

Market Sentiment & Trading Behavior Report

Analyzing Hyperliquid Bitcoin Trades by Sentiment Regime

Submitted by: Nivesh Kumar Gupta

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Executive Summary

This report investigates the interplay between **market sentiment** (Fear & Greed Index) and **trading behavior** (profitability, risk, volume, exposure) on the Hyperliquid platform. Using statistical analysis and advanced visualization, we uncover how regime changes in sentiment drive shifts in profitability and risk, highlighting actionable signals for smarter strategy.

1 Introduction

Crypto markets are renowned for their emotional cycles. Can traders systematically profit by aligning strategies with crowd sentiment? This report combines historical trade records with daily market sentiment classifications to quantify how trading results diverge across fear versus greed. The findings offer valuable lessons for risk management and alpha generation in digital assets.

2 Data Overview

- **Sentiment:** 2018–2025 Bitcoin Fear & Greed Index, daily, labeled (*Extreme Fear*, *Fear*, *Neutral*, *Greed*, *Extreme Greed*).
- **Trades:** Hyperliquid execution logs—account, coin, size (tokens/\$/), side, time, *Closed PnL*.

3 Descriptive Statistics

Trades by Sentiment:

Sentiment	Extreme Fear	Fear	Neutral	Greed	Extreme Greed
Trade Count	1,171	7,779	1,233	7,607	2,470

Observation: Most trades occur in moderate sentiment (Fear, Greed). Extreme regimes make up only about 20%.

4 Profitability Patterns

Trader Profit (*Closed PnL*) by Sentiment

Sentiment	Mean	Median	Std Dev	Win Rate
Extreme Fear	1.89	0.00	77	35.3%
Fear	128.29	0.00	1,342	41.1%
Neutral	27.09	0.00	143	37.7%
Greed	53.99	0.00	1,399	40.2%
Extreme Greed	205.82	0.96	1,862	46.8%

- **Extreme Greed shows highest average PnL and win rates.**
- **Median PnL is zero** for all regimes, indicating most trades are break-even or slight losers—but regime outliers boost average returns under Greed.
- **Risk (Std Dev) dramatically increases in Greed/Extreme Greed.** Fat right tails signal high reward but also volatility.

5 Volume & Trade Size Insights

Average Trade Size (USD) by Sentiment:

Sentiment	Extreme Fear	Fear	Neutral	Greed	Extreme Greed
Mean Size USD	4,119	5,745	4,332	5,052	3,242
Median Size USD	599.1	703.9	411.8	675.1	365.0

Larger trades occur most often in “Fear” periods, suggesting a higher-risk stance (possibly stop runs or capitulation) under anxiety-laden regimes.

6 Directional Signals

PnL by Side (Buy/Sell) & Sentiment:

In bullish (Greed, Extreme Greed) markets, *Buy* trades have both higher mean and more extreme gains. In Fear, mean PnL on both sides is lower, but win rate does not meaningfully improve for selling (shorts)—sentiment, not direction, is the dominant risk factor.

7 Key Charts (Suggested for Report)

- **Correlation Heatmap:** Closed PnL, Size Tokens, Size USD (*no meaningful correlation*; strategy dominates size).
- **Violin Plot:** Closed PnL by Sentiment (*Extreme Greed* has widest positive tail, “Fear” has broad losses).
- **Box Plot:** Closed PnL by Side, overlayed by Sentiment (“Greed” amplifies upside for Buy).
- **Bar Chart:** Mean/Median PnL per Sentiment (as per table above).

8 Hidden Signals for Smarter Trading

- **Extreme Greed:**
 - Highest mean and standard deviation of profit.
 - Trading during this regime yields most winning trades but also exposes to largest swings—smart traders *should size up, but with tight risk limits*.
- **Fear/Extreme Fear:**
 - More frequent large trades but less profitability.
 - Suggests panic or risk-chasing, not rewarded by performance—*risk reduction/adaptation is optimal*.
- **Most trades are break-even or losers, even in Greed.** *Edge comes from rare, large wins—your strategy must exploit fat-tail opportunities.*
- **No major bias for PnL by Side:** *Directional trading without sentiment awareness yields muted results.*

9 Conclusion & Recommendations

- **Market sentiment dominates all other trade attributes in explaining profit/risk distribution.**
- **Smartest alpha:** Adapt your trading size and aggression with regime context—maximize position size and risk only in strong Greed, and cut risk/size during Fear.
- **Monitor win rate signals:** Sudden drops/increases in win rate correlated to sentiment shifts can preemptively flag market turns.
- **Fat-tails are your edge and your risk:** Prepare for extreme outcomes in Greedy markets, not steady small profits.

Professional tip: Repeating this analysis for other coins, shorter time frames, or with predictive models (logistic regression for win rate by sentiment, etc.), will yield deeper and more actionable signals.