



# Workforce Attrition

An analysis of employee attrition  
rates and job role trends

NEXT

A black and white photograph showing a group of people from the waist up, gathered in a huddle. They are all looking down at a tablet device held by one person in the center. The scene conveys a sense of teamwork and shared focus.

# Our Agenda

- MEET THE TEAM
- TOP CONTRIBUTORS OF ATTRITION
- JOB ROLE TRENDS
- MONTHLY INCOME MODEL



DDS ANALYTICS

# Meet the Team

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Joaquin  
Dominguez



Jacob  
Gipson

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Data Science  
Master's Student  
at SMU

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Data Science  
Master's Student  
at SMU

A photograph of three young adults laughing together at a wooden table. On the left, a woman with blonde hair is seen from the side, looking towards the center. In the center, a woman with long brown hair is laughing heartily, showing her teeth. On the right, a man with dark hair and glasses, wearing a denim jacket over a red shirt, is also laughing. They are all looking towards the center of the table. On the table, there are two laptops (one Samsung, one silver), a notebook, a pen, and two glasses of water with ice. The background is a dark, moody interior.

# Attrition

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# Top Contributors of Attrition (Internal)

1

OVER TIME

"Yes" or "No"- whether employee has over time

2

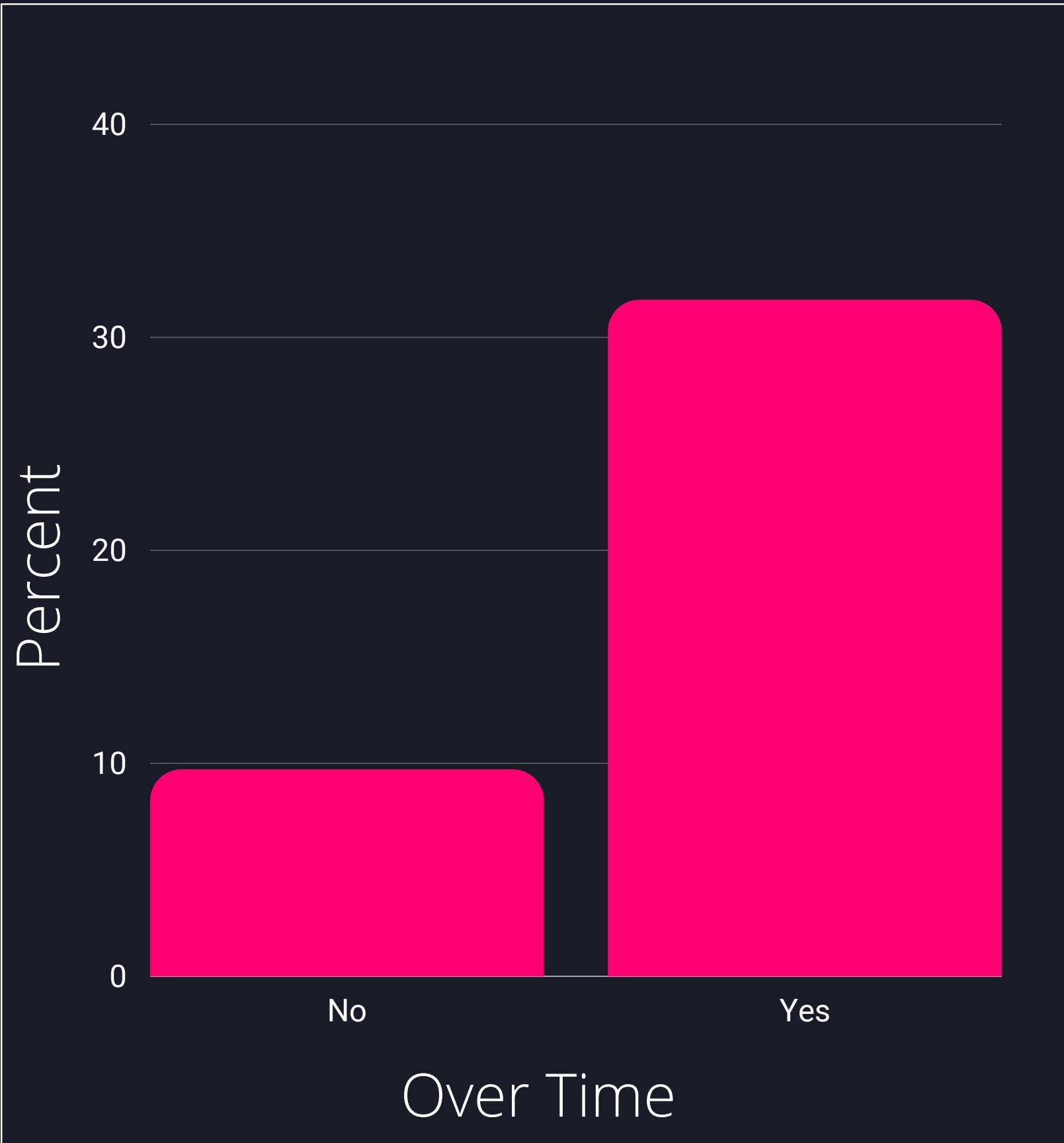
JOB INVOLVEMENT

Rating from 1-4  
Level of Responsibility

3

MONTHLY INCOME

Numerical value - monthly salary



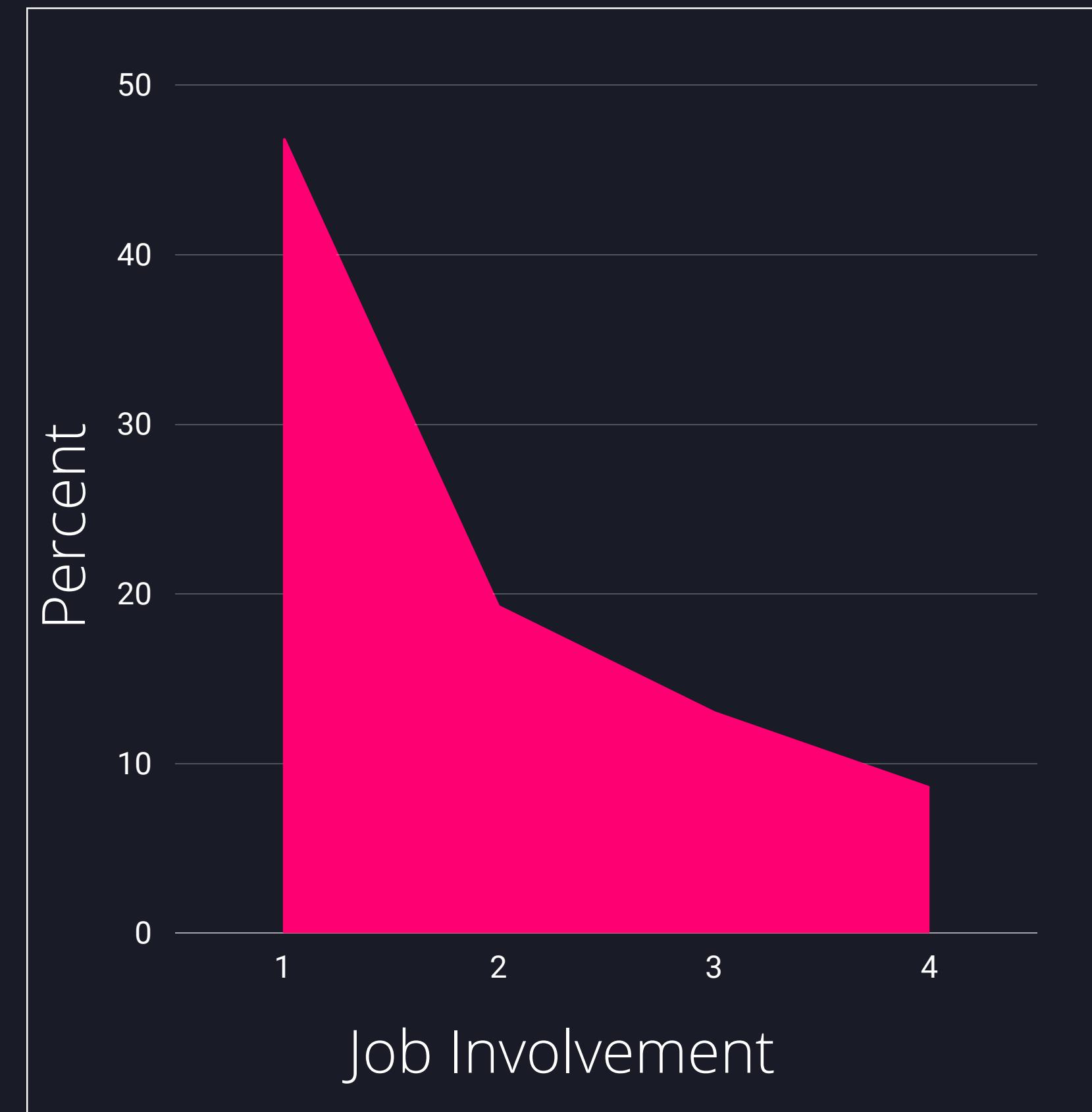
# Over Time

Those employees who had over time  
were more than 3 times more likely to  
leave the company

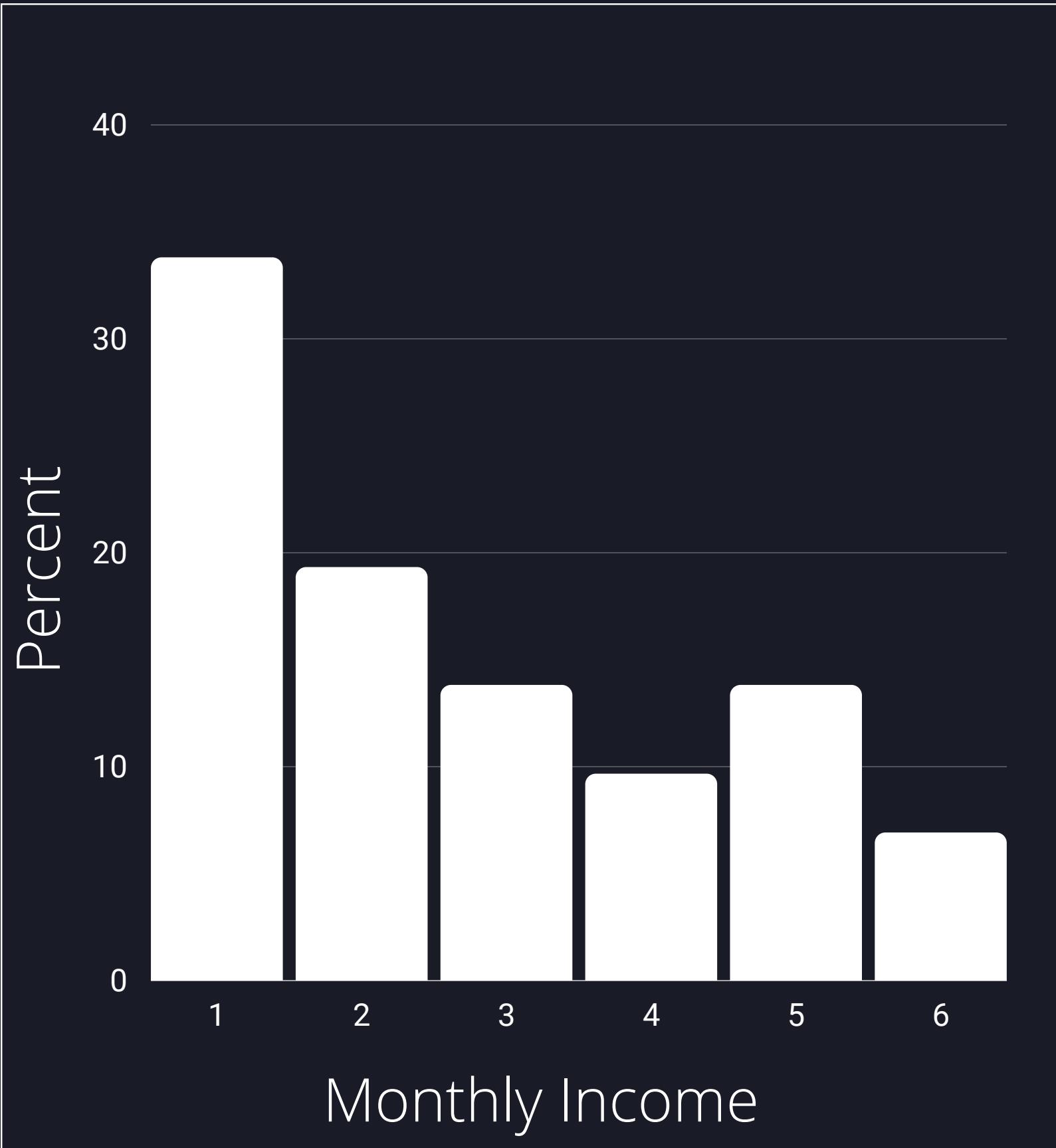
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# Job Involvement

For those who reported a Job Involvement score of 1, there was a 46.8% chance of attrition



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# Monthly Income

Those in the highest monthly income bracket had an attrition rate that was 5 times lower compared to the lowest income bracket

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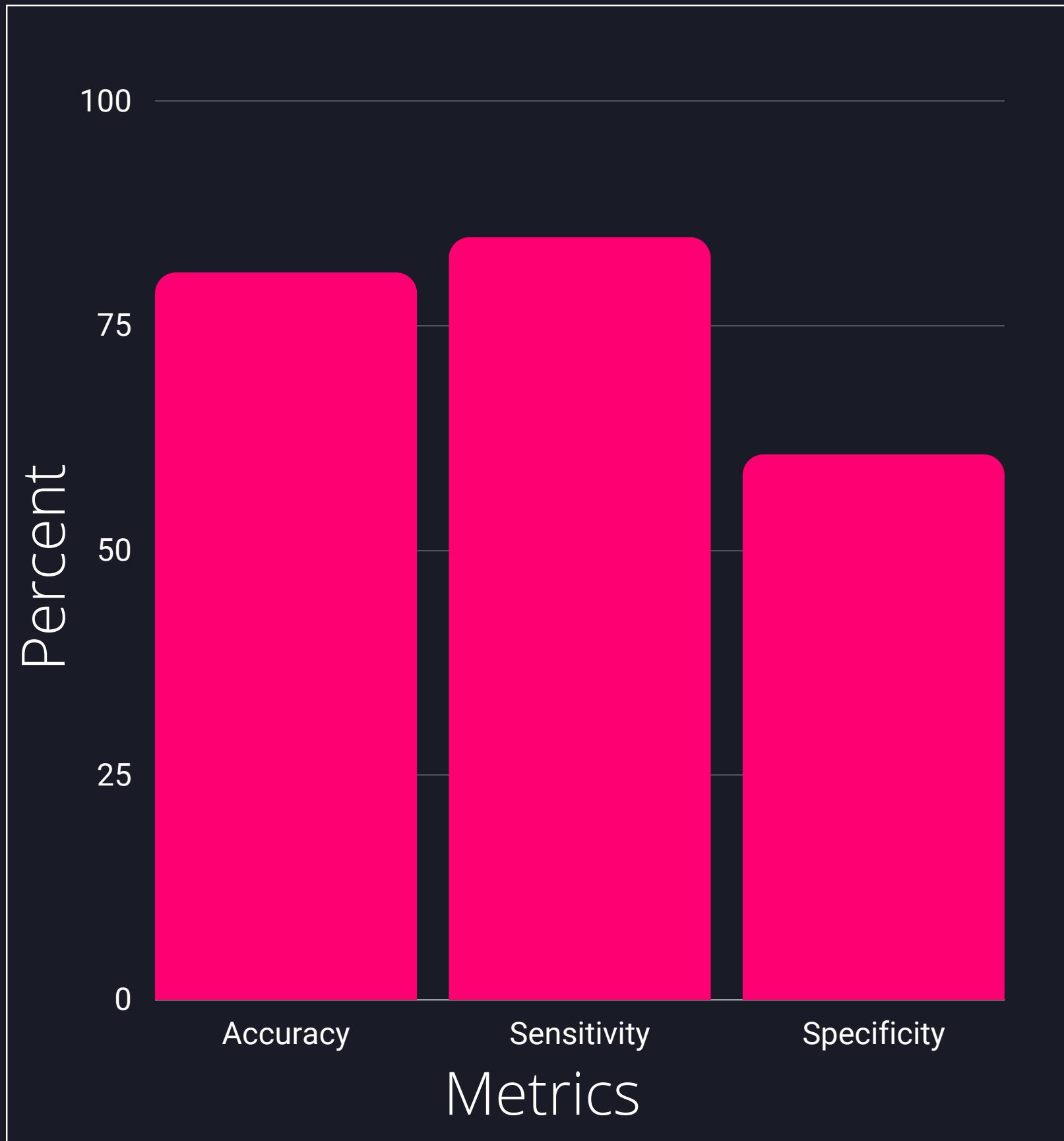
# Attrition Model

# Predicting Attrition

## 19 Variables Used Naive-Bayes Model

- OverTime
- Job Involvement
- Monthly Income
- Age
- Environment Satisfaction
- Distance From Home
- Education Field
- Job Level
- Job Role
- Marital Status
- Number of Companies worked
- Stock Option Level
- Total Working Years
- Training Times Last Year
- Work Life Balance
- Years at Company
- Years in Current Role
- Years with Current Manager

# Model Performance



- 81% Accuracy
- 85% Specificity
- 61% Sensitivity

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# Job Role Trends

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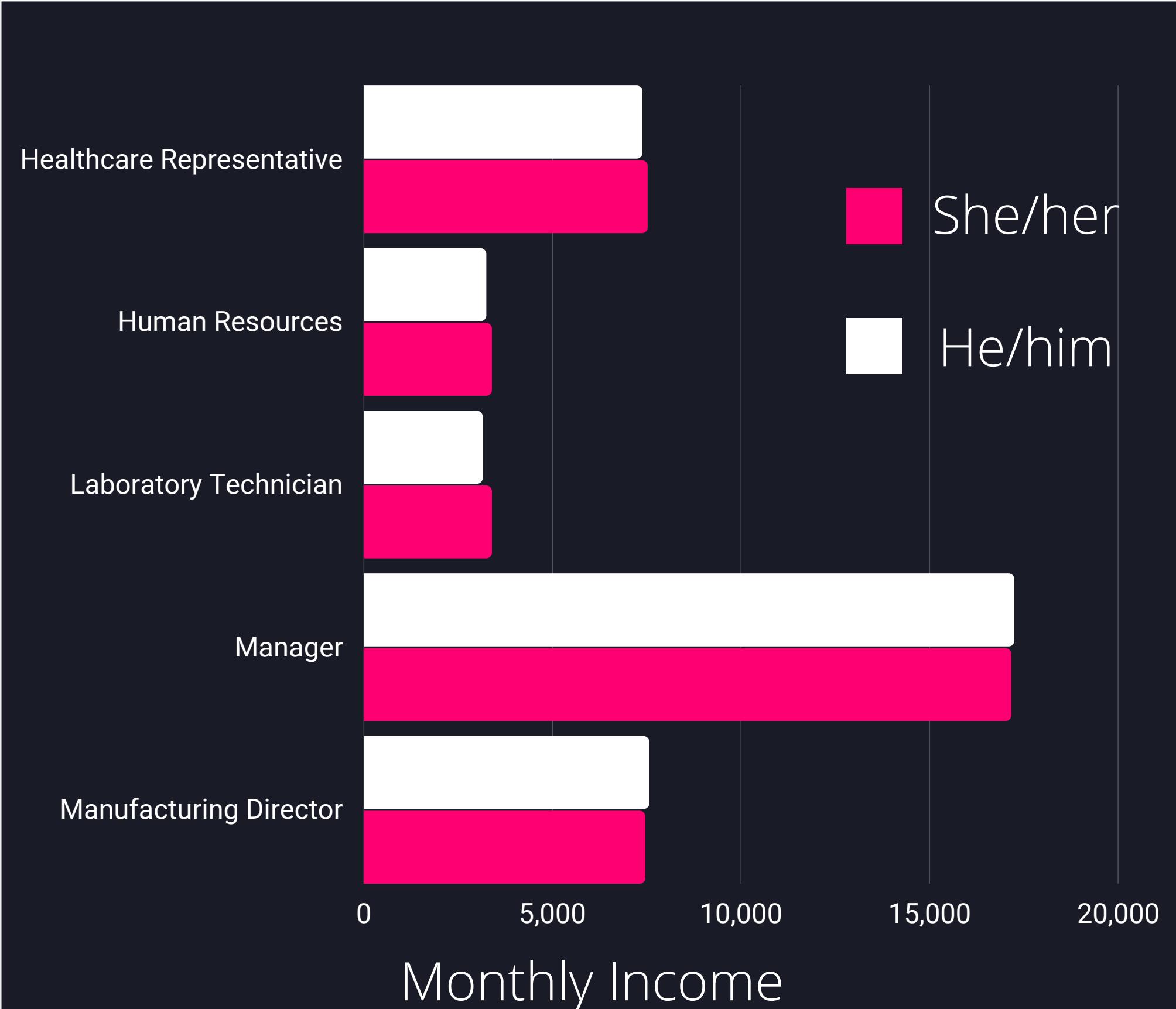
Gender Parity



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# Equal Pay

Distribution of Monthly Income by Gender in each Job Role

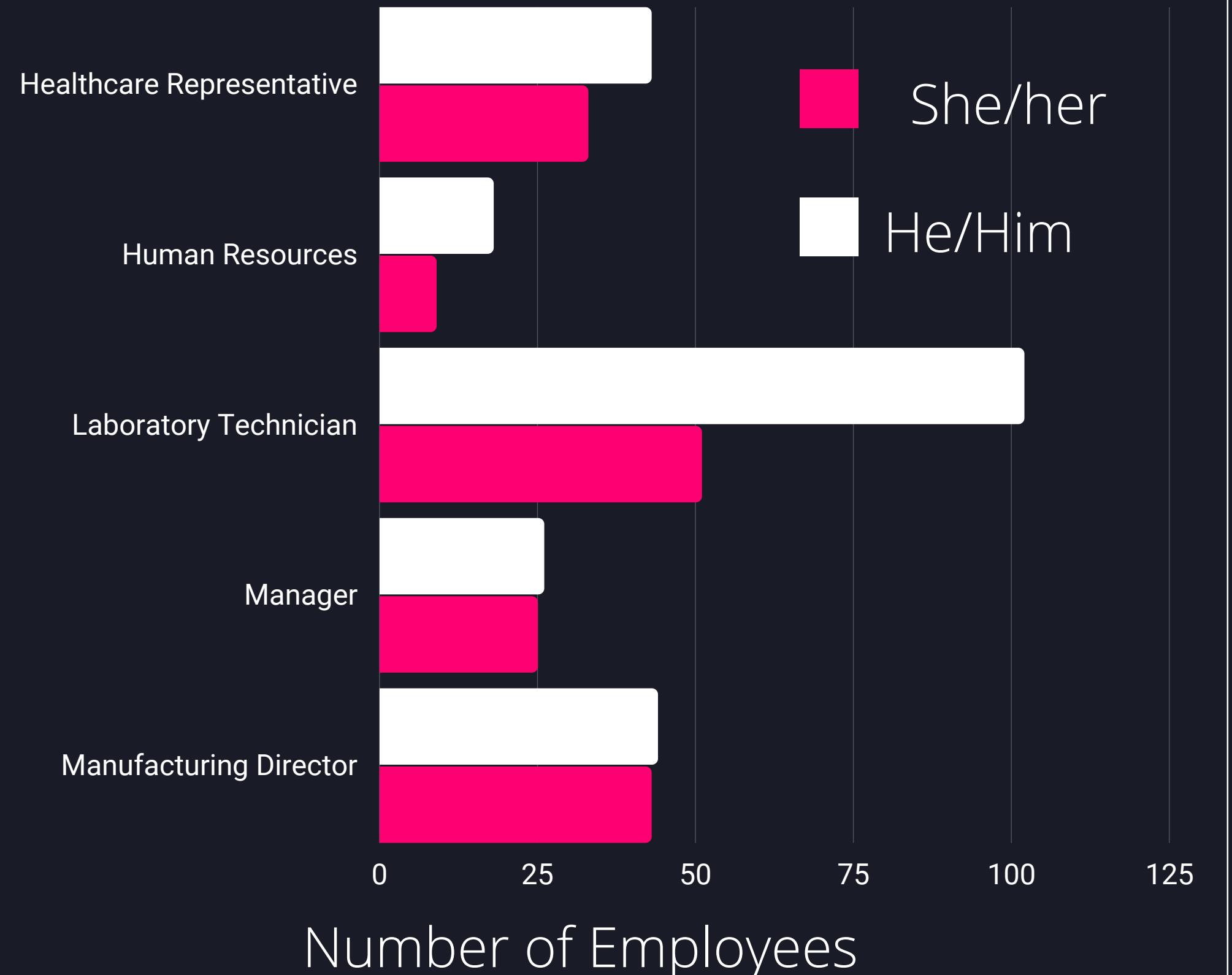


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# Equal Occupancy

Distribution of Job Role Occupancy by Gender



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# Monthly Income Model



## Performance

Adjusted R2

0.948

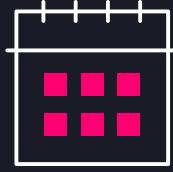
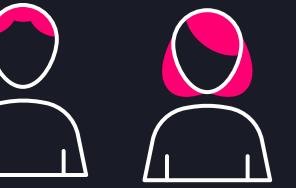
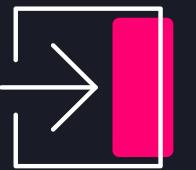
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# Summary





TOP 3 PREDICTORS  
OF ATTRITION

GENDER PARITY

MONTHLY INCOME  
MODEL

Predictors and Model

Income and Occupancy  
by Gender

Predicting Monthly  
Income

A close-up photograph of a person's hand holding a blue pen. The hand is positioned as if it has just finished writing or is about to write. The background is slightly blurred, showing what appears to be a financial document with various charts, graphs, and data tables.

# Thank you!

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