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## Herding Behavior and Its Impact on Purchasing Decisions Among Beginner Crypto Investors: An Experimental Analysis

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### Abstract

In recent years, cryptocurrency has garnered significant interest from investors. Herding behavior bias frequently influences the rationality of purchasing decisions in novice crypto investors. In addition, greed can affect the decision-making process regarding the nominal of investment. This study aimed to examine the role of herding behavior in novice crypto investors' purchasing decisions and assess the role of greed as a moderator. The study employed an experimental method with a posttest-only control group design. Thirty participants were selected using convenience sampling techniques and divided into two groups (experiment and control groups). Data analysis was conducted using the Mann-Whitney U test for comparison testing and PROCESS Hayes for moderation analysis. The results indicated that herding behavior played a significant role in purchasing decision-making ( $U = 60; p < 0.05$ ), whereas greed did not serve as a moderator in the relationship between herding behavior and nominal decision-making ( $b = -0.001; CI = -0.075, 0.072; p > 0.05$ ). Instead of relying on rational decision-making, novice cryptocurrency investors frequently succumb to herding behavior. The ambiguity of information and investors' inability to make informed decisions lead to herding behavior being perceived as the most viable option.

Cryptocurrency, commonly known as crypto, has become an investment asset that garners increasing attention from investors Andriani (2022). According to the Ministry of Trade, the number of people investing in crypto assets, e.g., Bitcoin, Dogecoin, and Ethereum, had reached 6.5 million in Indonesia by May 2021, with transaction values amounting to IDR 370 trillion. This figure surpassed the number of capital market investors in the Indonesia Stock Exchange (IDX), although the number of capital market investors continues to grow (Bestari & Sidik, 2021). By August 2022, the Commodity Futures Trading Regulatory Agency (Bappebti) reported that the number of crypto investors in Indonesia had surged to 16.1 million. Since the number of crypto investors at the end of 2021 was only 11.2 million, this indicated an increase of approximately 43.75% from January to August 2022 (Bappebti, 2022).

Before the emergence of cryptocurrencies, investors typically invested in financial assets like stocks; however, with the rise of cryptocurrencies, investors have also become interested in investing in digital currencies. One key difference between stocks and crypto assets is their volatility. Cryptocurrencies tend to be more volatile than stocks, with crypto assets being characterized with high risk and high return. It is one of the reasons many people are drawn to crypto investment, hoping for faster price increases and larger profits despite the high risks involved.

The Indonesian public has shown significant enthusiasm for crypto assets. Many are attracted to investing in crypto due to the potential for high returns compared to other investment assets (Saputra et al., 2022). However, the promise of high short-term gains has led some individuals to invest without doing proper analysis or risk management (Hadan et al., 2023), which is particularly prevalent among novice investors. Many have suffered substantial losses in crypto investments (Natanael et al., 2022). Despite Bappebti's regulations regarding crypto asset trading in Indonesia, crypto-related fraud remains common (Hasani, 2022).



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Investors can generally be categorized into two groups: novice and professional. Novice investors are defined as those who have yet to understand the application of fundamental and technical analysis and tend to follow others when making investment decisions (Holm & Rikhardsson, 2008). These investors frequently let their emotions guide their investment decision-making, which causes them to perform worse than experienced stock investors. Professional investors, on the other hand, tend to make more rational decisions via thorough analysis. Therefore, novice investors are considered suitable participants for this study.

Two key theories explain investors' decision-making processes when purchasing investments: traditional finance theory and behavioral finance theory (Maheran & Muhammad, 2009). Traditional finance theory asserts that investors make rational decisions when making investment choices (Alquraan et al., 2016). Investors are assumed to make rational decisions based on basic financial rules and strategies, considering risk and return (Baker et al., 1977). According to Baker and Ricciardi (2014), investors use rational thinking to maximize profits, carefully evaluating all available information before making investment decisions.

The lack of proper analysis in decision-making process for crypto asset purchases, influenced by various biases, can be explained through behavioral finance theory. Behavioral finance theory studies how psychological aspects impact the behavior of financial practitioners and its effects on financial markets (Prosad et al., 2015). It demonstrates the role of psychological biases that can affect decision-making. Bias refers to errors or deviations from rationality in information processing and decision making due to psychological influences (Chira et al., 2008). In contrast to traditional finance theory, this theory contends that investors must be more rational in their decision-making. Statman (1999) argued that behavioral finance attempts to replace the rational view with a more realistic perspective, acknowledging that human decisions are influenced by sentiment and tend to be biased.

Various biases influence investment decision-making. Shefrin (2000) classified biases into two types: heuristic-driven biases and frame-dependent biases. Heuristic approaches, which are practical strategies that are not ideal (rules of thumb) but aid in quick and simple decision making, influence heuristic-driven biases. These include overconfidence, excessive optimism, representativeness, availability, anchoring, and adjustment. Meanwhile, frame-dependent biases emerge from perceptions or judgments influenced by how information is presented and the context in which it is framed. These include loss aversion, narrow framing, mental accounting, and the disposition effect. Another bias affecting decision-making, caused by social influence, is herding behavior (Daniel et al., 2002).

In investment activities, herding behavior is a common behavioral bias affecting purchasing decisions (Prosad et al., 2015). Alquraan et al. (2016) said that human's emotional tendencies, ingrained thought patterns, and psychological biases could affect the rationality of investors.

Daniel et al. (2002) stated that one of the common behaviors among investors when making investment decisions is imitating the actions of other investors, especially when faced with ambiguous options—this phenomenon is known as herding behavior.

In economics and finance, herding behavior refers to a process where economic agents imitate each other's actions or base their decisions on the behavior of others when the available options are unclear (Spyrou, 2013). Hayes (2021) defined herding behavior as a phenomenon where individuals follow the behavior of others, assuming that others have conducted a thorough analysis. Instead of relying on their own analysis, investors follow what other investors do.

Herding behavior may occur due to the belief in the behavior of others as valuable information, either because others possess more knowledge or simply because the individual is part of the group (Garling et al., 2009). Herding behavior is also linked to the "wisdom of the crowd" (Surowiecki, 2004), referring to the fact that collective judgment in independent random sampling tends to provide more accurate answers than individual judgment. Majority pressure can trigger heuristic responses, e.g., "the majority is always right" (Martin et al., 2002). According to Martin et al. (2002), an individual who disagrees with the majority will try to understand the differences and begin to consider reaching a consensus with the majority.

Cryptocurrency has become highly popular in the media, demonstrating behavior where investors follow one another (herding behavior) (Kallinterakis & Wang, 2019). The crypto market is also highly susceptible to sentiment, which influences investors' purchasing decisions (Stavroyiannis & Babalos, 2019). Since many cryptocurrencies lack fundamental value (Cheah & Fry, 2015), investors view herding behavior as a viable option for navigating the uncertainties of this evolving asset class (Kallinterakis & Wang, 2019). It happens particularly among novice investors who do not fully understand crypto assets and cannot conduct proper analysis (Alshamsi & Andras, 2019). These individuals tend to make crypto investment decisions by following others (herding behavior) without fully rational thinking (Hadan et al., 2023).

Emotional biases can influence decision-making in the financial markets (Candy & Novita, 2021). Greed is an emotion that often affects investors' decisions (Lo et al., 2005). Greed is an insatiable desire for more resources, money, or other assets (Krekels & Pandelaere, 2015). According to the rational economic model, individuals prioritize self-interest and seek to maximize their outcomes (Seuntjens et al., 2015). Greed represents excessive maximization, whereas a person not only desires to have more but also becomes frustrated for not having enough. Greed can push individuals to make increasingly risky investments, causing them to follow others without thinking first and neglect rational analysis (Jhandir & Elahi, 2015). Consequently, greed can increase the likelihood of herding behavior in crypto investment decision-making (Kim, 2021). The greater the greed, the more likely a crypto investor to be influenced by herding behavior.

Cryptocurrency is a relatively new asset compared to other financial assets. Research on cryptocurrencies has only emerged in the last decade, and there have been several studies on herding behavior in crypto assets. Some studies examined whether herding behavior exists in the crypto market using the cross-sectional absolute deviation (CSAD) measurement introduced by Chang et al. (2000). Kallinterakis and Wang (2019) and Omane-Adjepong et al. (2021) also investigated herding behavior in the crypto market using the CSAD method. Both studies found evidence of herding behavior in the crypto market.

In Indonesia, several studies have been conducted on crypto investment decision-making. Hadita et al. (2023) found that cultural, social, psychological, and personal factors influence investment decisions. Risk tolerance and financial knowledge also significantly affect investment decision-making Syahnur and Yahya (2022) ((Syahnur & Yahya, 2022), (Perayunda & Mahyuni, 2022)). Pranyoto et al. (2020) examined herding behavior in Bitcoin (one of the largest cryptocurrencies) investment decisions using a survey method and found that herding behavior did not significantly affect investment decisions. Two studies that tested the influence of overconfidence and herding behavior concluded that herding behavior did not significantly influence crypto investment decision-making. The first study Nurbarani and Soepriyanto (2022) used partial least square (PLS) analysis, while the second study (Kalimasada & Rohim, 2023) used a survey method. Ramadhan et al. (2023) investigated herding behavior in crypto investments in the Indonesian context using the CSAD method and found a significant influence on herding behavior. Besides research on herding behavior in crypto, there have also been studies on herding behavior in stock investment decisions, such as the one conducted by Afriani and Halmawati (2019), which showed a significant impact of herding behavior on investment decisions.

Given the limited number of studies on herding behavior in crypto investments in Indonesia and the inconsistency of research findings using different methods, this study is necessary. Therefore, this research aimed to examine the role of herding behavior in the decision-making process of novice crypto investors using an experimental method. The experimental method tests the influence or cause-effect relationship between the two variables and replicates a research environment similar to real-life situations. This experimental study aimed to determine whether crypto asset investors make purchasing decisions based on their own analysis or follow the majority's decisions. Additionally, this study aimed to examine the role of greed as a moderator in the relationship between herding behavior and nominal decision-making in purchasing crypto assets.

The researcher proposed the following hypotheses:

H1: Herding behavior influences decision-making; the more herding behavior occurs; the more investors engage in crypto asset purchasing.

H2: Greed strengthens the influence of herding behavior on purchasing decisions.

**Method**

This study's dependent variable was purchasing decisions, while the independent variable was herding behavior. Purchasing decisions are the choice between two or more alternatives, allowing an individual to decide when presented with various options (Levy & Kanuk, 2004). Herding behavior is the tendency to follow others and mimic group behavior rather than make independent decisions based on personal information (Baddeley, 2010). This study also examined greed as a moderator, which might strengthen or weaken the purchasing decision based on herding behavior scenarios.

The population in this study was novice cryptocurrency investors in Surabaya. Participants were selected using convenience sampling and must meet the criteria of engaging in at least one cryptocurrency transaction. Recruitment was conducted through social media poster, and potential participants could reach out to the researchers via contact information listed on the poster. Additionally, researchers approached individuals who met the criteria directly. The study involved 30 cryptocurrency investors aged 18-23 (*M* = 21.07 years, *SD* = 0.94) residing in Surabaya. The sample size was determined following (Cohen et al., 2007) guidance, which states that at least 15 participants are needed in both the control and experimental groups. This study obtained ethical clearance (174/KE/XI/2022) from the University of Surabaya Ethics Committee to conduct experimental research with the participants. All participants who completed the experiment received a reward of IDR 25,000 through OVO/Gopay.

This experiment employed a posttest-only control group design. The study involved an experimental group and a control group, with participants randomly assigned to one of the groups: 15 participants in the experimental group and 15 in the control group. The experiment involved a decision-making scenario where participants had to choose between various alternatives. The experimental group was subjected to herding behavior induction through "players," while the control group received no such induction. Table 1 describes the experimental design of the present study.

**Table 1**  
*Experimental Design*

Group	Treatment	Posttest
(R) Experimental Group	X	O
(R) Control Group		O

Notes : R = Random Assignment KE = Experimental Group KK = Control Group X = Induction from "player," O = Posttest

### Materials

In the decision-making scenario, participants were presented with descriptions of three fictional cryptocurrencies: Crypto A, Crypto B, and Crypto C. These descriptions included fundamental information, e.g., total market capitalization, trading volume, validation mechanisms, transaction speed, ecosystem, public allocation, and ownership functions. For example, "Crypto A has a total market cap of \$1.125 billion with an average daily trading volume of approximately \$75 million. It uses a Proof-of-Stake validation mechanism with transaction speeds of up to 50-75 per second." The descriptions of all three cryptocurrencies were made similar to induce ambiguity in decision-making. Participants were also given three investment options: IDR 100,000, IDR 1,000,000, and IDR 5,000,000. Each participant received only one scenario.

The induction involved majority voice influence from the "players" in choosing one of the three fictional cryptocurrencies. It was done to elicit herding behavior among participants. The "players" pretended to be participants and followed the researcher's instructions on which cryptocurrency and amount to choose. Nine players participated, with two choosing Crypto A, six choosing Crypto B, and one choosing Crypto C. Induction was only applied to cryptocurrency selection, with no influence on the decision-making for investment amount. Participants' decisions were recorded on a whiteboard, allowing the majority's choice to be seen (herding induction). Players were compensated IDR 50,000 in OVO/Gopay for their participation.

### Instruments

The variables measured in this study were purchasing decisions, herding behavior, and greed. The purchasing decision was assessed by the participant's choice among the three fictional cryptocurrencies and the chosen investment amount. Herding behavior was measured by asking, "Did the participant follow the same purchase decision as the 'player' rather than making an independent decision based on their analysis?" Participants were influenced by herding behavior if their choice matched the majority player's decision, i.e. Crypto B. Scoring was binary, with "1" for those influenced by herding behavior and "0" for those who were not.

Greed was measured using the Greed Dispositional Scale (GDS) by Krekels and Pandelaere (2015). The GDS consists of 6 items rated on a 7-point Likert scale, ranging from strongly disagree (1) to strongly agree (7). It is a unidimensional scale with four favorable items and two unfavorable items. The instrument has a Cronbach's  $\alpha$  of 0.804. An example item is "I never feel I have enough."

During the experiment, participants completed two questionnaires. The first contained demographic questions and the GDS. The second, provided after the posttest, included questions about their decision. For instance, one statement read, "I chose the cryptocurrency based on the majority choice because all three were nearly identical."

Participants were randomly assigned to either the ex-

perimental or control group, with 15 participants in each group, using an online random name picker. The experimental group was divided into five sessions, with each session involving three participants and nine players. The control group was conducted in a single session. Participants who agreed to join the experiment signed informed consent forms.

At the start of the experiment, participants were briefed on their roles. Those unwilling to continue could withdraw at any time. Afterward, participants completed a brief Google Form containing demographic questions and GDS items. Participants then received the cryptocurrency descriptions and had 15 minutes to review them. They wrote their selected cryptocurrency and investment amount on the whiteboard. In the experimental group, players wrote their choices first to induce herding behavior. Then, participants filled out the second questionnaire explaining their decisions. The experiment concluded with a debriefing, and participants were rewarded. The entire process lasted between 30 minutes and one hour.

### Analysis

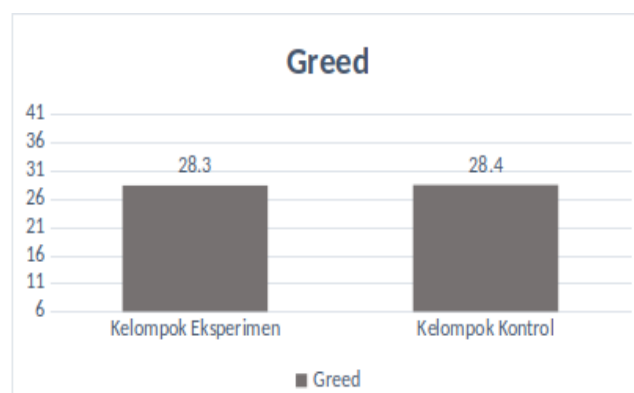
As the data did not fulfill criteria for parametric test, the Mann-Whitney U test was used to test Hypothesis 1. This test examined the differences between the experimental and control groups. Hypothesis 2, which tested the moderating effect of greed, was analyzed using Hayes' PROCESS Model 1. See Table 2

### Results

Table 2 shows that most participants were male (73.3%) and students (93.3%). Most participants had a monthly income of IDR 500,001 to 2,000,000 (60%).

The Greed Dispositional Scale measurement results are presented in Figure 1 and Table 3.

**Figure 1**  
The Average Score for Greed Dispositional Scale



According to the ideal norms of the Greed Dispositional Scale, participants are categorized as having high level of greed if their score is  $\geq 30$ , moderate greed if  $18 \leq X < 30$ , and low level of greed if their score is  $< 18$ . Figure 1 shows that the average greed level in both groups fell



**Table 2**  
Summarizes the Demographic Data of the Participants, Including Gender, Occupation, and Monthly Income

Demographics	Category	Frequency	Percentage (%)
Gender	Male	22	73.3%
	Female	8	26.7%
Occupation	College Student	28	73.3%
	Restaurant Staff	2	26.7%
Monthly Income (in IDR)	0 – 500,000	6	20%
	500,001 – 2.000,000	18	60%
	2,000,001-5,000,000	4	13.3%
	> 5,000,000	2	6.7%

**Table 3**  
Descriptive Statistics of Greed

Group	Mean	Standard Deviation	Min	Max
Experimental Group	28.3	6.2	17	38
Control Group	28.4	8.2	6	42

within the moderate category, with a score range of  $18 \leq X < 30$ .

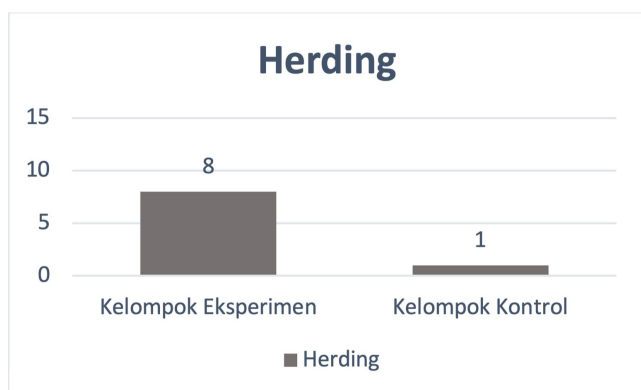
The results of the participants' cryptocurrency choices in the decision-making scenario are presented in Table 4.

**Table 4**  
Descriptive Statistics of Cryptocurrency Choice Decision

Group	N	Crypto Choice			Herding
		A	B	C	
Experimental Group	15	6	8	1	8
Control Group	15	7	6	2	1

As presented in Table 4, 8 participants selected Crypto B in the experimental group after herding behavior induction. It indicates that 8 participants were influenced by herding behavior. In contrast, 1 participant in the control group followed others' choices, indicating they were influenced by herding behavior.

**Figure 2**  
Number of Participants Exhibiting Herding Behavior



The results for nominal choices in cryptocurrency purchasing decisions are presented in Table 5. As shown in Table 5, the majority of participants in both the experimental and control groups selected a nominal value of IDR 1,000,000. The average nominal value chosen by the experimental group was IDR 1,233,333, while in the control group, it was IDR 1,473,333.

Participants' reasoning for their cryptocurrency and nominal choice is shown in Table 6. Table 6 reveals that most participants (70%) chose a cryptocurrency based on their analysis. The reasoning behind the nominal choices was evenly distributed across all three provided reasons.

### Hypothesis Testing

For hypothesis testing, the Mann-Whitney U test was applied to test hypothesis 1. The results are shown in Table 7.

This non-parametric test compares the decision-making results between the experimental and control groups to determine the effect of herding behavior. Hypothesis 1 posited that herding behavior influences cryptocurrency purchasing decisions. Table 7 shows a significant difference in decision-making between the experimental and control groups ( $U = 60, p < 0.05$ ). Therefore, Hypothesis 1 is accepted, indicating that herding behavior influences purchasing decisions. Participants tend to follow the majority decision under the influence of herding behavior.

Hypothesis 2, which involved testing the moderating effect of greed, was analyzed using PROCESS Hayes model 1. The results are presented in Table 8.

As shown in Table 8, greed does not mediate between herding behavior and the nominal purchasing decision ( $p > 0.05$ ). The moderation effect is non-significant, as the Confidence Interval (CI) includes zero (-0.075; 0.072). Therefore, Hypothesis 2 is rejected, indicating that greed does not moderate the influence of herding behavior on nominal purchasing decisions.

### Discussion

This experimental study examined the effect of herding behavior on the purchasing decisions of novice cryptocurrency investors and the role of greed as a moderator in the relationship between herding behavior and nominal

**Table 5**  
Descriptive Statistics of Nominal Choices

Group	N	Nominal Choice (IDR)			Total Mean (IDR)
		100,000	1,000,000	5,000,000	
Experimental Group	15	5	8	2	1,233,333
Control Group	15	1	12	2	1,473,333

**Table 6**  
Descriptive Statistics of Participants' Reasons

Reason Category	Reason	Frequency	Percentage
Crypto Choice	Personal analysis	21	70%
	Followed majority choice because all the cryptos were similar	6	20%
	Followed majority choice due to confusion about the descriptions	3	10%
Nominal Choice	Avoided large investment due to risk	10	33.3%
	Uncertain about future profitability	10	33.3%
	Limited financial resources	10	33.3%

**Table 7**  
Hypothesis 1 Test Results

Measurement	U	p
Purchasing Decision	60	0.006

**Table 8**  
Hypothesis 2 Test Results (Moderation Test)

W	b	F	t	CI	p
Greed	-0.001	1.367	-0.047	-0.075; 0.072	0.962

purchasing decisions. The results of Hypothesis 1 testing indicate that herding behavior significantly influences purchasing decisions, with a significant difference found between the experimental and control groups ( $U = 60, p < 0.05$ ).

Results showed that eight participants in the experimental group and one in the control group exhibited herding behavior. These results align with behavioral finance theory, which posits that biases can influence decision-making (Prosad et al., 2015). The ambiguity in the cryptocurrency descriptions and participants' uncertainty in decision-making made herding behavior the optimal choice. These findings are consistent with prior research, which found that herding behavior affects cryptocurrency investment decisions (Thompson, 2020), (Kallinterakis & Wang, 2019), (Omame-Adjepong et al., 2021). According to Kallinterakis and Wang (2019), decisions made by others frequently influence cryptocurrency investors. Due to the high susceptibility of cryptocurrencies to sentiment, investors often make purchasing decisions based on existing positive sentiment (Almeida & Goncalves, 2023). They frequently choose to invest in cryptocurrencies that are popular and favored by the majority (Ballis & Drakos, 2020).

Studies have shown that the herding behavior bias influencing participants' decision-making stems from a lack of confidence in their own analysis or decisions, lead-

ing them to follow the majority's choice (Garling et al., 2009). It occurs because investors believe that majority decisions are more likely to be correct, a concept known as the crowd's wisdom. According to Surowiecki (2004), the crowd's wisdom suggests that collective judgments made by a large group are often more accurate than individual assessments. Following the majority in investment decisions can be advantageous if those decisions are correct and profitable. However, in reality, majority decisions are not always right, and following them can result in worse outcomes (Garling et al., 2009).

The belief in the correctness of the majority can also be a heuristic response by individuals. Daniel et al. (2002) explained that heuristic biases and practical but suboptimal approaches could cause herding behavior. Majority groups can exert pressure that triggers heuristic responses, such as "the majority is always right" (Martin et al., 2002). As mentioned previously, cryptocurrency investors tend to invest in well-known cryptocurrencies favored by the majority (Kosasih & Benia, 2022). Their heuristic response is to follow the majority's decision, assuming it is correct.

Moreover, when faced with confusing choices, individuals tend to align their choices with those of the group (Rook, 2006). When information is limited, investors are inclined to follow the behavior of others in making investment decisions and follow the majority's decision (Bikhchandani & Sharma, 2000). They believe others may have better information and understanding. Herding behavior can also emerge due to social pressures (Spyrou, 2013), including influences from friends, relatives, or coworkers. Individuals who engage in herding tend to make the same decisions as those in their social environment.

The traditional finance theory can explain why other participants made decisions independently despite herding induction. Based on this theory, individuals use rationality in decision-making. According to Baker and Ricciardi (2014), one purpose of using rationality in decision-making is to achieve the highest expected utility. These individuals

seek the highest returns by using their analysis to make decisions.

The results from the Greed Dispositional Scale showed that the average greed level among participants in both the experimental and control groups fell within the moderate-to-high category (Figure 1). Younger individuals tend to be greedier than older individuals (Seuntjens et al., 2016). This is consistent with participants' characteristics, who were 21 years old and had a moderate-to-high level of greed. Despite their higher greed levels, only a few participants chose the highest nominal purchase of IDR 5,000,000 (Table 5). It might be due to the uncertainty of cryptocurrency's future profitability based on the descriptions provided and participants' limited financial resources (Table 6). Limited resources influence investors to invest only the amount of available capital (Eriana et al., 2023). This is particularly true for students, who generally receive allowances from their parents. The more funds they have, the more opportunities to invest and increase potential returns (Septiani et al., 2021).

Based on the moderator analysis (Hypothesis 2), it was found that greed did not serve as a moderator in the relationship between herding behavior and nominal purchasing decisions ( $b = -0.001$ ;  $CI = -0.075, 0.072$ ;  $p > 0.05$ ). Thus, Hypothesis 2 was rejected, indicating that greed did not strengthen or weaken the relationship between herding behavior and purchasing decisions. This finding is consistent with the research by Ali and Asri (2016), which demonstrated that greed does not significantly affect the emotional bias of novice investors in investment decision-making. The lack of moderation by greed may also be because most participants were students who lacked stable incomes and had varied limited allowances. Most participants (60%) had incomes between IDR 500,000 and IDR 2,000,000 (Table 2). One aspect of greed is the desire to acquire more money (Krekels & Pandelaere, 2015). To acquire more, cryptocurrency investors require higher capital. However, given that the majority of participants were still in school and employed, it is likely that their limited financial resources had an impact on their nominal investment decisions (Septiani et al., 2021).

One variable that may affect nominal investment decision-making is risk perception. Research by Fridana and Asandimitra (2020) shows that risk perception influences investment decisions. Cryptocurrency is a high-risk investment. Most participants chose their nominal investment because they were unwilling to invest large amounts in cryptocurrency and were still determining its future profitability (Table 6). Investors with high-risk perceptions tend to be cautious in investing, adjusting their capital according to risk considerations (Asandimitra & Novianggie, 2019).

This study had several limitations that should be considered. First, it tested novice investors, so the findings may only be applied to this type of investors. Second, the study did not involve real monetary risks, as it used fictional cryptocurrencies and did not involve real money, limiting the extent to which the results reflect real-life

situations.

## Conclusion

Based on the analysis and discussion in this study, it can be concluded that herding behavior plays a role in cryptocurrency purchasing decisions among novice investors. Novice investors tend to follow majority decisions rather than relying on their judgment, especially when faced with nearly identical or ambiguous options. Herding behavior can emerge from the crowd's wisdom, heuristic thinking, or social influence. In this study, greed did not moderate the relationship between herding behavior and nominal purchasing decisions due to participants' limited financial resources, leading them to invest conservatively.

## Recommendation

Several recommendations can be made for future research based on the study results. First, this study tested herding behavior in novice investors so future research could examine this phenomenon in more experienced investors. Second, future research could involve participants from different cultural backgrounds, as individuals from different places and cultures have distinct traits and characteristics. It would provide new insights, particularly regarding the influence of culture on investment decision-making. Third, future research could involve real monetary risks, such as the presence of rewards, to encourage participants to be more cautious in decision-making. Finally, as greed did not act as a moderator in this study, future research could explore other potential moderating variables, such as risk perception.

## Declaration

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### Conflict of Interest


The authors have no conflict of interest to disclose regarding this research, authorship, and/or this publication.

### Author's Contribution

HW designed this study, and HWSE conducted the writing and data analysis. All authors have read and approved the final manuscript.

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