Exploring the Relationship Between Trader Behavior and Market Sentiment

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Objective

Explore how trader behavior and results vary across market-sentiment regimes (Fear, Neutral, Greed) and around regime switches. The analysis uses Hyperliquid trade logs and a daily crypto Fear–Greed index.

Data

• Trades: per-fill records with price, size (tokens and USD), side, timestamp, fees, and IDs.
• Sentiment: daily index with classes collapsed to {Fear, Neutral, Greed} and forward-filled intraday.

Method

1. Timestamps normalized to UTC; sentiment forward-filled from midnight.
2. Trades cleaned (duplicates removed, missing data dropped, columns standardized).
3. Average-cost inventory rebuilt per account–coin pair; sells realize PnL against prior cost.
4. Fees treated in USD; net rebates clamped at zero for KPI stability.
5. Each trade inherits current daily regime; transition flags mark first day after regime changes.
6. KPIs per regime include Win Rate, PnL per Trade, PnL per Notional, Fees %, and Trades per Hour.

Behavior

• Activity is regime-dependent: Fear days show concentrated bursts late UTC (≈21:00–22:00), while Greed occurs earlier. Neutral shows

low activity.

• Scale-in behavior appears in Fear, consistent with higher volatility.

Performance

• Win Rate: Fear and Greed ≈9–10%; Neutral ≈5–6%.

• PnL per Trade: all regimes negative; Fear worst (~-1k USD), Greed less negative (~-350 USD).

• PnL per Notional: mirrors PnL/trade; least bad in Greed, worst in Fear.

Costs and Execution

• Fees %: small (basis points) and consistent across regimes.

• Negative fees from maker rebates excluded from percentage KPI.

Transitions

Trades after sentiment flips show higher outcome variance. Volatility spikes and unstable order flow explain this pattern.

Implications

1. Avoid Neutral periods for active risk-taking; returns are lowest.
2. Prefer Greed for controlled exposure—best relative efficiency.
3. Reduce size during Fear; treat trades as hedging rather than profit attempts.
4. After regime flips, pause trading or size down until volatility stabilizes.

Limitations

• No quote data, so execution slippage is only proxied.

• Leverage/liquidation data unavailable; risk limited to realized outcomes.

• One-desk data; results not universal.

Actionable Playbooks

• Halve per-burst notional size in Fear; restore in Greed.

• After regime flips, cap trade size and enforce cooldown.

• Stop trading for the day if cumulative Fear loss exceeds threshold.

- Route orders strategically to minimize fees while maintaining liquidity access.

Reproducibility Checklist

- Use realized-only sells for Win Rate and PnL metrics.
- Use 'size_usd' for notional or compute as qty × price if missing.
- Clamp negative fees to zero for fee%.
- Keep timestamps in UTC and forward-fill sentiment daily.