Cat Plot

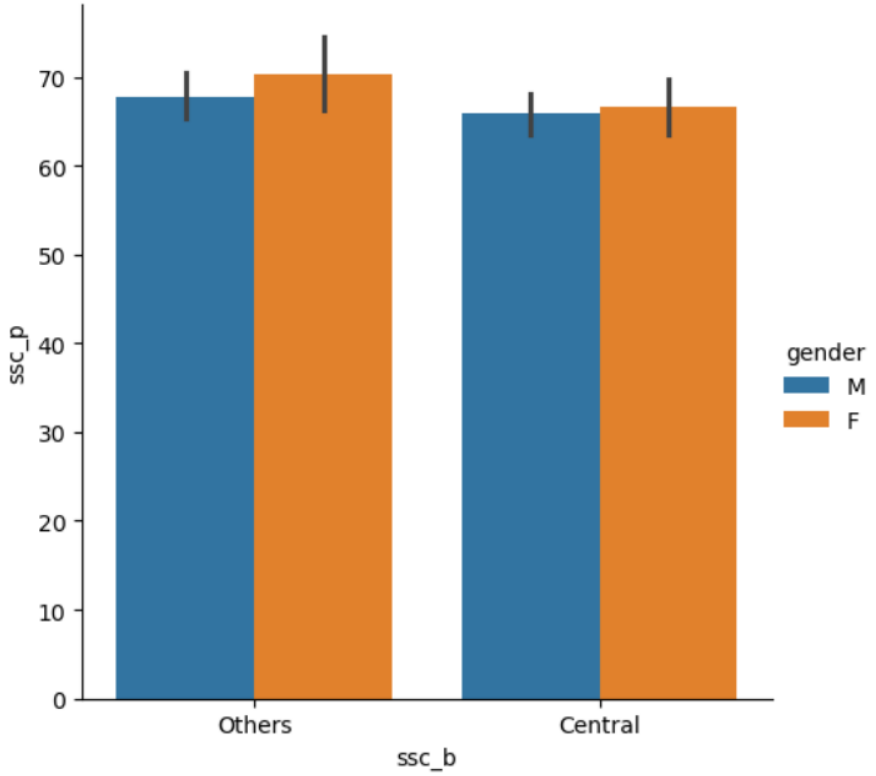
Cat plot a visualization that displays multiple plots for different variables on a single page. It can be used to show relationships between variables across different categories.

We are able to visualize by different plots like “point”, “bar”, “strip”, “swarm”, “box”, “violin”, or “boxen”. So the user can view in a different views by cat plot.

Bar plot:

```
[51]: sb.catplot(x='ssc_b',y='ssc_p',data=dataset,hue='gender',kind='bar')
```

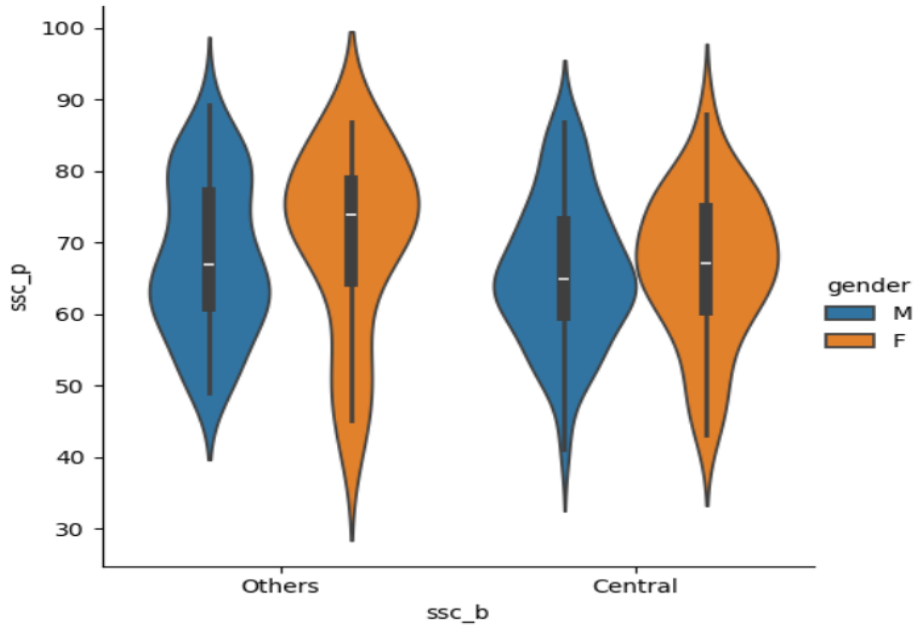
```
[51]: <seaborn.axisgrid.FacetGrid at 0x1c19a29e990>
```



Violin Plot

```
[52]: sb.catplot(x='ssc_b',y='ssc_p',data=dataset,hue='gender',kind='violin')
```

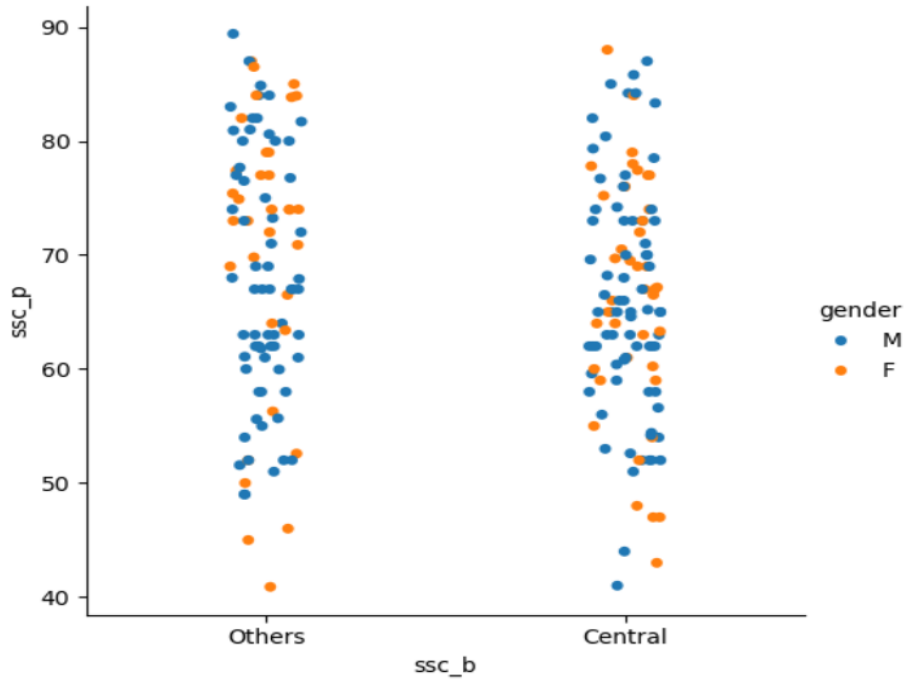
```
[52]: <seaborn.axisgrid.FacetGrid at 0x1c19a230410>
```



Strip Plot:

```
[53]: sb.catplot(x='ssc_b',y='ssc_p',data=dataset,hue='gender',kind='strip')
```

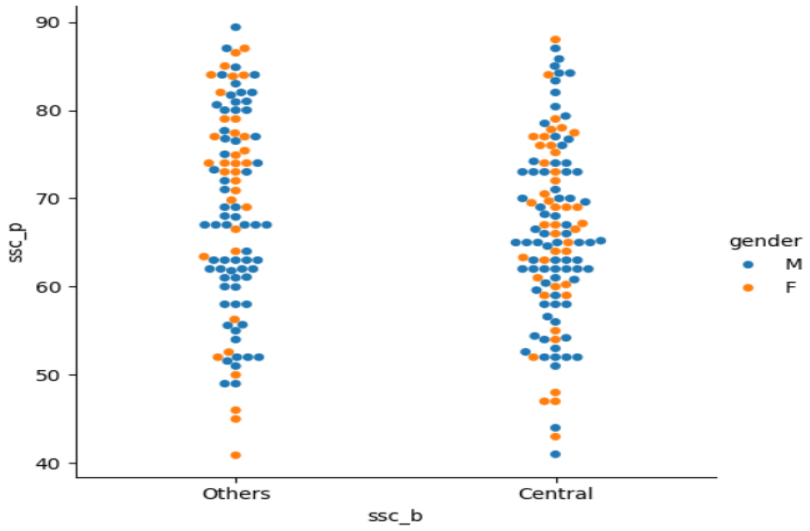
```
[53]: <seaborn.axisgrid.FacetGrid at 0x1c19a4755b0>
```



Swarm Plot:

```
[54]: sb.catplot(x='ssc_b',y='ssc_p',data=dataset,hue='gender',kind='swarm')
```

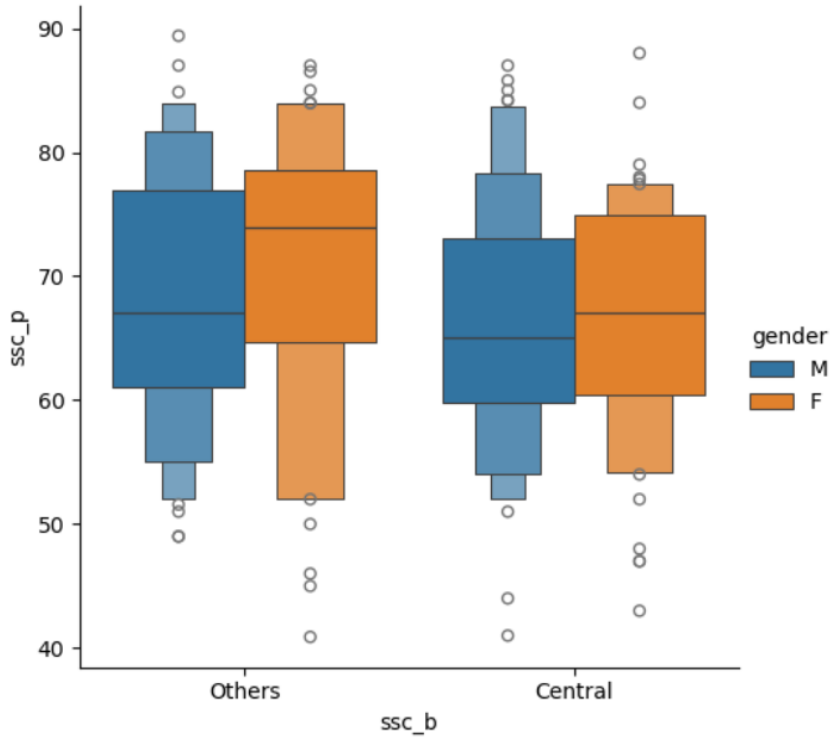
```
[54]: <seaborn.axisgrid.FacetGrid at 0x1c19a05d3a0>
```



Boxen Plot:

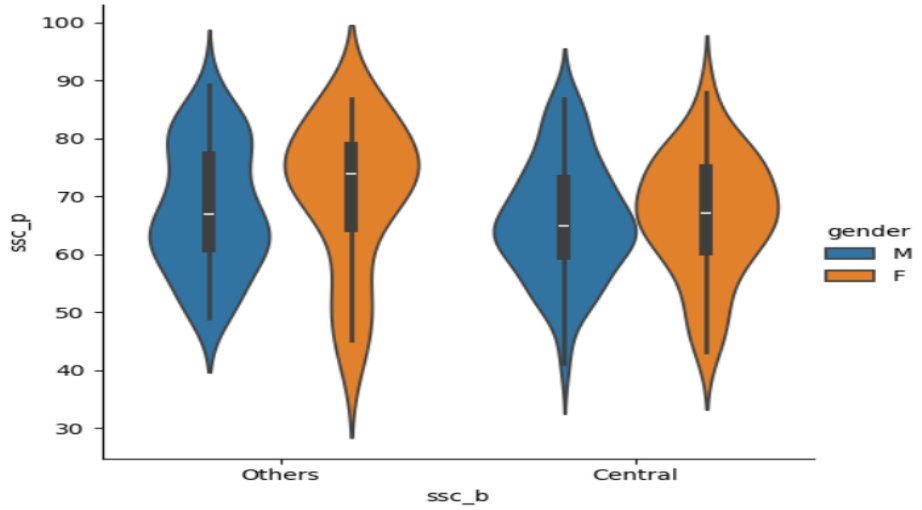
```
[56]: sb.catplot(x='ssc_b',y='ssc_p',data=dataset,hue='gender',kind='boxen')
```

```
[56]: <seaborn.axisgrid.FacetGrid at 0x1c19a4d34d0>
```



We can interpret the relation between ssc_b and ssc_p by any one of the above plot. I will use the violin plot to explain the relationship.

```
[52]: sb.catplot(x='ssc_b',y='ssc_p',data=dataset,hue='gender',kind='violin')
[52]: <seaborn.axisgrid.FacetGrid at 0x1c19a230410>
```



Mkt&HR(Male)→ The mark starts from around 35, The density occurs around 60 and it reaches upto 95 and density peak ends at 70.

Mkt&HR(FeMale)→ The mark starts from around 30, The density occurs around 70 and it reaches upto 95 and density peak ends at 75.

Conclusion: Though the male candidates pass marks starts from above 30, their peak is not like female candidate. Both of them equally reached the top mark.

Mkt&Fin(Male)→ Male mark starts with around 35, They have 2 density, 1 is around 65 and the another small density is around 80. Their top mark is around 90.

Mkt&Fin(FeMale)→ Female mark starts with around 40, their peak around 75, their peak mark is around 95.

Conclusion: Female candidates marks starts and finish against male is appreciable. Though male candidates have 2 peaks but both the peaks are less than the peak of female candidates.

Advantages:

1. Good in visual interpretation – It gives clear visual representation of how variables are related.
2. Identifying pattern – We can easily identify the correlation between variable by plotting variables.
3. Outlier detection – Unusual data points are easily identified.
4. Comparison across group—We are able to plot different groups, so that we can easily differentiate and compare which plot is useful.

Disadvantage:

1. Misinterpretation potentials – when we deal with highly correlated or complex factor, then the cat plot will give incorrect conclusion.
2. Not suitable for all data – It is suitable for continuous data and is not for binary variables.