HERDING BEHAVIOUR AND INDIVIDUAL INVESTOR DECISION-MAKING AT THE NAIROBI SECURITIES EXCHANGE

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ABSTRACT

This paper examined the relationship between herding behaviour and individual investor decision-making at the Nairobi Securities Exchange. The study was anchored on behavioural finance theory and was guided by a correlational research design. The study's target population was 2.03 million individual investors who traded at the Nairobi Securities Exchange through the 17 licensed brokerage firms in Kenya. A structured questionnaire was used to collect data and Internal consistency of the instruments was measured using Cronbach's alpha coefficient, where a coefficient of 0.865 was obtained. The obtained data was analyzed descriptively using frequencies, means, and standard deviation and inferentially by correlation and multiple regression models. The findings revealed that herding behaviour ($r = 0.235$; $\beta = 0.180$ $p<0.05$) had a positive and significant relationship with individual investor decision-making. The study concluded that herding behaviour had a significant relationship with individual investor decision-making at the Nairobi Securities Exchange. The study recommended that investors understand market trends, financial statements, and economic indicators and continue seeking advice from financial experts. NSE should also provide regular market analysis, ensure transparency in market operations to build investor confidence and introduce investment products that cater to different risk profiles, such as low-risk mutual funds. The findings of the study could be of significance to policymakers, financial experts, academicians, scholars, and theoretical developments.

***Keywords:** Herding Behaviour, Individual Investor Decision Making, Nairobi Securities Exchange.*

INTRODUCTION

Behavioral finance is an interdisciplinary field that integrates concepts from economics, finance, and psychology to investigate how cognitive and psychological biases affect financial decision-making. This area of study recognizes that individuals often deviate from rational behaviour due to these biases and emotional influences, challenging the traditional economic assumption of rationality (Shukla et al., 2020). Sharma and Sarma (2022) further explain that behavioural finance focuses on the psychological aspects that impact financial decisions across households, markets, and organizations. According to Sukmadilaga, Fitri, and Ghani (2022), behavioural finance explores how cognitive errors, emotions, and social factors shape financial behaviour, leading to investment outcomes that may diverge from those predicted by conventional financial theories.

Existing literature suggests that behavioural factors influence individual investor decisions in diverse ways, often triggered by various psychological impulses. Hunguru, Sibanda, and Tadu (2020) identified more than ten factors that significantly impact investment decisions. These factors include anchoring behaviour, availability heuristic, herding behaviour, the gambler's fallacy, regret aversion, representativeness, overconfidence, mental accounting, loss

aversion, and demographic elements such as education level and income. According to economic theory, individuals generally have an aversion to risk but can be persuaded to take risks if the potential returns are sufficiently attractive (Mehmood et al., 2019). This suggests a positive correlation between the level of risk and the expected rate of return for investors. However, it is paradoxical for risk-averse investors to embrace a risky opportunity unless it offers a substantial potential gain.

Herding behaviour in behavioural finance refers to the inclination of individuals to follow or imitate the actions of other investors, especially during periods of uncertainty (Rahayu, 2021). This phenomenon occurs when investors base their investment decisions on the actions of others rather than conducting independent analysis or considering the intrinsic value of assets (Ah et al., 2023). Herding can result in a bandwagon effect, where investors collectively rush to buy or sell specific securities, leading to exaggerated price movements in the stock market (Ahmad & Wu, 2022).

El-Hussein and Abdelgadir (2020) view herding behaviour as a cognitive bias rooted in the human tendency to seek safety by aligning with the majority's actions. This behaviour is particularly evident in the financial sector, especially in stock markets, where many investors gravitate toward companies that are popular among the broader investor community. Herding can lead to stock overpricing, where the demand driven by this collective behaviour pushes stock prices beyond their intrinsic value. If this trend persists over time, it can result in the formation of market bubbles, where inflated prices are unsustainable and prone to sudden corrections.

Ahmad and Wu (2022) found that herding behaviour significantly influenced decision-making among investors in the Pakistani stock exchange. This tendency was primarily driven by information cascades, where individuals lacking adequate information about certain stocks chose to follow or imitate the actions of others. Additional factors contributing to this behaviour included the fear of missing out (FOMO), social pressure or the desire for social proof, and the general uncertainty or inability to determine the most appropriate course of action. These influences collectively encourage investors to conform to the actions of the majority, often leading to collective decision-making patterns that may not be based on individual analysis or sound financial reasoning.

Similarly, Quaicoe and Eleke-Aboagye (2021) identified media influence and a lack of confidence in personal judgment as significant drivers of herding behaviour. Investors may assume that the collective actions of others in the stock market reflect superior knowledge or judgment, leading them to follow the crowd. In line with this, Langat and Rop (2019) found a positive relationship between herding behaviour and investor participation at the Nairobi Securities Exchange (NSE). Their study indicated that stock market participation, particularly among teachers, was influenced by herding, which was driven by social interactions such as peer pressure from colleagues, family members, welfare groups, and friends. These findings underscore the role of external influences and social dynamics in shaping investor behaviour, often leading to collective decision-making that may not always align with individual assessments.

PROBLEM STATEMENT

A robust and dynamic securities market serves as a vital engine for economic growth by facilitating capital formation, enabling efficient allocation of resources, and fostering innovation and entrepreneurship. Despite the pivotal role a well-functioning security exchange market plays in the overall growth of a nation, investment in the Kenyan securities market has been decreasing over the years. According to reports from CMA and NSE, the Central Depository Settlement Corporation has a total of 2.03 million share accounts. However, only 61,000 shareholders participated in share trading between 2019 and 2022, representing 3% of 4,174,100.00 shares. As a result, 97% of equity accounts remained inactive during this period. This decrease may be attributed to behavioural biases by individual investors. Trading at the NSE has primarily been dominated by institutional investors seeking long-term returns and foreign investors who are highly sensitive to political and economic changes in the country. NSE investors suffer from market inefficiencies and cannot ensure wealth maximization. It is, therefore, critical to examine how decision-making and behaviour relate. Previous studies have yielded inconsistent findings on specific behavioural factors and how decision-making is affected by behavioural factors. Most research studies were conducted among individual investors in only developed countries with a high GDP. In addition, the main focus of several studies has been on institutional investors and money market institutions, leaving scanty information on individual investor decision-making. To fill this knowledge gap, this research examined the relationship between herding behaviour and individual investor decision making at the NSE.

H₀ Herding behavior has no statistically significant relationship with individual investor decision-making at the Nairobi Securities Exchange.

LITERATURE REVIEW
Theoretical Review

The study was grounded in Behavioral Finance Theory, initially proposed by Daniel Kahneman and Amos Tversky in the 1970s (Takemura, 2021). This theory aims to address the limitations of traditional financial models by incorporating insights from behavioural and cognitive psychology to explain why individuals and markets often deviate from rational decision-making. According to the theory, financial markets can exhibit inefficiencies and irrational behaviours due to the limitations in arbitrage and cognitive biases. This can lead to market prices that do not reflect underlying economic fundamentals. While classical economic theories assume that markets are efficient and investors make unbiased forecasts, Behavioral Finance recognizes that not all investors act rationally (Shukla et al., 2023).

Sahu, Padhy, and Dhir (2020) emphasize that behavioural finance theory posits that financial markets are inefficient in information dissemination. Consequently, investors' decisions are often influenced more by psychological factors and emotional biases than purely rational considerations. Investors' physical and mental state can significantly impact their financial decisions, regardless of the quality of available market information. The theory's strengths lie in integrating mathematical rigour with psychological insights, providing a robust framework for analyzing risk and return relationships. Langat and Rop (2019) argue that when combined with other financial theories like Portfolio Theory, Behavioral Finance offers valuable tools for making more informed investment decisions and constructing optimized portfolios. Masema (2019) also demonstrated the theory's practical applications in risk management and corporate financial strategies through his research on herding behaviour in the insurance sector at the Nairobi Securities Exchange. This highlights the theory's relevance in understanding and managing investment behaviours and market performance.

Takemura (2021) critiques Behavioral Finance Theory for its limitations in addressing the variability of human behaviour across different contexts. According to Takemura, human behaviour is influenced by many factors, including individual differences, cultural backgrounds, and specific situational contexts, making it challenging to develop a universally applicable framework for investment decisions. This criticism highlights the difficulty in creating a one-size-fits-all model in behavioural finance, given the diverse nature of human behaviour.

Similarly, Sahu et al. (2020) point out that behavioural finance theory's reliance on hindsight analysis can hinder its predictive accuracy in predicting future market behaviours. The theory's focus on analyzing past behaviours and decisions may not adequately account for future uncertainties or provide reliable forecasts, limiting its effectiveness in anticipating future financial outcomes. Despite these criticisms, advancements in the field, such as Prospect Theory, have addressed some of these limitations. Prospect Theory, introduced by Tversky and Kahneman, offers a more nuanced understanding of how people evaluate potential gains and losses, which helps mitigate some of the predictive shortcomings of earlier behavioural models.

In this study, Behavioral Finance Theory was utilized to explore specific behavioural biases, such as herding behaviour, particularly in the context of individual investor decision-making at the Nairobi Securities Exchange (NSE). By examining these biases, the study aimed to provide a deeper understanding of how such behaviours influence investment decisions despite the theory's limitations in predictive accuracy and contextual applicability.

Empirical Review
Herding behaviour and individual investor decision-making

Ahmad and Wu (2022) sought to find out if, as evidence from an emerging economy, herding behaviour was significant in investment management and perceived market efficiency. Specifically, the study focused on the influence of herding behaviour, market efficiency, investing decision-making, and the performance of individual investors. The study employed a cross-sectional research approach and gathered data from 309 active investors who traded on the Pakistan Stock Exchange. Utilising Analysis of Moment Structures (AMOS) graphical software and SPSS, data was examined using structural equation modelling (SEM). The results showed that herding behaviour, measured by position concentration and fear of being left out, significantly influenced the decisions made by individual

investors. On the other hand, it significantly impairs perceived market efficiency and investment performance. The use of SEM is the methodological flaw found in this investigation. This study, however, used multiple regression.

Rahayu et al. (2021) investigated herding behaviour in investment decisions within emerging economies using Indonesia as a case study. Their study focused on two main independent variables: the availability of information on the book value per share of Indonesian stocks and societal impacts. The research involved 100 individual stock exchange investors and employed a 2x2 factorial design laboratory experiment. The researchers utilised a univariate two-way ANOVA statistical method to analyse the data. The findings revealed that societal influences, especially those of seasonal investors, had a more significant impact on individual investors' herding behaviour and decision-making than the availability of book value per share information. This study highlighted the relative importance of social effects over financial information in shaping investment decisions, though it was based on a controlled laboratory setting. Regression modelling was used to support the analysis, underscoring the relevance of the study despite its experimental nature.

Ababio and Mwamba (2017) conducted a study on the Johannesburg Stock Exchange to assess the impact of herding behaviour on investor decision-making. Their research revealed significant negative effects of herding behaviour on the banking and real estate sectors. The study identified an asymmetry in how herding behaviour influenced these sectors: in the banking sector, herding was observed during periods of declining stock prices (bear phases), while in the real estate sector, herding was prevalent during rising market conditions (bull phases). The study focused on all commercial banks and real estate firms listed on the Johannesburg Stock Exchange. In contrast, the current study was centred on individual investors at the Nairobi Securities Exchange (NSE). This study explored how herding behaviour influences the decision-making of individual investors in Kenya, providing a different perspective from the sector-specific analysis conducted by Ababio and Mwamba.

Masema (2019) examined how companies listed in the NSE are affected by herding behaviour. Their performance was examined through analysis of market capitalisation, volumes of shares traded, and data on prices from the NSE database from 2007 to 2017. The study was guided by prospect and behavioural finance theory. Data was analysed using multiple regression analysis and measures of central tendencies. The findings showed that 49% of the variation in insurance companies' market performance was due to herding behaviour, while 51% was due to other factors. However, the researchers focused on insurance companies listed (Institutional investors) at the NSE, while this study targeted individual investors.

Ludenyo (2021) investigated how cognitive biases affected teachers in Vihiga, Kenya, when making individual stock market investments. A correlational research approach was employed in the study, using 1,126 instructors as the target group. Applying behavioural finance theory, expected utility theory and traditional finance theory supported the study variables. Two hundred fifty-seven teachers were selected as participants using a stratified random sampling method. Regression analysis was utilised to examine the data that was gathered through questionnaires. The results showed that herding behaviour had a positive and significant impact on individual investment decisions. Investor decision-making was positively correlated with both herding measures: financial literacy bias, instructor risk aversion, and cognitive dissonance bias. Teachers in the Vihiga sub-county who had access to information on how the stock market operated formed the main focus of the study. However, this study aimed to encompass all individual investors in the NSE.

Individual Investor Decision-Making
Behavioural finance describes how the incorporation of psychological variables and biases into the investment process typifies stock market decision-making by individual investors. Unlike traditional finance models that assume rational decision-making, behavioural finance recognizes that investors often deviate from purely logical choices due to emotions, cognitive biases, and social influences (Shah et al., 2018). According to Gill *et al.* (2018), Individual investors may be swayed by fear, greed, and cognitive shortcuts, leading to suboptimal decisions. The extent and relevance of the relationship between behavioural characteristics and decision-making have been the subject of contradictory research.

Shah *et al.* (2018) explored the heuristic biases in investment decision-making and perceived market efficiency in the Pakistan Stock Exchange (PSX). They discovered that overconfidence, representativeness, availability, anchoring behaviour, and availability all had a negative effect on individual decision-making at the PSX. In this study, investor

decision-making was measured by the trading volume at the PSX. The study was carried out by targeting 143 individual investors. Convenient purposive sampling was employed in the study to get data from the participants. Data analysis techniques included correlation and regression analysis. The study's gap is that it was conducted in a nation with a higher GDP and a higher level of development. This study was carried out in Kenya, which has a lower GDP.

Kartini and Nahda (2021) sought to assess the influence of behavioural biases on individual investment decisions in Indonesia. The psychological factors examined were classified into emotional and cognitive factors. The emotional factors examined were herding behaviour, while the cognitive factors included optimism biases, loss aversion, anchoring behaviour, and overconfidence. The study used a quantitative approach based on snowball sampling and survey design. This led to the determination of a sample size of 165 investors from Yogkarta. The study adopted a one-sample t-test to analyze data and hypothesis testing. It established that both cognitive and emotional factors under the study did not have a negative impact on investment behaviours made by individuals. However, the study analyzed data using a T-test, while this research used multiple regression and correlation analysis.

Cao, Nguyen, and Tran (2021) examined the effect of behavioural elements on the decision-making process of individual investors in the Vietnam Stock Exchange. The study looked at the following predictor variables: prospect (loss aversion, regret aversion, mental accounting), heuristic (availability bias, gamblers' fallacy, anchoring behaviour, overconfidence, and representativeness), herding, and market variable (news from politics and economic changes, reaction to price changes, market information, past trends of stocks, and price changes). The trade volume and transaction frequencies were used to measure the dependent variable (individual investor decision-making). The primary data analysis was conducted through confirmatory factor analysis, exploratory factor analysis, and structural equation modelling. Two hundred fifty individual investors provided information using a structured questionnaire. The study established that all the behavioural characteristics examined significantly affected individual investors' decision-making processes.

Wanjohi and Mwita (2019) investigated the impact of behavioural characteristics on the choices made by individual investors in NSE-affiliated investment banks and stock brokerage businesses. The study's scope was restricted to evaluating how investor decision-making is impacted by loss aversion, overconfidence, herding, and anchoring behaviour. The frequency of purchases was used in investment banks to gauge individual decisions. Three hundred eighty-four individual investors made up the sample for this descriptive study design. The analysis found a strong correlation between each independent variable and the choices made by individual investors. However, in carrying out this study, investment banks were included, which are governed by the confidentiality principle, and thus, it is not possible to get enough information. To fill this gap, investment banks were exempted from this study.

Conceptual Framework
In *Figure 1*, Herding behaviour is the independent variable whose parameters are position concentration, information source, and peer influence. Individual Investor Decision Making is the dependent variable measured by buying and selling, and frequency of trade.

Figure 1: Conceptual Framework

Independent Variable   Dependent Variable

Herding Behaviour
- Position Concentration
- Information source
- Peer influence

Individual Investor Decision Making
- Buying and selling
- Frequency of trade
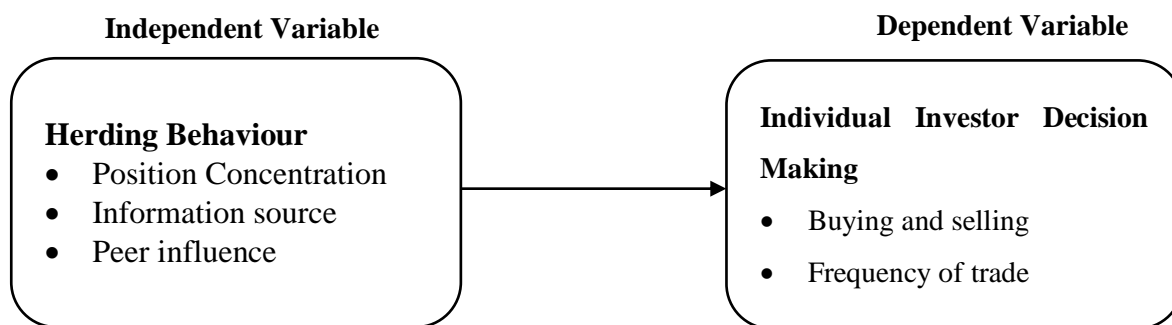
MATERIALS AND METHODS
The study utilized a positivist research philosophy due to its suitability for maintaining impartiality and objectivity. This approach helps researchers avoid personal or business biases in analyzing data and interpreting results (Kirui &

Naibei, 2023). In addition, the study adopted a correlational research design. The design enabled the researcher to examine and compare multiple variables simultaneously, assessing the strength and direction of their relationships. Thus, the design was well-suited for exploring how elements of behavioural finance are related to individual investor decision-making at the NSE. The study targeted all individuals who trade securities listed on the Nairobi Securities Exchange (NSE). According to the CDSC register (2023), there were approximately 2.03 million retail investors in Kenya who engaged in buying and selling securities. These investors conduct their transactions through 17 licensed brokerage firms. A sample of 399 respondents was determined by Yamane's (1967) formula, which is suitable for sample determination from large populations. A Structured questionnaire was used as an appropriate data collection method. The instrument's content and criterion validity were checked and enhanced by conducting a detailed literature review and consultation with subject experts. Internal consistency of the instrument was measured through a pilot study involving 40 individual investors, 10% of the sample size (Mugenda & Mugenda,2013). Data was analyzed descriptively using frequencies, means and standard deviation and inferentially through correlation and regression analysis.

RESULTS AND DISCUSSION
Demographic Characteristics
The researcher collected 342 completed questionnaires out of the 399 issued, representing a response rate of 85.7%. This response rate was considered adequate for the study (Mugenda & Mugenda, 2013). In examining the demographic attributes of the respondents, the findings revealed that majority were male, 194(56.7%), while 148(43.3%) respondents were female, implying that both genders were well represented. The study also found that 39(11.4%) of the respondents were between the ages of 18-27 years, 124(36.3%) were between 28-37years, 116(33.9%) were between the ages of 38-47 years and 63(18.4%) were over 48 years. Information on the educational background of the respondents revealed that 52(15.2%) of the respondents were PhD holders, 68(19.9%) were master's holders, and 93(27.2%) were degree holders. Also, 91(26.6%) respondents were diploma holders, 31(9.1%) were certificate holders, and lastly, 7(2%) of the respondents had attained other educational levels. Further, the study found that 83(24.3%) respondents had formal employment in the public sector, and 110(32.2%) were engaged in formal employment in the private sector. The results also revealed that 40(11.7%) of the respondents had casual jobs, where 42(12.3%) were farmers, 61(17.8%) were small-scale business persons and 6(1.8%) respondents were engaged in other business activities.

Inferential Statistics
The study conducted correlation and regression analysis to examine the nature of the relationship between herding behaviour and individual investor decision making process.

Table 1: Correlation Analysis

		Herding Behaviour	Individual Investor Decision Making
Herding Behaviour	Pearson Correlation	1	0.235[**]
	Sig. (2-tailed)		0.000
	N	342	342
Individual Investor Decision Making	Pearson Correlation		1
	Sig. (2-tailed)		
	N		

Table 1 presents the correlation analysis between herding behaviour and individual investor decision-making. The results confirm the existence of a positive significant correlation between herding and individual investor decision-making ($r = 0.235$, $p<0.05$). These findings are supported by Ahmad and Wu (2022), which established a positive correlation between herding behaviour investor decision-making.

Testing of Research Hypothesis
The study used regression analysis to test the research hypotheses. The following hypothesis was used to test the relationship.
H_0: Herding behavior has no statistically significant relationship with individual investor decision-making at the Nairobi Securities Exchange.

Table 2 Model Summary for Herding Behaviour and Individual Investor Decision Making

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	0.235[a]	0.055	0.052	0.49483	0.055	19.830	1	340	0.000

a. Predictors: (Constant), Herding Behaviour

Source: Research Data (2024)

The study findings in Table 2 indicate that the R-squared value is 0.055. This means that 5.5% of the changes in investor decision-making can be attributed to herding behavior. The remaining 94.5% of the changes in investor decision-making can be attributed to other factors besides herding behavior.

Table 3 ANOVA Results for Herding Behaviour and Individual Investor Decision Making

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.856	1	4.856	19.830	0.000[b]
	Residual	83.250	340	0.245		
	Total	88.106	341			

a. Dependent Variable: Individual Investor Decision-Making

b. Predictors: (Constant), Herding Behaviour

The results on Table 3 reveal that the model was statistically significant. The model had F-statistics of the regression ($F_{(1, 340)}$ = 19.830) which was statistically significant ($p < 0.05$). This indicates that the model applied significantly predicted the change of the dependent variable which is individual investor decision-making as result of the predictor variable, herding behavior included in the model, suggesting that the model significantly fits the data.

Table 4 Coefficients for Herding Behaviour and Individual Investor Decision-Making

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.046	0.147		20.724	0.000
	Herding Behaviour	0.180	0.040	0.235	4.453	0.000

a. Dependent Variable: Individual Investor Decision-Making

Source: Research Data (2024)

The findings in Table 4 indicate that there exists a statistically significant positive relationship between herding behavior and individual investor decision-making. (β =0.180, $p < 0.05$). This implies that when herding behavior increases by an additional unit, individual investor decision-making increases by 0.180. The null hypothesis, H_{01}: there is no statistically significant relationship between herding behavior and individual investor decision-making at the Nairobi Securities Exchange, was rejected and therefore, it was concluded that herding behavior has a significant relationship with individual investor decision-making at the Nairobi Securities Exchange. These findings are supported by those of Ludenyo (2021) which found a significant relationship between herding behaviour and individual stock market investments decision making.

The following regression equation was obtained.

$Y = 3.046 + 0.180 X_1$

Where;

Y – Individual investor decision-making

X_1 – Herding behavior

CONCLUSION AND RECOMMENDATION

The study findings revealed that positive feedback from friends and other investors who had already invested in the NSE significantly encouraged individuals to invest at the NSE. However, the aspect of investing at the NSE due to the pressure of being left out did not have any relationship with the individual investor's decision to invest in the securities market. Finally, current investment trends and input from investment advisors were found to have a significant relationship with the investor's intention to invest at the NSE. Thus, the study concluded that herding behaviour has a positive significant relationship with individual investor decision-making at the NSE.

In conclusion, the study recommended that investors be aware of the psychological effects of herding behaviour and strive to make decisions based on individual financial goals. Investors should also diversify information sources and understand the underlying factors driving market trends to help them differentiate between sustainable growth and short-term hype. The study also recommends that financial advisors and institutions offer educational resources and workshops to help clients understand the risks of herding behaviour and the importance of independent decision-making. The NSE should also develop and promote educational programs focused on the risks of herding behaviour and the benefits of independent, informed decision-making.

Suggestions for Further Research

Further research should also be carried out to analyze how various economic conditions (recession vs. growth periods) moderate the relationship between herding behaviour and investor decision-making. These studies will help scholars and investors gain a deeper understanding of the complexities involved in individual investor decision-making and develop more effective strategies to enhance investment outcomes while also providing valuable insights for policymakers and financial institutions aiming to create a more informed and rational investment environment. Variation in individual investor decision-making was explained by 5.5% of the explanatory variable studied. Therefore, further studies should be carried out considering other behavioral biases.

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