



TEAM HOGWARDS:

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Approach Towards The DATA

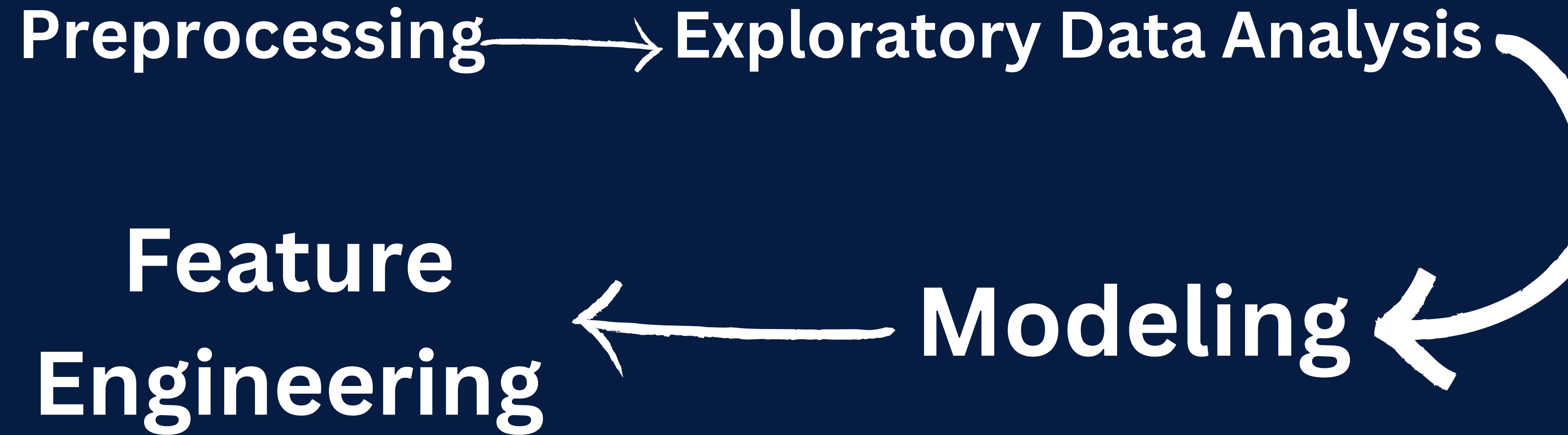
Observing The data

Examining The data

Using ML To Predict

Prescribing The Solution

Our Track



Factors

Do all the
features available
in the dataset
really affect the
Quality of
Education?

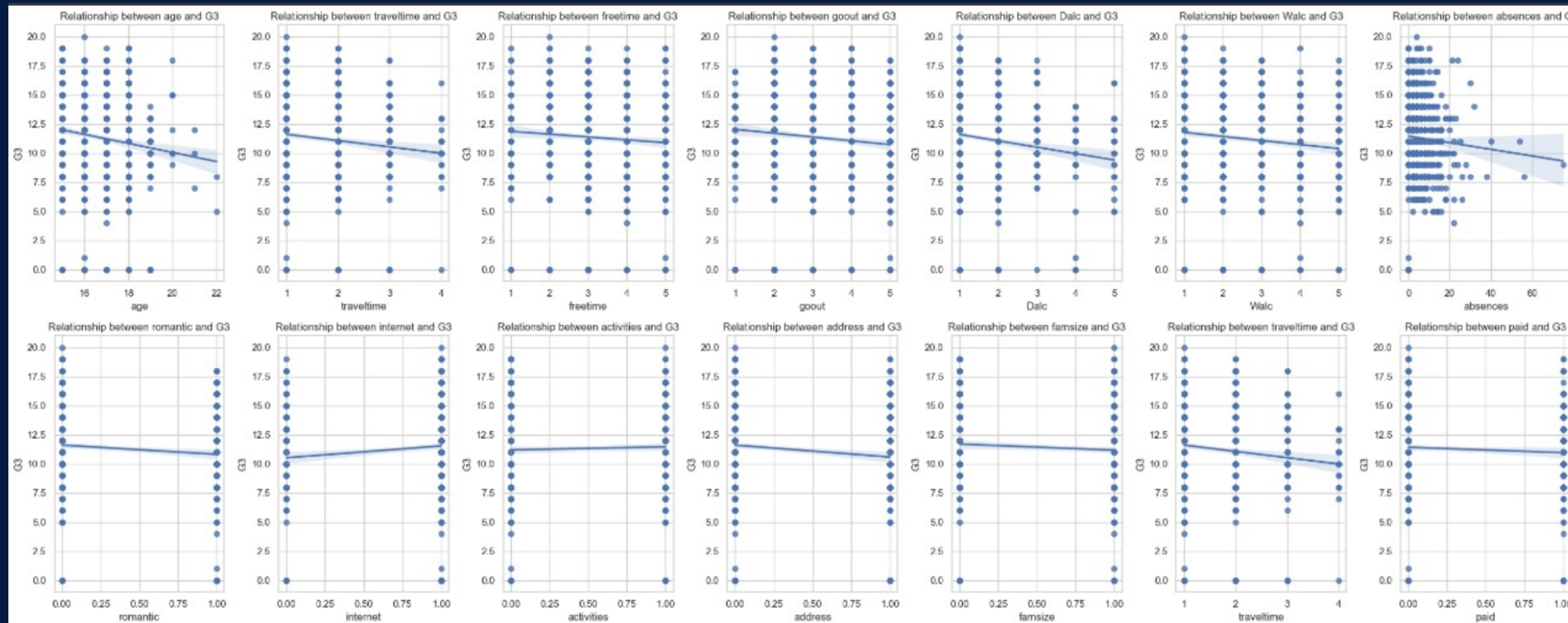
What really
effects the
Quality of
education?

| | coef | std err | t | P> t | [0.025 | 0.975] |
|------------|---------|---------|--------|-------|--------|--------|
| Intercept | 11.3475 | 1.549 | 7.326 | 0.000 | 8.308 | 14.387 |
| age | -0.0024 | 0.080 | -0.030 | 0.976 | -0.159 | 0.154 |
| address | -0.3577 | 0.211 | -1.693 | 0.091 | -0.772 | 0.057 |
| famsize | 0.3444 | 0.191 | 1.802 | 0.072 | -0.031 | 0.719 |
| Medu | 0.3054 | 0.087 | 3.498 | 0.000 | 0.134 | 0.477 |
| Fjob | -0.2446 | 0.088 | -2.789 | 0.005 | -0.417 | -0.073 |
| reason | -0.0696 | 0.093 | -0.750 | 0.454 | -0.252 | 0.113 |
| higher | 1.5102 | 0.338 | 4.467 | 0.000 | 0.847 | 2.174 |
| failures | -1.4443 | 0.145 | -9.942 | 0.000 | -1.729 | -1.159 |
| guardian | 0.1735 | 0.113 | 1.538 | 0.124 | -0.048 | 0.395 |
| studytime | 0.4273 | 0.110 | 3.893 | 0.000 | 0.212 | 0.643 |
| ravelttime | -0.1399 | 0.130 | -1.077 | 0.282 | -0.395 | 0.115 |
| schoolsup | -1.3439 | 0.282 | -4.773 | 0.000 | -1.896 | -0.791 |
| famsup | -0.2372 | 0.185 | -1.283 | 0.200 | -0.600 | 0.126 |
| paid | -0.7506 | 0.219 | -3.426 | 0.001 | -1.181 | -0.321 |

| | | | | | | |
|----------------|---------|-------------------|----------|-------|--------|--------|
| activities | 0.1623 | 0.175 | 0.925 | 0.355 | -0.182 | 0.506 |
| internet | 0.4872 | 0.227 | 2.148 | 0.032 | 0.042 | 0.932 |
| romantic | -0.4948 | 0.185 | -2.675 | 0.008 | -0.858 | -0.132 |
| goout | -0.1993 | 0.079 | -2.534 | 0.011 | -0.354 | -0.045 |
| Dalc | -0.1592 | 0.102 | -1.564 | 0.118 | -0.359 | 0.041 |
| health | -0.1338 | 0.061 | -2.187 | 0.029 | -0.254 | -0.014 |
| absences | -0.0145 | 0.014 | -0.999 | 0.318 | -0.043 | 0.014 |
| Omnibus: | 60.764 | Durbin-Watson: | 1.924 | | | |
| Prob(Omnibus): | 0.000 | Jarque-Bera (JB): | 79.337 | | | |
| Skew: | -0.527 | Prob(JB): | 5.92e-18 | | | |
| Kurtosis: | 3.845 | Cond. No. | 349. | | | |

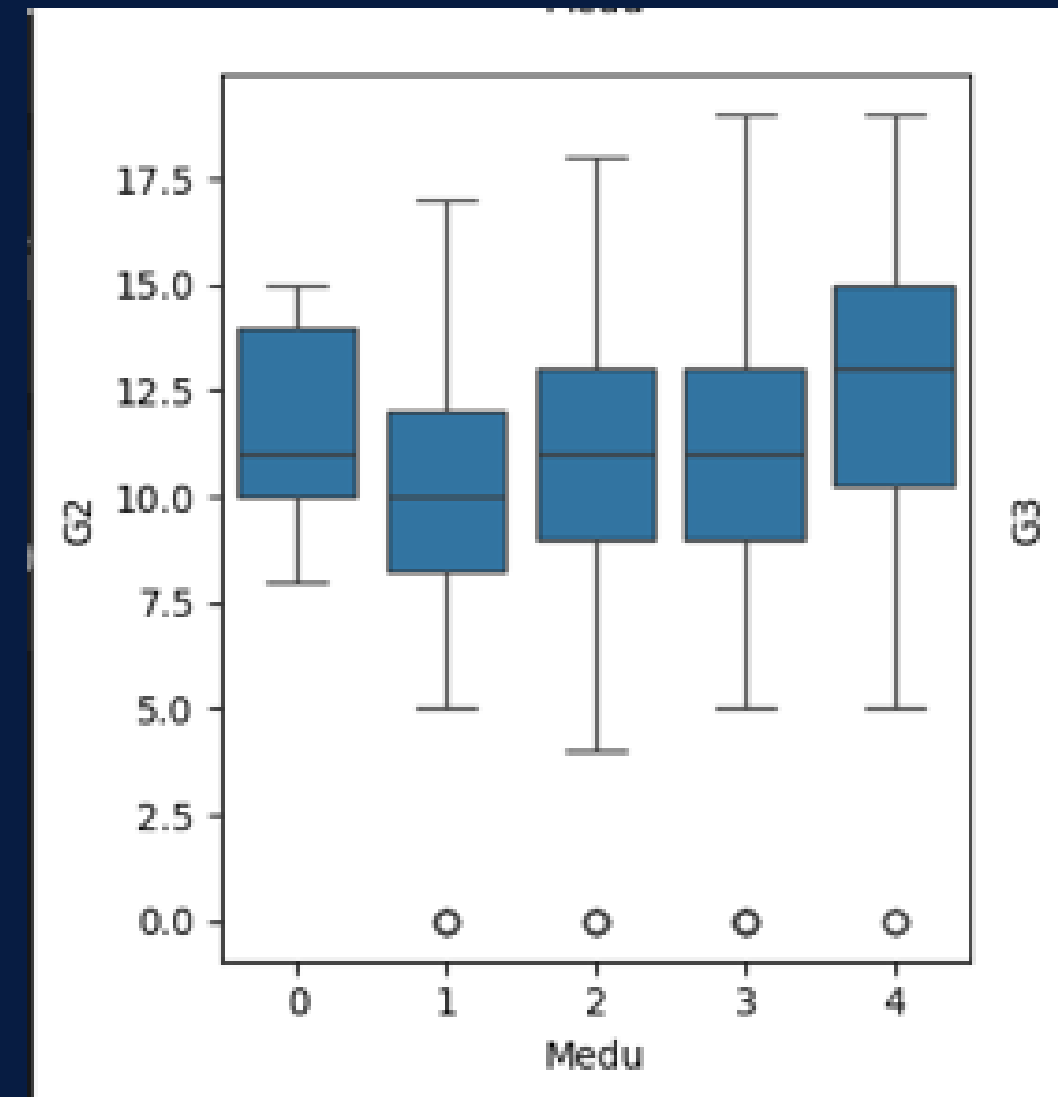
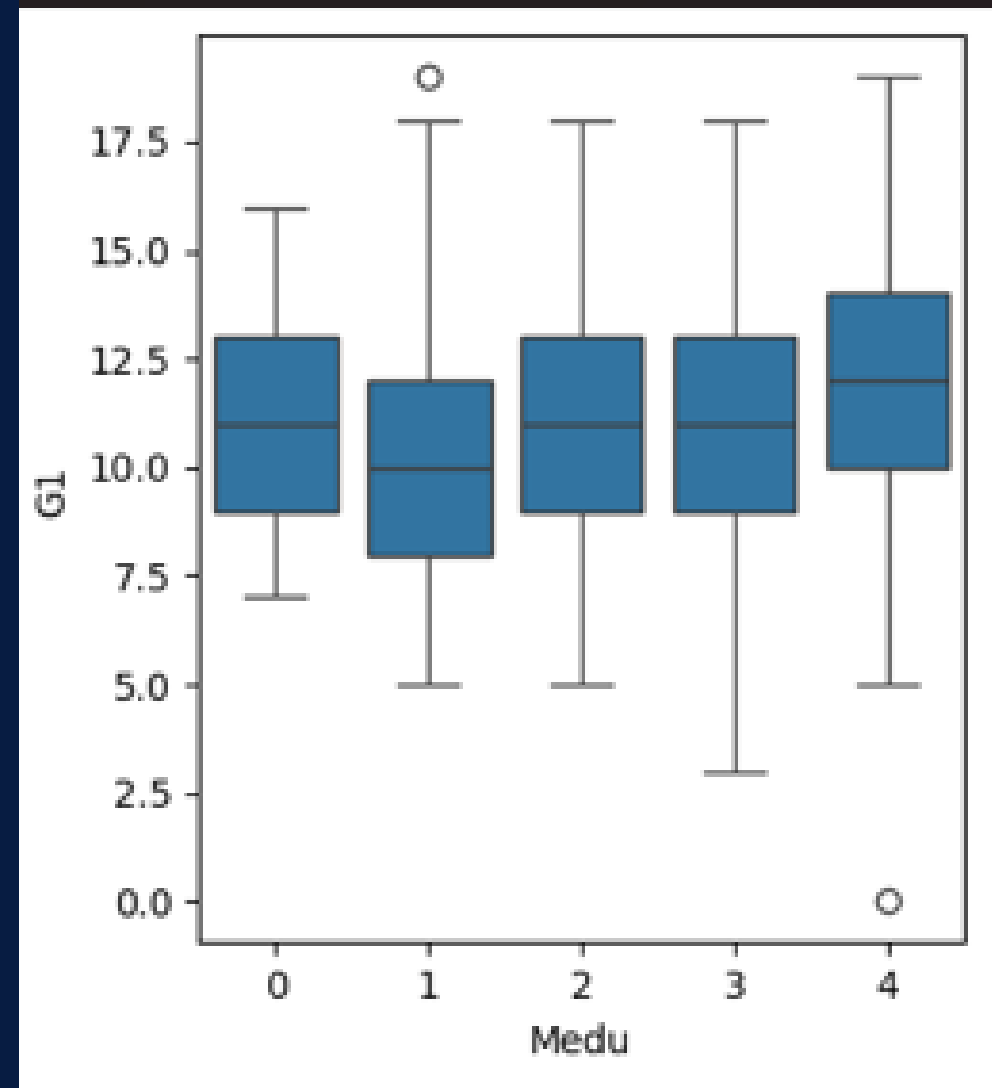
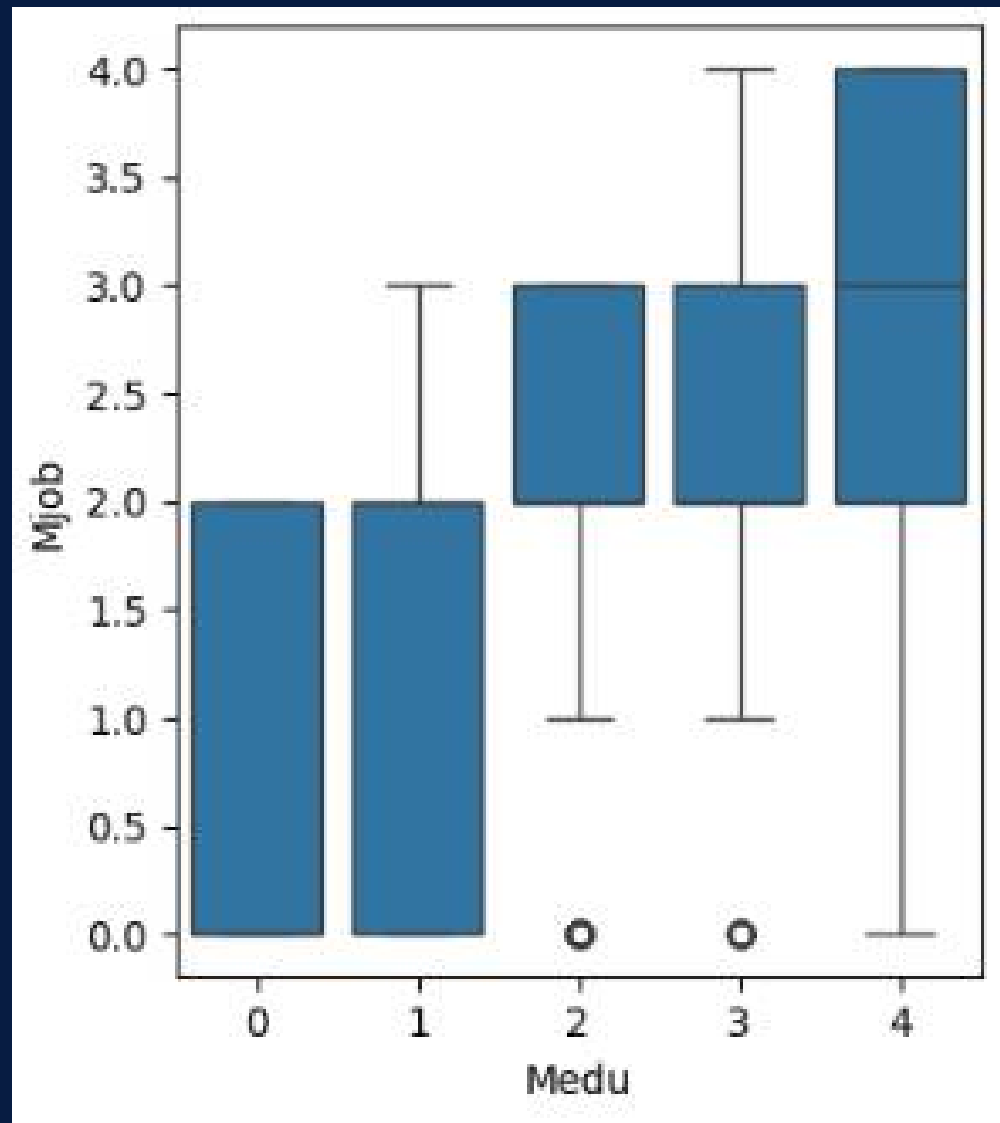
| OLS Regression Results | | | |
|------------------------|------------------|---------------------|----------|
| Dep. Variable: | grade_overall | R-squared: | 0.272 |
| Model: | OLS | Adj. R-squared: | 0.257 |
| Method: | Least Squares | F-statistic: | 18.16 |
| Date: | Sun, 03 Dec 2023 | Prob (F-statistic): | 1.01e-56 |
| Time: | 07:11:18 | Log-Likelihood: | -2535.8 |
| No. Observations: | 1044 | AIC: | 5116. |
| Df Residuals: | 1022 | BIC: | 5225. |
| Df Model: | 21 | | |
| Covariance Type: | nonrobust | | |

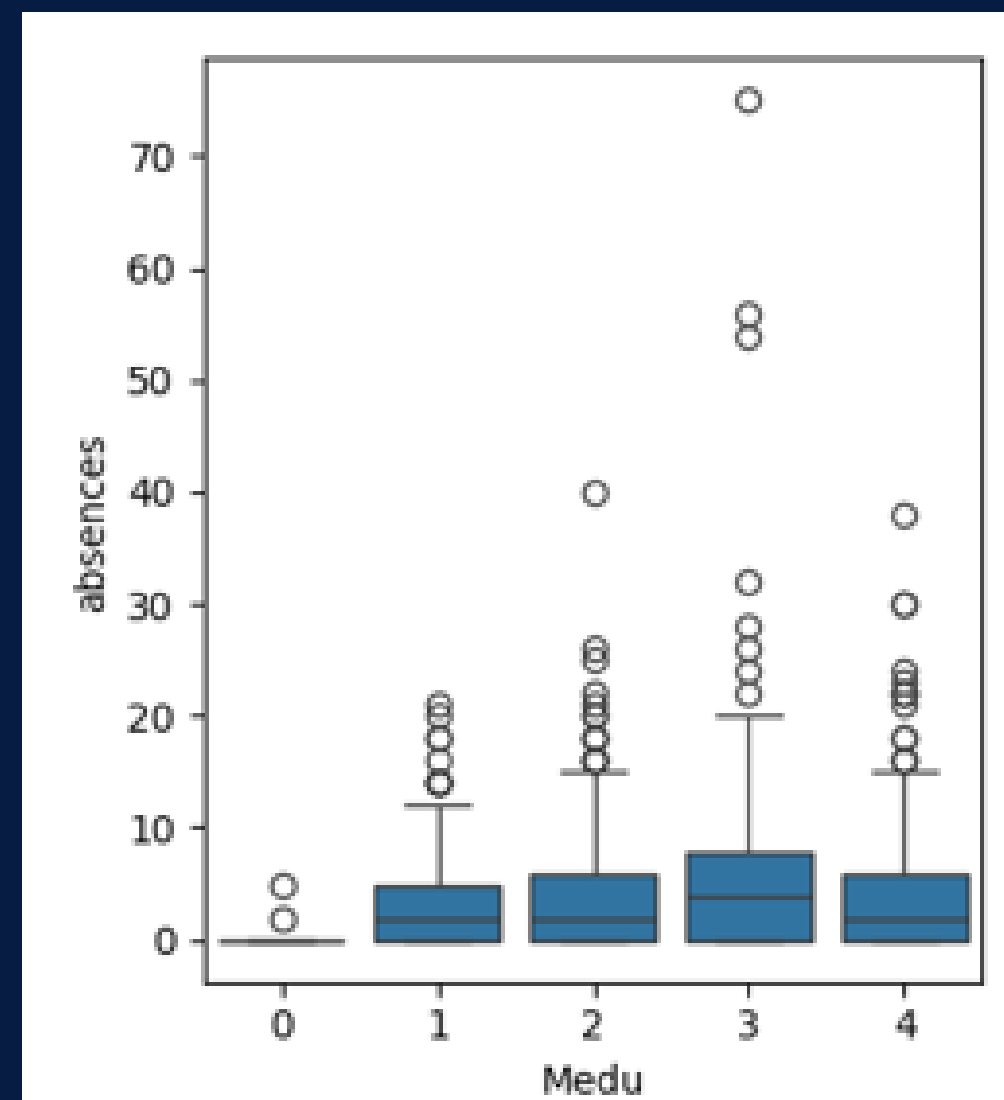
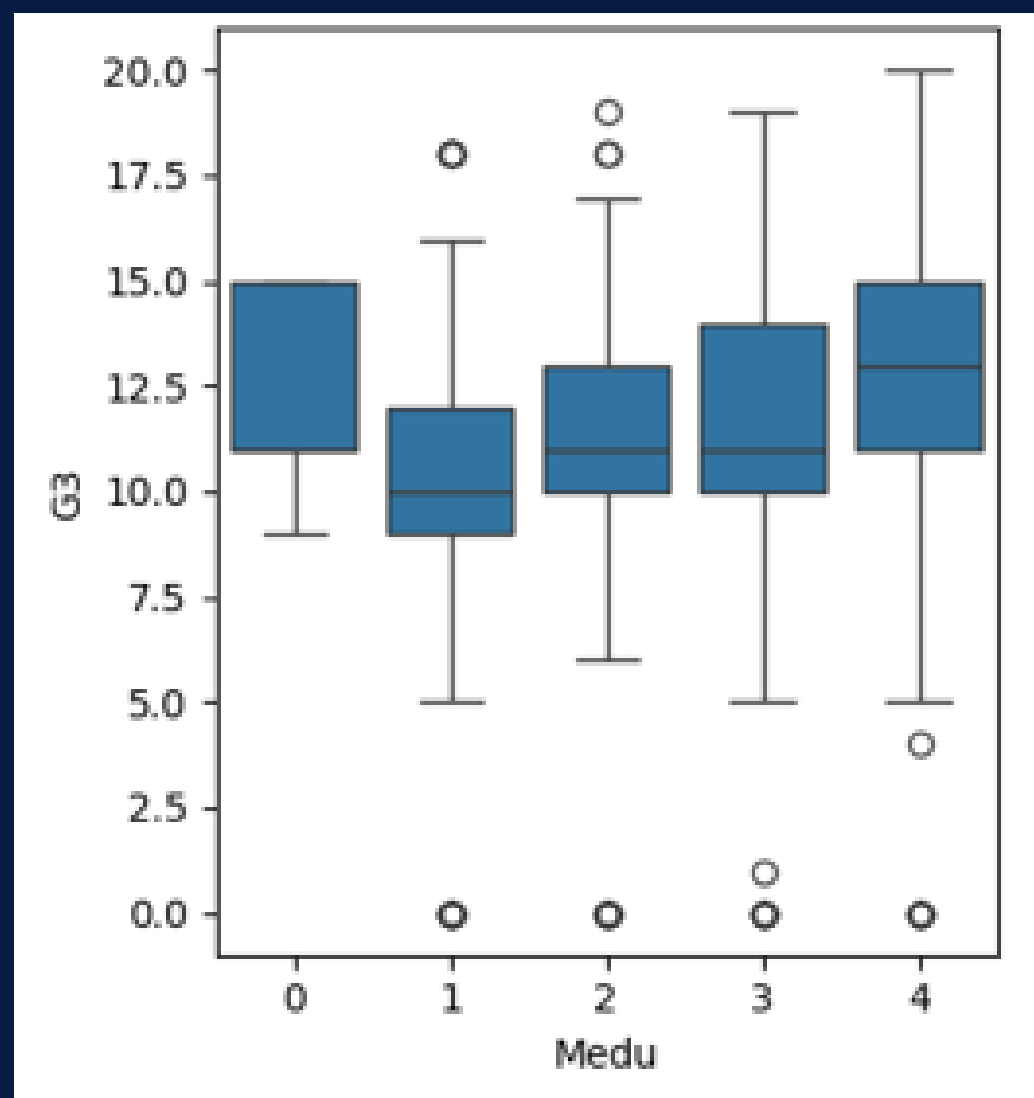
Social affects the quality of education?

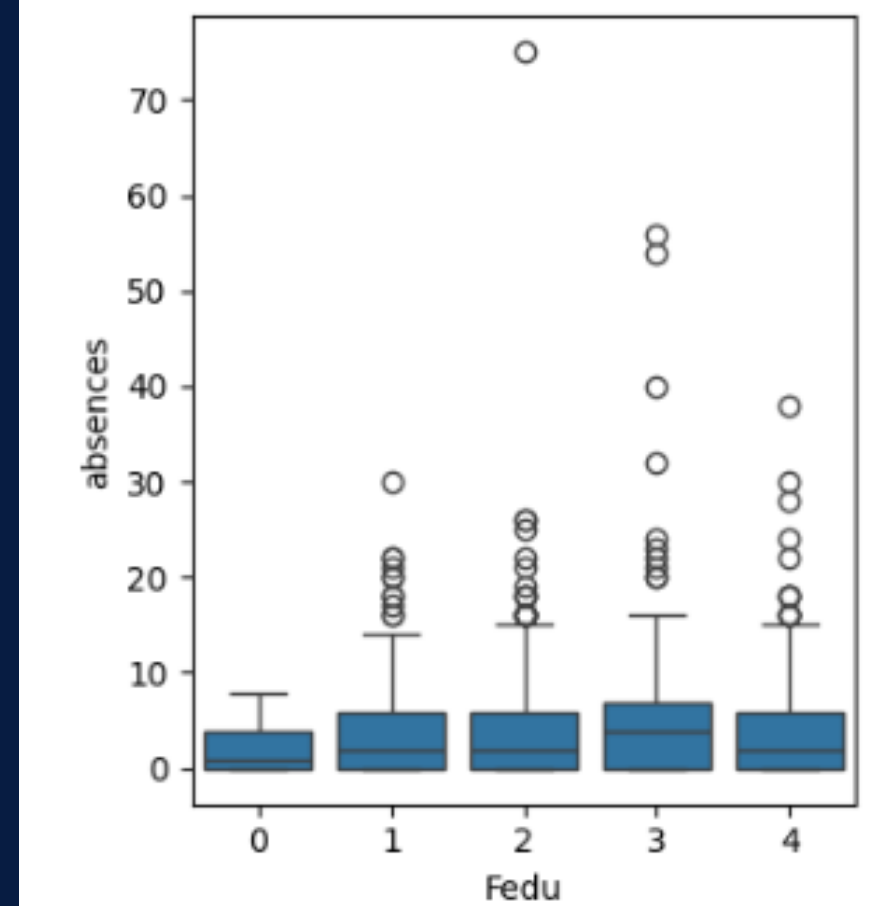
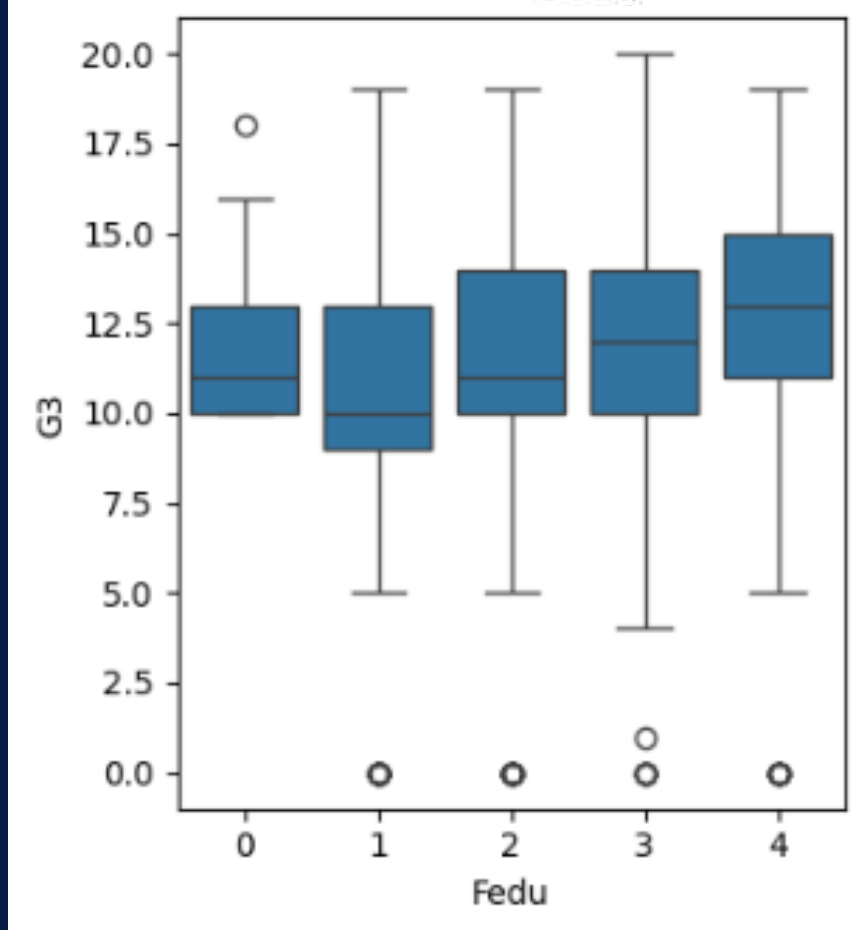
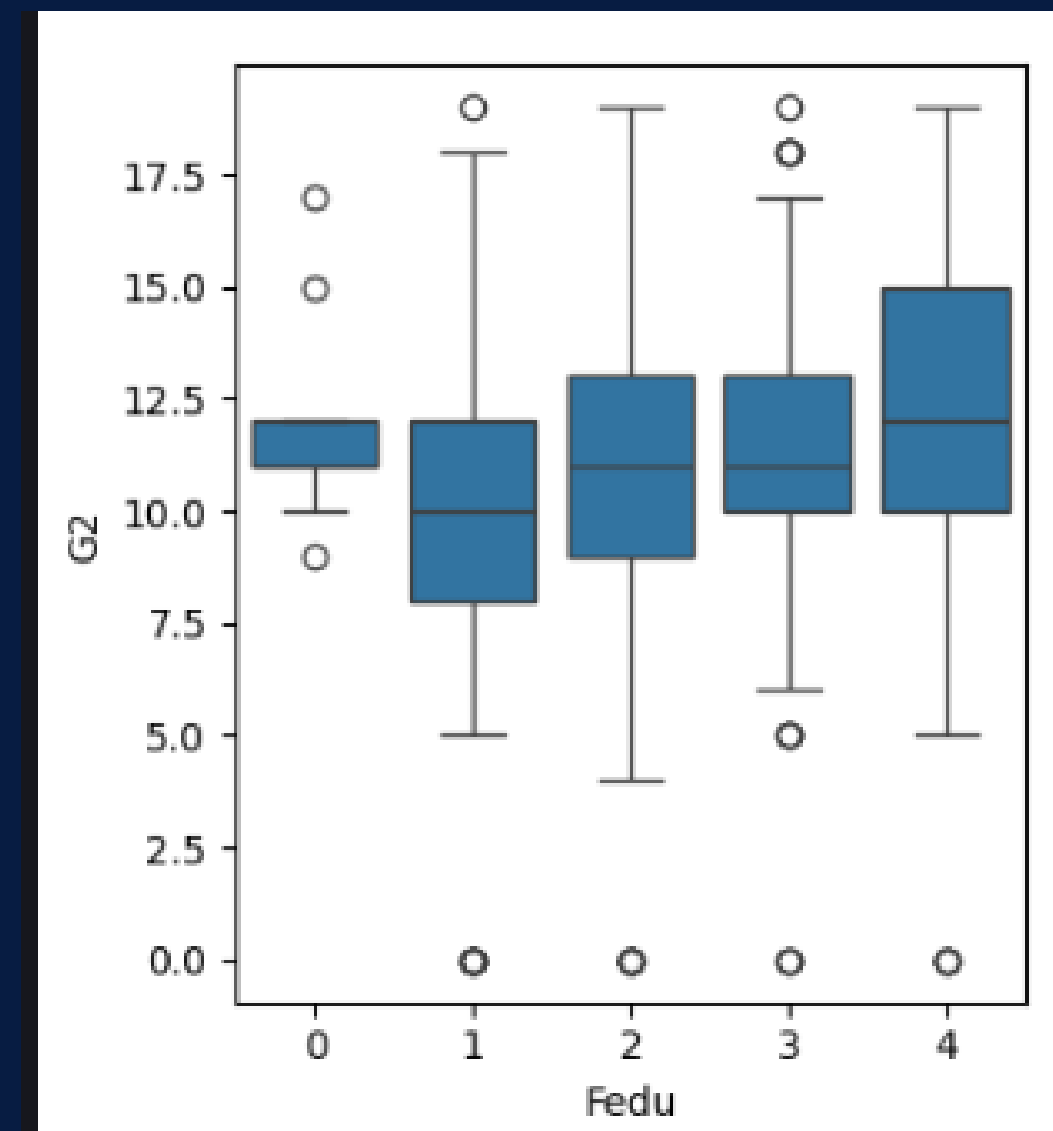
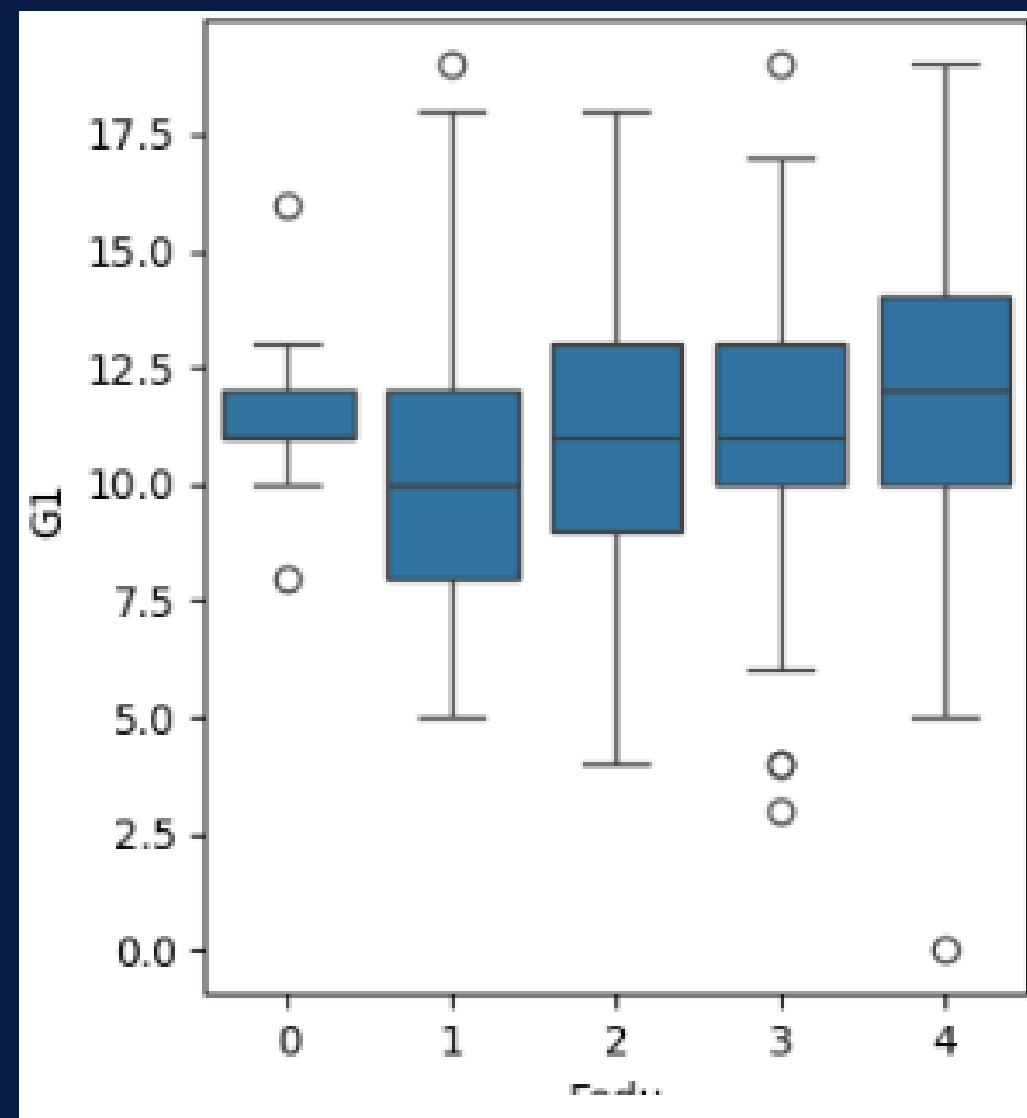
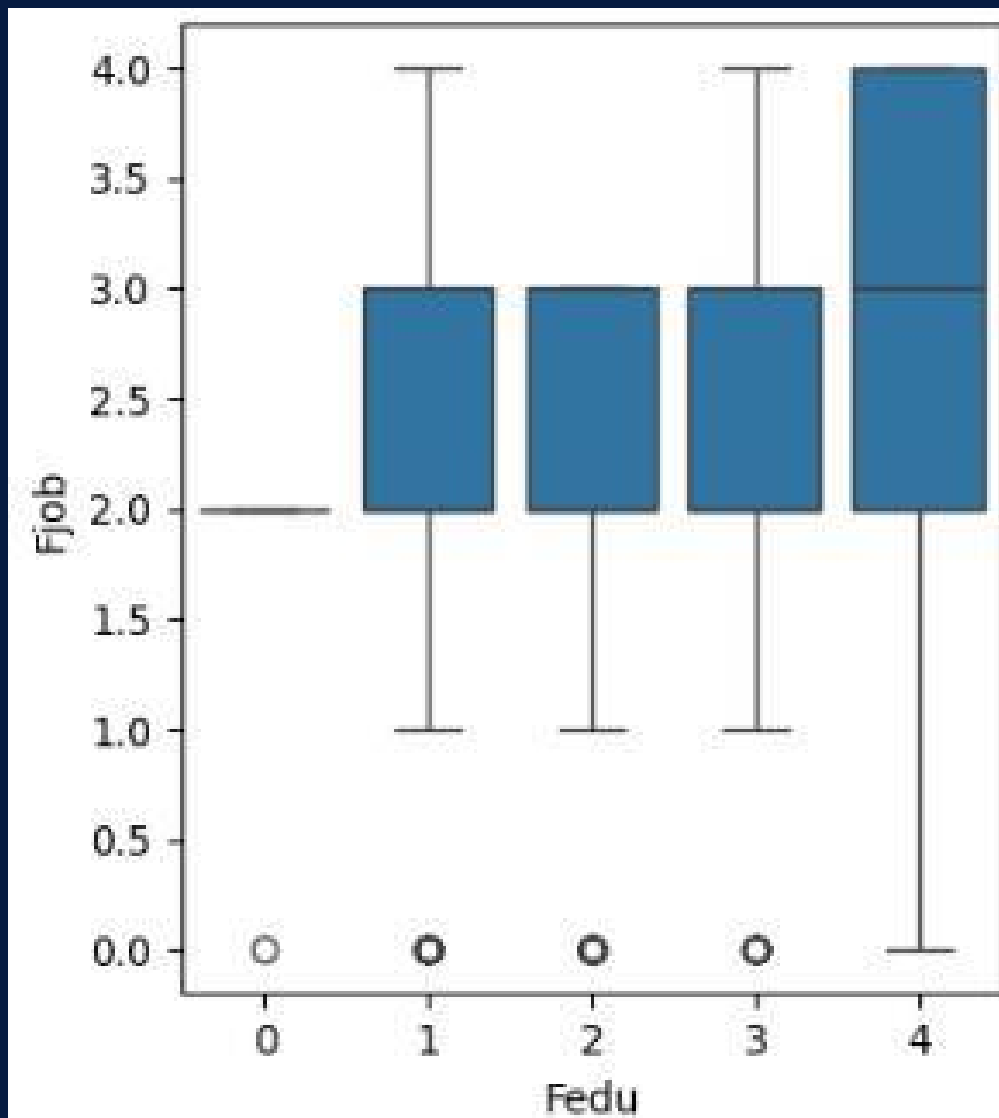


We can see that all the factors which are in accordance with the social life of a student, leads into poor performance of the student in the final test.

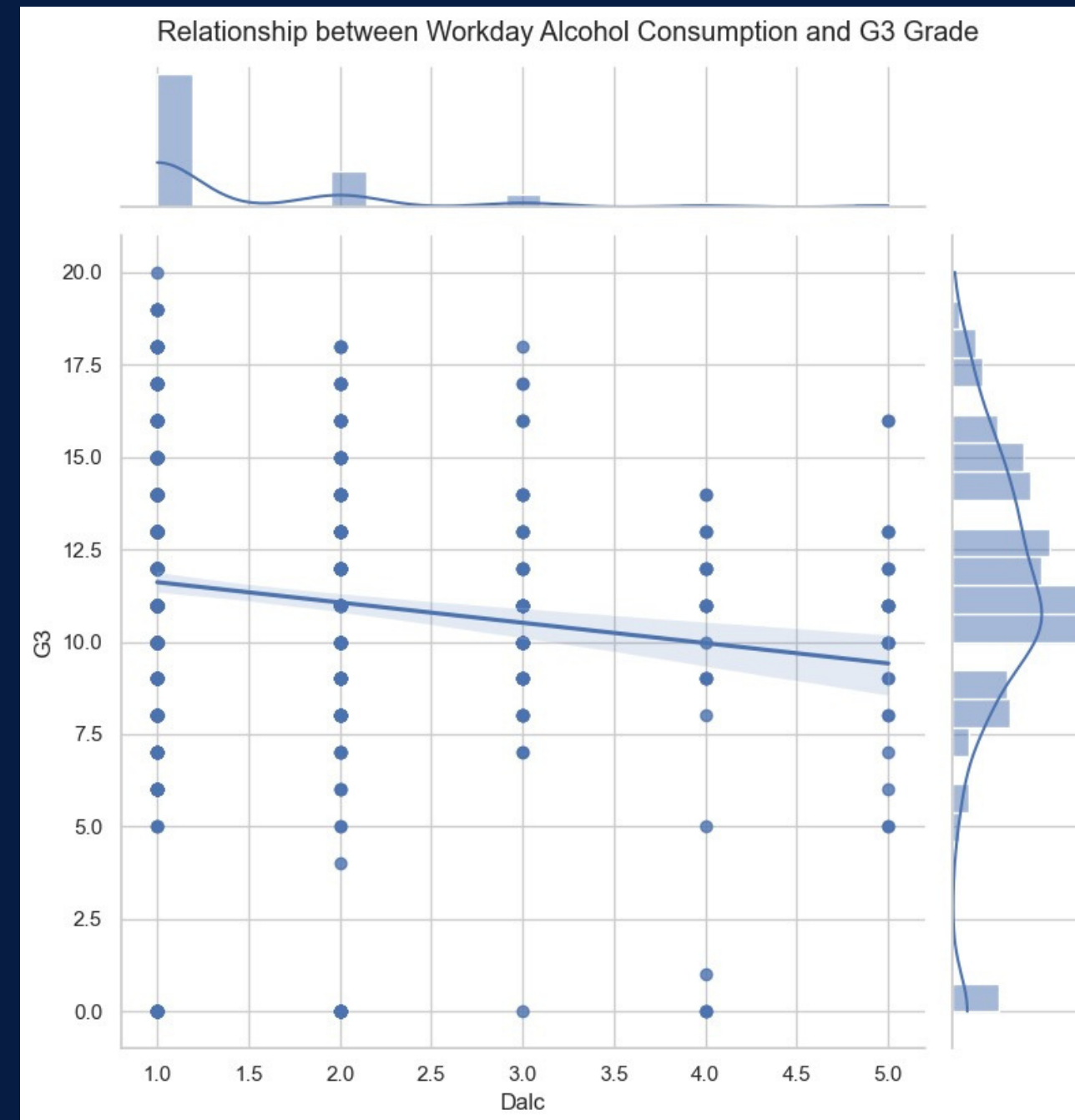
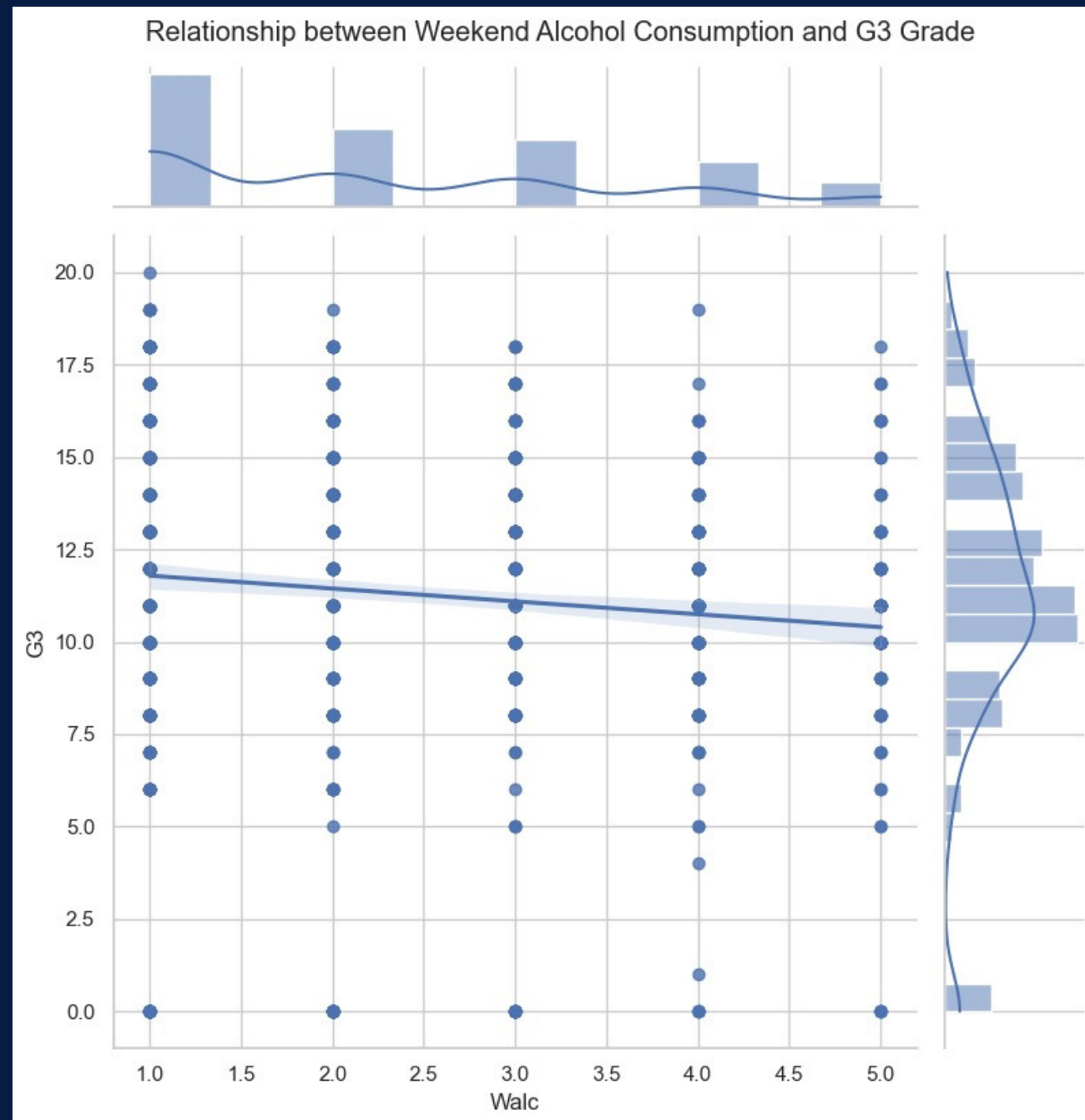
Impact of parents' jobs on the student's education







Quality of education have a positive or negative relationship with consuming alcohol?



- We can see that as the Daily and Weekly alcohol consumption increases there is decrement in the number of grades recieved by the student.
- Daily alcohol consumption of the students is less when compared to the Weekly consumption.

Conclusion

- The project "Hogwart Students Performance Prediction Model" aims to predict students' final grades while also generating easily understandable and actionable insights.
- The project has a broader goal of contributing to the democratization of education, making insights accessible and usable by common people.
- The project aligns with Sustainable Development Goal 4 (SDG 4): Quality Education. It seeks to enhance the quality of education by providing valuable insights and predictions.
- By offering predictions and insights, the project strives to contribute, even in a small way, to the improvement of the educational environment for future generations of students.