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Untitled-1.ipynb ● | DATA SCIENCE PROJECT ON STUDENTS MENTAL HEALTH.ipynb ×

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+ Code + Markdown | Run All | Clear All Outputs | Outline ··· base (Python 3.12.2)

[1]
```python
import pandas as pd
```
Python

[5]
```python
df=pd.read_csv(r'C:/Users/Rocky/Downloads/archive (1).zip')
print(df)
```
Python

```
      gender  age university   degree_level           degree_major  \
0       Male   20         PU  Undergraduate           Data Science
1       Male   20        UET   Postgraduate       Computer Science
2       Male   20       FAST  Undergraduate       Computer Science
3       Male   20        UET  Undergraduate       Computer Science
4     Female   20        UET  Undergraduate       Computer Science
..       ...  ...        ...            ...                    ...
82      Male   22         PU  Undergraduate  Information Technology
83    Female   22    COMSATS  Undergraduate   Software Engineering
84      Male   21         PU  Undergraduate           Data Science
85      Male   22         PU  Undergraduate           Data Science
86    Female   19         PU  Undergraduate           Data Science

    academic_year     cgpa residential_status campus_discrimination  \
0       2nd year  3.0-3.5        Off-Campus                     No
1       3rd year  3.0-3.5        Off-Campus                     No
2       3rd year  2.5-3.0        Off-Campus                     No
3       3rd year  2.5-3.0         On-Campus                     No
4       3rd year  3.0-3.5        Off-Campus                    Yes
..           ...      ...               ...                    ...
```

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```
#DISPLAY BASIC INFO
df.info()
```

[6] Python

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 87 entries, 0 to 86
Data columns (total 21 columns):
 #   Column                  Non-Null Count  Dtype 
---  ------                  --------------  ----- 
 0   gender                  87 non-null     object
 1   age                     87 non-null     int64 
 2   university              87 non-null     object
 3   degree_level            87 non-null     object
 4   degree_major            87 non-null     object
 5   academic_year           87 non-null     object
 6   cgpa                    87 non-null     object
 7   residential_status      87 non-null     object
 8   campus_discrimination   87 non-null     object
 9   sports_engagement       87 non-null     object
 10  average_sleep           87 non-null     object
 11  study_satisfaction      87 non-null     int64 
 12  academic_workload       87 non-null     int64 
 13  academic_pressure       87 non-null     int64 
 14  financial_concerns      87 non-null     int64 
 15  social_relationships    87 non-null     int64 
 16  depression              87 non-null     int64 
 17  anxiety                 87 non-null     int64 
 18  isolation               87 non-null     int64 
 19  future_insecurity       87 non-null     int64 
 20  stress_relief_activities  87 non-null     object
dtypes: int64(10), object(11)
```

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[7]
```python
#MISSING VALUES
df.isnull().sum()
```
Python

```
gender                    0
age                       0
university                0
degree_level              0
degree_major              0
academic_year             0
cgpa                      0
residential_status        0
campus_discrimination     0
sports_engagement         0
average_sleep             0
study_satisfaction        0
academic_workload         0
academic_pressure         0
financial_concerns        0
social_relationships      0
depression                0
anxiety                   0
isolation                 0
future_insecurity         0
stress_relief_activities  0
dtype: int64
```

```python
df.info()
```

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memory usage: 14.44 KB

```
df=df.drop(columns=['residential_status'])
print(df)
#REMOVED THE COLUMN RESIDENTIAL STATUS
```

[36] Python

```
...      gender  age university   degree_level           degree_major  \
0        Male   20         PU  Undergraduate           Data Science
1        Male   20        UET   Postgraduate       Computer Science
2        Male   20       FAST  Undergraduate       Computer Science
3        Male   20        UET  Undergraduate       Computer Science
4      Female   20        UET  Undergraduate       Computer Science
..        ...  ...        ...            ...                    ...
82       Male   22         PU  Undergraduate  Information Technology
83     Female   22    COMSATS  Undergraduate    Software Engineering
84       Male   21         PU  Undergraduate           Data Science
85       Male   22         PU  Undergraduate           Data Science
86     Female   19         PU  Undergraduate           Data Science

   academic_year     cgpa campus_discrimination sports_engagement  \
0      2nd year  3.0-3.5                    No        No Sports
1      3rd year  3.0-3.5                    No        1-3 times
2      3rd year  2.5-3.0                    No        1-3 times
3      3rd year  2.5-3.0                    No        No Sports
4      3rd year  3.0-3.5                   Yes        No Sports
..          ...      ...                   ...              ...
82     4th year  3.0-3.5                    No        No Sports
83     4th year  3.5-4.0                   Yes        No Sports
84     2nd year  2.0-2.5                    No        No Sports
```

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```
df=df.drop(columns=['campus_discrimination'])
print(df)
#REMOVING THE COLUMN CAMPUS DISCRIMINATION
```

[48] Python

```
...      gender  age university   degree_level           degree_major  \
0        Male   20         PU  Undergraduate           Data Science
1        Male   20        UET   Postgraduate       Computer Science
2        Male   20       FAST  Undergraduate       Computer Science
3        Male   20        UET  Undergraduate       Computer Science
4      Female   20        UET  Undergraduate       Computer Science
..        ...  ...        ...            ...                    ...
82       Male   22         PU  Undergraduate  Information Technology
83     Female   22    COMSATS  Undergraduate    Software Engineering
84       Male   21         PU  Undergraduate           Data Science
85       Male   22         PU  Undergraduate           Data Science
86     Female   19         PU  Undergraduate           Data Science

   academic_year     cgpa sports_engagement average_sleep  study_satisfaction  \
0       2nd year  3.0-3.5        No Sports       4-6 hrs                   5
1       3rd year  3.0-3.5       1-3 times       4-6 hrs                   5
2       3rd year  2.5-3.0       1-3 times       2-4 hrs                   5
3       3rd year  2.5-3.0        No Sports       4-6 hrs                   3
4       3rd year  3.0-3.5        No Sports       4-6 hrs                   3
..           ...      ...             ...           ...                 ...
82      4th year  3.0-3.5        No Sports       7-8 hrs                   4
83      4th year  3.5-4.0        No Sports       2-4 hrs                   5
84      2nd year  2.0-2.5        No Sports       4-6 hrs                   5
85      2nd year  2.5-3.0        No Sports       4-6 hrs                   3
86      2nd year  3.5-4.0       4-6 times       4-6 hrs                   4
```

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```
[87 rows x 18 columns]
```

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```
#DESCRIPTIVE STATISTICS
df.describe()
```

[49] Python

	age	study_satisfaction	academic_workload	academic_pressure	social_relationships	depression	anxiety	isolation	future_insecurity
count	87.000000	87.000000	87.000000	87.000000	87.000000	87.000000	87.000000	87.000000	87.000000
mean	19.942529	3.931034	3.885057	3.781609	2.781609	3.218391	3.218391	3.241379	3.011494
std	1.623636	1.043174	0.854880	1.125035	1.175578	1.367609	1.297809	1.405682	1.385089
min	17.000000	1.000000	2.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
25%	19.000000	3.000000	3.000000	3.000000	2.000000	2.000000	2.000000	2.000000	2.000000
50%	20.000000	4.000000	4.000000	4.000000	3.000000	3.000000	3.000000	3.000000	3.000000
75%	21.000000	5.000000	4.500000	5.000000	4.000000	4.000000	4.000000	4.500000	4.000000
max	26.000000	5.000000	5.000000	5.000000	5.000000	5.000000	5.000000	5.000000	5.000000

```
#DATA VISUALIZATION
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
#HERE WE IMPORTED SOME LIBRARIES OF PYTHON.
```

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+ Code + Markdown | Run All | Clear All Outputs | Outline ··· base (Python 3.12.2)

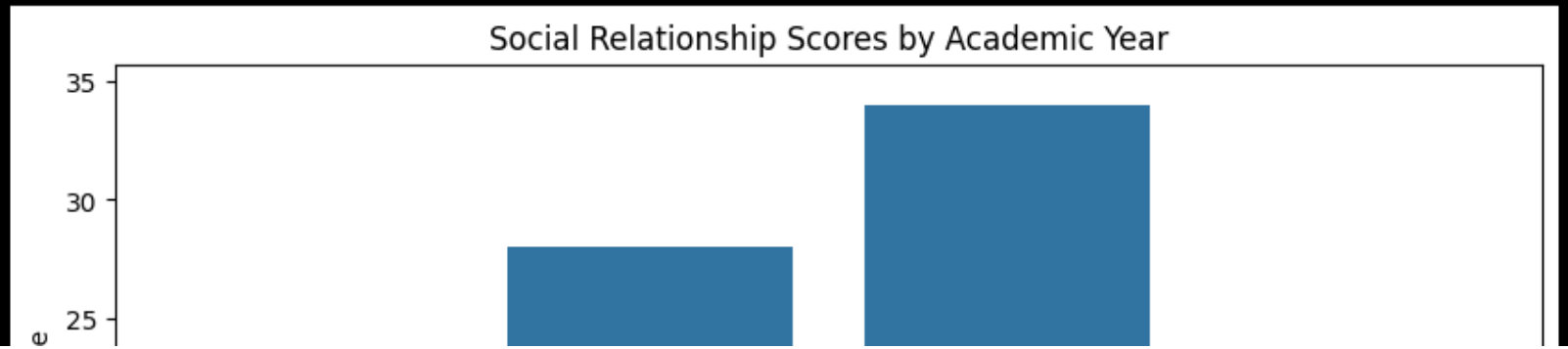
```python
#DATA VISUALIZATION
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
#HERE WE IMPORTED SOME LIBRARIES OF PYTHON.


# Create a count plot
plt.figure(figsize=(10, 6))
sns.countplot(data=df,x='academic_year')

# Set titles and labels
plt.title('Social Relationship Scores by Academic Year')
plt.xlabel('Academic Year')
plt.ylabel('Social Relationship Score')

# Show the plot
plt.show()
```

[59] Python



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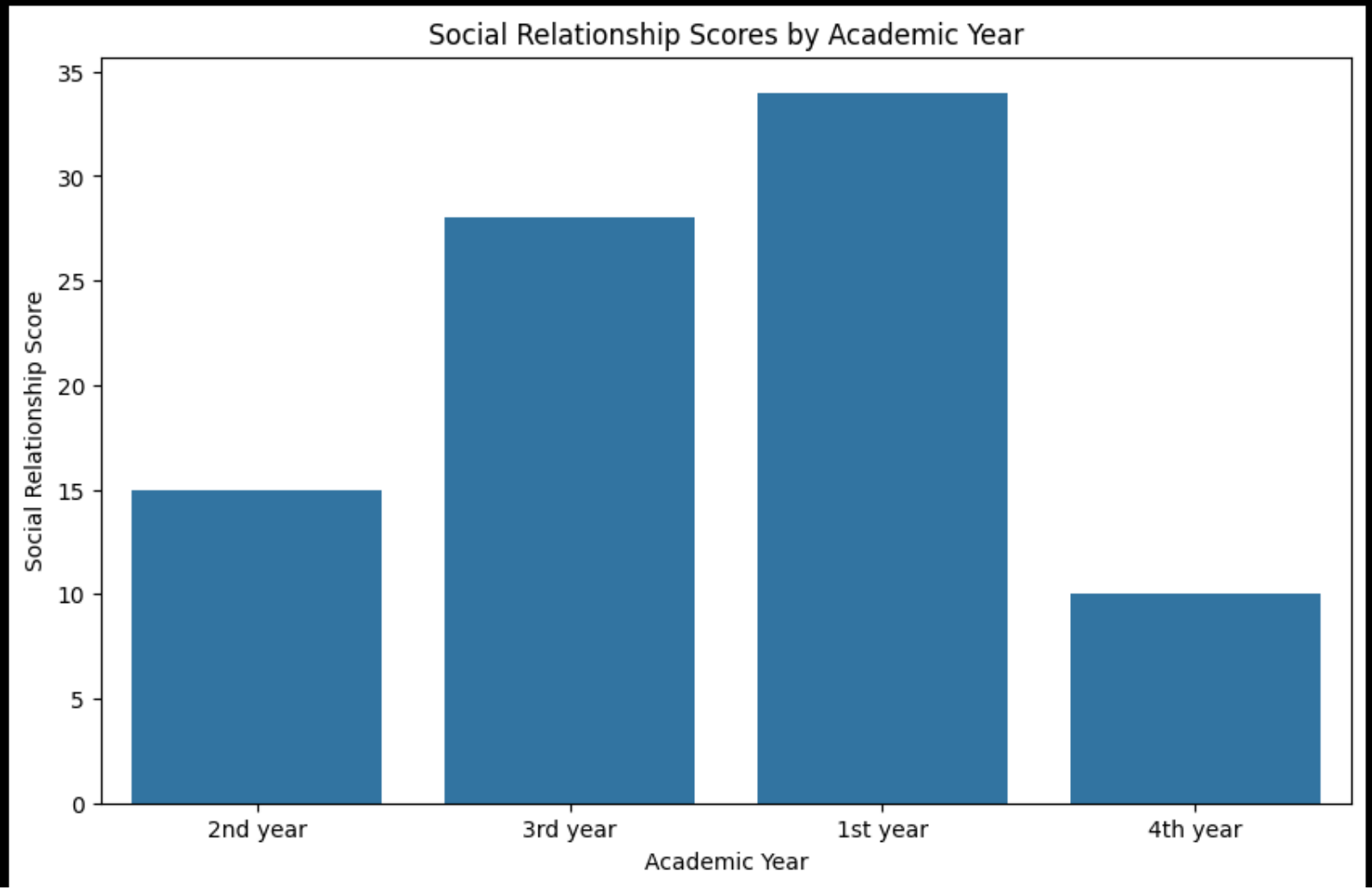
[59]



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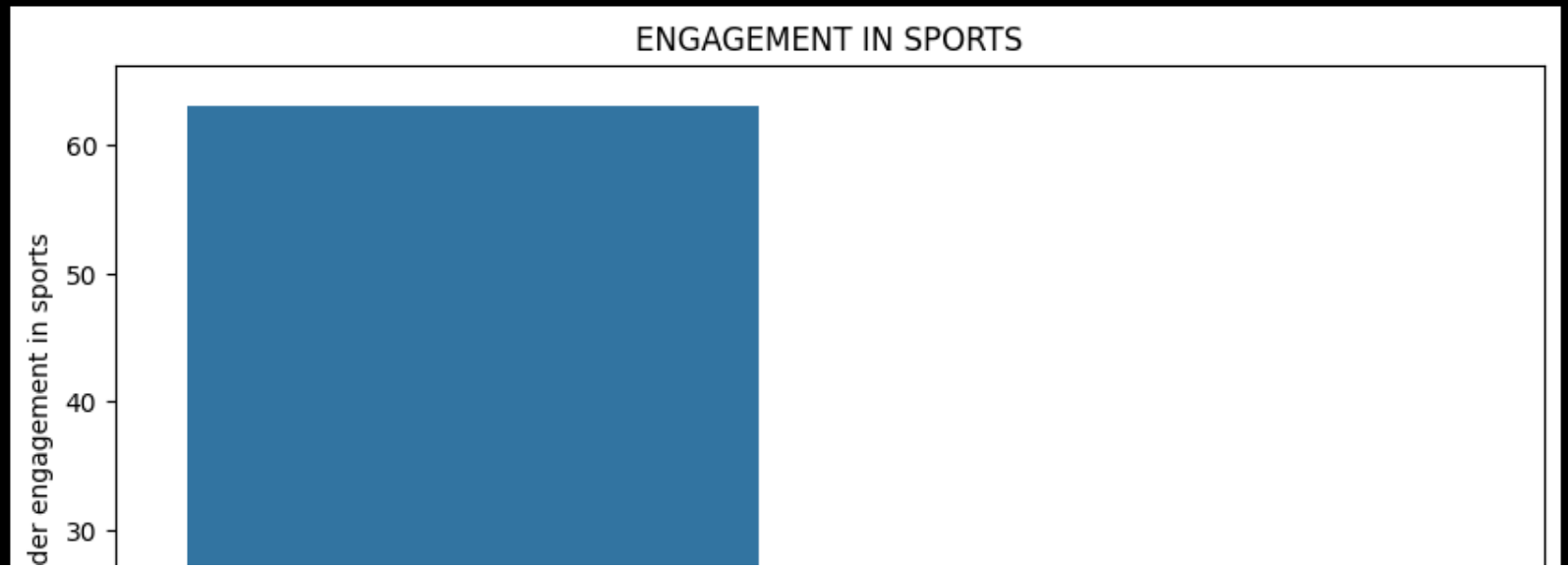
```
plt.figure(figsize=(10, 6))
sns.countplot(data=df,x='gender')

# Set titles and labels
plt.title('ENGAGEMENT IN SPORTS')
plt.xlabel('Gender')
plt.ylabel('number of gender engagement in sports')

# Show the plot
plt.show()
```

[61] Python



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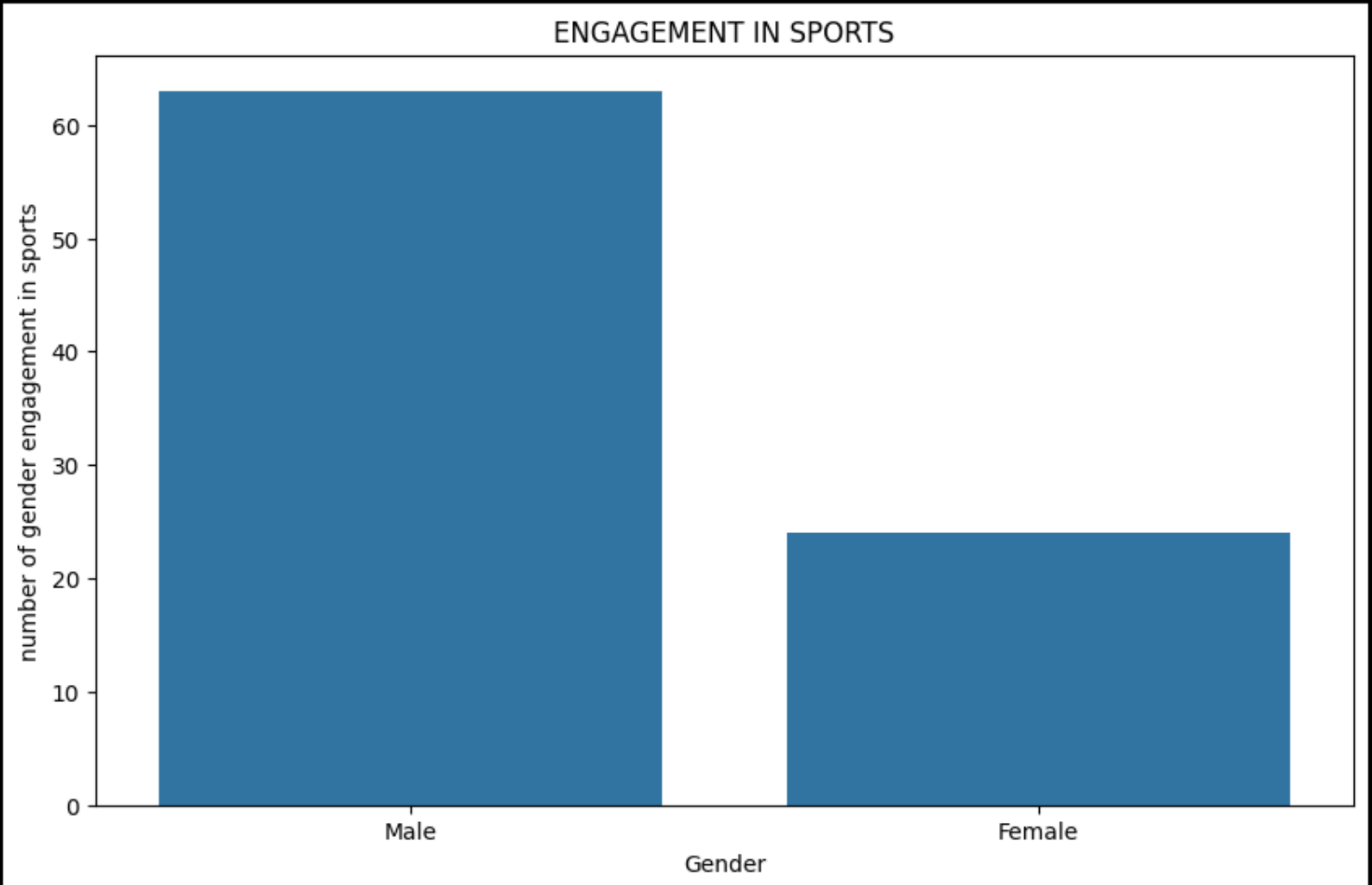
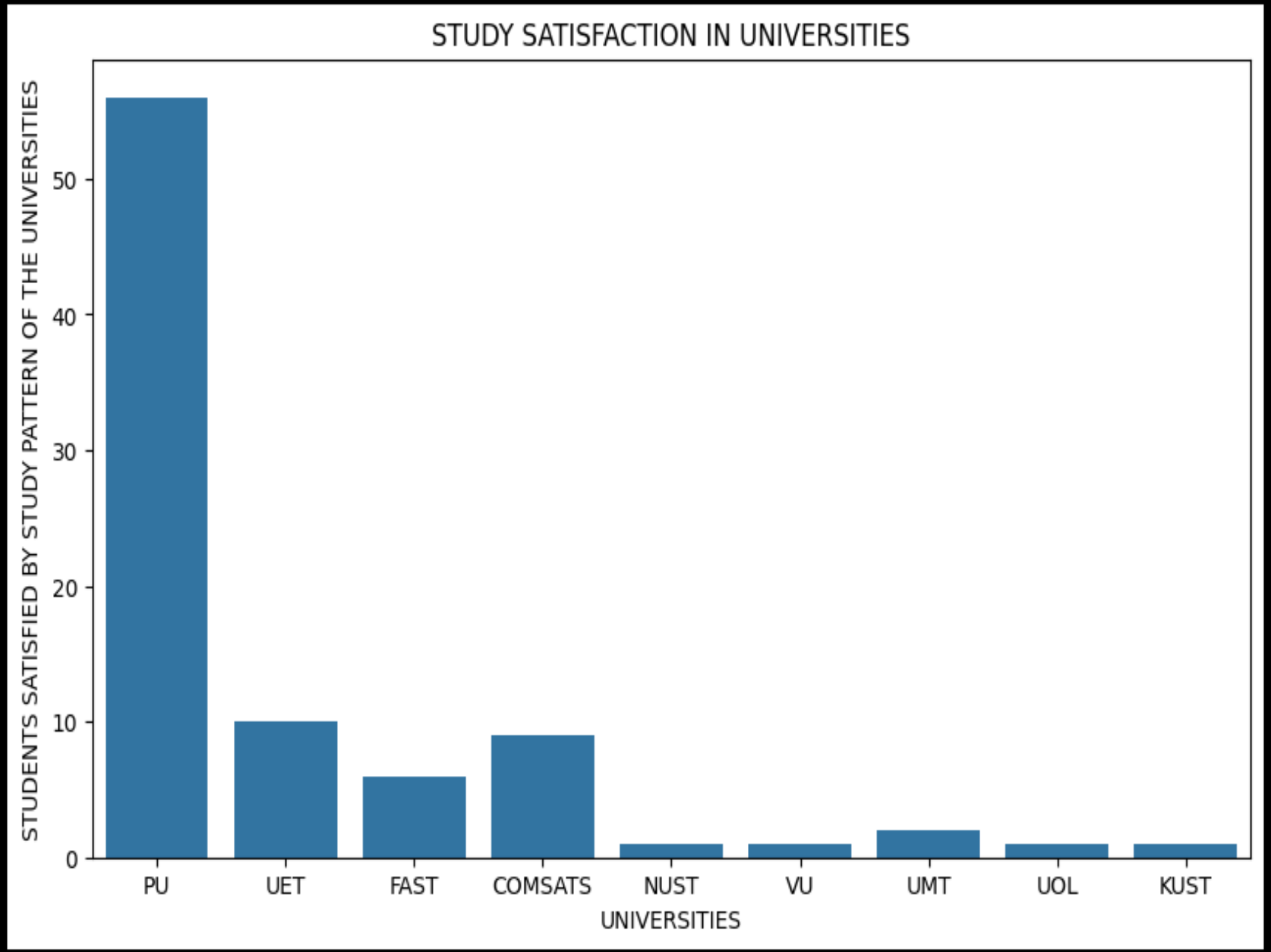
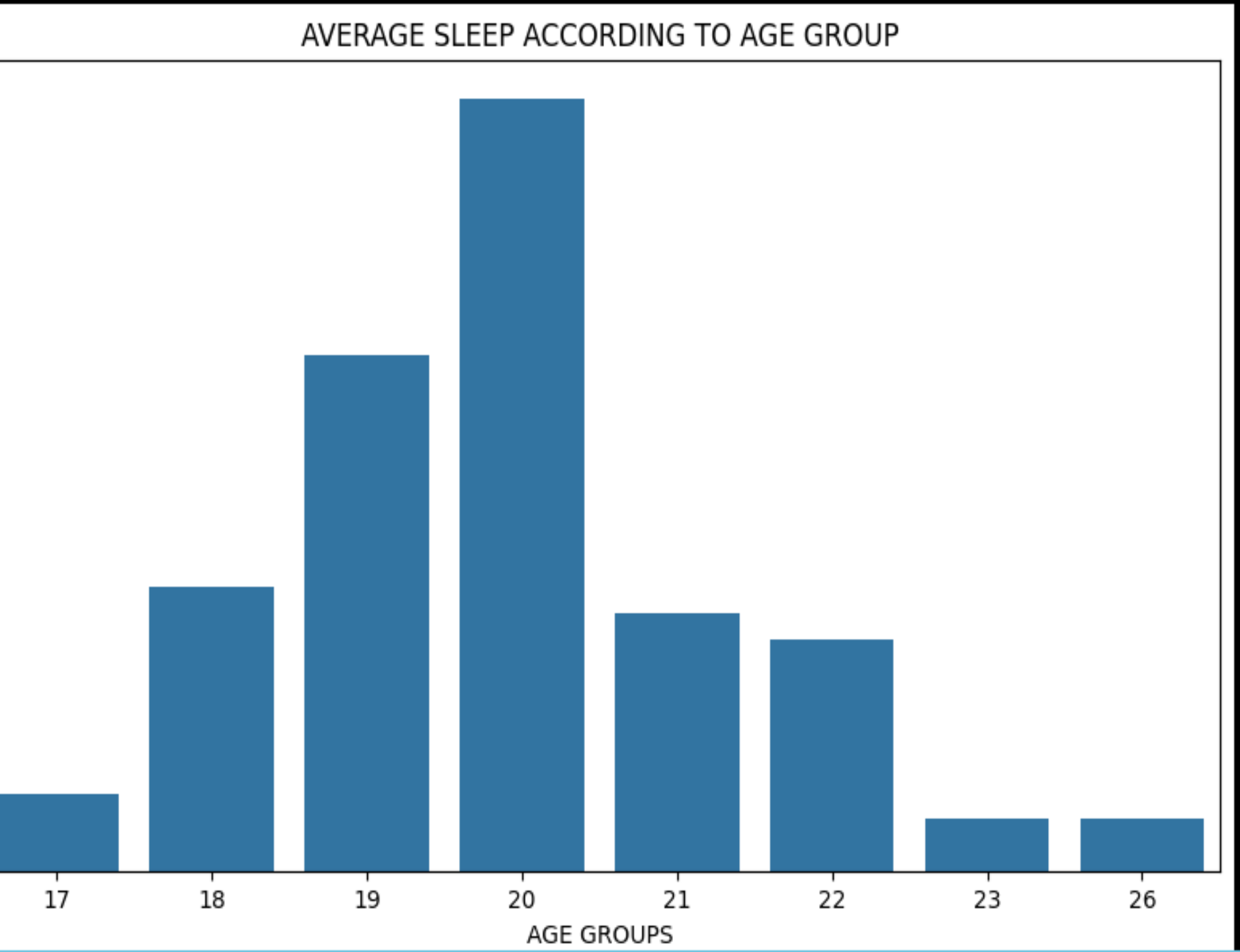
[61] Python




```
plt.figure(figsize=(10, 6))
sns.countplot(data=df,x='university')

# Set titles and labels
plt.title('STUDY SATISFACTION IN UNIVERSITIES')
plt.xlabel('UNIVERSITIES')
plt.ylabel('STUDENTS SATISFIED BY STUDY PATTERN OF THE UNIVERSITIES')

# Show the plot
plt.show()
```


STUDY SATISFACTION IN UNIVERSITIES
STUDENTS SATISFIED BY STUDY PATTERN OF THE UNIVERSITIES
0
10
20
30
40
50
PU
UET
FAST
COMSATS
NUST
VU
UMT
UOL
KUST
UNIVERSITIES

```
gure(figsize=(10, 6))
ntplot(data=df,x='age')


itles and labels
le('AVERAGE SLEEP ACCORDING TO AGE GROUP')
bel('AGE GROUPS')
bel('AVERAGE SLEEP CYCLE OF STUDENTS ACCORDING TO AGE GROUP')


the plot
w()
```


AVERAGE SLEEP ACCORDING TO AGE GROUP
17
18
19
20
21
22
23
26
AGE GROUPS