

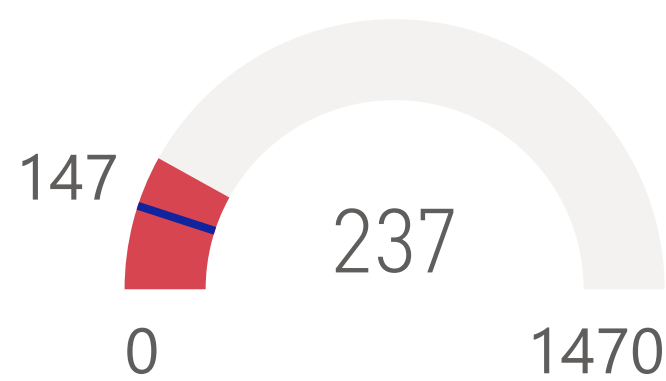
Total No. of Employees

1470

Total No. of Attritions

237

Gauge of Attrition Level



ALERT!

Attrition rate is 16.12%, which is higher than the general threshold (10%) for good attrition rate!

Attrition analysis based on Demographics:

1. Based on Fig 1.1 - Attrition by Gender, the attrition of male is significantly higher than female counterpart (63.29% vs 36.71%).
2. From Fig 1.2 - Attrition by MaritalStatus and Gender, the attrition of Single contributes about half of the total attrition (50.63%). Within this Single group, it is found that male has higher proportion than female counterpart.
3. As shown in Fig 1.3 - Attrition by AgeGroup and Gender, it is found that age group 26-35 has the highest tendency to leave the company and again, male has higher porportion than female counter part in this age group.
4. From Fig 1.4 - Attrition by Education/EducationField and Gender, it is found that employees with Bachelor degree have the highest tendency to leave the company. For the education fields (drill down 1 level), it is found that employees with education in Life Sciences have the highest tendency to leave the company. Again, male has higher propotions in both than female counterpart.

5. From the observations above, it is found that the following groups have higher tendency to leave the company based on demographics:
Male, marital status is Single, from age group 26-35, with Bachelor degree or education field in Life Sciences.

Fig 1.1 - Attrition by Gender

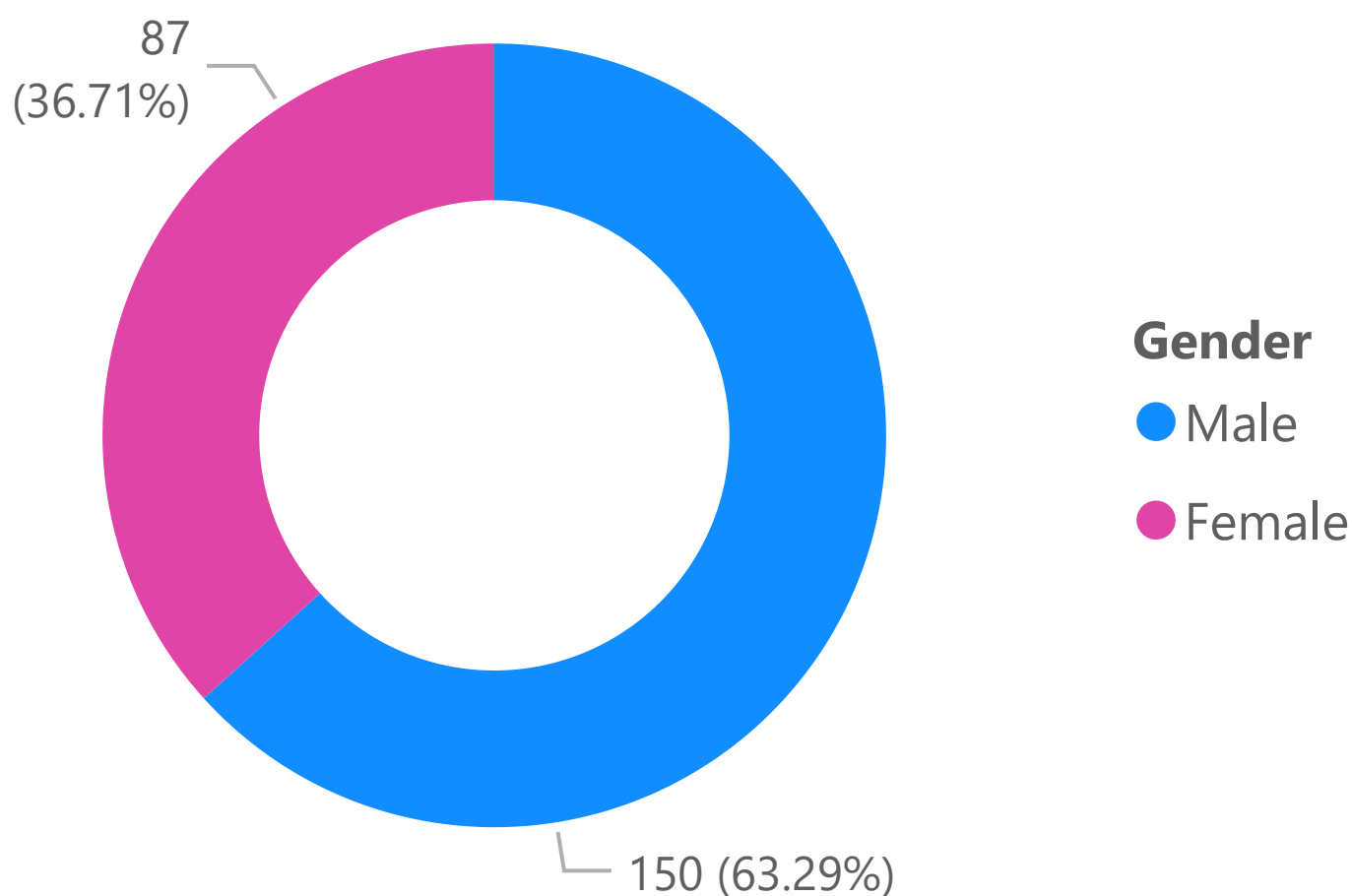


Fig 1.2 - Attrition by MaritalStatus and Gender

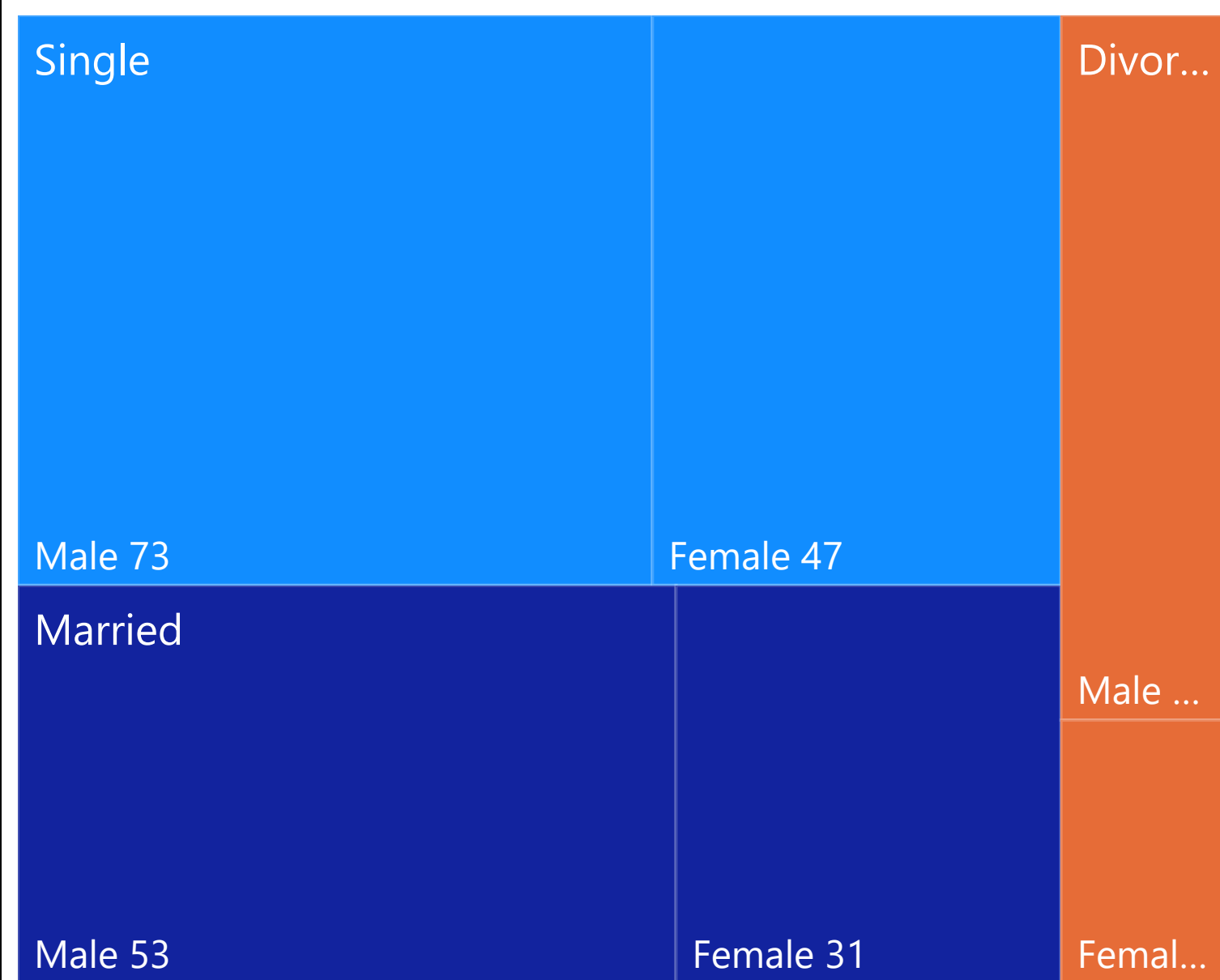


Fig 1.3 - Attrition by AgeGroup and Gender

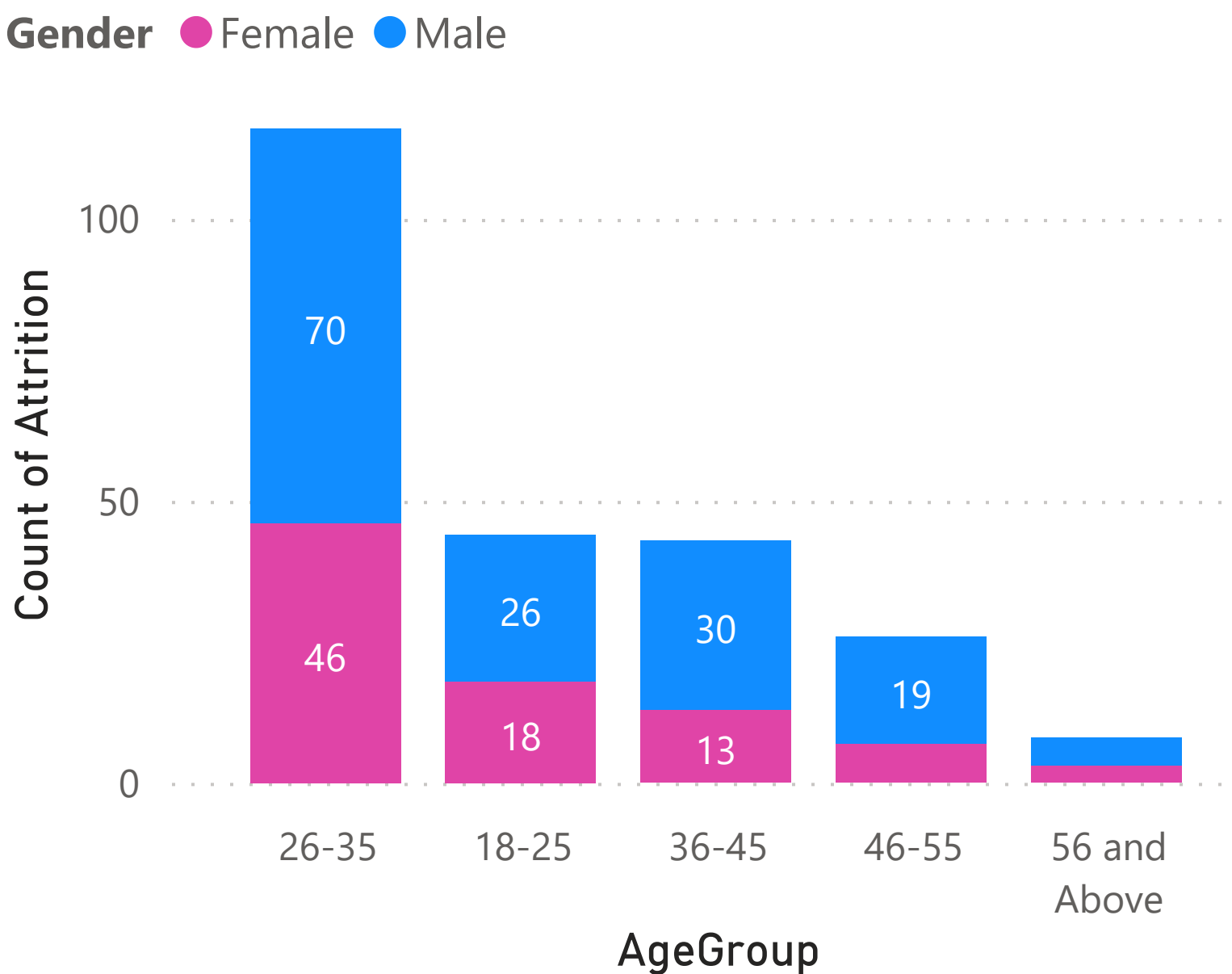


Fig 1.4 - Attrition by Education / EducationField and Gender

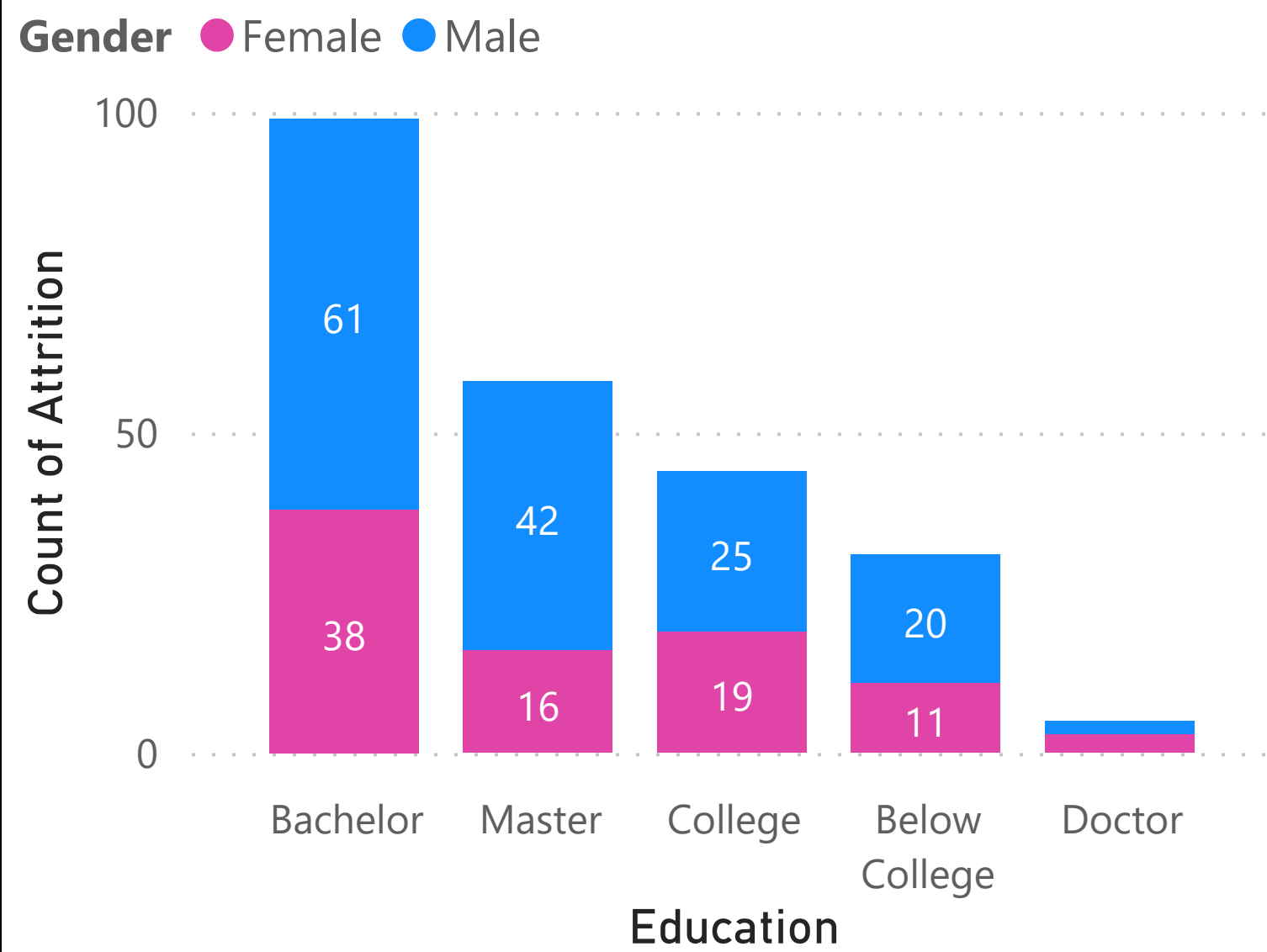


Fig 2.1 - Attrition by Department

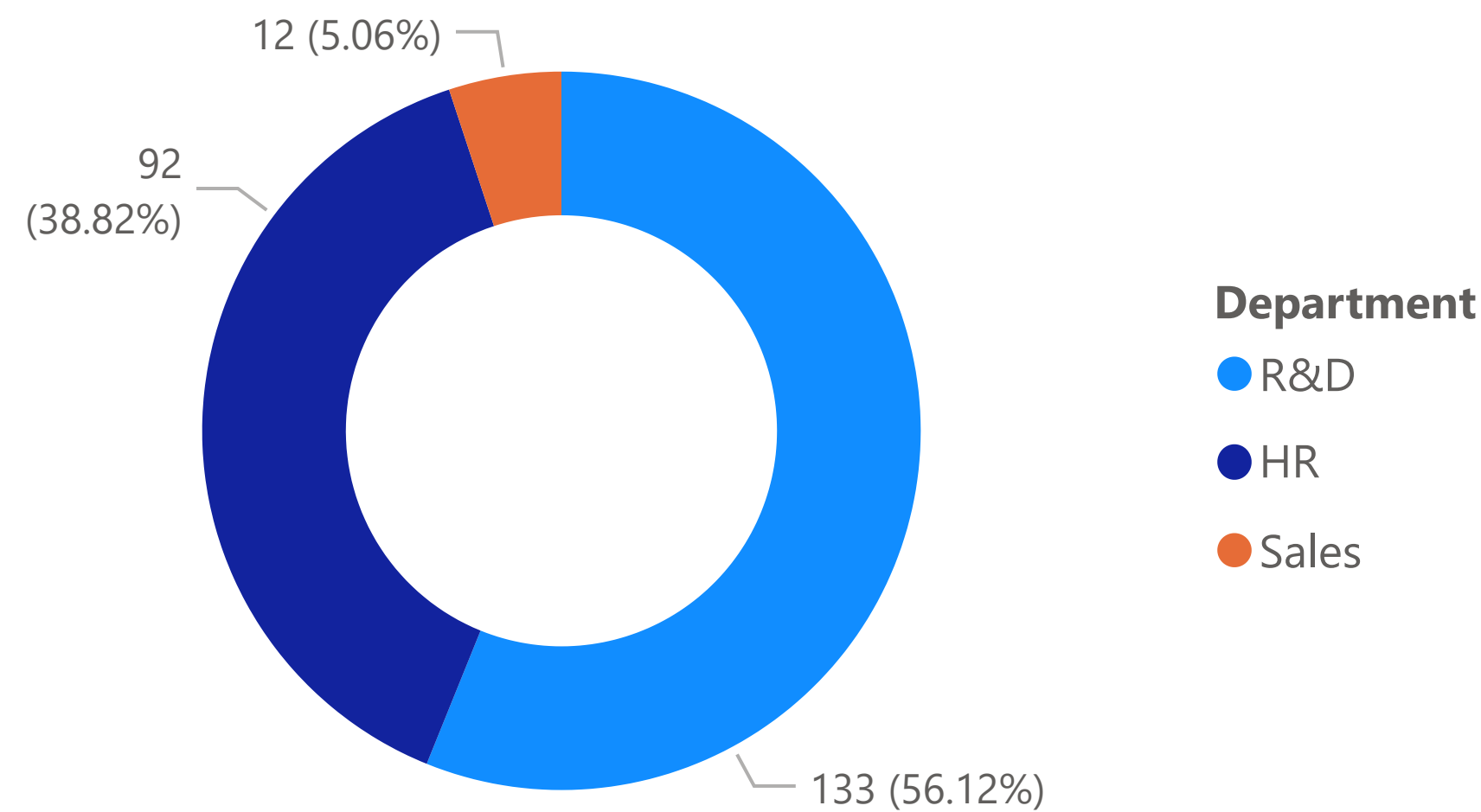


Fig 2.2 - Attrition by Department, JobLevel and JobRole

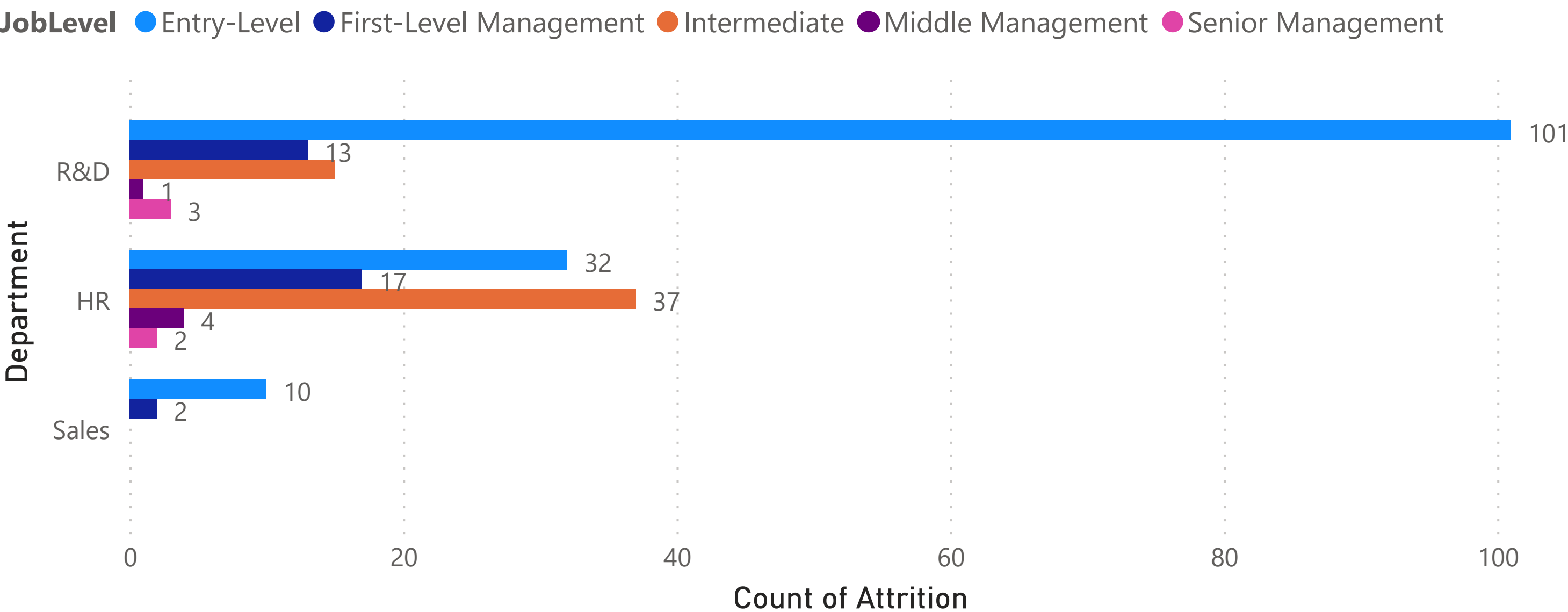
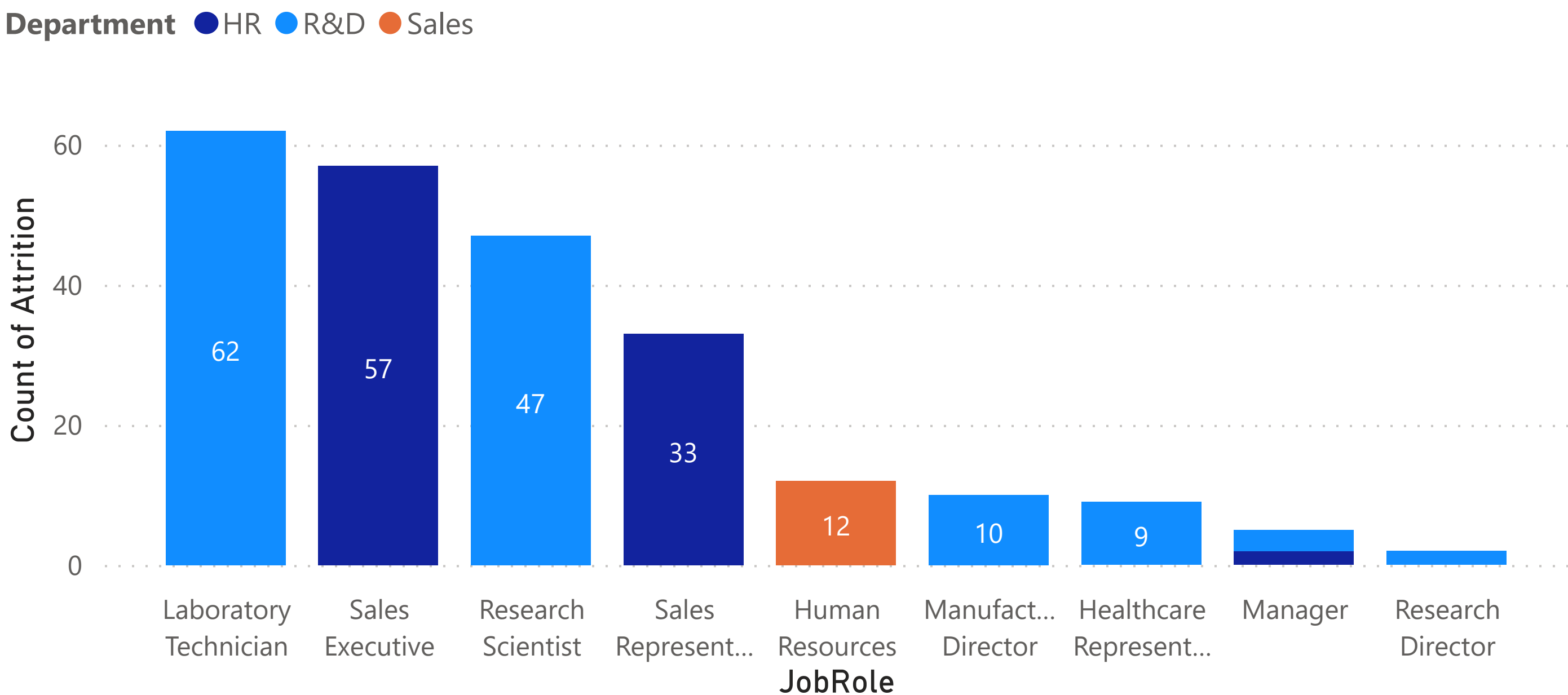


Fig 2.3 - Attrition by JobRole and Department



Attrition analysis based on Department:

1. Based on Fig 2.1 - Attrition by Department, it is found that the department with the highest attrition rate is R&D department. This department alone contributes more than half (56.12%) of the company's total attrition.
2. With more detailed look at each department's attrition by job level (Fig 2.2 - Attrition by Department, JobLevel and JobRole), it is found that the Entry-Level from R&D department is the highest contributor, which contributes 101 no. of attrition. A closer look at R&D department's Entry-Level attrition of Fig 2.2 (drill down 1 level), it is found that Entry-Level Laboratory Technician and Research Scientist are the 2 major contributors (56 and 45 no. respectively).
3. From Fig 2.3 - Attrition by JobRole and Department, it is found that Laboratory Technician from R&D department has the highest no of attrition (62 no.) company-wide.
4. From the observations based on department above, it is found that **employees from R&D department, especially those with Entry-Level jobs, have the highest tendency to leave the company.**

Fig 3.1 - Tree Maps for Attrition by Employee History with Company:

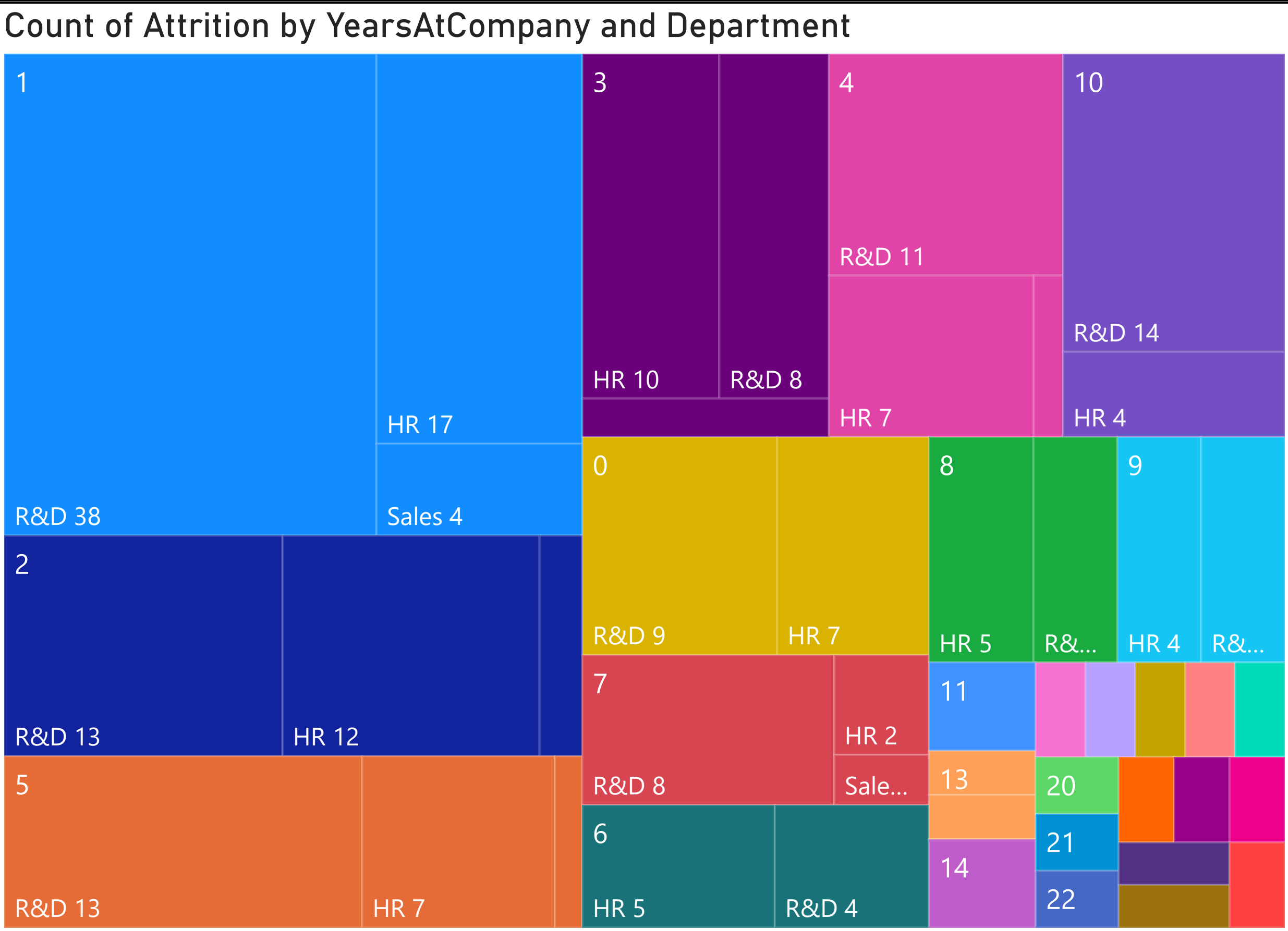
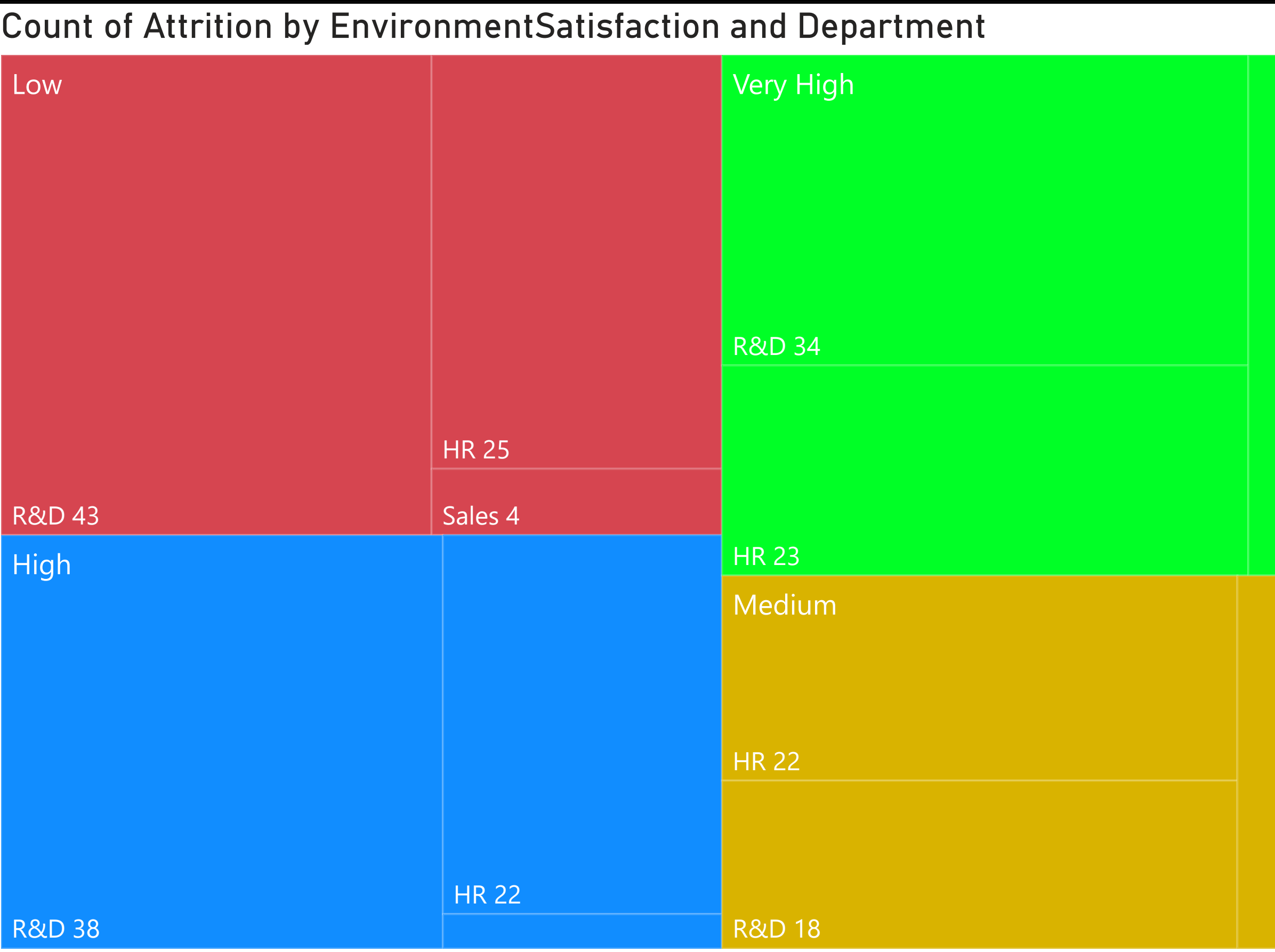


Fig 3.2 - Tree Maps for Attrition by Employee Relationships:



Attrition analysis based on Relationship and History with Company:

1. Based on Fig 3.1 - Tree Maps for Attrition by Employee History with Company (3 levels: Attrition by YearsAtCompany / YearsSinceLastPromotion / YearsWithCurrManager and Department), it is found that employees with relatively short working history with the company (around 0 to 2 years) are the significant contributors of the attrition. In addition, a significant portion of those employees are from R&D department.
2. From Fig 3.2 - Tree Maps for Attrition by Employee Relationships (3 levels: Attrition by EnvironmentSatisfaction / RelationshipSatisfaction / JobSatisfaction and Department), it is found that employees with low satisfaction with the environment have higher tendency to leave the company. However, as revealed in the 2nd and 3rd levels of Fig 3.2, it is found that employees may still leave the company, despite having high level of relationship and job satisfactions. Once again, R&D department is the major contributor.
3. From the observations based on relationship and history with company above, it is found that **employees with relatively short working history with the company (around 0 to 2 years) and with low environment satisfaction, especially those from R&D department, are more likely to quit, despite having high level of relationship and job satisfaction.**

Fig 4.1 - Attrition and Average of MonthlyIncome by JobRole / JobLevel and Department

Department ●HR ●R&D ●Sales ●Average of MonthlyIncome

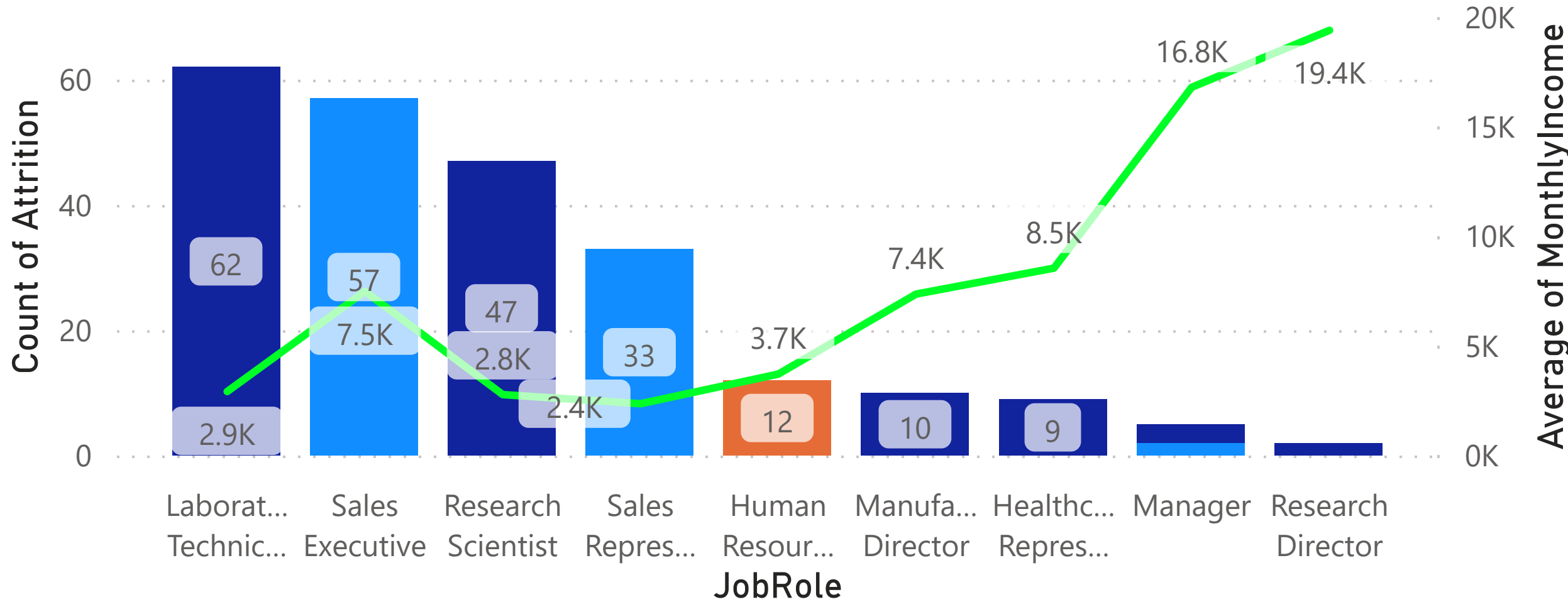
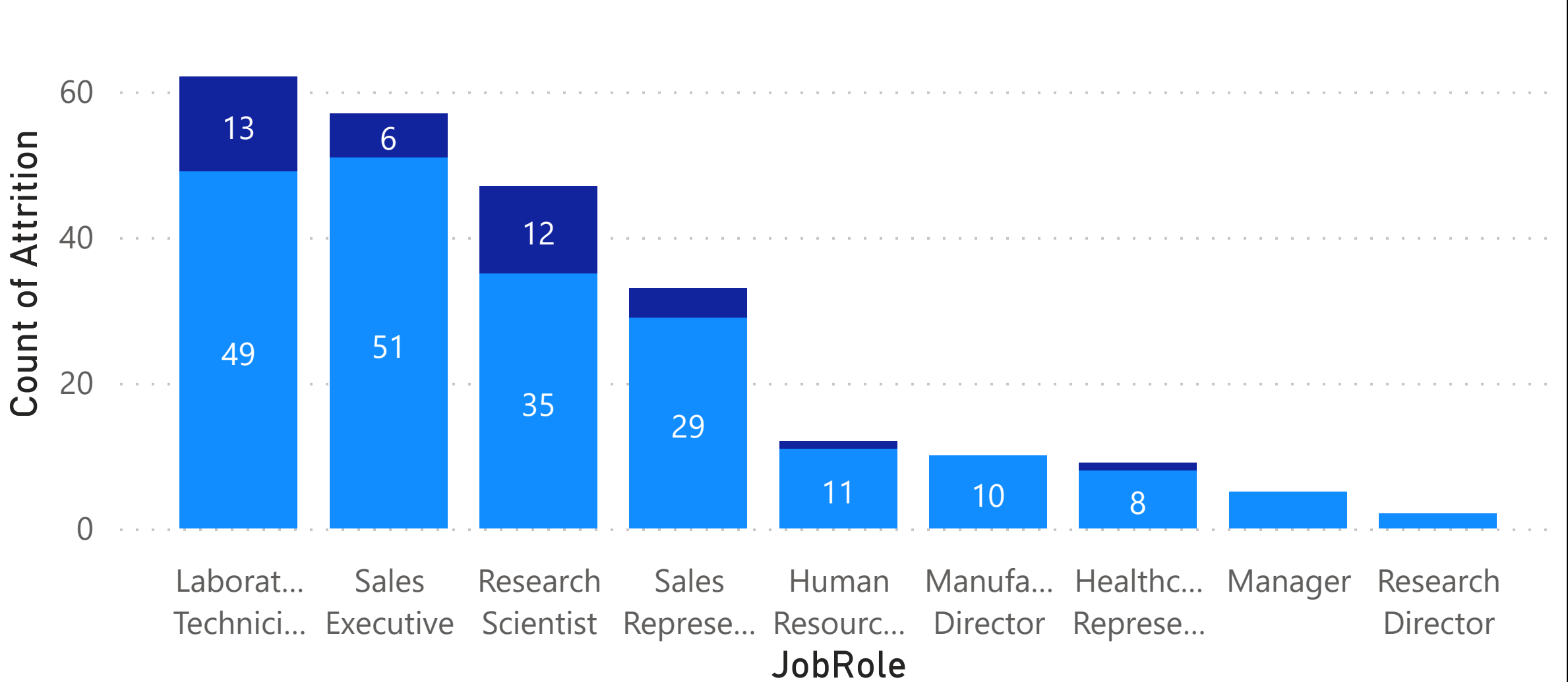


Fig 4.2 - Attrition by JobRole and PerformanceRating

PerformanceRating ●Excellent ●Outstanding



Attrition analysis based on Income, Performance and Salary Hike:

1. Based on Fig 4.1 - Attrition and Average of MonthlyIncome by JobRole / JobLevel and Department (2 levels), the average monthly income of the highest attrition contributor Laboratory Technician (62 no.) from R&D department is about 2.9k, which are among the lowest. A closer look at this 62 no. of attrition (drill down 1 level), it is found that out of this 62 no. of attrition, 56 no. are from Entry-Level, for which the average monthly income is about 2.7k, which is lower than the average of 2.9k for Laboratory Technician (for all job levels).
2. From Fig 4.2 - Attrition by JobRole and PerformanceRating, there is no clear indication that attrition is due to performance related issues since all staffs received either Excellent or Outstanding for their performance ratings.
3. From Fig 4.3 - Attrition and Average of PercentSalaryHike by JobRole / JobLevel, it is found that the highest attrition job role Laboratory Technician has an average salary hike of about 15.4 percent, which is among the highest. Whereas those higher level job roles (Manager, Director etc.) with relatively lower salary hike are of low attrition.
4. From the observations based on income, performance and percent salary hike above, it is found that **there is no clear relationships between attrition and performance rating or percent salary hike.** However, it is also found that **employees with lower monthly income are more likely to quit, especially those from entry level jobs of R&D department.**

Fig 4.3 - Attrition and Average of PercentSalaryHike by JobRole / JobLevel

●Count of Attrition ●Average of PercentSalaryHike

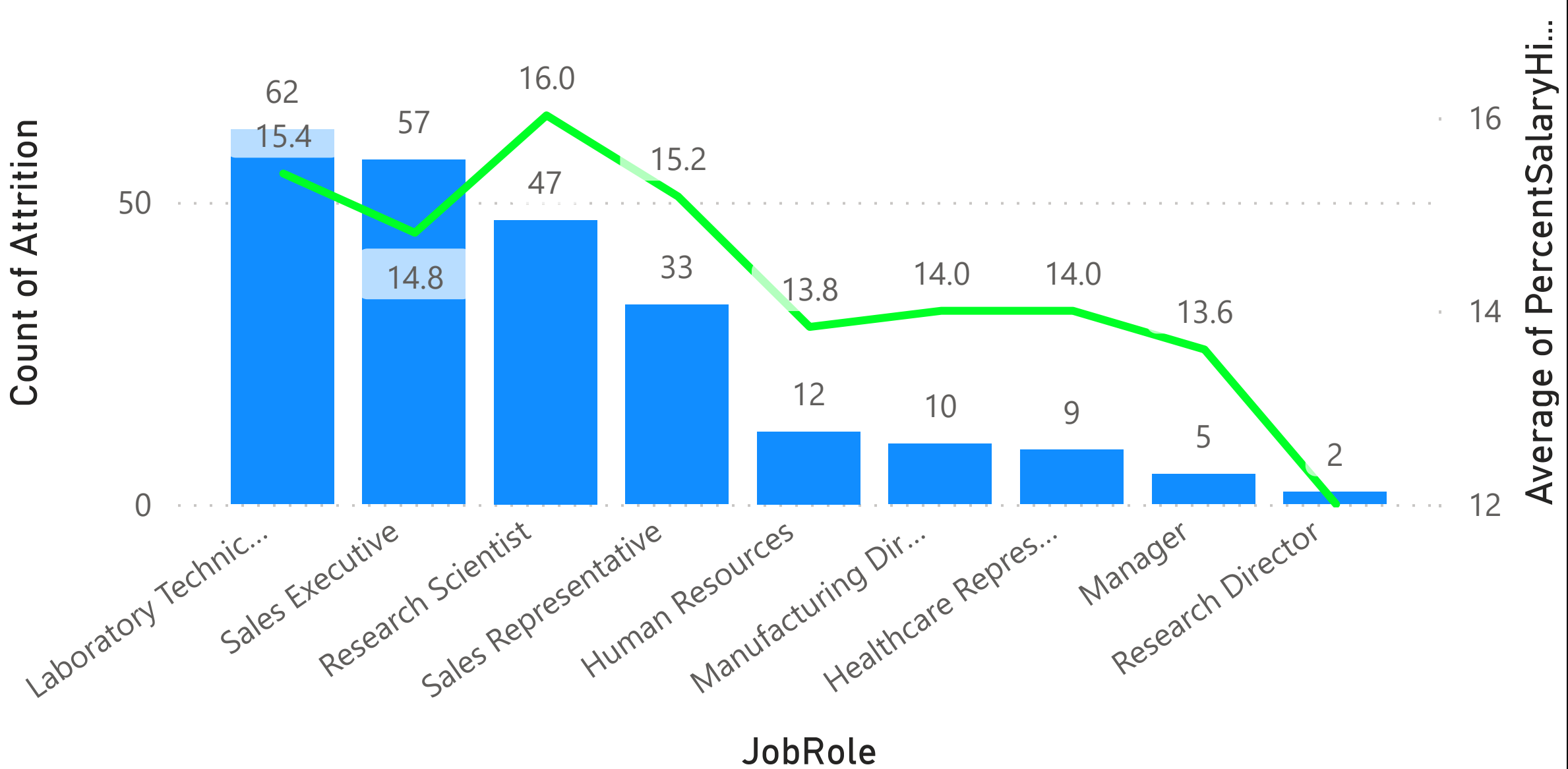


Fig 5.1 - Attrition by DistanceFromHome and JobRole

This treemap visualizes the relationship between job roles and distance from home, categorized by attrition. The data is organized into hierarchical blocks, with colors representing different categories. The largest block is 'Laboratory Technician' (blue), followed by 'Research Scientist' (dark blue). Other significant blocks include 'Sales Representative' (orange), 'Sales Executive' (light orange), and 'Research Scientist' (purple). The chart shows a high concentration of attrition in the 'Laboratory Technician' and 'Research Scientist' roles, particularly for those living further from home.

JobRole	DistanceFromHome	Count
Laboratory Technician	2	24
Laboratory Technician	7	10
Laboratory Technician	5	5
Research Scientist	1	8
Research Scientist	12	13
Research Scientist	22	25
Sales Representative	9	15
Sales Representative	11	14
Sales Representative	18	18
Sales Executive	6	17
Sales Executive	20	26
Sales Executive	27	27
Research Scientist	3	16
Research Scientist	23	29
Research Scientist	19	21
Research Scientist	28	28

Fig 5.2 - Attrition by BusinessTravel and JobRole

BusinessTravel	JobRole	Count
Travel_Rarely	Laboratory Technician	44
Travel_Rarely	Sales Executive	40
Travel_Rarely	Research Scientist	28
Travel_Rarely	Sales Representative	18
Travel_Frequently	Laboratory Technician	...
Travel_Frequently	Research Scientist	...
Travel_Frequently	Sales Representative	...
Travel_Frequently	Sales Executive	...
Travel_Frequently	Human Resources	...
Travel_Frequently	Healthcare Representative	...
Travel_Frequently	Manufacturing	...
Non-Travel	Research Scientist	...
Non-Travel	Sales Executive	...

1. From Fig 5.1 - Attrition by DistanceFromHome and JobRole, there is no clear indication that staying far away from the company location is the main reason for employees to quit their jobs. In fact, those employees who are staying relatively near to the company location may still quit their jobs.
2. From Fig 5.2 - Attrition by BusinessTravel and JobRole, it is found that more than half of the attrition is contributed by those employees who rarely have business travel. Hence, frequency for business travel is not the main reason for employees to quit their jobs.
3. From the observations based on distance from home and frequency for business travel above, it is found that **there is no clear indication that these 2 factors are the main reasons for employees to quit their jobs.**

Fig 6.1 - Attrition and Average of StandardHours by JobRole / JobLevel and OverTime

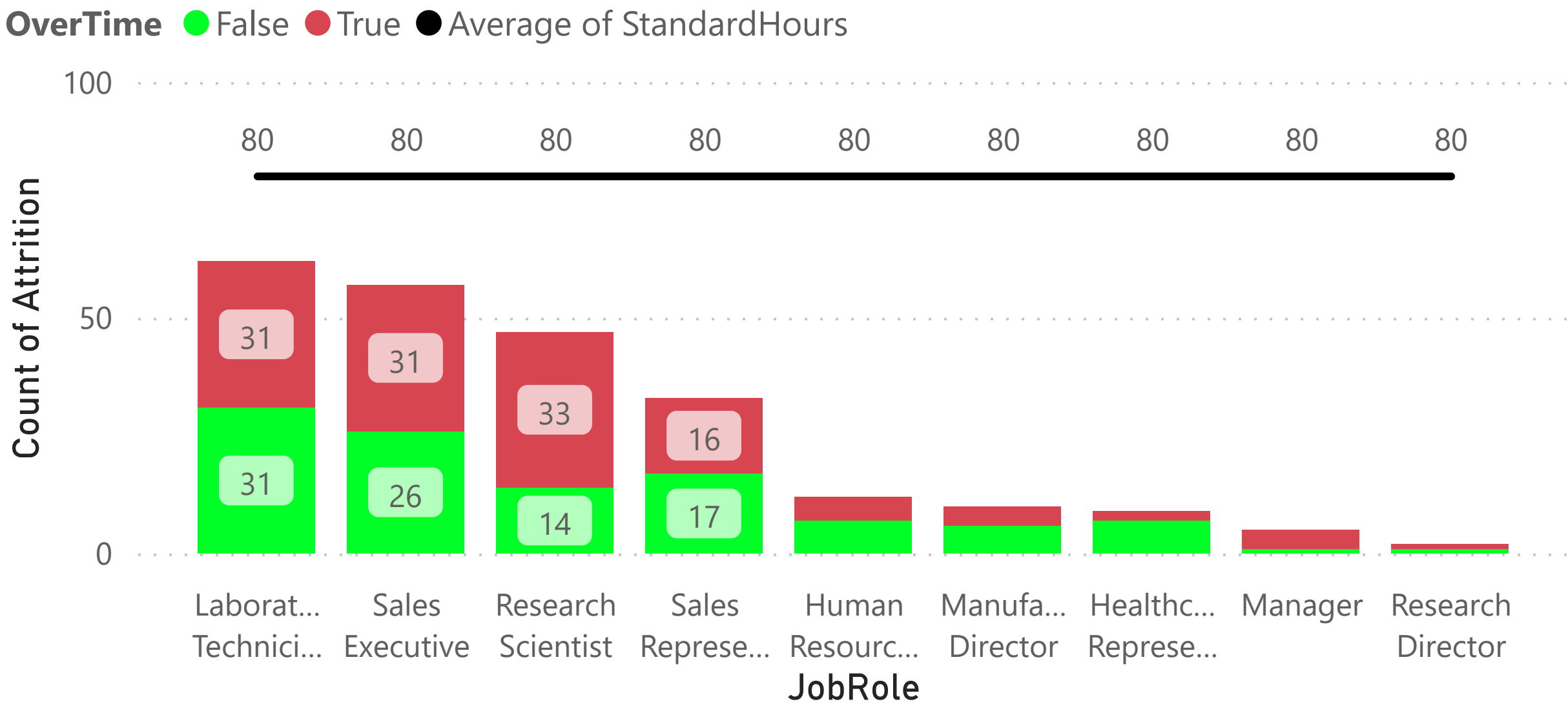


Fig 6.2 - Attrition by JobRole and WorkLifeBalance

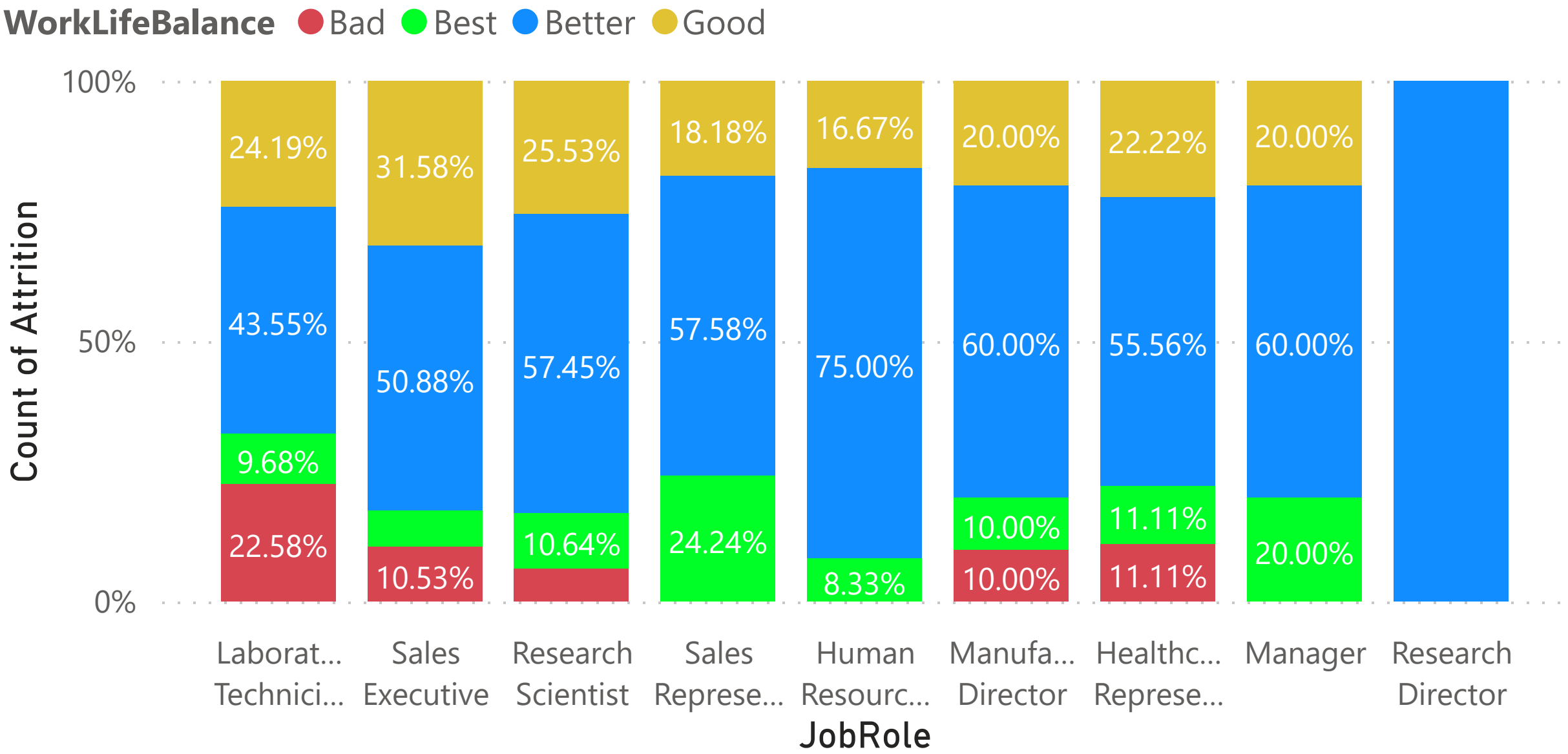
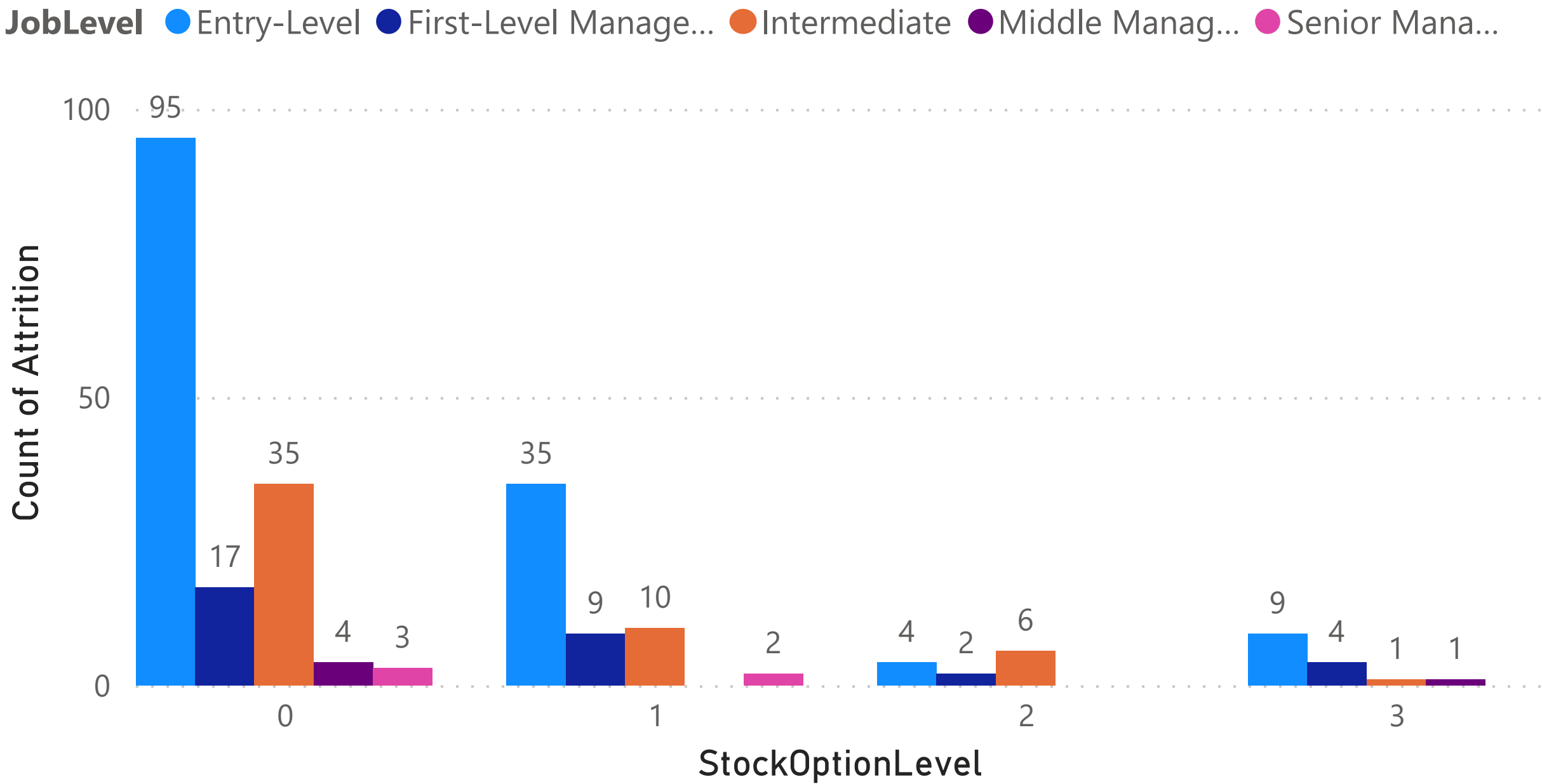


Fig 6.3 - Attrition by StockOptionLevel and JobLevel



Attrition analysis based on Work-life Balance and Welfare:

1. From Fig 6.1 - Attrition and Average of StandardHours by JobRole / JobLevel and OverTime (2 levels), it is found that there is no clear relationship between attrition and overtime for all job roles, since the attrition of each job role is almost evenly distributed into both overtime/non-overtime categories, except for Research Scientist and Manager. Similar observation is also found for attrition by job level and overtime (drill down 1 level), whereas for Entry-Level jobs the proportion of working overtime is slightly higher. Also from the same figure, it is found that no relationship between attrition and standard hours since the standard hours are the same for all employees.
2. Based on the 100% stacked column chart of Fig 6.2 - Attrition by JobRole and WorkLifeBalance, it is found that the responses for work life balance from all job roles are generally favourable (Good, Better and Best made up majority of the responses). Due to this finding, work life balance should not be the main reason for employees to quit their jobs.
3. From Fig 6.3 - Attrition by StockOptionLevel and JobLevel, it is found that employees with no stock option level are more likely to quit, especially those with Entry-Level jobs.
4. From the observations based on work-life balance and welfare above, it is found that **there is no clear indication that working overtime, standard working hours, work-life balance are the main reasons for employees to quit. However, employees with no stock option level, especially those with Entry-Level jobs, are more likely to quit.**

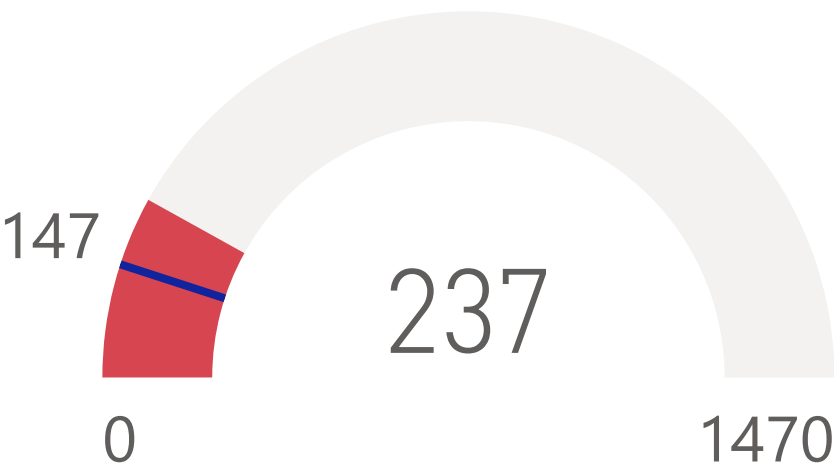
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Gauge of Attrition Level



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Attrition rate is 16.12%, which is higher than the general threshold (10%) for good attrition rate!

Summary for the Attrition Analysis:

1. For this project, the attrition analysis has been performed in consideration of the following aspects:
 - Demographics
 - Department
 - Relationship, History with Company
 - Income, Performance and Salary Hike
 - Distance from Home and Business Travel
 - Work-Life Balance and Welfare
2. Based on the attrition analysis, the general findings are as follows:
 - Male has higher tendency to quit than female
 - Employees from age group of 26-35 has higher attrition
 - Employees who are Single have higher tendency to quit
 - Employees with Bachelor degree or education field in Life Sciences have higher tendency to quit
 - R&D department has the highest attrition, and this department alone contributes more than half (56.12%) of the company's total attrition, and for which the attritions are mainly from its Entry-Level jobs (eg. Laboratory Technician and Research Scientist)
 - Employees with relatively short working history with the company (around 0 to 2 years) and with low environment satisfaction, especially those from R&D department, are more likely to quit, despite having high level of relationship and job satisfaction
 - No clear relationships between attrition and performance rating or percent salary hike. However, employees with lower monthly income are more likely to quit, especially those from entry level jobs of R&D department
 - No clear indication that distance from home and frequency for business travel are the main reasons for employees to quit their jobs
 - No clear indication that working overtime, standard working hours, work-life balance are the main reasons for employees to quit. However, employees with no stock option level, especially those with Entry-Level jobs, are more likely to quit.

Recommendations:

- The company should take a serious look at what is actually happening in the R&D department as this department alone contributes more than half of the total attrition, and out of the attrition of this department, majority are from its Entry-Level jobs (eg. Laboratory Technician and Research Scientist)
- The company should try to improve the condition of working environment for their employees, in order to improve the environment satisfaction
- The company should review the monthly income in order to retain talents, especially for those Entry-Level jobs from R&D department
- The company may consider stock option level for those employees with Entry-Level jobs, if they are to retain those young talents in the long run