# 🎓 Student Performance and Financial Habit Analysis

\*\*Tools Used:\*\* Excel | SQL | Python | Power BI

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## 🧠 Project Overview

This project explores the relationship between \*\*students’ financial habits\*\* and their \*\*academic performance\*\* using three datasets — `student\_financial\_data`, `academic\_data`, and `demographics\_data`.

The goal was to discover whether financial discipline and spending behavior influence academic success.

Using \*\*Excel, SQL, Python, and Power BI\*\*, I built a full analytical workflow — from data cleaning and merging to exploration and visualization.

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## 🧩 Data Preparation (Excel)

- Explored three datasets and checked for missing values, duplicates, and inconsistencies.

- Merged all data using \*\*XLOOKUP\*\* into one master dataset.

- Added calculated fields:

- `Total\_Expenses`

- `Savings`

- `Expense\_to\_Income\_Ratio`

- Used \*\*PivotTables\*\* for preliminary charts (bar and pie charts).

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## 💾 Data Exploration (SQL)

Key insights from SQL analysis:

| Metric | Value |

|--------|--------|

| \*\*Average Income\*\* | ₦75,995.21 |

| \*\*Average Expense\*\* | ₦38,569.51 |

| \*\*Average Savings\*\* | ₦37,425.70 |

| \*\*Expense-to-Income Ratio\*\* | 53% |

\*\*By Academic Level:\*\*

- 200 Level students earned the most (₦77,294.18) and saved the most (₦38,257.08).

- 500 Level students had the highest expense-to-income ratio (0.53).

\*\*By Gender:\*\*

- Females earned more (₦76,529.29) and saved more (₦38,192.57).

- Males spent more (₦38,918.70).

\*\*By Month:\*\*

- June recorded the highest average income (₦77,241.30), expenses (₦39,705.80), and savings (₦39,708.80).

\*\*By Residence:\*\*

- Off-campus students spent more (₦38,850.60) and had a GPA of 3.39.

- On-campus students spent less (₦37,551.74) but had a slightly higher GPA of 3.41.

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## 🐍 Data Validation & Visualization (Python)

Using \*\*pandas\*\*, \*\*matplotlib\*\*, and \*\*seaborn\*\*:

- Confirmed SQL findings programmatically.

- Created bar, line, and distribution plots showing spending and saving trends by gender, level, and residence type.

- Validated average income, expenses, and savings consistency across all tools.

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## 📊 Interactive Dashboard (Power BI)

Built an interactive dashboard including:

- \*\*KPI Cards:\*\* Total income, total expenses, total savings, and their averages.

- \*\*Pie Chart:\*\* Income distribution by gender.

- \*\*Custom Column Chart:\*\* Income vs expenses by level.

- \*\*Bar Chart:\*\* Spending by residence type.

- \*\*Line Chart:\*\* Income and expense trend over time.

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## 💡 Key Insights

1. Students with higher savings generally maintain better GPAs.

2. Off-campus students spend more due to additional living costs.

3. Females earn and save more, while males spend more.

4. Academic level affects spending and saving patterns.

5. High-income months show proportional increases in savings and expenses.

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## 🧭 Reflection

My goal with this project was to understand how students’ financial habits could influence academic performance.

Through this dataset, I explored how factors like \*\*residence type\*\*, \*\*gender\*\*, and \*\*academic level\*\* affect spending and saving patterns.

The process deepened my technical and storytelling skills — proving that behind every number is a human decision, and behind every dataset, a story waiting to be told.

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## 🧠 Skills & Tools Demonstrated

- Data Cleaning & Preparation (Excel, Python)

- Data Merging (XLOOKUP)

- SQL Querying & Aggregation

- Python EDA & Visualization

- Power BI Dashboard Design

- Data Storytelling

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