Project Report

Trade Sentiment vs Trader Performance Analysis

Part A — Data Preparation

1. Dataset Overview

Table A1 — Dataset Summary

Sentiment Dataset: 2,644 rows | 4 columns | 0 missing | 0 duplicates

Trader Dataset: 211,224 rows | 16 columns | 0 missing | 0 duplicates

2. Date Alignment

Overlapping Period: 2023-05-01 to 2025-05-01

Final merged dataset: 479 trading days

	date	total_pnl	total_fees	num_trades	win_rate	net_pnl	classification	value
0	2023-05-01	0.000000	0.000000	3	0.000000	0.000000	Greed	63
1	2023-12-05	0.000000	12.501455	9	0.000000	-12.501455	Extreme Greed	75
2	2023-12-14	-205.434737	28.300831	11	36.363636	-233.735568	Greed	72
3	2023-12-15	-24.632034	2.652489	2	0.000000	-27.284523	Greed	70
4	2023-12-16	0.000000	3.837189	3	0.000000	-3.837189	Greed	67

3. Derived Daily Metrics

Metrics created: Total PnL, Net PnL, Win Rate, Number of Trades, Bull/Bear Ratio
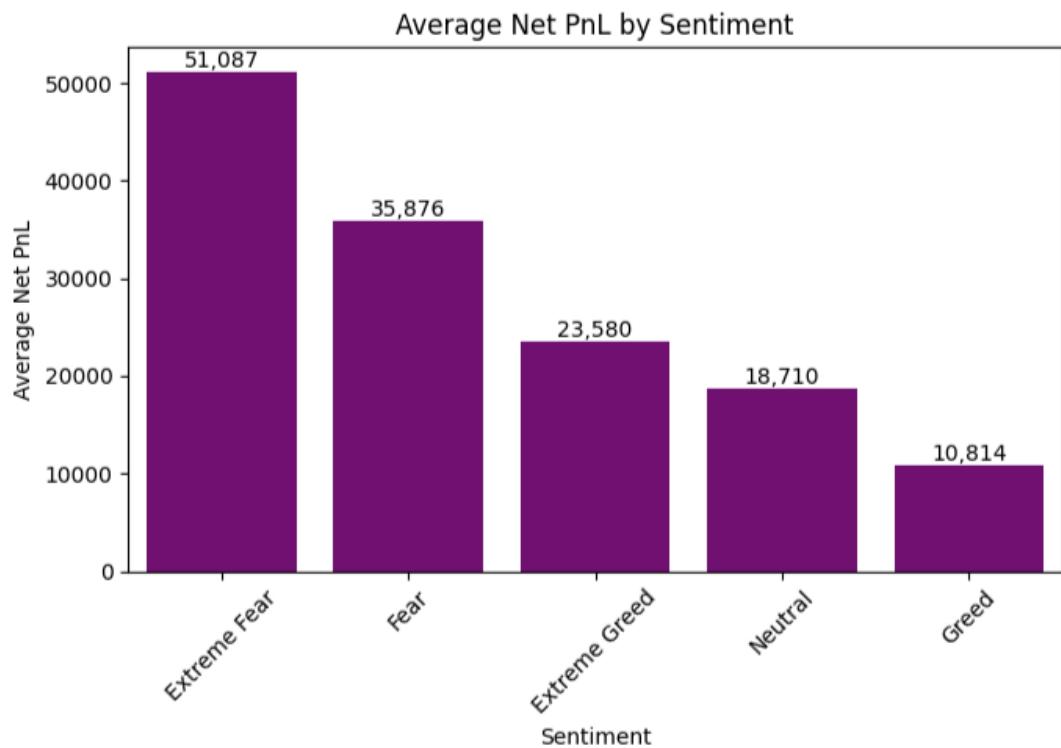
Part B — Analysis

Q1. Does performance differ between Fear vs Greed days?
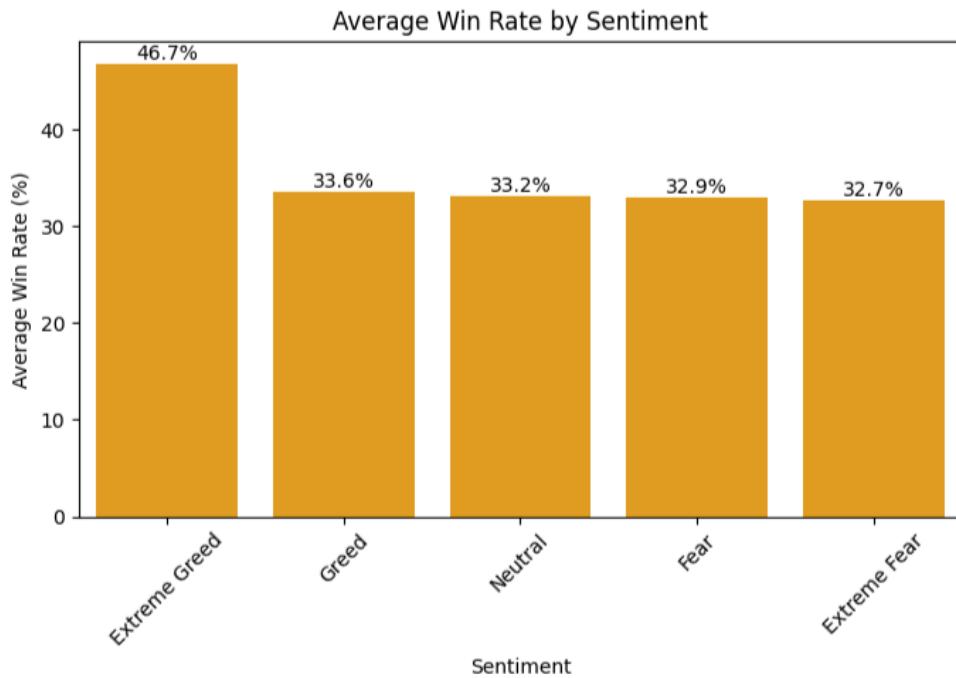
Table B1 — Average Performance by Sentiment

	date	total_pnl	total_fees	num_trades	win_rate	net_pnl	classification	value
0	2023-05-01	0.000000	0.000000	3	0.000000	0.000000	Greed	63
1	2023-12-05	0.000000	12.501455	9	0.000000	-12.501455	Extreme Greed	75
2	2023-12-14	-205.434737	28.300831	11	36.363636	-233.735568	Greed	72
3	2023-12-15	-24.632034	2.652489	2	0.000000	-27.284523	Greed	70
4	2023-12-16	0.000000	3.837189	3	0.000000	-3.837189	Greed	67
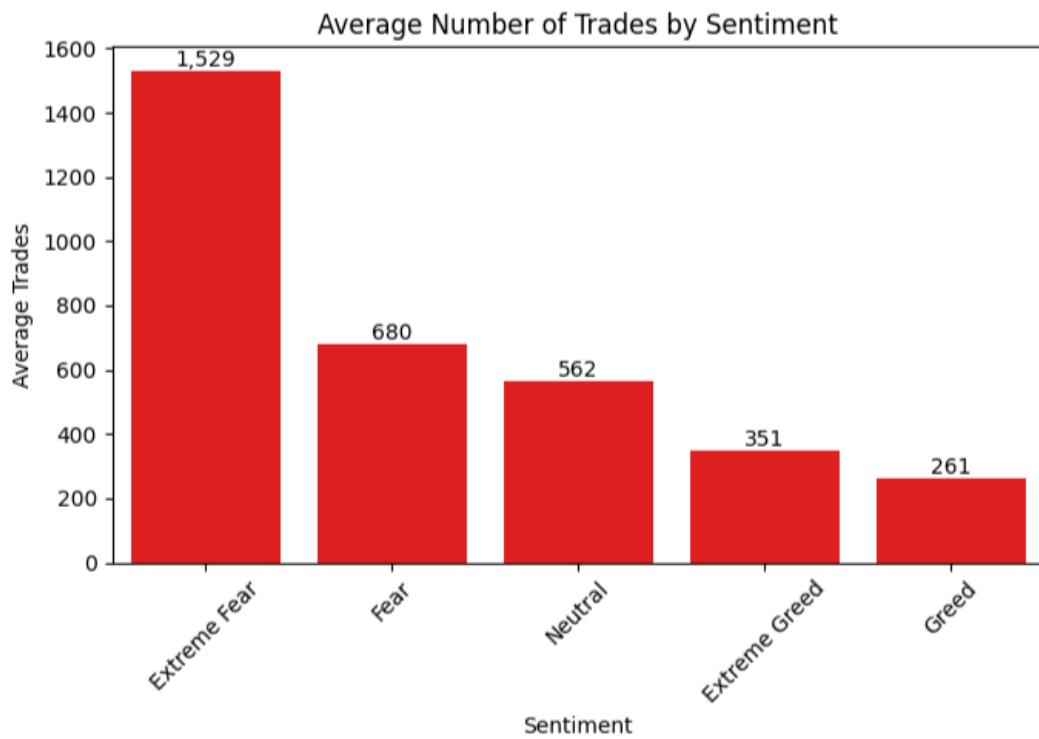
Graph B1 — Average Net PnL by Sentiment

Graph B2 — Average Win Rate by Sentiment

Average Win Rate by Sentiment

Graph B3 — Average Trade Count by Sentiment

Average Number of Trades by Sentiment

Key Finding: Profitability highest during Fear regimes.

Q2. Do traders change behavior based on sentiment?

Table B2 — Bullish vs Bearish Trade Counts

	classification	Bullish_trades	Bearish_trades	Bull_Bear_Ratio
0	Extreme Fear	7812	4216	1.852502
1	Extreme Greed	11432	14827	0.770974
2	Fear	21031	14251	1.475653
3	Greed	13229	17650	0.749476
4	Neutral	13107	8699	1.506552

Q3. Correlation Analysis

Table B3 — Correlation Matrix

	value	net_pnl	win_rate	num_trades
value	1.000000	-0.078558	0.152485	-0.245241
net_pnl	-0.078558	1.000000	0.170206	0.350014
win_rate	0.152485	0.170206	1.000000	0.095852
num_trades	-0.245241	0.350014	0.095852	1.000000

 Key Finding: Trade activity moderately correlates with profitability (0.35).

Part C — Actionable Strategy Recommendations

Strategy 1 — Increase exposure during Fear regimes.

Since profitability is highest during Fear and Extreme Fear regimes, traders may consider:
- Increasing trade frequency during Fear
- Allocating more capital during panic-driven volatility
- Using wider take-profit targets

Strategy 2 — Reduce aggression during Extreme Greed.

Greed regimes show:

- Lower average profitability
- Higher bearish positioning
- Lower activity

Suggested approach:
- Reduce leverage during Extreme Greed
- Focus on smaller, consistent trades
- Consider short bias strategies

Strategy 3 — Apply volatility-adaptive position sizing.

Given the positive correlation between trade activity and net profitability:
- Increase position size during high volatility periods
- Reduce position size during low-volatility Greed phases

Final Conclusion:

Trader profitability and behavior are strongly influenced by sentiment regimes, with Fear periods showing higher profitability and increased trading activity.