In [106]:
```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
df=pd.read_csv("D:\python asgnment\eda python\Final dataset Attrition (1).csv")
df.head()
```

Out[106]:

	Age	Attrition	BusinessTravel	Department	DistanceFromHome	Gender	JobInvolvement	JobLevel	JobRole	JobSatisfaction	...	Date_c
0	37	Yes	Travel_Rarely	Research & Development	2	Male	2	1	Laboratory Technician	3	...	21-0
1	21	No	Travel_Rarely	Research & Development	15	Male	3	1	Research Scientist	4	...	13-0
2	45	No	Travel_Rarely	Research & Development	6	Male	3	3	Research Director	1	...	23-0
3	23	No	Travel_Rarely	Sales	2	Male	3	1	Sales Representative	1	...	25-0
4	22	No	Travel_Rarely	Research & Development	15	Female	3	1	Laboratory Technician	4	...	14-0

5 rows × 33 columns

In [107]:
```
df.drop(columns=['Unnamed: 32'],inplace=True)
```

In [108]:
```
df.head()
```

Out[108]:

	Age	Attrition	BusinessTravel	Department	DistanceFromHome	Gender	JobInvolvement	JobLevel	JobRole	JobSatisfaction	...	Higher
0	37	Yes	Travel_Rarely	Research & Development	2	Male	2	1	Laboratory Technician	3	...	
1	21	No	Travel_Rarely	Research & Development	15	Male	3	1	Research Scientist	4	...	
2	45	No	Travel_Rarely	Research & Development	6	Male	3	3	Research Director	1	...	Pos
3	23	No	Travel_Rarely	Sales	2	Male	3	1	Sales Representative	1	...	
4	22	No	Travel_Rarely	Research & Development	15	Female	3	1	Laboratory Technician	4	...	

5 rows × 32 columns

In [96]:
```
# Rayleigh Distribution
sns.distplot(df['Age'],hist=False)
plt.show()
```

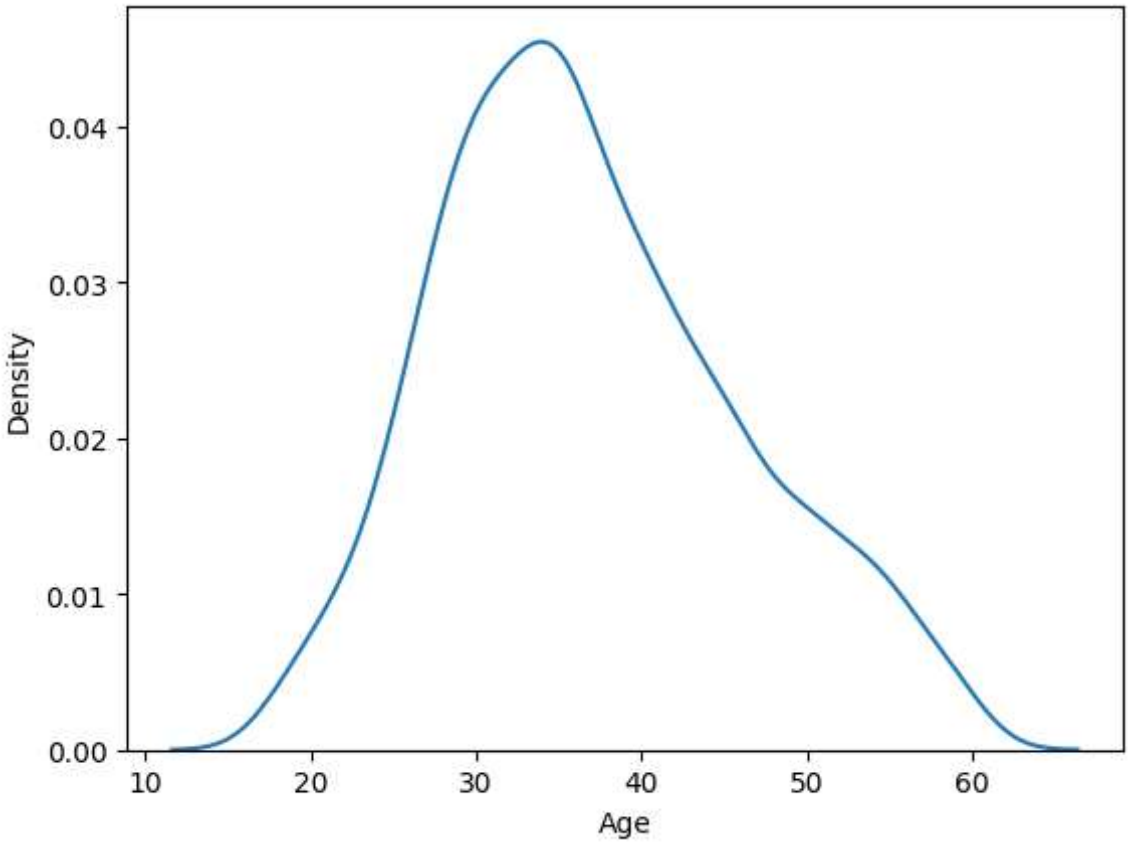
```
C:\Users\kunal vashistha\AppData\Local\Temp\ipykernel_2276\429286788.py:2: UserWarning:

`distplot` is a deprecated function and will be removed in seaborn v0.14.0.

Please adapt your code to use either `displot` (a figure-level function with
similar flexibility) or `kdeplot` (an axes-level function for kernel density plots).

For a guide to updating your code to use the new functions, please see
https://gist.github.com/mwaskom/de44147ed2974457ad6372750bbe5751 (https://gist.github.com/mwaskom/de44147ed2974457ad6372750bbe5751)

  sns.distplot(df['Age'],hist=False)
```

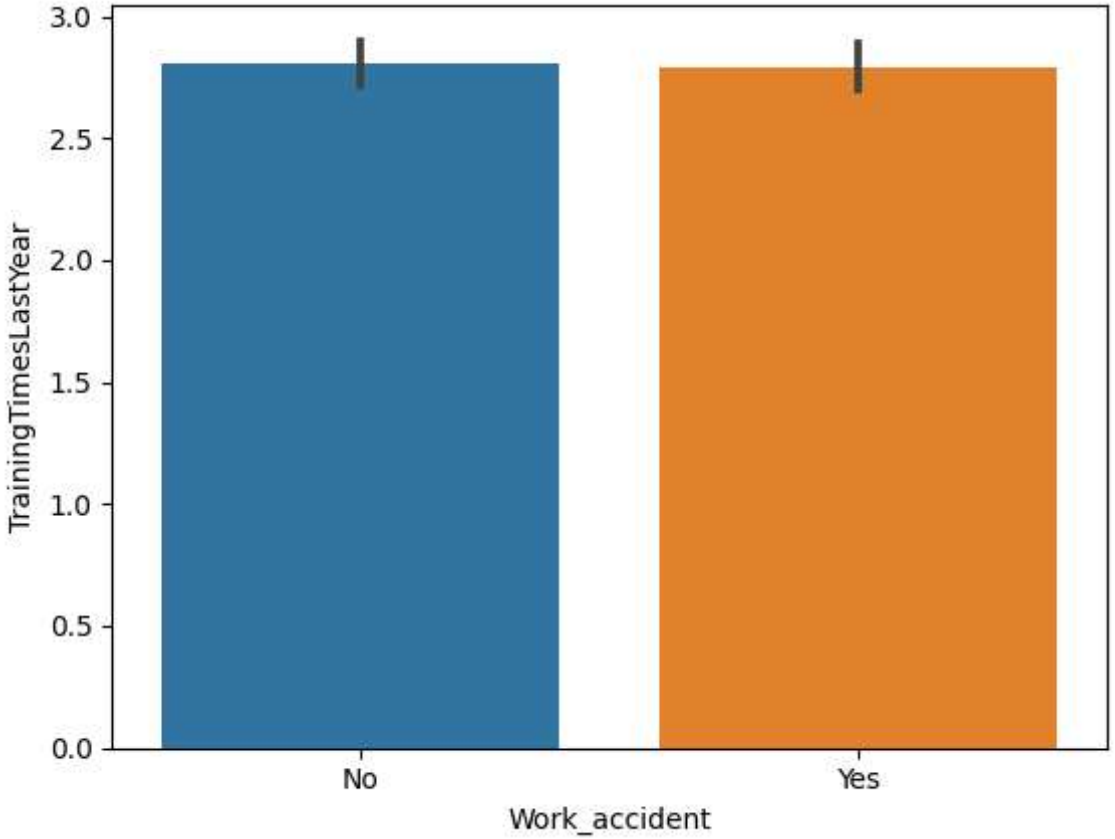

0.04
0.03
0.02
0.01
0.00
Density
10
20
30
40
50
60
Age

In [184]:
```
sns.barplot(x = df['Status_of_leaving'], y = df['YearsAtCompany'])
```

Out[184]: <AxesSubplot: xlabel='Status_of_leaving', ylabel='YearsAtCompany'>

In [190]:
```
sns.barplot(x = df['Work_accident'], y = df['TrainingTimesLastYear'])
```

Out[190]: <AxesSubplot: xlabel='Work_accident', ylabel='TrainingTimesLastYear'>

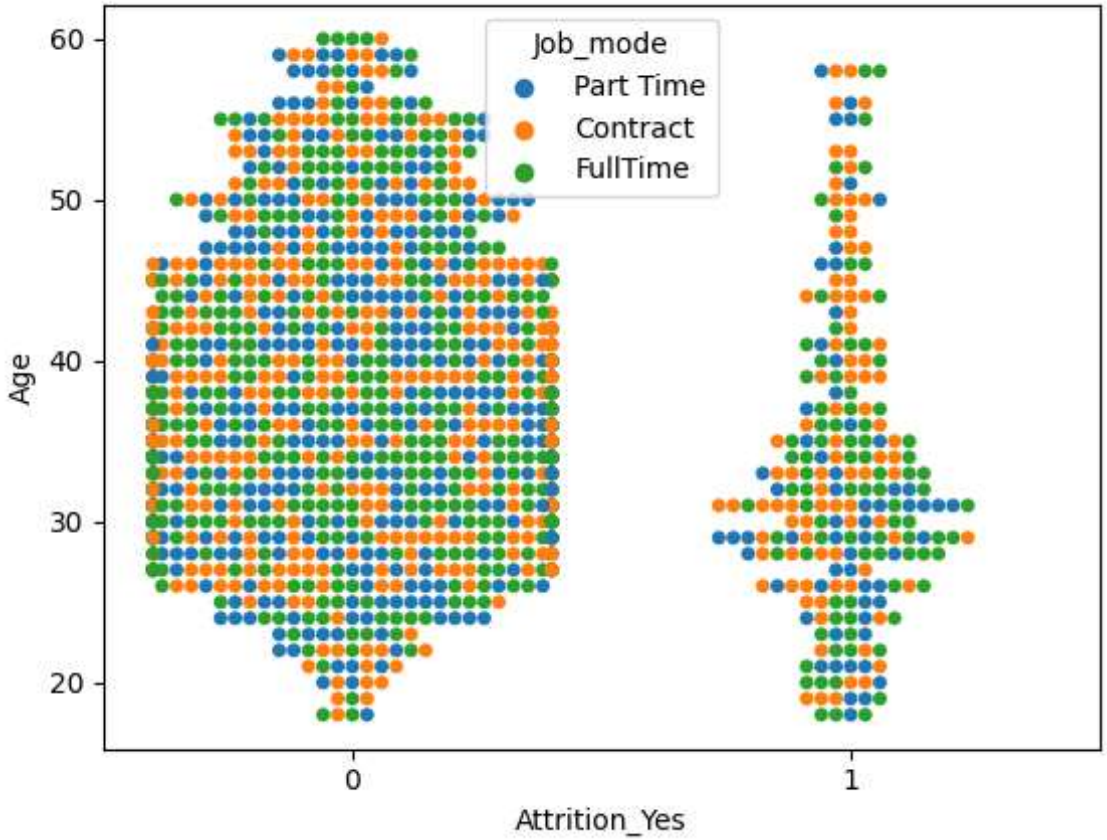


In [69]:
```
sns.swarmplot(y = df['Age'], x = df['Attrition_Yes'],hue=df['Job_mode'])
```

```
C:\Users\kunal vashistha\AppData\Local\Programs\Python\Python311\Lib\site-packages\seaborn\categorical.py:3544: User
Warning: 5.5% of the points cannot be placed; you may want to decrease the size of the markers or use stripplot.
  warnings.warn(msg, UserWarning)
```

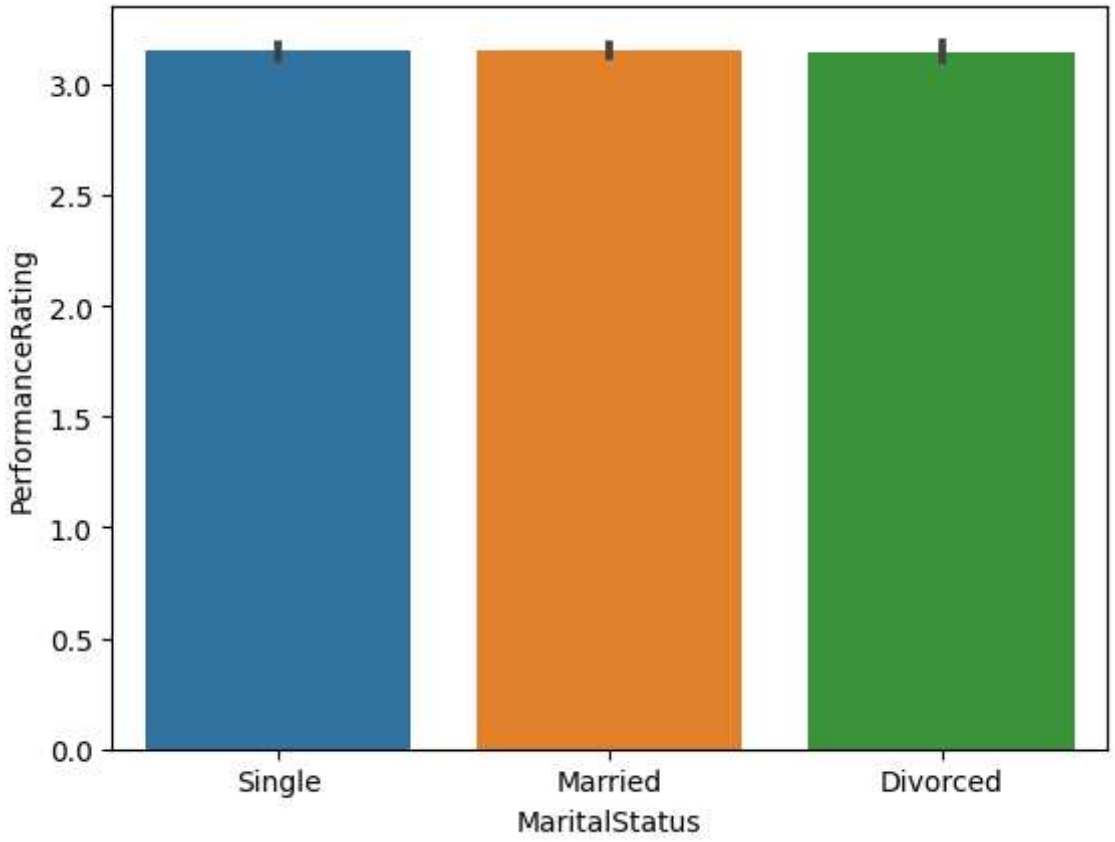
Out[69]:
```
<AxesSubplot: xlabel='Attrition_Yes', ylabel='Age'>
```

```
C:\Users\kunal vashistha\AppData\Local\Programs\Python\Python311\Lib\site-packages\seaborn\categorical.py:3544: User
Warning: 30.6% of the points cannot be placed; you may want to decrease the size of the markers or use stripplot.
  warnings.warn(msg, UserWarning)
C:\Users\kunal vashistha\AppData\Local\Programs\Python\Python311\Lib\site-packages\seaborn\categorical.py:3544: User
Warning: 30.6% of the points cannot be placed; you may want to decrease the size of the markers or use stripplot.
  warnings.warn(msg, UserWarning)
C:\Users\kunal vashistha\AppData\Local\Programs\Python\Python311\Lib\site-packages\seaborn\categorical.py:3544: User
Warning: 30.6% of the points cannot be placed; you may want to decrease the size of the markers or use stripplot.
  warnings.warn(msg, UserWarning)
```


Job_mode
Part Time
Contract
FullTime
60
50
40
30
20
Age
0
1
Attrition_Yes

In [173]:
```
sns.barplot(x = df['MaritalStatus'], y = df['PerformanceRating'])
```

Out[173]: <AxesSubplot: xlabel='MaritalStatus', ylabel='PerformanceRating'>

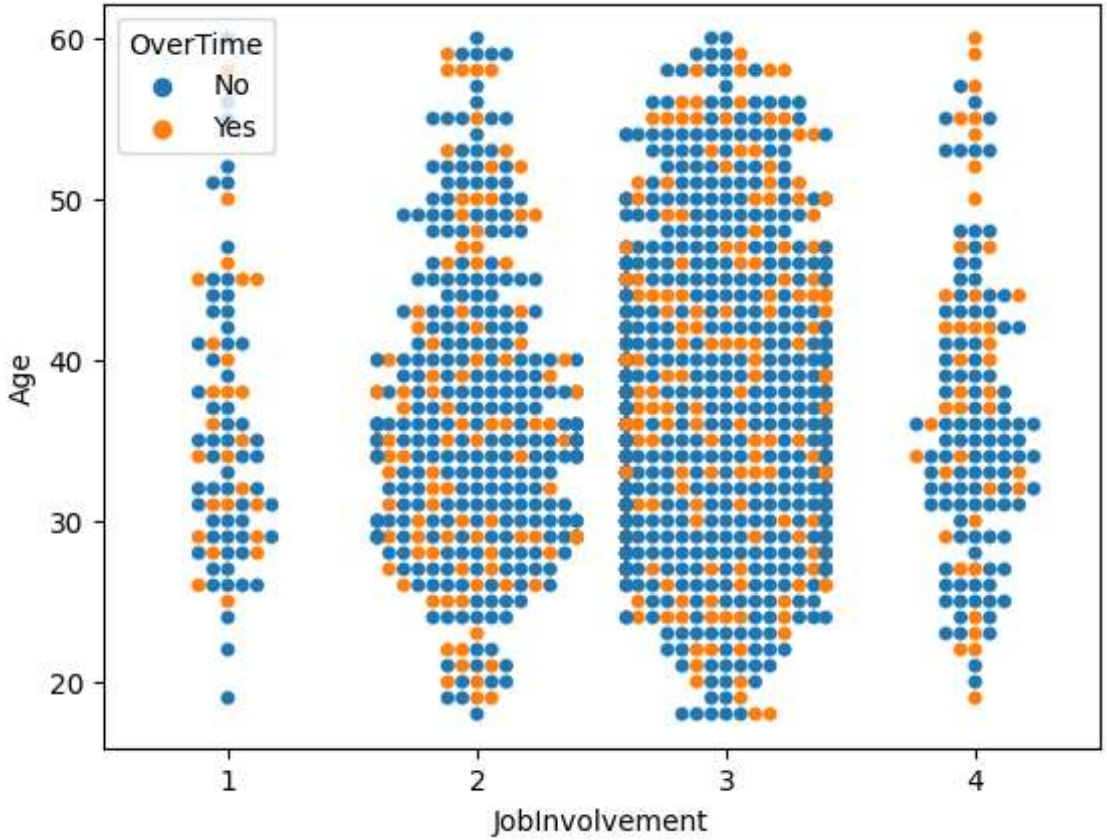


In [179]:
```
sns.swarmplot(y = df['Age'], x = df['JobInvolvement'],hue=df['OverTime'])
```

```
C:\Users\kunal vashistha\AppData\Local\Programs\Python\Python311\Lib\site-packages\seaborn\categorical.py:3544: User
Warning: 6.1% of the points cannot be placed; you may want to decrease the size of the markers or use stripplot.
  warnings.warn(msg, UserWarning)
C:\Users\kunal vashistha\AppData\Local\Programs\Python\Python311\Lib\site-packages\seaborn\categorical.py:3544: User
Warning: 34.7% of the points cannot be placed; you may want to decrease the size of the markers or use stripplot.
  warnings.warn(msg, UserWarning)
```

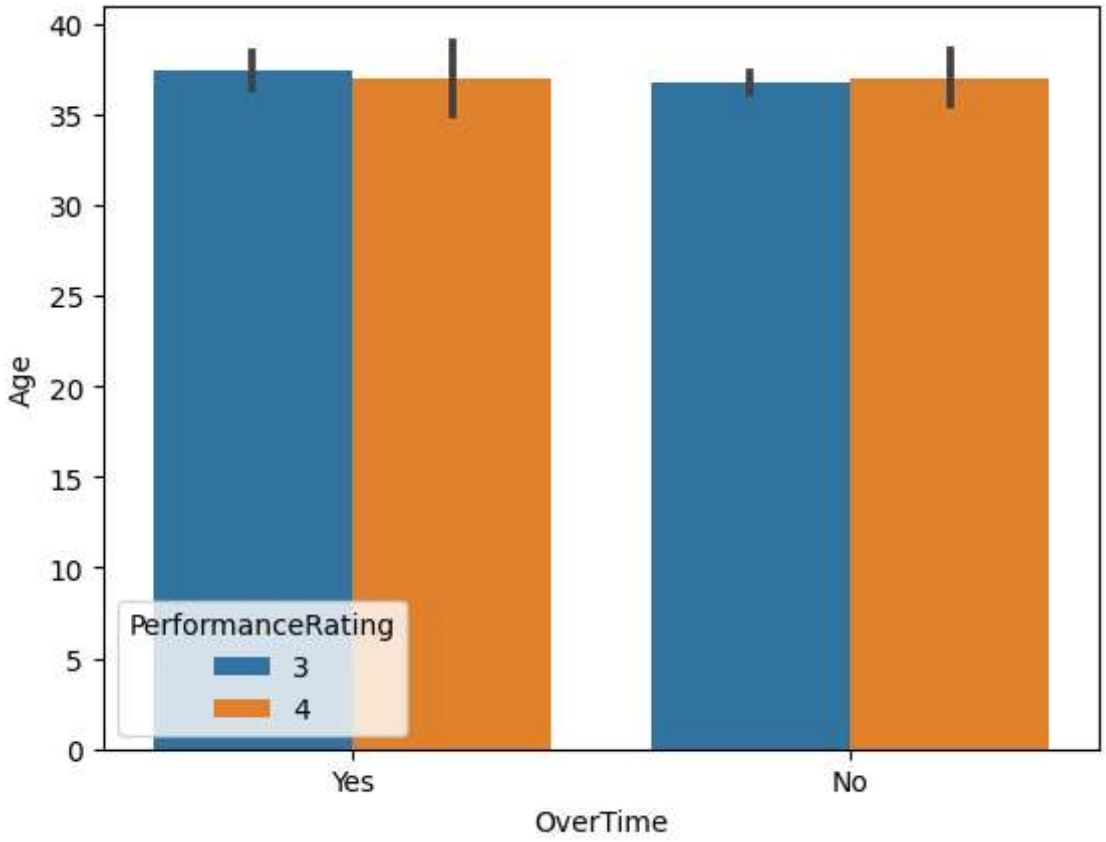
Out[179]:
```
<AxesSubplot: xlabel='JobInvolvement', ylabel='Age'>
```

```
C:\Users\kunal vashistha\AppData\Local\Programs\Python\Python311\Lib\site-packages\seaborn\categorical.py:3544: User
Warning: 13.3% of the points cannot be placed; you may want to decrease the size of the markers or use stripplot.
  warnings.warn(msg, UserWarning)
C:\Users\kunal vashistha\AppData\Local\Programs\Python\Python311\Lib\site-packages\seaborn\categorical.py:3544: User
Warning: 46.0% of the points cannot be placed; you may want to decrease the size of the markers or use stripplot.
  warnings.warn(msg, UserWarning)
C:\Users\kunal vashistha\AppData\Local\Programs\Python\Python311\Lib\site-packages\seaborn\categorical.py:3544: User
Warning: 13.3% of the points cannot be placed; you may want to decrease the size of the markers or use stripplot.
  warnings.warn(msg, UserWarning)
C:\Users\kunal vashistha\AppData\Local\Programs\Python\Python311\Lib\site-packages\seaborn\categorical.py:3544: User
Warning: 46.0% of the points cannot be placed; you may want to decrease the size of the markers or use stripplot.
  warnings.warn(msg, UserWarning)
C:\Users\kunal vashistha\AppData\Local\Programs\Python\Python311\Lib\site-packages\seaborn\categorical.py:3544: User
Warning: 13.3% of the points cannot be placed; you may want to decrease the size of the markers or use stripplot.
  warnings.warn(msg, UserWarning)
C:\Users\kunal vashistha\AppData\Local\Programs\Python\Python311\Lib\site-packages\seaborn\categorical.py:3544: User
Warning: 46.0% of the points cannot be placed; you may want to decrease the size of the markers or use stripplot.
  warnings.warn(msg, UserWarning)
```


OverTime
No
Yes
60
50
40
30
20
Age
1
2
3
4
JobInvolvement

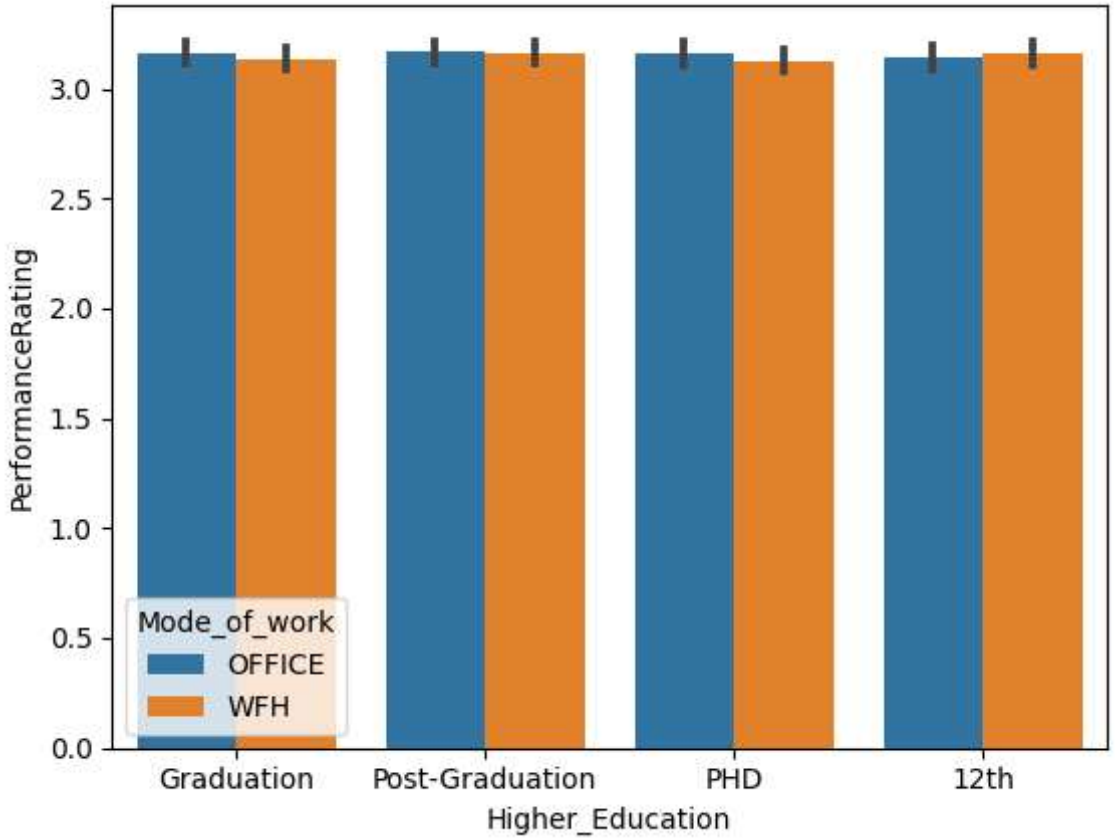
In [155]:
```
sns.barplot(x = df['OverTime'], y = df['Age'],hue=df['PerformanceRating'])
```

Out[155]: <AxesSubplot: xlabel='OverTime', ylabel='Age'>



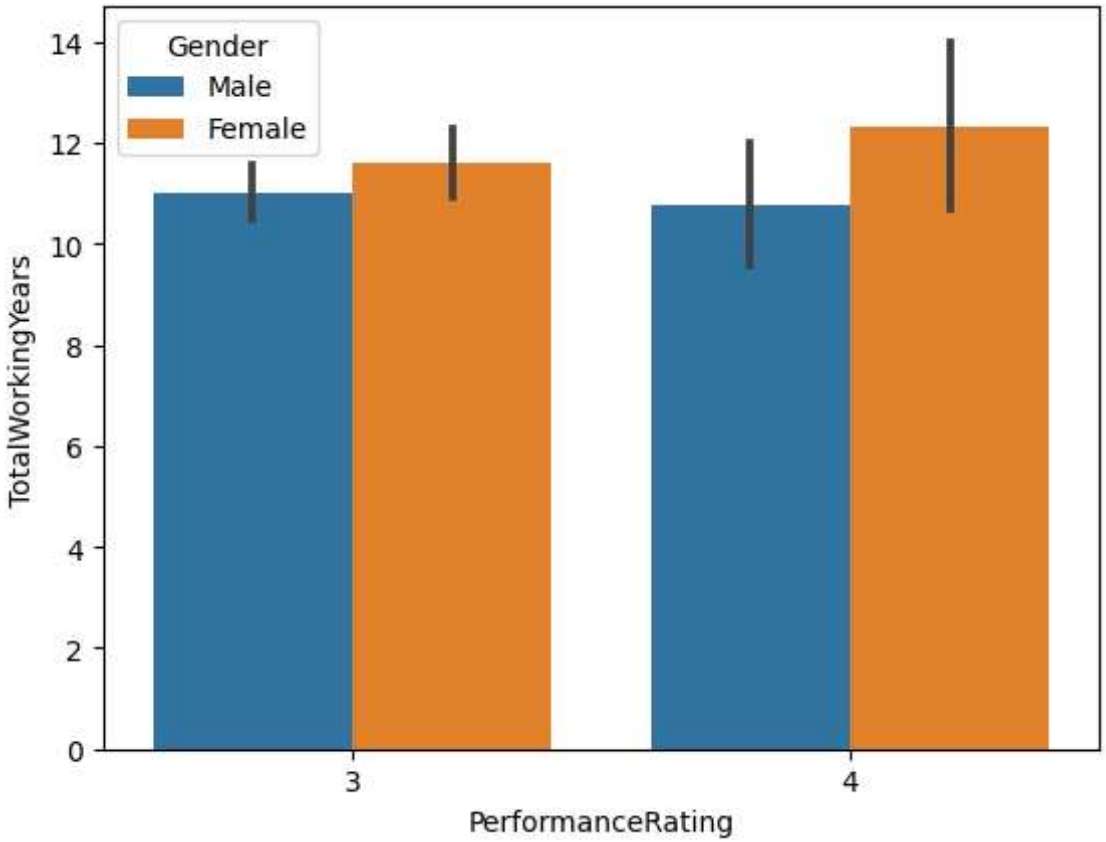
In [191]:
```
sns.barplot(x = df['Higher_Education'], y = df['PerformanceRating'],hue=df['Mode_of_work'])
```

Out[191]: <AxesSubplot: xlabel='Higher_Education', ylabel='PerformanceRating'>



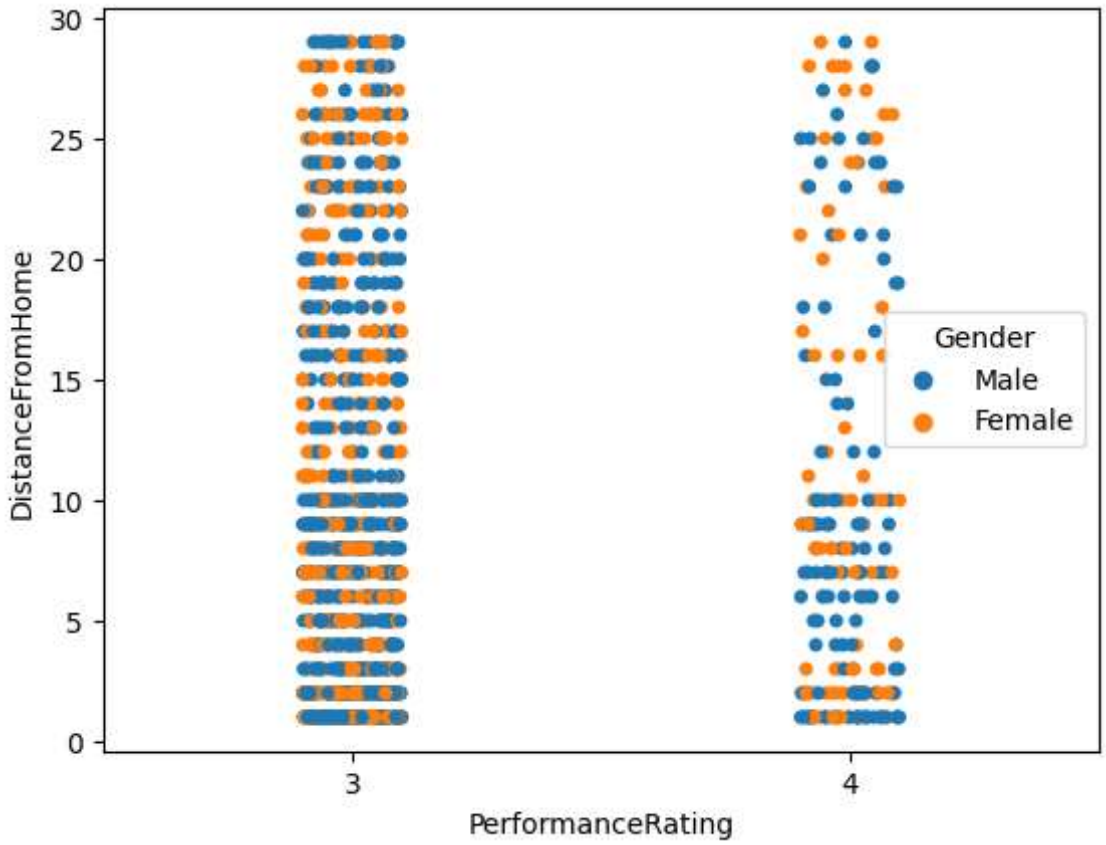
In [131]:
```
sns.barplot(x = df['PerformanceRating'], y = df['TotalWorkingYears'],hue=df['Gender'])
```

Out[131]: <AxesSubplot: xlabel='PerformanceRating', ylabel='TotalWorkingYears'>



In [130]:
```
sns.stripplot(y = df['DistanceFromHome'], x = df['PerformanceRating'],hue=df['Gender'])
```

Out[130]: <AxesSubplot: xlabel='PerformanceRating', ylabel='DistanceFromHome'>

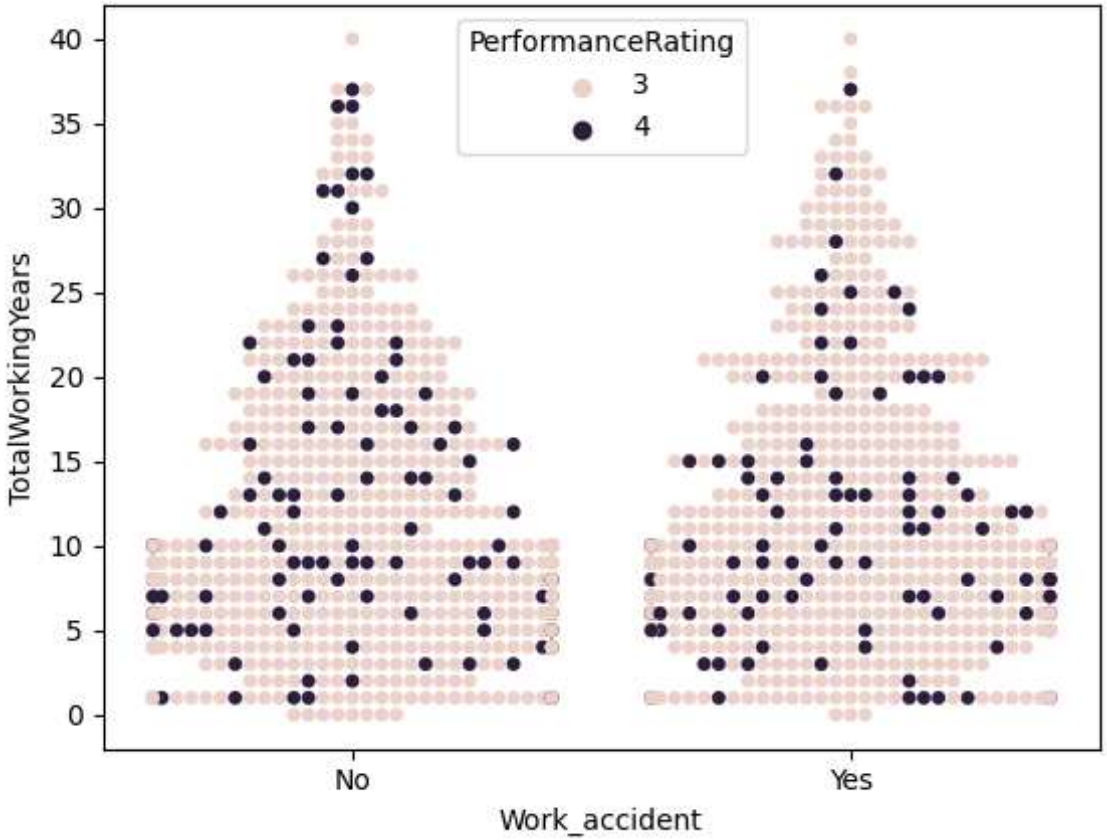


In [147]:
```
sns.swarmplot(y = df['TotalWorkingYears'], x = df['Work_accident'],hue=df['PerformanceRating'])
```

```
C:\Users\kunal vashistha\AppData\Local\Programs\Python\Python311\Lib\site-packages\seaborn\categorical.py:3544: User
Warning: 9.6% of the points cannot be placed; you may want to decrease the size of the markers or use stripplot.
  warnings.warn(msg, UserWarning)
C:\Users\kunal vashistha\AppData\Local\Programs\Python\Python311\Lib\site-packages\seaborn\categorical.py:3544: User
Warning: 9.3% of the points cannot be placed; you may want to decrease the size of the markers or use stripplot.
  warnings.warn(msg, UserWarning)
```

Out[147]:
```
<AxesSubplot: xlabel='Work_accident', ylabel='TotalWorkingYears'>
```

```
C:\Users\kunal vashistha\AppData\Local\Programs\Python\Python311\Lib\site-packages\seaborn\categorical.py:3544: User
Warning: 28.4% of the points cannot be placed; you may want to decrease the size of the markers or use stripplot.
  warnings.warn(msg, UserWarning)
C:\Users\kunal vashistha\AppData\Local\Programs\Python\Python311\Lib\site-packages\seaborn\categorical.py:3544: User
Warning: 27.2% of the points cannot be placed; you may want to decrease the size of the markers or use stripplot.
  warnings.warn(msg, UserWarning)
C:\Users\kunal vashistha\AppData\Local\Programs\Python\Python311\Lib\site-packages\seaborn\categorical.py:3544: User
Warning: 28.4% of the points cannot be placed; you may want to decrease the size of the markers or use stripplot.
  warnings.warn(msg, UserWarning)
C:\Users\kunal vashistha\AppData\Local\Programs\Python\Python311\Lib\site-packages\seaborn\categorical.py:3544: User
Warning: 27.2% of the points cannot be placed; you may want to decrease the size of the markers or use stripplot.
  warnings.warn(msg, UserWarning)
C:\Users\kunal vashistha\AppData\Local\Programs\Python\Python311\Lib\site-packages\seaborn\categorical.py:3544: User
Warning: 28.4% of the points cannot be placed; you may want to decrease the size of the markers or use stripplot.
  warnings.warn(msg, UserWarning)
C:\Users\kunal vashistha\AppData\Local\Programs\Python\Python311\Lib\site-packages\seaborn\categorical.py:3544: User
Warning: 27.2% of the points cannot be placed; you may want to decrease the size of the markers or use stripplot.
  warnings.warn(msg, UserWarning)
```

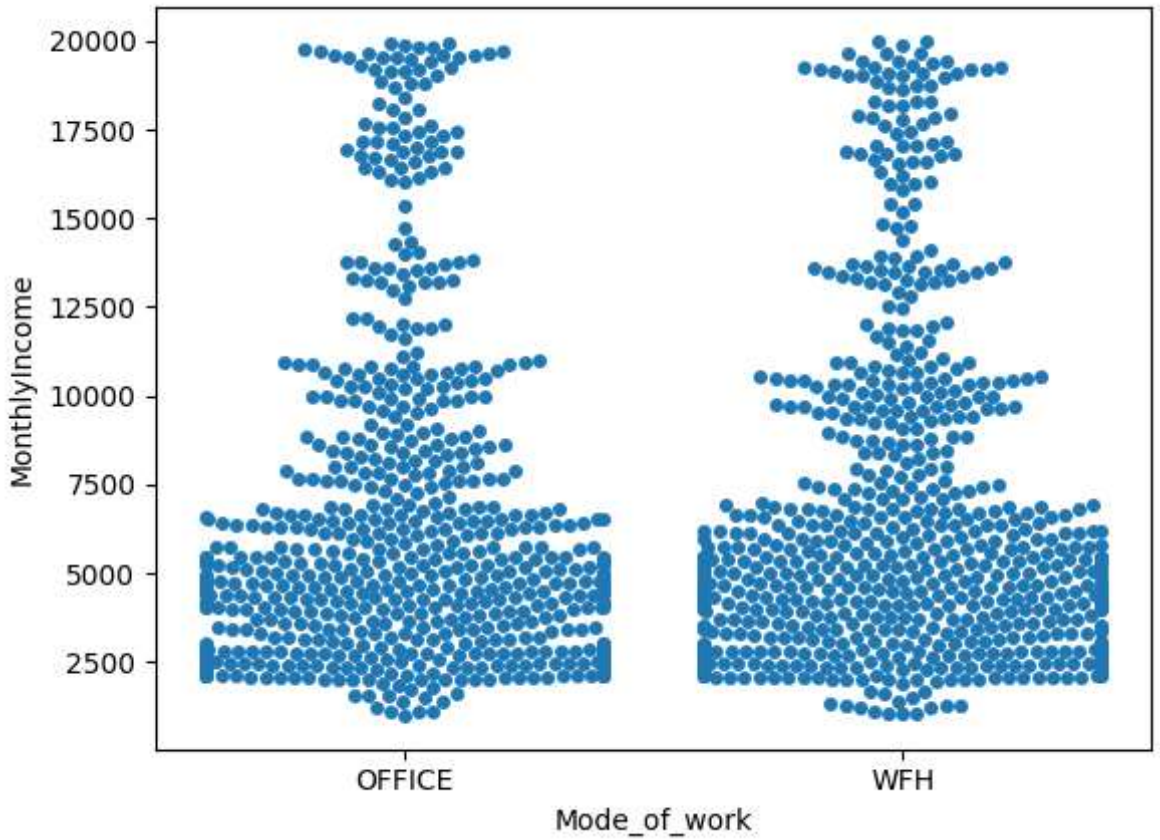

PerformanceRating
3
4
TotalWorkingYears
0
5
10
15
20
25
30
35
40
No
Yes
Work_accident

In [129]:
```
sns.swarmplot(y = df['MonthlyIncome'], x = df['Mode_of_work'])
```

```
C:\Users\kunal vashistha\AppData\Local\Programs\Python\Python311\Lib\site-packages\seaborn\categorical.py:3544: User
Warning: 6.1% of the points cannot be placed; you may want to decrease the size of the markers or use stripplot.
  warnings.warn(msg, UserWarning)
```

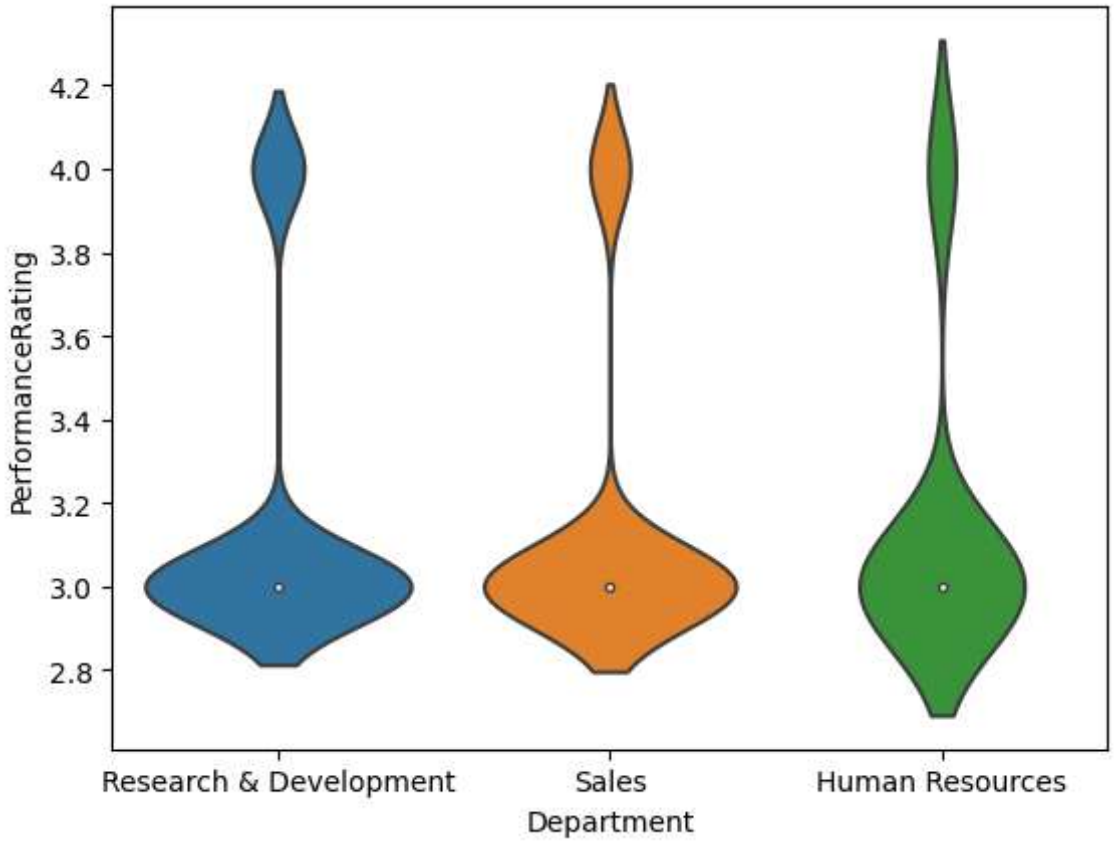
Out[129]:
```
<AxesSubplot: xlabel='Mode_of_work', ylabel='MonthlyIncome'>
```

```
C:\Users\kunal vashistha\AppData\Local\Programs\Python\Python311\Lib\site-packages\seaborn\categorical.py:3544: User
Warning: 20.1% of the points cannot be placed; you may want to decrease the size of the markers or use stripplot.
  warnings.warn(msg, UserWarning)
C:\Users\kunal vashistha\AppData\Local\Programs\Python\Python311\Lib\site-packages\seaborn\categorical.py:3544: User
Warning: 22.8% of the points cannot be placed; you may want to decrease the size of the markers or use stripplot.
  warnings.warn(msg, UserWarning)
```



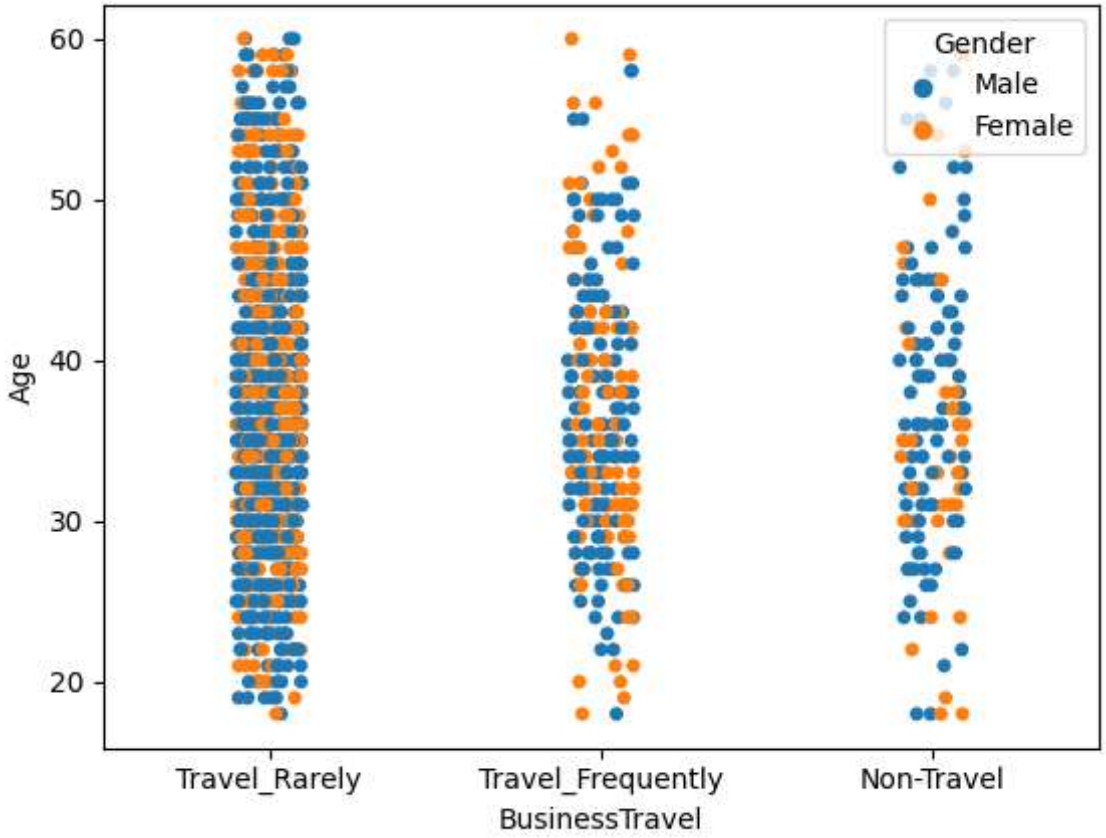
In [123]:
```
sns.violinplot(y = df['PerformanceRating'], x = df['Department'])
```

Out[123]: <AxesSubplot: xlabel='Department', ylabel='PerformanceRating'>



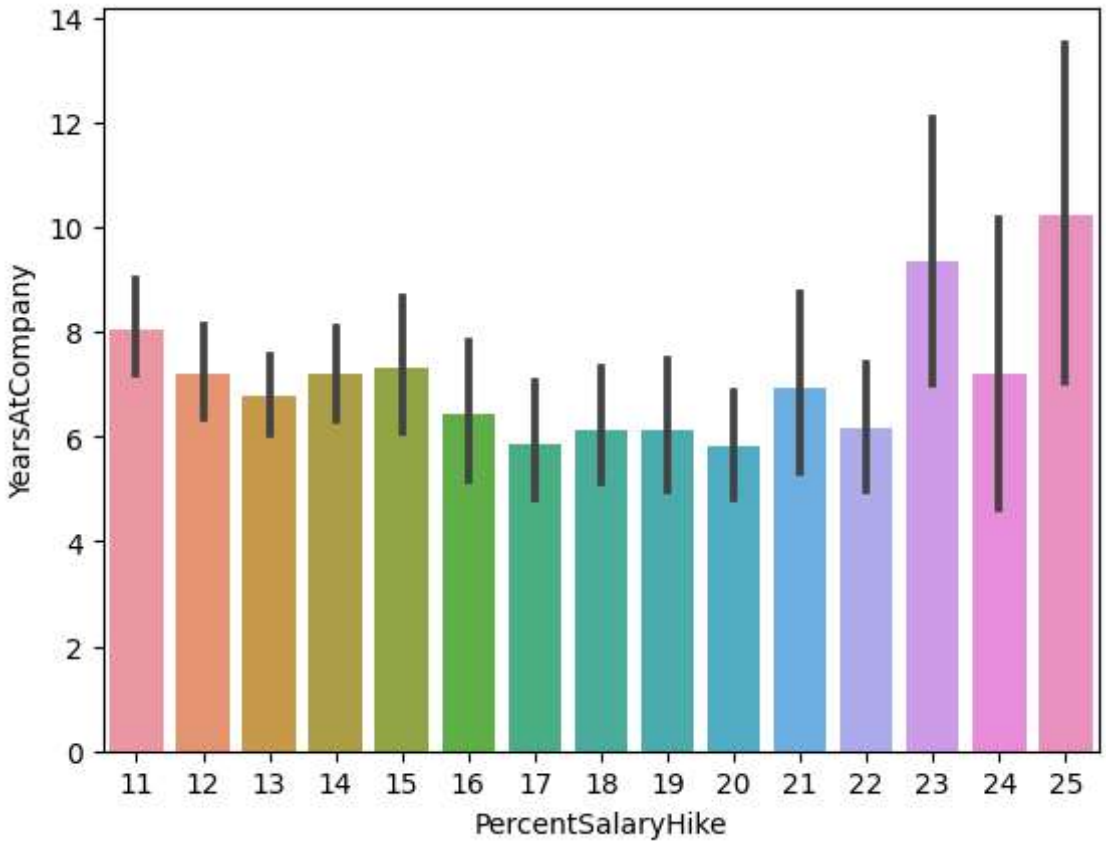
In [143]:
```
sns.stripplot(y = df['Age'], x = df['BusinessTravel'],hue=df['Gender'])
```

Out[143]: <AxesSubplot: xlabel='BusinessTravel', ylabel='Age'>



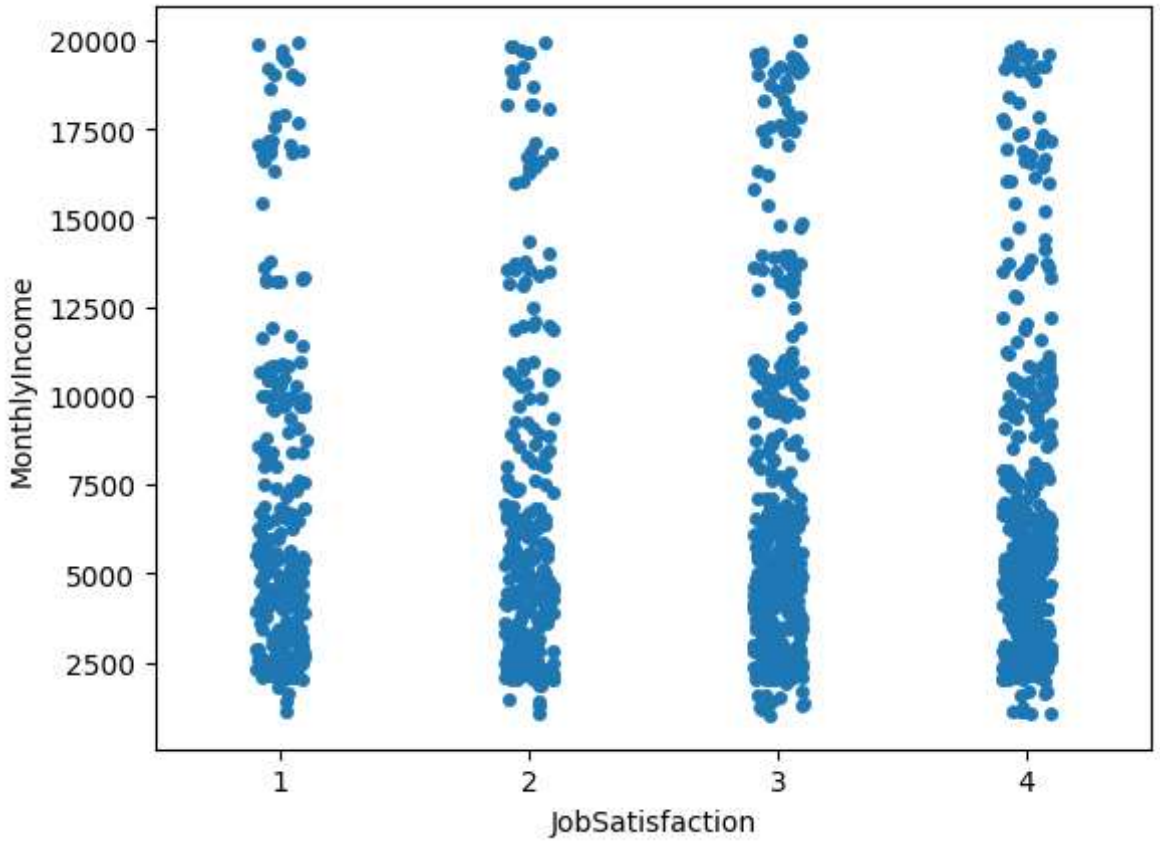
In [149]:
```
sns.barplot(x = df['PercentSalaryHike'], y = df['YearsAtCompany'])
```

Out[149]: <AxesSubplot: xlabel='PercentSalaryHike', ylabel='YearsAtCompany'>



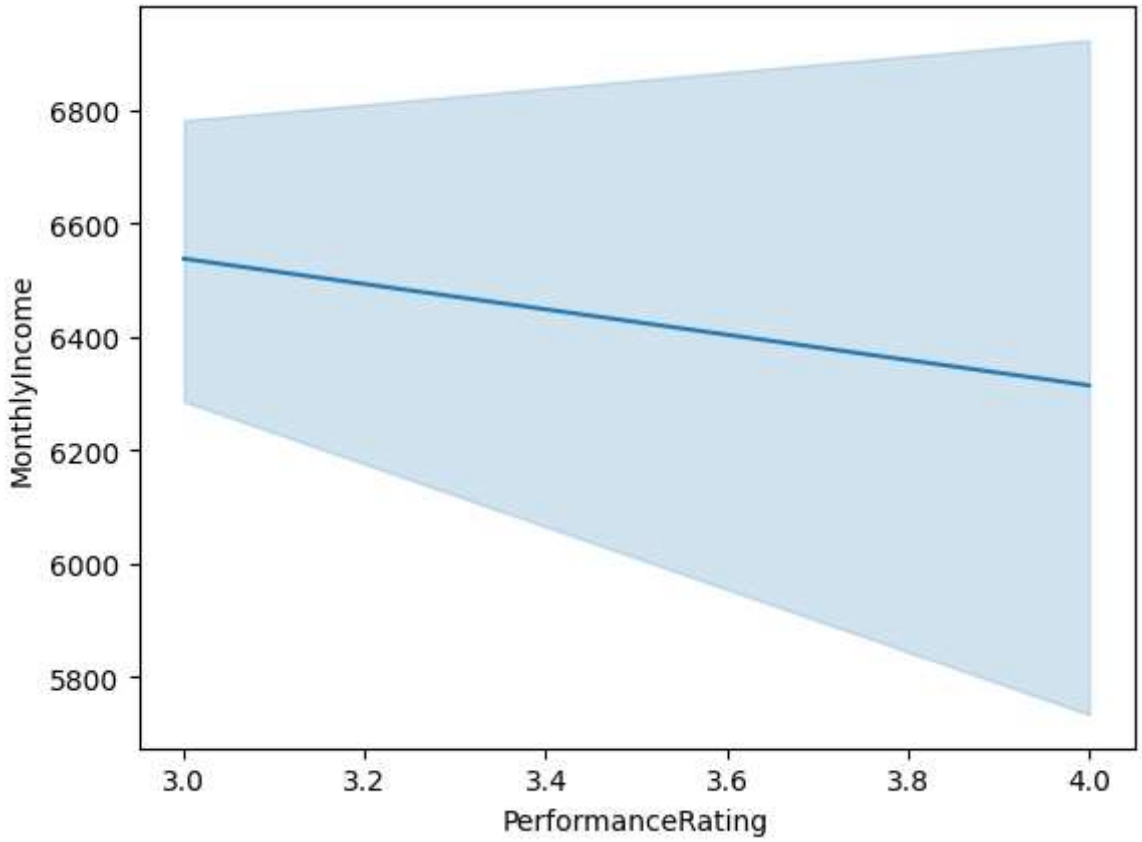
In [172]:
```
sns.stripplot(y = df['MonthlyIncome'], x = df['JobSatisfaction'])
```

Out[172]: <AxesSubplot: xlabel='JobSatisfaction', ylabel='MonthlyIncome'>



In [171]:
```
sns.lineplot(y = df['MonthlyIncome'], x = df['PerformanceRating'])
```

Out[171]: <AxesSubplot: xlabel='PerformanceRating', ylabel='MonthlyIncome'>



In [ ]: