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Dimensions of Investment Gullibility: Exploring the Ponzi Scheme Victims in Davao City

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ABSTRACT
The Ponzi scheme that deceived numerous individuals has sparked significant concerns. A recent scam in the Davao Region, which targeted thousands, profited by offering promises of high investment returns. This study aims to delve into the various aspects of investment gullibility in Davao City. The aim is to create an all-encompassing research framework that highlights the importance and arrangement of these factors, offering a systematic method to comprehend investment gullibility within the diverse population of Davao City. The study gathered data from individuals who had fallen victim to various investment frauds. Using an exploratory factor analysis research approach, it identified three significant investment dimensions of gullibility.
Keywords: *Ponzi scheme, prospect theory, regret aversion, quality education*

1. INTRODUCTION

Over the past decades, numerous Filipinos have fallen victim to high-profile investment scams, including the Legacy Group scandal, FrancSwiss Investment, and Aman Futures Group. In 2019, Mindanao was rocked by a Ponzi scheme involving Kapa-Community Ministry International and Rigen Marketing, which defrauded nearly two million people of over P60 billion. In the Davao Region, another scam promising a 400% return swindled up to P8 billion from thousands of investors (Philippine Daily Inquirer, 2019). In 2020, President Duterte ordered the closure of such illicit investment organizations and the arrest of their organizers; the escalating numbers of Filipinos falling victim to Ponzi schemes constitute a pressing and multifaceted issue that demands immediate attention and is still rising today (Crismundo, 2021). However, these reports are insufficient to stop people from investing in this scheme. Are they risk-takers or just gullible?

Prabowo (2023) uses various psychological techniques to explain the gullibility of their intended victims, making them more susceptible to deceptive persuasion. Even financially knowledgeable people are often vulnerable to scammers' misleading statements. It emphasizes the construction of gullibility as a basis for investment fraudsters to design their methods for getting victims to adopt ideas at odds with facts and evidence.

Teunisse, Case, Fitness, and Sweller (2019) explore the connection between 'self-reported Gullibility and behavior.' They investigated individuals who clicked on a link in a series of phishing emails, finding that those who did were more prone to gullibility than those who refrained from clicking. Another study by Judges et al. (2017) sought to understand the personality traits associated with gullibility. They concluded that individuals with "honesty and humility" might be more susceptible to scams because they tend not to assess situations negatively. Instead, they may view situations as opportunities for gain. Factors like the need for cognition and closure could also be related to gullibility. Thinking and engaging in tasks is a "need for cognition" (Cacioppo & Petty, 1982). Additionally, individuals who have an understanding of themselves may also display a tendency toward being influenced. This lack of self-awareness can manifest as changes in emotions, opinions, and values.

Gullible investors are susceptible or weak to being duped or controlled by the false promises and schemes put out by a Ponzi operator. Gullibility is characterized by a lack of sensitivity to indications that someone is untrustworthy and a predisposition to believe misleading information, disregard actual knowledge, or take risky actions (Mercier 2017; Teunisse et al. 2020). During the COVID-19 pandemic, the reputation of customers and society suffered greatly from transactions, which is still the case today.

People who fall to scam victims could lose their money, identities, or even homes and deal with emotional misery and financial difficulty. This problem can significantly affect the percentage of fraud schemes targeting consumers in the Philippines (Statista Research Department, 2023). This result demonstrates the gap because most research pays attention to people's actions and behavior and ignores the traits of personality, which increases financial gullibility. This research aligned with the UN SDG, particularly on Quality Education. Knowing what causes people to be more susceptible to money might help educators create programs that address these weaknesses and give people the confidence to manage their money wisely. Educators may provide people with the information and critical thinking abilities to guard against financial scams and make wise financial decisions by implementing these results into financial literacy education. This study aims to determine the factors affecting investment gullibility among investment fraud victims in Davao City.

2. RELATED LITERATURE

2.1 Theories

Prospect theory explains an individual's investment decisions by examining human behavior patterns sometimes irrationally influenced by risk perception and the framing of situations. This theory assesses how effectively individual investors make decisions under uncertain conditions. (Giovanni et al., 2021). Conversely, Babajide and Adetiloye (2012) argue that Behavioral Finance suggests that investors do not always make rational decisions when processing the necessary inputs, such as knowledge and understanding, to form sound investment judgments. Similarly, Ogunlusi and Obademi (2019) explain that Behavioral Finance employs scientific models to describe financial decisions in real-world scenarios rather than in theory. Alquraan et al. (2016) conducted a case study on the Saudi Stock Exchange to explore the impact of individual investors' behavioral finance traits on their stock investment choices.

Babajide and Adetiloye (2012) claim that behavioral Finance contends that investors don't always make logical decisions in dealing with the inputs when making investment decisions needed for creating a reasoned judgment, such as knowledge, knowledge, and comprehension, as stated by Ogunlusi and Obademi (2019) The area of Finance known as behavioral Finance uses scientific models that describe how financial decisions are made in practice instead of theory.

Meanwhile, Loomes and Sugden (1982) discovered an unpleasantness theory. The regret theory describes how emotions can influence decisions. Regret Theory is predicated on two essential suppositions: Experiencing sorrow and excitement following a choice and making judgments while facing ambiguity. Individuals should be proactive in preparing for and dealing with unpleasant feelings of regret. Theoretically, rational but irrational investors make decisions not just on successful outcomes but also on expected regret (Pompian, 2006)

Because regret is most likely to occur when people learn that they could have achieved better results by making a different decision, the Regret Aversion Theory predicts that people will seek to make decisions that minimize the likelihood of feeling post-decision regret Guthrie (1999). The prospect theory's concept of regret aversion (Tversky & Kahneman, 1979) describes a detrimental emotional bias that tempts investors to avoid remorse, sometimes leading to the wrong choice. Tsiros and Mittal (2000) have looked at the significance of regret aversion as a negative emotion.

Gazel (2015) discovered that when making decisions, Investors' willingness to take on risk is closely associated with this. Depending on their appetite, investors will choose their investments for both the targeted rate of return and risk. Leung and Tsang's (2013) study uses a series of transactions from Hong Kong between 1992 and 2006 real estate investors. The research demonstrates that regret aversion affects the trading activity of investors in stocks and mutual funds, as well as the possibility of trading real estate. Bell (1982) revealed that while people anticipate not making the wrong choice, regret aversion is not always present, which causes people to avoid making significant purchases (such as a home or piece of property) because people consider the likelihood that property values will decline over the coming year.

2.3 High returns

High returns ensure investors a low-risk investment with high rates of return. The Ponzi scheme makes money for its older investors by recruiting new investors. A few of these schemes also rely on outright lies and half-truths to trick their victims into making financial commitments that sometimes cost them money (Chiluwa, 2019). Phantom riches are reactions to the delusion of obtaining significant fortune. (Knüpfer et al., 2021).

Furthermore, it is based on deceit and lies, and by working together, the organizers and speculators trick unwitting investors into thinking they will receive the anticipated rewards. (Song & Kong, 2022). Also, by promising investors a profit in the future after their investment, the con artists will convince them to do so. Because of this circumstance, people's emotions will be diverted, allowing them to decide without further research. The feelings of people will be impacted before, during, and after they become victims, especially when they lose a significant amount of money.

Moreover, (Diliema et al., 2019) Unreasonable investment returns promised by dishonest brokers may attract many. Findings highlight vital areas where investor education is required to combat risky mindsets and poor investing decision-making. In a study (Button et al., 2012), people's emotions will be affected before, during, and after becoming victims, particularly when they lose significant money. Therefore, scammers have taken advantage of anything to encourage investors to seek future gains. Scammers will convince investors to invest by promising them a profit in the future.

2.4 Impulsiveness

Impulsive actions without careful consideration. Having a risky mentality and acting impulsively can come off as gullible, especially if the investors become overconfident in others. (Greenspan & Woods, 2016). Lack of critical thinking is another aspect of gullibility. Even people with high IQs can be naive. Even among the most brilliant people, impulse and intuition brought on by emotion frequently result in wrong decisions. (Jacobs & Schain, 2011).

Temporal discounting has been established as a measure of illogical decisions, such as impulsiveness, in contrast to financial literacy, which is a proxy for rational decision-making tools and has been shown to impact financial and healthy behavior. Earlier investigations also empirically demonstrated the effect of temporal discounting or impulsivity on dangerous health behavior. Although the use of financial literacy as a stand-in for tools for rational decision-making is theoretically valid, its link to impulsive behavior has not yet been proven. As a result, it is still unclear if tools for making logical decisions influence less impulsive choices made by individuals. (Katauke et al., 2023)

2.5 Social Pressure

Social pressure is the practice of pressure by one group or individual over another. Also, situational factors (pressure and opportunity) will undeniably interact with psychological factors (rationalization) and personal attributes to influence people to engage in a scam (Rustiarini et al., 2019). As the name implies, it is gained by establishing a close physical or emotional connection with the victim. This is accomplished by bringing up a mutual friend or a close-by incident to feign closeness. Then, high-profit or safety-guaranteed investment options are suggested. Even one of the group's members must be persuaded by the others to follow suit and fall for a similar scheme.

Taking advantage of groups and high-pressure offers are among other "organizer-dominant" factors (Hock & Button, 2022). In contrast, most of their lost money had been borrowed from family, friends, and self-help organizations. (Onyima, 2019). Moreover, once the initial investors start receiving their guaranteed outcomes, whether funded by their own invested money or other new investors' money, they are likely to reinvest and tell others about the opportunity (Ibitola, 2023). This need for connection has been broadly and theoretically described as the "need to belong" and has been essential to human survival. According to general definitions, belonging is an overarching desire to create and sustain relationships with other people. (Baumeister & Leary, 1995).

2.6 Trust and Relationship

Trust and relationships can play a significant role in financial gullibility. Fraudsters deceive their victims by presenting them with polished salespeople, high-quality paperwork, and a professional business setup. It was done by purposefully misleading others, getting over legal restrictions, and hiding their identity. However, putting on a front of professionalism and using deceitful methods alone is inadequate to commit investment fraud. In the process of grooming the victim, fraudsters also use a variety of techniques, such as establishing friendship and trust, flattering the victim, appealing to visceral emotions, making victims feel obligated to them, cutting off the victim from their financial, social networks, and controlling the victim's behavior by offering and withholding their friendship (Harvey et al., 2014).

On the other hand, Greenspan and Woods (2016) demonstrate how even someone with a high level of knowledge may be credulous owing to their belief in the investors attempting to convince the victims to participate in this scam. This claim is confirmed by (Lewis, 2012), who noted that Ponzi scheme victims are frequently accused of being at fault because they are too greedy or credulous. When people are overly trusting, especially regarding the investors themselves, they risk being victims of the system due to the error of placing their faith in the wrong people.

2.7 Desperation and Financial Stress

Financial stress is a form of emotional strain directly tied to money. Financial stress may affect anybody, but it can be more common in homes with low earnings. Financial stress may have a detrimental impact on one's physical and mental health if it is severe. Financial strain can cause worry, despair, behavioral changes like retreating from social interactions, or physical symptoms like headaches or stomach aches (Scott, 2023). In addition, financial stress is a family's perception of or emotional reaction to one or more financial difficulties (Falconier & Epstein, 2011).

On the other hand, any behaviors involving financial transactions (or the desire to do so) show a lack of control or a disregard for a healthy risk/reward ratio. In other words, it must make better financial decisions to escape a difficult position. When someone is desperate, they tend to ignore sound counsel and try to cut corners. (Pumphrey, 2022).

Investment fraud victims often make reasonable decisions based on available information influenced by fraudsters' manipulation of behavioral biases (Harvey et al., 2014). Many Ponzi scheme victims are in poor financial situations and fear admitting their losses due to embarrassment and potential trust crises among other investors. Consequently, they may continue participating in the scheme, hoping to recover some of their money (Card, 2020).

3. METHOD

3.1 Design and Respondents

The study used an exploratory factor analysis to determine what makes these people invest in the fraudulent investment company. The process of gathering and interpreting numerical data to describe, predict, or control factors of interest is known as quantitative Research (Sreekumar, 2023). EFA was explicitly used to gather pertinent information from people who had experienced financial gullibility as a victim by analyzing and determining the factors contributing to an increase in the number of people falling victim to it in Davao City. It is the proper method to ascertain if the underlying structure of the components is inter-correlated and sufficient. (Watkins, 2018), which of these aspects is the main reason why incidents of financial gullibility continue to occur.

The primary respondents in this study are the victims of the Ponzi Scheme in Davao City. Everyone falls within this category, regardless of age, gender, educational attainment, socioeconomic status, and district in Davao City. The researchers selected a sample using quota purposive sampling that studies specific people of interest and excludes those who do not suit the purpose. Quota purposive sampling selects a respondent from a particular population with a goal in mind based on the researchers' judgment. Additionally, the current study aims to identify the elements influencing the financial gullibility of the indicated individuals. It made it possible for the research to get information from victims of Ponzi schemes who were aware of the risks but chose to participate in the scam to make quick money.

3.2 Research Instrument

The Researcher employed structured questionnaires in line with the study's guiding theories. When creating the modified questionnaires, careful consideration was used to determine the ones utilized as primary data. It resulted in a questionnaire with two parts. The first one included respondents with demographic information from Ponzi scheme victims and focused on the Davao City area. In the second part, the statement questions were not given in any order or with any factor or constant.

This study of the research instrument was composed of two parts. The first part employed the focus group discussion (FGD) wherein six (6) respondents participated. The participants were purposefully victims of a Ponzi scam and were chosen based on socioeconomic status. The questions were mixed but needed to be organized, using carefully crafted questions that matched the Researcher's research. Forty-one (41) questions were asked of them during the focus group discussion. Furthermore, upon the conduct of the FGD, a specific number of item questions were identified. These questions became the modified questionnaire for administering the pilot test to examine its validity.

Several participants were selected for pilot testing to assess the instrument's reliability. Right after the Focus Group Discussion (FGD) with the expert, it revealed and identified 41 final scale items to run for pilot testing to examine whether these scale items collected by the research proponents are suitable for the data gathering phase. Moreover, the instrument's structure was measured using a Ten-point Bipolar scale, which equates to 10 Strongly Agree and 1 strongly disagree. At the same time, the identification process of determining the factors was supported by the theories mentioned in related literature, the conduct of the FGD, and the pilot testing.

3.3 Statistical Treatment

Test of sample adequacy and sphericity. Kaiser Meyer-Olkin's sample adequacy test and Barlett's sphericity test were applied to determine the sample's eligibility for the factor analysis, to check the appropriateness and normality of the identified selection, and to provide a summary of correlated factors to prevent redundancy among variables.

Data reduction analysis. The factor influencing financial gullibility concerning the research participants' context is determined and extracted using the principal components analysis. Identifying the covariances for effective factor analysis investigation assists in reducing the data set into specific variables.

Factor rotation method. The Orthogonal Rotation Method with Varimax was used in this study to assess the straightforward interpretation of the significant components following data reduction analysis. The axes of the factors seen within the multidimensional variable frame are given direction and position by this feature, making it simple to comprehend the characteristics.

4. RESULTS AND DISCUSSION

4.1 Measures of Sampling Adequacy and Sphericity

The Kaiser Meyer - Olkin's Measure of Sampling Adequacy and Barlett's Test of Sphericity, with a KMO score of 0.900, demonstrating that the sample size is sufficient for factor analysis, exceeding the satisfactory standard score of 0.60 estimation threshold (Kaiser & Rice, 1974). At the same time, Bartlett's Test of Sphericity indicates that the assumption is accepted, with a standard score of 0.60 as the estimation threshold (Kaiser & Rice, 1974). At the same time, Bartlett's Test of Sphericity demonstrates the assumption, with a test esteem of 1526.436, a level of degree of freedom (df) value of 136, and a level of essentiality value of 0.000, indicating that the data set is appropriate and suitable for factor investigation because the level of significance is less than 0.05, allowing for in determining the salient and underlying factors influencing financial gullibility.

Table 1 *Measures of Sampling Adequacy and Sphericity*

Measurement		Value
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.900
Bartlett's Test of Sphericity	Approx. Chi-Square	1526.436
	Degrees of freedom	136
	Sig. (p-value)	.000

4.2 Factors Affecting Financial Gullibility among specific individuals in Davao City

The Varimax with Kaiser Normalization method identified three factors with scale item loading with significant coefficient values above ±0.50. Seventeen (17) out of forty (41) scale items were retained, three latent components were further formulated, and two factors were merged. Conversely, the twenty-four items (24), specifically item numbers 1, 3, 4, 5, 6, 7, 8, 10, 13, 14, 15, 16, 20, 23, 24, 25, 26, 30, 33, 34,36, 38, 39 and 40, did not pass the loading coefficient value threshold of ±0.50; as such, these items were eliminated for the factor analysis. After assessing the degree of similarity among the remaining scale items, these items were loaded to generate factors. Subsequently, the factors were further named according to the scale items' dominance. The combination of social pressure and impulsiveness, relationships, trust, desperation, and financial stress are the components that have been extracted. The research highlights the intricate relationship between impulsiveness and social pressure as merged factors influencing financial gullibility. Conversely, those with lower impulsiveness scores appeared less influenced by social pressure.

Social pressure and Impulsiveness: Specific victims of the Davao City Ponzi scheme identified impulsiveness as influencing financial gullibility (Table 2). The factor loadings indicate that investment decisions are heavily influenced by social pressure and impulsiveness. Notably, social belonging and media influence emerge as dominant factors, while impulsiveness and fear of judgment contribute significantly. These results emphasize the importance of enhancing financial literacy and awareness to empower individuals to make more informed and rational investment choices, reducing the effects of social and impulsive influences. Altundal, Argan, and Argan (2024) claimed that fear of missing out significantly influences investment decisions, often leading to impulsive actions without thorough evaluation. Additionally, those who strongly avoid uncertainty tend to adopt more conservative investment strategies, highlighting the need to understand these psychological factors to predict investor behavior better.

Table 2 *Factor Loading of Social Pressure and Impulsiveness*

ITEM	SOCIAL PRESSURE AND IMPULSIVENESS (8 items)	LOADING
Q27	I felt like I had to invest my money in this investment to belong to my social group	0.755
Q12	I feel pressured by the media to invest in certain assets	0.709
Q31	I feel pressured to invest my money in certain things by the people around me	0.601
Q11	I was easily persuaded to invest my money, even though I did not know much about it	0.574
Q35	I decided to invest my money without thinking it through carefully	0.561
Q32	I was afraid of being judged by my friends or family if I did not invest my money in this investment	0.561
Q22	I invest my money without doing enough research	0.554
Q21	I have difficulty saying no to opportunities, even if they are risky	0.501

Desperation and Financial Stress: The results (Table 3) show that desperation and financial stress strongly influence risky investment behavior, with the urgency to make money as the most significant factor. People facing financial struggles or stress tend to take risky investment chances, hoping for quick financial gains. Individuals experiencing desperation and financial stress are more likely to engage in risky investment behaviors. Roncagliolo and Blas (2022) state that modern economies are more prone to financial stress shocks that hinder revenue growth. In addition, it is significant to highlight that the outcomes resulting from their financial literacy assessment and expansion of knowledge moved in different directions. In particular, low financial literacy, characterized by inefficiency in managing one's finances, is unusually associated with unsound economic thought patterns and a lack of systematic financial management. Moreover, adverse circumstances may result from a lack of financial knowledge (Amonhaemanon, 2023).

People who are irrationally driven or desperate to pursue financial gain tend to favor smaller, later rewards over larger, longer-term ones. As stated by Constantino et al. (2024), from the perspective of investors in general, but particularly those exposed to Ponzi schemes, knowing the mechanisms involved in financial decision-making aims to educate them about the significance of financial literacy and the influence of psychological elements, enabling them to lessen the impact of strategies as well as biases when dealt with a financial decision.

Table 3 *Factor Loading of Desperation and Financial Stress*

ITEM	DESPERATION AND FINANCIAL STRESS (6 items)	LOADING
Q37	I am prone to invest in something if I am desperate to make money	0.734
Q29	I was willing to take risks with money because I was desperate	0.676
Q41	I am willing to invest in something if I am feeling overwhelmed by my financial problems	0.676
Q19	I am more inclined to invest in something if I am in financial difficulty	0.646
Q17	I was experiencing financial stress at the time that I invested my money	0.591
Q18	I am willing to invest in something if I am promised a quick and easy way to make money	0.525

Trust and Relationships. In Table 3, the high loadings on these items suggest that personal relationships and trust are critical factors in investment decisions. The stronger the perceived connection between an individual and the person or organization they are investing with, the greater their trust. This strong correlation highlights that a sense of closeness is key to building trust. The more personal the relationship, the higher the trust, which is crucial in investment decisions. In addition, trust plays a vital role in investment decision-making, as individuals are more likely to feel confident and secure when they trust the person or organization they are investing with. Past experiences, reputation, and perceived reliability can influence this trust. Ultimately, the stronger the trust, the greater the willingness to invest, underscoring its importance in financial decisions. A study by Halim et al. (2021) demonstrates the gullibility of the Ponzi scheme victims, indicating a high degree of trustworthiness.
Furthermore, according to Turgeon (2020), affinity scams occur whenever "fraudulent people use their corresponding features to gain trust." It suggests that the trust has significantly and positively influenced investors' decisions to participate in Ponzi schemes. Specific individuals who are victims of the Ponzi scheme in Davao City found trust and relationships to affect financial gullibility.

Table 3

Factor Loading of Trust and Relationship

ITEM	TRUST AND RELATIONSHIP (3 items)	LOADING
Q28	I felt like I had a close relationship with the person or organization that I invested my money with	0.798
Q9	I trusted the person or organization that I invested my money with	0.730
Q2	I was willing to invest my money with this person or organization because they were someone I cared about	0.697

The study highlights several challenges, such as faith, financial boundaries, and monetary connections, that should only be relied upon carefully when there is no reasonable basis for trust. When trust is in a connection, it must be valuable to be upheld. In Addition, Table 3 shows that respondents recognize the significance of trust because it's essential for critical thinking and action, not just devoted or other interpersonal connections but also those related to money. A particular topic of disagreement has also been the applicability and usefulness of trust in financial interactions. While critics concede that trust may have a legitimate place in close or personal relationships, they maintain that it has no place in financial investments. This is not to minimize the importance of trust, nor is it to say that investors and their advisors who extend it are wrong because they neglect to carry out their legal obligations.

4.3 Total Variance

Meanwhile, Table 5 shows that only three (3) factors have above 1 Eiegen values. Social Pressure and Impulsiveness are the most significant factors, explaining a large portion of the variance (37.338%). The subsequent factors contribute progressively less to the total variance.

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Table 5

Component	Initial Eigenvalues

	Total	% of variance	Cumulative %
Social Pressure and Impulsiveness	6.348	37.338	37.338
Desperation and Financial Stress	1.442	8.483	45.822
Trust and Relationship	1.252	7.366	53.188

4.4 Structured Framework Developed Based on the Findings of the Study

This study's findings served as the basis for developing the structured framework. As a result, it was identified that three latent factors influence financial gullibility among specific individuals in Davao City. The results showed that 17 items had been retained following cross-loading, indicating three critical components in this research undertaking. These components are social pressure and impulsiveness, trust and relationship, desperation, and financial stress. The developed framework demonstrates what factors cause individuals to become victims of financial gullibility.

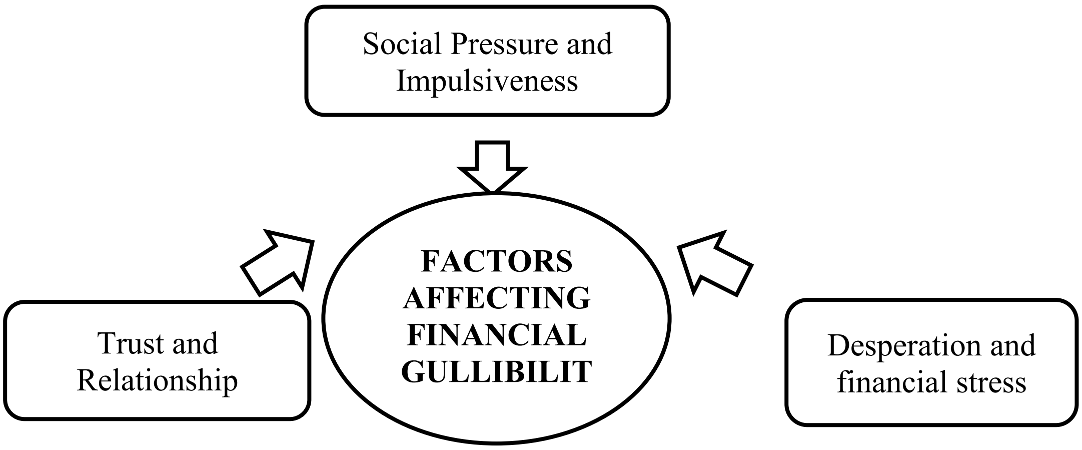

Figure 3. Thematic Framework of the Study

5. CONCLUSION

Ponzi schemes have victimized millions in Mindanao and thousands in the Davao Region, with no clear evidence explaining the recurrence or prevention of these scams. This study identifies three factors explaining financial gullibility, revealing why individuals, including financial experts, fall prey to Ponzi schemes despite knowing the risks. The study finds that high returns are not a primary factor; instead, individuals in Davao City are driven by their financial situations. Impulsiveness and social pressure are significant factors, leading individuals to make hasty investment decisions without careful consideration, often to fit in with their social groups.

The study supports Prospect Theory, highlighting social pressure and impulsiveness as primary determinants of financial gullibility, with desperation and financial stress as secondary factors. It also aligns with Regret Aversion Theory, which explains the emotional influence on decision-making. Additionally, the study explores the role of trust and relationships, along with social pressure, impulsiveness, desperation, and financial stress, in exploiting financial gullibility. It concludes that personality traits significantly impact financial behavior, contributing to the vulnerability to scams.

6. Funding

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7. Data Availability Statement

The data supporting this study's findings are available from the corresponding author upon reasonable request.

8. Conflict of Interest

We hereby declare that we have no financial, personal, or professional interests that could be perceived as influencing the research presented in this study. We confirm no conflicts of interest related to the work conducted and reported in this research.

REFERENCES

Alqurran, T. A. A., Alqisie A. and Shorafa A. A., (2016). *Do behavioral finance factors influence stock investment decisions of individual investors?(Evidences from Saudi Stock Market)* Available at: https://www.researchgate.net/publication/338435998_Do_behavioral_finance factors_influence_stock_investment_decisions_of_individual_investorsEvidences_from_Saudi_Stock_Market.

Altundal, V., Argan, M.T., & Argan, M., 2024. The Effect of FoMO, Uncertainty Avoidance, and Impulsiveness on Financial Investment Decisions of Individual Investors. Journal of Selçuk University Social Sciences Vocational School, 21(1), pp.45-58.

Amonhaemanon, D., (2023). 'Financial stress and gambling motivation: the importance of financial literacy,' Review of Behavioral Finance./*Review of Behavioral Finance,* 16(2), pp. 248–265. Available at: https://doi.org/10.1108/rbf-01-2023-0026.

Babajide, A.A. and Adetiloye, K.A., (2012). 'Investors' behavioural biases and the security market: An Empirical study of the Nigerian security market,' *Accounting and Finance Research,* 1(1). Available at: https://doi.org/10.5430/afr.v1n1p219.

Baumeister, R.F. and Leary M.K., (1995). *The need to belong: desire for interpersonal attachments as a fundamental human motivation Psychological Bulletin*. journal-article. American Psychological Association, pp. 497–529. Available at: https://doi.org/10.1037/0033-2909.117.3.497.

Bell, D.E., (1982). 'Regret in Decision Making under Uncertainty,' *Operations Research*, 30(5), pp. 961–981. Available at: https://doi.org/10.1287/opre.30.5.961.

Button, M., Lewis, C. and Tapley, J., (2012). 'Not a victimless crime: The impact of fraud on individual victims and their families,' *Security Journal*, 27(1), pp. 36–54. Available at: https://doi.org/10.1057/sj.2012.11.

Cacioppo, J.T. and Petty, R.E., (1982). 'The need for cognition.,' *Journal of Personality and Social Psychology*, 42(1), pp. 116–131. Available at: https://doi.org/10.1037/0022-3514.42.1.116.

Card, D., (2020). *Financial desperation: A breeding ground for Ponzi schemes.* Available at: https://www.moneyweb.co.za/financial-advisor-views/financial-desperation-a-breeding-ground-for-ponzi-schemes/.

Chiluwa, I.M., (2019). '"Truth," lies, and deception in ponzi and pyramid schemes,' in *Advances in media, entertainment and the arts* (AMEA) book series, pp. 439–458. Available at: https://doi.org/10.4018/978-1-5225-8535-0.ch023.

Constantino, T.D.S.T., Da Silva, A.C.M. and Constantino, M.A.M.D.O., (2024). 'Ponzi schemes in Brazil: what leads people to still invest in this fraud?,' *Journal of Financial Crime*. Available at: https://doi.org/10.1108/jfc-10-2023-0262.

Crismundo, K., (2021). *Digital fraud attempts in PH rise amid pandemic.* Available at: https://www.pna.gov.ph/articles/1134735.

Diliema. M., Shadel. D. and Pak, K., (2019). 'Profiling Victims of Investment Fraud: Mindsets and Risky Behaviors' (2019b) *Journal of Consumer Research*, 46(5), pp. 904–914. Available at: https://academic.oup.com/jcr/article-abstract/46/5/904/5512363.

Falconier, M.K. and Epstein, N.B., (2011). 'Couples experiencing financial strain: What we know and what we can do,' *Family Relations*, 60(3), pp. 303–317. Available at: https://doi.org/10.1111/j.1741-3729.2011.00650.x.

Giovanni, A., Utami, D. W., Astuti, U. D. and Fania, F., (2021). 'Konflik Keagenan dalam Perspektif Keuangan Keperilakuan,' JAF (*Journal of Accounting and Finance),* 5(1), p. 1. Available at: https://doi.org/10.25124/jaf.v5i1.3556.

Greenspan, S. and Woods, G.W., (2016). 'Personal and Situational Contributors to fraud Victimization: Implications of a Four-Factor Model of Gullible Investing,' in *International library of ethics, law, and the new medicine/The international library of ethics, law, and the new medicine*, pp. 141–166. Available at: https://doi.org/10.1007/978-3-319-32419-7_7.

Greenspan, S., & Woods, G.W., (2016). Gullibility Theory and Ponzi Scheme Participation Among University Students in Malaysia *Academy of Strategic Management Journal.* Available at: https://www.abacademies.org/articles/gullibility-theory-and-ponzi-scheme-participation-among-university-students-in-malaysia.pdf.

Guthrie, C., (1999). 'Better Settle than Sorry: The Regret Aversion Theory of Litigation Behavior' *CORE Reader*. Available at: https://core.ac.uk/reader/230470858.

Halim, S., Nadzri F. and Zolkaflil S., (2021). 'Gullibility Theory and Ponzi Scheme Participation Among University Students in Malaysia' (2021b) *Academy of Strategic Management Journal*, 20(6), pp. 1–20. Available at: https://www.proquest.com/openview/0931b84a0f08fda26ad3461f3f6bae77/1?pq-origsite=gscholar&cbl=38745.

Harvey, S., Kerr, J., Keeble, J. and Nicholls, C.M., (2014). *Understanding victims of financial crime, Prepared for: Financial Conduct Authority.* Available at: https://www.fca.org.uk/publication/research/qual-study-understanding-victims-investment-fraud.pdf.

Hock, B. and Button, M., (2022). 'Why do people join pyramid schemes?,' *Journal of Financial Crime*, 30(5), pp. 1130–1139. Available at: https://doi.org/10.1108/jfc-09-2022-0225.

Ibitola J., (2023). *Understanding the mechanics of ponzi schemes. Available at:* https://www.flagright.com/post/understanding-the-mechanics-of-ponzi-schemes.

Jacobs, P. and Schain, L., (2011). The never ending attraction of the Ponzi scheme. Journal of Comprehensive Research, 9, 40-46. Available at: https://digitalcommons.sacredheart.edu/cgi/viewcontent.cgi?%20referer&httpsredir=1&article=1003&context=cj_fac.

Jacobs, P. and Schain, L., (2011). *The never-ending attraction of the ponzi scheme*. Available at: https://digitalcommons.sacredheart.edu/cj_fac/4/.

Kaiser, H.F. and Rice, J.R., (1974). 'Little Jiffy, Mark IV,' *Educational and Psychological Measurement,* 34(1), pp. 111–117.
Katauke T., Fukuda S., Khan, M. S. R. and Kadoya, Y., (2023). 'Financial Literacy and Impulsivity: Evidence from Japan,' *Sustainability,* 15(9), p. 7267. Available at: https://doi.org/10.3390/su15097267.
Leung, T.C. and Tsang, K.P., (2013). 'Can anchoring and loss aversion explain the predictability of housing prices?,' *Pacific Economic Review,* 18(1), pp. 41–59. Available at: https://doi.org/10.1111/1468-0106.12009.
Lewis, M.K., (2012). 'New dogs, old tricks. Why do Ponzi schemes succeed?,' *Accounting Forum*, 36(4), pp. 294–309. Available at: https://doi.org/10.1016/j.accfor.2011.11.002.
Loomes, G. and Sugden, R., (1982). 'Regret Theory: An Alternative theory of rational choice under uncertainty,' the *Economic Journal/Economic Journal*, 92(368), p. 805. Available at: https://doi.org/10.2307/2232669.
Mercier, H., (2017). 'How Gullible are We? A Review of the Evidence from Psychology and Social Science,' *Review of General Psychology*, 21(2), pp. 103–122. Available at: https://doi.org/10.1037/gpr0000111.
Mien, N. and Thao, T., (2015). *Factors affecting personal financial management behaviors: evidence from Vietnam*. Available at: https://www.semanticscholar.org/paper/Factors-affecting-personal-financial-management-Mien Thao/542c35bc1c84923e33a086a95aace570939856c0.
Ogunlusi, O.E. and Obademi, O., (2019). 'The impact of behavioural finance on investment decision-making: a study of selected investment banks in Nigeria,' *Global Business Review*, 22(6), pp. 1345–1361. Available at: https://doi.org/10.1177/0972150919851388.
Onyima, J.K., (2019). *Ponzi Schemes and Rural Household Over Indebtedness in Nigeria: Incidence, Drivers and Linkages. | Journal of Global Business & Technology | EBSCOhost.* Available at: https://openurl.ebsco.com/EPDB%3Agcd%3A8%3A3512200/detailv2?sid=ebsco%3Aplink%3Ascholar&id=ebsco%3Agcd%3A140391715&crl=c.
Pompian, M.M., (2006). *Behavioral Finance and Wealth Management How to Build Optimal Portfolio that account for Invest Biases. John Willey & Sons Inc., Canada. - References - Scientific Research Publishing*. Available at: https://www.scirp.org/(S(lz5mqp453edsnp55rrgjct55.))/reference/referencespapers.aspx?referenceid=1741707.
Prabowo, H.Y., (2023). 'When gullibility becomes us: exploring the cultural roots of Indonesians' susceptibility to investment fraud,' *ideas.repec.org*. Available at: https://ideas.repec.org/a/eme/jfcpps/jfc-11-2022-0271.html.
Philippine Daily Inquirer (2021). Available at: https://opinion.inquirer.net/146964/proliferating-ponzi-schemes-1.
Pumphrey, M., (2022). *Desperation is not a financial strategy.* Available at: https://empathicfinance.com/desperation-is-not-a-financial-strategy/.
Roncagliolo, F.C.V. and Blas, R.N.V., (2022). 'Impact of financial stress in advanced and emerging economies,' *Journal of Economics Finance and Administrative Science/Journal of Economics, Finance and Administrative Science*, 27(53), pp. 68–85. Available at: https://doi.org/10.1108/jefas-05-2021-0063.
Rustiarini, N.Y., Sutrisno T., Nurkholis N., Andayani, W., (2019). 'Why people commit public procurement fraud? The fraud diamond view,' *Journal of Public Procurement,* ahead-of-print. Available at: https://doi.org/10.1108/jopp-02-2019-0012.
Scott, E., PhD., (2023). *Financial stress: How to cope*. Available at: https://www.verywellmind.com/understanding-and-preventing-financial-stress-3144546.
Song, L. and Kong, X., (2022). *A study on Characteristics and identification of smart Ponzi schemes*. Available at: https://ieeexplore.ieee.org/stamp/stamp.jsp?%20arnumber=9784909.

Sreekumar, D., (2023). *What is Quantitative Research? Definition, Methods, Types, and Examples | Researcher.Life.* Available at: https://researcher.life/blog/article/what-is-quantitative-research-types-and-examples/.
Statista Research Department (2024) *Most frequent consumer fraud schemes Philippines Q4 2023*. Available at: https://www.statista.com/statistics/1271755/philippines-most-frequent-consumer-fraud-schemes/.
Tsiros, M. and Mittal, V., (2000). 'Regret: a model of its antecedents and consequences in consumer decision making,' the Journal of Consumer Research/Journal of Consumer Research, 26(4), pp. 401–417. Available at: https://doi.org/10.1086/209571.
Turgeon, N., (2020). *Money, Manipulation, & Madoff: What are Ponzi Schemes and How to Avoid Becoming a Fraud Victim.* Available at: https://digitalcommons.assumption.edu/honorstheses/71/.
Tversky, A. and Kahneman, D., (1979). *Prospect Theory: An Analysis of Decisionunder.* Available at: https://www.uzh.ch/cmsssl/suz/dam/jcr:00000000-64a0-5b1c-0000-00003b7ec704/10.05-kahneman-tversky-79.pdf.
Watkins, M.W., (2018). 'Exploratory Factor Analysis: A Guide to Best practice,' Journal of Black Psychology, 44(3), pp. 219–246. Available at: https://doi.org/10.1177/0095798418771807.