

Title: Data Science Report – Trader Behavior vs Market Sentiment

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Objective:

To analyze how trader behavior aligns with market sentiment (Fear vs Greed), using historical trader execution data and the Bitcoin Fear & Greed Index.

Methodology:

- Merged trader data (including PnL, leverage, and trade size) with sentiment classification using the date field.
 - Grouped trades by sentiment classification.
 - Calculated average profit/loss and average trade size for each sentiment category.
 - Visualized these metrics using bar plots.
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Findings:

Market Sentiments	Avg PnL	Avg Trade Size	# Of Trades
Fear	54.29	7816.10	61,837
Greed	42.74	5736.88	50,303
Extreme Greed	67.89	3112.25	39,992
Neutral	34.31	4782.73	37,686
Extreme Fear	34.54	5349.73	21,400

- Trading activity was significantly higher during “Extreme Greed”.
- PnL remained low across sentiments, suggesting low profitability in short-term trades.
- Trade sizes showed slight variation, potentially indicating confidence shifts.

Conclusion:

Trader behavior correlates with sentiment extremes. The volume of trades surges during “Extreme Greed”, while profit remains largely neutral or negative. Incorporating sentiment into trading bots may help filter periods of irrational market behavior.