Employee Attrition Analysis

Power BI Dashboard for Data Handling Visualiation

Introduction & Approach

Objective

Identify key factors influencing employee turnover

Dataset

IBM HR Analytics with 1470 records, 35 features

Methodology

- Data Cleaning & Preprocessing
- Exploratory Data Analysis
- Visualization & Insights

Dataset Overview

Records & Attributes

1470 records, 35 columns

Key Features

- Age, Department, JobRole
- Monthly Income, OverTime
- DistanceFromHome, Education

Target Variable

Attrition (Yes/No)

Data Preprocessing

Column Removal

Dropped irrelevant columns to reduce noise

Categorical Encoding

Encoded Attrition as 1/0, converted categories

Outlier Strategy

No outlier removal to avoid losing attrition cases

Exploratory Data Analysis

Univariate Analysis

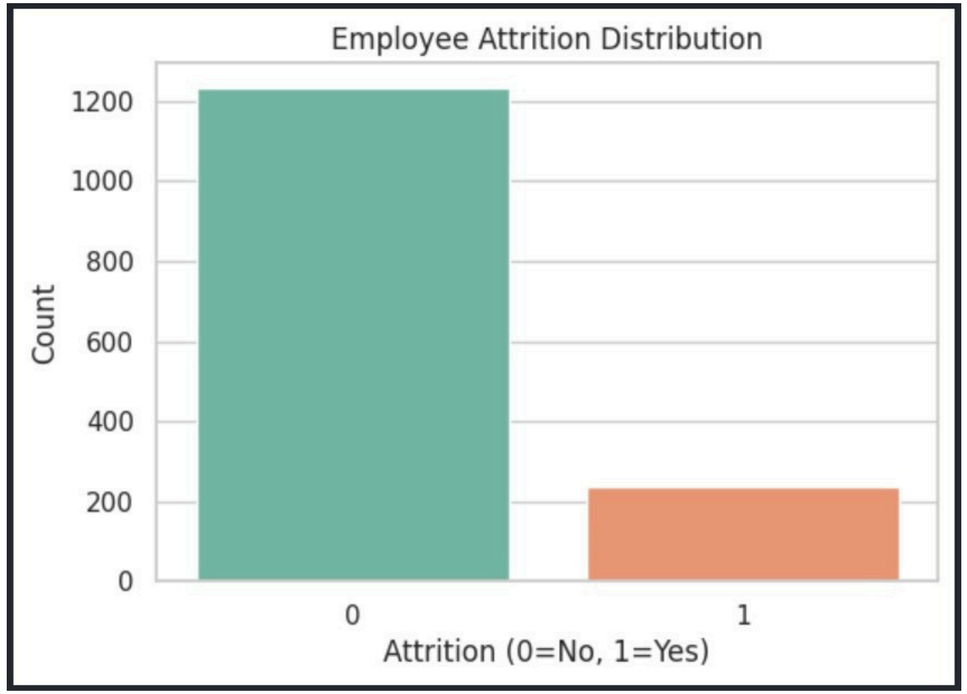
- Attrition distribution
- Gender, Department, Marital Status

Bivariate Analysis

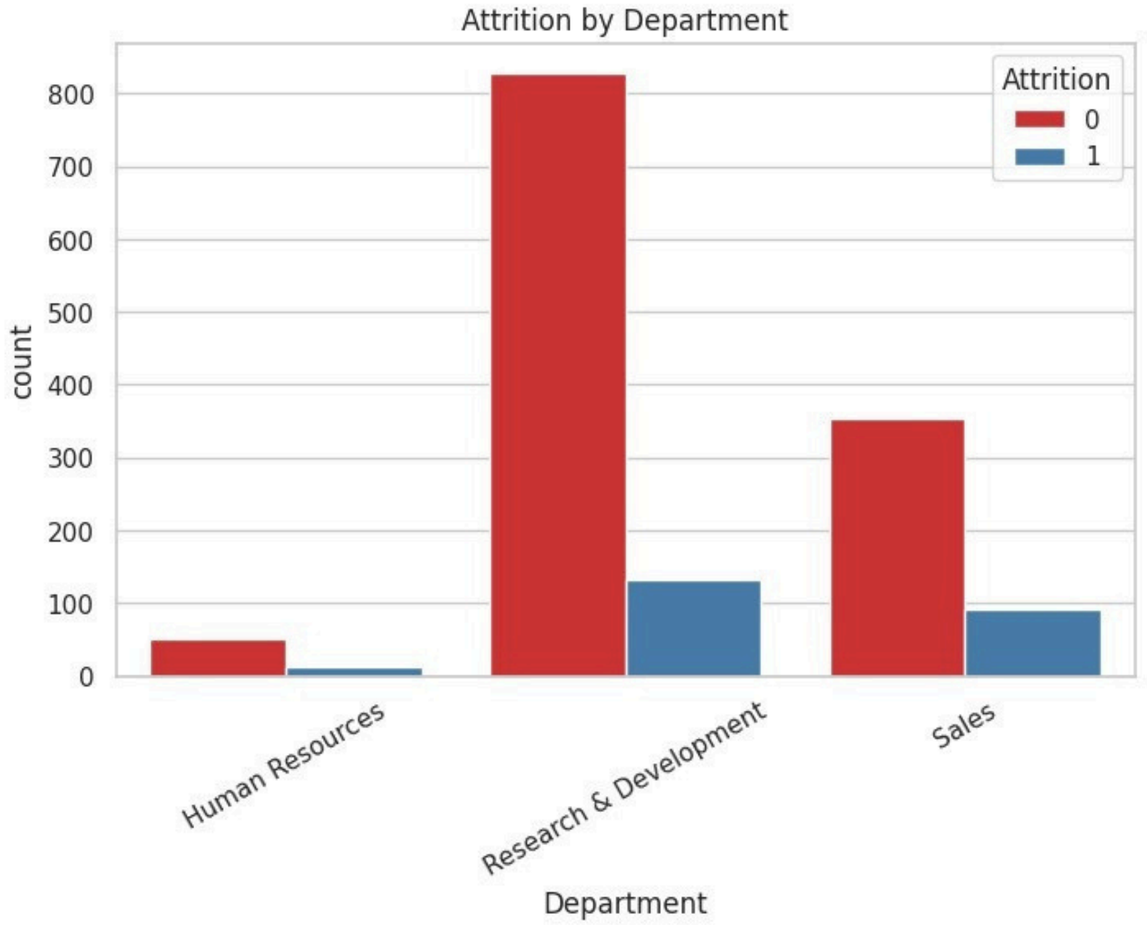
- Attrition vs Age
- Attrition vs Income
- Attrition vs OverTime

Top 15 Questions

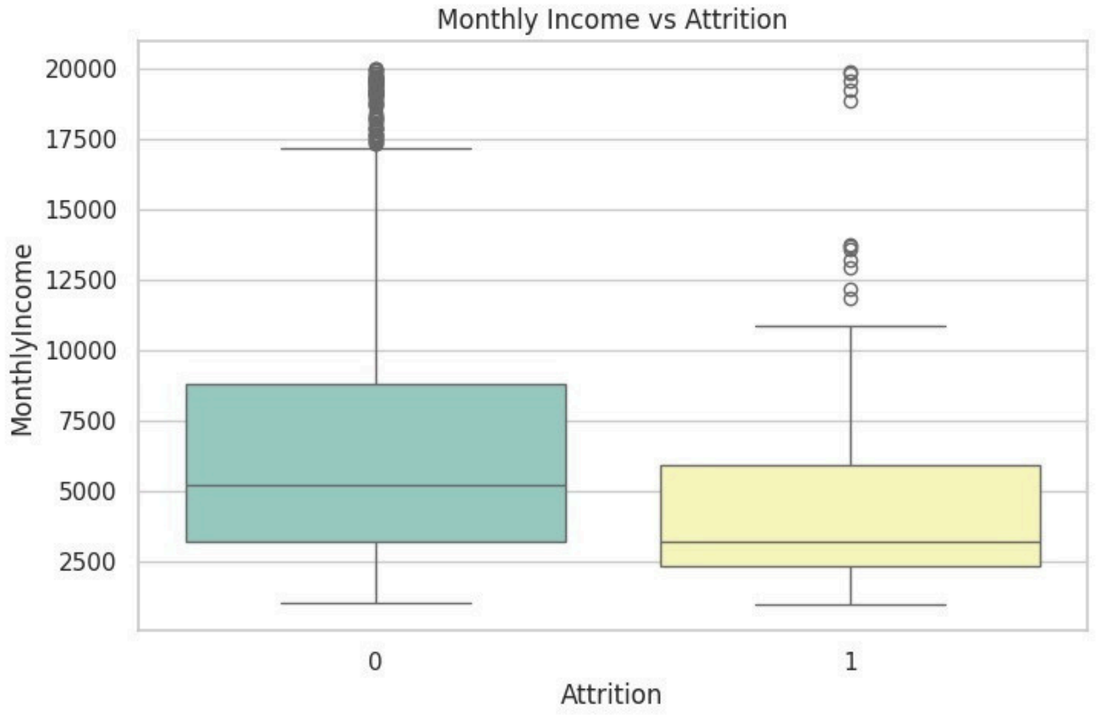
Q1. What is the attrition count?



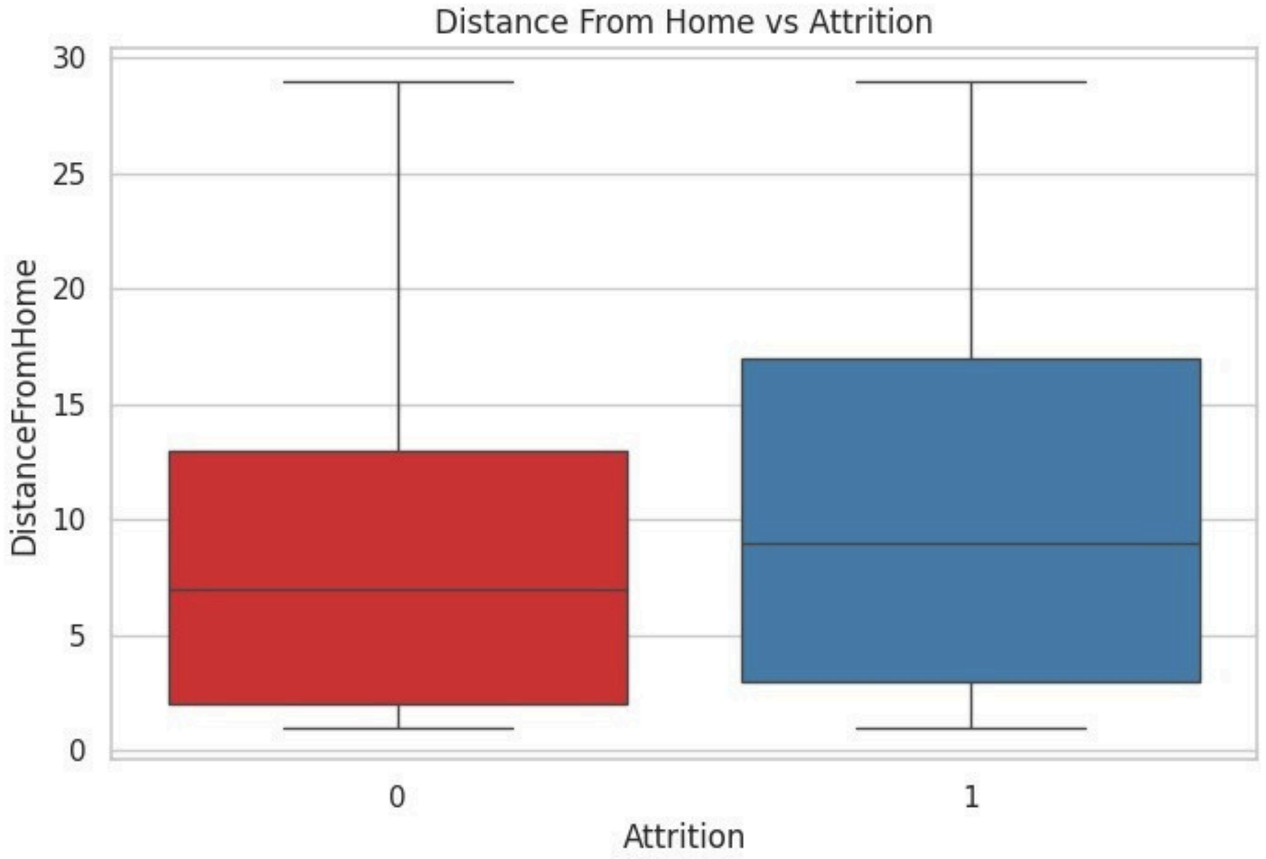
Q2. What is attrition count by department



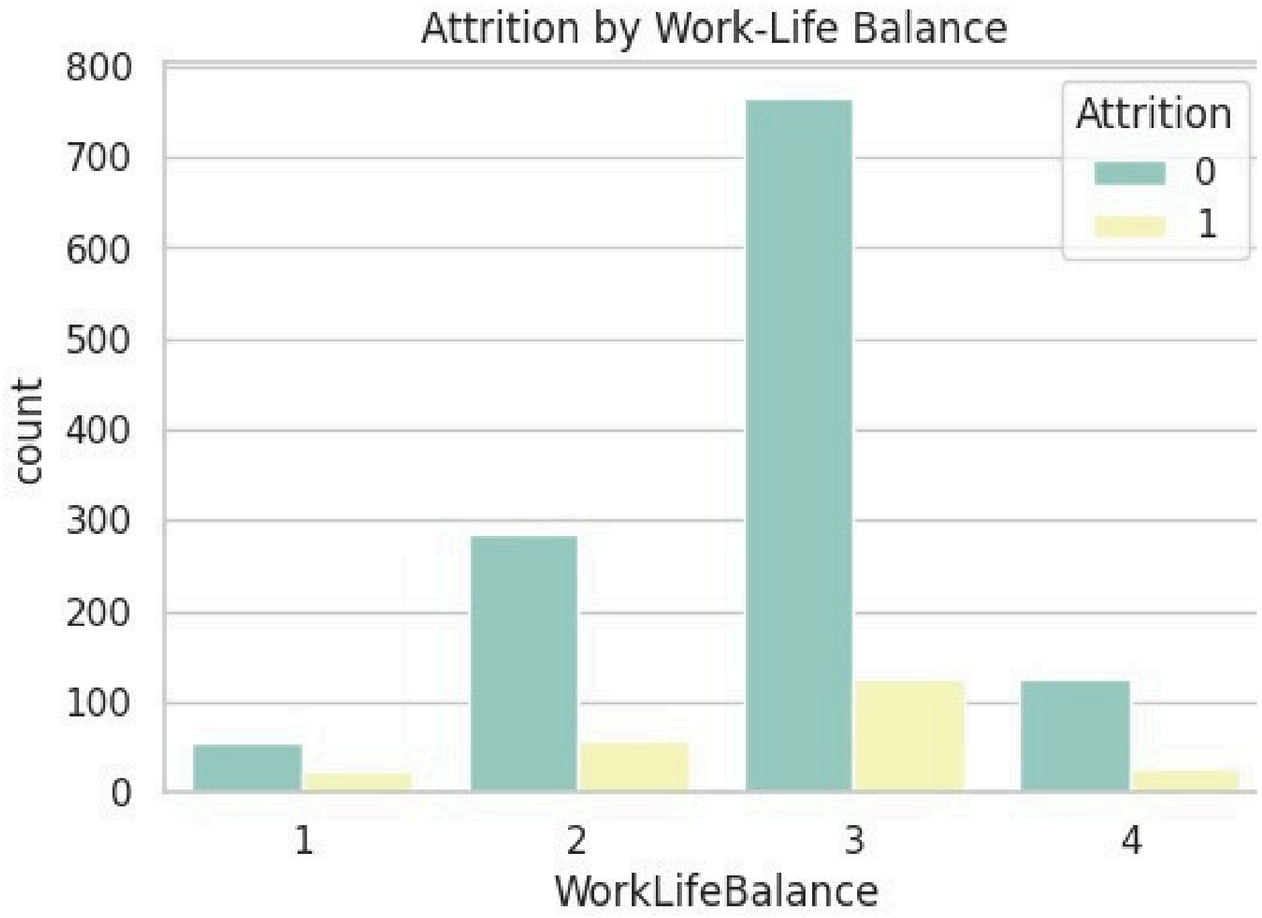
Q3. What is the stat of monthly income vs attrition



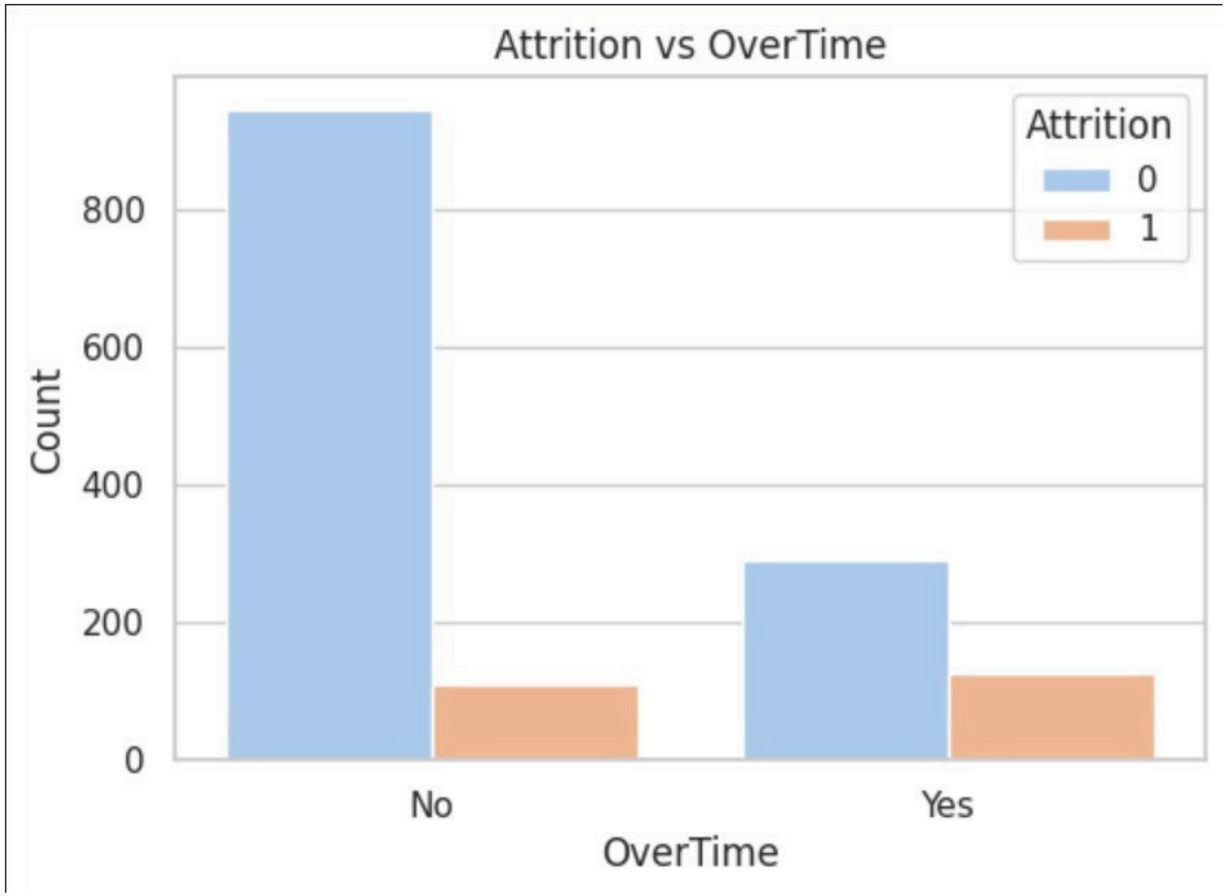
Q4. What is relation b/w attrition and distance from home?



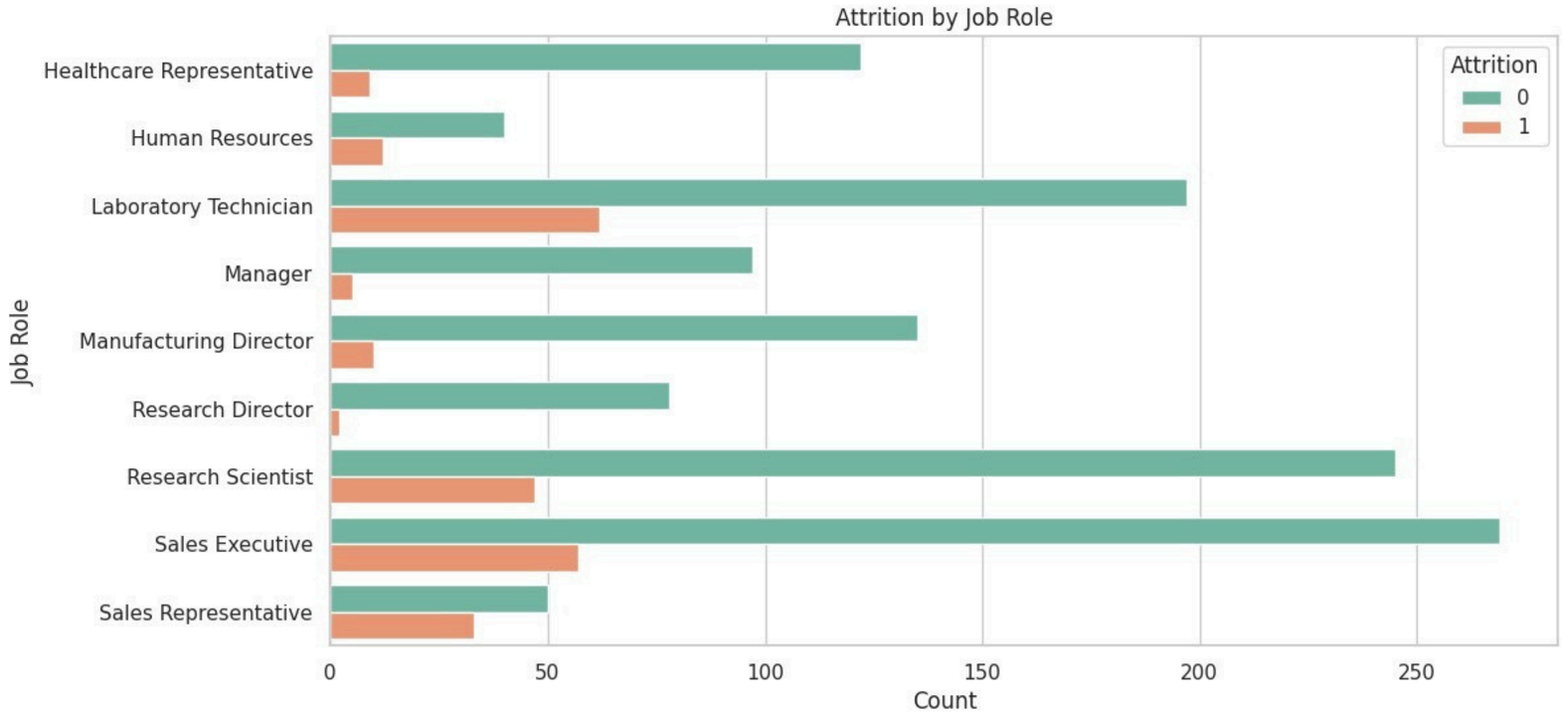
Q5. What is attrition by work-life balance?



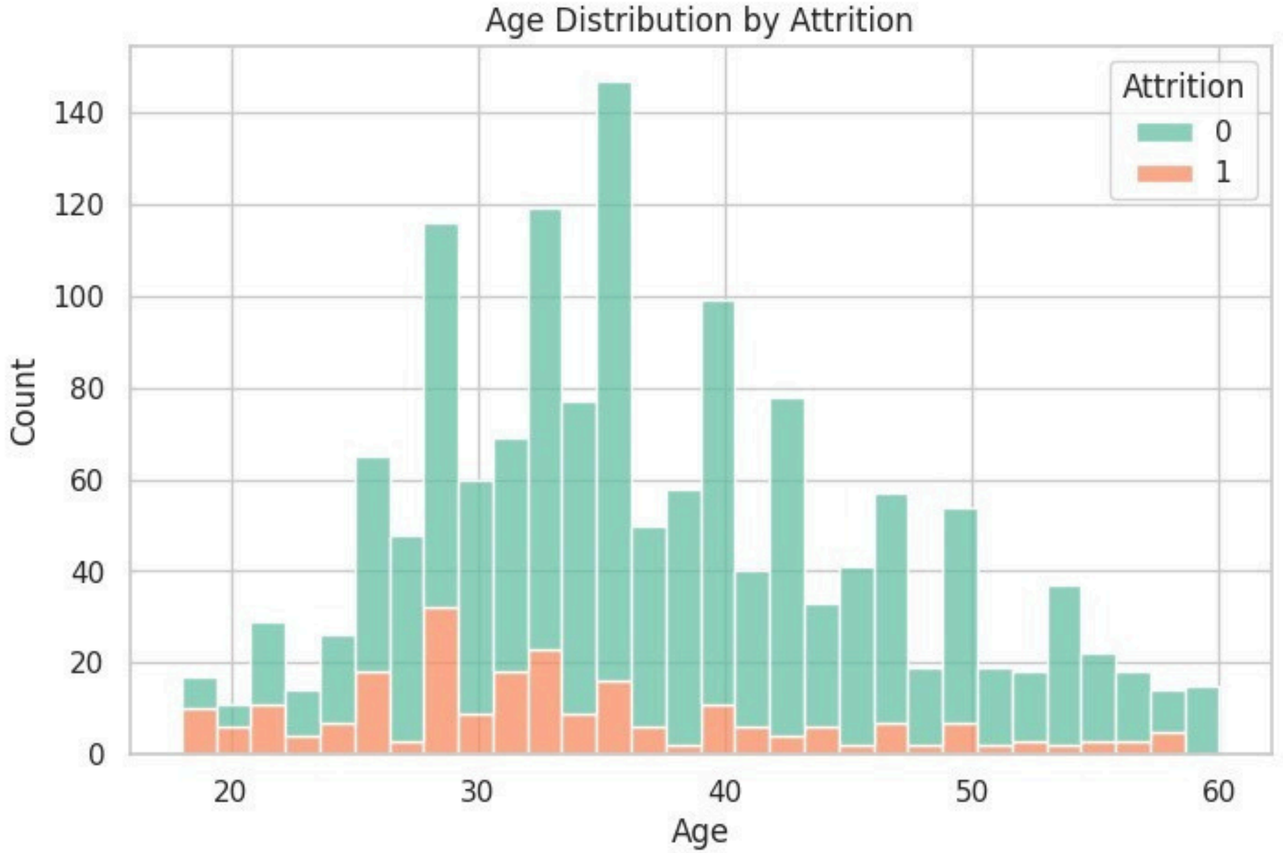
Q6. What is the stat of overtime vs attrition



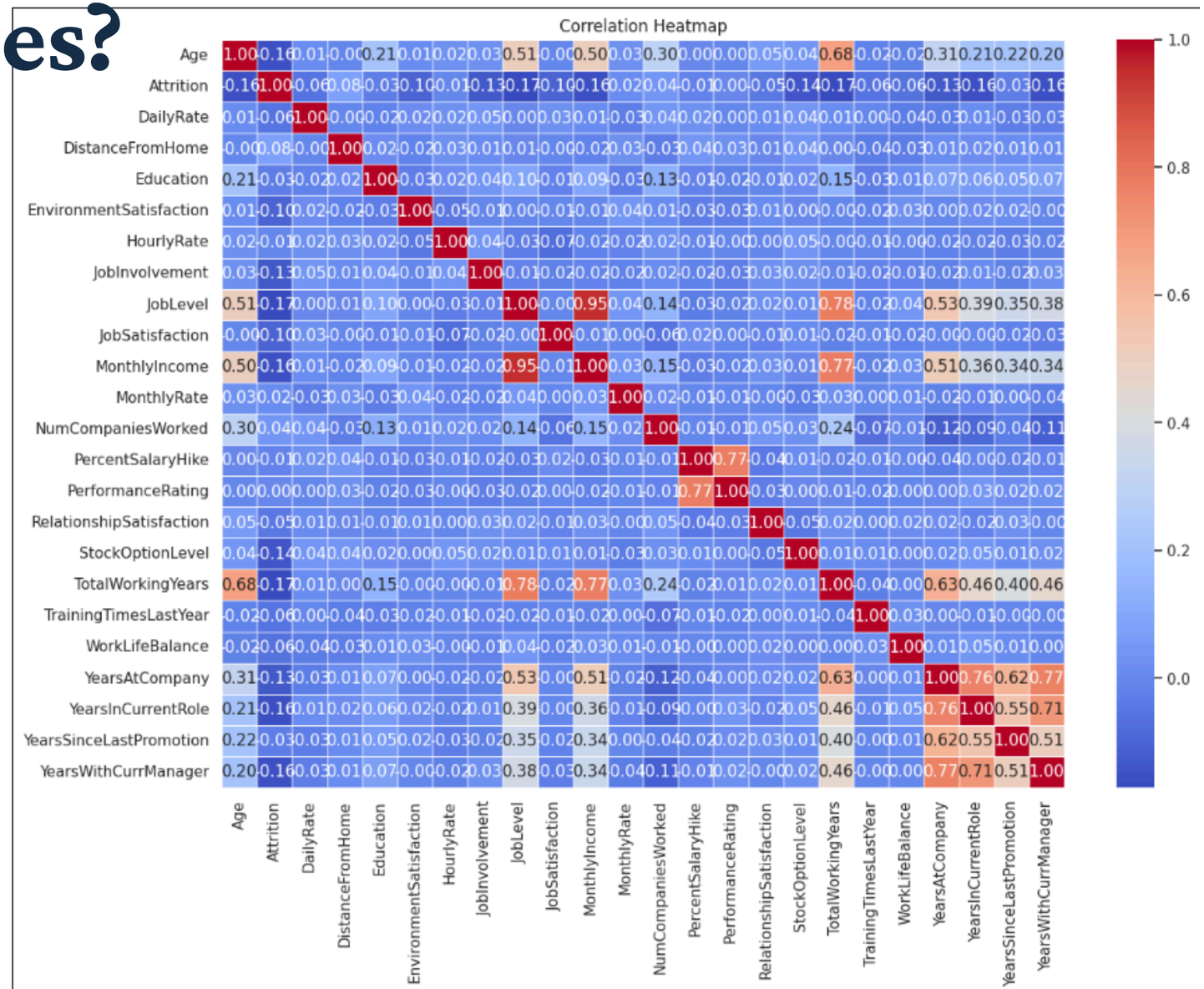
Q7. What is the stat of job role vs attrition count?



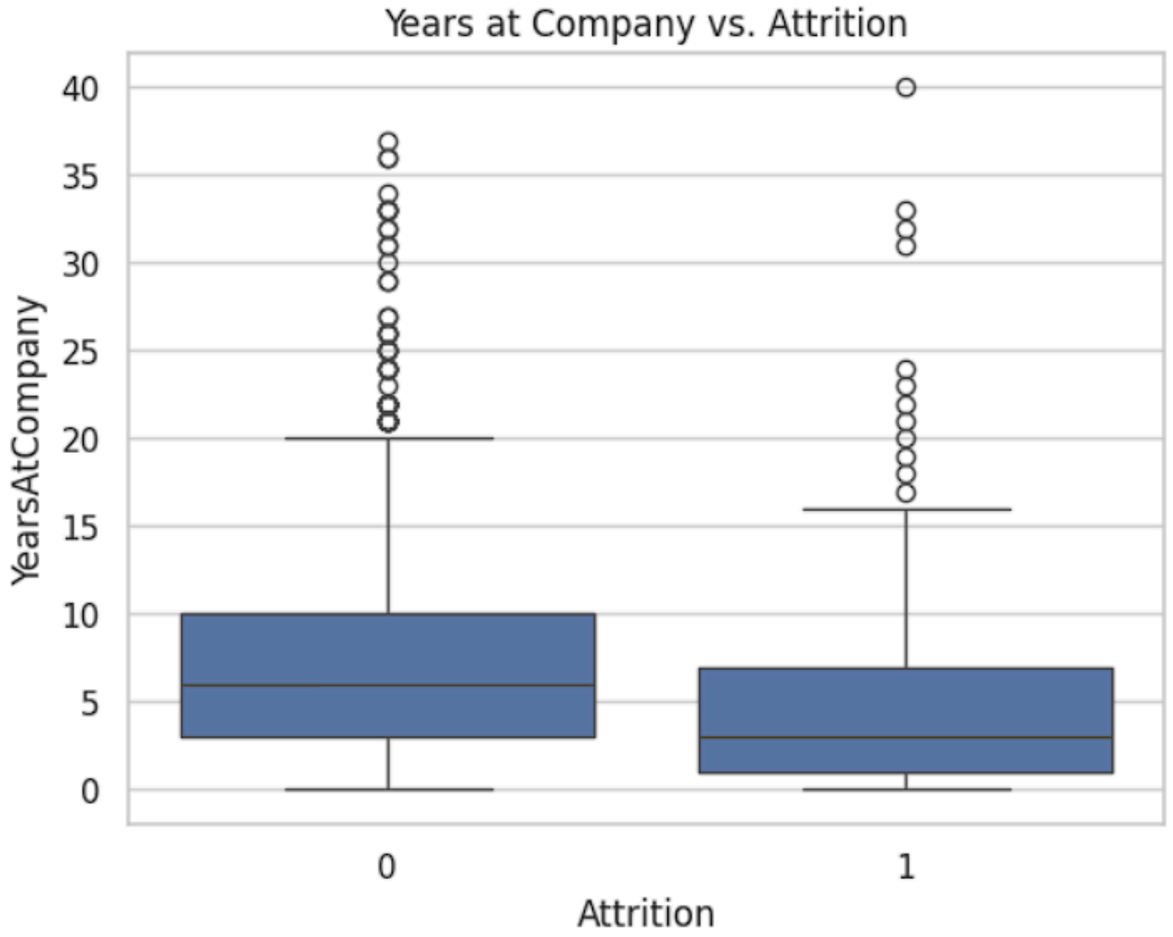
Q8. What is the stat of age distribution vs attrition



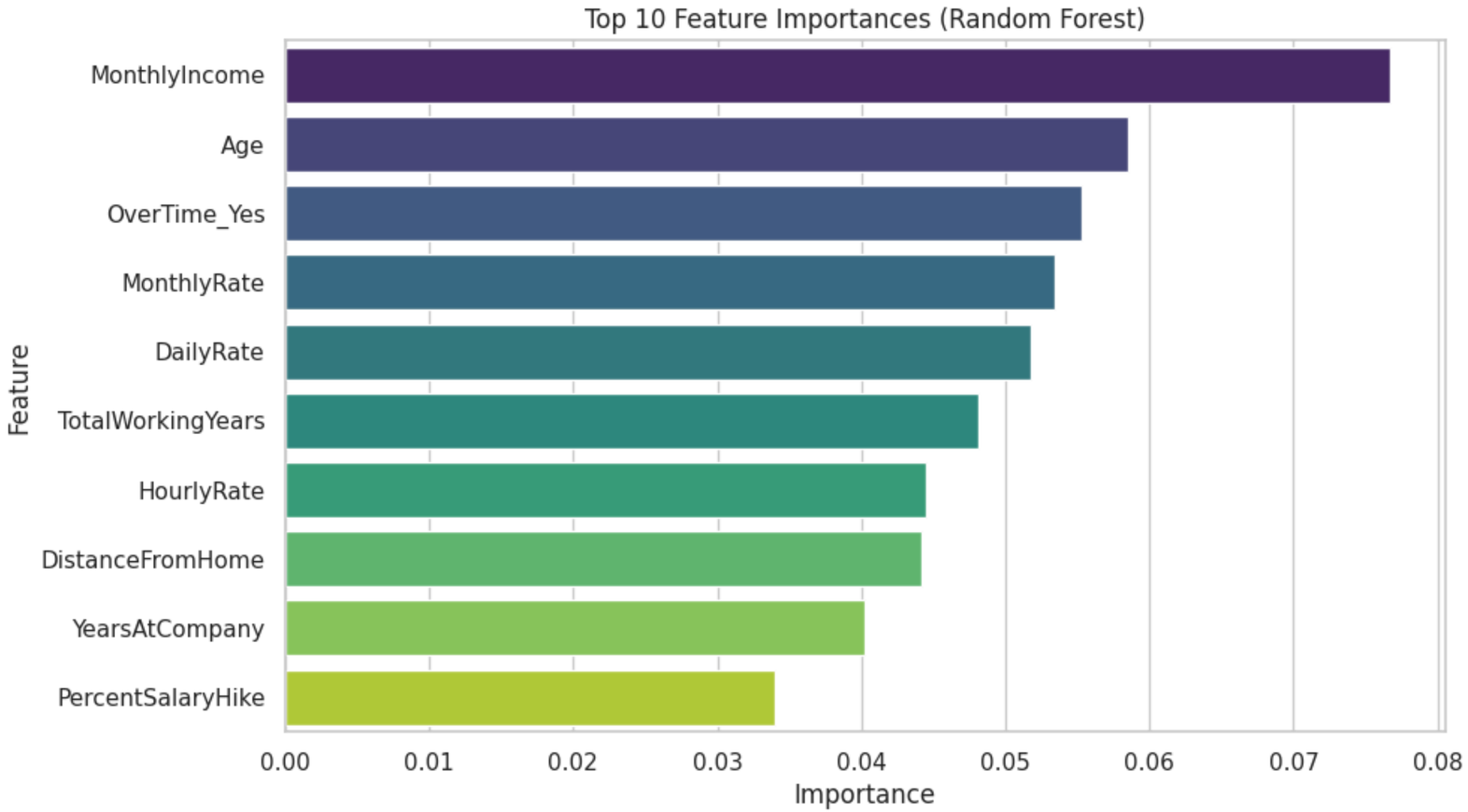
Q9. What is the correlation b/w features?



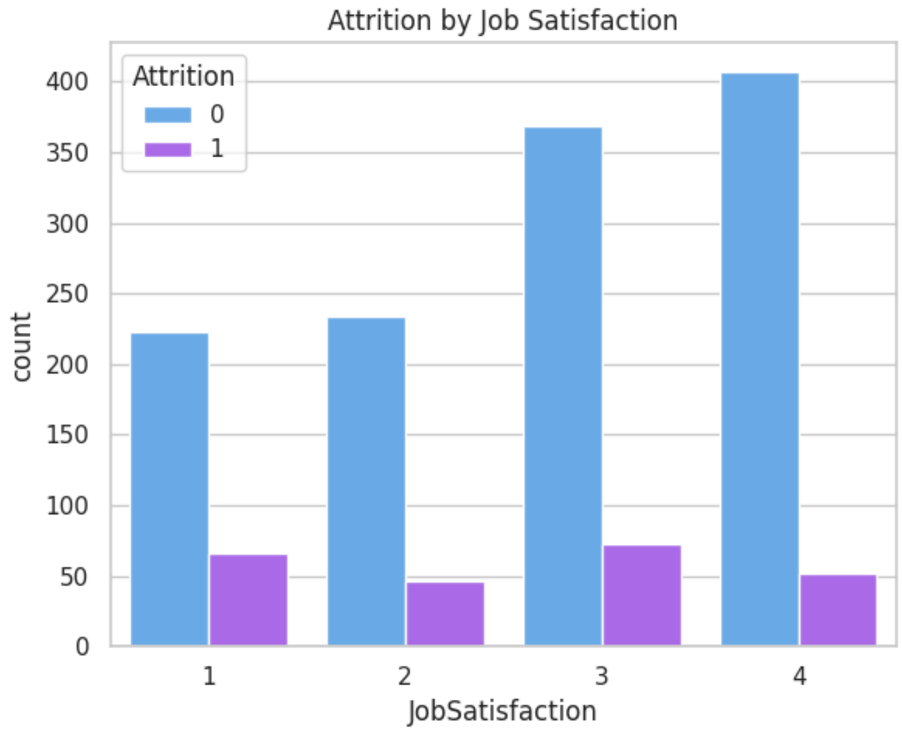
Q10. What is the years at company vs attrition?

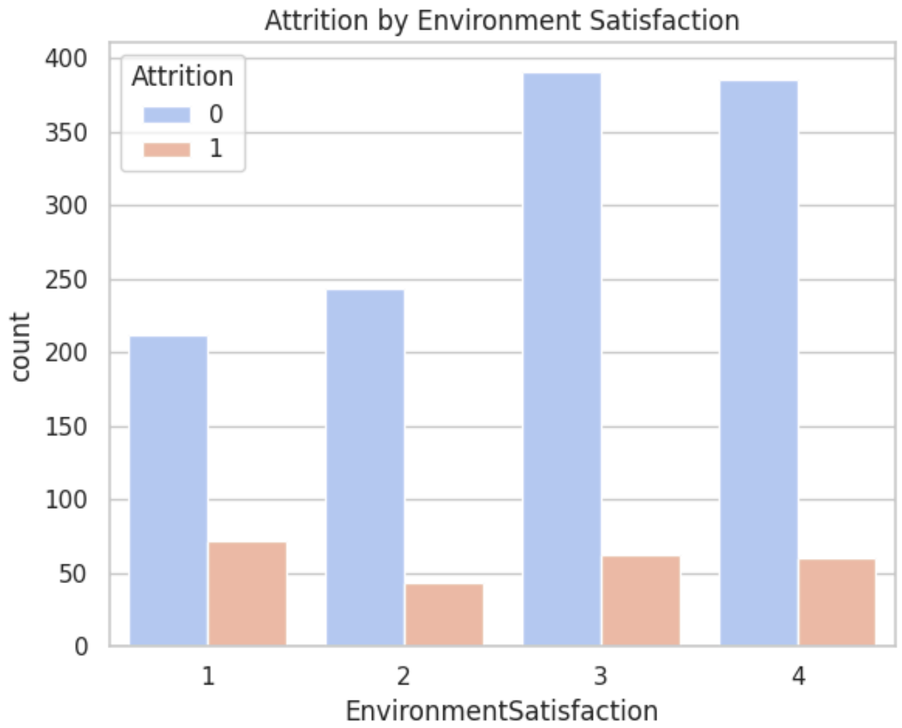


Q11. Compute top 10 features.

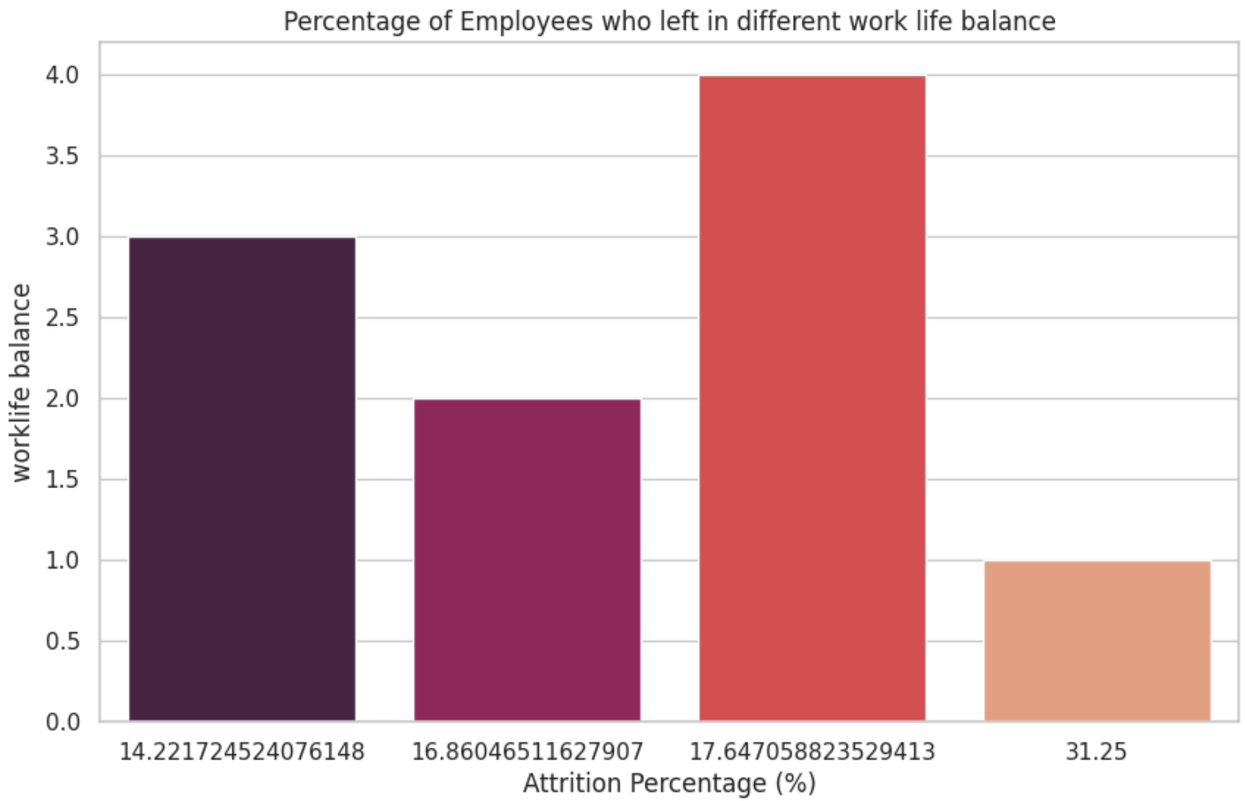


Q12. What is attrition vs job satisfaction and environment satisfaction.

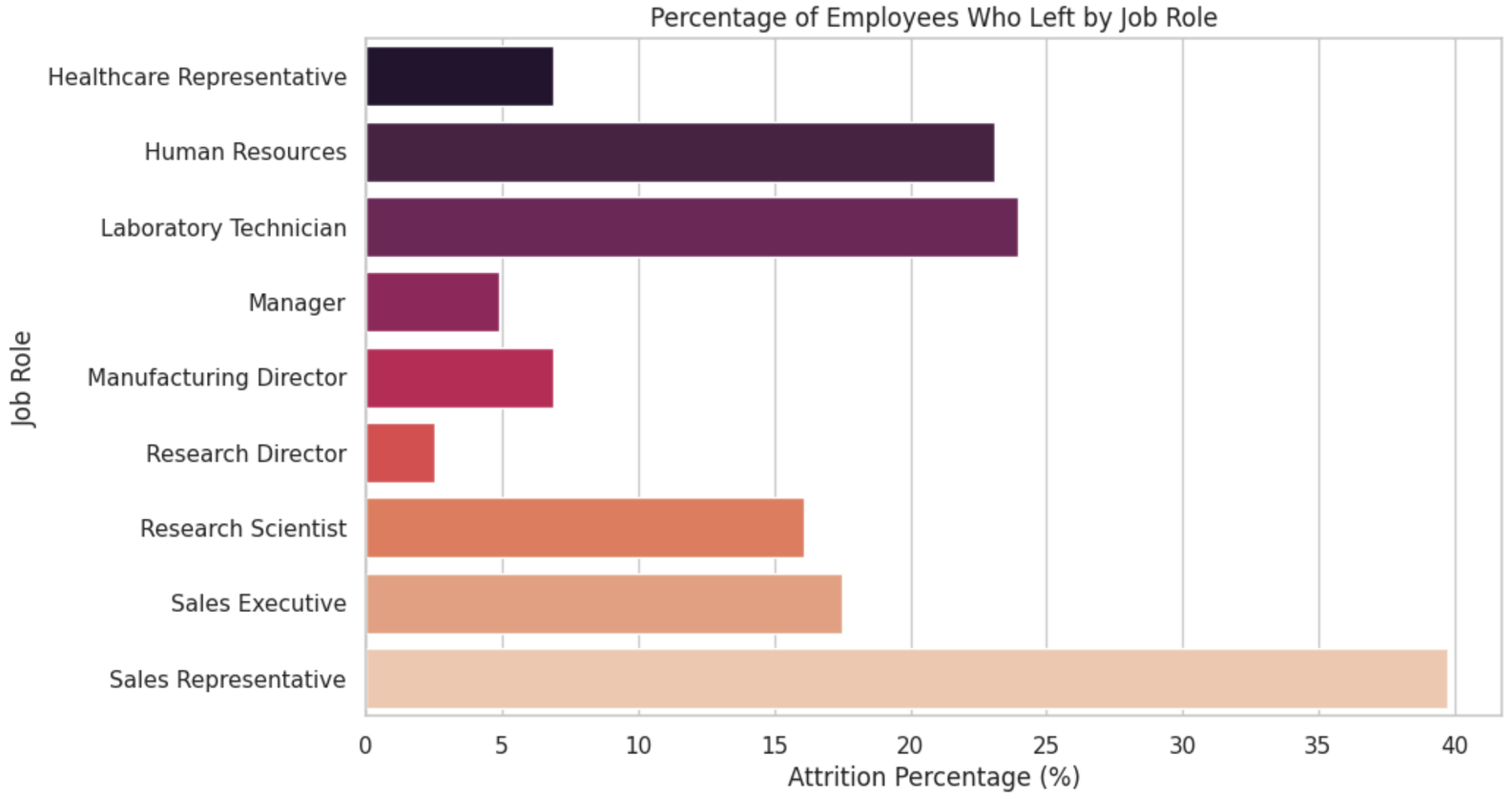




Q13. Compute the percent of employee who left for different work life balance.



Q14. Compute the percent of employee who left for different job role.



Q15. Show the pairplot of top features.

Power BI Dashboard

Employee Attrition Dataset

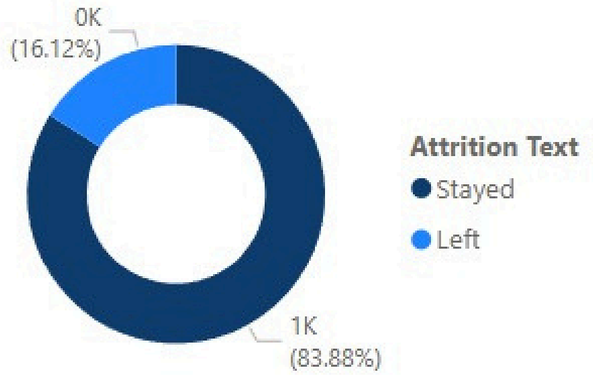
1470
Sum of EmployeeCount

0.16
Attrition Rate

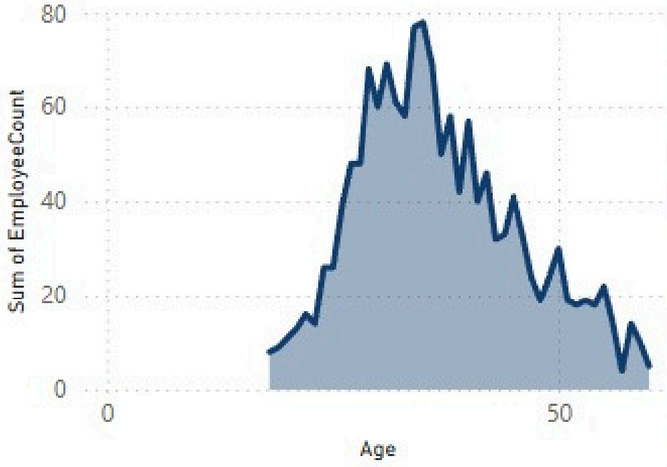
237.00
Total EmployeesLeft

36.92
Average Age

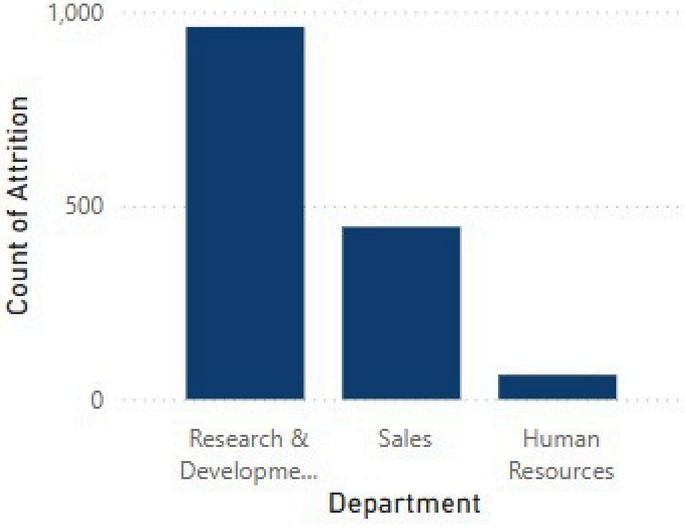
Sum of EmployeeCount by Attrition Text



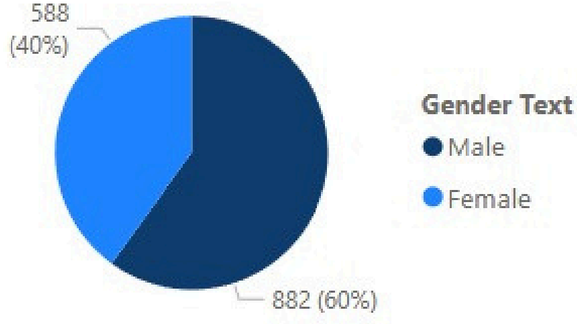
Sum of EmployeeCount by Age



Count of Attrition by Department



Count of Gender by Gender Text



JobRole

- [ ] Healthcare Representative
- [ ] Human Resources
- [ ] Laboratory Technician
- [ ] Manager
- [ ] Manufacturing Director
- [ ] Research Director
- [ ] Research Scientist
- [ ] Sales Executive
- [ ] Sales Representative

Department

- [ ] Human Resources
- [ ] Research & Development
- [ ] Sales

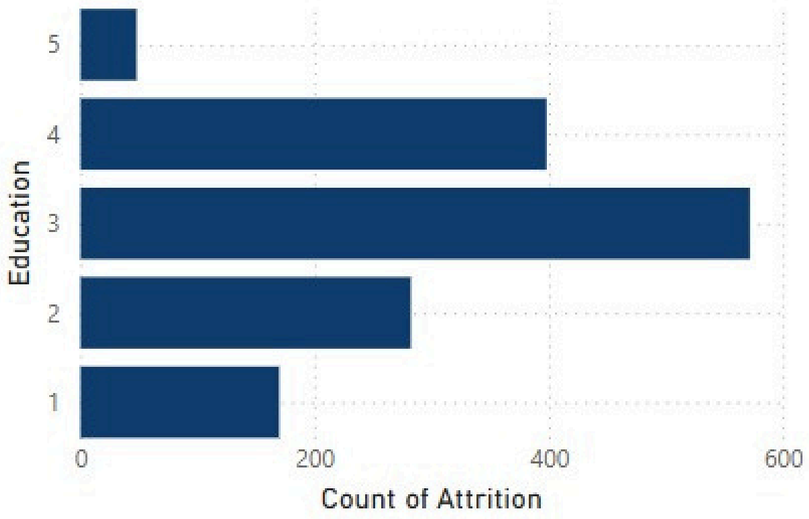
Gender Text

Female	Male

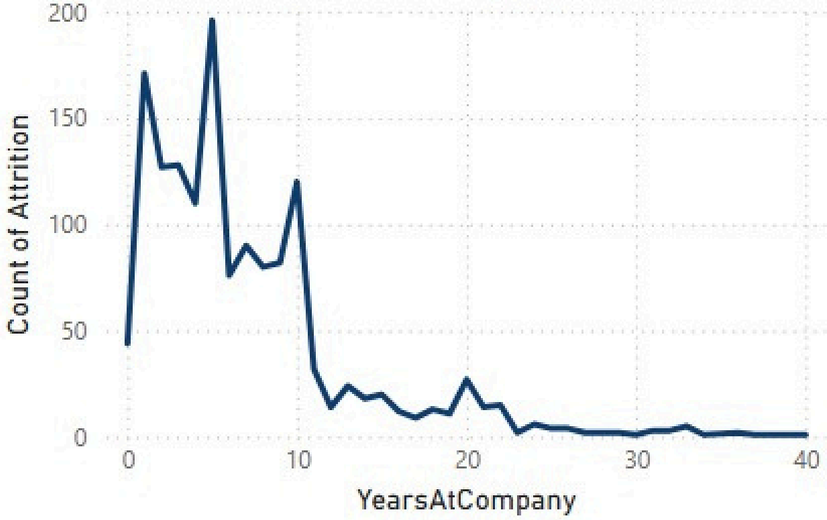
Attrition Analysis

Count of OverTime by Attrition Text and Attrition

Count of Attrition by Education

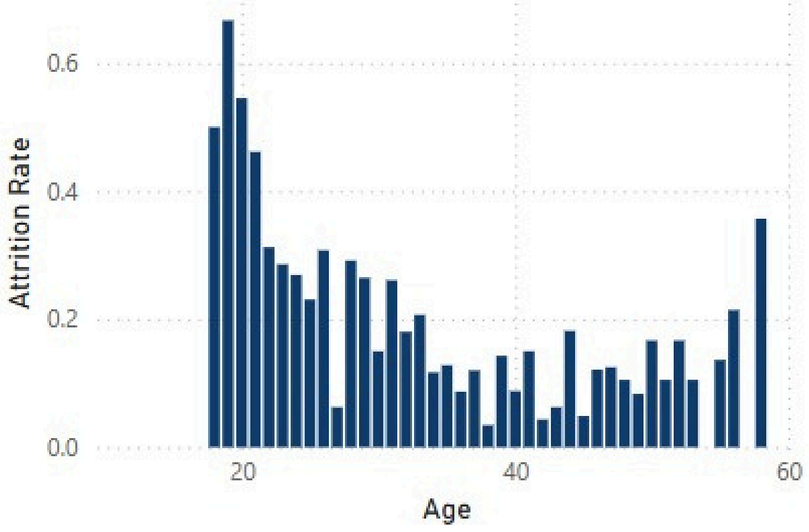


Count of Attrition by YearsAtCompany

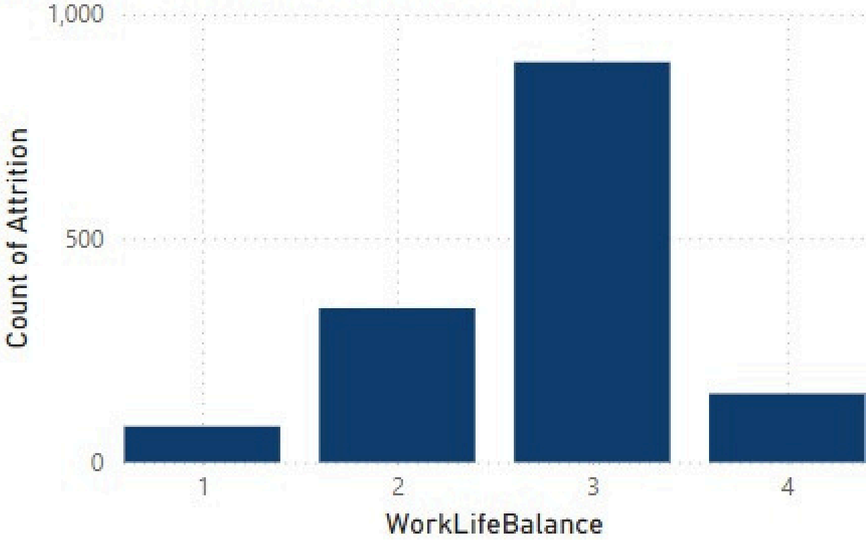


Count of Attrition Text by JobRole

Attrition Rate by Age

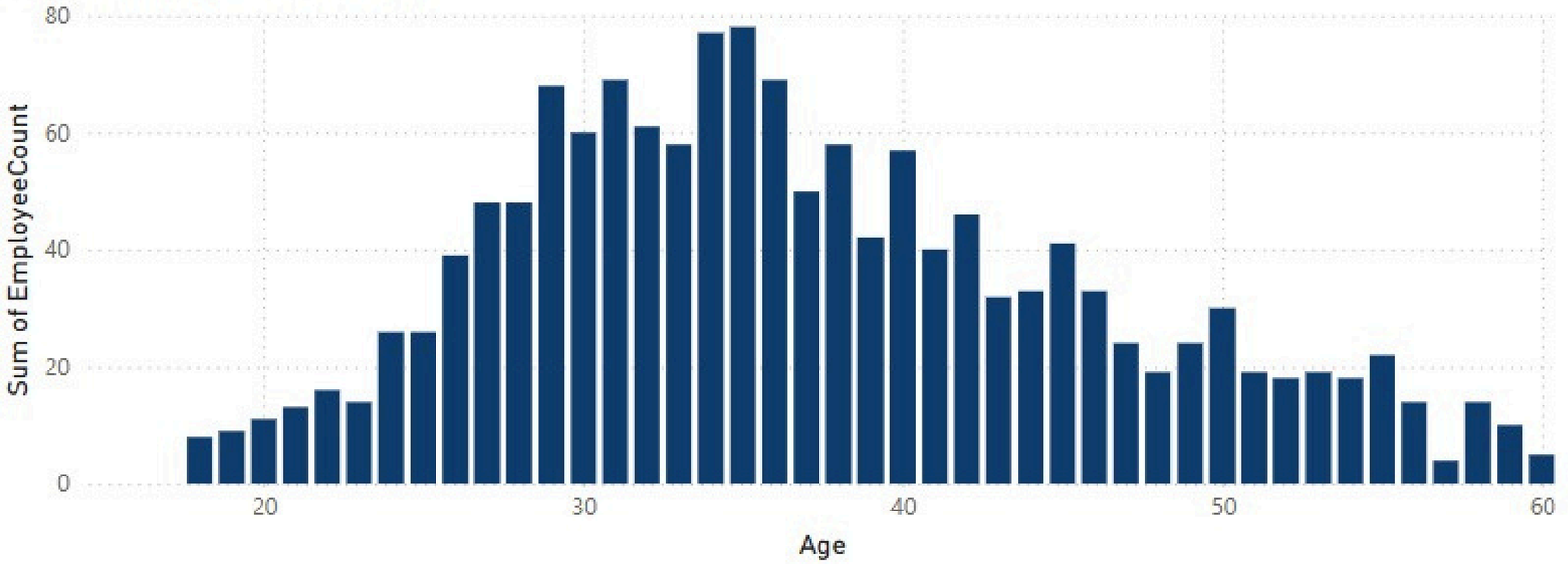


Count of Attrition by WorkLifeBalance

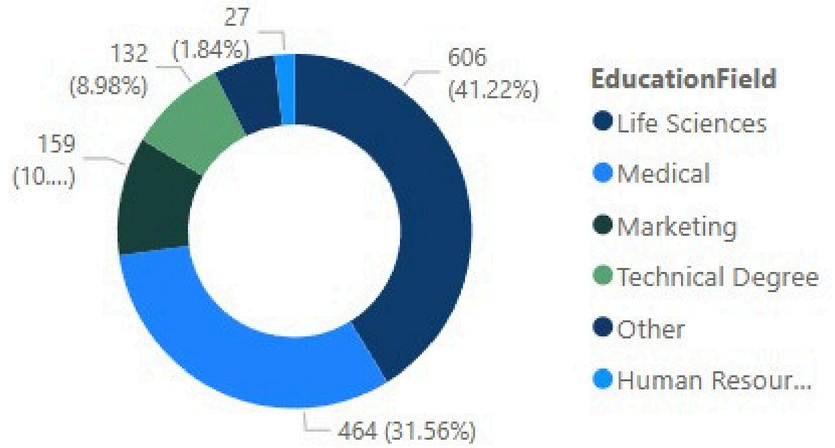


Employee Profile Analysis

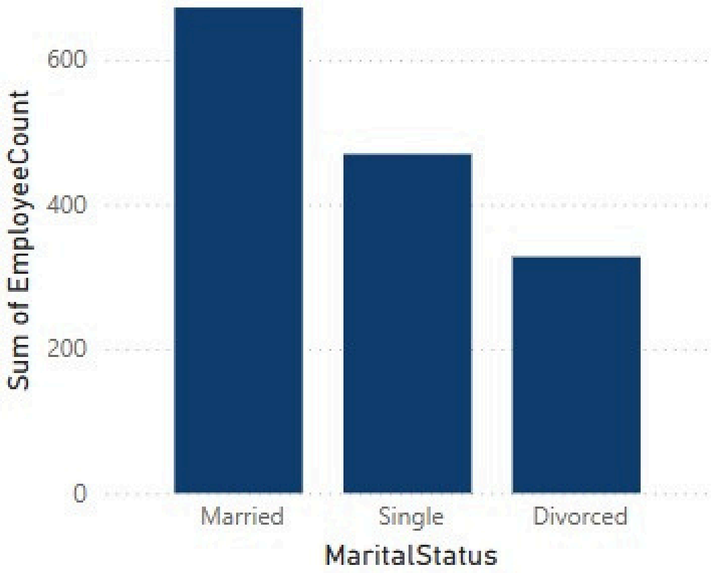
Sum of EmployeeCount by Age



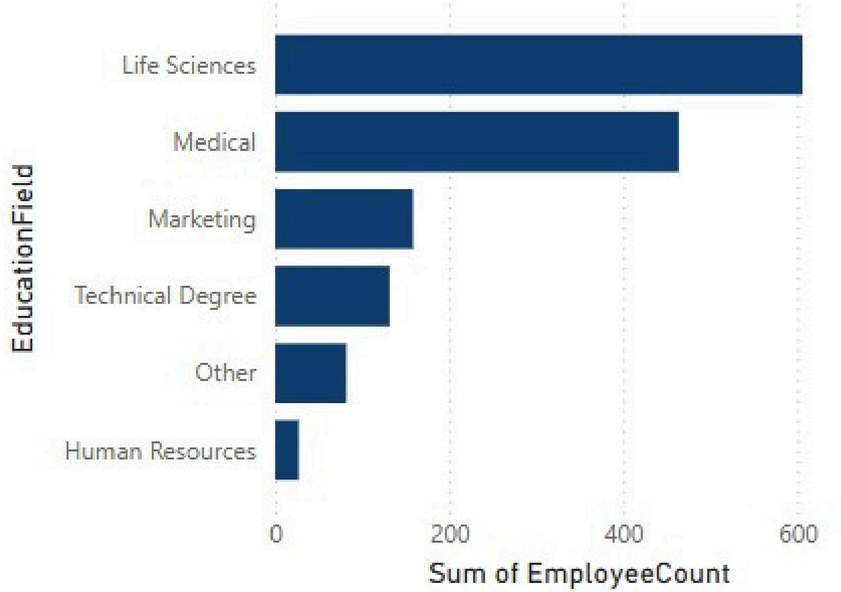
Count of EducationField by EducationField



Sum of EmployeeCount by MaritalStatus



Sum of EmployeeCount by EducationField



Sum of JobSatisfaction by JobSatisfaction