Class: Data and Statistics
Stats Project conclusion

Conclusion

To conduct this analysis, we analyzed survey data from 32 students related to their weekly study habits, choice of school, semester credit loads, majors and GPAs. We further explored relationships between GPA and various factors using visualizations, such as histograms, scatterplots, and boxplots. We also found that study hours per week were highly variable, with most students studying in the range of 2–10 hours, but each category had almost equal number of representations. Out of these, only 6.3% stated that they studied more than 10 hours. The majority of students (65.6%) do not attend school for their major. Most students enrolled for 15 credits per semester, and Computer Science was the most popular major (28.1%). GPAs varied between 2.7 and 4.0, with the mode near 3.0–3.5.

The scatterplot GPA vs credits did not display a clear linear linearity which implies that the GPA doesn't strongly depend on credit load. The GPA histogram looked relatively uniform with a slight upward spike for GPAs over 3.5. The boxplot by major indicated that the majors Computer Science and Mathematics and Elementary Education had high GPAs with low variation, while Data Science had more variation in GPA. Summary statistics supported these observations, as Data Science functioned as the degree with the highest GPA range, while IT/MS Cybersecurity had the lowest average GPA at 2.7. In general, GPA is not much affected by number of credits or study time but there are some differences on major.

2 Questions

1. Is there a relationship between the number of credits a student takes and their GPA?

   The scatterplot of GPA vs credits shows that there is no strong linear correlation between the number of credits taken and GPA. Students taking both a lower and a high numbers of credits have a wide range of GPAs, showing that the amount of credits alone does not determine academic performance of a student.

2. Do students in certain majors tend to have higher GPAs than others?

Yes, the boxplot and summary statistics show differences in GPA across majors. For example, students majoring in Computer Science and Mathematics, and Elementary Education and Humanities showed to have higher median GPAs, while those in IT/MS Cybersecurity and Marine Biology showed having a lower average GPAs. This suggests that major choice may influence a students. GPA

Class: Data and Statistics
Stats Project conclusion