In [3]:
```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sbs
plt.style.use('seaborn-whitegrid')
```

```
C:\Users\dwibe\AppData\Local\Temp\ipykernel_9952\339503227.py:5: MatplotlibDe
precationWarning: The seaborn styles shipped by Matplotlib are deprecated sin
ce 3.6, as they no longer correspond to the styles shipped by seaborn. Howeve
r, they will remain available as 'seaborn-v0_8-<style>'. Alternatively, direc
tly use the seaborn API instead.
  plt.style.use('seaborn-whitegrid')
```

In [4]:
```
df=pd.read_csv("Downloads/student-mat.csv")
```

In [5]:
```
df.head()
```

Out[5]:

	school	sex	age	address	famsize	Pstatus	Medu	Fedu	Mjob	Fjob	...	famrel	free
0	GP	F	18	U	GT3	A	4	4	at_home	teacher	...	4	
1	GP	F	17	U	GT3	T	1	1	at_home	other	...	5	
2	GP	F	15	U	LE3	T	1	1	at_home	other	...	4	
3	GP	F	15	U	GT3	T	4	2	health	services	...	3	
4	GP	F	16	U	GT3	T	3	3	other	other	...	4	

5 rows × 33 columns

In [6]:
```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 395 entries, 0 to 394
Data columns (total 33 columns):
 #   Column      Non-Null Count  Dtype 
---  ------      --------------  ----- 
 0   school      395 non-null    object
 1   sex         395 non-null    object
 2   age         395 non-null    int64 
 3   address     395 non-null    object
 4   famsize     395 non-null    object
 5   Pstatus     395 non-null    object
 6   Medu        395 non-null    int64 
 7   Fedu        395 non-null    int64 
 8   Mjob        395 non-null    object
 9   Fjob        395 non-null    object
 10  reason      395 non-null    object
 11  guardian    395 non-null    object
 12  traveltime  395 non-null    int64 
 13  studytime   395 non-null    int64 
 14  failures    395 non-null    int64 
 15  schoolsup   395 non-null    object
 16  famsup      395 non-null    object
 17  paid        395 non-null    object
 18  activities  395 non-null    object
 19  nursery     395 non-null    object
 20  higher      395 non-null    object
 21  internet    395 non-null    object
 22  romantic    395 non-null    object
 23  famrel      395 non-null    int64 
 24  freetime    395 non-null    int64 
 25  goout       395 non-null    int64 
 26  Dalc        395 non-null    int64 
 27  Walc        395 non-null    int64 
 28  health      395 non-null    int64 
 29  absences    395 non-null    int64 
 30  G1          395 non-null    int64 
 31  G2          395 non-null    int64 
 32  G3          395 non-null    int64 
dtypes: int64(16), object(17)
memory usage: 102.0+ KB
```

In [7]:
```
dfn=df[['traveltime','studytime']]
```

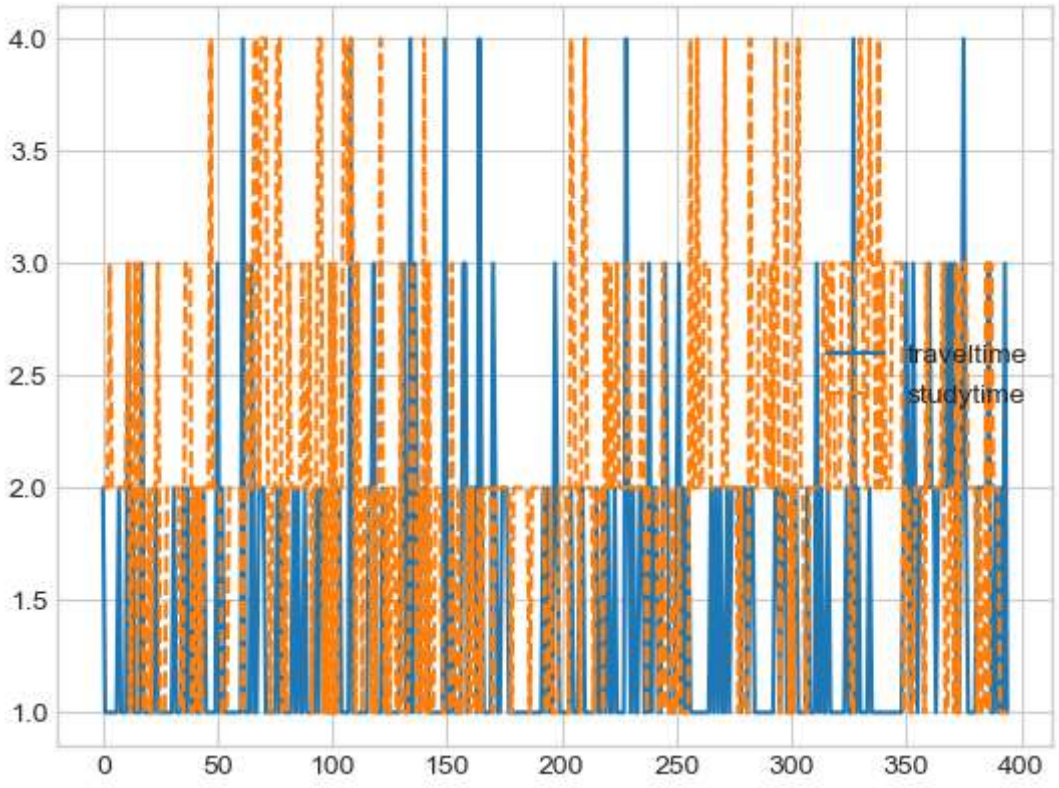
In [8]:
```
dfn.head()
```

Out[8]:

	traveltime	studytime
0	2	2
1	1	2
2	1	2
3	1	3
4	1	2

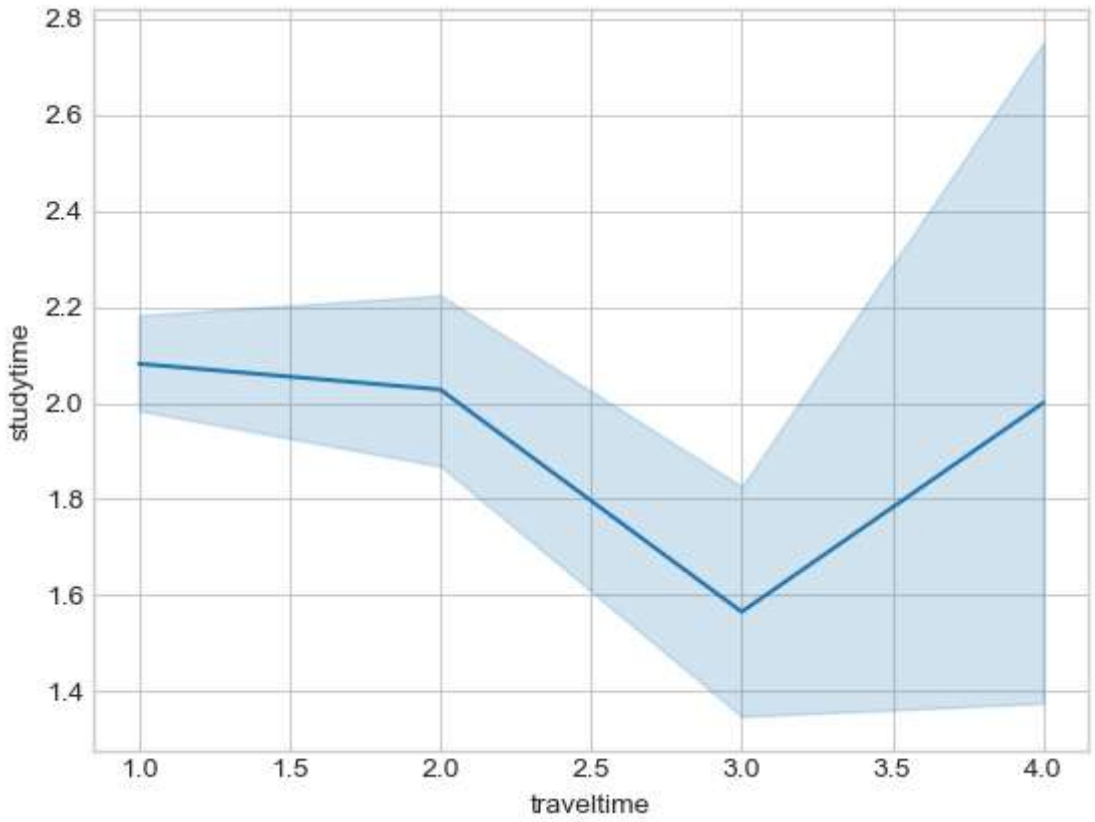
In [16]:
```
from scipy.stats import norm
```

In [15]:
```
x=dfn['traveltime']
y=dfn['studytime']
sbs.lineplot(dfn)
plt.show()
```



In [22]:
```
sbs.lineplot(x=dfn['traveltime'],y=dfn['studytime'],dashes=True)
```

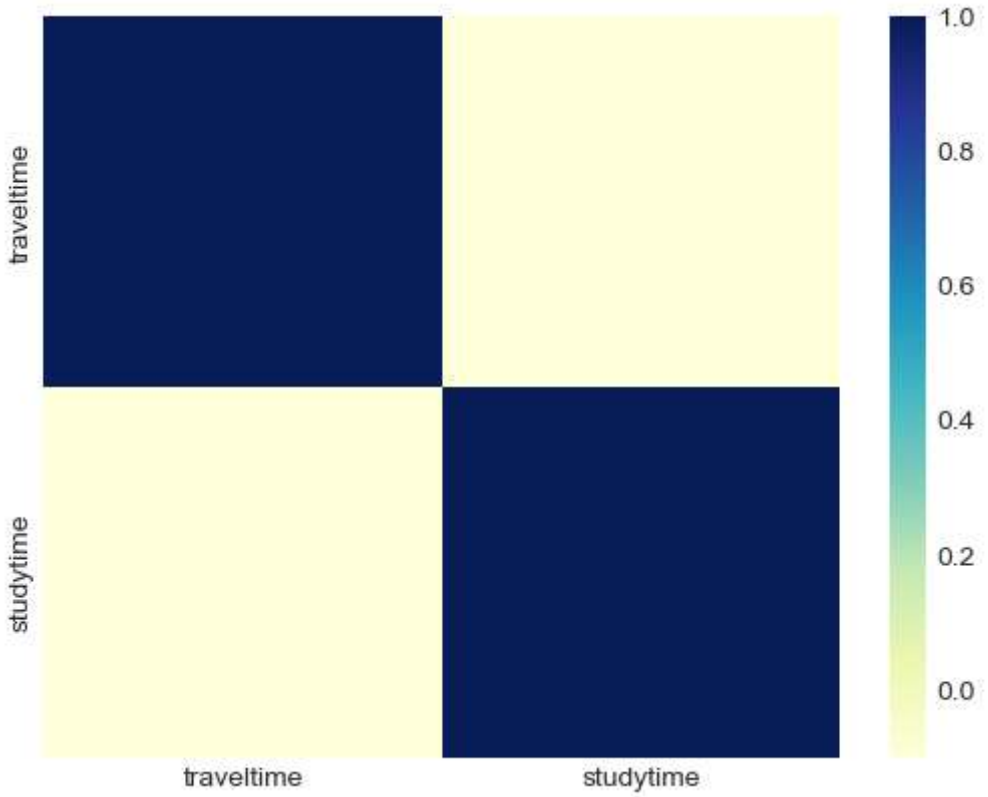
Out[22]:
```
<Axes: xlabel='traveltime', ylabel='studytime'>
```



In [17]:
```
corelation=dfn.corr()
print(corelation)
```

```
            traveltime  studytime
traveltime    1.000000  -0.100909
studytime    -0.100909   1.000000
```

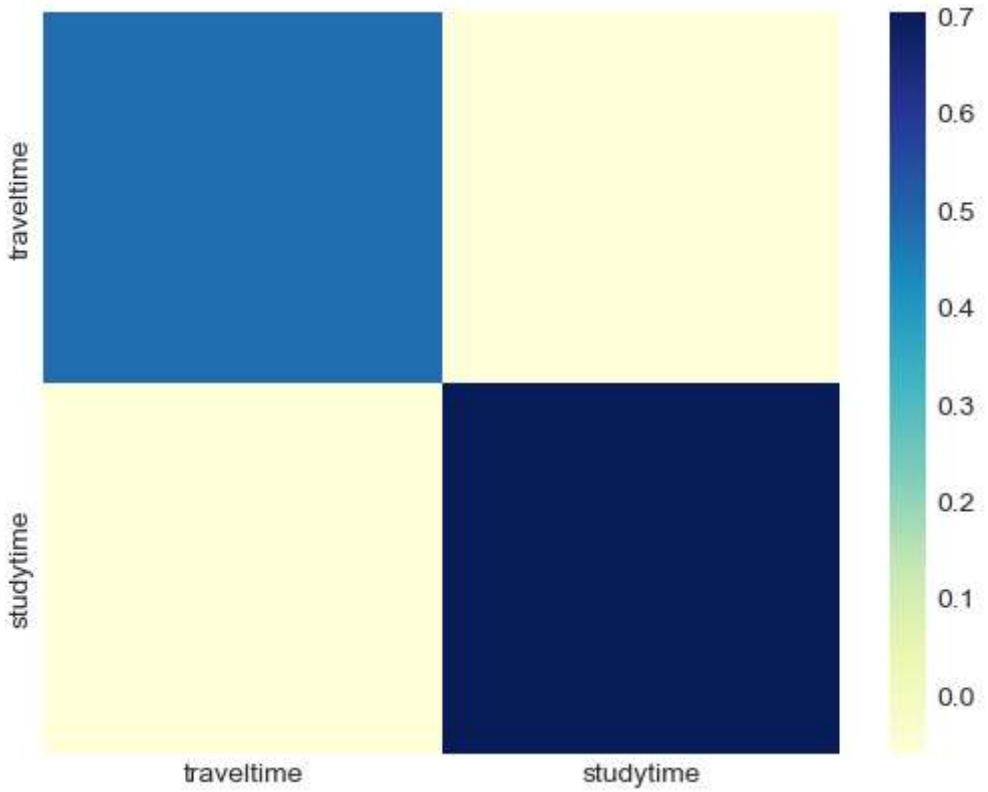
In [18]:
```
sbs.heatmap(corelation,cmap ="YlGnBu")
plt.show()
```



In [20]:
```
covar=dfn.cov()
print(covar)
```

```
            traveltime  studytime
traveltime    0.486513  -0.059070
studytime    -0.059070   0.704324
```

In [21]:
```
sbs.heatmap(covar,cmap='YlGnBu')
plt.show()
```



In [ ]: