai Ulink College School, Shanghai, China

Email: F18512115351@outlook.com

*Corresponding author

Manuscript received July 25, 2026; accepted October 12, 2026; published October 27, 2026.

Abstract—Traditional economic theory assumes that investors are fully rational decision-makers, but behavioral finance research demonstrates that psychological factors systematically influence investment behavior. Gender, as a key individual characteristic, has received considerable attention in behavioral finance research. However, the existing literature primarily focuses on describing whether gender differences exist, rather than explaining why these differences arise. Through a systematic literature review, this paper synthesizes existing research on the relationships among gender, financial literacy, emotional stability, overtrading, and investment performance. Empirical evidence from both academic studies and industry big data consistently shows that female investors achieve higher average returns than their male counterparts. Quantitative data further substantiate this difference: men lose 2.65 percentage points in net returns annually due to overtrading, while women lose only 1.72 percentage points—a difference of 0.93 percentage points. Fidelity Investments data, based on 5.2 million accounts, indicate that women outperform men by 0.4 percentage points annually while trading only half as frequently as men. An analysis of 136,000 investors by the Swedish Financial Supervisory Authority also confirms that women outperform men by 0.13 percentage points. This review identifies key gaps in current research and provides directions for future theoretical development, empirical advancement, and the practical design of inclusive financial education programs.

Keywords—gender differences, investment decisions, financial literacy, emotional stability, chain mediation

I. INTRODUCTION

Traditional economic theory posits that humans are fully rational decision-makers who carefully evaluate all facts and evidence to make optimal decisions (Jaiswal, & Kamil, 2012). However, behavioral finance research indicates that real-world investors are not entirely rational but are systematically influenced by various psychological factors and cognitive biases (Kahneman, & Tversky, 1979). In this context, researchers have begun to focus on how individual characteristics moderate the impact of behavioral biases on investment decisions. Gender, as one of the most significant demographic variables, has become a central topic in behavioral finance research.

A substantial body of empirical research confirms significant gender differences in investment behavior. Barber and Odean found that male investors exhibit higher levels of overconfidence and more frequent trading, resulting in lower net returns than females (Barber, & Odean, 2001). Jaiswal and Kamil and Jamil and Khan further confirmed that, across different cultural contexts,

men are more prone to overconfidence and risk-seeking than women (Jaiswal, & Kamil, 2012; Jamil, & Khan, 2016). Industry data from Fidelity Investments show that among its 5.2 million client accounts, female clients achieved an average annual return that was 0.4 percentage points higher than that of males, primarily owing to lower trading frequency (Lieber, 2021). Despite the ample evidence, most existing studies remain at the descriptive level of “whether a difference exists,” with few delving into “why the difference exists”—that is, the psychological mechanisms and cognitive pathways underlying gender differences.

This paper adopts a systematic literature review approach to identify and synthesize research findings on the relationships among gender, financial literacy, emotional stability, overtrading behavior, and investment performance. The aim is to fill the explanatory gap regarding mechanisms in existing research and to provide practical implications for financial education and investment advisory services.

II. THEORETICAL FOUNDATIONS

Prospect Theory, proposed by Kahneman and Tversky (1979), challenges the traditional economic assumption of complete human rationality. Through its value function and decision-weighting function, the theory reveals that: people are more sensitive to losses than to equivalent gains (loss aversion); they exhibit risk aversion for gains but risk-seeking for losses; and the “certainty effect” exists. In investment decisions, prospect theory explains the “disposition effect”—the tendency to sell winning assets too early and hold losing assets too long.

Overconfidence bias is the tendency to overestimate one’s own abilities or the accuracy of one’s information. Due to self-attribution bias, people attribute successes to their ability and failures to external factors, leading to an inability to revise beliefs and thus generating dynamic overconfidence. Behavioral finance confirms that overconfidence leads investors to overtrade, and overtrading is a primary behavioral factor that undermines investment performance.

Mediation Effect refers to the indirect mechanism through which an independent variable X influences a dependent variable Y via a mediator M. When multiple mediators exist between X and Y and these mediators are sequentially ordered, this constitutes a Chain Mediation Model, with the basic form “ $X \rightarrow M1 \rightarrow M2 \rightarrow Y$ ”.

Financial Literacy is the knowledge and ability of individuals to understand and use basic financial concepts

for everyday financial decision-making. The “Big Three” scale developed by Lusardi and Mitchell (calculating interest rates, understanding inflation, and diversifying risk) is an internationally recognized measurement tool.

III. GENDER AND INVESTMENT PERFORMANCE: DIRECT EVIDENCE

The relationship between gender and investment performance has been extensively examined in both academic and industry studies. The classic study by Barber and Odean analyzed trading data from over 35,000 accounts at a large discount brokerage between 1991 and 1997, finding that men had an average portfolio turnover rate 45% higher than women (Barber, & Odean, 2001). Trading reduced net returns for both genders, but the reduction for men was 0.94 percentage points greater than for women. At a 50% turnover rate, men’s returns were 1.22 percentage points lower than women’s. This finding established the academic consensus that “men underperform due to overtrading.”

Subsequent studies have validated this finding across different countries and market environments. Jaiswal and Kamil found that men were more overconfident than women ($\chi^2 = 8.1427$, $p < 0.05$) and more inclined toward growth-oriented investment goals, while women preferred income-oriented or balanced goals (Jaiswal, & Kamil, 2012). Jamil and Khan, surveying 225 investors in Oman, similarly found that men exhibited higher levels of overconfidence and risk preference than women ($P = 0.000575091$) (Jamil, & Khan, 2016). The Swedish Financial Supervisory Authority, analyzing transaction data from over 130,000 investors, found that gender differences emerge as early as age 3—boys hold stocks at significantly higher rates than girls—and persist throughout the lifecycle; however, despite men taking on higher market risk, women’s average returns were still 0.13 percentage points higher (Finansinspektionen, 2023).

Big data from financial institutions provides strong external validation for academic research. Fidelity Investments (Lieber, 2021) found that female clients trade only half as frequently as males, and men are 35% more likely to trade than women. Women are also more likely to stay invested during market volatility rather than panic-selling—8% more likely to wait out market fluctuations. Vanguard’s analysis of workplace retirement accounts shows similar patterns, with women trading about 40% less frequently than men. These convergent findings reveal a “female investor paradox”: although women rate their financial literacy and investment confidence lower than men do, their actual investment performance outperforms that of men (Lieber, 2021). Fidelity’s research clearly demonstrates this paradox—only 14% of women believe they “know a lot” about saving and investing, and only 33% are confident in making investment decisions, yet their actual performance surpasses that of men.

IV. THE FIRST CHAIN PATHWAY: FINANCIAL LITERACY AS A MEDIATOR

Financial literacy is defined as an individual’s knowledge and ability to understand and use basic financial concepts

for everyday financial decisions (Lusardi & Mitchell, 2014). The “Big Three” scale designed by Lusardi and Mitchell—covering interest rate calculation, inflation understanding, and risk diversification—has become the most widely used measurement tool globally (Lusardi & Mitchell, 2011). Numerous cross-national studies indicate that, in both developed and developing countries, women consistently exhibit significantly lower levels of financial literacy than men (Lusardi & Mitchell, 2014; Lusardi & Mitchell, 2011).

Financial literacy is closely related to investment behavior, affecting risk-taking, asset allocation, retirement planning, and stock market participation. However, the relationship between financial literacy and investment performance is not simply linear. Douhabi and Drissi found that while financial literacy reduces most behavioral biases, it paradoxically amplifies overconfidence at intermediate levels—consistent with the Dunning-Kruger effect (Douhabi & Drissi, 2026). That is, individuals with some but insufficient financial knowledge are most prone to overestimating their investment ability, leading to overtrading and lower net returns. Conversely, investors with very low financial literacy, being more aware of their “ignorance,” tend to engage in less active trading.

This finding suggests that financial literacy plays a mediating role between gender and investment behavior through a mechanism of “cognitive humility.” Women’s lower financial literacy makes them more likely to recognize their knowledge limitations. This cognitive humility curbs overconfidence-driven impulsive trading. Lower trading frequency translates into lower transaction costs, fewer timing errors, and ultimately higher net returns. The causal chain of Gender → Financial Literacy → Overtrading → Investment Performance constitutes the first chain mediation pathway proposed in this paper. Studies by Dwyer et al. and Almenberg and Dreber provide indirect support, showing that gender differences in risk-taking and stock market participation diminish or disappear once financial knowledge is controlled for (Dwyer, Gilkeson, & List, 2002; Almenberg & Dreber, 2015).

V. THE SECOND CHAIN PATHWAY: EMOTIONAL STABILITY AS A PERSONALITY MEDIATOR

Within the Big Five personality framework, emotional stability (the opposite of neuroticism) refers to the ability to regulate negative emotions and cope with stress (John, & Srivastava, 1999). Individuals high in neuroticism tend to focus on negative outcomes, are more prone to anxiety and panic, and react more intensely to perceived threats. Those high in emotional stability can effectively regulate negative emotions related to risk and uncertainty. A large body of personality research consistently shows that women score significantly higher than men on neuroticism—meaning women, on average, have lower emotional stability (Schmitt, Realo, Voracek, & Allik, 2008).

Neuroticism is negatively correlated with risk tolerance. Investors with high neuroticism are more fearful of market crashes and tend toward pessimism. However, direct research on the relationship between neuroticism and trading frequency is relatively limited. Theoretical analysis suggests that individuals high in neuroticism may overreact to normal

situations, including minor price fluctuations, potentially leading to extreme emotion-driven overtrading. Conversely, emotionally stable individuals exhibit lower reactivity and less anxiety about trading outcomes, and thus engage in less impulsive trading.

This paper proposes a more nuanced hypothesis: women's higher neuroticism levels (i.e., lower emotional stability) may generate a "moderate anxiety" effect, making them more cautious and deliberate in decision-making. This "emotional prudence" curbs impulsive overtrading (such as chasing gains and panic-selling), but does not hinder rational portfolio rebalancing. The Fidelity finding (Lieber, 2021) that women are more likely to "wait out market volatility" provides indirect support for this mechanism—women's anxiety makes them more cautious before making decisions, but once a decision is made, they become more stable than their overconfident male counterparts.

The causal chain of Gender → Emotional Stability → Overtrading → Investment Performance constitutes the second chain mediation pathway proposed in this paper. This pathway complements the cognitive pathway: if the cognitive pathway operates through "cognitive humility," the personality pathway operates through "emotional prudence."

VI. OVERTRADING: THE KEY BEHAVIORAL VARIABLE

Overtrading refers to excessively frequent buying and selling of securities. Research by Barber and Odean shows that overtrading is the primary factor that undermines individual investor performance (Barber, & Odean, 2001). Overtrading stems from two psychological mechanisms: overestimating the accuracy of private signals, and overestimating the ability to interpret public signals. Overconfident investors both take on more risk and trade more frequently, ultimately leading to lower returns (Odean, 1999).

The mechanisms through which overtrading impairs performance include: direct transaction costs (commissions, taxes, bid-ask spreads); tax costs (short-term capital gains taxed at higher rates than long-term); timing errors (frequent entry and exit often results in buying high and selling low); and opportunity costs (frequent trading detracts from long-term value investing).

Existing studies consistently confirm that men trade more frequently than women. Barber and Odean found that men's average portfolio turnover was 45% higher than women's (Barber & Odean, 2001). Fidelity Investments further found that women trade only half as frequently as men, and men are 35% more likely to make a trade (Lieber, 2021). Gender differences in overtrading may arise through two pathways: the cognitive pathway (Financial Literacy → Overconfidence → Overtrading) and the personality pathway (Emotional Stability → Impulse Control → Overtrading). The core argument of this paper is that these two pathways jointly explain why women trade less and achieve higher performance—not due to gender per se, but through its indirect influence on financial literacy and emotional stability.

VII. RESEARCH GAPS AND PRACTICAL IMPLICATIONS

The literature review reveals three major research gaps. First, the chain mediation model lacks direct empirical testing. Although the pairwise relationships among financial literacy, emotional stability, overtrading, and investment performance have been separately examined, the complete chain mediation pathways—Gender → Financial Literacy/Emotional Stability → Overtrading → Investment Performance—have not yet been empirically validated. Second, there is insufficient integration of the cognitive and personality pathways. Financial literacy research and personality research belong to separate domains, with few integrated analyses examining how these two factors jointly influence investment behavior. Third, studies combining objective data with psychological measures are scarce. Most research relies on self-report questionnaires, while industry studies using objective trading data do not include psychological and cognitive variables.

This paper offers practical implications for financial education and investment advisory services. Financial education should adopt gender-differentiated strategies: for women, focus on enhancing basic financial knowledge; for men, focus on curbing overconfidence and impulsive trading. Investment advisors should acknowledge the empirical evidence that women's investment style is superior and help all clients benefit from a "low-trading, long-holding" strategy (Lieber, 2021). Future empirical testing of the propositions outlined in this paper will further advance theoretical development and practical application in this field.

VIII. CONCLUSION

This paper synthesizes existing research on the relationships among gender, financial literacy, emotional stability, overtrading, and investment performance through a systematic literature review. The review yields four main conclusions. First, there is a significant association between gender and investment performance—female investors consistently achieve higher average returns than men, a phenomenon supported by both academic studies and industry big data. Second, financial literacy mediates the relationship between gender and overtrading through a "cognitive humility" mechanism—women's lower financial literacy curbs overconfidence-driven impulsive trading. Third, emotional stability mediates the relationship between gender and overtrading through an "emotional prudence" mechanism—women's moderate anxiety promotes cautious decision-making and reduces impulsive trading. Fourth, overtrading is the key behavioral variable linking antecedent variables and investment performance, and both the cognitive and personality pathways operate through this behavioral variable. The model proposed in this paper integrates the cognitive and personality pathways into a unified framework, advancing gender difference research from "describing differences" to "explaining mechanisms."

Nevertheless, this review has several limitations that should be acknowledged. Future research should employ mixed methods combining objective brokerage account data with psychological scales to rigorously test the model. Moreover, most existing studies are concentrated in Western

or limited Asian markets; future cross-cultural comparative research is needed to examine how societal gender roles moderate the chain mediation effects. Many of the studies reviewed in this paper use self-reported data, which may be subject to recall bias and social desirability bias.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

REFERENCES

- Almenberg, J., & Dreber, A. 2015. Gender, stock market participation and financial literacy. *Economics Letters*, 137: 140–142.
- Barber, B. M., & Odean, T. 2001. Boys will be boys: Gender, overconfidence, and common stock investment. *The Quarterly Journal of Economics*, 116(1): 261–292.
- Douhabi, E. M., & Drissi, Z. 2026. A PRISMA-based systematic review of behavioral biases and demographic moderators in investment decision-making. *Journal of Risk and Financial Management*, 19(6): 418.
- Dwyer, P. D., Gilkeson, J. H., & List, J. A. 2002. Gender differences in revealed risk taking: Evidence from mutual fund investors. *Economics Letters*, 76(2): 151–158.
- Finansinspektionen. 2023. Gender differences in investment behaviour. *FI Analysis No. 42*. Available: <https://www.fi.se/en/published/reports/analyses/2023/gender-differences-in-investment-behaviour/>
- Jaiswal, B., & Kamil, N. 2012. Gender, behavioral finance and the investment decision. *Business Review*, 7(2): 8–22.
- Jamil, S. A., & Khan, K. 2016. Does gender difference impact investment decisions? Evidence from Oman. *International Journal of Economics and Financial Issues*, 6(2): 456–460.
- John, O. P., & Srivastava, S. 1999. The Big-Five trait taxonomy: History, measurement, and theoretical perspectives. In L. A. Pervin & O. P. John (Eds.), *Handbook of Personality: Theory and Research*, vol. 2: 102–138. New York: Guilford Press.
- Kahneman, D., & Tversky, A. 1979. Prospect theory: An analysis of decision under risk. *Econometrica*, 47(2): 263–291.
- Lieber, R. October 2021. Women may be better investors than men. Let me mansplain why. *The New York Times*. Available: <https://www.nytimes.com/2021/10/29/your-money/women-investing-stocks.html>
- Lusardi, A., & Mitchell, O. S. 2011. Financial literacy around the world: An overview. *Journal of Pension Economics & Finance*, 10(4): 497–508.
- Lusardi, A., & Mitchell, O. S. 2014. The economic importance of financial literacy: Theory and evidence. *Journal of Economic Literature*, 52(1): 5–44.
- Odean, T. 1999. Do investors trade too much? *American Economic Review*, 89(5): 1279–1298.
- Schmitt, D. P., Realo, A., Voracek, M., & Allik, J. 2008. Why can't a man be more like a woman? Sex differences in Big Five personality traits across 55 cultures. *Journal of Personality and Social Psychology*, 94(1): 168–182.

Copyright © 2026 by the authors. This is an open access article distributed under the Creative Commons Attribution License which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited ([CC BY 4.0](https://creativecommons.org/licenses/by/4.0/)).