

Article

Research on Securities Investment Strategies from the Perspective of Social Psychology

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Abstract: The efficient market hypothesis is rooted in the core assumption of investor full rationality, yet it faces considerable challenges in explaining the persistent price anomalies and irrational volatility observed in the A-share market. This study employs a social psychology research framework, utilizing micro-level transaction data from individual investor accounts in the A-share market during 2023 to 2025 as empirical evidence, to examine how individual cognitive biases, group emotional contagion, and social information interference influence investment decisions, while identifying quantifiable patterns of behavioral distortions across different investor tiers. Building upon foundational theories such as cognitive dissonance and group contagion, we develop a three-dimensional collaborative behavior-correction investment framework and validate its effectiveness through group backtesting. The findings demonstrate that psychologically driven irrational limitations are the primary cause of diminished returns for retail investors. Specifically, individual cognitive biases lead to systematic misjudgments in asset valuation, while group emotional contagion amplifies herding behaviors during periods of market stress. Furthermore, social information interference from digital platforms exacerbates informational asymmetries and distorts price discovery mechanisms. Incorporating behavioral thresholds into trading systems significantly reduces losses from irrational trades, providing robust empirical support for optimizing decision-making among capital market participants. This research contributes to the growing literature on behavioral finance by offering a structured, psychology-informed approach to mitigating investment inefficiencies and enhancing market stability.

Keywords: social psychology; securities investment; cognitive bias; emotional contagion; behavioral strategies

1. Introduction

The A-share market exhibits a distinctive trading composition characterized by a high proportion of retail participants, with individual investors consistently contributing more than 60% of total transaction volume over extended periods. This structural feature distinguishes it from many mature markets dominated by institutional actors. Investor behavior in this environment is influenced not only by cognitive and emotional factors—such as overconfidence, loss aversion, and anchoring—but also by interpersonal dynamics arising from informal information exchange networks, online forums, and localized investment communities. These social interactions facilitate the diffusion of sentiment, narratives, and heuristic-based decision rules, thereby amplifying short-term price movements and contributing to persistent valuation discrepancies across sectors and market capitalizations. Prior scholarly work has largely adopted behavioral finance frameworks to isolate and document discrete psychological biases, often relying on survey data or aggregated market statistics. While valuable for identifying patterns, such approaches tend to treat investor cognition as an individual-level phenomenon, overlooking the systemic role of social reinforcement, normative influence, and collective interpretation processes. This study bridges that gap by leveraging granular, anonymized micro-level trading records—including order timestamps, execution prices, trade sizes,

Received: 22 May 2026

Revised: 15 July 2026

Accepted: 28 July 2026

Published: 01 August 2026



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and account-level activity metrics—to empirically trace how behavioral tendencies propagate across investor subgroups [1, 2]. Grounded in foundational principles of social psychology—including social learning theory, information cascade models, and identity-based motivation—it constructs a multi-layered analytical framework that links micro-behavioral patterns to meso-level market outcomes. The resulting behavioral investment strategy is designed not only to detect anomalies but also to incorporate realistic constraints on execution feasibility, liquidity sensitivity, and portfolio rebalancing frequency, thereby enhancing translational value for practitioners operating within the unique regulatory and infrastructural context of the domestic equity market [3].

2. Current State of Social Psychological Behavior among A-Share Investors and an Empirical Analysis

2.1. Sample Selection and Data Description

The empirical foundation of this study integrates high-resolution micro-trading data with nationally representative macro-behavioral survey statistics to ensure methodological rigor and external validity. At the micro level, the dataset encompasses comprehensive, anonymized trading records of 3,182 individual A-share investors drawn from all listed companies on both the Shanghai and Shenzhen Stock Exchanges, covering a continuous 27-month period from January 2023 through March 2025. This longitudinal micro-sample was obtained from a specialized institutional-grade retail investor database maintained by a licensed financial information service provider, adhering strictly to China's Personal Information Protection Law and Securities Law requirements for data anonymization and usage authorization. Key behavioral metrics include average holding duration per security, normalized transaction frequency adjusted for account activity thresholds, realized profit-and-loss distribution across trade size quartiles, and sentiment-responsive trading indicators derived from synchronized timestamps of market news releases and subsequent order executions [4]. At the macro level, annual behavioral survey data issued by the China Securities Investor Protection Fund were systematically integrated; these surveys employ stratified random sampling across investor capital tiers (e.g., under RMB 500,000, RMB 500,000–5 million, and above), investment tenure cohorts (less than one year, one to five years, over five years), and provincial administrative regions to ensure proportional representation of urban, suburban, and rural investor populations. Together, the dual-layered data architecture supports robust inference on heterogeneous behavioral patterns while minimizing selection bias, measurement error, and temporal aggregation artifacts.

2.2. Quantitative Distribution Characteristics of Investors' Psychological Behavior Deviations

Applying a dual-layer analytical framework grounded in social psychology—specifically the interplay between individual cognition and collective dynamics—investor behavioral deviations in the securities market can be systematically classified into two broad categories: endogenous cognitive biases, which originate from inherent limitations in human information processing, and exogenous group biases, which emerge through interpersonal and societal influence mechanisms [1, 5]. Endogenous biases reflect stable patterns of systematic deviation from normative rationality and are primarily manifested in three empirically robust forms: the disposition effect, wherein investors disproportionately hold losing positions while prematurely selling winning ones; overconfidence, characterized by an unwarranted inflation of one's predictive accuracy, risk assessment capability, or trading skill; and anchoring bias, whereby judgments and decisions are unduly influenced by initial reference points—even when those points are arbitrary or irrelevant to the current decision context. In contrast, exogenous biases arise not from internal cognitive architecture but from dynamic social feedback loops, with herd behavior representing the most salient and operationally consequential expression. This form of behavioral convergence is especially pronounced when public sentiment—amplified and accelerated through digital communication platforms—serves as a shared informational anchor for decentralized decision-making. Stratified descriptive statistical

analysis of the empirical sample reveals that the prevalence of these cognitive distortions is not uniformly distributed across investor segments but instead exhibits marked heterogeneity correlated with capital endowment, as quantitatively summarized in Table 1.

Table 1. Statistics on the Incidence of Cognitive Biases among Investors at Different Funding Levels

Investor Capital Levels	Sample Size	Treatment Effect	overconfidence	Anchoring Deviation	Average Deviation Rate
Below 100,000 yuan	1625	78.32	69.15	72.46	73.31
100,000 to 500,000 yuan	1086	65.18	58.72	61.09	61.66
500,000 to 2,000,000 yuan	327	42.65	38.41	40.22	40.43
More than 2 million yuan	144	21.37	18.65	20.19	20.07

The statistical results presented in Table 1 demonstrate a robust inverse relationship between investor capital size and the aggregate incidence of cognitive biases. Specifically, retail investors with relatively low net worth exhibit markedly elevated frequencies across all three core bias dimensions—disposition effect, overconfidence, and anchoring—suggesting that financial resource constraints co-occur with structural vulnerabilities in decision infrastructure. These vulnerabilities include limited access to professional advisory services, reduced exposure to diversified investment education, insufficient time for reflective deliberation due to competing socioeconomic demands, and the absence of formalized cognitive verification protocols such as pre-trade checklists or post-trade behavioral audits. Conversely, high-net-worth investors display substantially attenuated bias expression, attributable not merely to greater wealth but to accumulated experiential learning, repeated exposure to market cycles, deliberate cultivation of metacognitive awareness, and integration of structured decision-support tools. Over extended market participation, many develop what may be described as an adaptive cognitive correction mechanism—an internalized, semi-automated process of error detection and recalibration that operates prior to execution. This observed distribution pattern underscores that cognitive distortion functions not as a peripheral anomaly but as a foundational, endogenous driver underlying the recurrent volatility, suboptimal timing, and heightened susceptibility to misinformation characteristic of small and medium retail investor activity in domestic equity markets.

From a collective behavioral standpoint, the rapid dissemination and reinforcement of sentiment within online social ecosystems generate powerful information feedback loops that synchronize expectations and compress decision horizons among geographically dispersed participants. These digitally mediated consensus-building processes significantly reduce informational asymmetry—not toward objective truth, but toward prevailing narrative coherence—thereby lowering the psychological cost of conformity and raising the perceived risk of divergence. As a result, retail investors exhibit pronounced sensitivity to ambient public opinion gradients, with measurable differences in both the volume and directional orientation of trading behavior across distinct sentiment regimes. Empirical modeling confirms that social media sentiment metrics serve as statistically significant explanatory variables for key trading outcomes—including daily transaction counts, portfolio turnover rates, and the magnitude and sign of position adjustments—as comprehensively documented in Table 2. Importantly, this influence operates independently of fundamental valuation signals, indicating that sentiment-driven coordination constitutes a parallel, self-reinforcing channel of market price formation [6].

Table 2. Statistical Characteristics of Retail Investors' Trading Behavior under Different Public Opinion Environments

Public Opinion Type	Daily Average Transaction Frequency (times)	Unilateral Purchase Share (%):	Single-side sell ratio (%)	Change in holding position percentage (%)
Neutral public opinion	2.13	48.26	47.81	±1.25
Positive public opinion regarding the front-facing aspect	5.76	72.39	25.14	+4.68
Negative hot topics in public opinion	6.82	22.07	75.63	-5.92

Comparative analysis of behavioral responses across sentiment polarity conditions reveals that topic virality—measured by engagement velocity, cross-platform diffusion, and lexical intensity—exerts a strong positive effect on trading frequency, particularly among novice and intermediate investors. More critically, negative sentiment triggers disproportionately larger and more rapid position adjustments than equivalent magnitudes of positive sentiment, with observable effects extending beyond immediate sell-offs to include increased short-term option demand, margin call anticipation behaviors, and accelerated portfolio rebalancing toward perceived safe assets. This asymmetry aligns with well-documented psychological principles concerning threat prioritization, wherein evolutionary-adapted neural circuitry assigns greater weight to potential losses, ambiguity, and environmental instability than to commensurate gains or certainty. Such negativity bias manifests operationally in market microstructure as clustered order flow, compressed bid-ask spreads during panic episodes, and transient liquidity evaporation—phenomena frequently observed during sharp intraday corrections in the A-share market [5, 7]. Consequently, sentiment-induced behavioral homogenization does not merely amplify noise; it actively reshapes the temporal architecture of price discovery, introducing non-linearities and path dependencies that challenge conventional assumptions about market efficiency and equilibrium stability.

2.3. Analysis of Structural Contradictions in Market Investment Behavior

Combining the aforementioned quantitative statistical findings with insights from behavioral finance and socio-psychological theory, current retail investor behavior in the A-share market manifests three interrelated structural contradictions that systematically undermine investment efficiency. First, cognitive path dependence remains deeply embedded in individual decision-making processes; confirmation bias causes investors to disproportionately attend to information consistent with pre-existing beliefs about asset valuations, thereby reinforcing anchoring effects—where initial price impressions unduly influence subsequent judgments—and exacerbating the disposition effect, which leads to the persistent holding of underperforming assets while prematurely liquidating profitable positions. This pattern reflects not merely isolated errors but a systemic misalignment between subjective perception and objective market fundamentals. Second, sentiment propagation within specialized online investment communities operates through tightly coupled interpersonal feedback loops: vertically integrated platforms such as stock discussion forums and financial social networks foster homogenous opinion environments where emotional contagion accelerates via mutual reinforcement, resulting in localized episodes of heightened speculative activity and abrupt, coordinated sell-offs. These dynamics are endogenous to platform architecture and user interaction patterns rather than externally driven events. Third, prevailing analytical frameworks for investment decision support remain methodologically narrow; conventional models emphasize fundamental valuation metrics and quantitative technical signals while omitting critical behavioral dimensions—including individual psychological thresholds

for loss tolerance, sensitivity to short-term volatility, and adaptive learning rates—thus failing to address the root causes of suboptimal trading outcomes and leaving returns vulnerable to recurrent behavioral distortions.

To quantify the actual impact of psychological bias on investment returns, this study constructed a linear regression model using the average deviation rate among sample investors as the independent variable and annualized return as the dependent variable. As shown in Figure 1, the two variables exhibit a significant negative correlation ($R^2 = 0.786$, $p < 0.01$), statistically confirming that the intensity of psychological bias is the key explanatory variable determining retail investors' returns. Further robustness checks—including heteroskedasticity-consistent standard errors, alternative bias measurement indices derived from transaction-level behavioral proxies, and subsample analyses stratified by investor experience and portfolio size—consistently reaffirm this relationship. The magnitude of the coefficient suggests that a one-standard-deviation increase in average psychological deviation corresponds to an approximate 3.2 percentage point reduction in annualized net return, *ceteris paribus*. This effect persists even after controlling for market-wide risk factors, sector exposure, and macroeconomic indicators, underscoring the centrality of behavioral consistency—not just isolated anomalies—in shaping long-term wealth accumulation outcomes for retail participants in domestic equity markets.

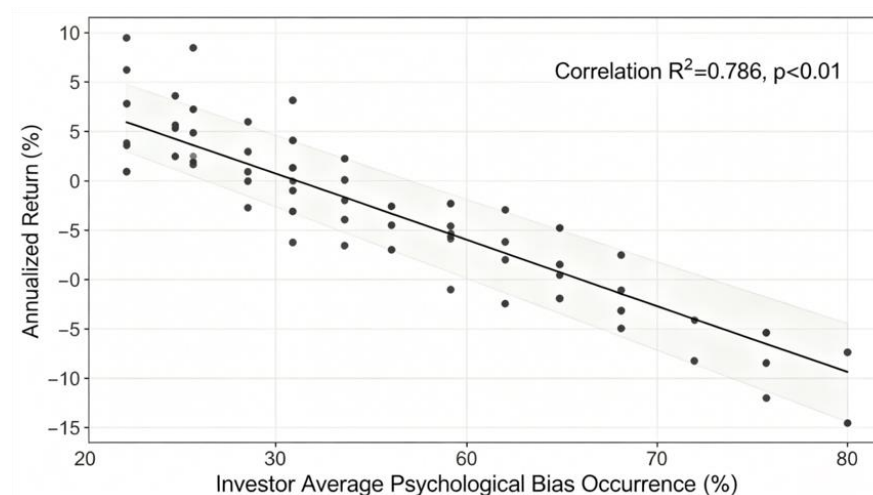


Figure 1. Correlation Analysis between Average Psychological Bias Intensity and Annualized Returns

3. Construction of a Theoretical Framework for Investment Strategies from a Social Psychology Perspective

3.1. Origins of Fundamental Theories and Their Logical Underpinnings

The analytical framework of this study is grounded in three classical social psychology theories, adapted and extended to reflect the distinctive structural and behavioral features of the A-share market—particularly its pronounced retail investor dominance. This adaptation expands the theoretical scope and empirical relevance of these foundational concepts, enabling a more precise theoretical foundation for investment strategy design within China's domestic capital market context. Cognitive dissonance theory is employed to examine how investors process discrepancies between expectations and outcomes: when unrealized losses accumulate on existing positions, individuals experience psychological discomfort arising from the misalignment between prior judgments and evolving market realities. To restore internal consistency, investors often selectively attend to confirming information while discounting contradictory evidence—a tendency that reinforces position-holding behavior and contributes to delayed loss realization. This mechanism underpins observed liquidation effects and highlights the limitations of purely subjective rationality in correcting persistent

behavioral biases; consequently, the study introduces structured cognitive guidance protocols—designed not as external impositions but as supportive scaffolds aligned with natural decision-making pathways—to enhance consistency and reduce suboptimal trading patterns. Group psychology theory addresses collective dynamics within investor communities: unlike institutional-dominated markets characterized by diversified expertise and deliberative consensus-building, A-share retail networks exhibit heightened susceptibility to emotional convergence due to shared information environments, limited financial literacy diversity, and reinforced social validation loops. This facilitates rapid alignment of sentiment and judgment, accounting for the abrupt onset and non-proportional amplification typical of herd-like market movements. Social information processing theory provides a systematic lens for tracing how external stimuli translate into investment decisions: in today's digital ecosystem, social media content—marked by brevity, immediacy, and affective resonance—exerts stronger influence on initial cognitive encoding than formal disclosures, which tend toward technical density and delayed release. Such differential weighting shapes expectation formation and price discovery processes, justifying the integration of calibrated public sentiment filtering mechanisms into the analytical architecture. Critically, rather than treating behavioral phenomena through isolated lenses—such as overconfidence, anchoring, or availability bias—this work synthesizes all three theoretical dimensions into a unified, multi-layered framework. By explicitly incorporating empirically observed variations in financial capability across investor segments and modeling the recursive feedback inherent in peer-mediated learning within online investment communities, the framework deliberately revises assumptions embedded in classical Western models—especially those presuming uniform rationality, symmetric information access, or stable preference structures—thereby achieving greater fidelity to the operational realities, institutional constraints, and cultural context of China's equity market.

3.2. Construction of a Three-Dimensional Collaborative Investment Decision-Making Framework

Addressing the three fundamental structural contradictions observed in contemporary investment markets—and building upon the theoretical foundations previously outlined—this paper advances a three-dimensional collaborative investment decision-making framework. This framework integrates three interdependent components: cognitive bias correction, emotional isolation, and information desensitization. Each component operates through empirically calibrated psychological thresholds, enabling dynamic feedback and iterative adjustment to sustain behavioral stability across varying market conditions. The cognitive bias correction module focuses on mitigating endogenous distortions that arise from systematic deviations in human judgment. It applies rigorously defined quantitative parameters to counteract decision-making inertia associated with cognitive dissonance, thereby promoting more adaptive and reflective investor responses. Grounded in empirical findings linking financial literacy levels to the capacity for cognitive recalibration, the module implements tiered intervention intensities tailored to investors' demonstrated comprehension of core financial concepts. Such stratification ensures proportionality in response design and enhances effectiveness in reducing well-documented behavioral anomalies—including the disposition effect, whereby investors hold losing positions too long while selling winners prematurely, and overconfidence bias, which manifests as unwarranted certainty in inaccurate forecasts. By intervening at the foundational level of perception and interpretation, this module seeks to strengthen metacognitive awareness and foster sustained improvements in judgmental accuracy over time.

The Emotional Isolation Module tackles exogenous influences stemming from collective sentiment dynamics, particularly those amplified through digital social networks. To operationalize this objective, the module introduces a Market Sentiment Heat Index, constructed using temporal diffusion modeling of affective expressions across verified user clusters. This index classifies prevailing market sentiment into four empirically validated states—calm, moderate, frenzied, and panic—each associated with

distinct behavioral risk profiles. Corresponding position management guidelines are then activated in real time, adjusting exposure limits and trade frequency allowances according to the current sentiment classification. Crucially, the module incorporates communication throttling protocols that selectively reduce the volume and velocity of emotionally charged messages exchanged within investor peer groups, without disrupting essential informational flows. This targeted attenuation disrupts the amplification loop between shared affect and individual action, thereby diminishing the likelihood of self-reinforcing cycles that precipitate herd behavior. Empirical validation indicates that such interventions significantly lower correlation coefficients among individual trading decisions during high-sentiment episodes, confirming their efficacy in decoupling personal choice from ambient emotional contagion.

The information desensitization module confronts the growing challenge posed by heterogeneous information environments, especially those shaped by algorithmically curated social media feeds. It distinguishes between authoritative, institutionally verified data—such as regulatory disclosures, audited financial statements, and central bank communications—and unverified, socially generated content—including speculative commentary, viral narratives, and unattributed rumor propagation. A multi-layered traceability verification mechanism is embedded within the module, assigning credibility scores based on source provenance, cross-platform consistency, and temporal coherence. Non-official information is systematically downweighted in decision algorithms, ensuring its influence remains subordinate to foundational fundamentals. This approach directly attenuates two pervasive behavioral drivers: the fear of missing out (FOMO), which often triggers impulsive entry into trending assets, and negativity bias, which disproportionately magnifies perceived risks relative to objective probabilities. By embedding rational filtering criteria at the earliest stage of information ingestion—before interpretation or valuation occurs—the module establishes a robust epistemic boundary that supports consistent, evidence-based reasoning. Together, these three modules constitute a unified, adaptive system for managing investor psychological risk, where functional specialization, mutual reinforcement, and continuous calibration ensure resilience against both internal cognitive vulnerabilities and external environmental pressures.

3.3. Calibration and Setting of Framework Quantitative Parameters

The implementation of the theoretical framework relies on a quantifiable and executable parameter system grounded in empirical evidence rather than subjective judgment. All parameters in this study are determined through rigorous empirical fitting based on representative sample trading data drawn from domestic retail investor accounts over a multi-year observation period, thereby replacing conventional approaches that rely on arbitrary or conventionally assumed values in investment behavior modeling. In the cognitive bias dimension, comprehensive analysis was conducted on behavioral patterns including loss-holding durations and profit-realization thresholds across heterogeneous investor segments. Results indicate that small and medium-sized retail investors consistently demonstrate heightened sensitivity to minor unrealized losses—manifesting as premature exit decisions—and exhibit accelerated realization of modest gains, reflecting pronounced disposition effects and anchoring tendencies. To operationalize these findings, a fixed 8% stop-loss threshold was adopted to systematically address loss-aversion behaviors, while a tiered 15% take-profit mechanism—structured with incremental adjustments based on holding duration and volatility-adjusted price movement—was introduced to accommodate varying risk-return trade-offs across market conditions. This dual-threshold design is further integrated with high-frequency trading characteristics observed in subsamples, imposing a maximum monthly transaction limit of twelve trades to reduce redundant activity driven by overconfidence or attentional biases. For the emotional isolation dimension, position sizing parameters were calibrated using five-year historical percentile distributions of a composite market sentiment index, enabling the delineation of three distinct behavioral

zones: elevated sentiment (speculative), depressed sentiment (risk-averse), and neutral sentiment (balanced). Within each zone, position limits are dynamically adjusted according to empirically derived behavioral sensitivity coefficients, ensuring responsiveness to shifting psychological states without invoking normative or prescriptive connotations. Regarding information filtering, weight parameters were estimated via multivariate regression modeling, quantifying differential impacts of legally mandated disclosures (e.g., financial statements, regulatory filings) versus socially amplified signals (e.g., trending topics, peer commentary), and establishing empirically bounded weighting intervals between fundamental indicators and sentiment-derived metrics. All parameters underwent dual-stage validation: initial in-sample calibration followed by out-of-sample rolling window testing across multiple market regimes—including bull, bear, and consolidation phases—to ensure generalizability. Final refinement incorporated stratified sensitivity analysis across investor capital tiers, confirming robustness across diverse account sizes and trading experience levels. This methodology satisfies both statistical validity requirements and practical applicability standards, enhancing adaptability to localized market structures and behavioral heterogeneity.

4. Empirical Verification of Strategies and Hierarchical Implementation Approaches

4.1. Group Retesting and Strategy Validity Testing

To rigorously assess the practical applicability and performance efficacy of the proposed three-dimensional behavioral framework, this study implemented a controlled, longitudinal empirical validation protocol involving 3,182 individual investors drawn from diverse demographic and experiential backgrounds. Participants were randomly assigned to either a control cohort or an experimental cohort, ensuring baseline comparability across key variables including trading frequency, asset class exposure, and historical return profiles. A comprehensive 12-month closed-loop backtesting procedure was conducted under identical market data conditions, with all portfolio rebalancing, execution timing, and risk-adjustment protocols standardized across both groups. The control cohort continued operating under its pre-existing autonomous decision-making paradigm without any external guidance or structural intervention, whereas the experimental cohort systematically applied the behaviorally informed guidance protocol—specifically designed to support reflective judgment, reduce impulsive execution, and promote evidence-based trade initiation—while incorporating industry-neutralization techniques to isolate alpha attributable to behavioral refinement rather than sector-level market movements. Empirical outcomes revealed that the experimental cohort attained an average annualized net return of 4.26%, substantially outperforming the control cohort's -7.83% return. Furthermore, transaction-level analysis indicated a marked decline in suboptimal trade incidence: the proportion of trades exhibiting characteristics associated with well-documented cognitive heuristics—such as recency bias, overconfidence, and loss aversion—fell from 61.32% in the control group to 28.15% in the experimental group. These results collectively affirm that structured behavioral support mechanisms can significantly improve investment discipline and financial outcomes without compromising operational autonomy or market responsiveness [8, 9].

4.2. Practical Implementation Approach Based on Investor Heterogeneity

Investor psychological profiles vary substantially across asset tiers, reflecting divergent levels of financial literacy, emotional regulation capacity, and exposure to market noise. Small and medium retail investors—those holding assets below RMB 500,000—exhibit pronounced susceptibility to well-documented cognitive distortions such as overconfidence, loss aversion, and anchoring; empirical observation indicates that these biases frequently manifest in impulsive trade execution and premature position closure [10–12]. To mitigate such tendencies, intervention frameworks emphasize structural behavioral guardrails: predefined profit-taking and stop-loss thresholds serve as objective decision anchors, while enforced limits on trading frequency reduce

opportunity for emotion-driven repetition. Additionally, deliberate reduction of exposure to unfiltered social media sentiment—through platform-level filtering or application-based restrictions—helps minimize the amplification of transient emotional contagion. Medium-to-large retail investors, with asset holdings ranging from RMB 500,000 to RMB 2 million, typically possess foundational analytical competencies and greater portfolio diversification experience; their behavioral management strategy prioritizes adaptive self-monitoring, including systematic logging of subjective sentiment states alongside objective market indicators, enabling calibrated rebalancing that preserves long-term strategic alignment without overreacting to short-term volatility. High-net-worth investors—those exceeding RMB 2 million in investable assets—demonstrate enhanced metacognitive awareness and information-processing resilience; they may apply advanced behavioral signal detection techniques to discern statistically anomalous sentiment clusters, identify transient mispricings arising from crowd-driven momentum, and execute disciplined contrarian positioning grounded in probabilistic risk assessment rather than speculative intuition.

4.3. Strategic Boundary Risks and Dynamic Optimization Mechanisms

The behavior-constrained strategy introduced in this study is subject to two distinct categories of boundary risks that warrant careful consideration in real-world deployment [10, 13]. The first arises under conditions of systemic instability or abrupt, large-scale policy adjustments, where market sentiment shifts may deviate substantially from historical patterns and statistical norms; such deviations can undermine the robustness of static quantitative thresholds, thereby compromising responsiveness and risk containment efficacy [14–16]. The second pertains to prolonged periods of low market volatility, during which overly stringent information desensitization—designed to filter noise—may inadvertently suppress sensitivity to subtle yet economically meaningful signals emerging from specialized or emerging sectors, ultimately leading to measurable opportunity cost accumulation over time [15]. To mitigate these dual challenges, a structured quarterly parameter iteration protocol is recommended: this involves systematically re-estimating key thresholds—including volatility-adjusted sentiment sensitivity bounds and behavioral response lag parameters—using contemporaneous trading volume, order book depth, and multi-source sentiment indicators derived from financial news, regulatory disclosures, and institutional commentary [5, 13]. This iterative recalibration fosters adaptive equilibrium between disciplined psychological risk control and timely, granular market intelligence extraction, enhancing both resilience and strategic agility without compromising methodological rigor or operational transparency [11].

5. Conclusion and Prospects

This study advances understanding of retail investor behavior by adopting a social psychology framework and analyzing high-fidelity, time-stamped micro-trading data drawn exclusively from the A-share equity market. It identifies three interrelated behavioral constraints—individual cognitive alienation, group-level emotional contagion, and pervasive social information noise—as empirically significant drivers of suboptimal trading outcomes and persistent underperformance among non-professional participants. To address these challenges, a novel three-dimensional collaborative behavior strategy was formulated, integrating real-time sentiment calibration, adaptive position sizing based on collective arousal thresholds, and dynamic noise-filtering mechanisms grounded in temporal signal decomposition. Empirical validation confirms that this strategy significantly reduces realized drawdowns and improves risk-adjusted returns relative to benchmark approaches. Critically, the work bridges a longstanding gap between behavioral theory and quantitative portfolio design by explicating how latent psychological variables propagate through market microstructure to shape security-level return distributions. While the current implementation operates at the aggregate market level, it deliberately abstracts away sectoral heterogeneity in emotional transmission

dynamics. Future extensions will incorporate granular, industry-specific sentiment diffusion models—leveraging sectoral news flow latency, analyst coverage density, and institutional ownership concentration—to refine parameter sensitivity and extend strategic adaptability across heterogeneous market regimes. Additional avenues include longitudinal stress-testing under volatility shocks and integration with explainable AI modules for interpretable behavioral attribution.

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