## Analysis of Student’s performance data.

The sleep quality is derived from Sleep time, if sleep time is greater than average then Good, else Poor.

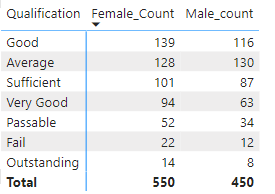
The social media practice is derived form social\_media time,if social media time is greater than average then unacceptable , else acceptable

### Analysis by gender

* Sleep quality Vs gender:
  + Out of student count of 576 people has poor sleep quality, where as 424 of them has good sleep quality.
  + Out 576 students with poor sleep quality, 60 % of them are male students compared to 56% of female students.
  + Out 424 students with good sleep quality, 40.6 % of them are male students compared to 48.3% of female students.
  + Thus, we understand by data that the sleep quality is better in female students when compared to male.
* Social\_media by Gender:
  + Out of total student count of 561 people has Acceptable social media, where as 439 of them has unacceptable social media.
  + Out 561 total students with acceptable social media practice, 58.33 % of them are male students compared to 54.14% of female students.
  + Out 439 total students with un-acceptable social media practice, 41.56 % of them are male students compared to 45.82% of female students.
  + Thus, we understand by data that the social media usage is better in male students when compared to female.
* Gender Vs Parent education:
  + The gender count by parent education is as below:

|  |  |  |
| --- | --- | --- |
| Parents degree | Male(%) | Female(%) |
| High school | 21 | 18 |
| Some high school | 17 | 19 |
| Some college | 25 | 21 |
| Bachelor | 12 | 11 |
| masters | 5 | 6 |
| associate | 24 | 19 |

* Gender Vs student qualification



### Test performance

* Test performance with sleep quality and test prep:
  + Students irrespective of sleep quality, but completed test preparation had performed well.
  + Its also same when compared with individual subject people with test preparation scored well irrespective of sleep quality.
* Test performance with social\_media and test prep:
  + Students irrespective of social\_media practice, but completed test preparation had performed well.
  + Its also same when compared with individual subject students with test preparation scored well irrespective of social\_media practice.

### Analysis based on Parent Education

* The general trend is the population of female student is more irrespective of parent’s educational background.
* Its absorbed that the parent with educational qualification such as associate degree, high school and bachelor degree students consuming free/reduced food is more.
* Student who parent’s education is associate and bachelor degree the unacceptable social media practice is more.
* Students whose parents have master degree better performance in general compared to other parent qualification irrespective of the subject.

### Analysis on Food Quality

* Food quality has no impact on gender of the students.
* The students with qualification good, very good, average and outstanding consume Standard food.
* The student who consumed free/ reduced food has more sufficient, passable and fail as their qualification.
* Student with free food tends to have complete test preparation more than student with Standard food,
* Student with standard food tends to have poor sleep quality, where as students with free/reduced food tends to have better sleep quality.
* Students who has free/reduced food tends to be less active on social meaadia, in comparison with student with standard food

### Hypothesis testing:

1. **Sleep quality impact on performance**

**Hypothesis:**

H0: performance of students with poor Sleep Quality = performance of students with Good Sleep Quality.

Ha: performance of students with poor Sleep Quality != performance of students with Good Sleep Quality.

Confidence level = 95%

Alpha = 0.025 (Two tailed)

**Analysis**

Ttest\_indResult(statistic=0.8470761391824555, pvalue=0.3971557656403971)

Pvalue > 0.025, hence fail to reject null hypothesis.

Thus sleep quality has no effect on performance.

1. **Social media impact on performance**

**Hypothesis:**

H0: performance of students with poor Sleep Quality = performance of students with Good Sleep Quality.

Ha: performance of students with poor Sleep Quality != performance of students with Good Sleep Quality.

Confidence level = 95%

Alpha = 0.025 (Two tailed)

**Analysis**

Ttest\_indResult(statistic=0.5629028742566669, pvalue=0.5736274516192357)

P\_value is greater >0.025 , Hence fail to reject null hypothesis.

Thus social\_media practice has no impact on performance

1. **Food quality on Performance:**

**Hypothesis:**

H0: performance of students with poor Food Quality = performance of students with Good Food Quality.

Ha: performance of students with poor Food Quality != performance of students with Good Food Quality.

Confidence level = 95%

Alpha = 0.025 (Two tailed)

**Analysis**

Ttest\_indResult(statistic=9.575113051511472, pvalue=7.73679181249555e-21)

P\_value is greater <0.025 , Hence reject null hypothesis.

Thus, food quality has impact on student’s performance.

1. Parent education on performance

**Hypothesis:**

H0: performance of students do not depends on Parent education

Ha: Performance of students depends on Parent education

Confidence level = 95%

Alpha = 0.05 (one-way anovae)

**Analysis**

F\_onewayResult(statistic=1.246064878099654, pvalue=0.28537450742566306)

P\_value is greater >0.05 , Hence fail to reject null hypothesis.

Thus, parent education has no impact on student’s performance.