GROUP-H

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HR_analytics dataset

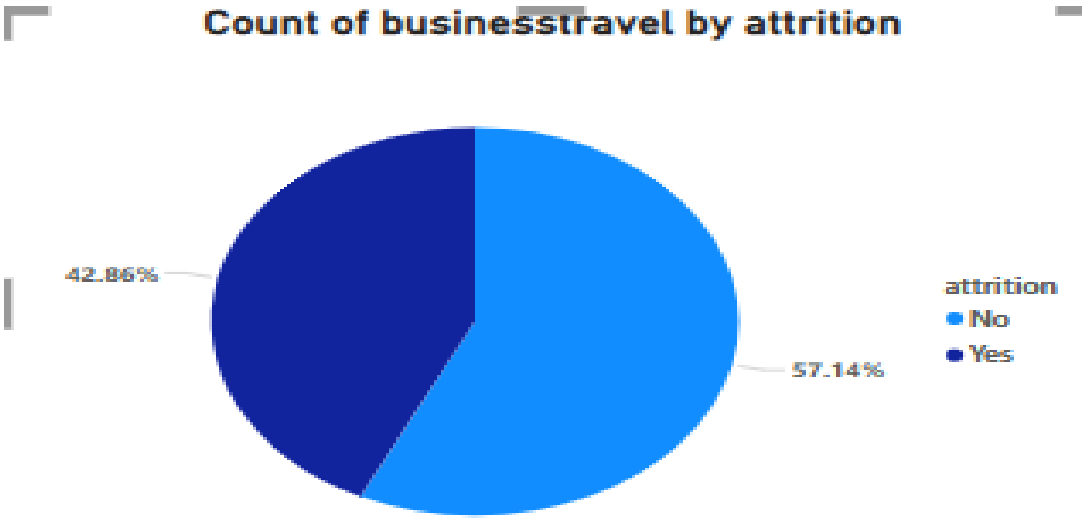
```
CREATE TABLE HR_Analytics (
    EmpID VARCHAR(10),
    Age INT,
    AgeGroup VARCHAR(20),
    Attrition VARCHAR(3),
    BusinessTravel VARCHAR(50),
    DailyRate INT,
    Department VARCHAR(50),
    DistanceFromHome INT,
    Education INT,
    EducationField VARCHAR(50),
    EmployeeCount INT,
    EmployeeNumber INT,
    EnvironmentSatisfaction INT,
    Gender VARCHAR(10),
```

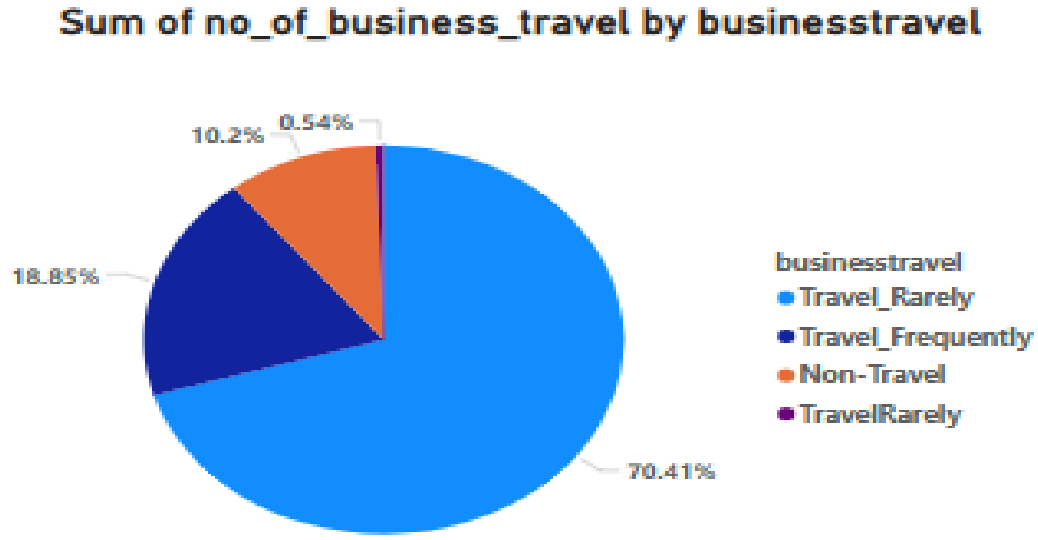
```
    HourlyRate INT,
    JobInvolvement INT,
    JobLevel INT,
    JobRole VARCHAR(50),
    JobSatisfaction INT,
    MaritalStatus VARCHAR(20),
    MonthlyIncome INT,
    SalarySlab VARCHAR(20),
    MonthlyRate INT,
    NumCompaniesWorked INT,
    Over18 CHAR(1),
    OverTime VARCHAR(5),
    PercentSalaryHike INT,
    PerformanceRating INT,
    RelationshipSatisfaction INT,
    StandardHours INT,
    StockOptionLevel INT,
    TotalWorkingYears INT,
    TrainingTimesLastYear INT,
    WorkLifeBalance INT,
    YearsAtCompany INT,
    YearsInCurrentRole INT,
    YearsSinceLastPromotion INT,
    YearsWithCurrManager FLOAT
);
select * from HR_Analytics;

--1. Does Business Travel frequency correlate with higher attrition rates?
```

```
select distinct BusinessTravel,count(BusinessTravel) as no_of_business_travel,attrition
from HR_Analytics
group by BusinessTravel,attrition ;
```

	businesstravel character varying (50)	no_of_business_travel bigint	attrition character varying (3)
1	Non-Travel	12	Yes
2	Non-Travel	139	No
3	Travel_Frequently	69	Yes
4	Travel_Frequently	210	No
5	Travel_Rarely	157	Yes
6	Travel_Rarely	885	No
7	TravelRarely	8	No





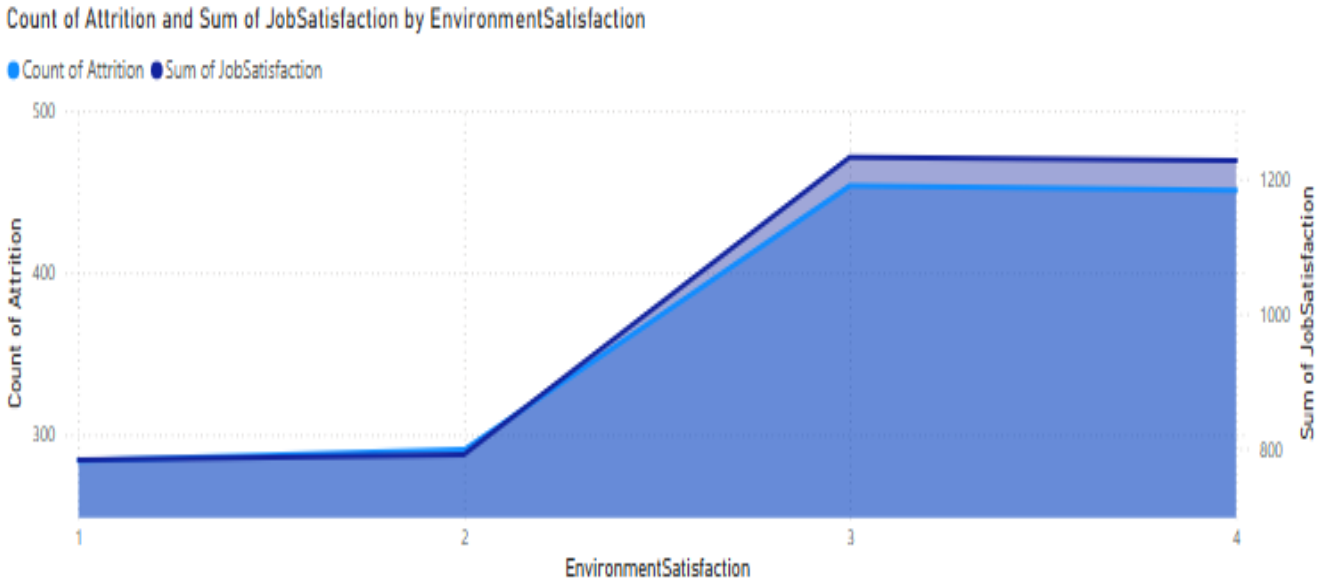
--2. Are employees with low Environment Satisfaction or Job Satisfaction more likely to leave?

select distinct EnvironmentSatisfaction, JobSatisfaction, count(EmpID) as no_of_emp, attrition

from HR_Analytics

group by JobSatisfaction, EnvironmentSatisfaction, attrition;

	environmentsatisfaction integer	jobsatisfaction integer	no_of_emp bigint	attrition character varying (3)
1	1	1	20	Yes
2	1	1	33	No
3	1	2	16	Yes
4	1	2	31	No
5	1	3	22	Yes
6	1	3	78	No
7	1	4	14	Yes
8	1	4	70	No
9	2	1	14	Yes
10	2	1	42	No
11	2	2	8	Yes
12	2	2	52	No
13	2	3	13	Yes
14	2	3	72	No



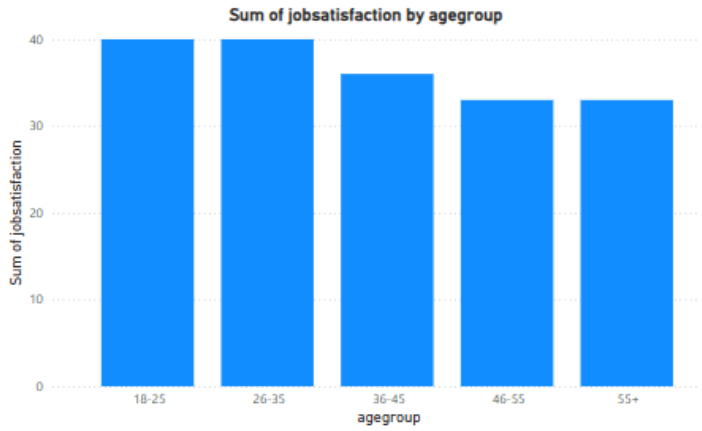
--3. How does Age or Age Group affect attrition, job satisfaction, or performance?

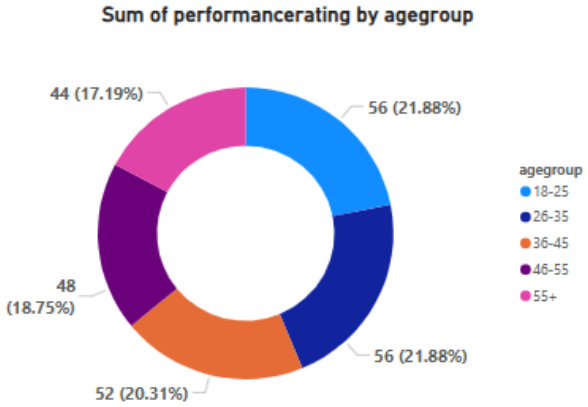
select distinct AgeGroup,Attrition, JobSatisfaction, PerformanceRating

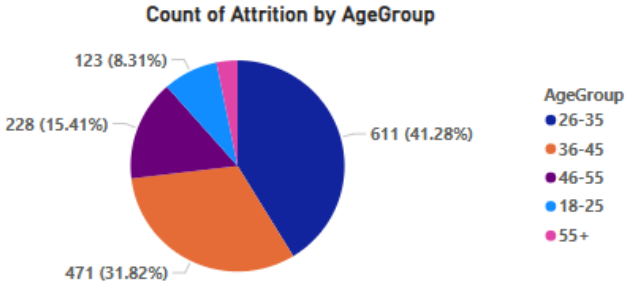
from HR_Analytics

group by AgeGroup ,Attrition, JobSatisfaction, PerformanceRating;

	agegroup character varying (20)	attrition character varying (3)	jobsatisfaction integer	performancerating integer
1	26-35	Yes	4	3
2	36-45	No	1	4
3	46-55	No	3	3
4	26-35	No	3	4
5	36-45	No	2	3
6	36-45	No	4	4
7	55+	No	3	3
8	36-45	Yes	2	4
9	55+	No	1	3
10	36-45	No	2	4
11	36-45	Yes	2	3
12	18-25	No	4	4
13	46-55	No	2	3
14	18-25	Yes	1	4







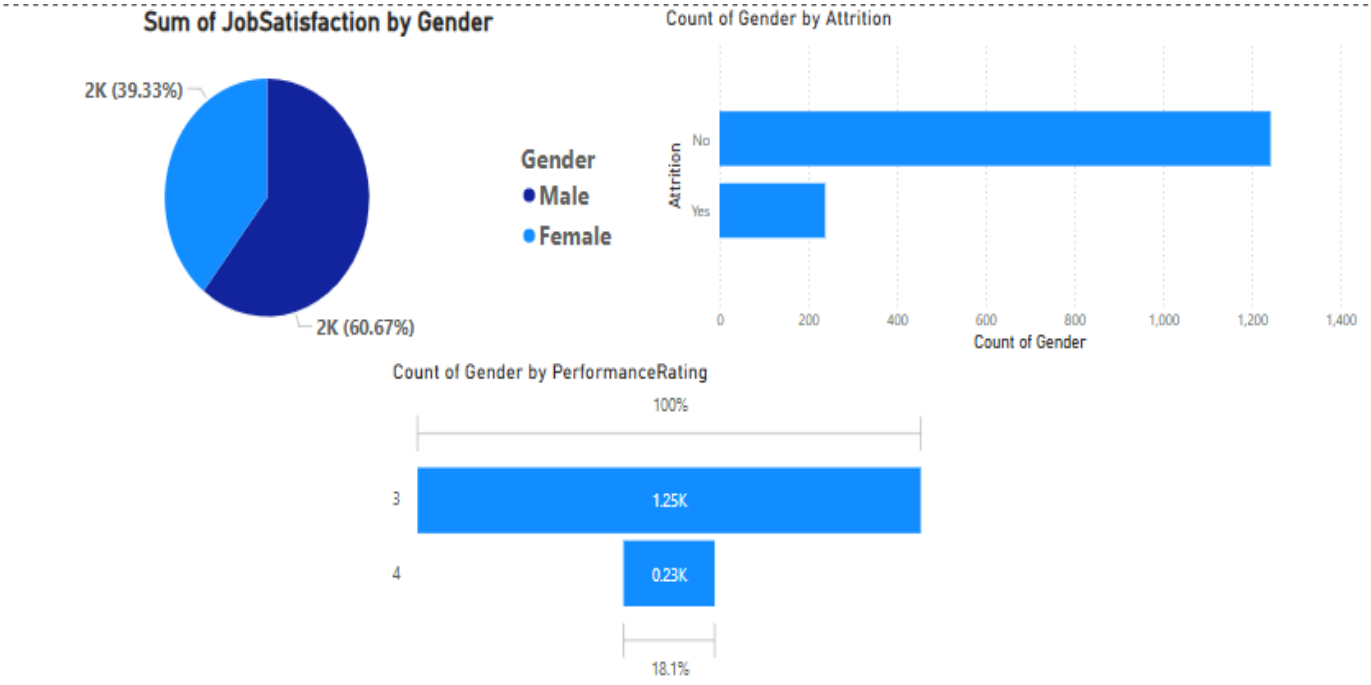
--4. Are there gender differences in terms of Attrition, Job Satisfaction, or Performance Rating?

select distinct gender,Attrition, JobSatisfaction, PerformanceRating

from HR_Analytics

group by gender ,Attrition, JobSatisfaction, PerformanceRating;

	gender character varying (10)	attrition character varying (3)	jobsatisfaction integer	performancerating integer
1	Female	No	1	3
2	Female	No	1	4
3	Female	No	2	3
4	Female	No	2	4
5	Female	No	3	3
6	Female	No	3	4
7	Female	No	4	3
8	Female	No	4	4
9	Female	Yes	1	3
10	Female	Yes	1	4
11	Female	Yes	2	3
12	Female	Yes	2	4
13	Female	Yes	3	3
14	Female	Yes	3	4



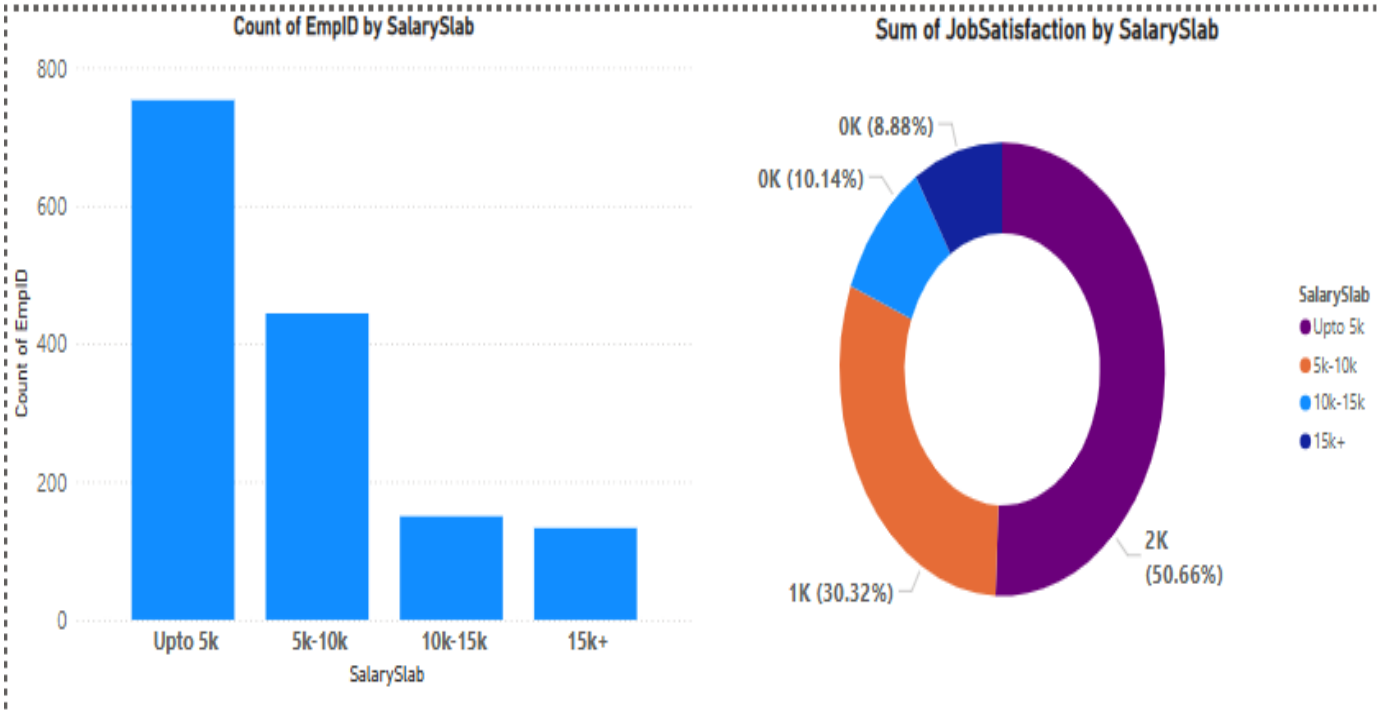
--5. Do employees in different Salary Slabs show different levels of satisfaction or attrition?

select count(EmpID) as no_of_employee, salaryslab, JobSatisfaction, attrition

from HR_Analytics

group by salaryslab, JobSatisfaction, attrition;

	no_of_employee bigint	salaryslab character varying (20)	jobsatisfaction integer	attrition character varying (3)
1	13	5k-10k	1	Yes
2	22	10k-15k	1	No
3	139	5k-10k	4	No
4	52	Upto 5k	3	Yes
5	184	Upto 5k	3	No
6	27	10k-15k	2	No
7	1	15k+	1	Yes
8	7	10k-15k	4	Yes
9	12	5k-10k	4	Yes
10	46	Upto 5k	1	Yes
11	33	Upto 5k	2	Yes
12	1	15k+	4	Yes



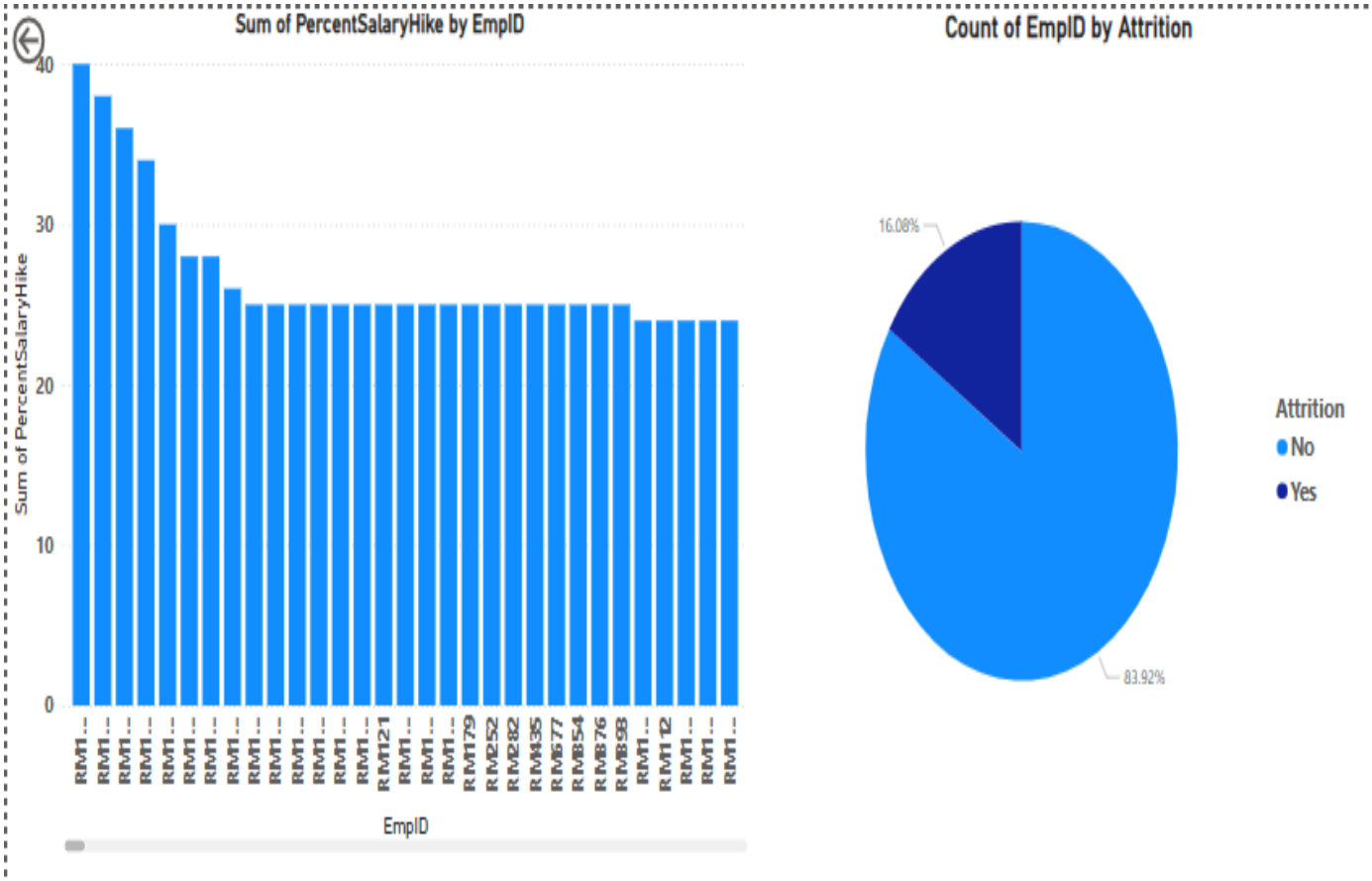
--6. What is the relationship between Percent Salary Hike and employee retention?

select count(EmpID) as no_of_employee,PercentSalaryHike, Attrition as employee_retention

from HR_Analytics

group by PercentSalaryHike,Attrition ;

	no_of_employee bigint	percentsalaryhike integer	employee_retention character varying (3)
1	41	11	Yes
2	64	16	No
3	14	17	Yes
4	68	19	No
5	175	13	No
6	12	22	Yes
7	6	24	Yes
8	24	14	Yes
9	44	22	No
10	1	25	Yes
11	18	15	Yes
12	33	12	Yes
13	179	14	No
14	6	23	Yes



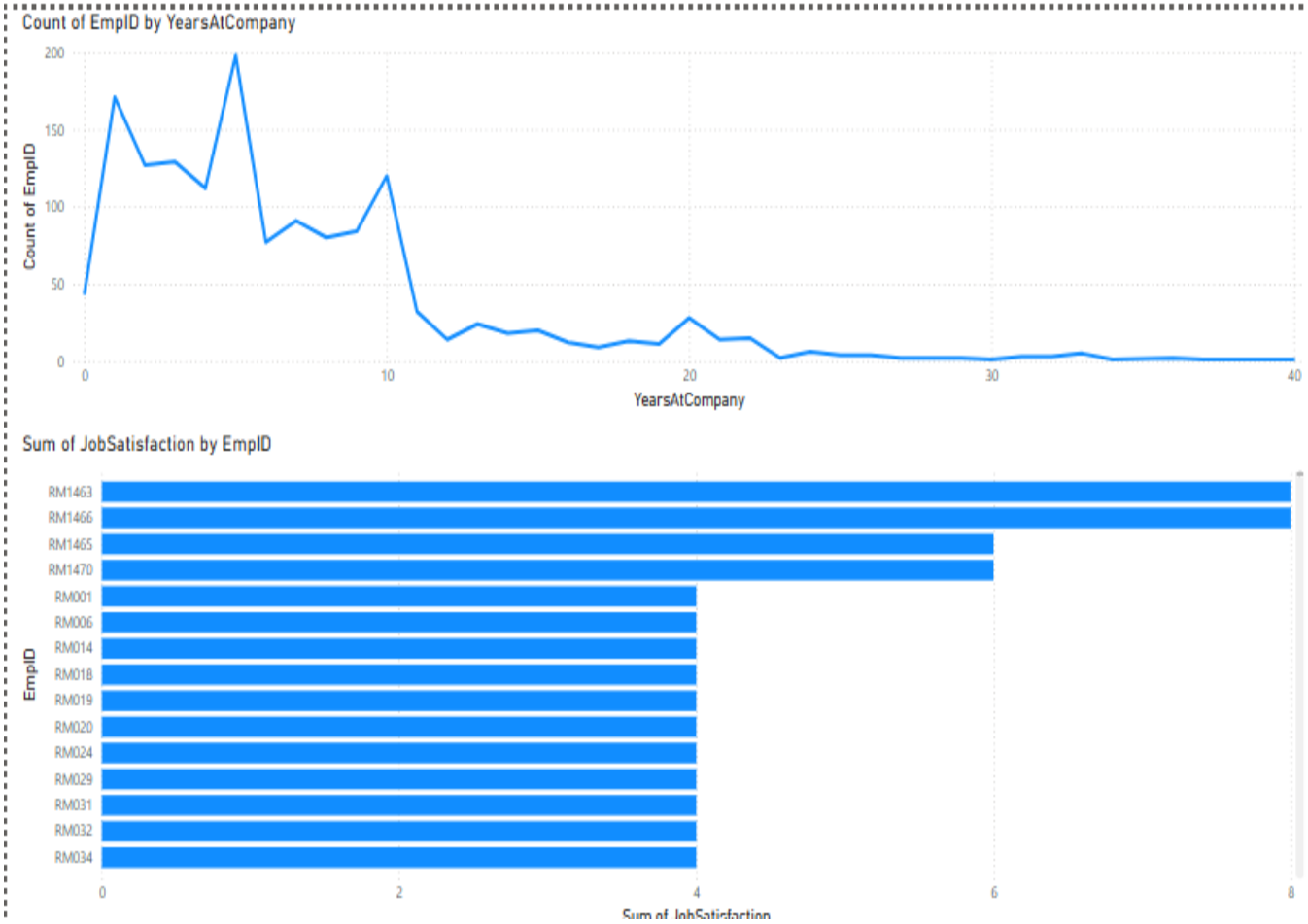
--7. How does Total Working Years or Years at Company influence the likelihood of promotion or attrition?

select COUNT(DISTINCT EmpID) AS EmpCount, YearsAtCompany, attrition, JobSatisfaction

from HR_Analytics

GROUP BY JobSatisfaction, YearsAtCompany, attrition;

	empcount bigint	yearsatcompany integer	attrition character varying (3)	jobsatisfaction integer
1	6	0	No	1
2	6	0	Yes	1
3	17	1	No	1
4	14	1	Yes	1
5	13	2	No	1
6	6	2	Yes	1
7	22	3	No	1
8	9	3	Yes	1
9	22	4	No	1
10	5	4	Yes	1
11	28	5	No	1
12	8	5	Yes	1
13	11	6	No	1



--8. Are employees with more Years in Current Role or Years Since Last Promotion more slikely to leave?

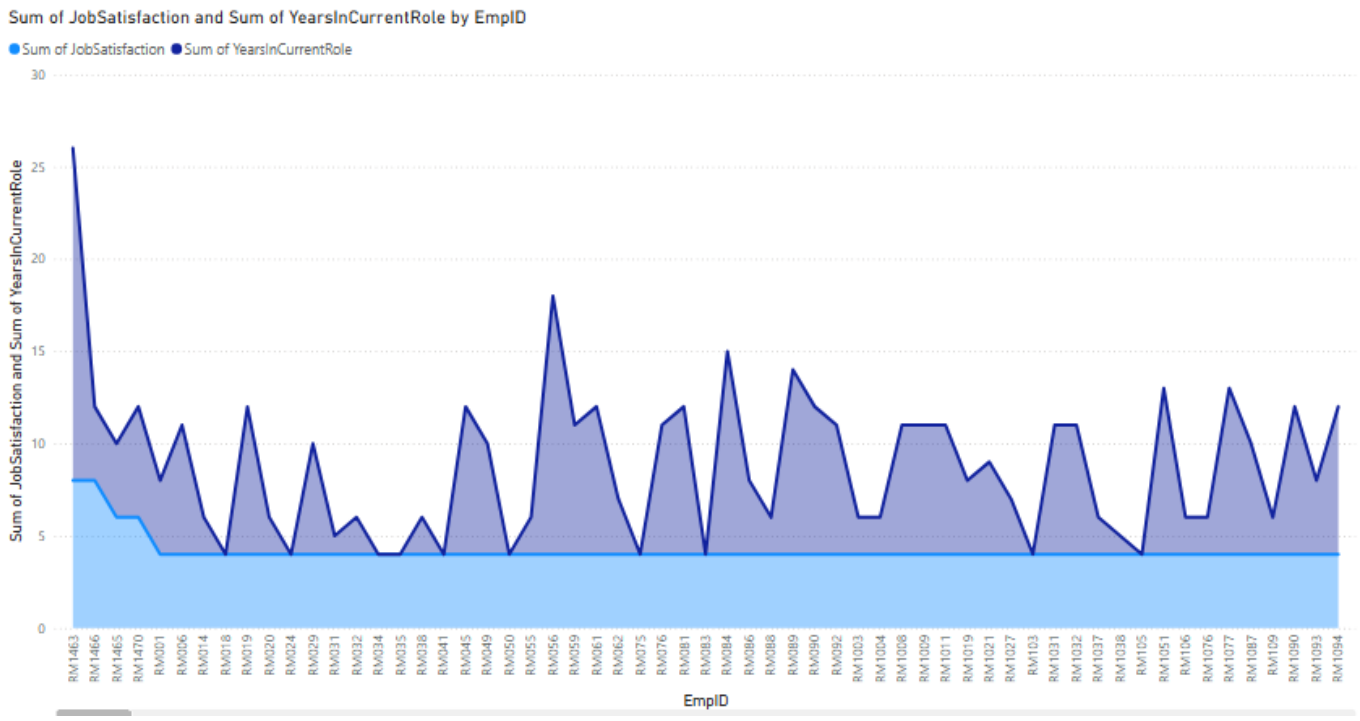
```
SELECT EmpID,JobSatisfaction,YearsinCurrentRole

FROM HR_Analytics

order by YearsinCurrentRole desc

limit 20;
```

	empid character varying (10)	jobsatisfaction integer	yearsincurrentrole integer
1	RM191	3	18
2	RM124	3	18
3	RM232	4	17
4	RM1328	1	17
5	RM1352	4	17
6	RM1025	3	17
7	RM282	3	16
8	RM977	2	16
9	RM747	3	16
10	RM1431	3	16
11	RM064	1	16
12	RM467	1	16
13	RM717	3	16
14	RM188	2	15



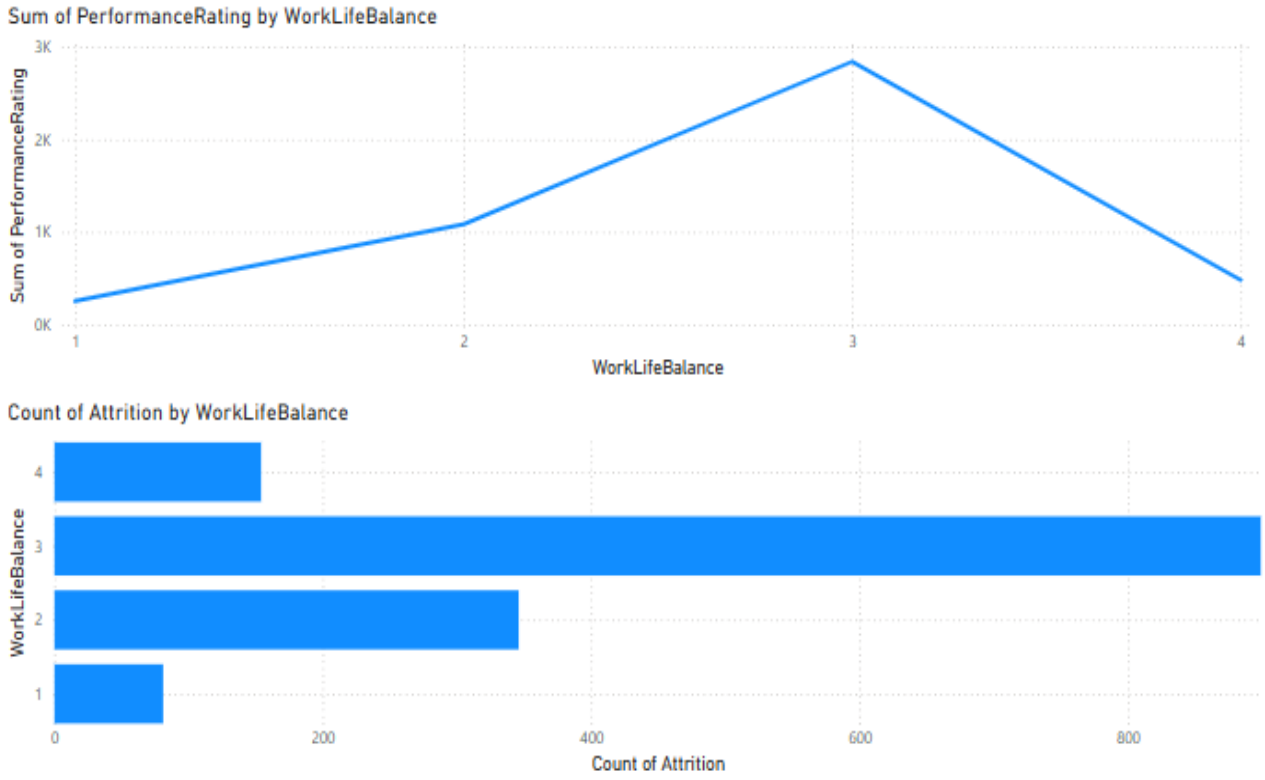
--9. How does WorkLife Balance impact attrition and performance?

select count(EmpID) as no_of_emp,WorkLifeBalance, attrition, performanceRating

from HR_Analytics

GROUP BY attrition, performanceRating,WorkLifeBalance;

	no_of_emp bigint	worklifebalance integer	attrition character varying (3)	performancerating integer
1	112	4	No	3
2	8	4	Yes	4
3	19	4	Yes	3
4	9	1	No	4
5	5	1	Yes	4
6	110	3	Yes	3
7	15	4	No	4
8	42	2	No	4
9	47	1	No	3
10	18	3	Yes	4
11	124	3	No	4
12	52	2	Yes	3
13	246	2	No	3
14	6	2	Yes	4



--10. What distinct employee segments can be identified based on satisfaction,

```
--compensation, performance, and demographics?
SELECT
  AgeGroup,
  Gender,
  MaritalStatus,
  Education,
  Department,
  JobSatisfaction,
  EnvironmentSatisfaction,
  WorkLifeBalance,
  PerformanceRating,
  CASE
    WHEN MonthlyIncome < 3000 THEN 'Low Income'
    WHEN MonthlyIncome BETWEEN 3000 AND 8000 THEN 'Mid Income'
    ELSE 'High Income'
  END AS IncomeGroup,
  CASE
    WHEN PercentSalaryHike < 10 THEN 'Low Hike'
    WHEN PercentSalaryHike BETWEEN 10 AND 15 THEN 'Moderate Hike'
    ELSE 'High Hike'
  END AS HikeGroup,
  COUNT(EmpID) AS NumEmployees
FROM HR_Analytics
GROUP BY
  AgeGroup, Gender, MaritalStatus, Education, Department,
  JobSatisfaction, EnvironmentSatisfaction, WorkLifeBalance,
  PerformanceRating,
  CASE
```

```
    WHEN MonthlyIncome < 3000 THEN 'Low Income'
    WHEN MonthlyIncome BETWEEN 3000 AND 8000 THEN 'Mid Income'
    ELSE 'High Income'
  END,
  CASE
    WHEN PercentSalaryHike < 10 THEN 'Low Hike'
    WHEN PercentSalaryHike BETWEEN 10 AND 15 THEN 'Moderate Hike'
    ELSE 'High Hike'
  END
ORDER BY NumEmployees DESC
```

	agegroup character varying (20)	gender character varying (10)	maritalstatus character varying (20)	education integer	department character varying (50)	jobsatisfaction integer	environmentsatisfaction integer	worklifebalance integer
1	36-45	Male	Married	2	Research & Development	4	3	
2	36-45	Male	Married	3	Research & Development	4	4	
3	26-35	Male	Married	3	Research & Development	4	3	
4	36-45	Male	Married	3	Sales	4	4	
5	26-35	Male	Divorced	3	Research & Development	3	3	
6	26-35	Male	Married	3	Research & Development	3	2	
7	26-35	Male	Married	4	Research & Development	1	4	
8	36-45	Male	Married	3	Research & Development	2	3	
9	36-45	Female	Married	3	Research & Development	3	1	
10	36-45	Female	Married	3	Research & Development	3	2	
11	36-45	Female	Single	3	Research & Development	3	1	
12	26-35	Female	Married	4	Sales	3	3	
13	36-45	Male	Married	1	Research & Development	1	4	

	ducation integer	department character varying (50)	jobsatisfaction integer	environmentsatisfaction integer	worklifebalance integer	performancerating integer	incomegroup text	hikegroup text	numemployees bigint
1	2	Research & Development	4	3	3	3	High Income	Moderate Hike	3
2	3	Research & Development	4	4	3	4	Low Income	High Hike	3
3	3	Research & Development	4	3	1	3	Low Income	Moderate Hike	3
4	3	Sales	4	4	3	3	Mid Income	High Hike	2
5	3	Research & Development	3	3	2	3	Low Income	Moderate Hike	2
6	3	Research & Development	3	2	4	3	Mid Income	Moderate Hike	2
7	4	Research & Development	1	4	3	3	Mid Income	Moderate Hike	2
8	3	Research & Development	2	3	3	3	Mid Income	Moderate Hike	2
9	3	Research & Development	3	1	3	3	High Income	Moderate Hike	2
10	3	Research & Development	3	2	3	3	High Income	Moderate Hike	2
11	3	Research & Development	3	1	1	3	Mid Income	Moderate Hike	2
12	4	Sales	3	3	3	3	Low Income	High Hike	2
13	1	Research & Development	1	4	3	3	High Income	Moderate Hike	2