

# Data Analysis Report: Cryptocurrency Trader Performance by Market Sentiment

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## Executive Summary

This report analyzes how market sentiment, measured via the Fear & Greed Index, affects cryptocurrency trader performance. Traders generally earn higher profits during Extreme Greed and Fear, while Neutral and Extreme Fear periods yield lower returns. Trading volume is higher in Fear and Greed phases. Coin type and trade size also influence performance.

## Introduction

Cryptocurrency markets are volatile. This study investigates the impact of different sentiment states—Extreme Fear, Fear, Neutral, Greed, Extreme Greed—on trading outcomes, including profitability, volume, coin-specific behavior, and trade sizes.

## Data and Methodology

Two datasets were used:

**Historical Trade Data:** Trade details including Coin, Size, Closed PnL, Timestamp.

**Fear & Greed Index:** Daily market sentiment classification.

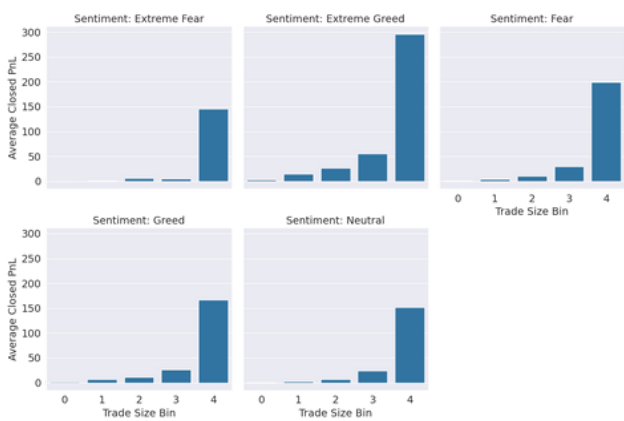
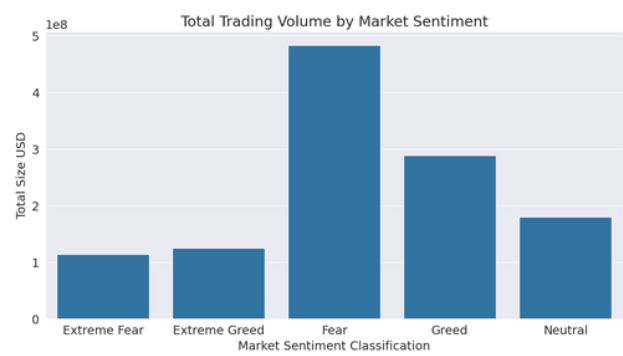
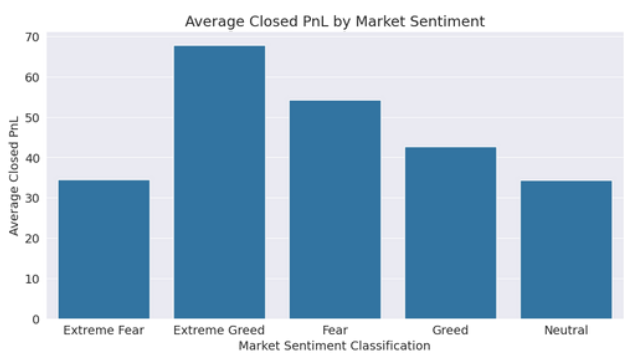
Data were merged by date. Performance metrics (average Closed PnL, total Size USD) were calculated per sentiment, along with coin-specific and trade-size analyses.

## Actionable Insights

- Increase trading activity and position sizing during Fear and Extreme Greed; reduce exposure during calmer periods.
- Develop a sentiment-based coin watchlist to prioritize historically strong performers.
- Consider larger trade sizes during volatile periods if risk-managed.

Key Findings

- Market Sentiment and Profitability: Traders had the highest average profits during Extreme Greed and Fear, and the lowest during Neutral and Extreme Fear.
- Image: Average Closed PnL by Market Sentiment.png
- Market Sentiment and Trading Volume: Trading volume peaks during Fear and Greed, suggesting higher activity in volatile periods.
- Image: Total Trading Volume by Market Sentiment.png
- Coin-Specific Performance: Some coins outperform others in specific sentiment states. PNUT had strong PnL during Extreme Fear, while FARTCOIN underperformed. BTC had the highest volume overall, with best returns during Fear.
- Image: Sentiment.png (I assume this is a coin vs sentiment chart)
- Trade Size Impact: Optional small figure if you generate a trade-size vs PnL chart.



Potential Further Exploration

- Analyze execution price vs PnL across sentiment states.
- Study leverage impact by sentiment and trade size.
- Conduct statistical tests to confirm significance of observed performance differences.