

# Paras Patel – Day11 Assignment

## Correlation of Attrition with other variables

```
In [115]: from scipy.stats import pearsonr
```

```
In [116]: stat,p = pearsonr(data.Attrition,data.YearsWithCurrManager)
           print(stat,p)
```

```
-0.15469153690287285 7.105369646772844e-25
```

H0 <- There is no significant correlation between Attrition and YearsWithCurrManager.

Ha <- There is significant correlation between Attrition and YearsWithCurrManager.

As  $p < 0.05$ , we have to accept the Null Hypothesis.

```
In [117]: stat,p = pearsonr(data.Attrition,data.YearsSinceLastPromotion)
           print(stat,p)
```

```
-0.03142315056330984 0.03752293607394267
```

H0 <- There is no significant correlation between Attrition and YearsSinceLastPromotion.

Ha <- There is significant correlation between Attrition and YearsSinceLastPromotion.

As  $p < 0.05$ , we have to accept the Null Hypothesis.

```
In [118]: stat,p = pearsonr(data.Attrition,data.DistanceFromHome)
           print(stat,p)
```

```
-0.009448638515156258 0.5317715668019558
```

H0 <- There is no significant correlation between Attrition and DistanceFromHome.

$H_a$  <- There is significant correlation between Attrition and DistanceFromHome.

As  $p > 0.05$ , we have to reject the Null Hypothesis and accept the Alternate Hypothesis.

```
In [119]: stat,p = pearsonr(data.Attrition,data.MonthlyIncome)
          print(stat,p)
          -0.030160293808460678 0.045890862744719166
```

$H_0$  <- There is no significant correlation between Attrition and MonthlyIncome.

$H_a$  <- There is significant correlation between Attrition and MonthlyIncome.

As  $p < 0.05$ , we have to accept the Null Hypothesis.

```
In [120]: stat,p = pearsonr(data.Attrition,data.Age)
          print(stat,p)
          -0.1583986795409671 5.1265982193780794e-26
```

$H_0$  <- There is no significant correlation between Attrition and Age.

$H_a$  <- There is significant correlation between Attrition and Age.

As  $p < 0.05$ , we have to accept the Null Hypothesis.

```
In [121]: stat,p = pearsonr(data.Attrition,data.Education)
          print(stat,p)
          -0.017106307050278706 0.25757539308157945
```

$H_0$  <- There is no significant correlation between Attrition and Education.

$H_a$  <- There is significant correlation between Attrition and Education.

As  $p > 0.05$ , we have to reject the Null Hypothesis and accept the Alternate Hypothesis

