In [3]:
```
#import libraries
import pandas as pd
import numpy as np
```

In [9]:
```
#import csv file
sudan=pd.read_csv("Greaw South Sudan Survey.csv")
```

In [10]:
```
#determining the first rows
sudan.head()
```

Out[10]:

	Area of Resident	Gender	State	County	Payma	Boma	Sex	Age	Marital Statu
0	RURAL	Female	Central Equitorial	Juba County	Rajaf	Mogoro	Female	Adult	Widowed/Widowe
1	RURAL	Female	Central Equitorial	Juba County	Rejaf	Mogorow	Female	Adult	Marrie
2	RURAL	Female	Central Equitorial	Juba County	Raja	Jebel	Female	Adult	Marrie
3	RURAL	Female	Central Equitorial	Juba County	Rajaf	Jebel Amianin	Female	Adult	Marrie
4	RURAL	Female	Central Equitorial	Juba County	Rajaf	Jebel Amenin	Female	Youth	Separate

In [13]:
```
# Frequency of each column
gender_freq = sudan['Gender'].value_counts()
education_freq = sudan['Level of Education'].value_counts()
county_freq = sudan['County'].value_counts()
state_freq = sudan['State' ].value_counts()
age_freq = sudan['Age'].value_counts()
marital_status_freq = sudan['Marital Status'].value_counts()
payma_freq = sudan['Payma'].value_counts()

print("Gender Frequency:\n", gender_freq)
print("Education Frequency:\n", education_freq)
print("County Frequency:\n", county_freq)
print("State Frequency:\n", state_freq)
print("Age Frequency:\n", age_freq)
print("Marital Status Frequency:\n", marital_status_freq)
print("Payma Frequency:\n", payma_freq)
```

```
Gender Frequency:
 Gender
Female    303
Male       96
Name: count, dtype: int64
Education Frequency:
 Level of Education
Never attended    291
Primary/Basic      43
Preschool          42
Secondary          22
Post-Secondary      1
Name: count, dtype: int64
County Frequency:
 County
Juba County          204
Tonj North County    195
Name: count, dtype: int64
State Frequency:
 State
Central Equitorial    204
Warrap                195
Name: count, dtype: int64
Age Frequency:
 Age
Adult    226
Youth    173
Name: count, dtype: int64
Marital Status Frequency:
 Marital Status
Married            334
Widowed/Widower     52
Single               7
Separated            5
Other                1
Name: count, dtype: int64
Payma Frequency:
 Payma
Rajaf         78
Dolo          63
Awul          40
Manlor        40
Pagol         40
Aliek         39
Kirik         36
Lokiliri      32
Liriya        27
Rejaf          1
Raja           1
Rajaf          1
Rajaf east     1
Name: count, dtype: int64
```

In [16]:
```
#cross tabulation
age_edu = pd.crosstab(sudan['Age'], sudan['Level of Education'])
print("Age vs Level of Education:\n", age_edu)
```

```
Age vs Level of Education:
 Level of Education  Never attended  Post-Secondary  Preschool  Primary/Basic  \
Age
Adult                          179               1         17             17
Youth                          112               0         25             26

Level of Education  Secondary
Age
Adult                      12
Youth                      10
```

In [18]:
```
gender_edu = pd.crosstab(sudan['Gender'], sudan['Level of Education'])
print("\nGender vs Level of Education:\n", gender_edu)
```

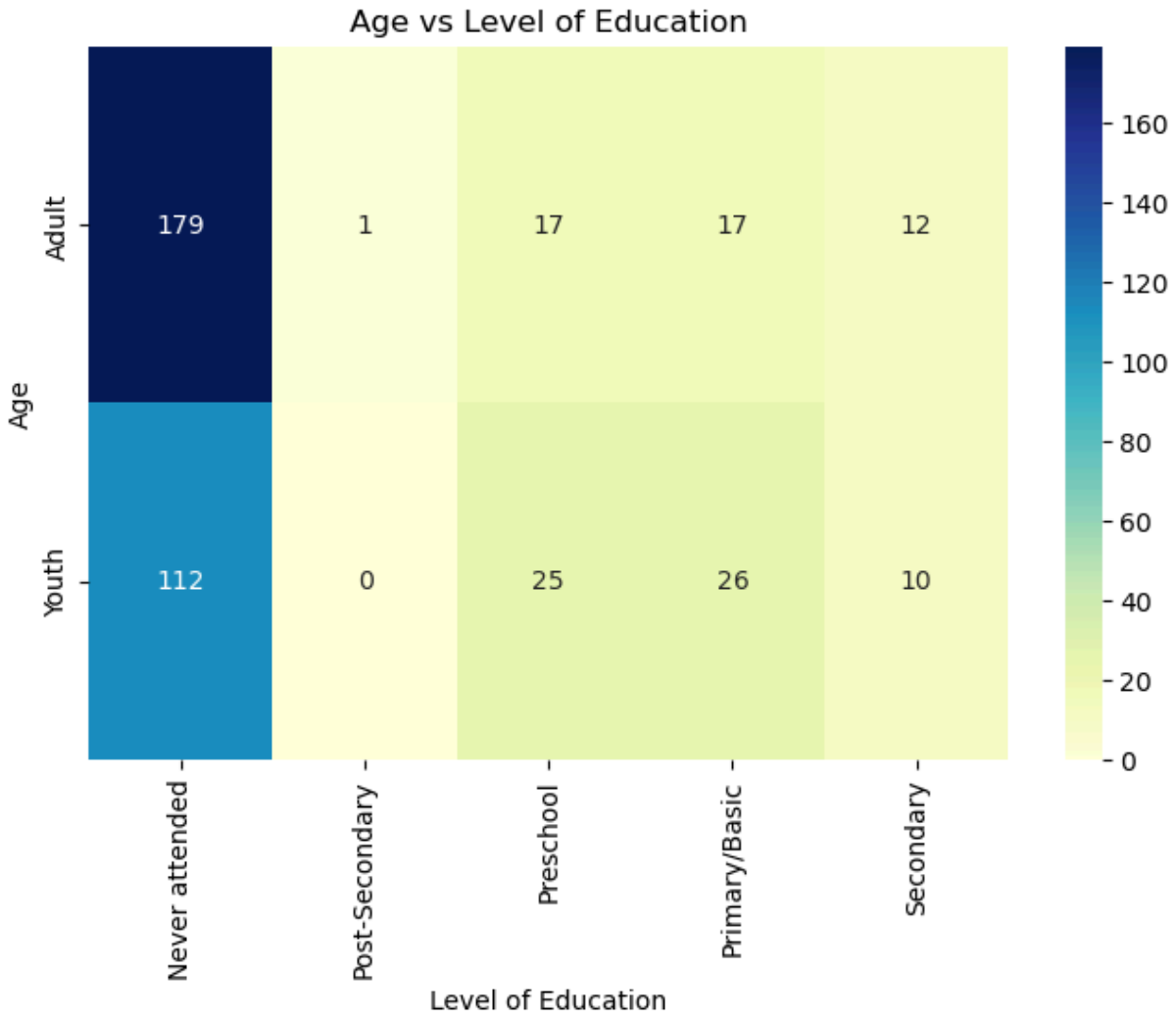
```
Gender vs Level of Education:
 Level of Education  Never attended  Post-Secondary  Preschool  Primary/Basic  \
Gender
Female                         237               0         30             29
Male                            54               1         12             14

Level of Education  Secondary
Gender
Female                      7
Male                       15
```

In [19]:
```
edu_marital = pd.crosstab(sudan['Level of Education'], sudan['Marital Status'])
print("\nEducation Level vs Marital Status:\n", edu_marital)
```

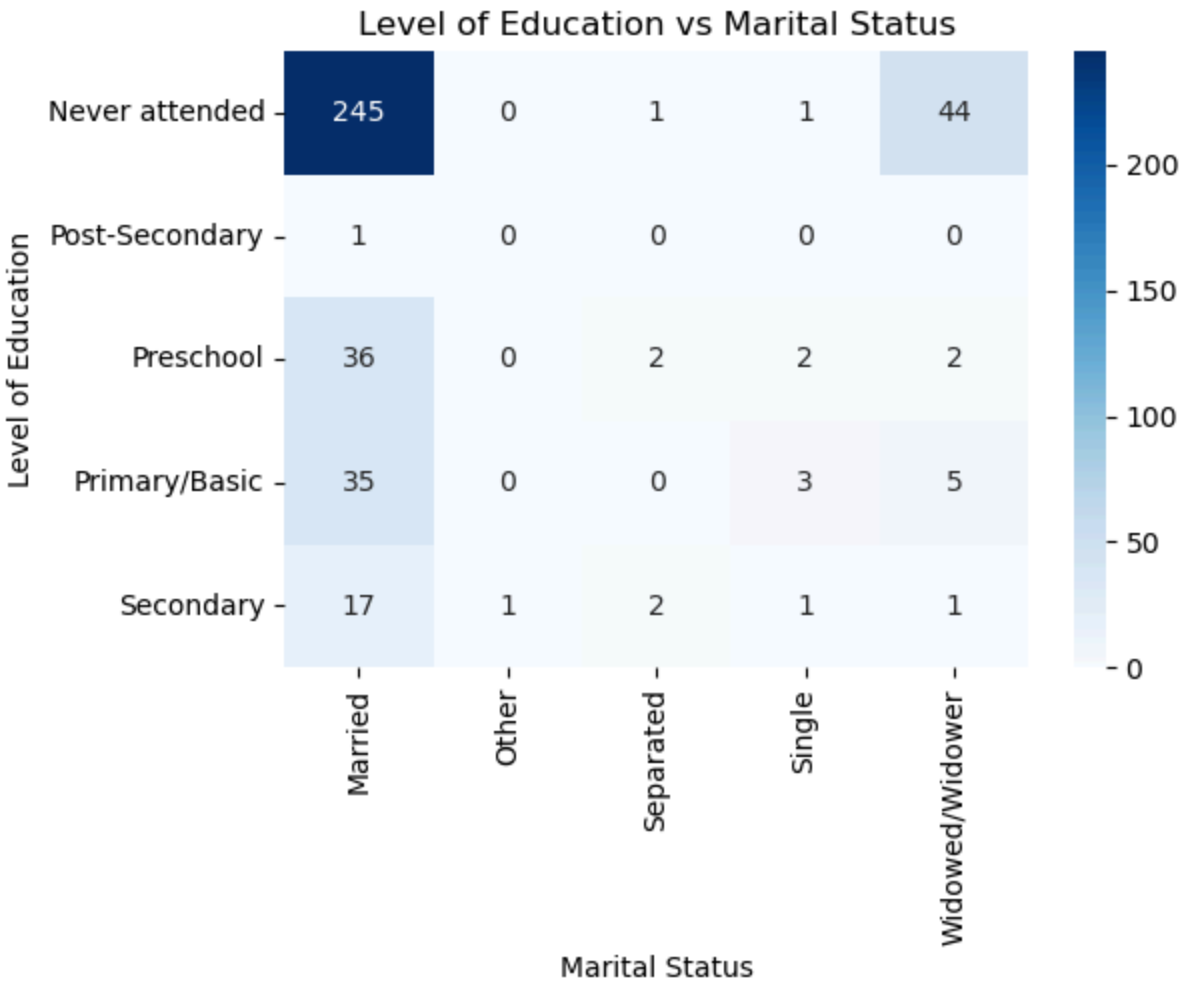
```
Education Level vs Marital Status:
 Marital Status      Married  Other  Separated  Single  Widowed/Widower
Level of Education
Never attended          245      0          1       1               44
Post-Secondary            1      0          0       0                0
Preschool                36      0          2       2                2
Primary/Basic            35      0          0       3                5
Secondary                17      1          2       1                1
```

In [20]:
```
#importing more libraries for visualization
import matplotlib.pyplot as plt
import seaborn as sns
```

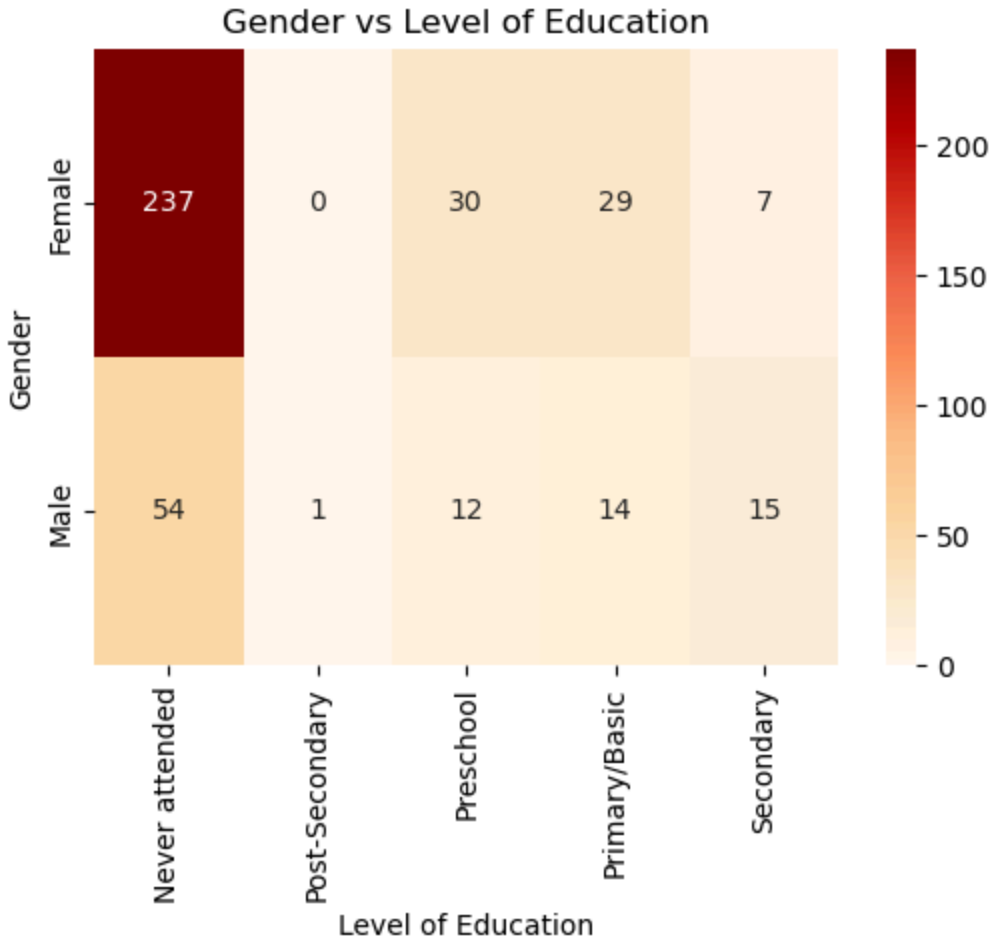
In [21]:
```
plt.figure(figsize=(8, 5))
sns.heatmap(age_edu, annot=True, fmt="d", cmap="YlGnBu")
plt.title("Age vs Level of Education")
plt.xlabel("Level of Education")
plt.ylabel("Age")
plt.show()
```



In [22]:
```
plt.figure(figsize=(6, 4))
sns.heatmap(edu_marital, annot=True, fmt="d", cmap="Blues")
plt.title("Level of Education vs Marital Status")
plt.xlabel("Marital Status")
plt.ylabel("Level of Education")
plt.show()
```



In [23]:
```
plt.figure(figsize=(6, 4))
sns.heatmap(gender_edu, annot=True, fmt="d", cmap="OrRd")
plt.title("Gender vs Level of Education")
plt.xlabel("Level of Education")
plt.ylabel("Gender")
plt.show()
```


Gender vs Level of Education
Female
Male
Gender
237
0
30
29
7
54
1
12
14
15
200
150
100
50
0
Never attended
Post-Secondary
Preschool
Primary/Basic
Secondary
Level of Education

In [ ]: