

```
In [2]: import numpy as np
import pandas as pd
import seaborn as sns
sns.set(style="whitegrid")
import matplotlib.pyplot as plt
from collections import Counter
%matplotlib inline

import os
for dirname, _, filenames in os.walk('/kaggle/input'):
    for filename in filenames:
        print(os.path.join(dirname, filename))
```

```
In [3]: import warnings
warnings.filterwarnings('ignore')
```

```
In [4]: fifa19 = pd.read_csv(r"C:\Users\ruchi\OneDrive\Desktop\nares it DA\27th - condit
```

```
In [5]: fifa19.head()
```

```
Out[5]:
```

	Unnamed: 0	ID	Name	Age	Photo	Nation
0	0	158023	L. Messi	31	https://cdn.sofifa.org/players/4/19/158023.png	Arg
1	1	20801	Cristiano Ronaldo	33	https://cdn.sofifa.org/players/4/19/20801.png	Po
2	2	190871	Neymar Jr	26	https://cdn.sofifa.org/players/4/19/190871.png	
3	3	193080	De Gea	27	https://cdn.sofifa.org/players/4/19/193080.png	
4	4	192985	K. De Bruyne	27	https://cdn.sofifa.org/players/4/19/192985.png	Be

5 rows × 89 columns



```
In [6]: fifa19.info()
```

<class 'pandas.core.frame.DataFrame'>

RangeIndex: 18207 entries, 0 to 18206

Data columns (total 89 columns):

#	Column	Non-Null	Count	Dtype
0	Unnamed: 0	18207	non-null	int64
1	ID	18207	non-null	int64
2	Name	18207	non-null	object
3	Age	18207	non-null	int64
4	Photo	18207	non-null	object
5	Nationality	18207	non-null	object
6	Flag	18207	non-null	object
7	Overall	18207	non-null	int64
8	Potential	18207	non-null	int64
9	Club	17966	non-null	object
10	Club Logo	18207	non-null	object
11	Value	18207	non-null	object
12	Wage	18207	non-null	object
13	Special	18207	non-null	int64
14	Preferred Foot	18159	non-null	object
15	International Reputation	18159	non-null	float64
16	Weak Foot	18159	non-null	float64
17	Skill Moves	18159	non-null	float64
18	Work Rate	18159	non-null	object
19	Body Type	18159	non-null	object
20	Real Face	18159	non-null	object
21	Position	18147	non-null	object
22	Jersey Number	18147	non-null	float64
23	Joined	16654	non-null	object
24	Loaned From	1264	non-null	object
25	Contract Valid Until	17918	non-null	object
26	Height	18159	non-null	object
27	Weight	18159	non-null	object
28	LS	16122	non-null	object
29	ST	16122	non-null	object
30	RS	16122	non-null	object
31	LW	16122	non-null	object
32	LF	16122	non-null	object
33	CF	16122	non-null	object
34	RF	16122	non-null	object
35	RW	16122	non-null	object
36	LAM	16122	non-null	object
37	CAM	16122	non-null	object
38	RAM	16122	non-null	object
39	LM	16122	non-null	object
40	LCM	16122	non-null	object
41	CM	16122	non-null	object
42	RCM	16122	non-null	object
43	RM	16122	non-null	object
44	LWB	16122	non-null	object
45	LDM	16122	non-null	object
46	CDM	16122	non-null	object
47	RDM	16122	non-null	object
48	RWB	16122	non-null	object
49	LB	16122	non-null	object
50	LCB	16122	non-null	object
51	CB	16122	non-null	object
52	RCB	16122	non-null	object
53	RB	16122	non-null	object
54	Crossing	18159	non-null	float64

```

55 Finishing 18159 non-null float64
56 HeadingAccuracy 18159 non-null float64
57 ShortPassing 18159 non-null float64
58 Volleys 18159 non-null float64
59 Dribbling 18159 non-null float64
60 Curve 18159 non-null float64
61 FKAccuracy 18159 non-null float64
62 LongPassing 18159 non-null float64
63 BallControl 18159 non-null float64
64 Acceleration 18159 non-null float64
65 SprintSpeed 18159 non-null float64
66 Agility 18159 non-null float64
67 Reactions 18159 non-null float64
68 Balance 18159 non-null float64
69 ShotPower 18159 non-null float64
70 Jumping 18159 non-null float64
71 Stamina 18159 non-null float64
72 Strength 18159 non-null float64
73 LongShots 18159 non-null float64
74 Aggression 18159 non-null float64
75 Interceptions 18159 non-null float64
76 Positioning 18159 non-null float64
77 Vision 18159 non-null float64
78 Penalties 18159 non-null float64
79 Composure 18159 non-null float64
80 Marking 18159 non-null float64
81 StandingTackle 18159 non-null float64
82 SlidingTackle 18159 non-null float64
83 GKDividing 18159 non-null float64
84 GKHandling 18159 non-null float64
85 GKKicking 18159 non-null float64
86 GKPositioning 18159 non-null float64
87 GKReflexes 18159 non-null float64
88 Release Clause 16643 non-null object
dtypes: float64(38), int64(6), object(45)
memory usage: 12.4+ MB

```

```
In [7]: fifa19['Body Type'].value_counts()
```

```

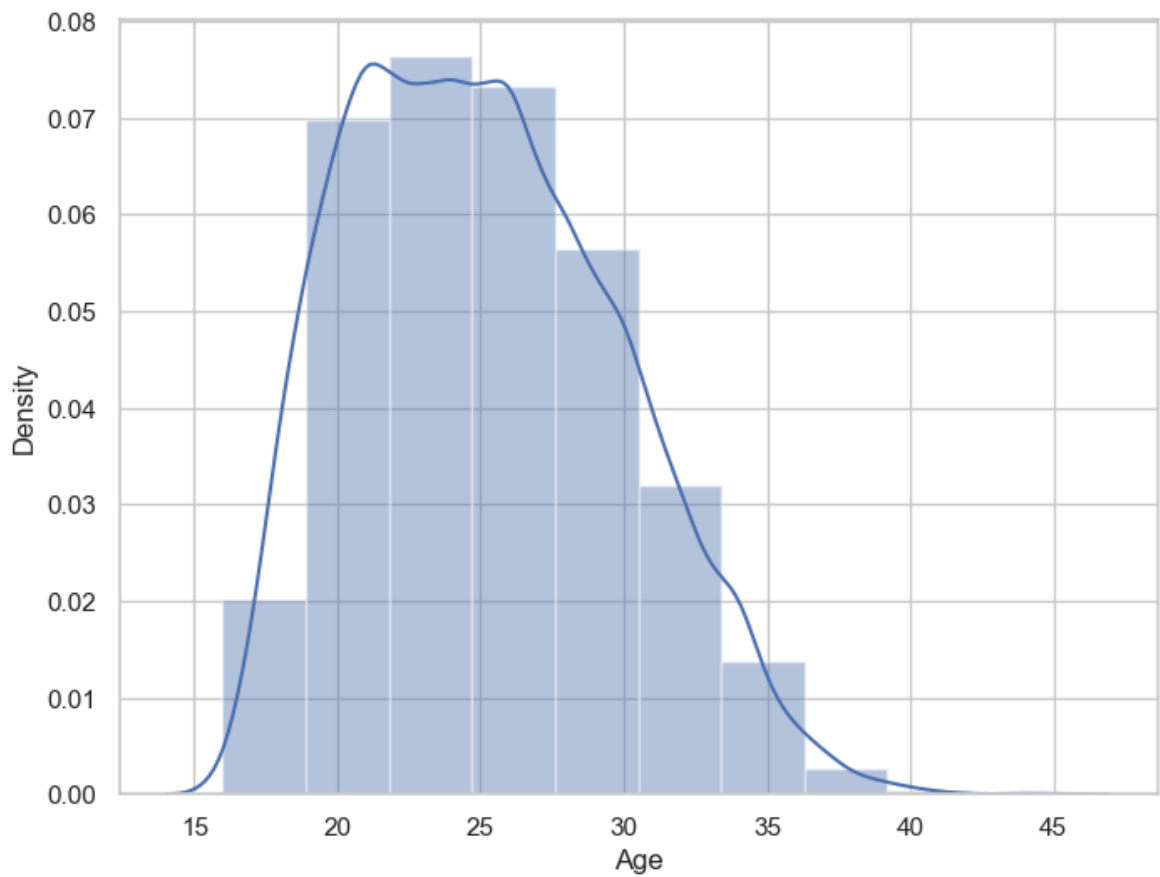
Out[7]: Body Type
Normal      10595
Lean         6417
Stocky      1140
Messi         1
C. Ronaldo   1
Neymar        1
Courtois      1
PLAYER_BODY_TYPE_25  1
Shaqiri        1
Akinfenwa      1
Name: count, dtype: int64

```

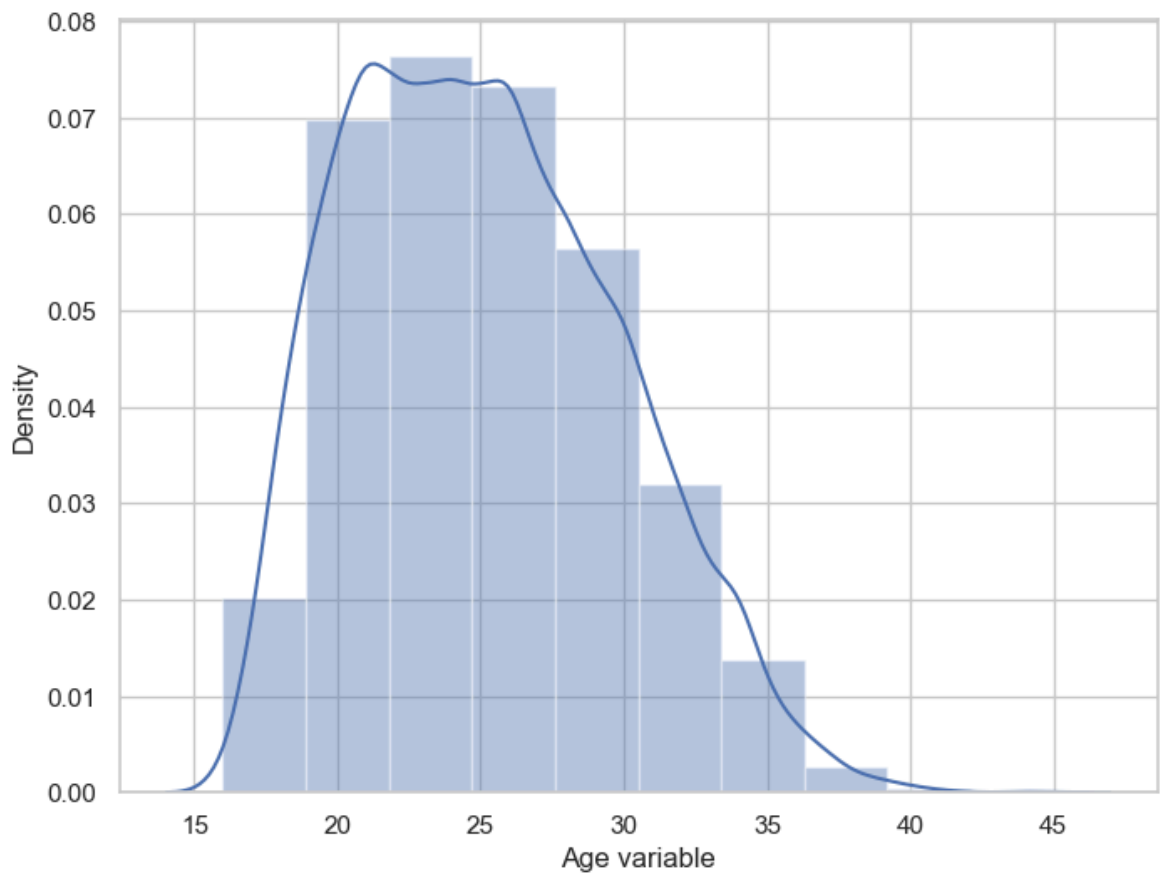
```

In [8]: f, ax = plt.subplots(figsize=(8,6))
x = fifa19['Age']
ax = sns.distplot(x, bins=10)
plt.show()

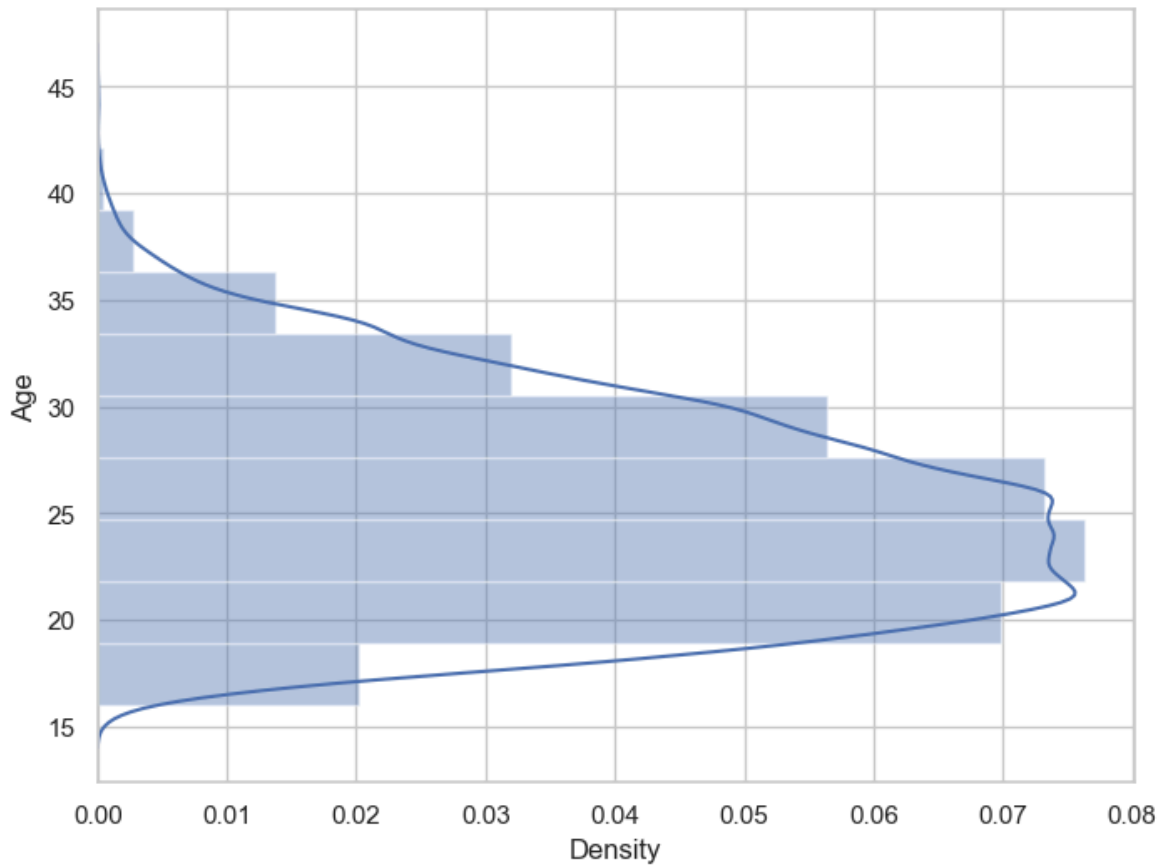
```



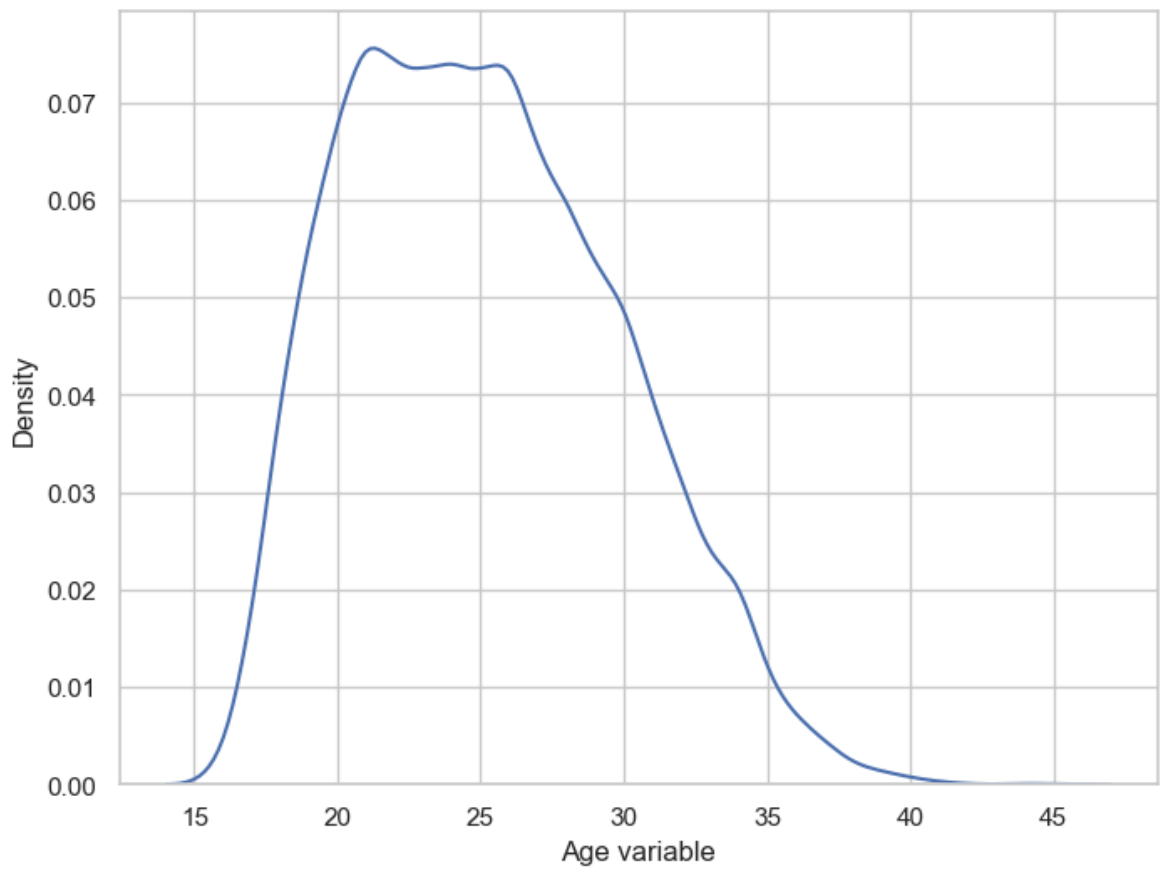
```
In [9]: f, ax = plt.subplots(figsize=(8,6))
x = fifa19['Age']
x = pd.Series(x, name="Age variable")
ax = sns.distplot(x, bins=10)
plt.show()
```



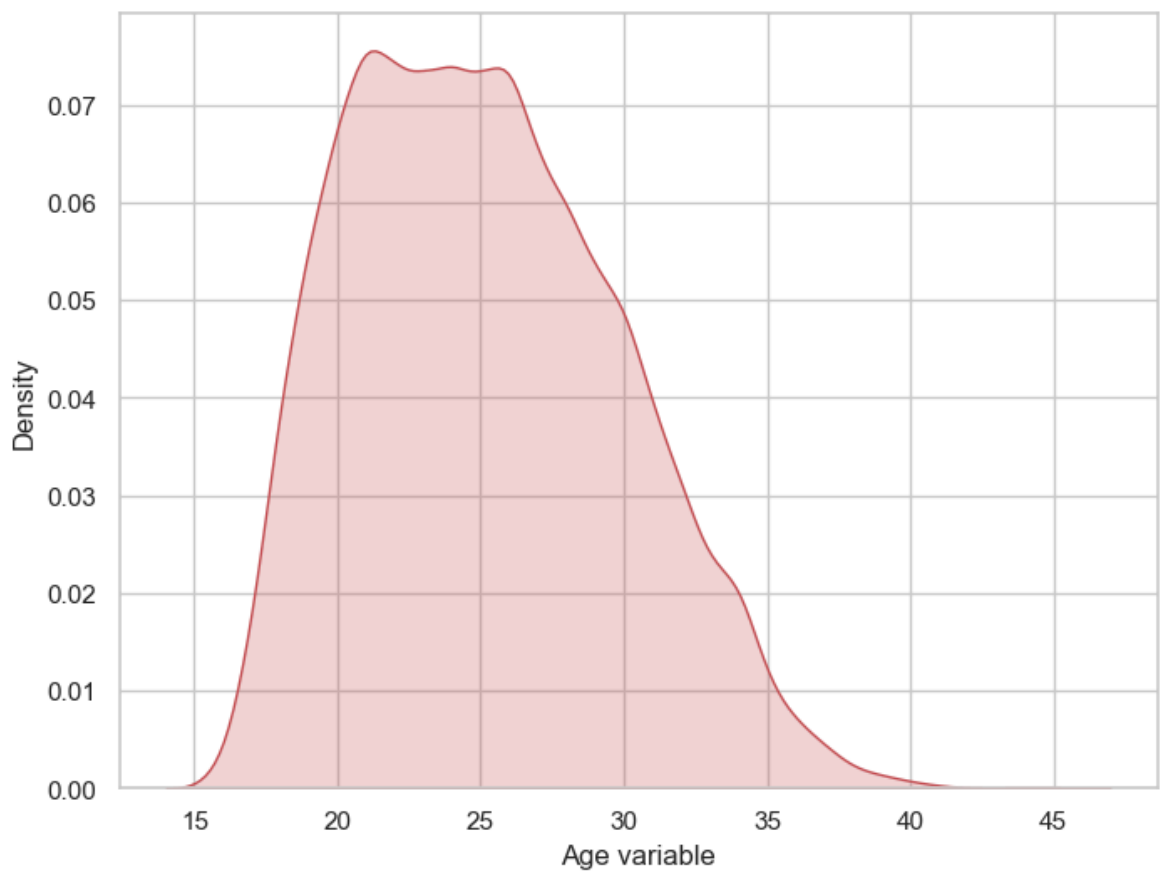
```
In [10]: f, ax = plt.subplots(figsize=(8,6))
x = fifa19['Age']
ax = sns.distplot(x, bins=10, vertical = True)
plt.show()
```



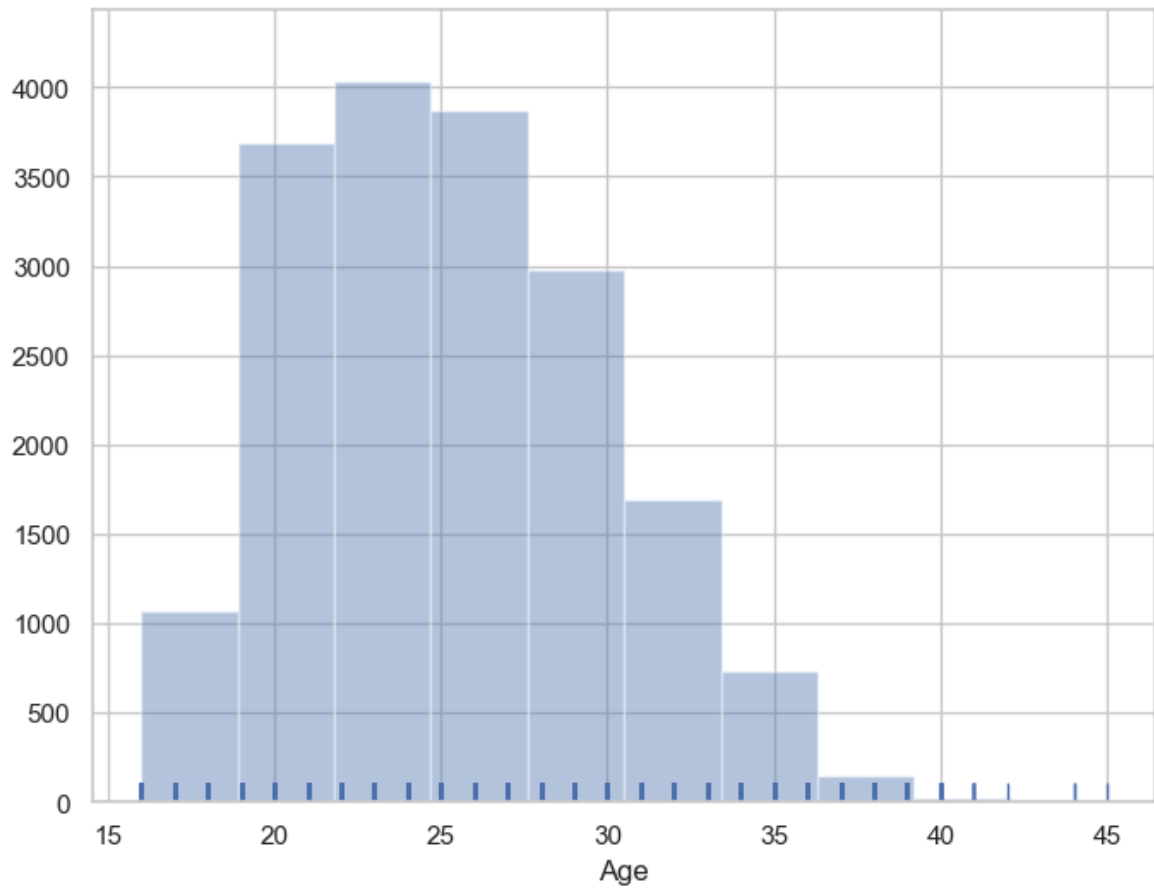
```
In [11]: f, ax=plt.subplots(figsize=(8,6))
x = fifa19['Age']
x = pd.Series(x, name= "Age variable")
ax= sns.kdeplot(x)
plt.show()
```



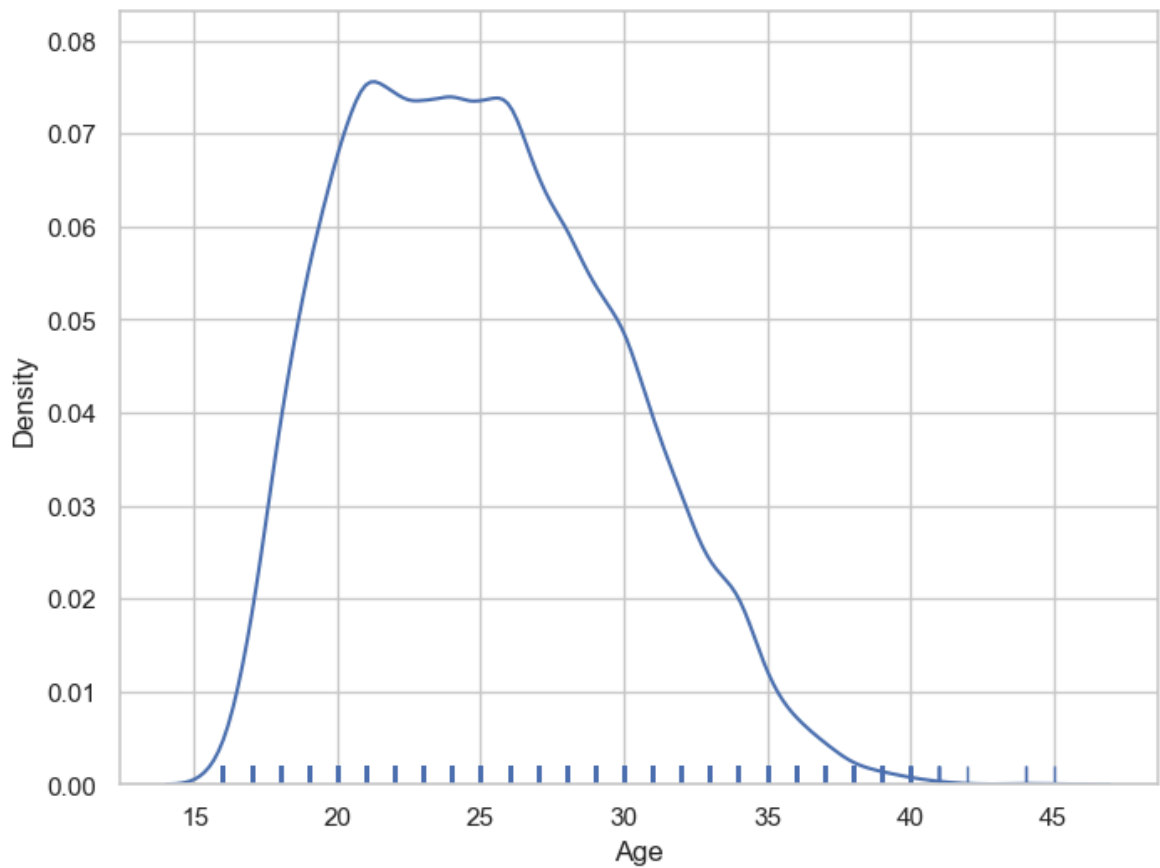
```
In [12]: f, ax=plt.subplots(figsize=(8,6))  
x = fifa19['Age']  
x = pd.Series(x, name= "Age variable")  
ax= sns.kdeplot(x, shade=True, color='r')  
plt.show()
```



```
In [13]: f, ax=plt.subplots(figsize=(8,6))
x = fifa19['Age']
ax = sns.distplot(x, kde=False, rug=True, bins=10)
plt.show()
```



```
In [14]: f, ax=plt.subplots(figsize=(8,6))
x = fifa19['Age']
ax = sns.distplot(x, hist=False, rug=True, bins=10)
plt.show()
```



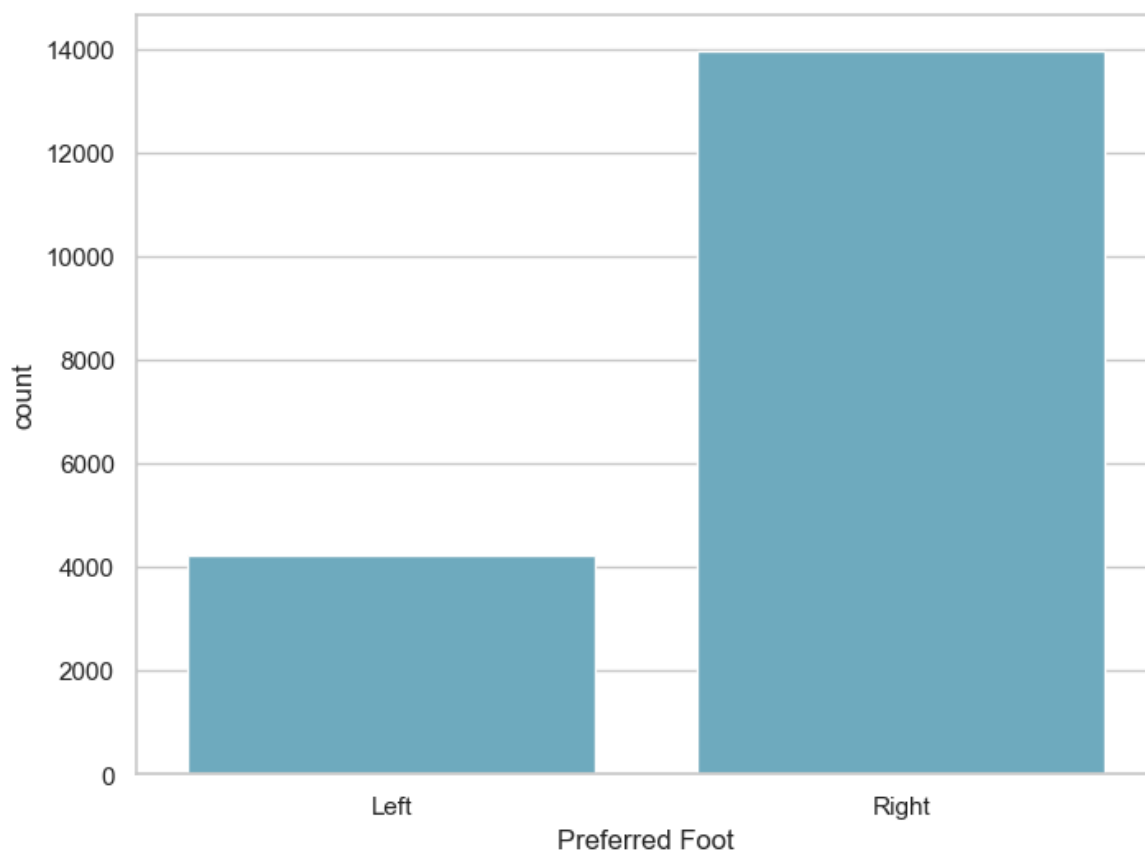
```
In [15]: fifa19['Preferred Foot'].nunique()
```

```
Out[15]: 2
```

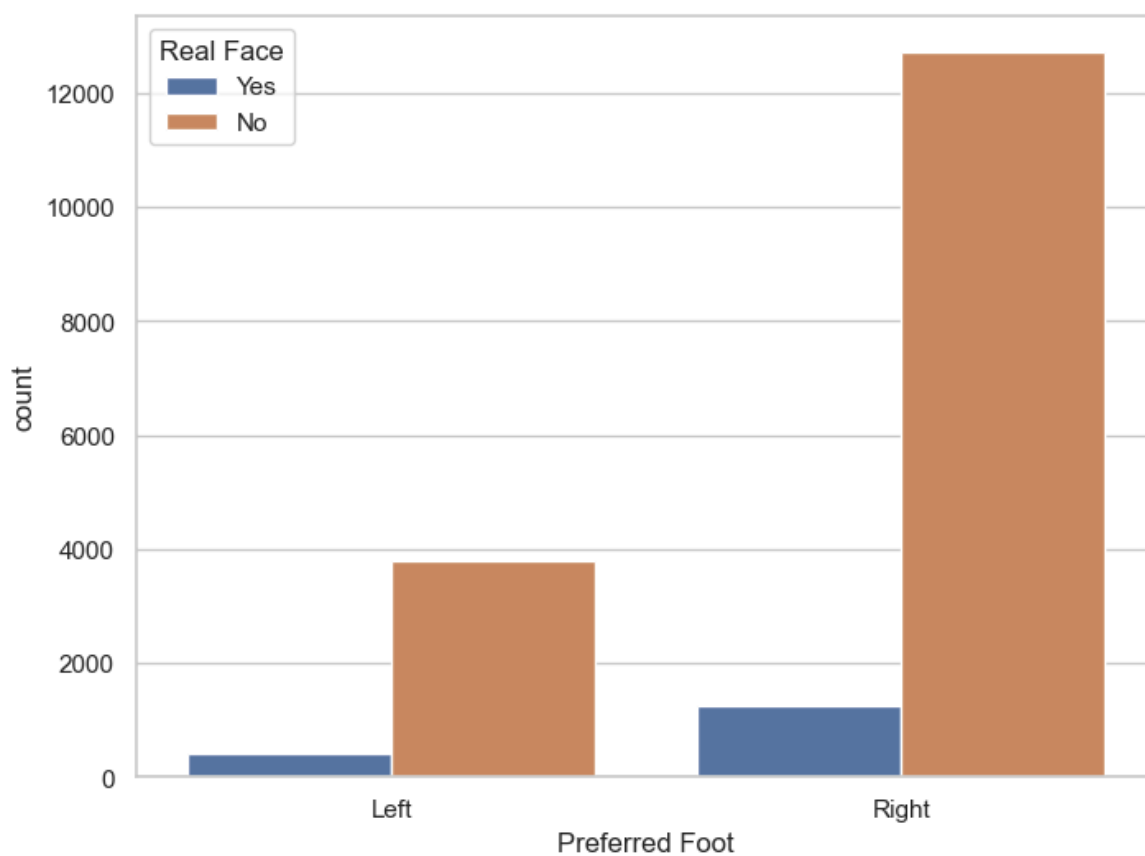
```
In [16]: fifa19['Preferred Foot'].value_counts()
```

```
Out[16]: Preferred Foot
Right    13948
Left     4211
Name: count, dtype: int64
```

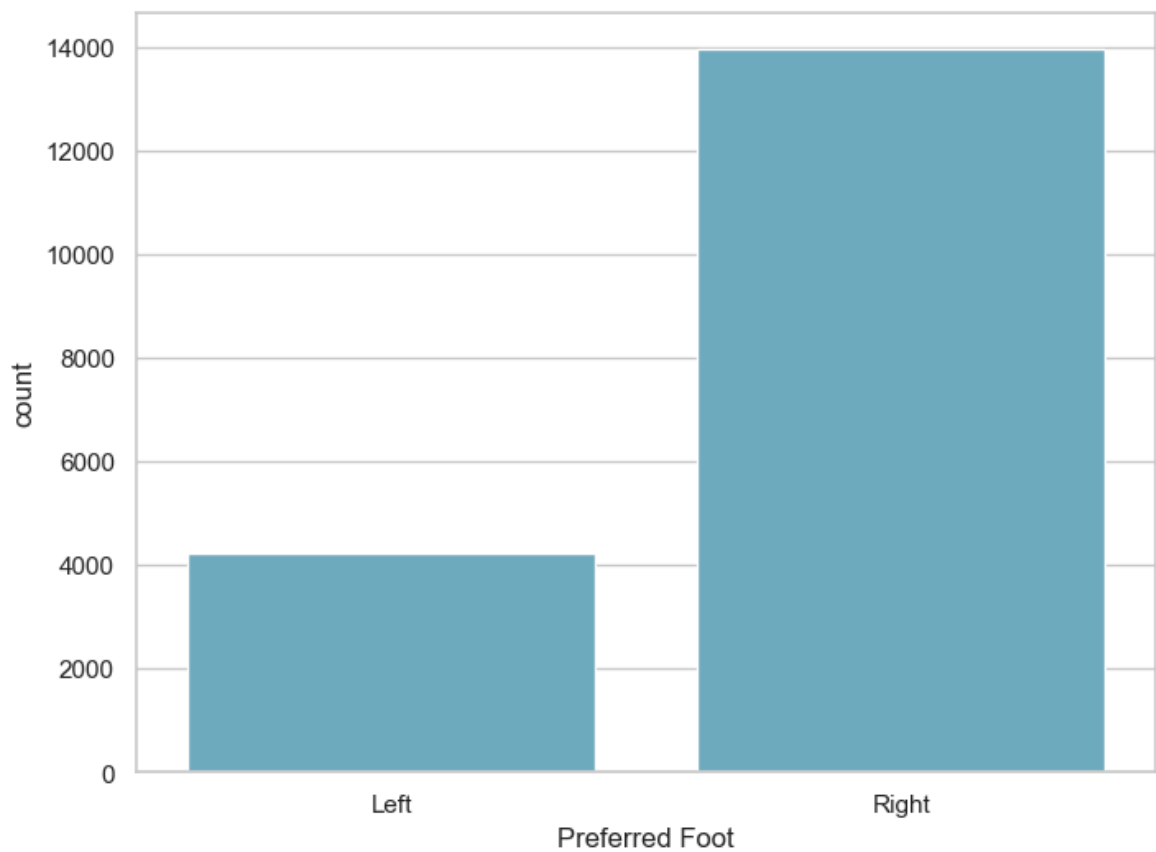
```
In [17]: f, ax = plt.subplots(figsize=(8, 6))
sns.countplot(x="Preferred Foot", data=fifa19, color="c")
plt.show()
```

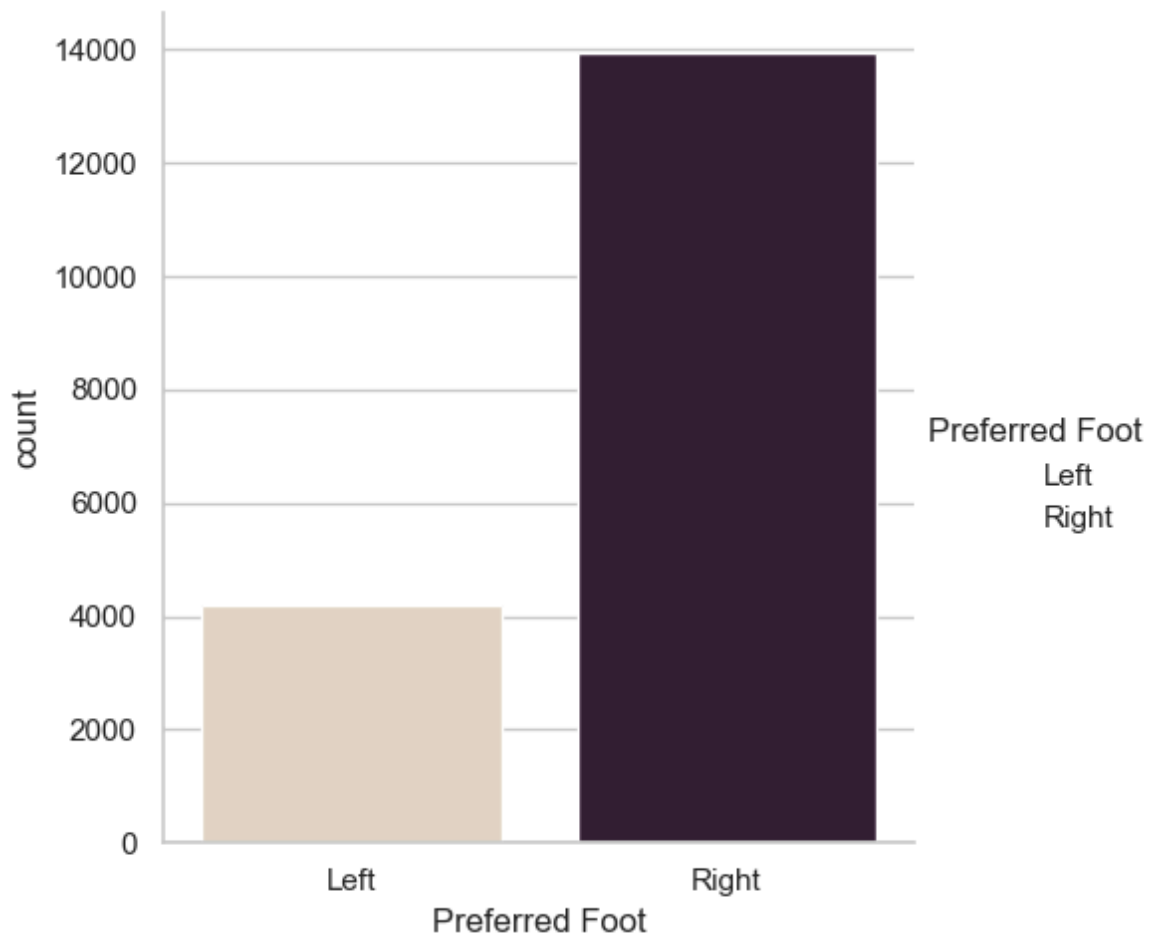
```
In [18]: f, ax = plt.subplots(figsize=(8, 6))
sns.countplot(x="Preferred Foot", hue="Real Face", data=fifa19)
plt.show()
```



```
In [19]: f, ax = plt.subplots(figsize=(8, 6))
sns.countplot(x="Preferred Foot", data=fifa19, color="c")
plt.show()
```



```
In [20]: g = sns.catplot(x="Preferred Foot", kind="count", palette="ch:.25", data=fifa19)
plt.show()
```



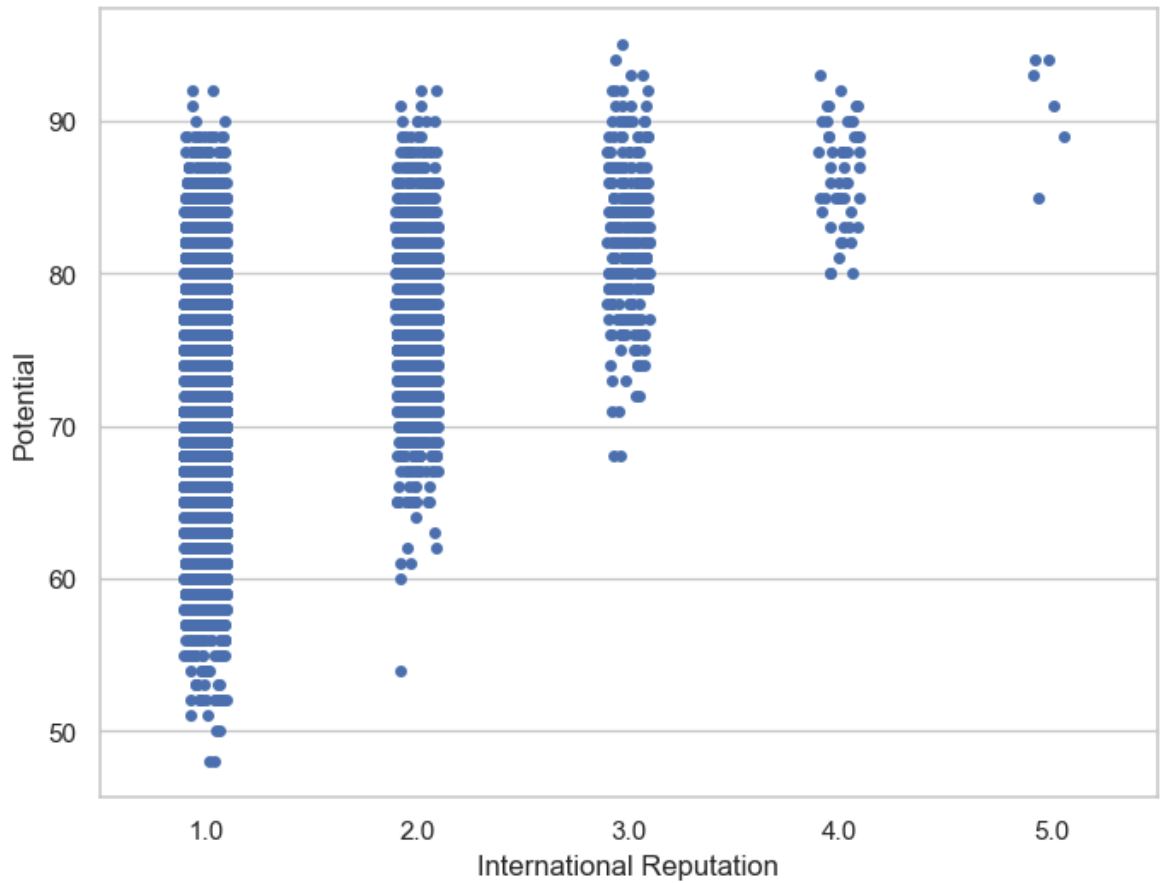
```
In [21]: fifa19['International Reputation'].nunique()
```

```
Out[21]: 5
```

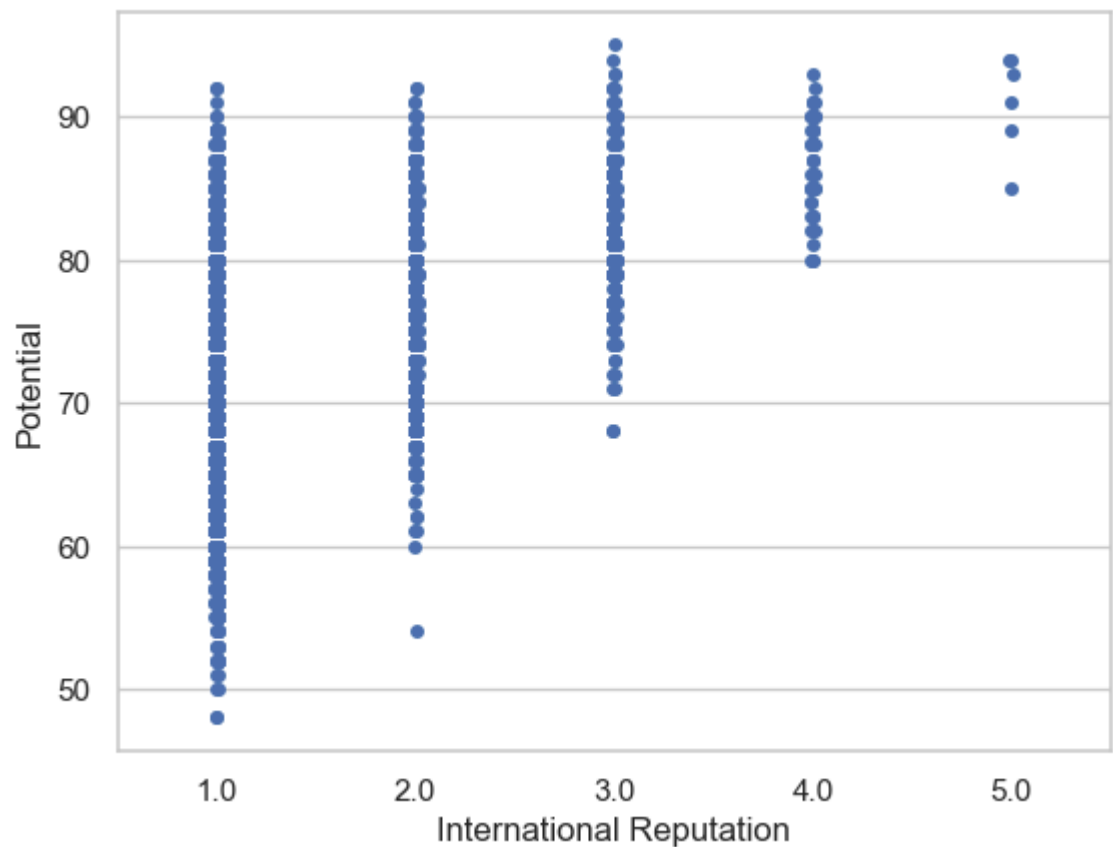
```
In [24]: fifa19['International Reputation'].value_counts()
```

```
Out[24]: International Reputation
1.0    16532
2.0     1261
3.0      309
4.0       51
5.0         6
Name: count, dtype: int64
```

```
In [25]: f, ax = plt.subplots(figsize=(8, 6))
sns.stripplot(x="International Reputation", y="Potential", data=fifa19)
plt.show()
```

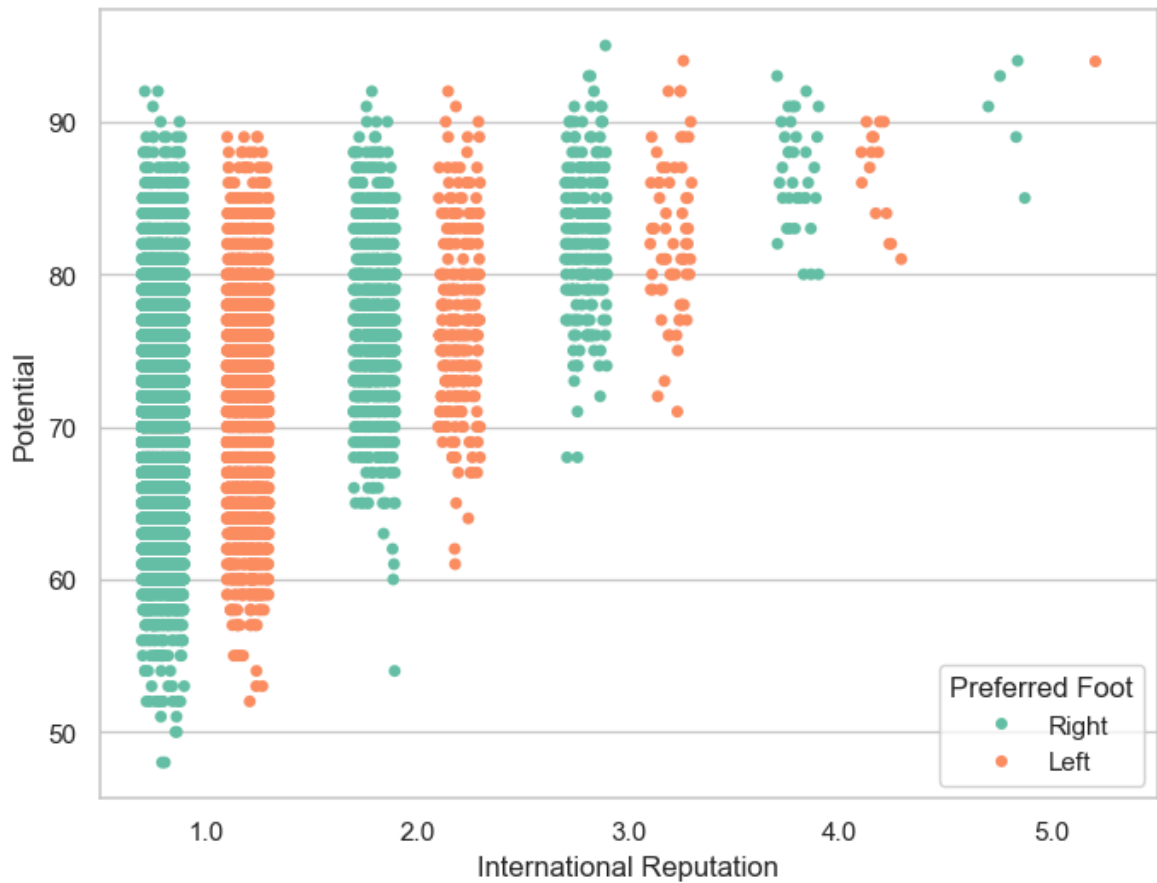


```
In [30]: , ax = plt.subplots(figsize=(8, 6))
sns.stripplot(x="International Reputation", y="Potential", data=fifa19, jitter=0)
plt.show()
```

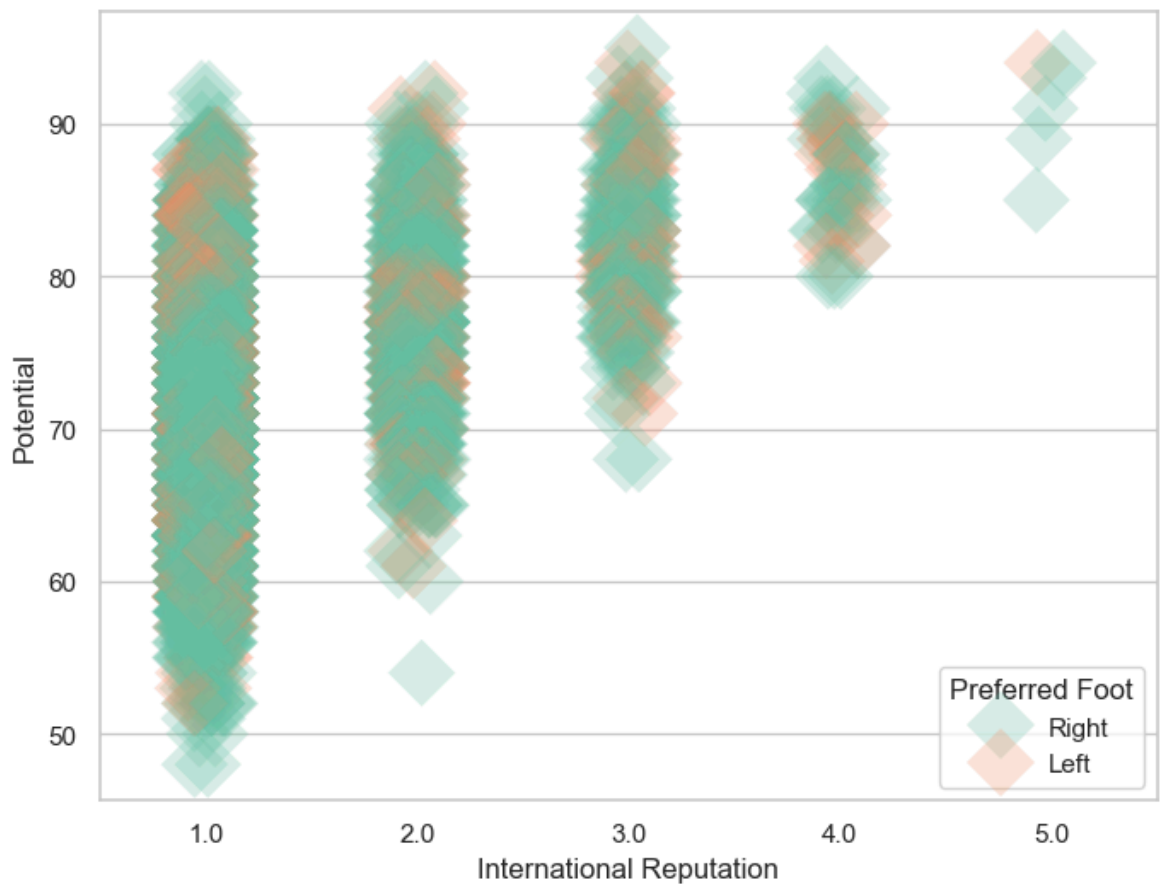


```
In [31]: f, ax = plt.subplots(figsize=(8, 6))
sns.stripplot(x="International Reputation", y="Potential", hue="Preferred Foot",
```

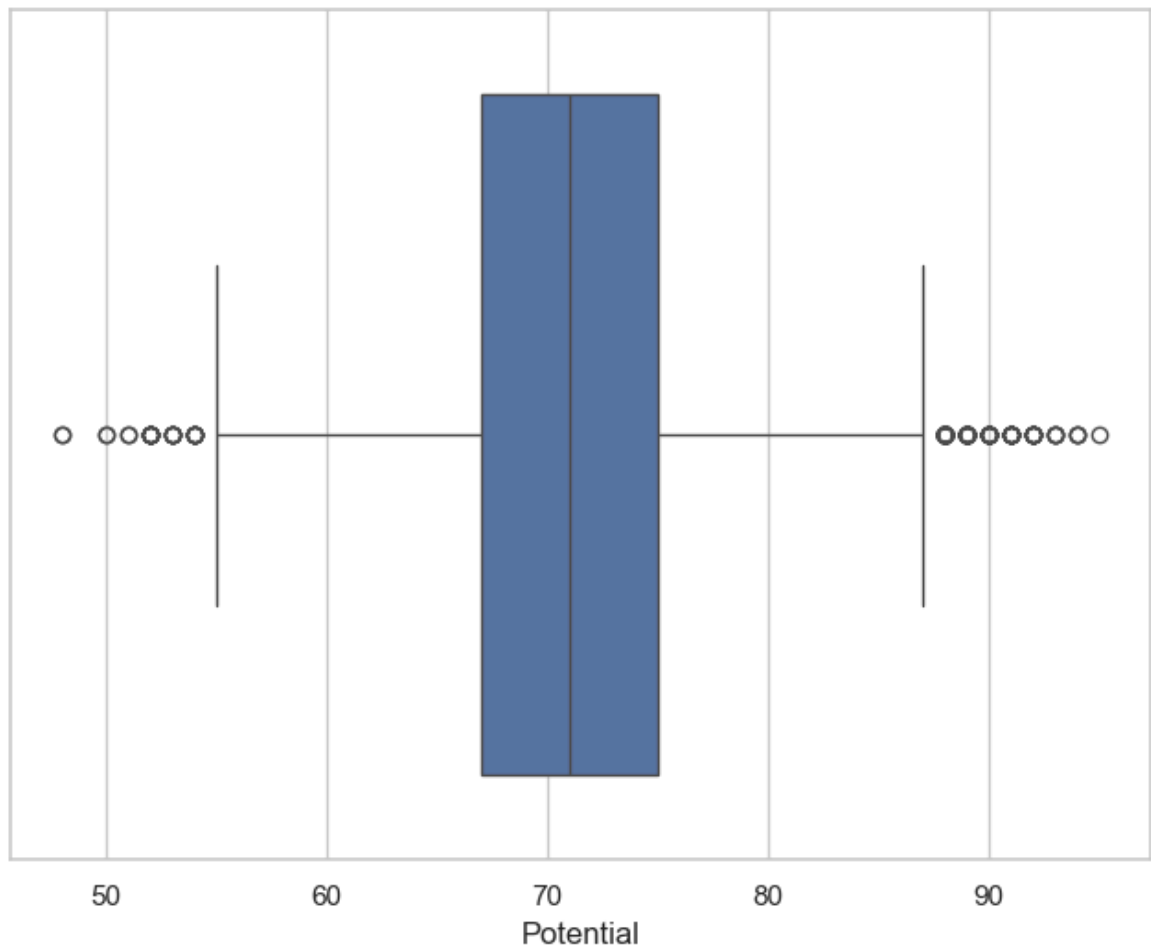
```
data=fifa19, jitter=0.2, palette="Set2", dodge=True)
plt.show()
```



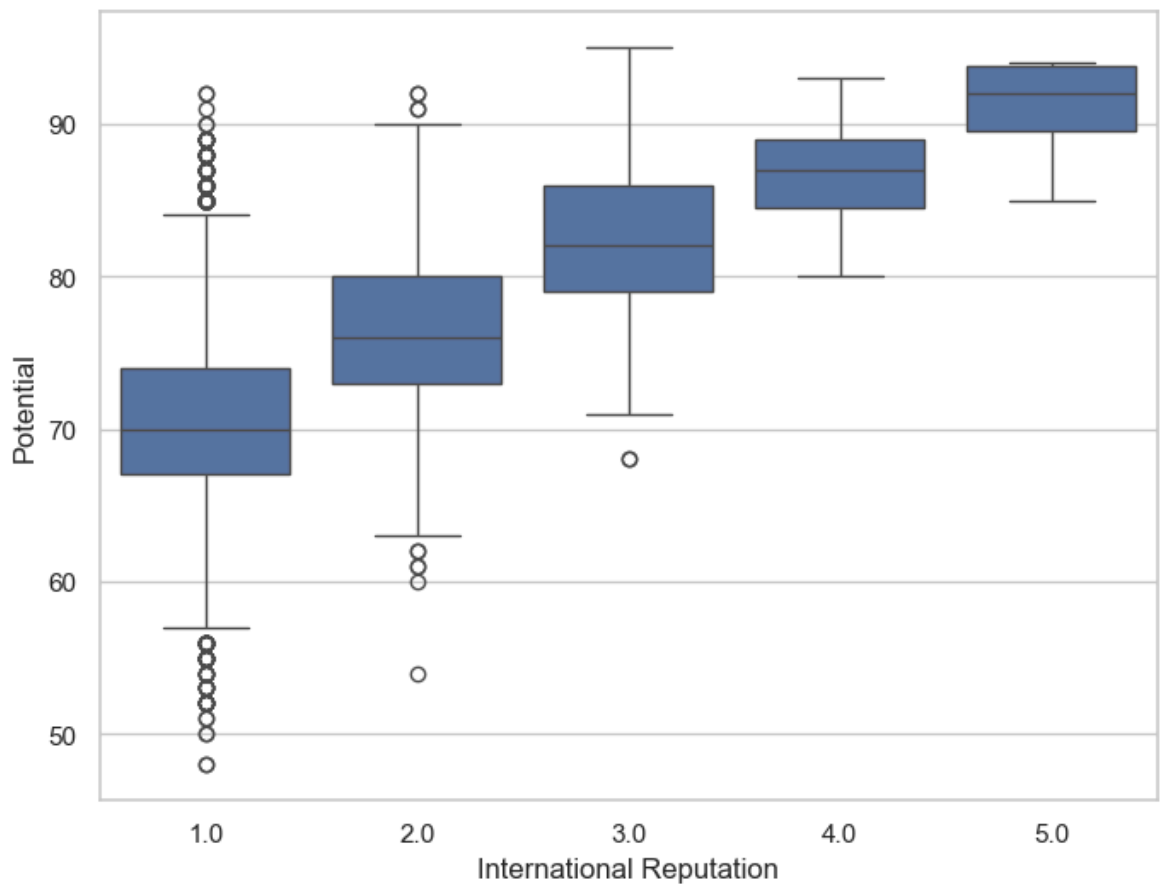
```
In [32]: f, ax = plt.subplots(figsize=(8, 6))
sns.stripplot(x="International Reputation", y="Potential", hue="Preferred Foot",
              data=fifa19, palette="Set2", size=20, marker="D",
              edgecolor="gray", alpha=.25)
plt.show()
```



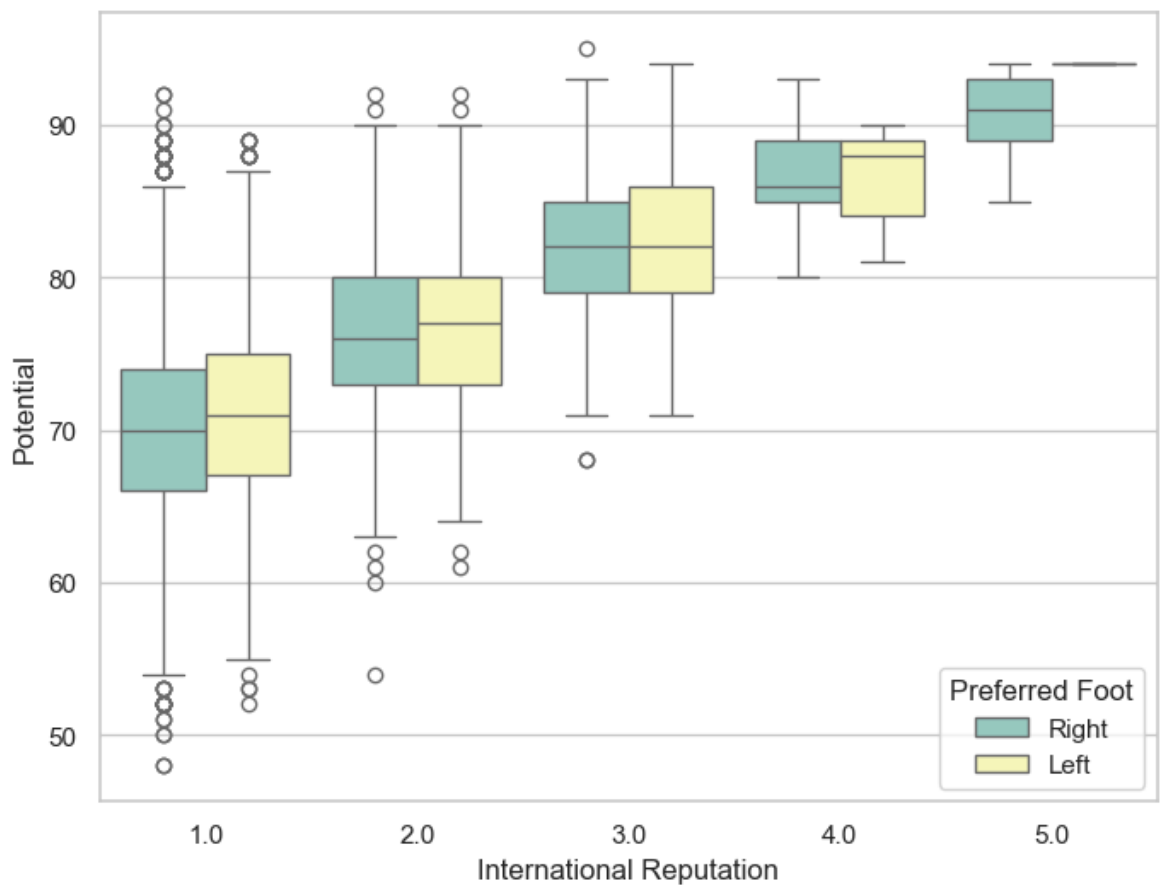
```
In [34]: f, ax = plt.subplots(figsize=(8,6))
sns.boxplot(x=fifa19["Potential"])
plt.show()
```



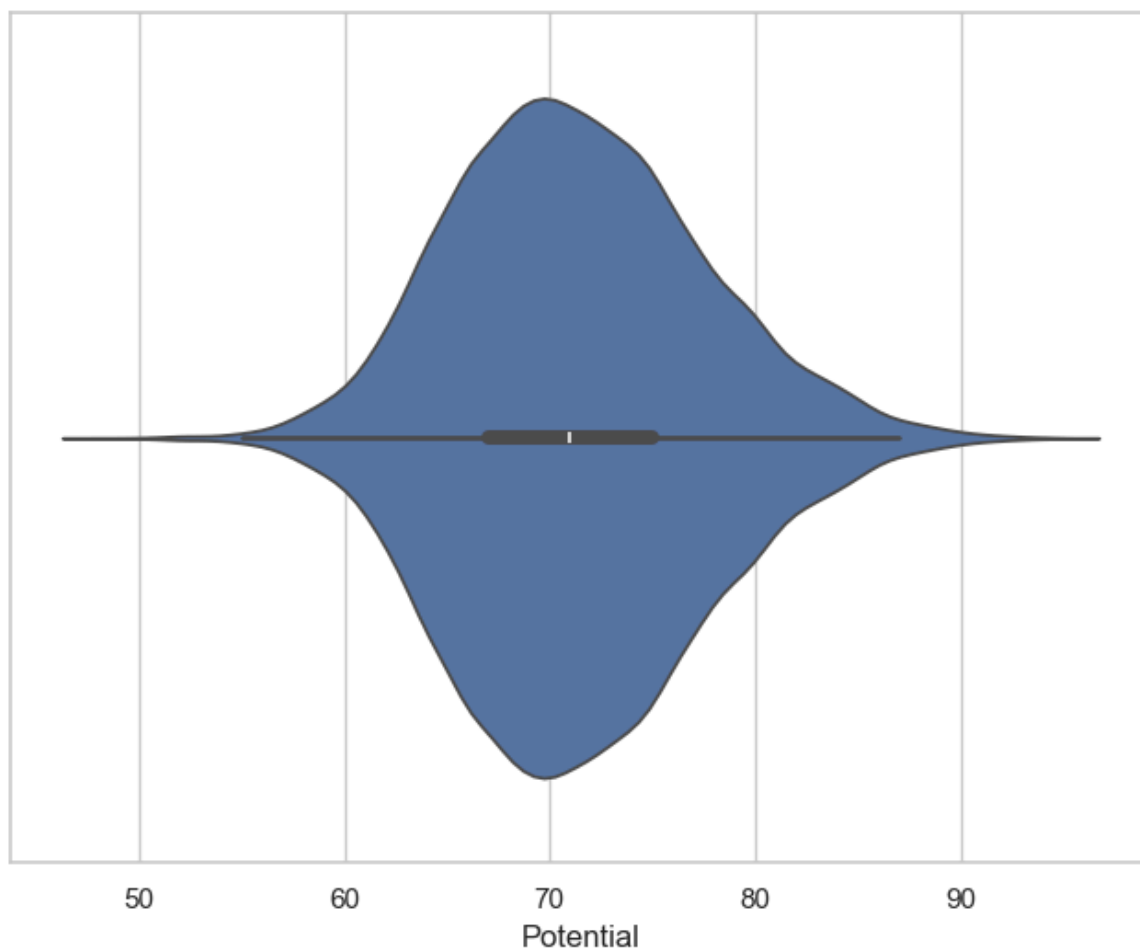
```
In [35]: f, ax = plt.subplots(figsize=(8,6))
sns.boxplot(x="International Reputation", y="Potential", data= fifa19)
plt.show()
```



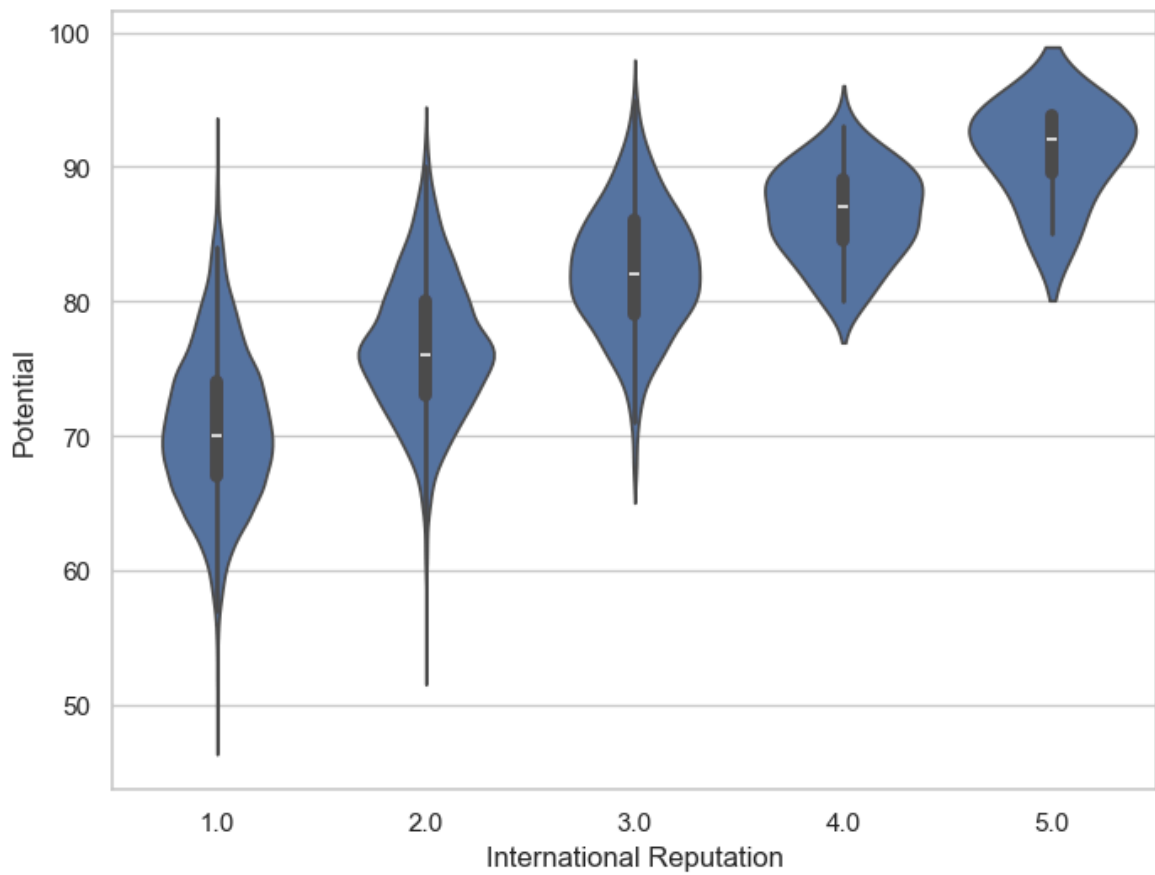
```
In [36]: f, ax = plt.subplots(figsize=(8, 6))
sns.boxplot(x="International Reputation", y="Potential", hue="Preferred Foot", d
plt.show()
```



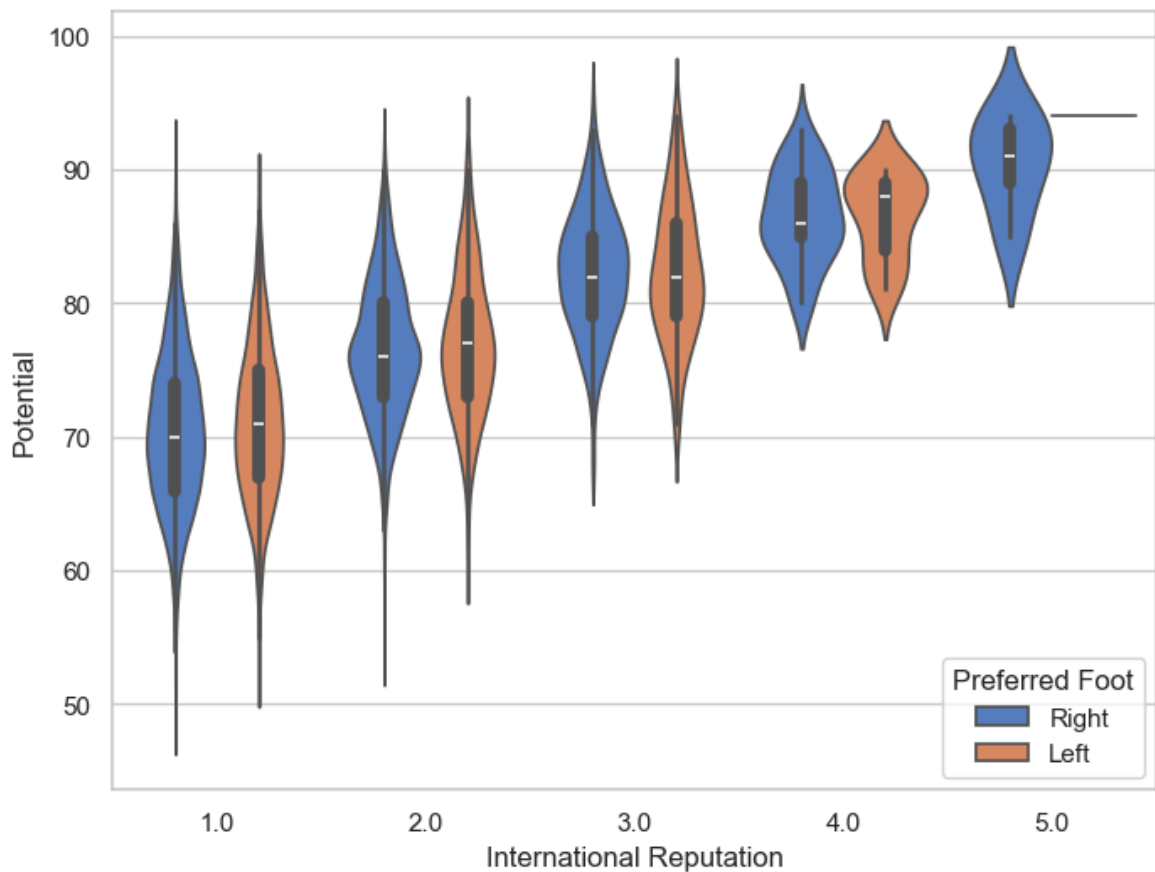

```
In [38]: f, ax = plt.subplots(figsize=(8,6))
sns.violinplot(x=fifa19["Potential"])
plt.show()
```



```
In [39]: f, ax = plt.subplots(figsize=(8, 6))
sns.violinplot(x="International Reputation", y="Potential", data=fifa19)
plt.show()
```

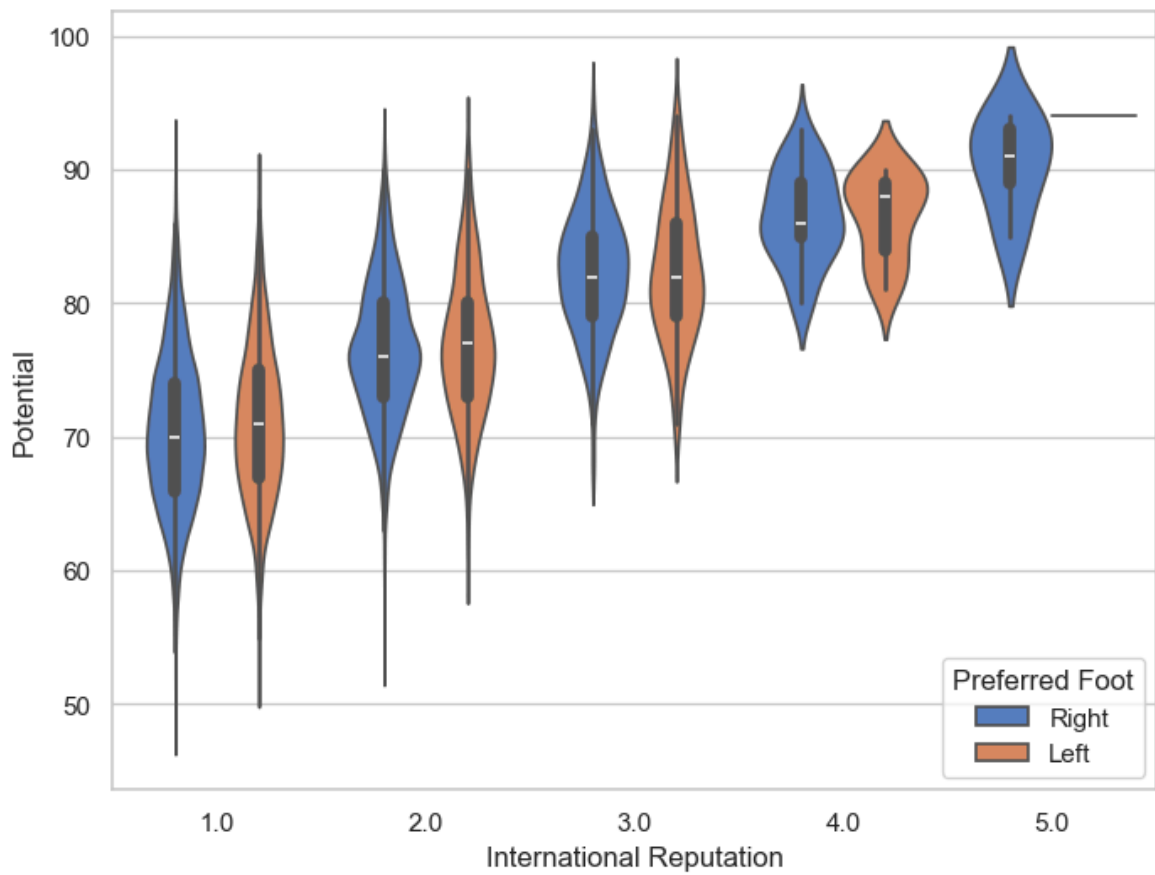


```
In [40]: f, ax = plt.subplots(figsize=(8, 6))
sns.violinplot(x="International Reputation", y="Potential", hue="Preferred Foot")
plt.show()
```

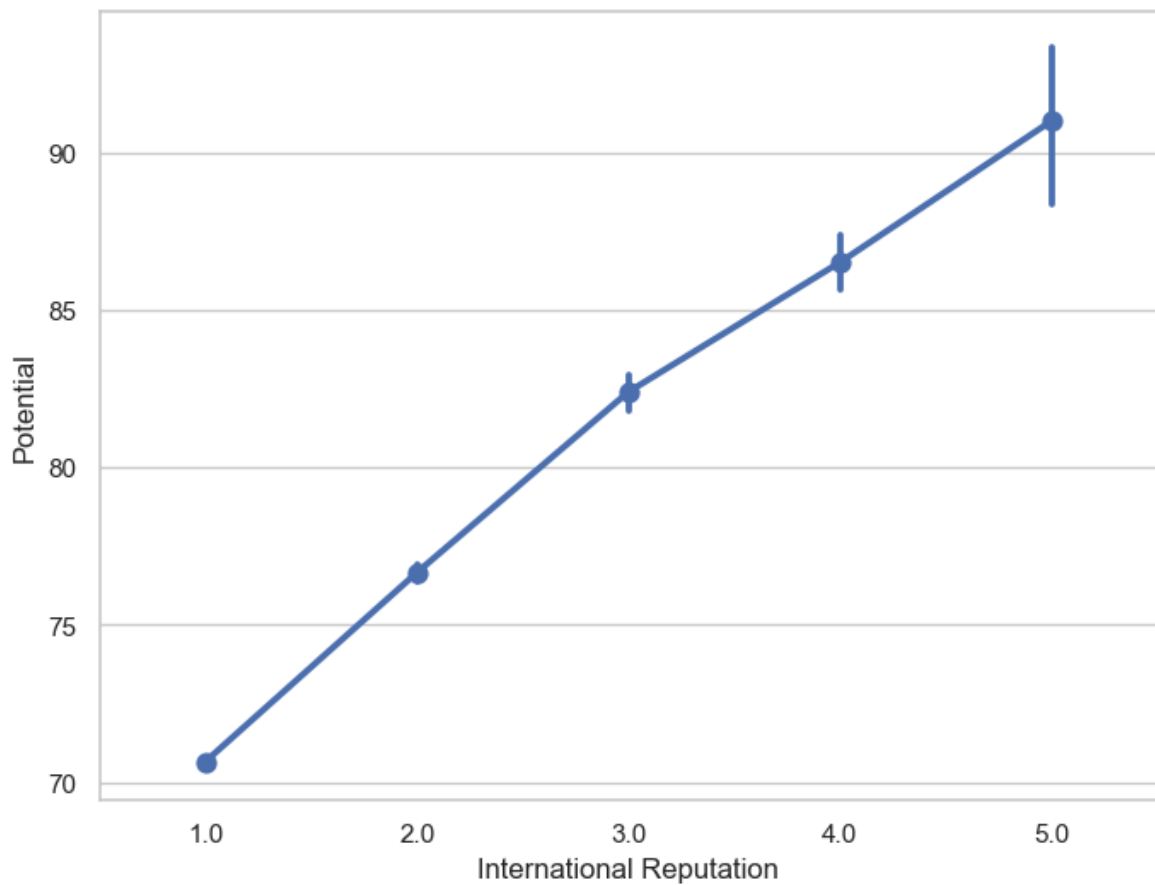


```
In [41]: f, ax = plt.subplots(figsize=(8, 6))
sns.violinplot(x="International Reputation", y="Potential", hue="Preferred Foot")
```

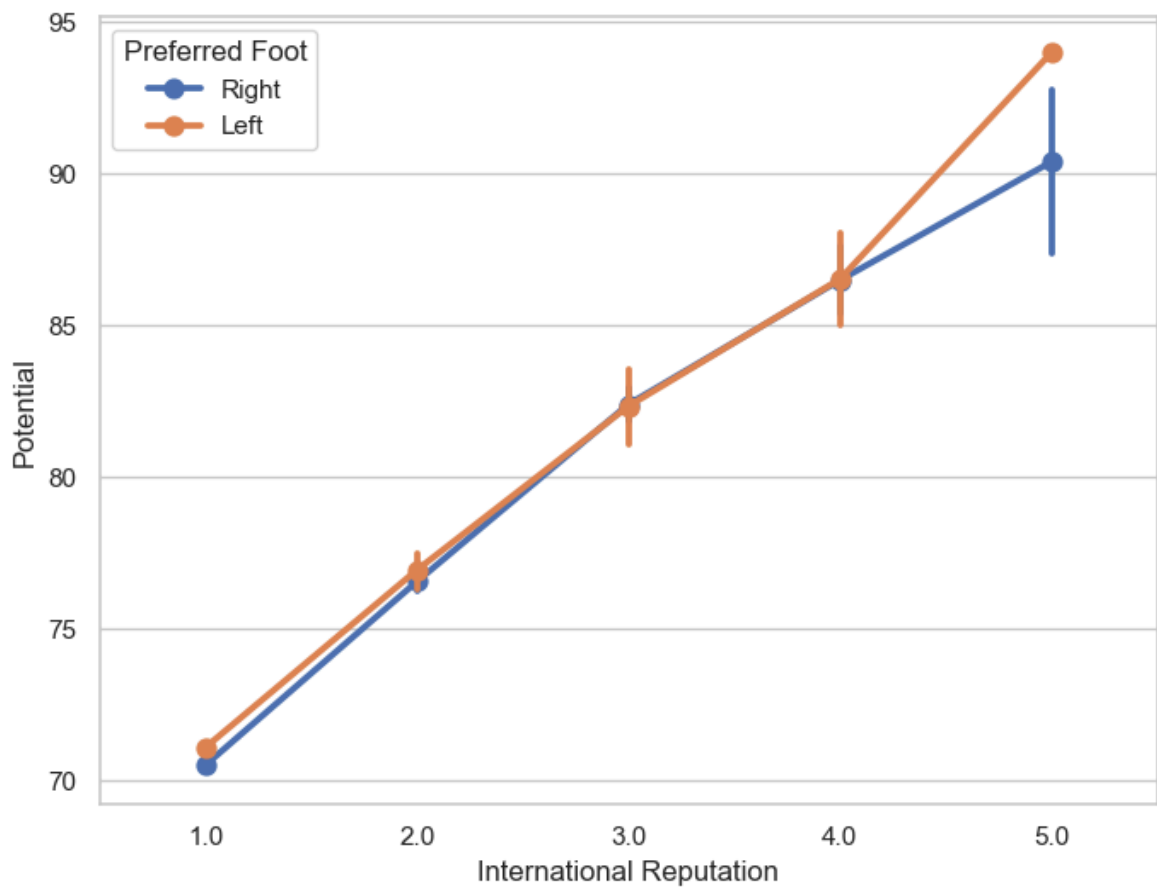
```
plt.show()
```



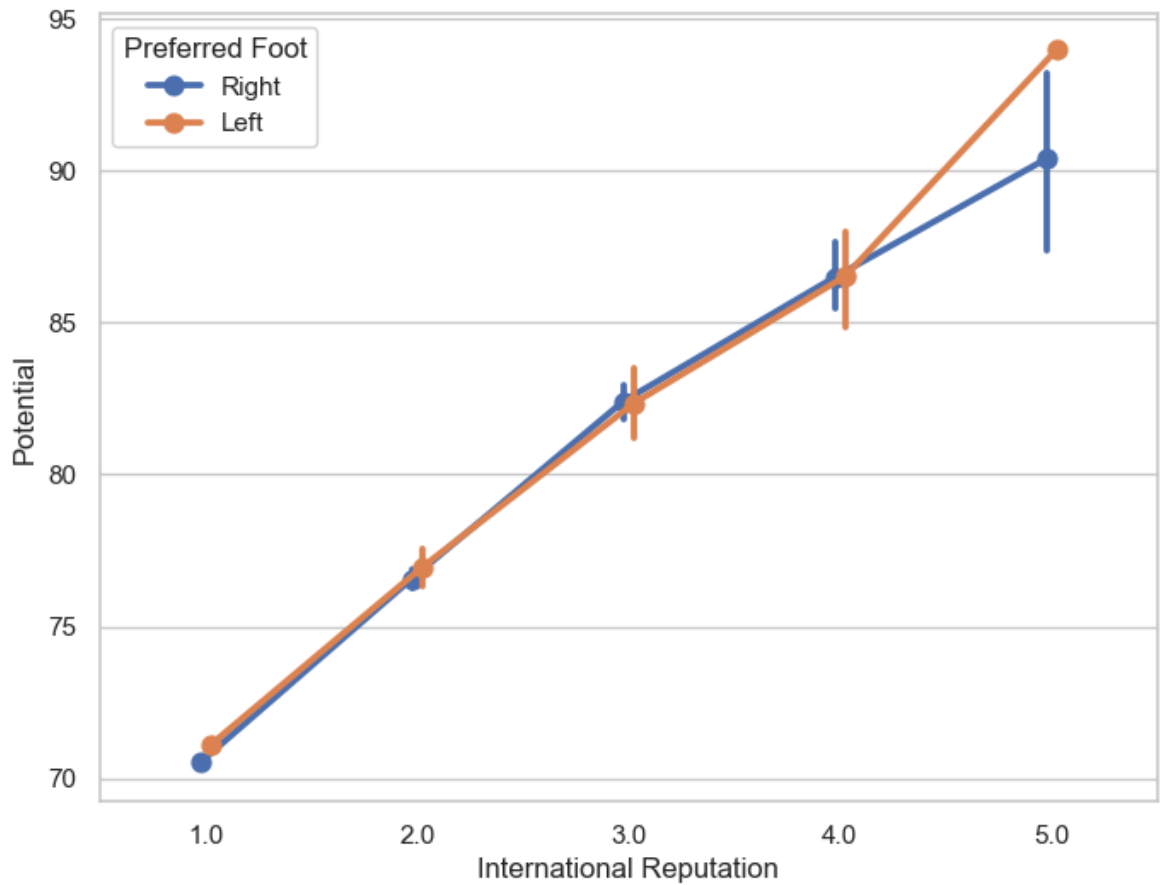
```
In [43]: f, ax = plt.subplots(figsize=(8, 6))
sns.pointplot(x="International Reputation", y="Potential", data=fifa19)
plt.show()
```



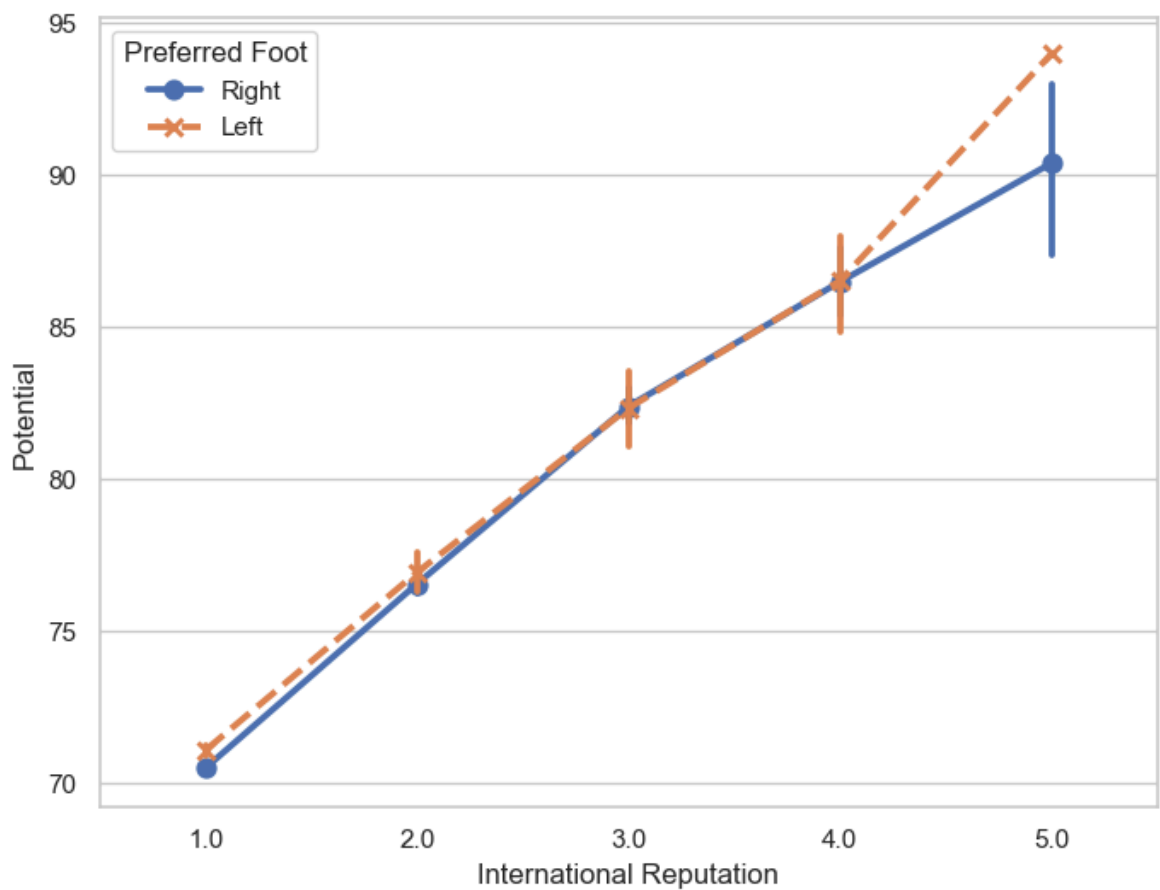
```
In [44]: f, ax = plt.subplots(figsize=(8, 6))
sns.pointplot(x="International Reputation", y="Potential", hue="Preferred Foot",
plt.show()
```



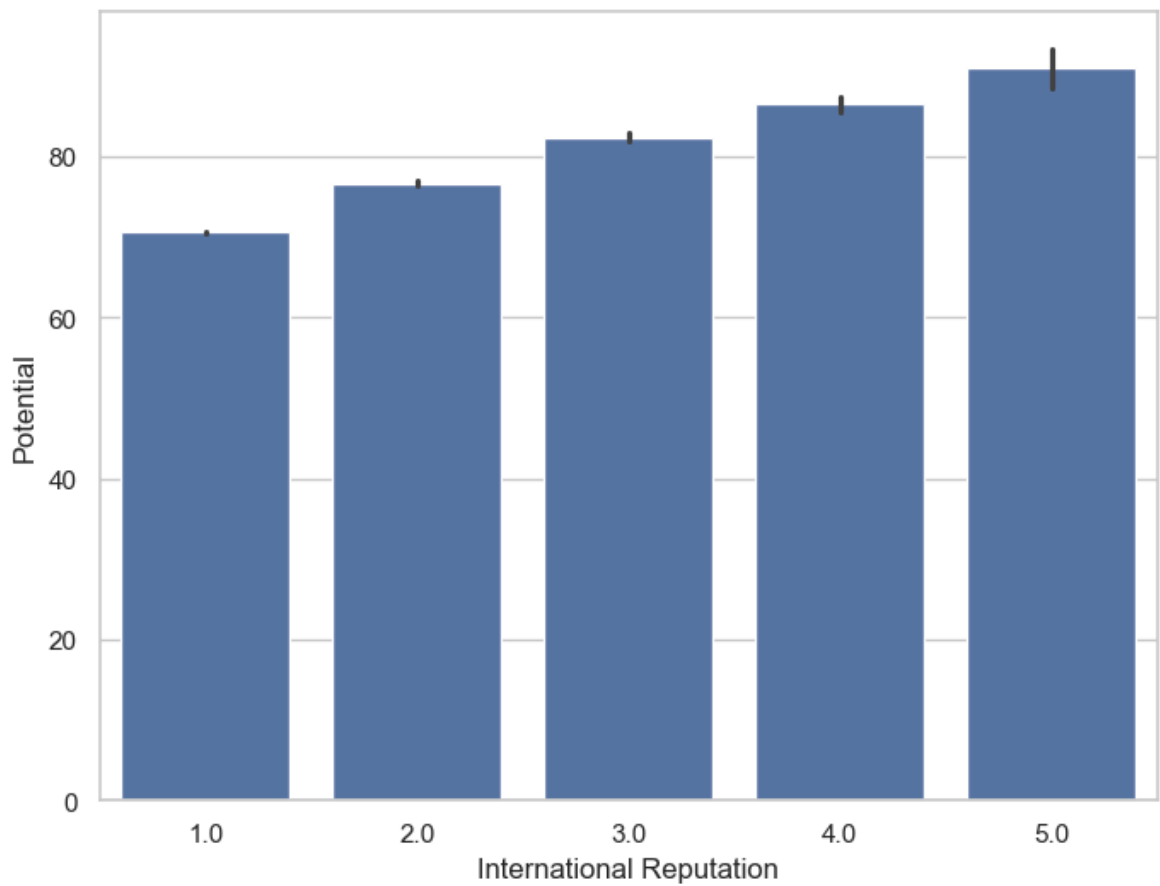
```
In [45]: f, ax = plt.subplots(figsize=(8, 6))
sns.pointplot(x="International Reputation", y="Potential", hue="Preferred Foot",
plt.show()
```



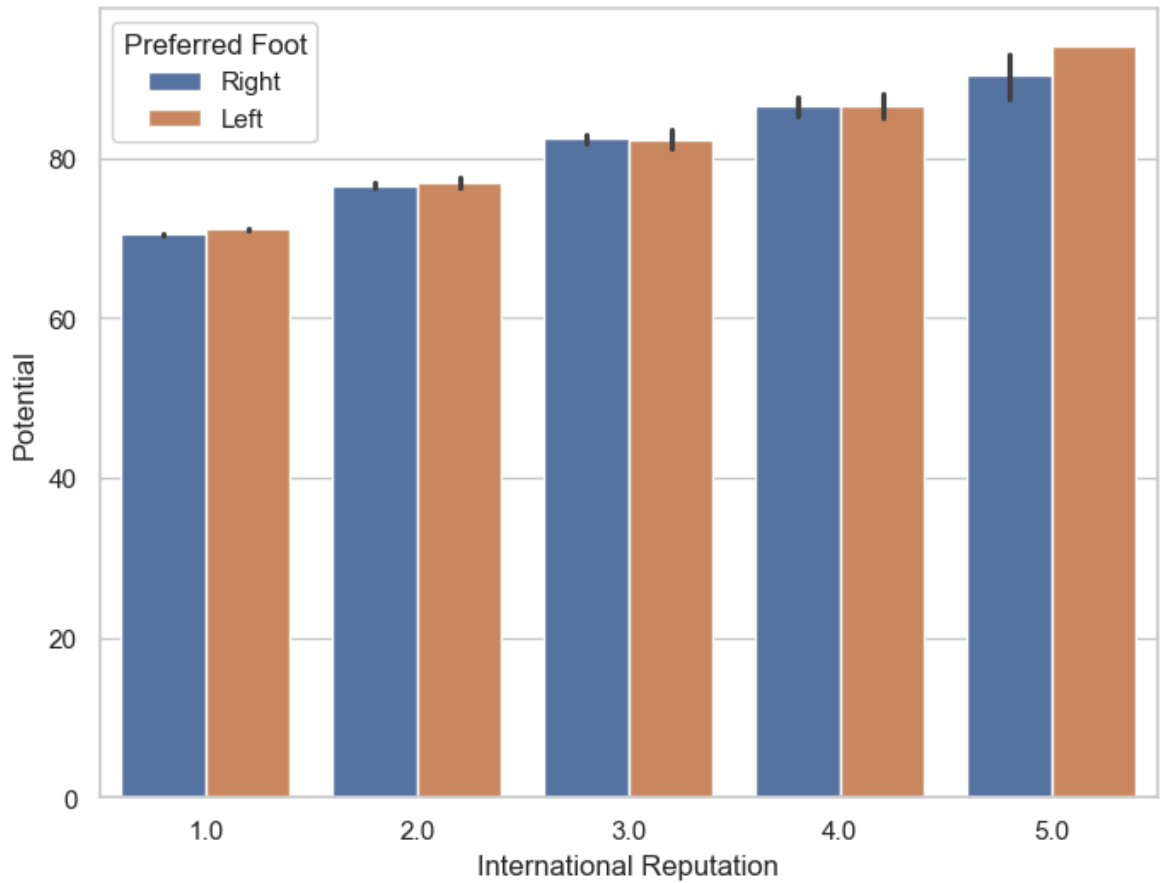
```
In [46]: f, ax = plt.subplots(figsize=(8, 6))
sns.pointplot(x="International Reputation", y="Potential", hue="Preferred Foot",
              data=fifa19, markers=["o", "x"], linestyles=["-", "--"])
plt.show()
```



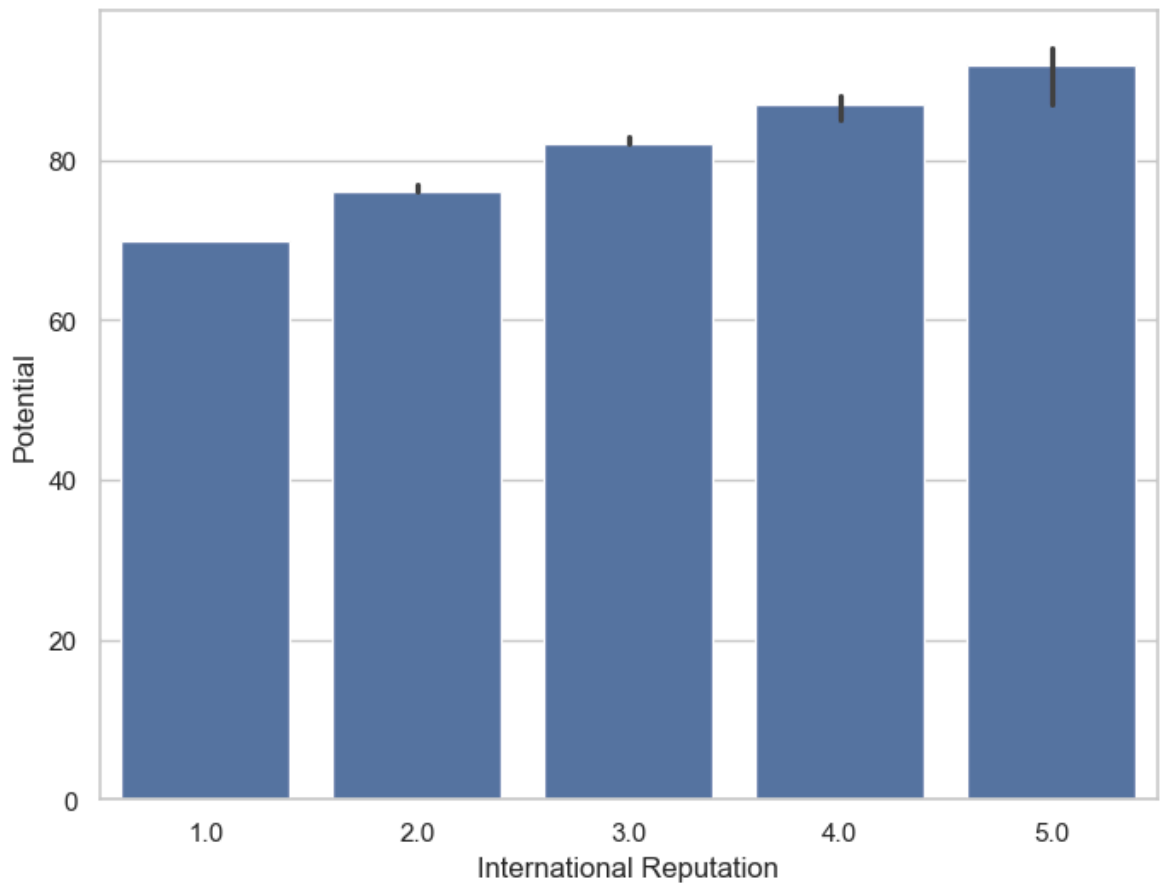
```
In [48]: f, ax = plt.subplots(figsize=(8, 6))
sns.barplot(x="International Reputation", y="Potential", data=fifa19)
plt.show()
```



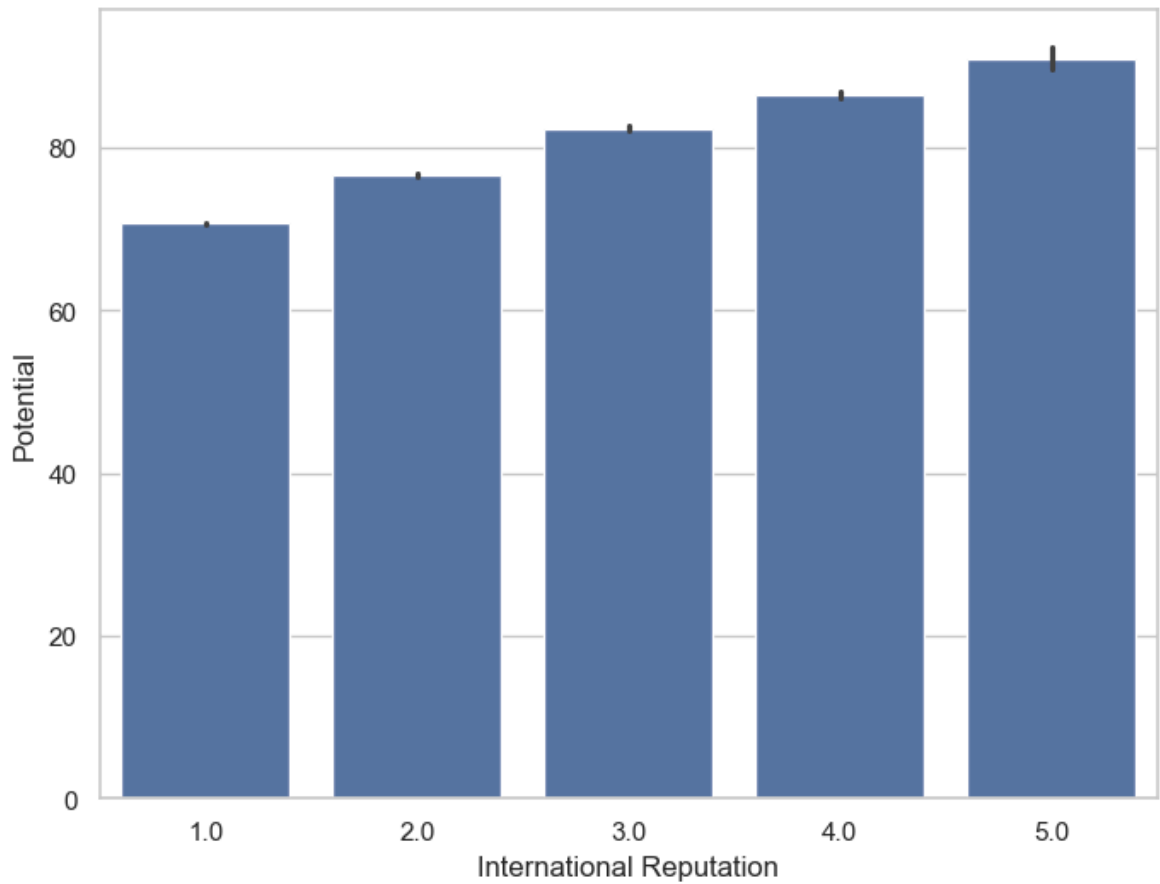
```
In [49]: f, ax = plt.subplots(figsize=(8, 6))
sns.barplot(x="International Reputation", y="Potential", hue="Preferred Foot", data=fifa19)
plt.show()
```



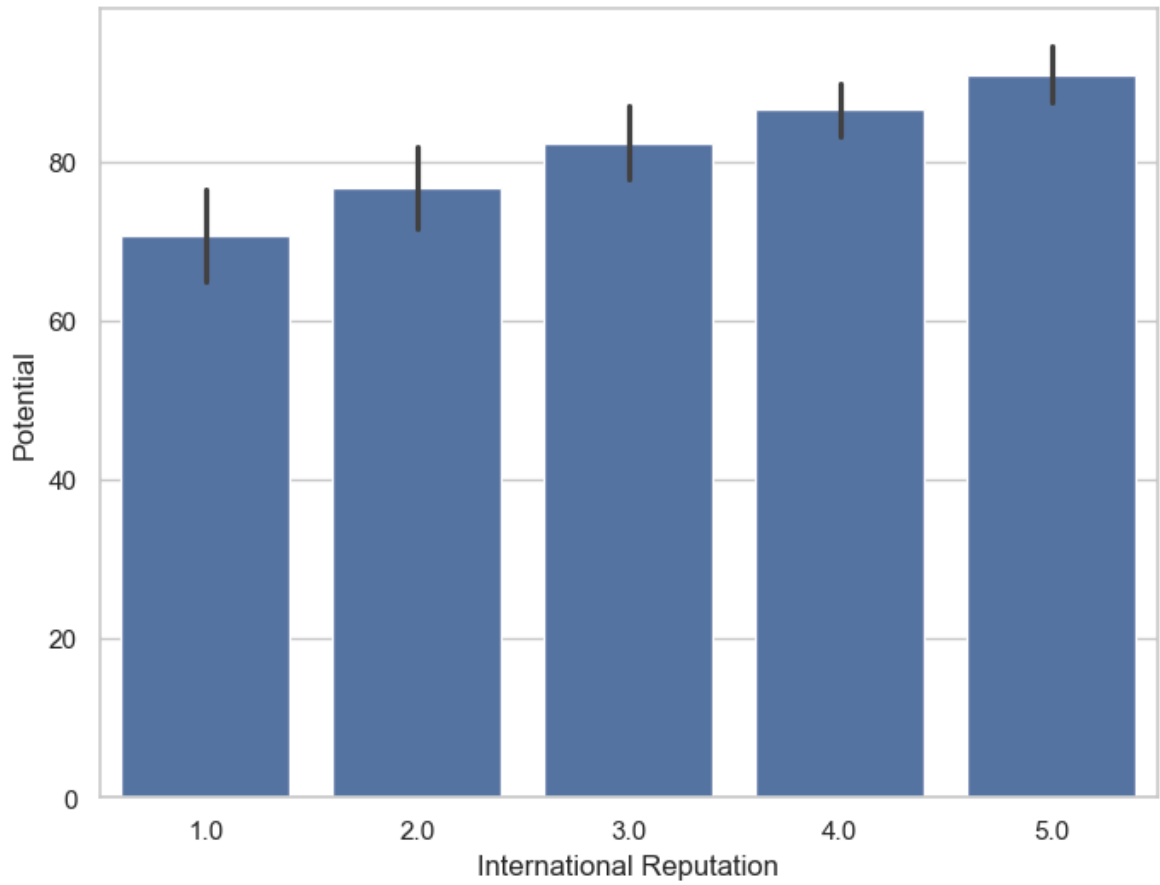
```
In [50]: from numpy import median
f, ax = plt.subplots(figsize=(8, 6))
sns.barplot(x="International Reputation", y="Potential", data=fifa19, estimator=
plt.show())
```



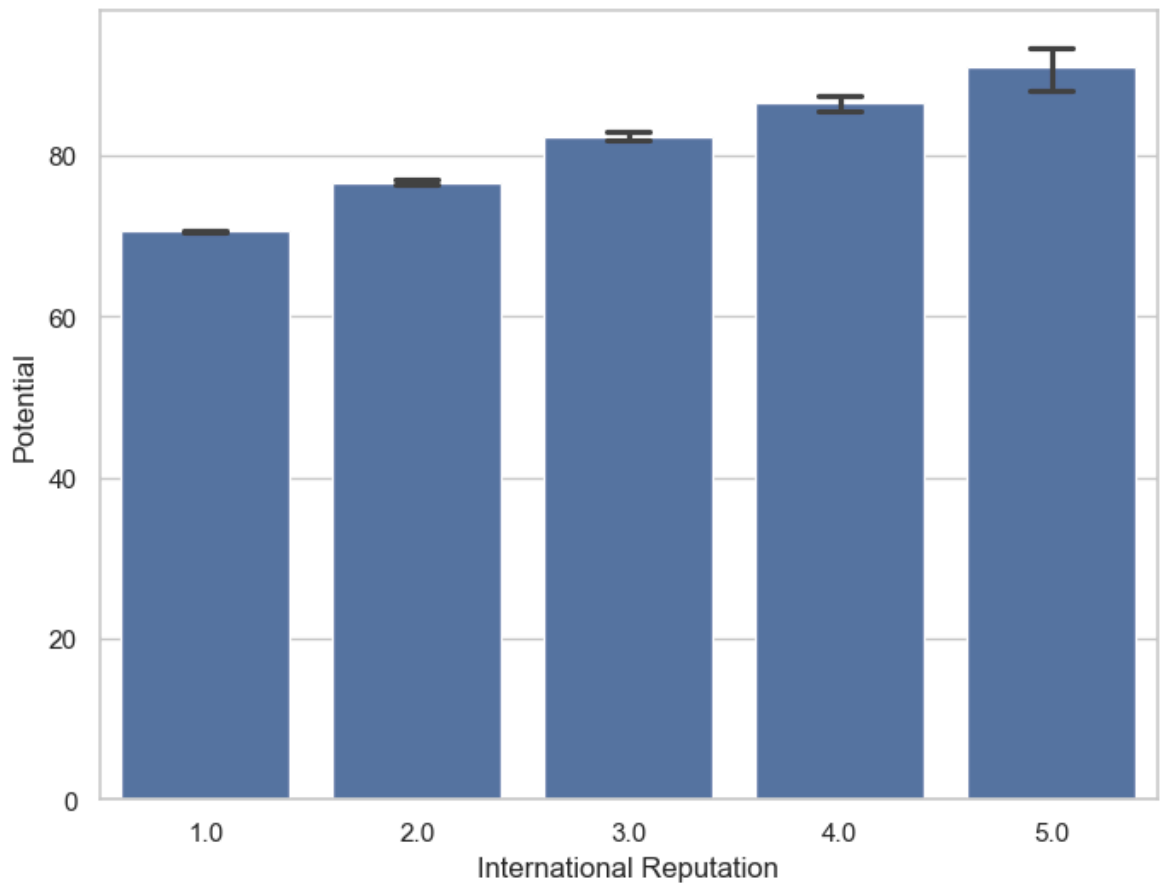
```
In [52]: from numpy import median
f, ax = plt.subplots(figsize=(8, 6))
sns.barplot(x="International Reputation", y="Potential", data=fifa19, ci=68)
plt.show()
```



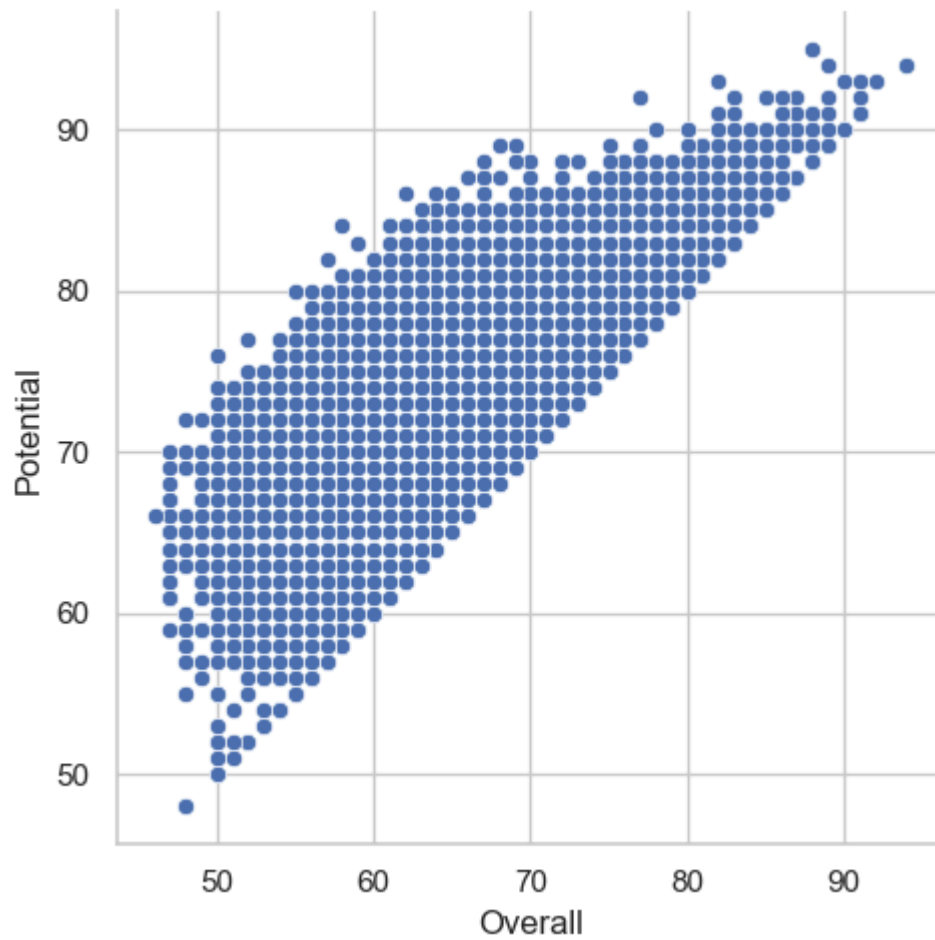
```
In [53]: f, ax = plt.subplots(figsize=(8, 6))
sns.barplot(x="International Reputation", y="Potential", data=fifa19, ci="sd")
plt.show()
```

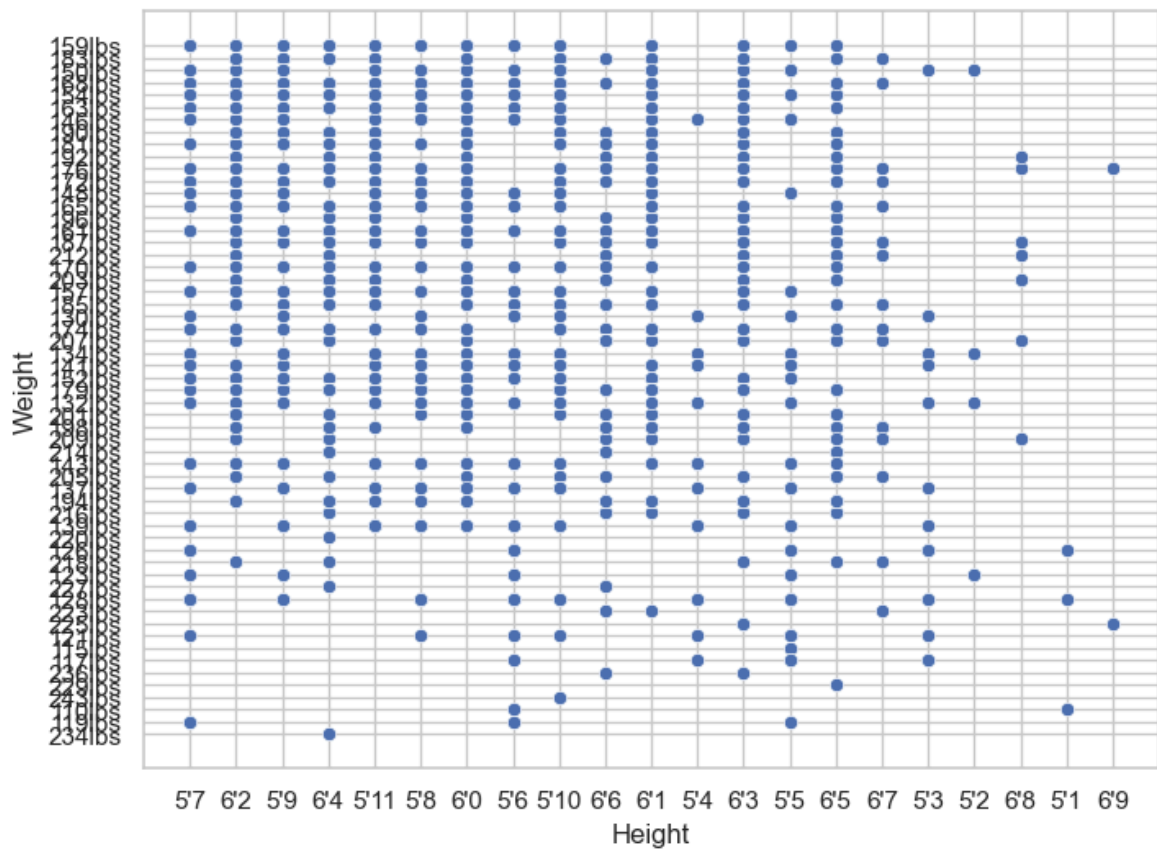
```
In [54]: f, ax = plt.subplots(figsize=(8, 6))
sns.barplot(x="International Reputation", y="Potential", data=fifa19, capsize=0.
plt.show()
```



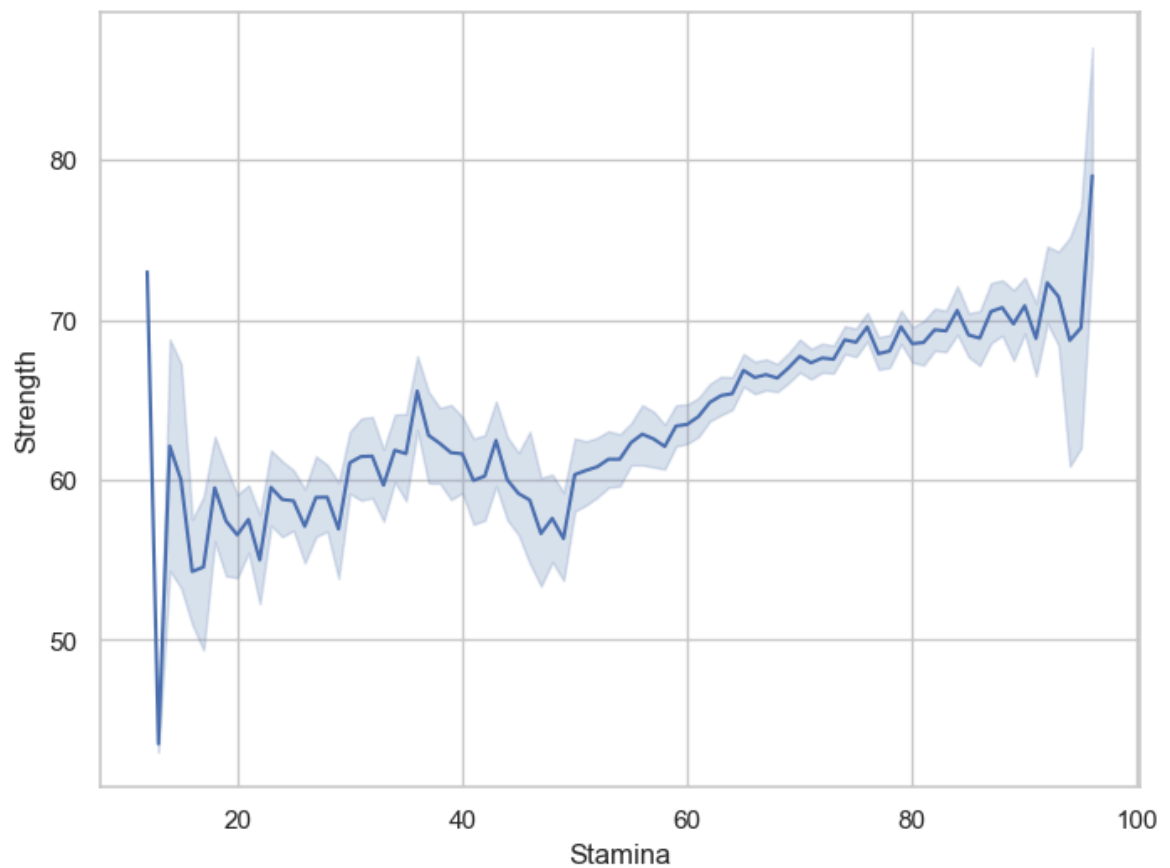
```
In [55]: g = sns.relplot(x="Overall", y="Potential", data=fifa19)
plt.show()
```



```
In [56]: f, ax = plt.subplots(figsize=(8, 6))
sns.scatterplot(x="Height", y="Weight", data=fifa19)
plt.show()
```

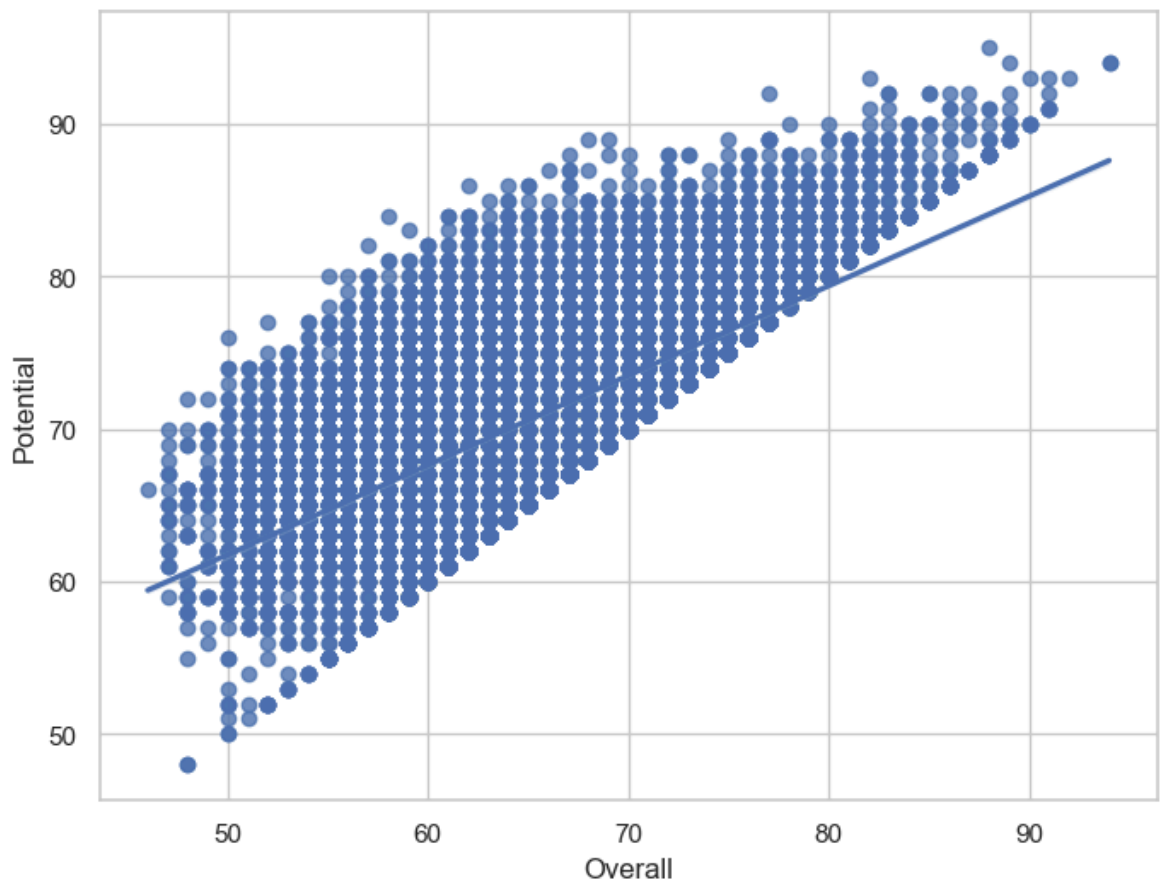


```
In [58]: f, ax = plt.subplots(figsize=(8, 6))
ax = sns.lineplot(x="Stamina", y="Strength", data=fifa19)
plt.show()
```

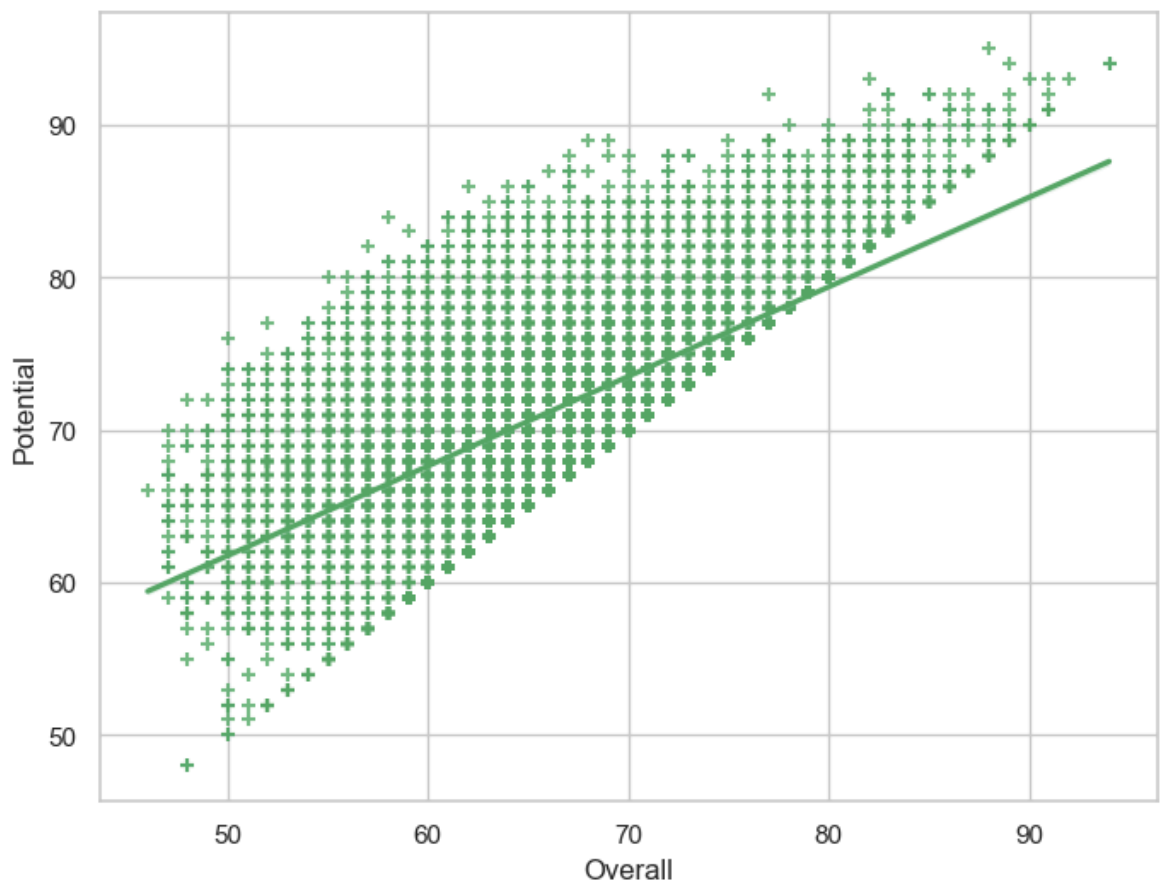


```
In [59]: f, ax = plt.subplots(figsize=(8, 6))
ax = sns.regplot(x="Overall", y="Potential", data=fifa19)
```

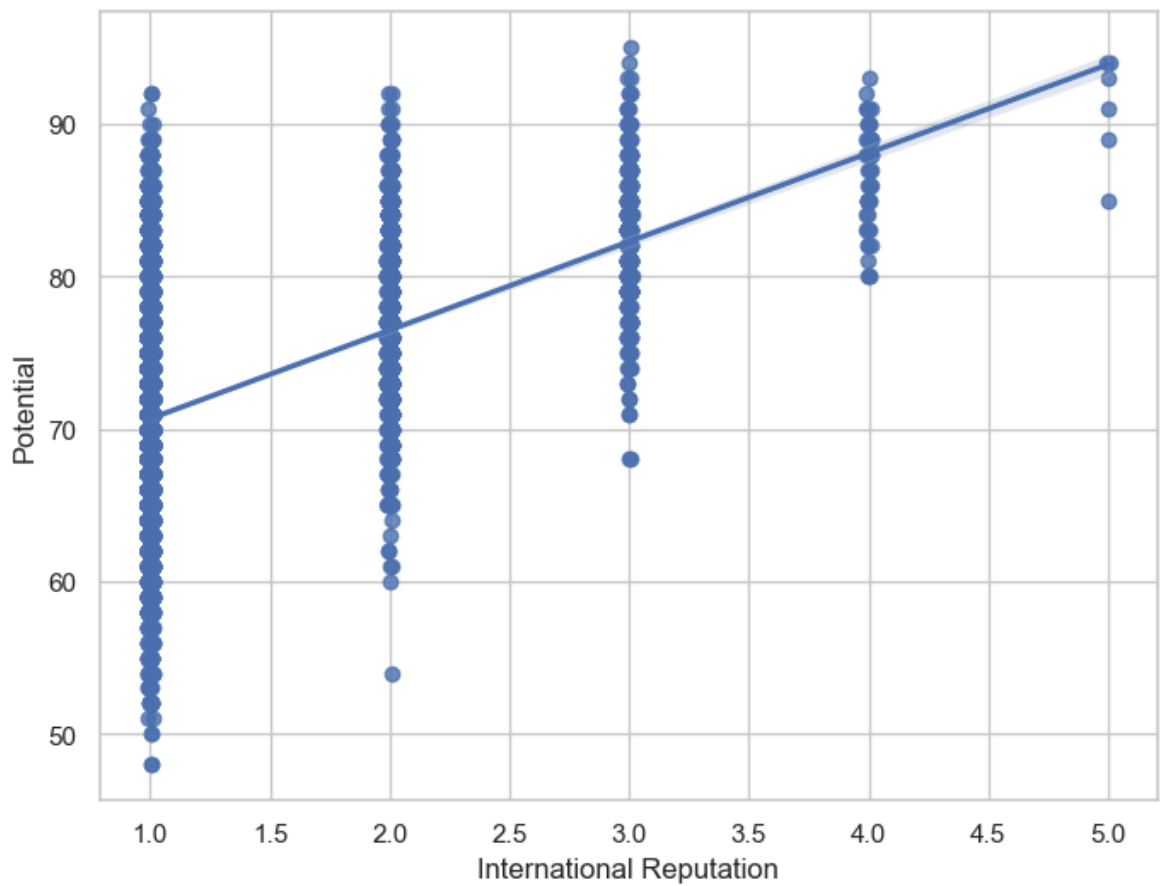
```
plt.show()
```



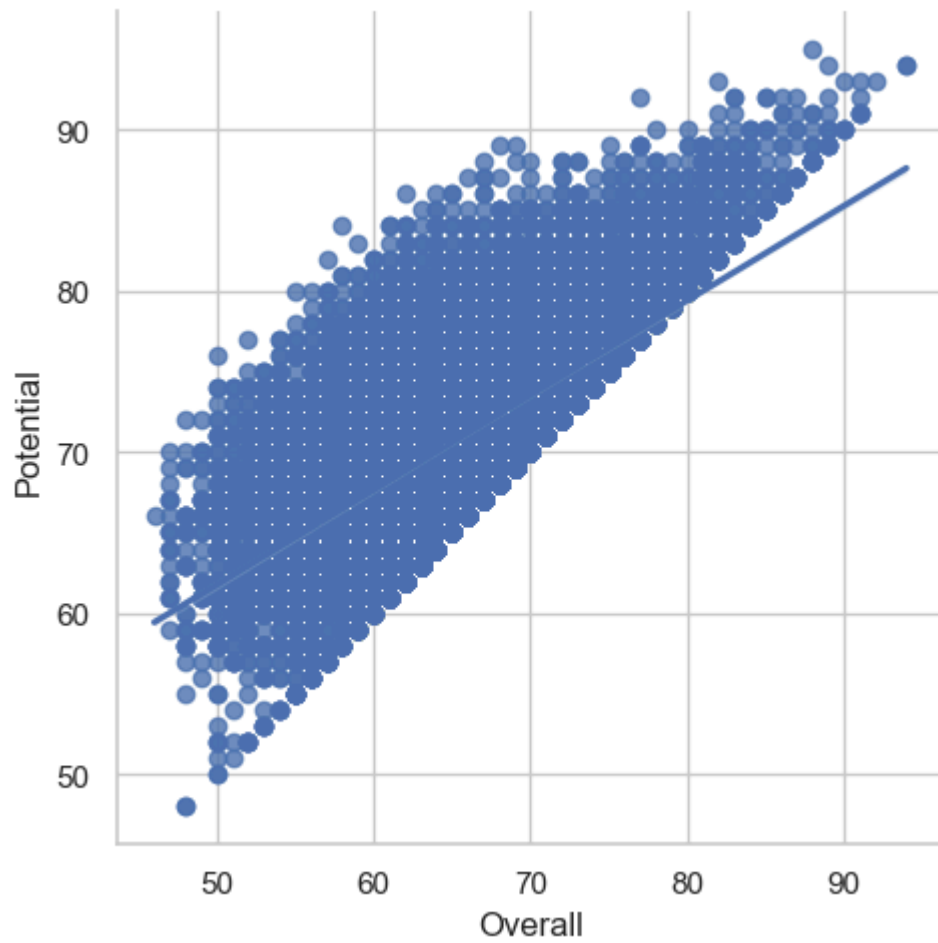
```
In [60]: f, ax = plt.subplots(figsize=(8, 6))  
ax = sns.regplot(x="Overall", y="Potential", data=fifa19, color="g", marker="+")  
plt.show()
```



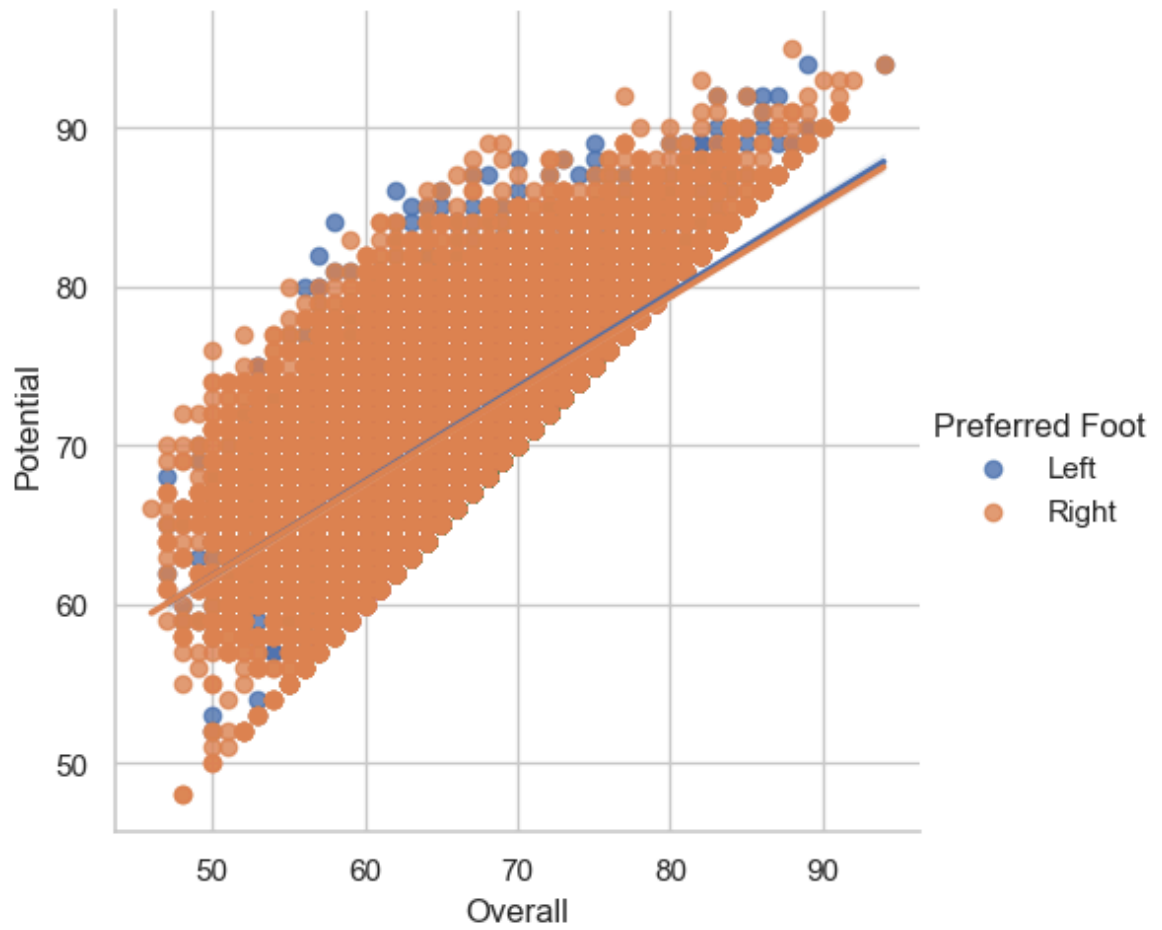
```
In [61]: f, ax = plt.subplots(figsize=(8, 6))
sns.regplot(x="International Reputation", y="Potential", data=fifa19, x_jitter=.
plt.show()
```



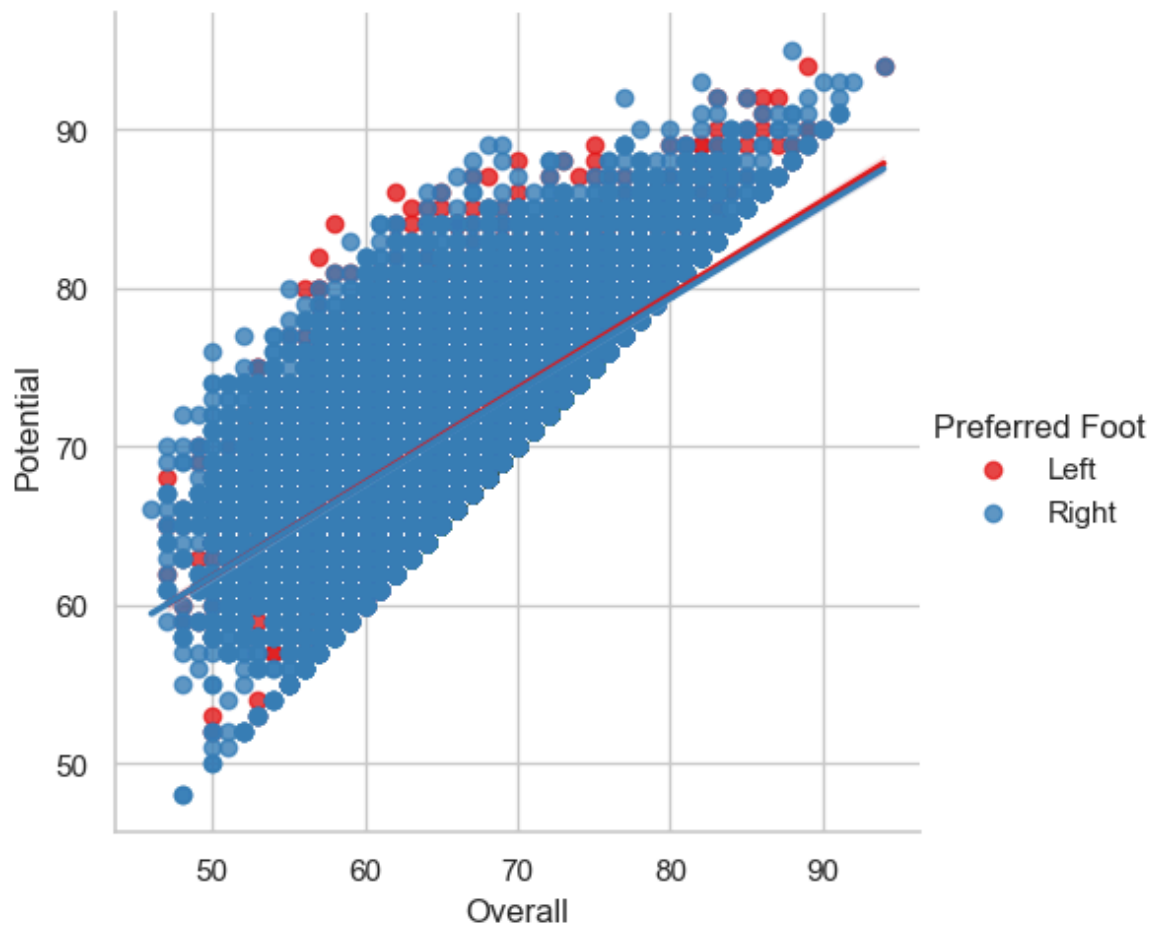
```
In [62]: g= sns.lmplot(x="Overall", y="Potential", data=fifa19)
plt.show()
```



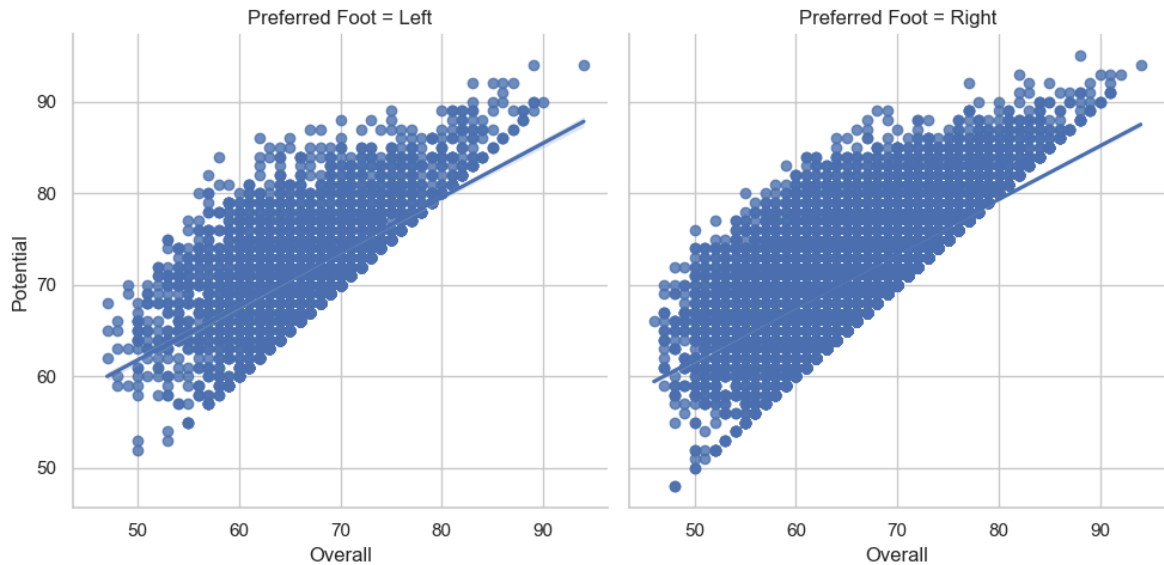
```
In [64]: g = sns.lmplot(x="Overall", y="Potential", hue="Preferred Foot", data=fifa19)
plt.show()
```



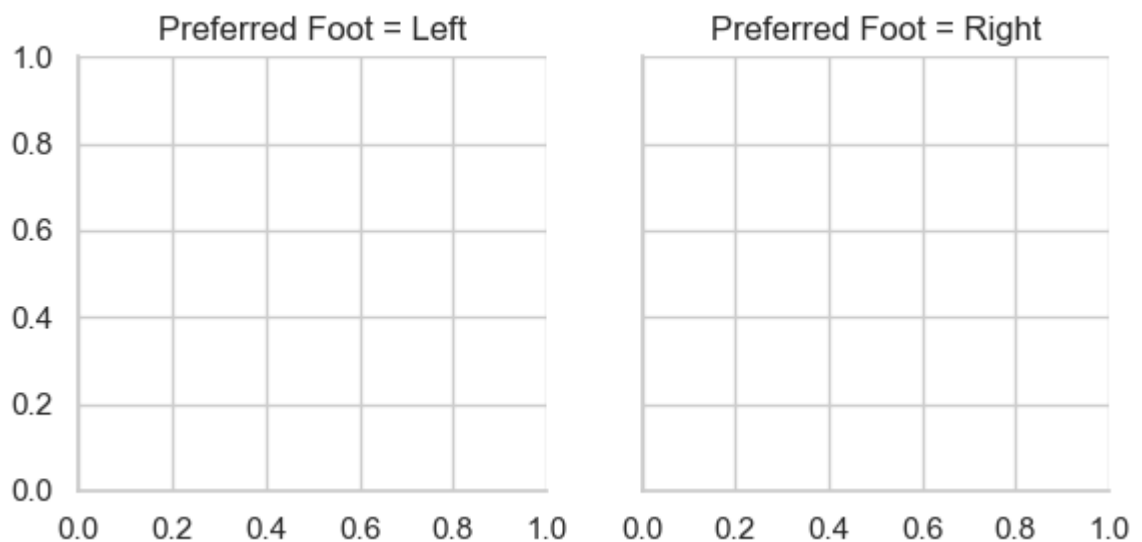
```
In [67]: g=sns.lmplot(x="Overall", y="Potential", hue="Preferred Foot", data=fifa19, pal  
plt.show()
```



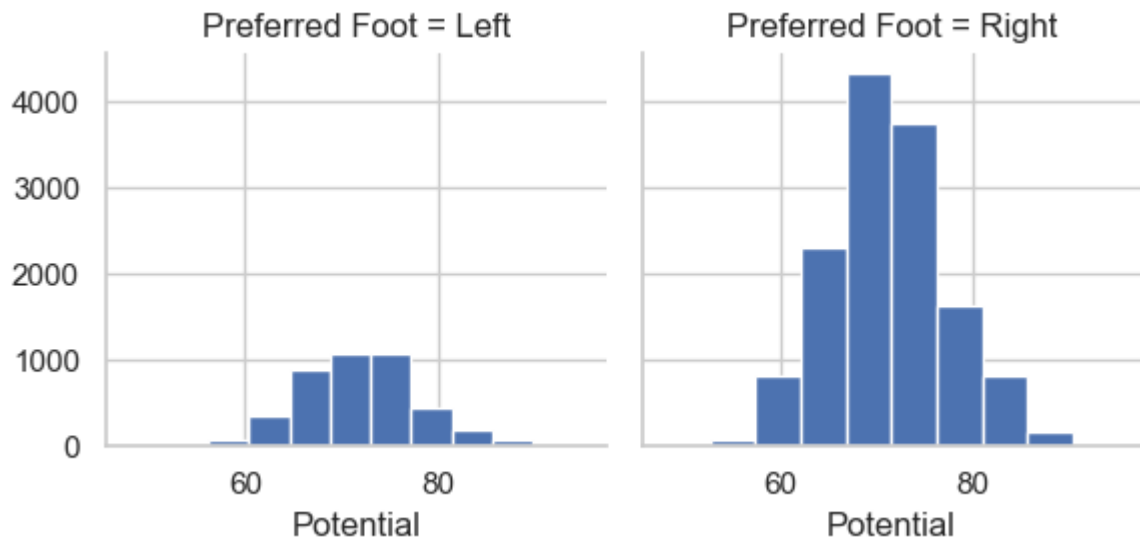
```
In [68]: g = sns.lmplot(x="Overall", y="Potential", col="Preferred Foot", data=fifa19)
plt.show()
```



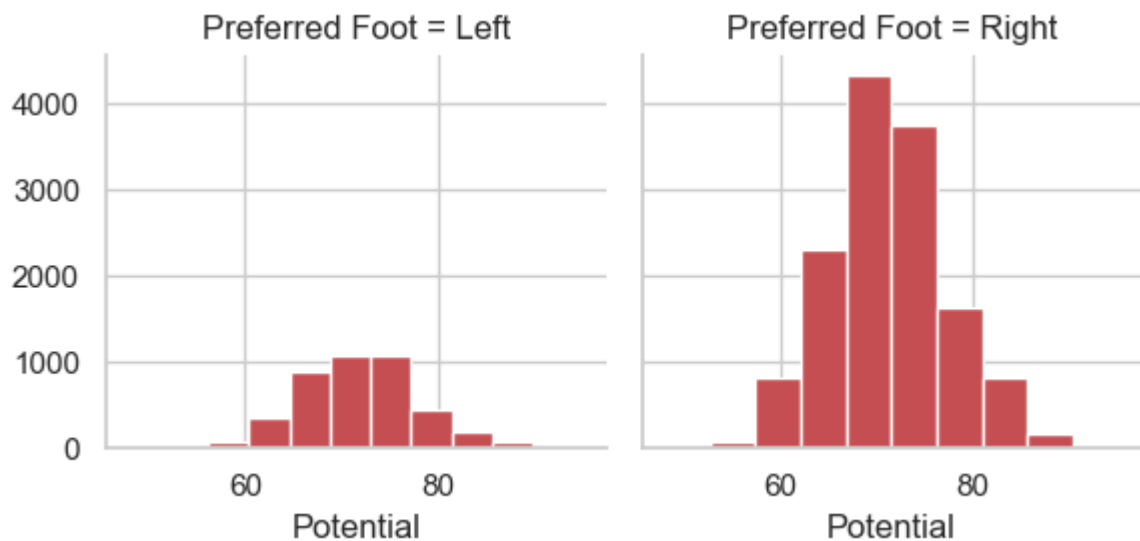
```
In [70]: g = sns.FacetGrid(fifa19, col="Preferred Foot")
plt.show()
```



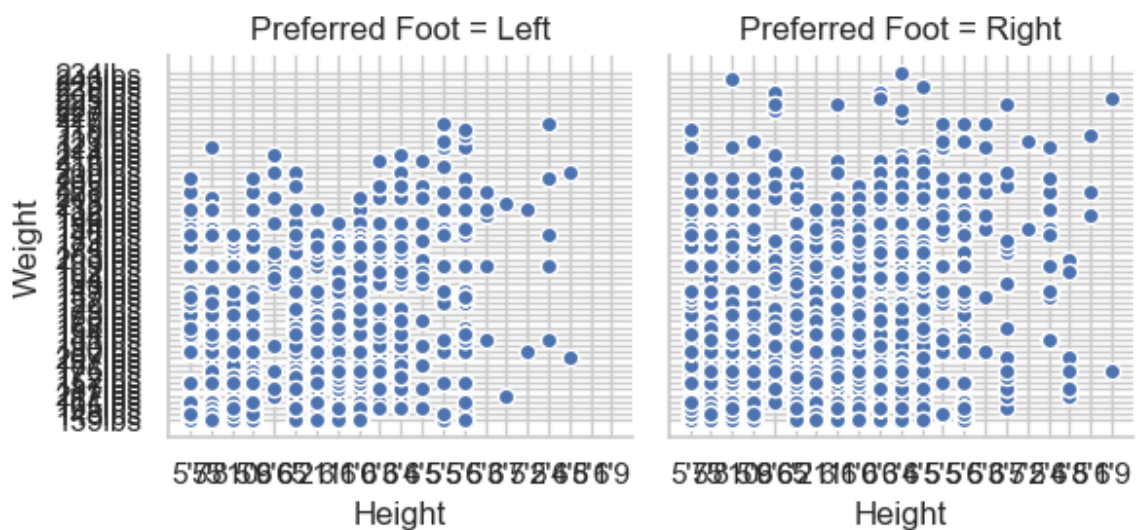
```
In [71]: g = sns.FacetGrid(fifa19, col="Preferred Foot")
g = g.map(plt.hist, "Potential")
plt.show()
```

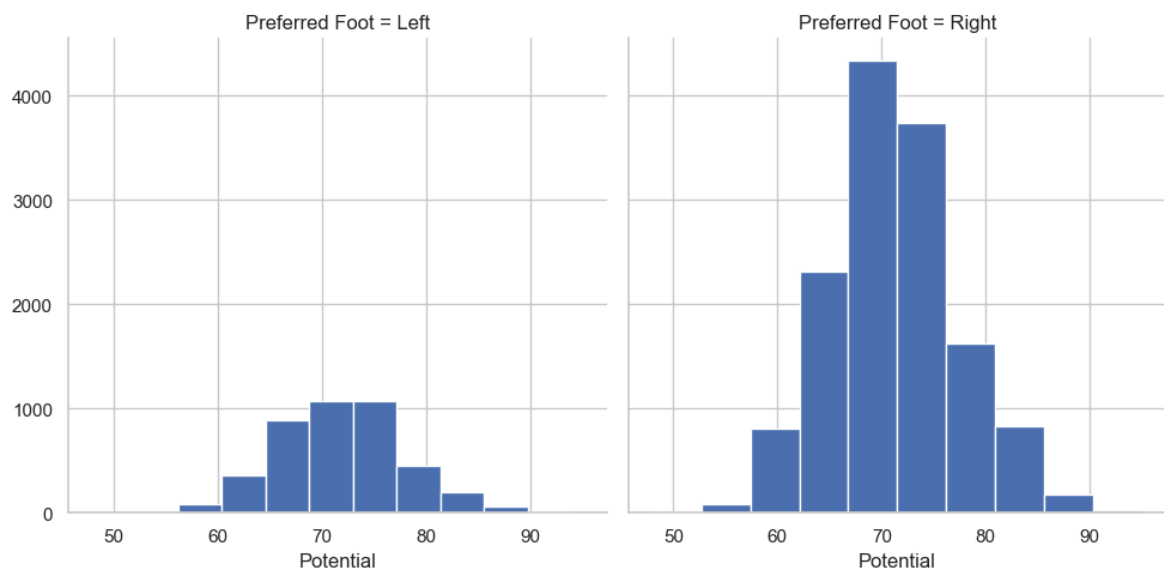
```
In [73]: g = sns.FacetGrid(fifa19, col="Preferred Foot")
g = g.map(plt.hist, "Potential", bins=10, color="r")
plt.show()
```



```
In [74]: g = sns.FacetGrid(fifa19, col="Preferred Foot")
g = (g.map(plt.scatter, "Height", "Weight", edgecolor="w").add_legend()).add_legend()
plt.show()
```

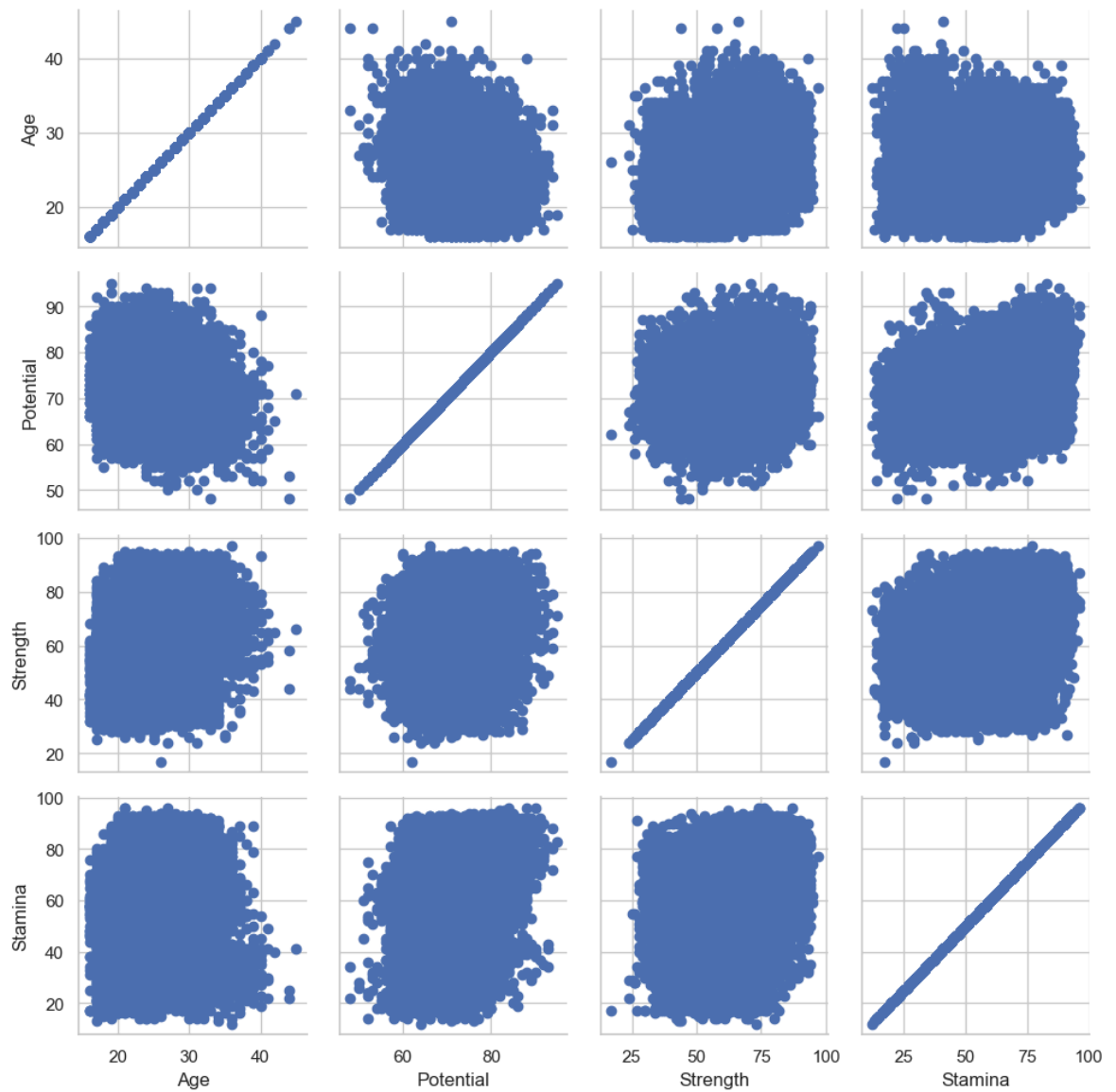


```
In [76]: g = sns.FacetGrid(fifa19, col="Preferred Foot", height=5, aspect=1)
g = g.map(plt.hist, "Potential")
plt.show()
```

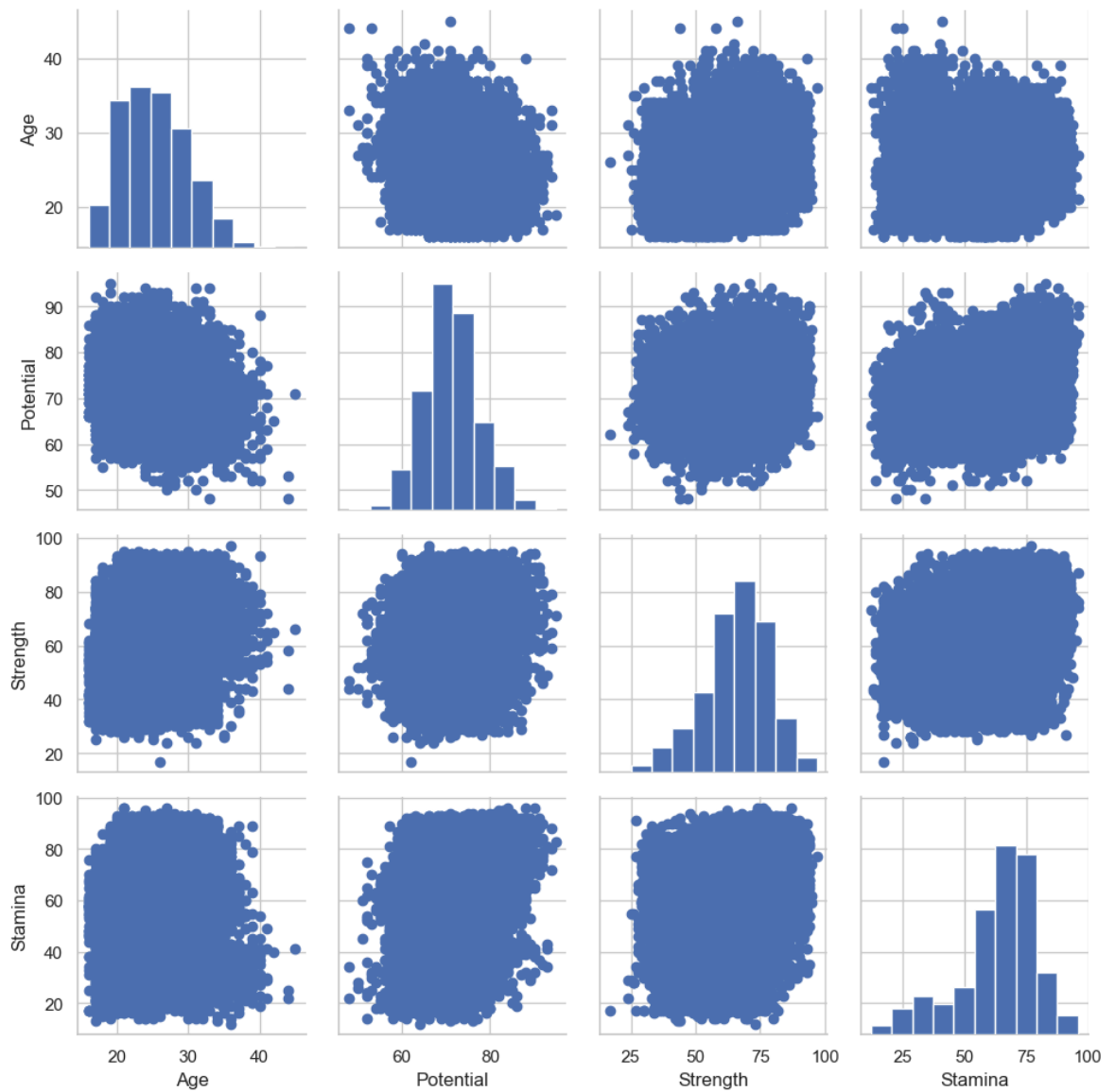


```
In [77]: fifa19_new = fifa19[['Age', 'Potential', 'Strength', 'Stamina', 'Preferred Foot']]
```

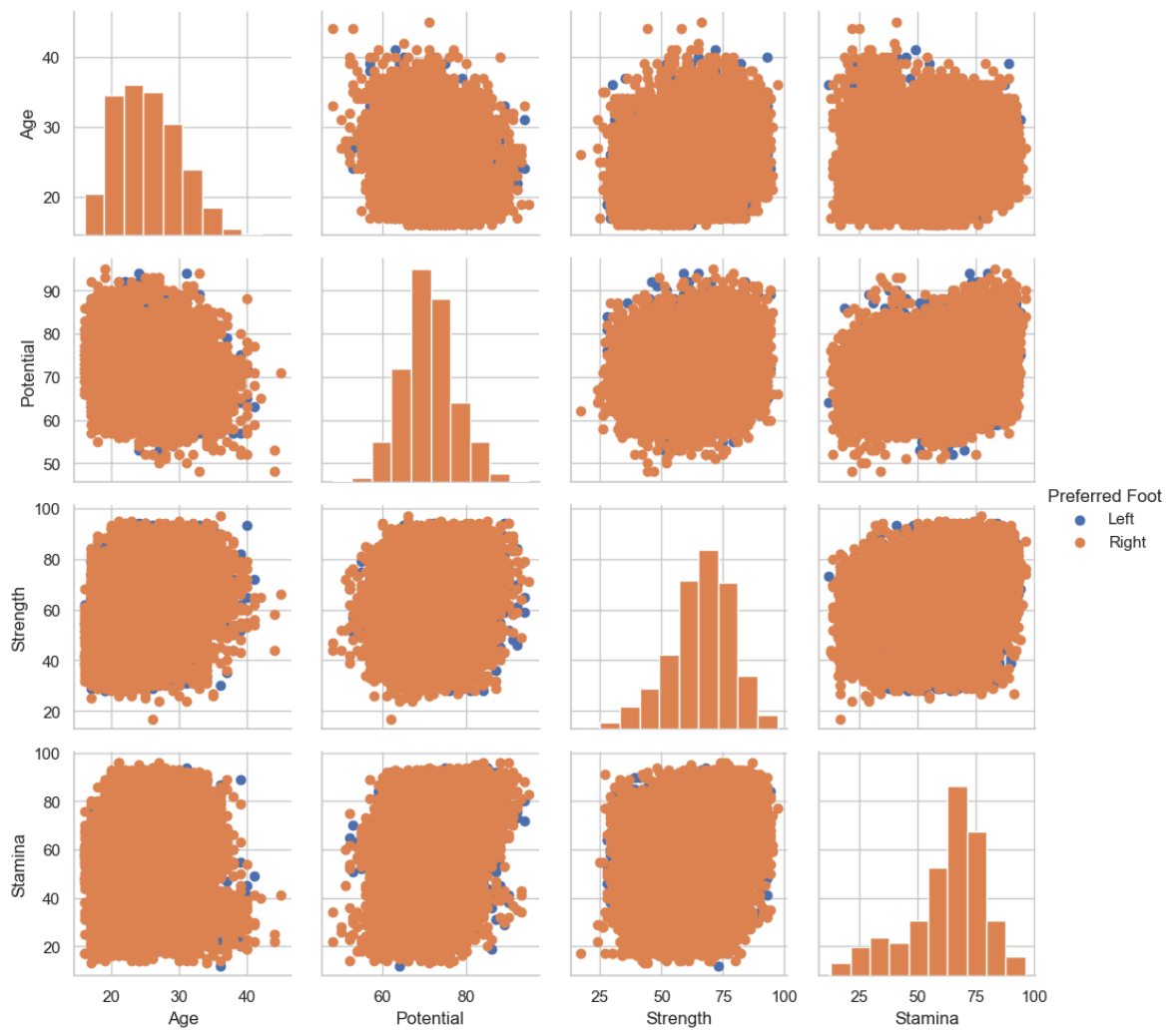
```
In [78]: g = sns.PairGrid(fifa19_new)
g = g.map(plt.scatter)
plt.show()
```



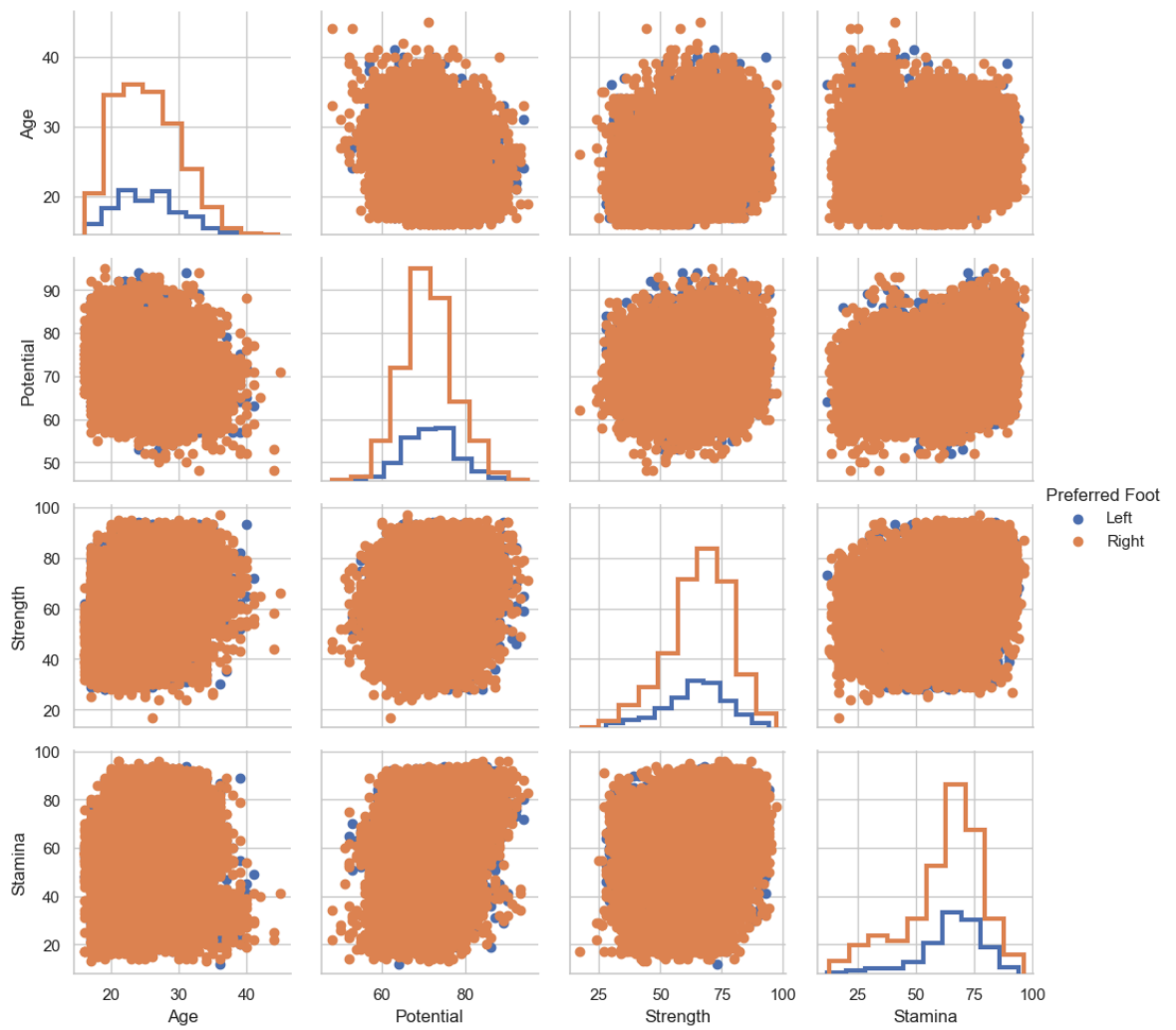
```
In [82]: g = sns.PairGrid(fifa19_new)
g = g.map_diag(plt.hist)
g = g.map_offdiag(plt.scatter)
plt.show()
```



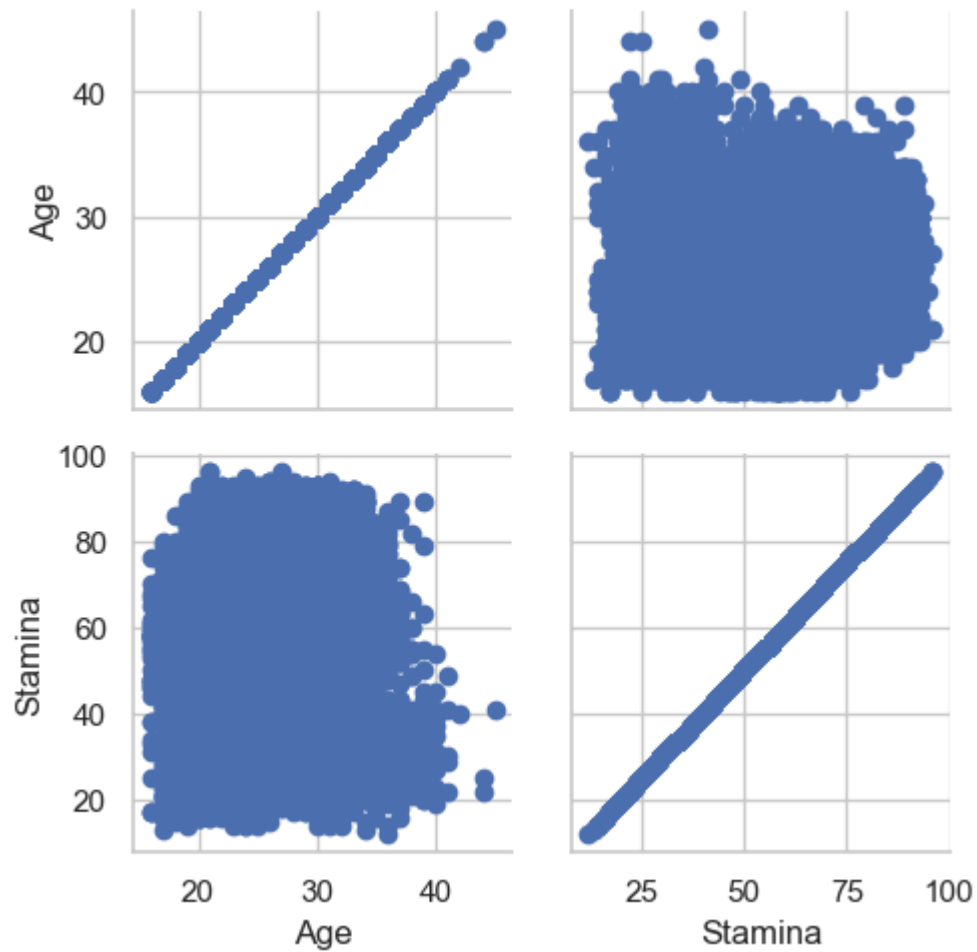
```
In [83]: g = sns.PairGrid(fifa19_new, hue="Preferred Foot")
g = g.map_diag(plt.hist)
g = g.map_offdiag(plt.scatter)
g = g.add_legend()
plt.show()
```



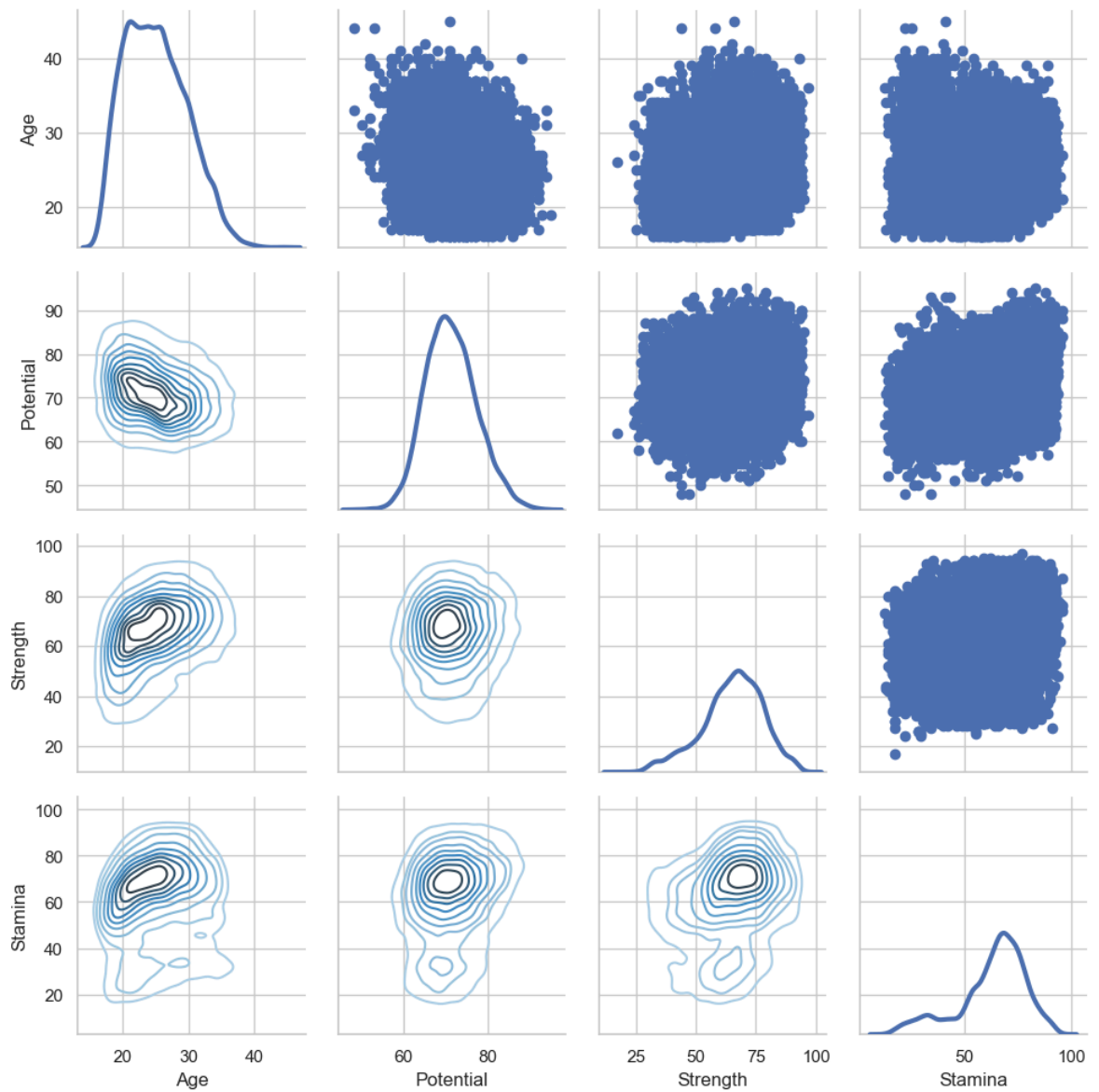
```
In [84]: g = sns.PairGrid(fifa19_new, hue="Preferred Foot")
g = g.map_diag(plt.hist, histtype="step", linewidth=3)
g = g.map_offdiag(plt.scatter)
g = g.add_legend()
plt.show()
```



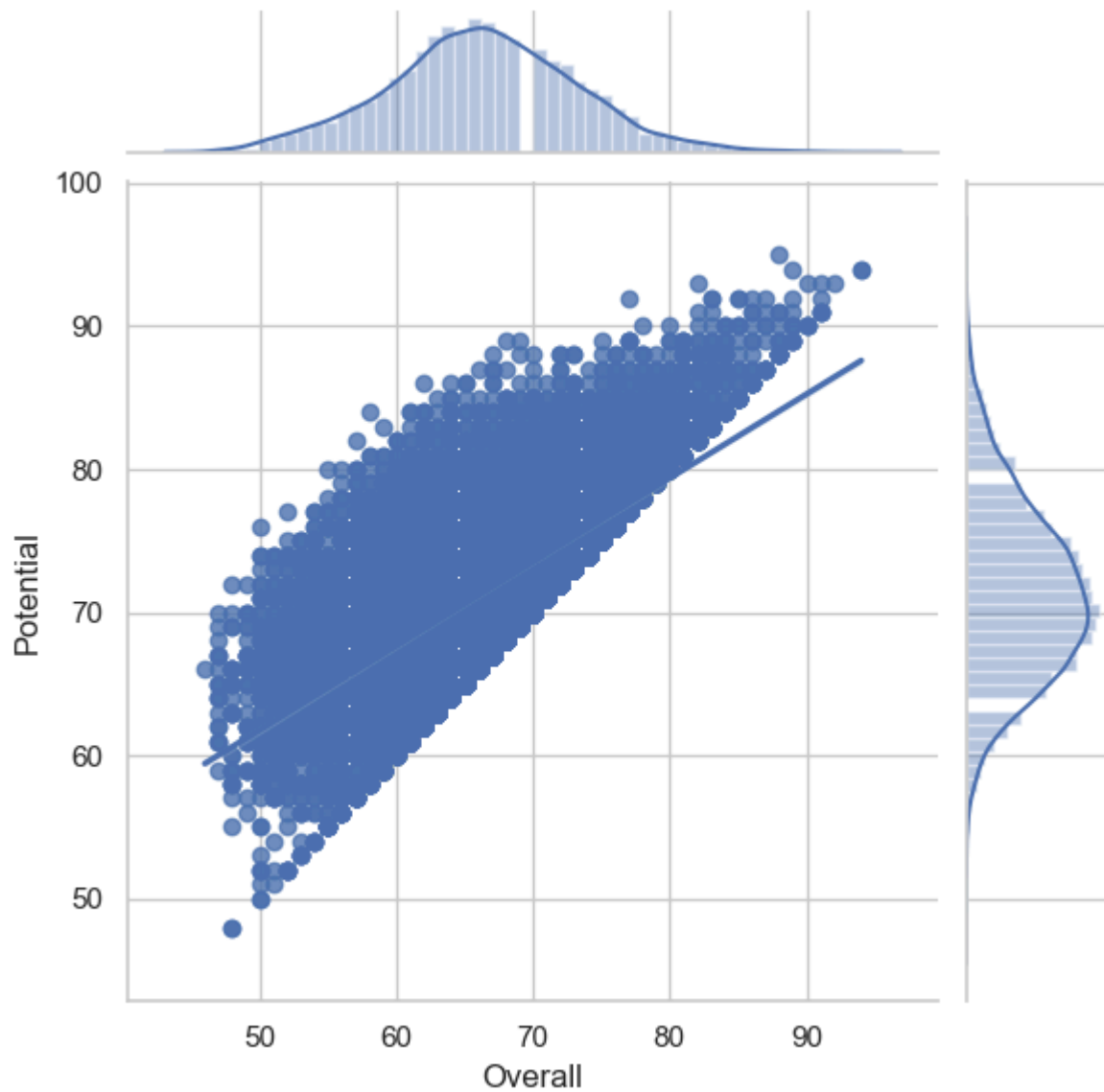
```
In [85]: g = sns.PairGrid(fifa19_new, vars=['Age', 'Stamina'])
g = g.map(plt.scatter)
plt.show()
```



```
In [87]: g = sns.PairGrid(fifa19_new)
g = g.map_upper(plt.scatter)
g = g.map_lower(sns.kdeplot, cmap="Blues_d")
g = g.map_diag(sns.kdeplot, lw=3, legend=False)
plt.show()
```

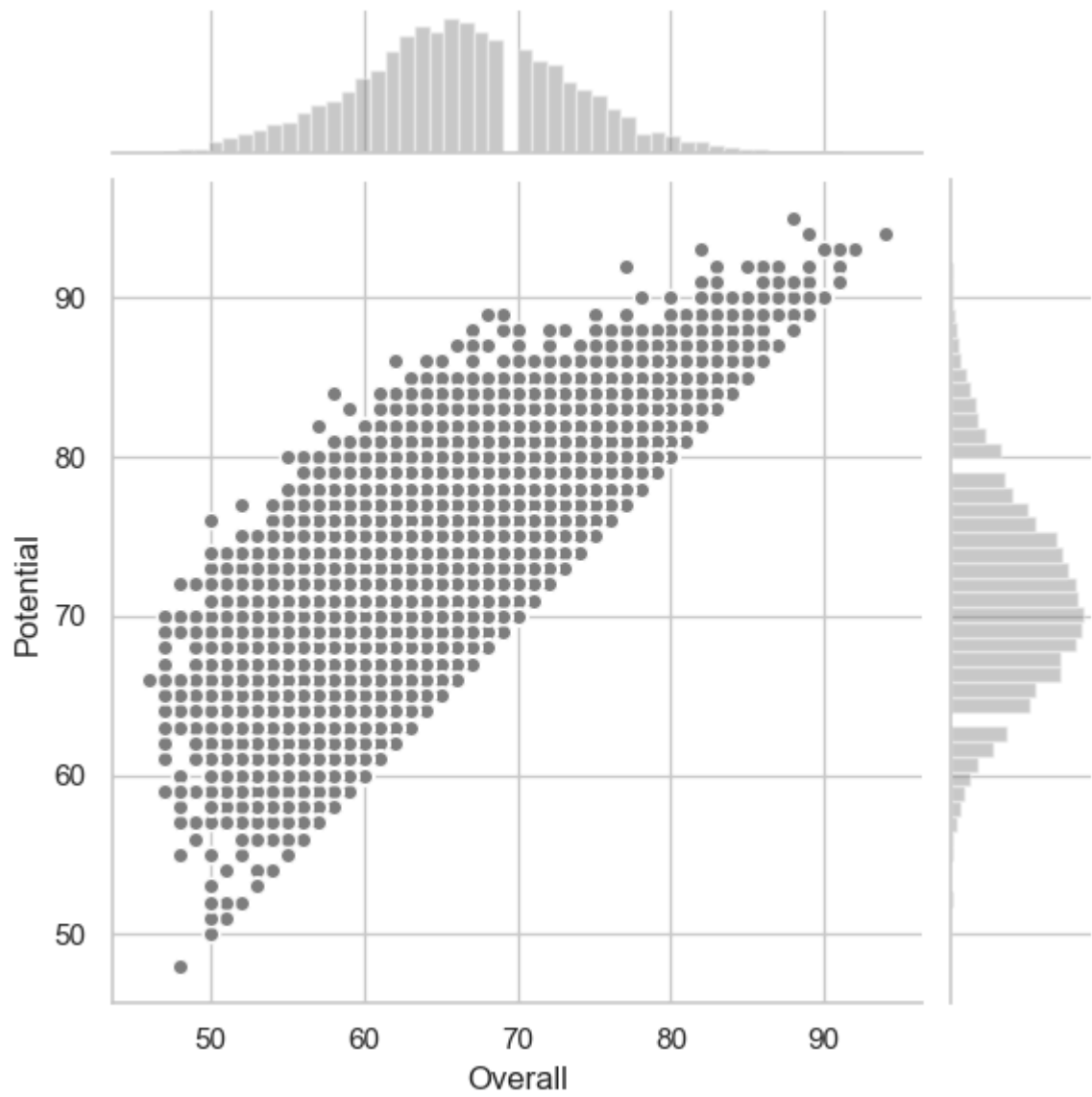


```
In [88]: g = sns.JointGrid(x="Overall", y="Potential", data=fifa19)
g = g.plot(sns.regplot, sns.distplot)
plt.show()
```

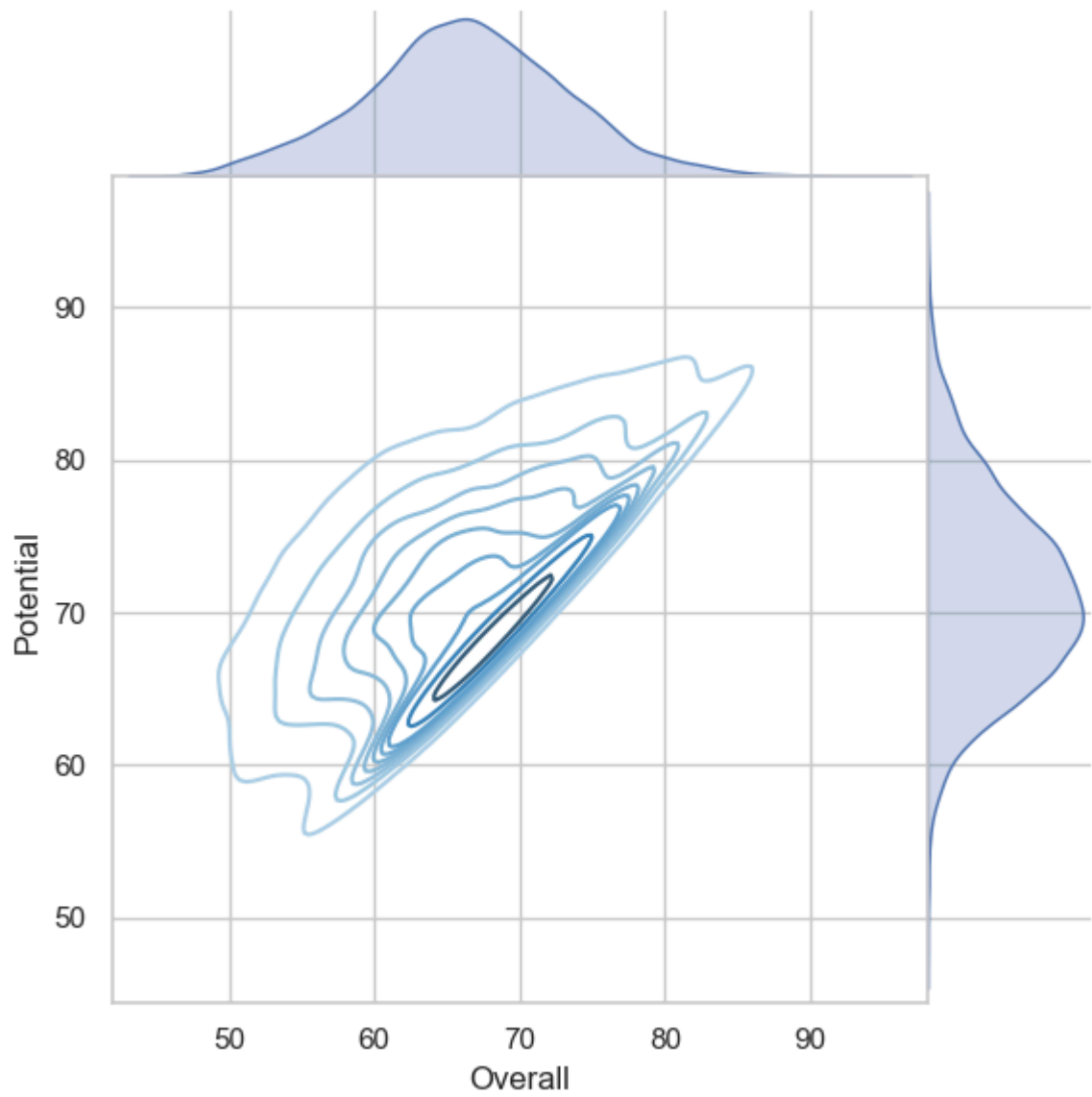



```
In [89]: import matplotlib.pyplot as plt
```

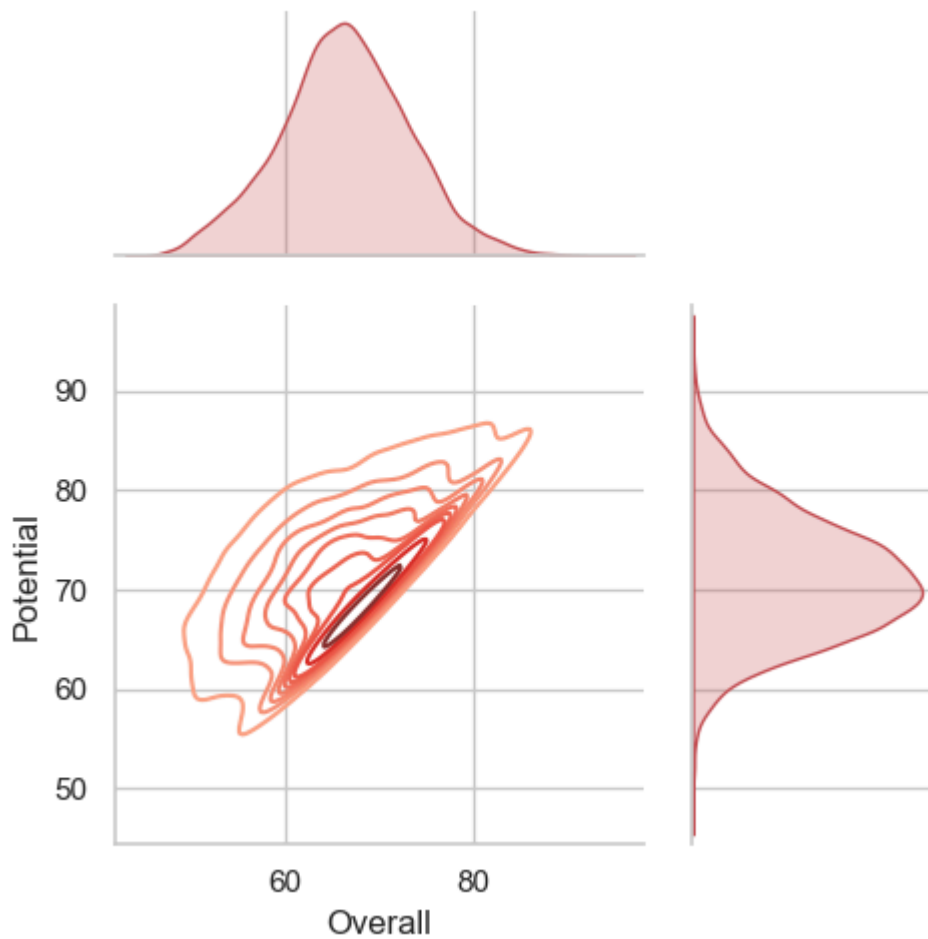
```
In [90]: g = sns.JointGrid(x="Overall", y="Potential", data=fifa19)
g = g.plot_joint(plt.scatter, color=".5", edgecolor="white")
g = g.plot_marginals(sns.distplot, kde=False, color=".5")
plt.show()
```



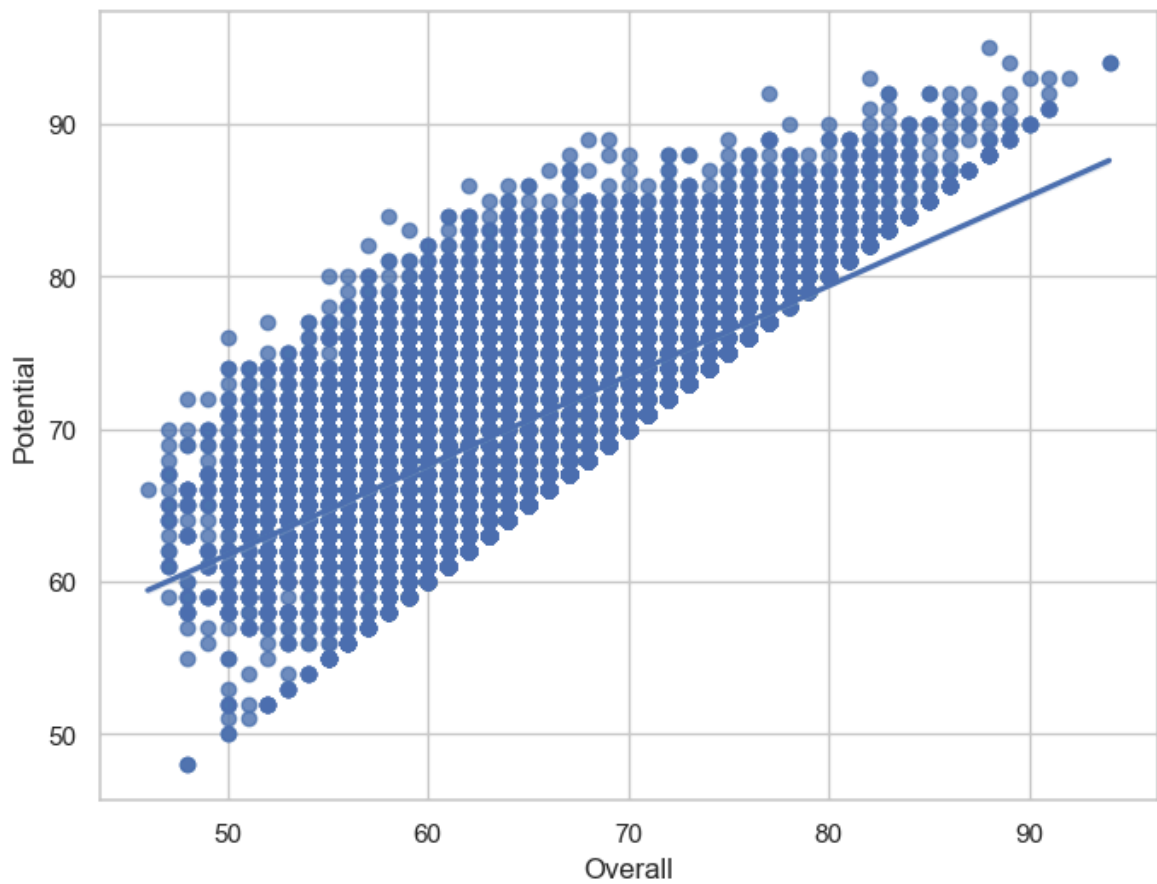
```
In [92]: g = sns.JointGrid(x="Overall", y="Potential", data=fifa19, space=0)
g = g.plot_joint(sns.kdeplot, cmap="Blues_d")
g = g.plot_marginals(sns.kdeplot, shade=True)
plt.show()
```



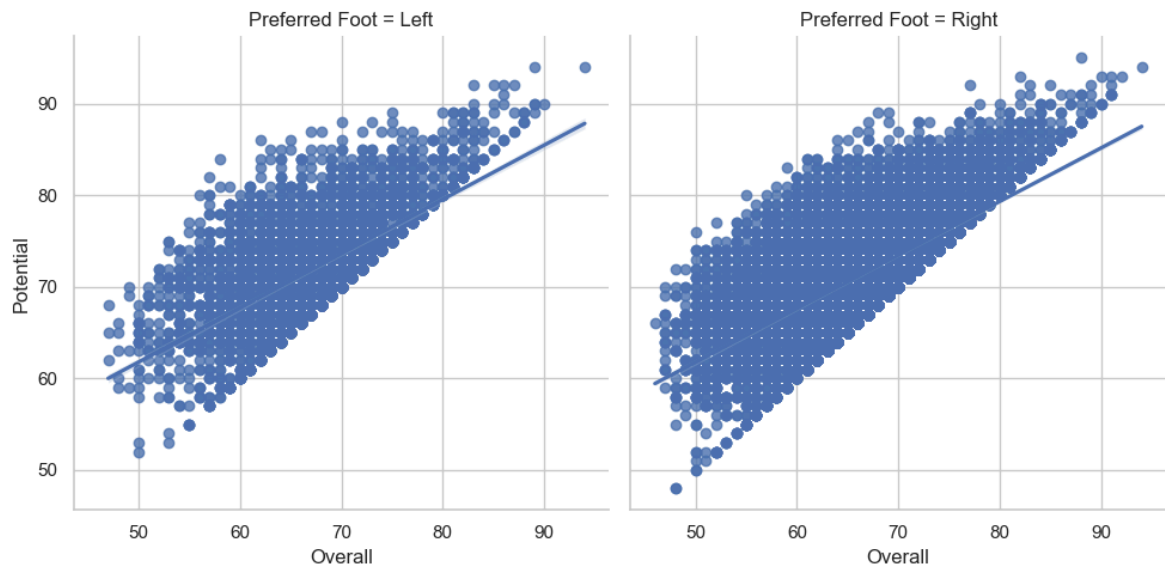
```
In [93]: g = sns.JointGrid(x="Overall", y="Potential", data=fifa19, height=5, ratio=2)
g = g.plot_joint(sns.kdeplot, cmap="Reds_d")
g = g.plot_marginals(sns.kdeplot, color="r", shade=True)
plt.show()
```



```
In [94]: plt.subplots(figsize=(8,6))
sns.regplot(x="Overall",y="Potential",data=fifa19)
plt.show()
```

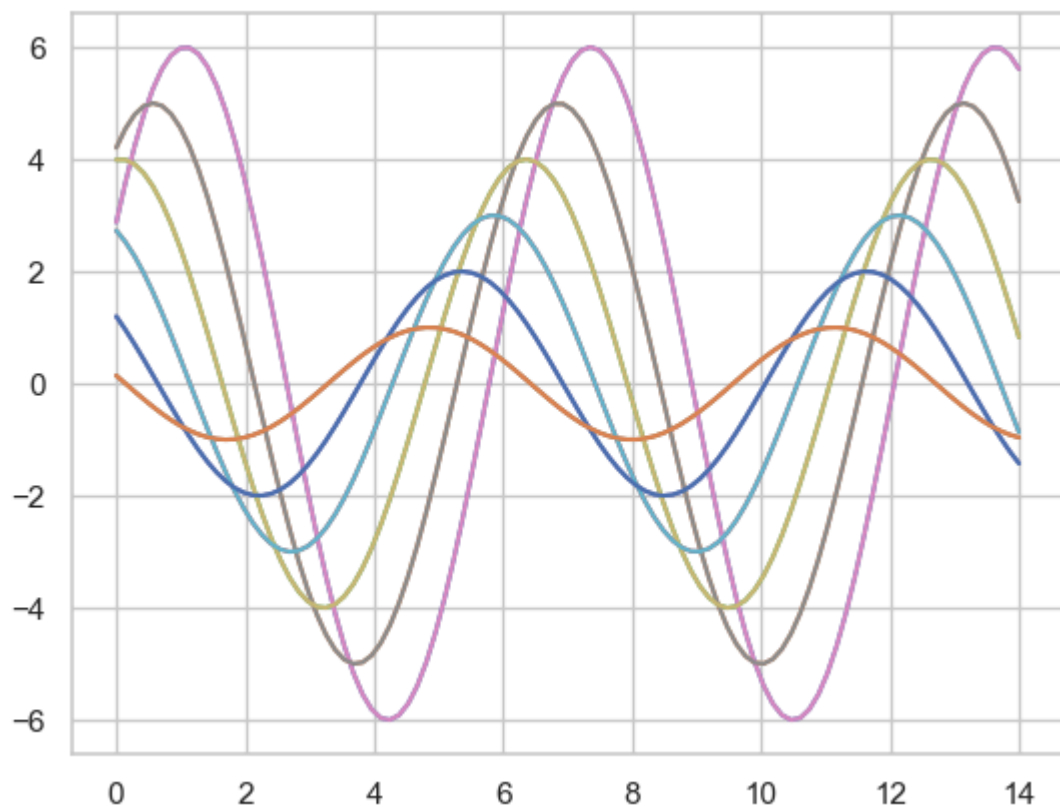


```
In [95]: sns.lmplot(x="Overall",y="Potential",col="Preferred Foot", data=fifa19)
plt.show()
```

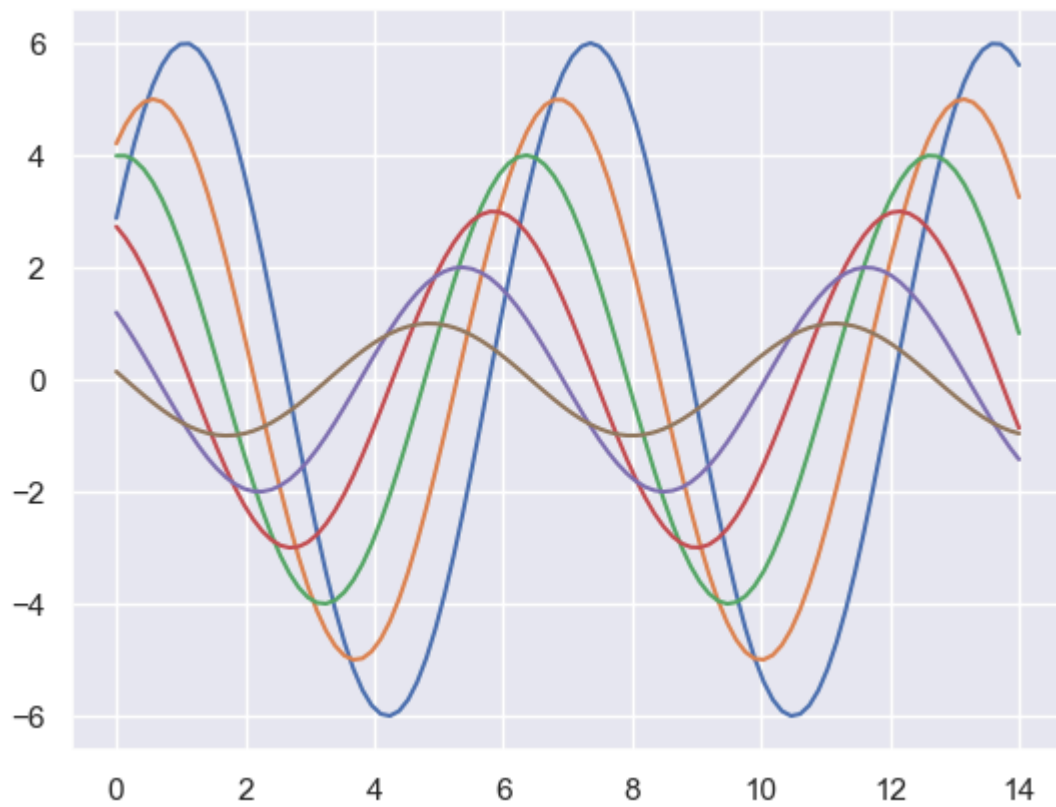


```
In [151... def sinplot(flip=1):
x = np.linspace(0, 14, 100)
for i in range(1, 7):
    plt.plot(x, np.sin(x + i * .5) * (7 - i) * flip)
```

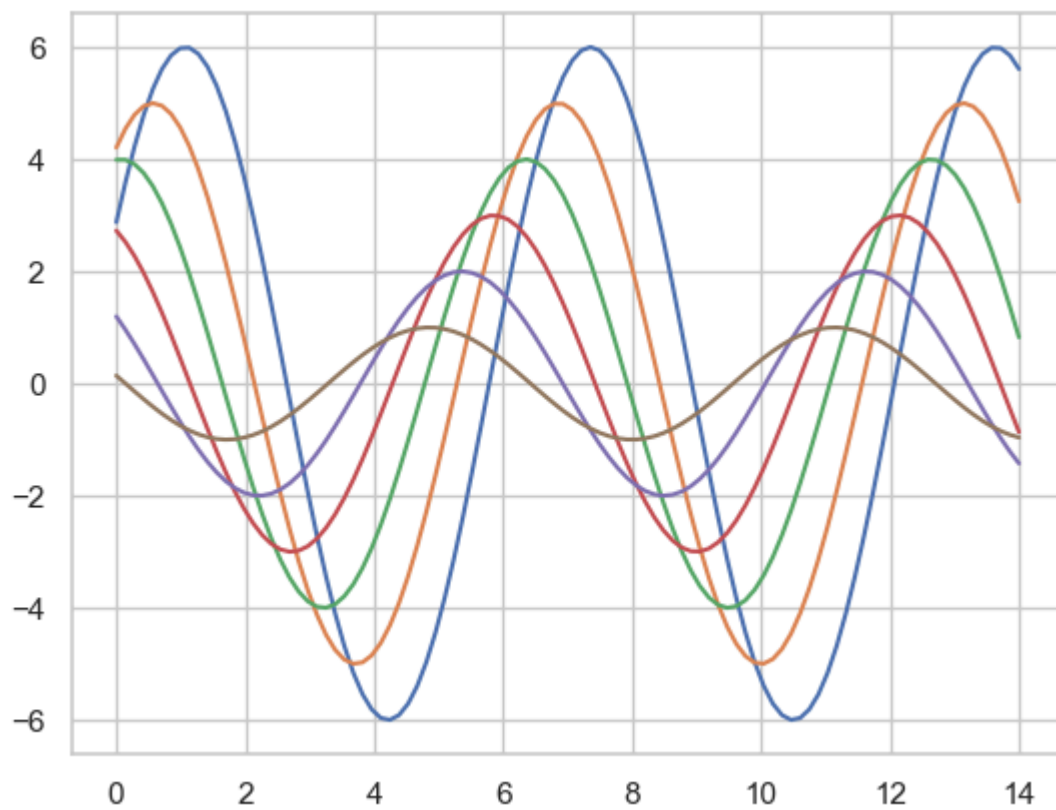
```
In [155... sinplot()
plt.show()
```



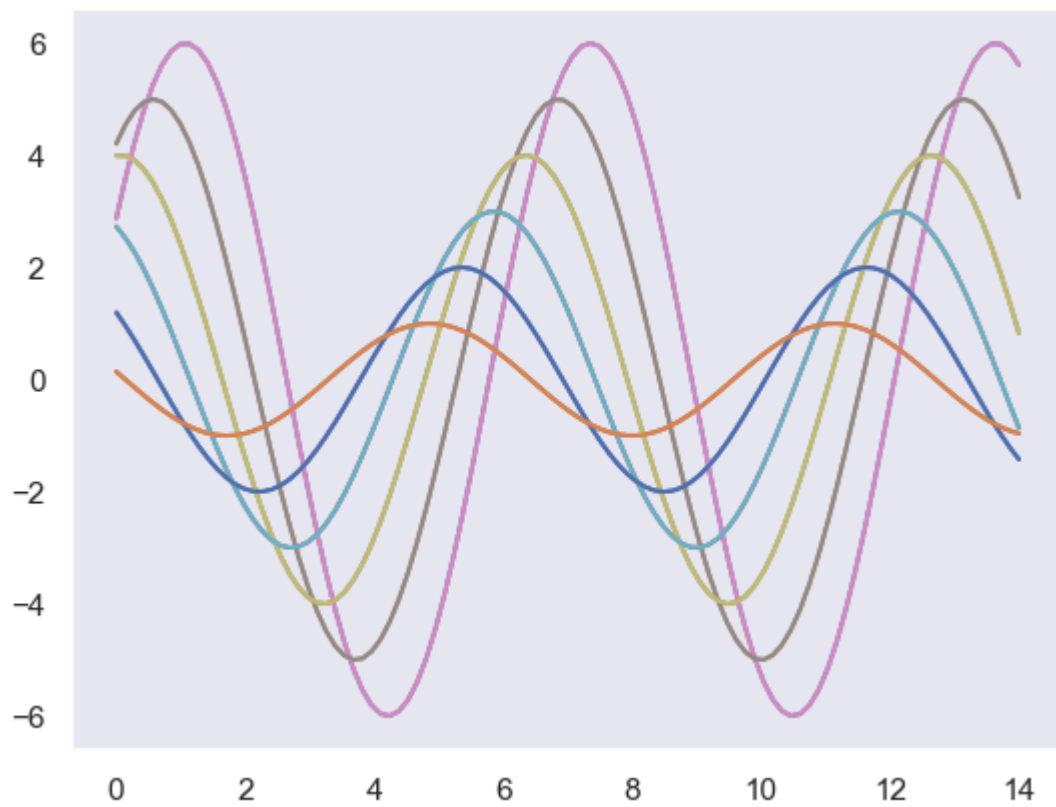
```
In [157... sns.set()
sinplot()
plt.show()
```



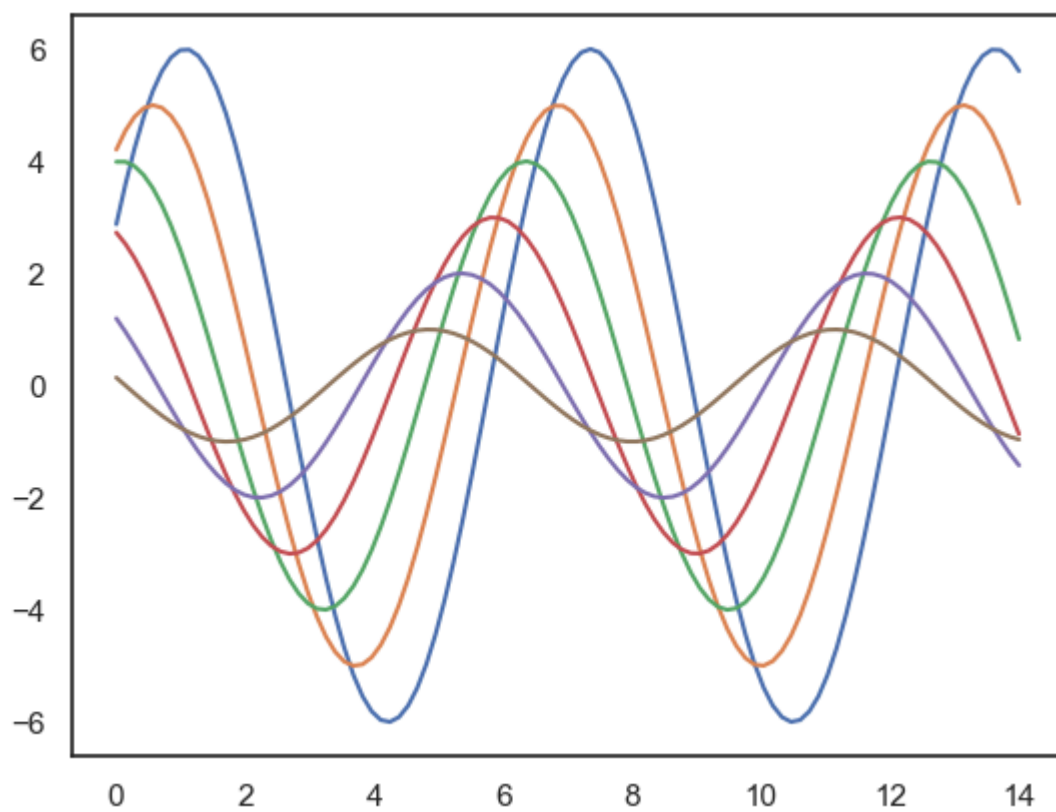
```
In [161... sns.set_style("whitegrid")  
sinplot()  
plt.show()
```



```
In [165... sns.set_style("dark")  
sinplot()  
plt.show()
```



```
In [167... sns.set_style("white")
sinplot()
plt.show()
```



```
In [ ]: sns.set_style
```