



Sheep or Shepherds? Gender-Based Behavioral Biases in Gen Z Investing

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Abstract. This study aims to analyze gender differences in behavioral biases, specifically overconfidence and herding, among Generation Z investors. The research employs the Mann-Whitney U test, a non-parametric method, to compare differences between male and female groups. The analysis focuses on two main variables: overconfidence and herding. The results indicate no significant gender differences in both overconfidence and herding biases. These findings challenge previous studies suggesting that males are generally more overconfident and females are more prone to herding behavior. This discrepancy may be attributed to the unique characteristics of Generation Z, who are more digitally connected, informed, and influenced by diverse sources of information. This generation's exposure to financial knowledge through social media and digital platforms could contribute to more balanced decision-making behaviors regardless of gender. The study concludes that gender does not significantly influence these behavioral biases among Generation Z investors. This insight is valuable for developing targeted financial education programs and investment strategies. The impact of this research contributes to behavioral finance literature by providing a contemporary perspective on how digital environments shape investment decisions and reduce traditional gender-based behavioral biases.

Keywords: Generation Z, Overconfidence, Herding, Gender Differences, Behavioral Biases, Investment.

1 Introduction

Investments among Generation Z have increasingly garnered attention in recent years. Growing up alongside digital technology advancements, this generation enjoys easier access to investment information and platforms than previous generations. They are also more informed and aware of global economic issues.

Based on Indonesian Capital Market Statistics data as of January 2024, the number of retail investors registered under Single Investor Identification (SID) reached 12,126,768. Among these, Generation Z dominates the investor count in the Indonesian Capital Market, comprising 56.29% of the total number of investors with total stock

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assets amounting to Rp 35.09 trillion. In contrast, investors aged over 60 contribute only about 2.29% of the total investor count, yet they possess the highest total stock assets, amounting to Rp 889.99 trillion [1].

This dominance of Generation Z reflects a significant shift in investment dynamics, where young generations are increasingly active participants in the capital market. The predominant presence of Generation Z in the capital market presents significant opportunities for developing innovative investment products and services tailored to the preferences of younger generations. This shift also demands adaptation from financial institutions and market authorities to ensure that young generations' investment needs and behaviors are effectively facilitated, thereby sustaining market growth.

However, investment behaviors among Generation Z are often characterized by two strong perspectives, commonly referred to as the "Gen Z Syndrome": YOLO (You Only Live Once) and FOMO (Fear of Missing Out). Generation Z is known for the YOLO mindset, focusing on experiencing and enjoying the present without deeply considering long-term consequences. This approach can reinforce overconfidence bias in investment decision-making [2][3]. Overconfidence is the tendency for individuals to overestimate their abilities or knowledge in decision-making. In investment contexts, overconfidence can lead investors to take unnecessary risks because they believe they have better information or skills than they actually do [4].

Generation Z tends to be overly confident in selecting investments that appear to offer quick gains without conducting thorough analysis [5][6]. Overconfidence tends to make individuals take disproportionate risks, which can result in excessive trading and high-risk behavior [7].

Additionally, Fear of Missing Out (FOMO) is a prominent characteristic among Generation Z. FOMO can reinforce herding behavior, where individuals follow the majority to avoid missing out. Herding is the tendency for investors to follow majority decisions or market trends. This behavior often arises in situations of uncertainty or lack of information. When information is uncertain, investors are more likely to mimic the decisions of others or groups [8].

In the investment context, Generation Z tends to buy trending assets without considering their fundamental value simply because they do not want to miss perceived profitable opportunities [9][10]. Herding can cause market instability as investors tend to make decisions based on others' behavior rather than thorough personal analysis, potentially leading to market bubbles or crashes when many investors follow incorrect trends [11].

Empirical evidence across various countries shows a connection between gender and investment bias that affects investment decisions [7][12][13][14]. Gender differences in overconfidence bias show inconsistent results, with some studies indicating that female investors tend to be more overconfident than male investors [15][16]. At the same time, other research suggests that male investors exhibit higher levels of overconfidence than female investors [7][17].

Gender differences in herding bias have also been observed, with studies showing varying outcomes. Some studies found differences in herding bias among investor groups based on gender [18], while others reported no significant gender differences in

herding behavior [19]. Additionally, female investors tend to be more influenced by herding compared to their male counterparts [20].

These gender differences in behavioral biases significantly affect education and investment strategies. For example, understanding that Generation Z males may be more susceptible to overconfidence can help design educational programs emphasizing the importance of accurate risk assessment. Conversely, if females are more inclined to be influenced by herding, programs that enhance confidence and independence in decision-making may be more effective.

Moreover, this research is relevant in the context of financial markets increasingly dominated by retail investors from Generation Z. With a better understanding of how these behavioral biases are influenced by gender, financial institutions and investment advisors can design products and services that better meet the needs and characteristics of these young investors. This can enhance market participation and overall financial stability.

Therefore, this study examines gender differences in overconfidence and herding biases among Generation Z investors. Through a quantitative approach to analyzing survey data from young investors, this research aims to provide valuable insights for academics, practitioners, and policymakers in understanding and addressing behavioral biases among young investors.

2 Methods

This research employs a survey method to obtain data and information aligned with the established research objectives. Data were collected from a sample of individuals through statements in a questionnaire aimed at identifying and analyzing gender differences in behavioral biases, specifically overconfidence and herding, among Generation Z investors. The study utilizes a quantitative approach with a verificative type of research, focusing on testing differences in behavioral biases—overconfidence bias and herding bias—between male and female investors.

The target population consists of Generation Z individuals born between 1995 and 2010 [21]. Due to the absence of a specific sampling frame, purposive sampling was used to select participants based on specific criteria relevant to the research objectives. A total of 104 respondents participated in the study, comprising 42 male investors and 62 female investors. Primary data were collected through a questionnaire containing closed-ended statements distributed via Google Forms. Using an ordinal scale, the questionnaire focused on measuring behavioral biases, particularly overconfidence and herding biases. The responses were evaluated using a Likert scale ranging from 1 to 5, and the specific questionnaire items used to measure these biases are presented in Table 1.

For data analysis, both descriptive and verification analysis techniques were applied. The verification analysis was conducted using the independent sample t-test through the Mann-Whitney U Test approach to determine the presence of significant differences in behavioral biases between the two gender groups. Based on the research framework, the following hypotheses were formulated: (H1) There is a significant

difference in overconfidence bias between male Generation Z investors and female Generation Z investors, and (H2) There is a significant difference in herding bias between male Generation Z investors and female Generation Z investors.

3 Results and Discussion

3.1 Description of Variables

The following table describes the variables, dimensions, and indicators used in this study to measure behavioral biases among male and female investors.

Table 1. Description of variables.

No.	Variable / Dimensions / Indicators	Male (mean)	Female (mean)
	Total Behavioral Biases	3,097	3,084
A	Overconfidence Bias (X1)	3,131	2,957
	X1.1 Feeling confident in one's abilities.	3,389	3,247
	X1.2 Feeling experienced enough.	3,095	2,887
	X1.3 Feeling able to predict the profits that will be generated from one's experience easily.	2,952	2,694
	X1.4 Feeling superior in knowledge and skills compared to other investors.	2,571	2,419
B	Herding Bias (X2)	3,068	3,193
	X2.1 Following and being influenced by the decisions of other investors in making investment decisions.	3,381	3,419
	X2.2 Preferring to invest in assets that other investors widely buy.	3,667	3,774
	X2.3 Responding quickly to any changes in decisions made by other investors.	3,024	3,161
	X2.4 Having a fear of missing out when not following what others are doing.	2,786	2,629
	X2.5 Believing that a group of people will not make the same mistake or decision simultaneously.	3,405	3,355
	X2.6 Believing that following the majority's decisions in investing is the right and profitable way.	3,071	3,371
	X2.7 Lacking thorough and careful analysis and consideration in the investment decisions made.	2,143	2,645

Based on the data in Table 1, a descriptive analysis was conducted to understand the differences in behavioral biases between male and female investors in Generation Z. The data shows that overall, the average total behavioral bias for male investors is 3.097, while for female investors, it is 3.084. This indicates that the difference in overall behavioral biases between the two gender groups is relatively small.

For the dimension of overconfidence (X1), male investors have an average of 3.131, slightly higher than female investors, who have an average of 2.957. The details show that men tend to feel more confident in their abilities (3.389 compared to 3.247 for women), feel more experienced (3.095 compared to 2.887 for women), feel more capable of predicting profits from their experience (2.952 compared to 2.694 for women), and feel they have superior knowledge and skills compared to other investors (2.571 compared to 2.419 for women).

For the dimension of herding (X2), the average score for male investors is 3.068, slightly lower than for female investors, who have an average of 3.193. The details show that women are more influenced by the decisions of other investors (3.419 compared to 3.381 for men), prefer to invest in assets widely bought by other investors (3.774 compared to 3.667 for men) and respond more quickly to changes in decisions made by other investors (3.161 compared to 3.024 for men). Additionally, women tend to have a higher fear of missing out (FOMO) (2.629 compared to 2.786 for men) and believe that following the majority's decisions in investing is the right and profitable way (3.371 compared to 3.071 for men).

This analysis shows that although the average differences are relatively small, there is a tendency for male investors to be more overconfident compared to females. In contrast, females are more likely to be influenced by herding bias.

3.2 Hypothesis Test

Here are the results of the independent t-test samples using the Mann-Whitney U Test to determine whether the hypotheses are accepted or rejected.

Table 2. Results of t-test difference.

	Overconfidence Bias (X1)	Herding Bias (X2)
Mann-Whitney U	1130.000	1172.500
Wilcoxon W	3083.000	2075.500
Z	-1.143	-.862
Asymp. Sig. (2-tailed)	.253	.389

Based on the results of the Mann-Whitney U test analyzing behavioral biases between male and female investors in Z Generation, the findings indicate relatively minor differences between the two groups. For overconfidence bias (X1), the Mann-Whitney U value is 1130.000 with a Z score of -1.143 and an Asymp. Sig. (2-tailed) of 0.253, so **H1 is rejected**, indicating no significant difference in overconfidence bias between male Z Generation investors and female Z Generation investors.

Similarly, for herding bias (X2), the Mann-Whitney U value is 1172.500 with a Z score of -0.862 and an Asymp. Sig. (2-tailed) of 0.389, so **H2 is rejected**, indicating that there is no significant difference in herding bias between male Generation Z investors and female Generation Z investors.

3.3 Discussion

Based on the results of the Mann-Whitney U test analysis to examine behavioral bias differences between male and female Z Generation investors, it was found that there were no significant differences in both observed biases, namely overconfidence (X1) and herding (X2). The Asymp. Sig. (2-tailed) values for overconfidence were 0.253, and for herding were 0.389. This indicates that the average differences in overconfidence and herding levels between the two gender groups did not reach the required level of statistical significance [19].

However, despite the lack of statistical significance, there is a tendency that male investors tend to have slightly higher levels of overconfidence compared to female investors. Overconfidence refers to the tendency to overestimate one's abilities or knowledge in decision-making, which can lead to disproportionate risk-taking in the context of investments. Although the difference is not substantial, this finding provides insight that women may be more conservative or cautious in making investment decisions compared to men [7][16].

Male investors have higher levels of overconfidence because they are perceived to be more competent than female investors [22]. Previous research indicates that men generally have conscientiousness personality traits, which refer to obedient, controlled, organized, and ambitious individuals focusing on achievement and self-discipline. This personality trait encourages men to have higher confidence levels [23].

On the other hand, although the difference is also not statistically significant for herding bias, there is an indication that women tend to be more influenced by herding behavior than men. Herding is the tendency to follow most market trends without conducting in-depth analysis of their investment decisions. This finding is consistent with literature suggesting that women may be more inclined to follow the crowd in investment decisions, possibly seeking social confirmation or avoiding perceived risks [8][24].

The higher level of herding bias among female investors is linked to the agreeableness personality trait commonly found in women [25]. Women generally have high social adaptability, making them more likely to accept others' opinions. This personality trait also allows them to follow investment decisions made by other investors, especially when necessary, information is inaccessible.

The findings of this study have significant implications for education and investment management among Generation Z. Although not statistically significant, understanding the differences in investment behavior between genders can help design more tailored educational approaches. Investment education programs that accommodate the preferences and characteristics of each gender can enhance understanding and awareness of risks and more appropriate investment strategies. Thus, financial institutions and investment advisors can more effectively support young investors in achieving their financial goals [12][19].

4 Conclusion

Based on the research findings among Generation Z investors, it was found that there is no significant difference in the level of behavioral bias, both in terms of overconfidence and herding, between male and female investors. However, there is an indication that male investors tend to exhibit slightly higher levels of overconfidence compared to female investors, although this difference is not statistically significant. On the other hand, although the difference in herding bias is also not statistically significant, the findings suggest that females tend to be more influenced by herding behavior compared to males.

These results have significant implications for investment management and financial education for Generation Z. Understanding the differences in investment behavior between genders can help design more effective educational strategies that accommodate the preferences and characteristics of each group. Tailored investment education programs can enhance awareness of risks and appropriate investment strategies, thereby supporting young investors in achieving their financial goals more effectively. Thus, this research provides a foundation for developing policies and practices that are more inclusive and responsive to the diverse needs of Generation Z investors.

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