

## Analysis of Financial Literacy and Overconfidence on Investment Decision with Risk Tolerance Mediation and Gender as Moderator (Case Study of Generation Z Investors in Bandung City)



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**ABSTRACT:** Financial literacy and overconfidence are important investment considerations due to market complexity. This study examines how Financial Literacy, Overconfidence, Risk Tolerance, and Gender affect investment decisions in Bandung generation Z investors. This study uses a descriptive quantitative methodology to survey 121 Generation Z investors via questionnaire. SEM-PLS provides further evidence that financial literacy positively affects risk tolerance at a 5% significance level. At 5% significance, financial literacy positively affects investing decisions.

Risk tolerance also positively affects investing decisions at a 10% significance level. Additionally, there is evidence that the impact of financial literacy on investment decisions is mediated by risk tolerance, with a significance level of 10%. Gender positively influences financial literacy and risk tolerance, with a 5% significance level. In addition, a significance level of 5% indicates that overconfidence has a substantial and advantageous effect on risk tolerance. With a 5% significance threshold, overconfidence positively affects investing decisions. Overconfidence and investing decisions are mediated by risk tolerance at 10%.

Lastly, gender moderate overconfidence's effect on risk tolerance with a 5% significance threshold. For overconfidence, gender has minimal impact. The complete analytical framework of this study combines financial knowledge, overconfidence, risk tolerance, and gender to explain individual investing decisions. This study seeks to help investors, particularly generation Z, make more logical and successful investment decisions by improving their financial literacy, regulating their overconfidence, and considering risk tolerance and gender.

**KEYWORDS:** Financial Literacy, Overconfidence, Investment Decision, Risk Tolerance, Gender

### I. INTRODUCTION

Bandung is the largest metropolitan city in West Java and is also the administrative center of the province. It is about 140 km southeast of Jakarta and is the third largest city in Indonesia after Jakarta and Surabaya. In addition, the Greater Bandung area is the second largest metropolitan area in Indonesia after Jabotabek. Bandung is located in West Java and is the capital of West Java Province. Its location is between 107°36' degrees East Longitude and 6°55' degrees South Latitude. The area of Bandung City is 16,729.65 hectares. In 2022, the population in Bandung City reached 2,545,005 people according to the Bandung City Statistics Agency. The male population is 1,275,897 people and the female population is 1,269,108 people. From 2010 to 2020, the average population growth was 0.21%. The largest age groups of the population of Bandung City are those aged 10-14 and 20-24 years, this can occur because many students and university students choose Bandung City as a place of study. Information about the distribution of the population of Bandung City by age and gender in 2022 can be seen in the following table

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Kelompok Umur	Penduduk Kota Bandung Berdasarkan Kelompok Umur dan Jenis Kelamin (Jrwa)		
	Laki-laki	Perempuan	Laki-laki dan Perempuan
	2022	2022	2022
0 – 4	92 590,00	86 667,00	179 257,00
10 – 14	109 763,00	103 798,00	213 561,00
15 – 19	98 457,00	94 265,00	192 722,00
20 – 24	104 857,00	100 315,00	205 172,00
25 – 29	100 986,00	100 634,00	201 620,00
30 – 34	93 681,00	92 958,00	186 639,00
35 – 39	94 803,00	93 086,00	187 889,00
40 – 44	104 649,00	102 820,00	207 469,00
45 – 49	91 061,00	91 900,00	182 961,00
5 – 9	107 445,00	100 452,00	207 897,00
50 – 54	82 019,00	83 374,00	165 393,00
55 – 59	64 817,00	68 660,00	133 477,00
60 – 64	50 487,00	55 294,00	105 781,00
65 - 69	37 568,00	40 449,00	78 017,00
70 - 74	21 694,00	24 391,00	46 085,00
75 +	21 020,00	30 045,00	51 065,00
<b>Jumlah</b>	<b>1 275 897,00</b>	<b>1 269 108,00</b>	<b>2 545 005,00</b>

Figure 1. Population of Bandung City by Age Group and Sex in 2022

According to the table 1 above, there were 611,455 individuals in the age range of 10-24 years old who belonged to Generation Z. This accounted for around 24.02% of the total population in the city of Bandung. According to data from the West Java representative office of the Indonesia Stock Exchange (IDX) or the Indonesia Stock Exchange (BEI), the total number of investors in the capital market has reached 2.69 million Single Investor Identification (SID) holders. The majority of investors in West Java are concentrated within the age range of 18-25 years old, accounting for 35% of the total. The age group of 26-30 years old represents 23% of the investors, while the age groups of 31-40 years old and beyond 41 years old respectively make up for 23% and 19% of the total population. Based on these statistics, it can be inferred that the majority of investors in West Java, including Bandung, belong to the generation Z age group.

Studying financial literacy and investment behavior has become increasingly essential given recent shifts in global economic dynamics and the rapid expansion of financial technologies. Huston, as cited in Astini & Pasek, (2022), defines financial literacy as the capacity and understanding of money that enables individuals to effectively manage their finances, hence impacting their financial behavior and overall well-being. Suryanto & Rasmini (2018) emphasize that factors such as gender and educational background significantly influence an individual's level of financial literacy. Meanwhile, Nababan in Suryanto & Rasmini (2018) highlights that gender and residence are influential characteristics that can impact financial literacy. The significance of understanding the intricacies of financial practice among the younger demographic, particularly in major urban areas such as Bandung, is currently receiving significant attention. The convergence of rapid economic growth, shifting lifestyles, and technological advancements presents novel complexities in financial management and investment decision-making, particularly for the younger generation. Bandung, being a prominent hub for both the economy and education in Indonesia, boasts a substantial population of young individuals. Several prior studies have analyzed the variable that is influenced by other factors. According to Astini & Pasek (2022), their study revealed that financial literacy positively influences investment decisions. Similarly, Dewi (2020) similarly discovered that financial literacy had a favorable impact on investment decisions. Putri & Rahyuda (2017) verified that there is a positive correlation between the amount of financial literacy and the quality of individual investing decisions.

Financial literacy refers to the understanding, abilities, and beliefs that can impact an individual's financial attitudes and actions, with the goal of enhancing decision-making and financial management skills to attain success. (Otoritas Jasa Keuangan, 2022). The 2022 survey conducted by the Financial Services Authority (OJK) revealed that approximately 49.68% of Indonesians

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have a satisfactory level of financial literacy. This implies that among a group of 10 individuals, only approximately 4-5 individuals exhibit a comprehensive understanding of funds, thus implied important evident on how the people of Indonesia lack the necessary knowledge to effectively manage their finances. This lack of knowledge might result in challenges when selecting appropriate savings or investment options and heighten the likelihood of being vulnerable to financial misconduct. Figure 1 below displays the Indonesian Community Financial Literacy index.



Figure 2. Indonesia Financial Literacy Index 2013-2022

The Financial Services Authority runs surveys in all provinces of Indonesia. This study is specifically centered on individuals of working age in the city of Bandung, which is located in the province of West Java. In 2022, West Java's financial literacy level is 56.1% according to the provincial financial literacy index. The financial literacy index, which is held by the province of West Java and includes Bandung, demonstrates a tendency to be greater than that of other provinces in Indonesia, surpassing even the national financial literacy index of Indonesia. Therefore, it can be inferred that the financial literacy level of the West Java community surpasses the average national financial literacy index. Figure 3 below presents the Indonesian Financial Literacy index for each province.

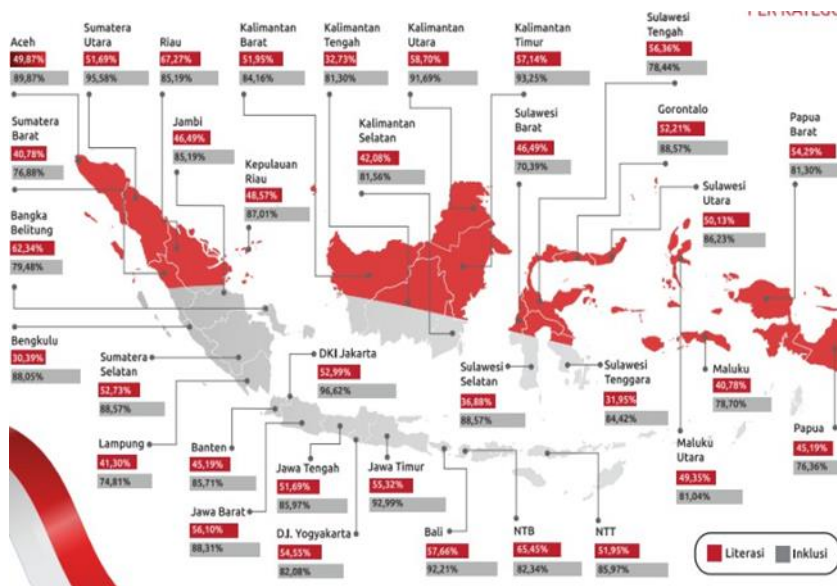


Figure 3. Financial Literacy Index of Indonesian People in Each Province

Figure 3 above provides data on the proportion of financial literacy among the entire population of Indonesia. The financial literacy rate in the West Java region is significantly higher than in other regions, with a dominance of 56.10%. Financial literacy is a crucial factor to consider while engaging in investment activities.

Every investor should possess a comprehensive understanding and thoroughly analyze the assets they intend to invest in. Investors meticulously evaluate potential investments, since they are aware that investing entails both the potential for financial

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gains and the possibility of incurring potential hazards. They desire the profits to align with the risks encountered. Risk tolerance, also known as the ability to take risk, determines the investment choice and the quantity of money invested. Risk tolerance, as defined by Kannadhasan as mentioned in Al-Qibthya & Sari Mia Andika (2022), refers to an investor's willingness to accept a decline in the value of their investment and unexpected losses Juniantasari (2021) defines risk tolerance as the degree to which an investor is prepared and willing to face any future dangers associated with their selected investment. Tandelilin in Dewi (2020) asserts that the correlation between risk and expected return on investment is linear and congruent. Consequently, there is a direct correlation between the anticipated profitability and the level of risk that needs to be taken into account. If an investor is willing to assume a substantial risk, they will also expect a significant return on investment.

Nevertheless, within this particular framework, disparities based on gender persist in terms of access to information and perspectives on financial literacy and the process of making investment decisions. Recognizing the significant influence of gender in the process of making investment decisions. Although gender equality is becoming a growing global issue, gender inequality continues to impact several parts of life, including the realm of finance. Studies indicate that disparities in financial literacy, risk tolerance, and investment inclinations based on gender have an impact on how individuals of different sexes handle their investment portfolios. Rahadjeng (2011) highlights that women and males possess distinct circumstances, encompassing social, economic, and political aspects. In their study, Rosyidah & Lestari (2013) observed that men and women hold distinct perspectives when making investment decisions. Perceptions are influenced by various aspects like as information, attitudes, experiences, and other elements that determine an individual's view of an investment. The gender gap refers to the disparity that arises between men and women in terms of their values and behavior. Marzuki (2007). According to Oakley's research in Isani (2020), gender refers to the behavioral patterns exhibited by men and women, which are mostly influenced by societal factors rather than being predetermined by nature or divine intervention. These patterns are a consequence of the social and cultural effects on individuals. Caplan (2020) asserts that gender is a distinction in behavioral patterns between men and women, mostly shaped by social and cultural forces rather than solely by biological causes. Figure 4 below displays information regarding the demographic distribution of individual investors categorized by gender.

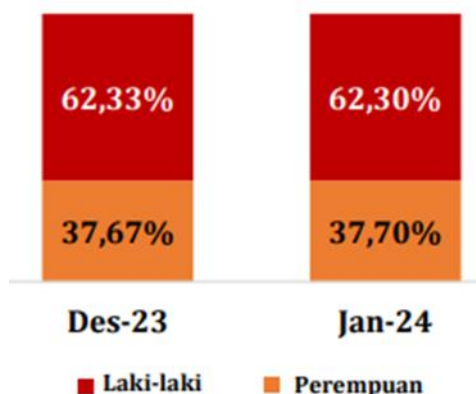


Figure 4. Individual Investor Demographics by Gender 2024

Gender and overconfidence are significant determinants that may influence the investment choices of young individuals in Bandung City. An investor will consistently exercise prudence in evaluating each stage of the investment process. They understand that investing entails both potential for profit and inherent risks that are always present in any venture. Nevertheless, in the present era, numerous investors harbor a strong sense of self-assurance in their skills and expertise, which might have negative consequences for their own well-being. This excessive level of self-assurance is frequently known as overconfidence. Overconfidence, as described by Lakshmi in Kusumawati (2022), refers to an excessive level of confidence in one's own abilities and judgment, leading to a sense of superiority over other investors. Overconfidence refers to an excessive sense of confidence in one's trading or investing abilities or knowledge (Ainun, 2019). Kusumawati (2022) asserts that overconfidence refers to an individual's tendency to excessively believe in their knowledge, abilities, and the accuracy of their information. These excessively self-assured investors frequently disregard the genuine risks connected with investing.

This study is built based on a case study that examines the impact of financial literacy and overconfidence on the investment decisions of Generation Z in the city of Bandung. The study also considers the role of risk tolerance as a mediator and gender as a moderator. The entry of Generation Z brings about unique and intriguing situations to evaluate, due to the confluence of technological advancements and societal shifts.

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Generation Z, being the youngest cohort, exhibits distinct habits compared to preceding generations, particularly in their adeptness at utilizing technology and communication. Investment is a method of preserving money with the expectation of generating a financial gain in the future. Tandelilin is cited in the work of M. I. B. L. Dewi and Wiagustini, published in 2022. According to Ernitawati et al. (2020), an investment decision refers to the act of allocating funds to one or more assets with the objective of generating future returns. This is the process of deciding how to allocate funds into different types of investments that have the capacity to yield profitable outcomes in the future. Investment decisions involve the allocation of funds for extended durations. Whenever an individual opts to refrain from fully utilizing their funds at present, it signifies their engagement in an investing deliberation. (Ariani et al., 2020) Figure 5 below displays the facts regarding the distribution of domestic investors.

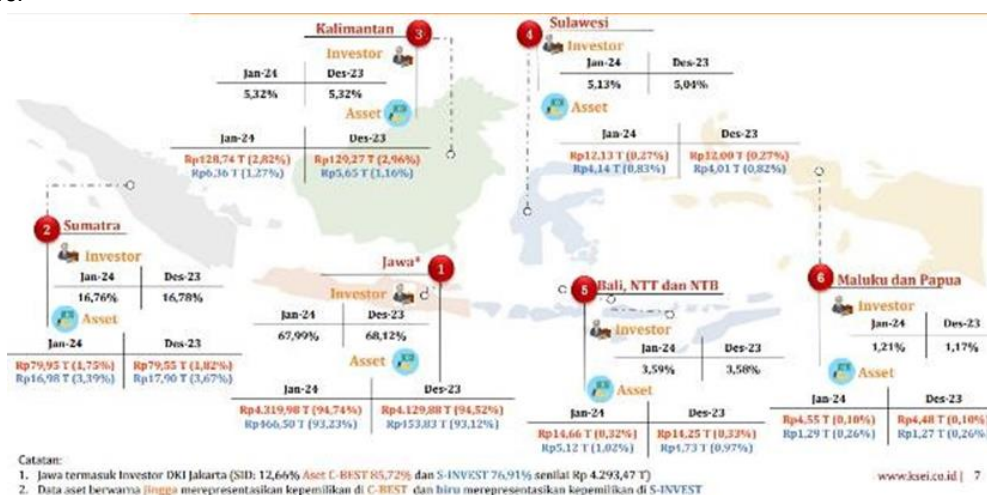


Figure 5. Distribution of Domestic Investors in 2024

According to data from the Indonesian Central Securities Depository (KSEI), the majority of capital market investors are located in Java, accounting for 67.99% of the total. In addition, Kalimantan island accounted for 5.32% of the total, Sulawesi accounted for 5.13%, and Sumatra accounted for 16.76%. The combined percentage of Bali, NTB, and NTT is 3.59%, while Maluku and Papua account for 1.21%.

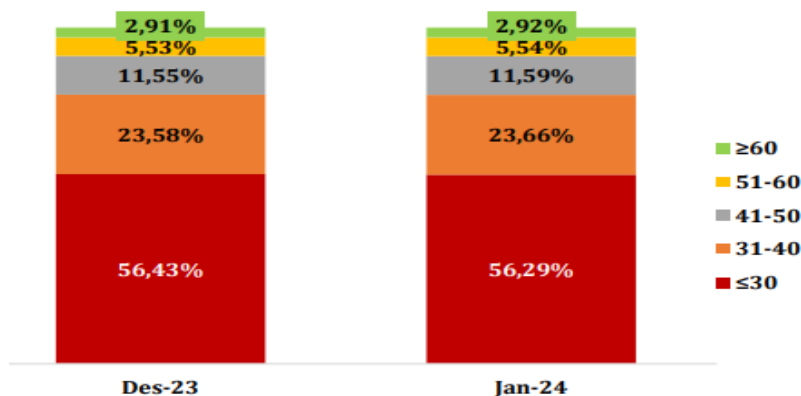


Figure 6. Individual Investor Demographics by Age

Furthermore, the demographic data of individual investors, gathered from the Indonesian Central Securities Depository 2024, is presented in Figure 5 above. The dominant group of investors consists of individuals under the age of 30, which includes the Generation Z cohort. 56.29% of the total number of investors belonged to the age group under 30 years. Hence, it is essential to do comprehensive study on the analysis of financial literacy and overconfidence in investment decision-making, considering the mediating role of risk tolerance and the moderating influence of gender. Through comprehending these factors, it is possible to create more effective financial education strategies and programs that facilitate better investment decision-making for generation Z in Bandung City, as well as to contribute to a more comprehensive understanding of financial literacy and investment behavior in Indonesia.

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## **II. LITERATURE REVIEW**

### **A. Financial Literacy**

Financial literacy refers to the acquisition of knowledge and understanding pertaining to the effective utilization of money, encompassing areas such as money management, investing strategies, and related financial concepts. Financial literacy, as defined by the (Otoritas Jasa Keuangan, 2022), refers to a set of actions or processes designed to enhance the knowledge, abilities, and confidence of individuals or communities in effectively managing their personal money. According to Chen and Volpe in Suryanto & Rasmini (2018), financial literacy refers to an individual's capacity to acquire, comprehend, and evaluate pertinent information necessary for making decisions on potential financial outcomes. According to Lusardi & Mitchell (2018), financial literacy refers to the acquisition of knowledge about finance with the goal of attaining well-being.

### **B. Overconfidence**

Overconfidence refers to the state in which an investor possesses an excessive level of certainty and optimism when making predictions about the future. This phenomenon emerges among investors who are already content with their investment and possess a high level of confidence. In their study, Ayu Wulandari & Iramani (2014) discovered that investors who exhibit excessive confidence tend to take greater risks compared to those who are not overconfident while making investment decisions. This is caused by the tendency of overconfident investors to underestimate the associated hazards.

Overconfidence, as described by Juniantasari (2021), refers to a situation when an investor exhibits excessive certainty in their investment decisions. They possess an immense feeling of assurance resulting from their conviction that their expertise and abilities will enable them to make sound financial choices.

### **C. Investment Decision**

Subash in Sari (2019), an investment decision refers to the act of selecting one option from a range of available options, thus serves as major significant problems for investors. For individuals, the attainment of investing objectives is contingent upon the decisions they make, as these choices will impact the outcomes they receive. When making decisions, two ways are commonly used: rational decision making and decision making based on instinct or feeling. Virlics (2013) states that investment decisions are impacted by investors' prior experiences of earnings and their projections of future profit potential.

### **D. Risk Tolerance**

Risk tolerance refers to an individual's capacity to accept and bear the level of risk associated with investment activities. As stated by Kusumawati in the study undertaken by Listian & Soleha (2023), investor tolerance for risks can be categorized into three distinct levels, which are risk seekers (investors who actively seek out risk), risk neutral (investors who remain indifferent to risk), and risk averters (investors who strongly dislike risk and actively avoid it). Investors who have a greater capacity for risk will exhibit more boldness in their decision-making compared to investors who have a lower capacity for risk. Risk tolerance refers to an individual's capacity to embrace risk when making investing choices. (Susanto et al., 2020).

### **E. Gender**

Gender is a social and cultural concept that differentiates between males and females, rather than being based on biological factors (Arbain et al., 2015). This concept is distinct from sex, which pertains to the variations in biological bodily structure between males and females. Studies on gender primarily examines the process of individual development as either male or female, specifically in relation to masculine or feminine traits. Conversely, studies regarding sex primarily examines the biological maturation and chemical makeup of the body, distinguishing between males and females. According to the dictionary definition, gender is synonymous with the phrase "sex". However, in social and cultural contexts, gender pertains to "distinctions between males and females that are not related to biology or divinely bestowed." The phrase is commonly employed to elucidate the notion of gender. Gender refers to the societal roles and behaviors that are shaped by socialization processes and are associated with men and women. While there are inherent biological distinctions between males and females, society perceives these distinctions as a collection of social norms dictating appropriate behavior, including choices related to financial investments. According to Aziz in Maghfiroh (2021), gender is a social construct that delineates the varying roles and behaviors expected of men and women within a specific societal context. It is influenced by prevailing conventions and attitudes, rather than being purely determined by biological considerations. Gender can be defined as the many roles that individuals assume, influenced by social and cultural conventions, which are in turn influenced by natural factors.

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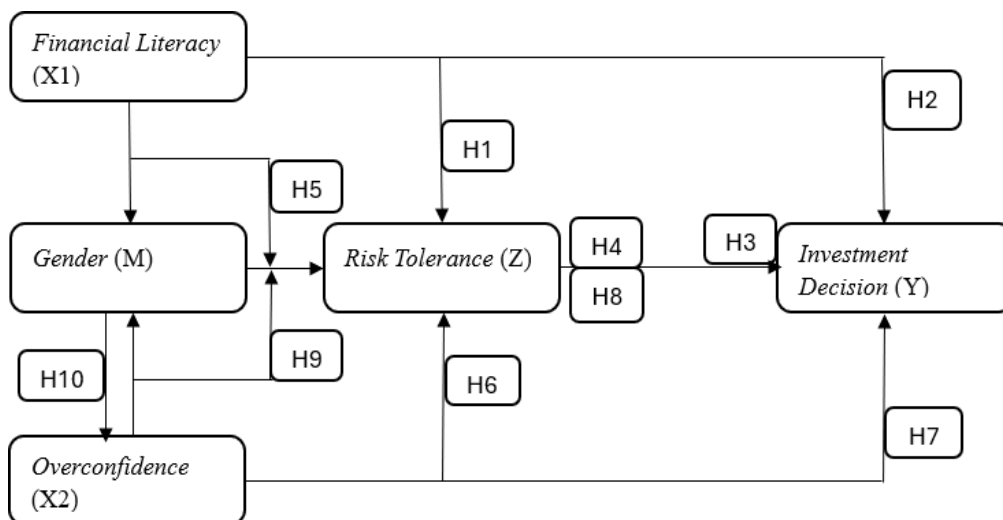


Figure 7. Theoretical Framework

### III. RESEARCH METHODS

This study employs quantitative research methods, which involve the use of numerical data to analyze information pertaining to the subject of inquiry. The quantitative research approach is distinguished by its extensive utilization of numerical data throughout the data collection phase in the field. (Djollong, 2014). Quantitative methods, as defined by Sugiyono (2019), are research techniques grounded in the philosophy of positivism. These methods are employed to study specific populations or samples, involving the gathering of data through research instruments. The analysis of this data is done using quantitative techniques, with the objective of testing pre-established hypotheses. The procedure of assessing research hypotheses is carried out through a Structural Equation Model (SEM) - Partial Least Squares (PLS) method. This technique allowed for ones to validate the proposed hypotheses. This study utilized a sample size of 1251 respondents that belong to the Generation Z demographic and are actively involved in investment activities. The study took place specifically in the city of Bandung. The characteristics of the respondents are presented in Table 2 below. The participants in the study included both male and female individuals, who had educational qualifications ranging from junior high school and high school (SMP/SMA) to diploma and bachelor's degree (D3/D4/S1) and master's and doctoral degree (S2/S3) levels. The majority of respondents are students.

Based on these references, this study proposes the following hypothesis:

- H1: There is a significant influence of Financial Literacy on Risk Tolerance.
- H2: There is a significant effect of Financial Literacy on Generation Z's Investment Decision in Bandung.
- H3: There is a significant influence of Risk Tolerance on Generation Z's Investment Decision in Bandung.
- H4: Risk Tolerance mediates the effect of Financial Literacy on Generation Z's Investment Decision in Bandung.
- H5: Gender moderates the effect of financial literacy on risk tolerance.
- H6: There is a significant effect of Overconfidence on Risk Tolerance.
- H7: There is a significant effect of Overconfidence on Generation Z's Investment Decision in Bandung.
- H8: Risk Tolerance mediates the effect of Overconfidence on Generation Z's Investment Decision in Bandung.
- H9: Gender moderates the effect of Overconfidence on Risk Tolerance.
- H10: There is a significant effect of Gender on Overconfidence.

### IV. RESULTS AND DISCUSSION

The respondent profile is presented in table 1. Respondents consisted of men and women, with educational backgrounds at the SMP / SMA, D3 / D4 / S1 and S2 / S3 levels. Respondents are dominated by students.

Table 1. Respondents Characteristics

Characteristics	Number of Respondents	Percentage (%)
Gender:		
Male	59	48.76%
Female	62	51.24%
<b>Total respondents</b>	<b>121</b>	<b>100%</b>

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**Table 2. Operationalization Variables**

Variable	Dimension	Statement	Item	Scale
Financial Literacy (X1) (N. P. P. K. Dewi, 2020)	Financial Behavior	I think it's important to compare prices before buying something	FL1	Ordinal
		I buy what I need, not what I want.	FL2	Ordinal
		I regularly budget and monitor my spending	FL3	Ordinal
		I have an emergency fund to deal with unexpected emergencies.	FL4	Ordinal
	Financial Skills	I think it is important to calculate the cost of financial transactions	FL5	Ordinal
		I think it's important to allocate a personal budget	FL6	Ordinal
		I am able to do proper long-term financial planning.	FL7	Ordinal
		I can create and understand personal financial statements well.	FL8	Ordinal
	Financial Attitude	I feel the need to set aside money each month for savings or investment	FL9	Ordinal
		I think it's important to invest for longterm goals	FL10	Ordinal
		I believe that investment is the key to achieving financial stability in the future	FL11	Ordinal
		I understand basic investment concepts such as risk and return.	FL12	Ordinal
	Financial Knowledge	I think it is important to have the ability to choose investments that suit your needs.	FL13	Ordinal
		I know how to manage my personal finances	FL14	Ordinal
		I have sufficient knowledge of financial risk management.	FL15	Ordinal
Overconfidence (X2) (Ayu Wulandari & Iramani, 2014)	Success in choosing investments	I feel satisfied with the results of the investment that I have chosen before	OC1	Ordinal
		I often get significant returns from the investments I have chosen.	OC2	Ordinal
		I feel confident that I have the ability to choose profitable investments.	OC3	Ordinal
		I believe that I have good instincts in recognizing profitable investment opportunities.	OC4	Ordinal
	Confidence in ability	I feel confident about the benefits of my investment	OC5	Ordinal
		I feel confident in my ability to analyze financial markets and make smart investment decisions.	OC6	Ordinal
		I feel confident that I have sufficient knowledge of the financial markets.	OC7	Ordinal
		I believe that I have strong analytical skills in choosing investments.	OC8	Ordinal



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		I tend to feel confident in the investment choices I make, despite the risks involved	OC9	Ordinal
	Confidence in choosing an investment	I have a strong belief that the investment I choose will provide profitable returns in the long run	OC10	Ordinal
		I tend to feel that I can accurately predict financial market movements..	OC11	Ordinal
		I feel confident that the investment risks I take are always worth the returns.	OC12	Ordinal
Investment Decision (Y) (Kalbar H.S, 2023)	Decision Making	I tend to consider all relevant factors before finally deciding which investment to choose	ID1	Ordinal
		I often conduct an in-depth analysis before making a decision regarding the investment that I will make	ID2	Ordinal
		I tend to make investment decisions after conducting an in-depth analysis of risks and returns.	ID3	Ordinal
		I tend to seek advice from financial experts before making significant investment decisions.	ID4	Ordinal
	Obsession	I feel compelled to constantly monitor the market situation and trends before making investment decisions.	ID5	Ordinal
		I tend to pay attention to the latest information and news regarding the financial market before deciding which investment to make.	ID6	Ordinal
		I was obsessed with making a profit when investing and sometimes ignored the risks involved.	ID7	Ordinal
		I tend to think about my investments constantly, even outside of working hours.	ID8	Ordinal
Risk Tolerance (Z) (Rahmadiani et al., 2021)	Investment Risk	I feel the need to consider the risks that may arise before making an investment.	RT1	Ordinal
		I was worried about the possible financial losses that could occur from my investments.	RT2	Ordinal
		I tend to choose investments with high profit potential despite the high risk.	RT3	Ordinal
		I am comfortable taking greater risks in investing as long as the potential returns are also great	RT4	Ordinal
	Comfort & Risk Experience	I feel comfortable in facing the risks associated with investing, as I have had previous experience.	RT5	Ordinal
		Although there are risks, I feel confident in dealing with them because I have sufficient understanding of the risks.	RT6	Ordinal
		I tend to be calm and unaffected by volatile market situations.	RT7	Ordinal

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		I feel confident in dealing with market fluctuations and don't easily panic when the value of my investment drops	RT8	Ordinal
	Speculative Risk	I tend to be attracted to investments that have the potential for large returns despite the high speculative risk	RT9	Ordinal
		I realize that investments with high speculative risk can have uncertain returns, but I still feel drawn to try them out for the potential big returns	RT10	Ordinal
		I feel excited by the challenges associated with taking speculative risks in investing.	RT11	Ordinal
		I tend to be tempted to take greater risks in investments in order to achieve spectacular results.	RT12	Ordinal
Gender (H. R. Putri, 2016)	Variabel dummy	Gender: The gender variable can be divided into male (1) and female (0) using the dummy variable technique..	G1	Ordinal

This study explores the relationship between financial literacy, overconfidence, risk tolerance, and investment decisions with primary data. Additionally, it finds that gender plays a moderating role. Variables are assessed using a 5-point Likert scale that ranges from strongly agree to strongly disagree. The loading factor for each indicator is laid out in Table 4 below. If the loading factor exceeds than 0.5, it can be inferred that the indicator is trustworthy and suitable for subsequent study (Y. A. Putri & Parlagutan, 2022). Given that all loading factor for the three observed variables (financial literacy, investment decision, overconfidence and risk tolerance) are exceeds 0.5, thus deemed as valid.

**Table 3. Loading Factor**

Latent Variable	Indicator	Loading factor
Financial Literacy	FL1	0.574
	FL3	0.683
	FL7	0.678
	FL8	0.835
	FL14	0.769
	FL15	0.682
Gender	GEN	1.000
Investment Decision	ID1	0.716
	ID2	0.803
	ID3	0.793
	ID4	0.690
	ID5	0.789
	ID6	0.803
	ID8	0.531
	Overconfidence	OC2
OC4		0.668
OC6		0.694
OC7		0.771
OC8		0.762
OC9		0.720

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	OC10	0.720
	OC11	0.767
	OC12	0.701
Risk Tolerance	RT4	0.825
	RT5	0.804
	RT6	0.825
	RT7	0.693
	RT8	0.704
	RT9	0.723
	RT10	0.760
	RT11	0.735
	RT12	0.788
	Moderating Effect 1	FL*RT
Moderating Effect 2	FL*GEN	0.991
Moderating Effect 3	OC*RT	1.071

The second criterion employed to assess convergent validity is the average variance extracted (AVE). Table 4 below displays the results of the discriminant validity test, which is another need that requires to be met to guarantee that the constructs created in this study are distinct from one another.

**Table 4. Reliability and Validity Tests**

	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Financial literacy	0.798	0.856	0.502
Gender	1.000	1.000	1.000
Investment decision	0.856	0.892	0.545
Moderating effect 1	1.000	1.000	1.000
Moderating effect 2	1.000	1.000	1.000
Moderating effect 3	1.000	1.000	1.000
Overconfidence	0.883	0.906	0.517
Risk tolerance	0.910	0.926	0.583

Financial literacy the scale has a Cronbach's Alpha of 0.798, Composite Reliability of 0.856, and AVE of 0.502. Gender the scale has a Cronbach's Alpha of 1.000, Composite Reliability of 1.000, and AVE of 1.000. Investment decision the scale has a Cronbach's Alpha of 0.856, Composite Reliability of 0.892, and AVE of 0.545. Overconfidence the scale has a Cronbach's Alpha of 0.883, Composite Reliability of 0.906, and AVE of 0.517. Risk tolerance the scale has a Cronbach's Alpha of 0.910, Composite Reliability of 0.926, and AVE of 0.583.

**Table 5. Discriminant Validity – Heterotrait – Monotrait Ratio (HTMT)**

Latent Variable	Financial Literacy	Gender	Investment Decision	Moderating Effect 1	Moderating effect 2	Moderating Effect 3	Overconfidence	Risk Tolerance
Financial Literacy								
Gender	0.227							
Investment Decision	0.650	0.146						

# Analysis of Financial Literacy and Overconfidence on Investment Decision with Risk Tolerance Mediation and Gender as Moderator (Case Study of Generation Z Investors in Bandung City)

Decision							
Moderatin	0.435	0.172	0.301				
g							
Effect 1							
Moderatin	0.138	0.008	0.101	0.190			
g							
Effect 2							
Moderati	0.143	0.065	0.172	0.199	0.178		
ng Effect							
3							
Over	0.537	0.090	0.695	0.065	0.085	0.101	
Confidenc							
e							
Risk	0.485	0.131	0.590	0.213	0.248	0.032	0.592
Tolerance							

To assess discriminant validity, the heterotrait-monotrait ratio (HTMT) is used with an accepted threshold value of <0.9 (Michella & Meilani,2024)

The reliability test verifies the instrument's reliability, as evidenced by the composite reliability score and Cronbach's Alpha. A composite reliability value exceeding 0.5 is considered to be acceptable, while Cronbach's Alpha requires a minimum value of 0.8. Referring to table 5 above, the reliability test confirmed that all constructs are reliable. Table 6 above represent discriminant validity Fornell-Larcker criterion results. Research model for this study are presented in Figure 8 below

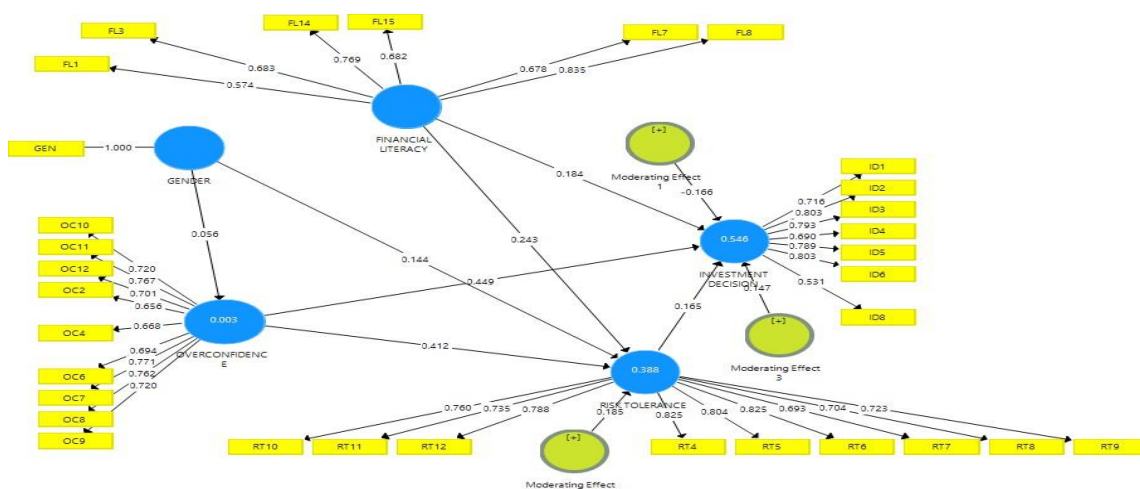


Figure 8 Research Model

Hypotheses testing results are presented in Table 7. Based on data analysis, this study confirms H1 – H9, with statistical significance results less than 5% for H1, H2, H5, H6, H7, H9, meanwhile for H3, H4, H8 are statistically significant at 10% level. For the tenth hypothesis (H10), this study confirms no statistical significance between the observed variables.

Table 6. Hypotheses Testing

Path Coefficients	T-Statistics	P-Value
Financial Literacy -> Risk Tolerance	2.026	0.043
Financial Literacy -> Investment Decision	2.091	0.037
Risk Tolerance -> Investment Decision	1.725	0.085

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Moderating Effect 1 (FL-RT-ID) - > Investment Decision	1.857	0.064
Moderating Effect 2 (FL-GEN- RT) -> Risk Tolerance	2.030	0.043
Overconfidence -> Risk Tolerance	4.300	0.000
Overconfidence -> Investment Decision	4.601	0.000
Moderating Effect 3 (OC-RT-ID) -> Investment Decision	1.811	0.071
Gender -> Risk Tolerance	2.044	0.041
Gender -> Overconfidence	0.619	0.536

Financial literacy has a positive and significant impact on risk tolerance, as indicated by a T-value of 2.026 and a P-value of 0.043. A path coefficient of 0.243 suggests that good financial literacy enables Generation Z investors in Bandung to better consider risks in their investment decisions. This study aligns with previous research by Gunawan & Wiyanto (2022).

Financial literacy also positively and significantly affects investment decisions, with a T-value of 2.091 and a P-value of 0.037. A path coefficient of 0.184 indicates that investors with good financial literacy are likely to be more cautious in making investment decisions. This finding is consistent with the research by Utami & Sitanggang (2021).

Risk tolerance does not significantly impact investment decisions, with a T-value of 1.725 and a P-value of 0.085. A path coefficient of 0.165 shows no positive effect. Generation Z in Bandung does not pay much attention to their risk tolerance when making investment decisions. This result contradicts the study by Masrurroh & Sari (2021), suggesting that the lack of significance may be due to the fact that the respondents are predominantly students, who are influenced by external factors such as FOMO and social media, which are closely related to their daily lives.

Financial literacy with risk tolerance mediation does not significantly affect investment decisions, with a T-value of 1.857 and a P-value of 0.064. A path coefficient of -0.166 indicates no positive effect. This finding does not align with the research by Asfira Nur et al. (2019).

Financial literacy with gender moderation positively and significantly affects risk tolerance, with a T-value of 2.030 and a P-value of 0.043. This finding is consistent with the research by I. Y. K. S (2020).

Overconfidence has a positive and significant impact on risk tolerance, with a T-value of 4.300 and a P-value of 0.000. A path coefficient of 0.412 indicates a positive effect, where confidence increases investors' risk tolerance. This finding is in line with the research by Anifa (2023).

Overconfidence also positively and significantly affects investment decisions, with a T-value of 4.601 and a P-value of 0.000. A path coefficient of 0.449 indicates a positive effect, where increased confidence positively influences investment decisions. This result aligns with the research by Widiastuti et al. (2024).

However, overconfidence with risk tolerance mediation does not significantly affect investment decisions, with a T-value of 1.811 and a P-value of 0.071. A path coefficient of 0.147 shows no positive effect.

Overconfidence with gender moderation positively and significantly affects risk tolerance, with a T-value of 2.044 and a P-value of 0.041. A path coefficient of 0.144 indicates a positive effect.

Gender does not significantly impact overconfidence, with a T-value of 0.619 and a P-value of 0.536. A path coefficient of 0.056 shows no positive effect. This finding is consistent with the research by (Mulyana et al., 2023), which indicates that gender differences do not affect overconfidence. The lack of significance may also be due to the nearly equal number of male and female respondents in this study, making the impact of gender on overconfidence negligible and non-significant.

## V. CONCLUSION

This study examines how financial literacy and overconfidence affect investment decisions among Generation Z in Bandung, considering risk tolerance and gender moderation. The findings indicate that financial literacy significantly influences both risk tolerance and investment decisions. However, risk tolerance does not significantly affect investment decisions and does not mediate the effect of financial literacy on investment decisions. Additionally, financial literacy significantly impacts risk tolerance

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when moderated by gender. Overconfidence also significantly affects both risk tolerance and investment decisions, but risk tolerance does not mediate the effect of overconfidence on investment decisions. Gender has a significant impact on risk tolerance in the context of overconfidence, but does not affect overconfidence itself.

For Generation Z investors in Bandung, it is recommended to continuously enhance financial literacy through seminars, workshops, or courses, utilize online investment platforms, and stay updated with the latest market trends. Diversifying investments and using financial management apps are also advised to manage finances more effectively. For future researchers, it is suggested to expand studies to similar industries, include additional variables, and use different data analysis methods to gain broader insights.

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