Comprehensive Analysis of Student Profiles and Academic Performance

About Student Profile

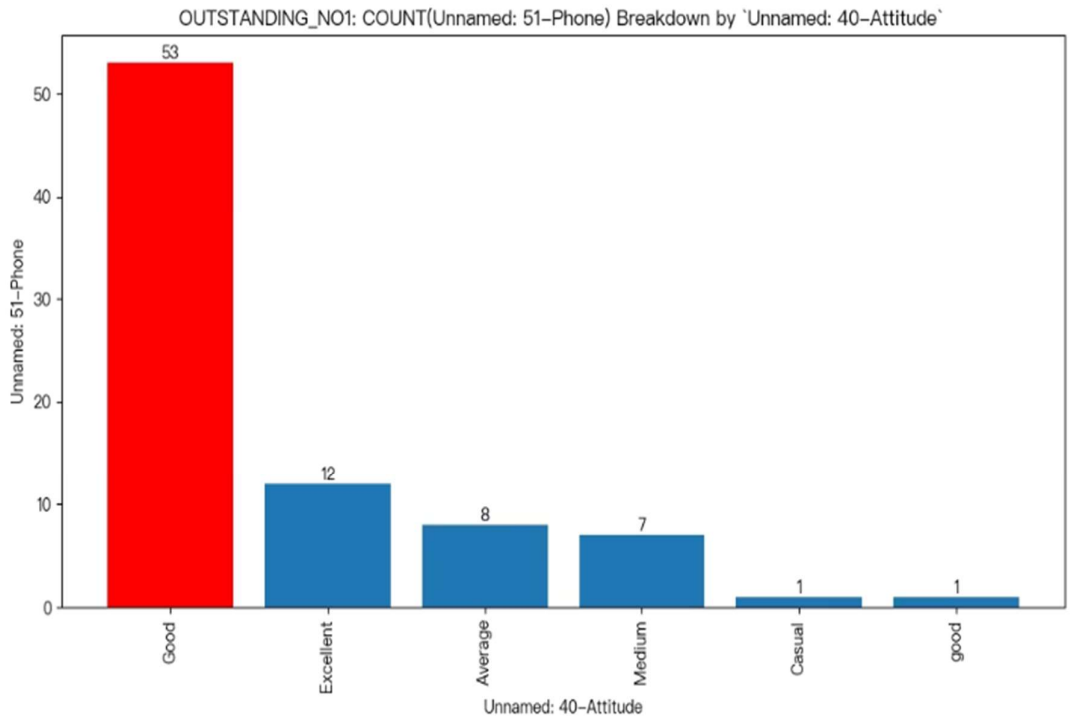
Key areas include, student names, IDs, class/section, various academic scores, and personal development metrics. The dataset captured a range of academic scores such as the 10th, 12th, and graduation scores, with averages of 8.30, 7.90, and 7.87 respectively. Additionally, it includes scores for specific subjects like Maths and Accountancy, and personal skills such as spoken English and confidence.

It has been observed that there are students with diverse academic backgrounds, with students pursuing degrees in fields like Business Administration and Engineering. The data also highlights the students' involvement in online courses and internships, which are crucial for their career development. For instance, Shreya S H, with a high average score of 8.8, has taken courses in FICO SAP and prefers a specialization in Finance. Meanwhile, Akshay Kumar S, with a work experience of 10 months, shows interest in Supply Chain and Business Analytics.

The dataset also provides insights into students' personal skills and interests, such as creativity, communication skills, and extracurricular activities. These attributes are essential for holistic development and are considered in recommendations for specializations and career paths. Overall, the dataset offers a comprehensive view of students' academic and personal profiles, aiding in tailored educational and career guidance.

Relevant Inquiries

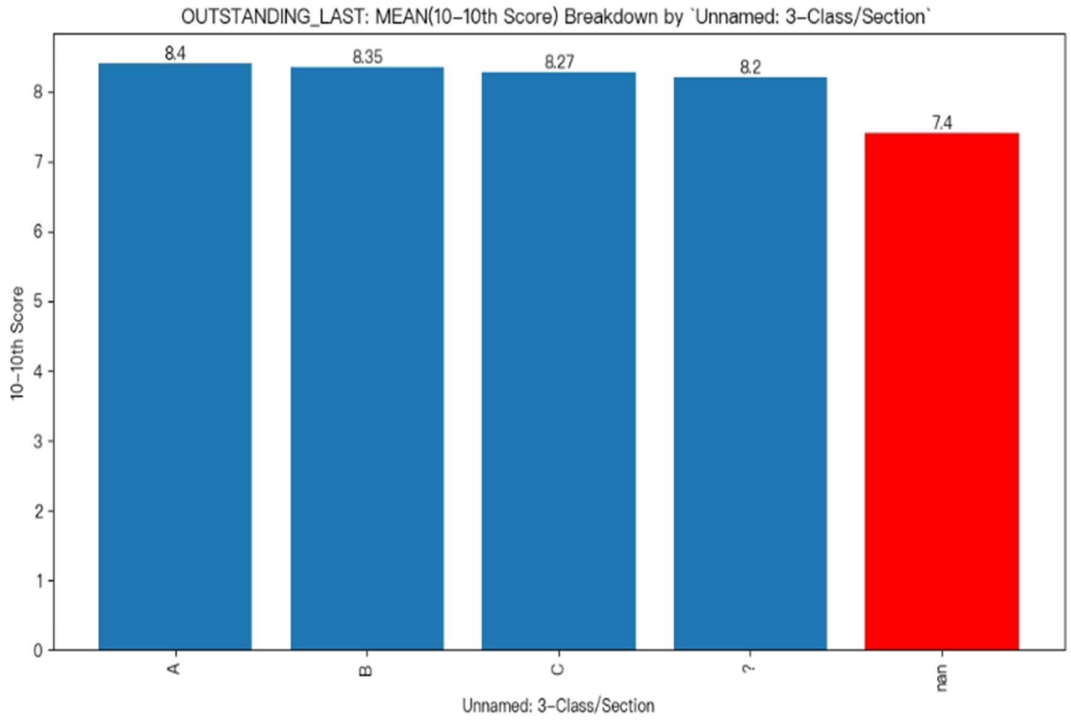
Analysis of Attitude Ratings



The visualization presents a clear breakdown categorized by attitude ratings. The most notable finding is that the "Good" attitude category significantly outnumbers all others, with a total of 53 counts. This indicates a strong preference or satisfaction level among respondents, suggesting that a majority perceive the service or product positively.

In contrast, the other attitude categories—"Excellent," "Average," "Medium," "Casual," and variations of "Good"—show considerably lower counts, with the highest being 12 for "Excellent." This disparity highlights a potential area for improvement, as the lower ratings may indicate dissatisfaction or areas where expectations are not being met. Overall, the data suggests that while there is a strong positive sentiment, there is also a need to address the concerns reflected in the lesser ratings to enhance overall satisfaction.

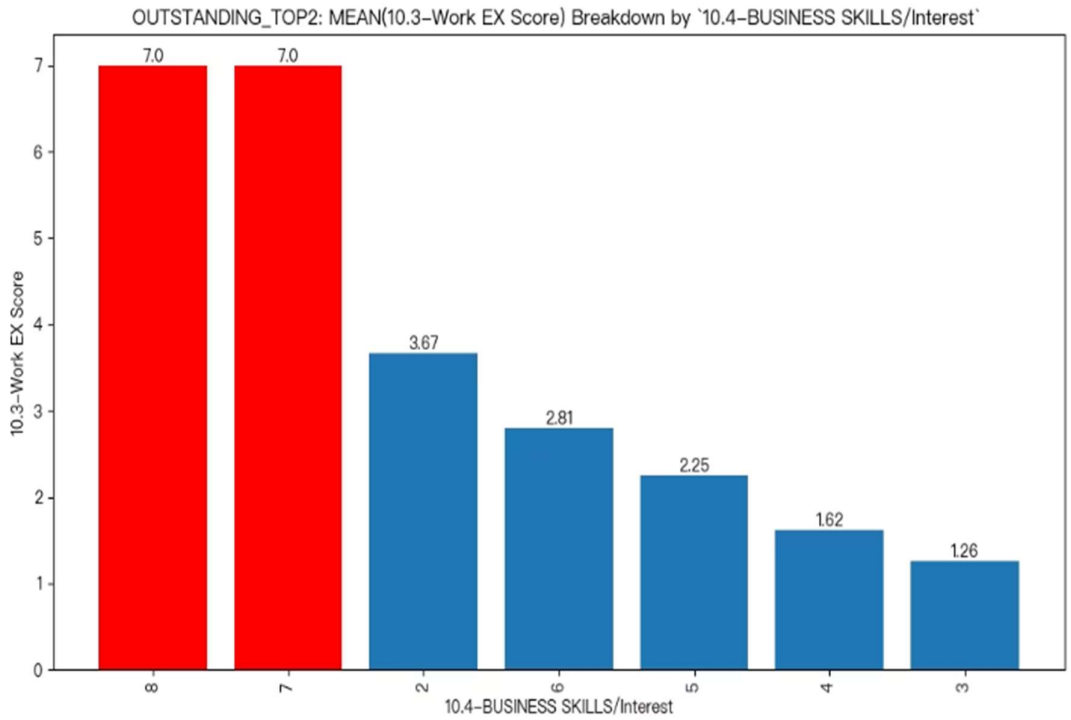
Class Performance Analysis: 10th Score Averages by Section



The analysis of the mean 10th scores across different classes reveals a notable trend in student performance. Sections A, B, C, and an unidentified section (denoted as '?') exhibit high average scores, ranging from 8.2 to 8.4. This indicates a strong overall performance among these groups, suggesting effective teaching methods or motivated students.

However, the section represented by "nan" stands out as a significant outlier with a mean score of 7.4, which is considerably lower than the other sections. This discrepancy raises concerns about the factors contributing to this lower performance, such as potential issues in curriculum delivery, student engagement, or external challenges faced by that particular group. Addressing these issues could be crucial for improving overall academic outcomes in the future.

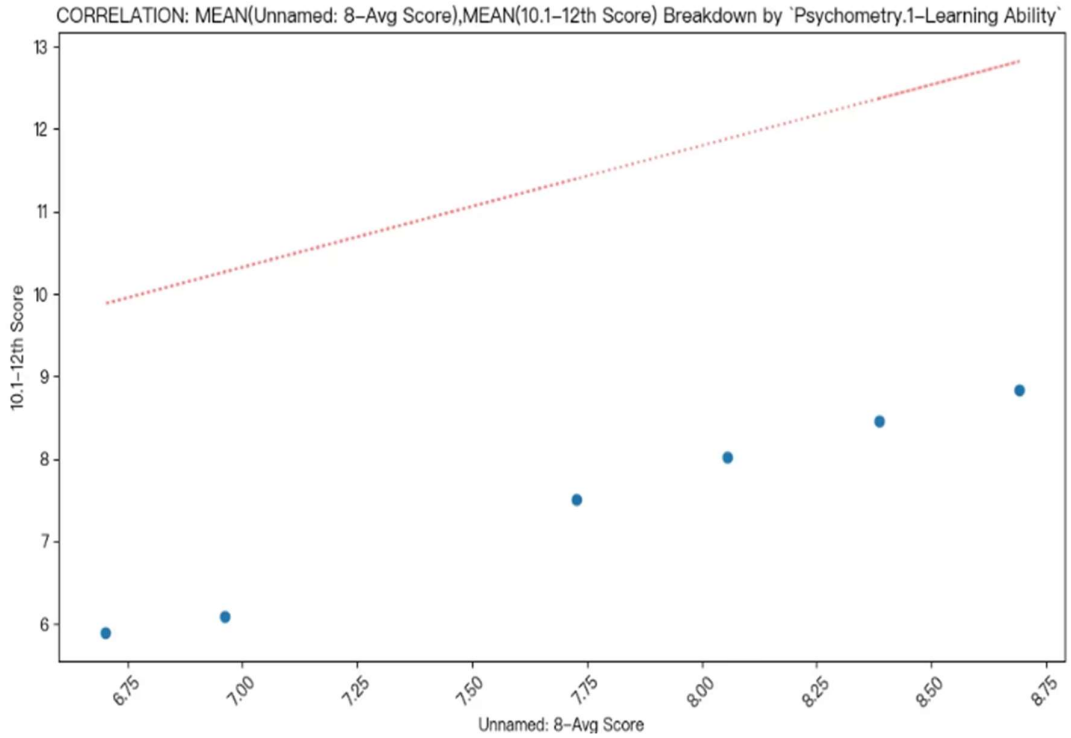
Analysis of Work Experience Scores by Business Skills/Interest



The analysis reveals a significant correlation between business skills/interests and work experience scores, with the top two categories achieving outstanding mean scores of 7.0. This indicates that individuals with strong business skills or interests tend to have higher work experience evaluations, suggesting that these attributes are critical for professional success.

The visualization clearly illustrates a stark contrast between the top two categories and the others, which show progressively lower scores. The third highest score is 3.67, followed by a gradual decline in scores down to 1.26 for the lowest category. This trend emphasizes the importance of business skills in enhancing work experience, highlighting a potential area for development in training and professional growth initiatives.

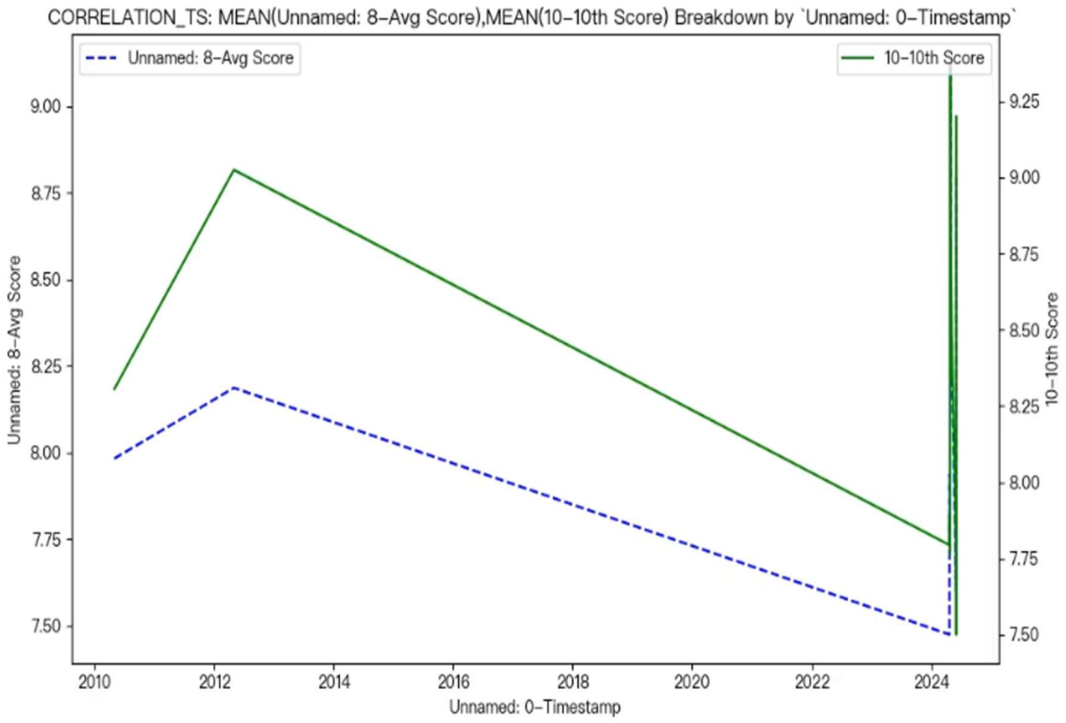
Correlation Analysis of Learning Ability and Academic Scores



The analysis reveals a strong correlation between the average scores in psychometric assessments and the 12th-grade scores, as indicated by a Pearson correlation coefficient of approximately 0.997. This suggests that as the average psychometric score increases, the 12th-grade scores tend to rise correspondingly, highlighting a significant relationship between learning ability and academic performance.

The visualization illustrates this correlation effectively, with a clear upward trend in the scatter plot. Each data point represents the mean scores for different levels of learning ability, reinforcing the notion that higher psychometric scores are associated with better academic outcomes. This insight could be valuable for educators and policymakers aiming to enhance student performance through targeted interventions in learning strategies and assessment methods.

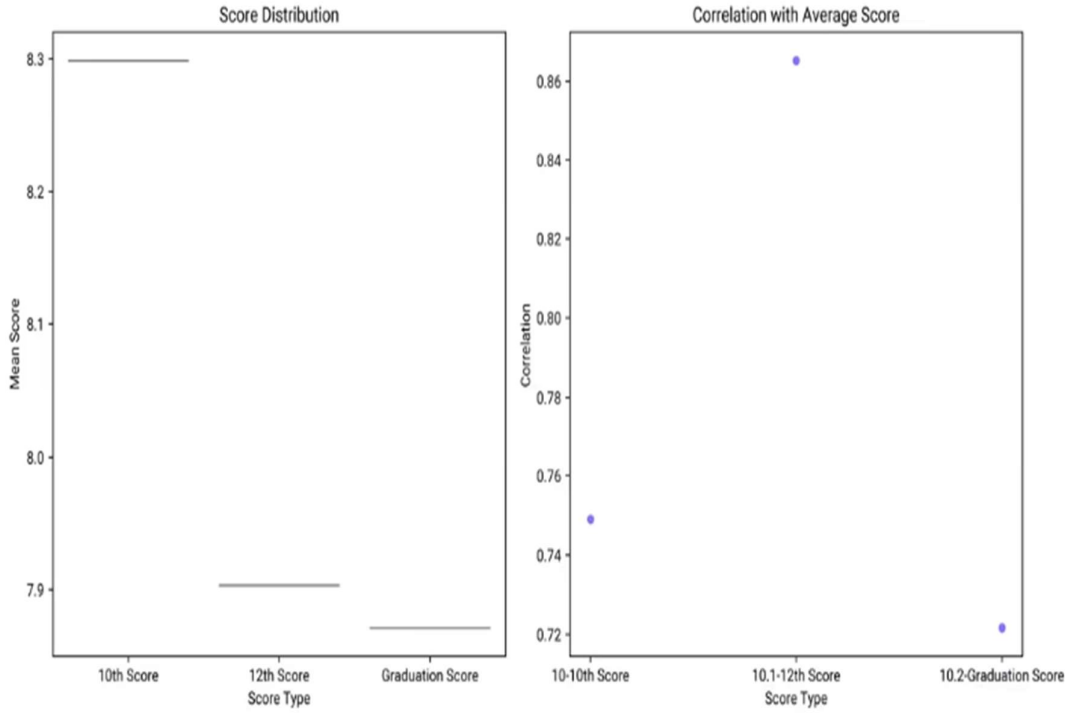
Temporal Correlation of Average Scores and 10th Scores



The analysis reveals a strong correlation between the average scores and the 10th scores over time, as indicated by a Pearson correlation coefficient of approximately 0.93. This suggests that as one score increases, the other tends to increase as well, highlighting a significant relationship between these two metrics.

The visualization illustrates the trends from 2010 to 2024, where the average score (depicted by the blue dashed line) shows a gradual increase, particularly peaking around 2012 before stabilizing. In contrast, the 10th score (represented by the green solid line) exhibits a more pronounced upward trend, especially towards the end of the timeline. This divergence in trends may indicate varying influences or factors affecting each score over the years, warranting further investigation into the underlying causes of these changes.

What is the distribution of students' 10th, 12th, and Graduation Scores, and how do these scores correlate with their overall average score?



Distribution of Scores

10th Score:

-
- **Mean**: 8.30
- **Median**: 8.0
- **Standard Deviation**: 0.93

12th Score:

-
- **Mean**: 7.90
- **Median**: 8.2
- **Standard Deviation**: 1.40

Graduation Score:

-
- **Mean**: 7.87
- **Median**: 7.9

- **Standard Deviation**: 0.87

Correlation with Average Score

- **10th Score**: Correlation with average score is 0.75
- **12th Score**: Correlation with average score is 0.87
- **Graduation Score**: Correlation with average score is 0.72

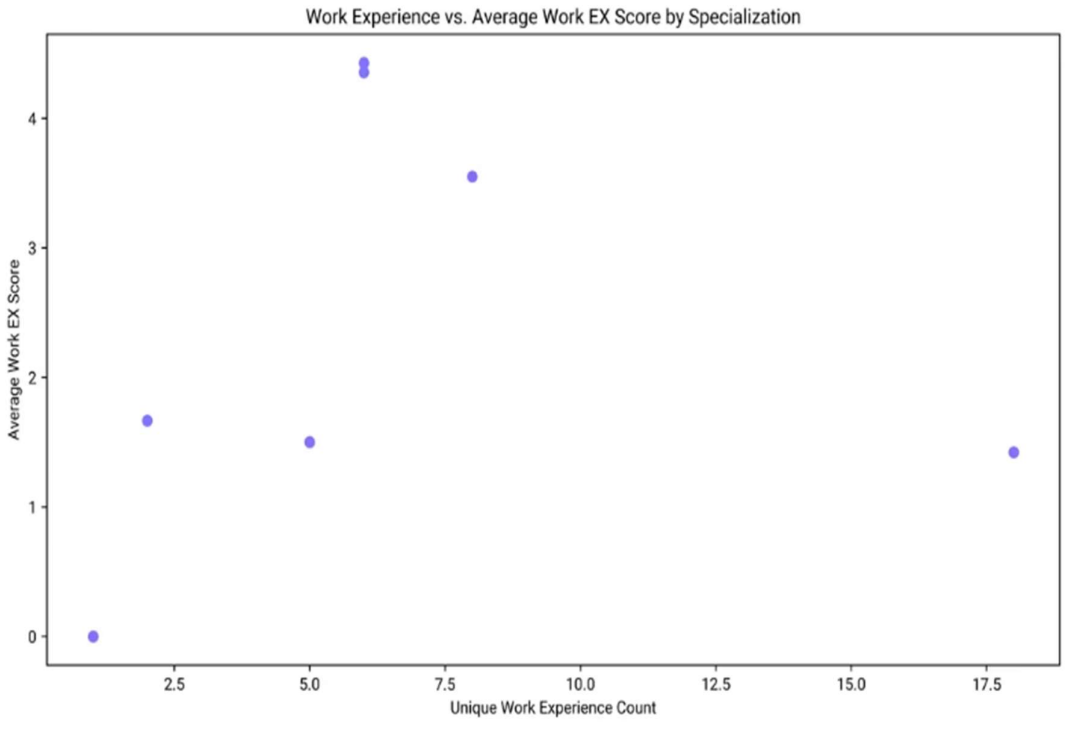
Visualization Insights

- **Score Distribution**: The scores show a relatively tight distribution with the 12th score having the highest variability.
- **Correlation Visualization**: The 12th score shows the strongest correlation with the overall average score.

Conclusion and Insights

- **Score Distribution**: The 10th and graduation scores have similar means and medians, indicating a consistent performance, while the 12th score shows more variability.
- **Correlation**: The 12th score is most strongly correlated with the overall average score, suggesting it may be a significant indicator of overall academic performance.

How do different specializations preferred by students relate to their work experience and work experience score?



Analysis of Specializations

- **Specializations with High Work EX Scores**: "Business Analytics" and "Supply Chain" have the highest average work experience scores, with values of 4.36 and 4.43, respectively.

- **Specializations with Low Work EX Scores**: "Entrepreneurship," "Finance / BA," "HR / Marketing," and "Supply Chain / Operations" have an average work experience score of 0.0, indicating no significant work experience.

Unique Work Experience Count

- **High Unique Work Experience Count**: "Finance" has the highest unique work experience count at 18, suggesting a diverse range of work experiences among students preferring this specialization.

- **Low Unique Work Experience Count**: Specializations like "Entrepreneurship," "Finance / BA," "HR / Marketing," and "Supply Chain / Operations" have a count of 1, indicating limited diversity in work experience.

Visualization Insights

- **Trend Observation**: The scatter plot shows a positive correlation between unique work experience count and average work experience score for some specializations, such as "Business Analytics" and "Supply Chain."

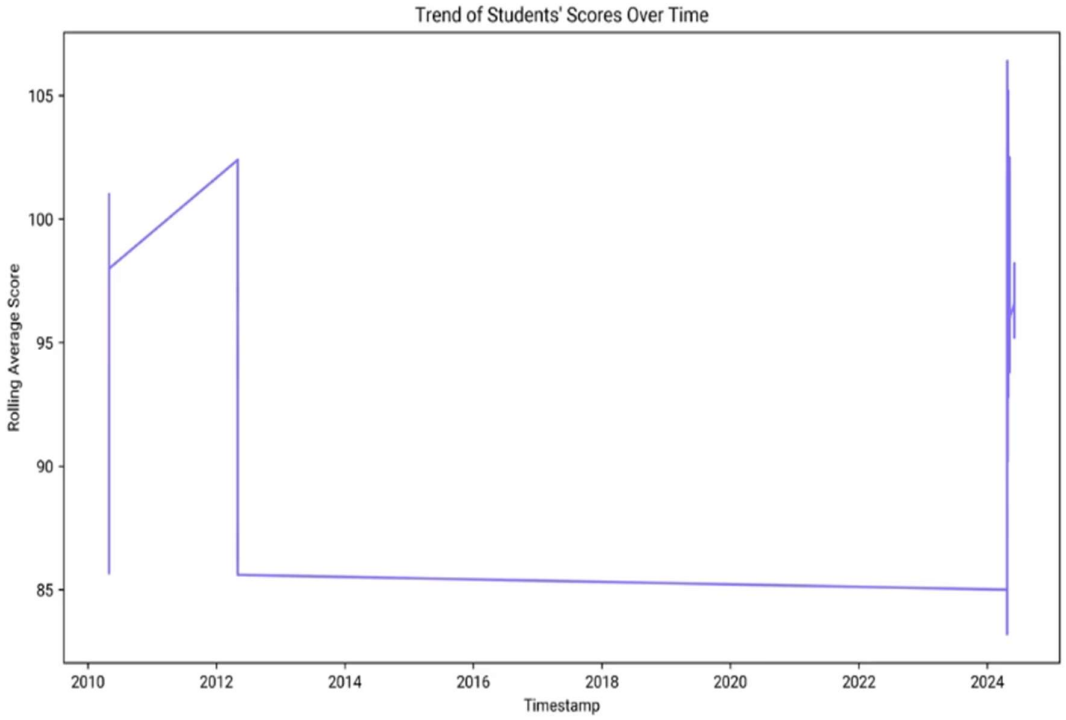
- **Outliers**: "Finance" stands out with a high unique work experience count but a relatively low average work experience score.

Conclusion and Insights

- **Diverse Experience in Finance**: Despite having the most diverse work experiences, students preferring "Finance" do not necessarily have high work experience scores.

- **High Scores in Analytics and Supply Chain**: Students preferring "Business Analytics" and "Supply Chain" tend to have higher work experience scores, indicating a possible focus on quality over quantity in work experiences.

Is there a noticeable trend in the students' scores over time, as indicated by the timestamp data?



Trend Analysis

- **Mean Score**: The average rolling score is 96.46, with a standard deviation of 5.28.
- **Score Range**: Scores range from a minimum of 83.20 to a maximum of 106.40.
- **Rolling Average**: The rolling average score shows fluctuations over time, indicating variability in student performance.

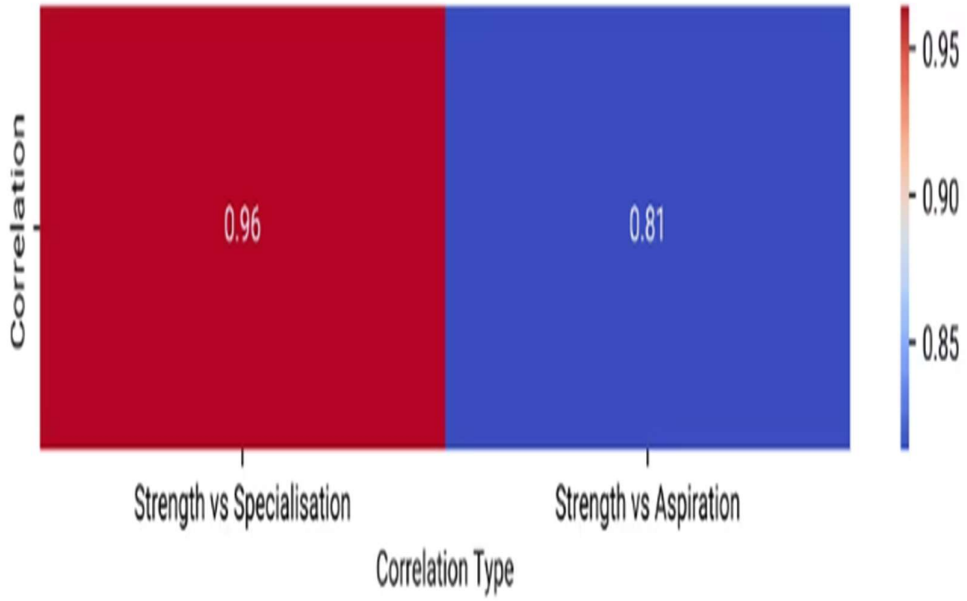
Visualization Insights

- **Initial Increase**: There is an initial increase in scores around 2010-2012.
- **Long Plateau**: A noticeable plateau occurs from 2012 to 2024, with scores remaining relatively stable.
- **Recent Variability**: In 2024, there is increased variability, with scores showing more fluctuations.

Conclusion and Insights

- **Overall Stability**: The scores have been relatively stable over the years, with some fluctuations.
- **Recent Changes**: The recent increase in variability suggests changes in student performance or assessment methods. Further investigation may be needed to understand these changes.

Analyze the correlation between students' reported strengths and their chosen specializations or preferred career paths. How do these strengths align with their academic and professional goals?



Correlation Results

- **Strength vs Specialisation**: The correlation value is **0.96**, indicating a very strong alignment between students' reported strengths and their chosen specializations.
- **Strength vs Aspiration**: The correlation value is **0.81**, showing a strong alignment between students' strengths and their preferred career paths.

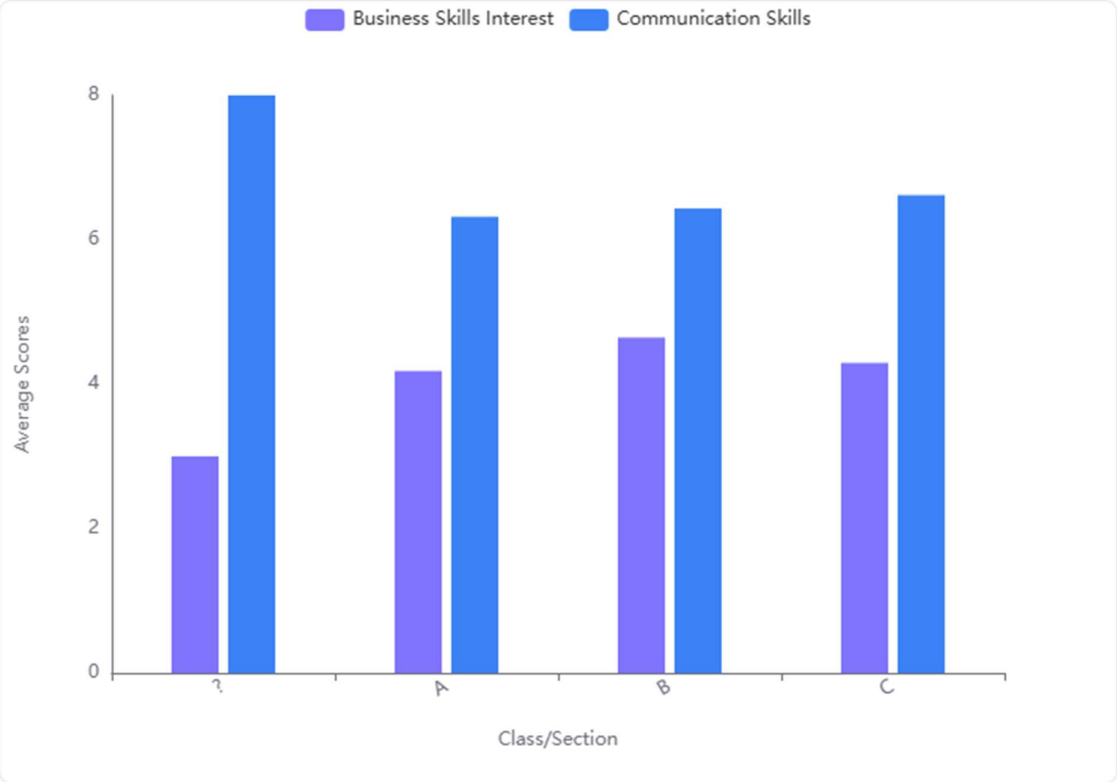
Visualization of Correlations

- **Heatmap Representation**: The visualization clearly depicts the strength of the correlations, with a higher correlation for specializations compared to career aspirations.

Conclusion and Insights

- **Alignment with Specializations**: Students tend to choose specializations that closely match their reported strengths, suggesting that they are likely leveraging their strengths in academic settings.
- **Alignment with Career Paths**: While still strong, the slightly lower correlation with career aspirations may indicate that other factors, such as personal interests or market trends, also influence career choices.

How do students' business skills and communication skills scores vary across different classes/sections?



Average Scores by Class/Section

- **Class/Section '?'**:
- Business Skills Interest: 3.0
- Communication Skills: 8.0
- **Class/Section 'A'**:
- Business Skills Interest: 4.18
- Communication Skills: 6.32
- **Class/Section 'B'**:
- Business Skills Interest: 4.65
- Communication Skills: 6.43
- **Class/Section 'C'**:
- Business Skills Interest: 4.29
- Communication Skills: 6.62

Visualization Insights

- **Class/Section '?'** has the highest average score in Communication Skills but the lowest in Business Skills Interest.
- **Class/Section 'B'** shows the highest average score in Business Skills Interest.

- **Class/Section 'A'** has the lowest average score in Communication Skills.

Conclusion and Insights

- **Communication Skills**: Class/Section '?' excels in communication skills, significantly higher than other sections.

- **Business Skills Interest**: Class/Section 'B' leads in business skills interest, indicating a stronger focus or aptitude in this area compared to others.