

Trader Behavior Insights Report

Hyperliquid Trader Data vs Bitcoin Fear & Greed Index

Objective

The objective of this project is to analyze how Bitcoin market sentiment (Fear/Greed Index) impacts trader performance and behavior using Hyperliquid historical trading data.

Datasets Used

- 1. Fear & Greed Index Dataset**
 - a. Columns: timestamp, value, classification, date
- 2. Hyperliquid Historical Trader Dataset**
 - a. Columns: Account, Coin, Execution Price, Size USD, Side, Timestamp IST, Closed PnL, Fee, Trade ID, etc.

Data Preparation

- Converted sentiment date to datetime format
- Grouped sentiment into two classes:
 - Fear = Fear + Extreme Fear
 - Greed = Greed + Extreme Greed
- Converted trader timestamp (Timestamp IST) into datetime
- Extracted date from timestamp for merging
- Created trade outcome features:
 - is_win = 1 if Closed PnL > 0 else 0
 - is_loss = 1 if Closed PnL < 0 else 0
- Merged trader dataset with sentiment dataset using date

Key Results (Fear vs Greed)

Sentiment	Total Trades	Total PnL	Avg PnL	Win Rate
Fear	83,237	4.096M	49.21	40.79%
Greed	90,295	4.865M	53.88	42.03%

Additional Observations:

- Fear days have higher average trade size (7182 USD) compared to Greed (4574 USD)
- Average fee is higher in Fear (1.39) compared to Greed (0.99)

Insights

1. Traders perform slightly better during Greed sentiment with higher profitability and win rate.
2. Fear sentiment is associated with larger position sizing and higher fee impact.
3. Extreme sentiment regimes show noticeable behavior changes and risk differences.
4. Top traders remain more consistent, but sentiment still impacts overall performance.

Recommendations

- During Fear:
 - Reduce position size and avoid overexposure
 - Control overtrading and fee-heavy execution
- During Greed:
 - Maintain strict risk management to protect profits
 - Avoid overconfidence and apply stop-loss rules
- Build sentiment-aware trading rules:
 - Adjust risk exposure dynamically based on sentiment regime

Conclusion

Market sentiment has a measurable impact on trader behavior and performance. Greed periods show better average performance, while Fear periods show increased risk-taking and higher cost impact. Sentiment-aware strategies can improve risk-adjusted performance and trading discipline.