Working in Tech: How Age, Salary, and Education Impact Job Satisfaction

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DrawKit Illustrations

Question

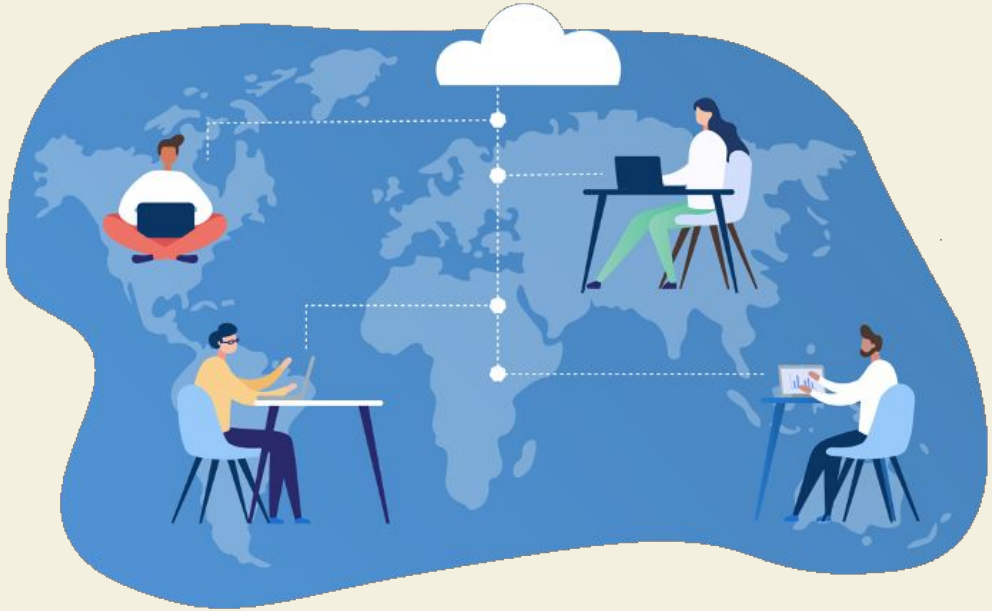
Within the tech industry, what is the relationship between different modes of work and job satisfaction, considering age, salary, and education for developers in the US in 2024?

Modes of Work: Remote vs Hybrid vs In Person

Job Satisfaction: 1-10 Scale

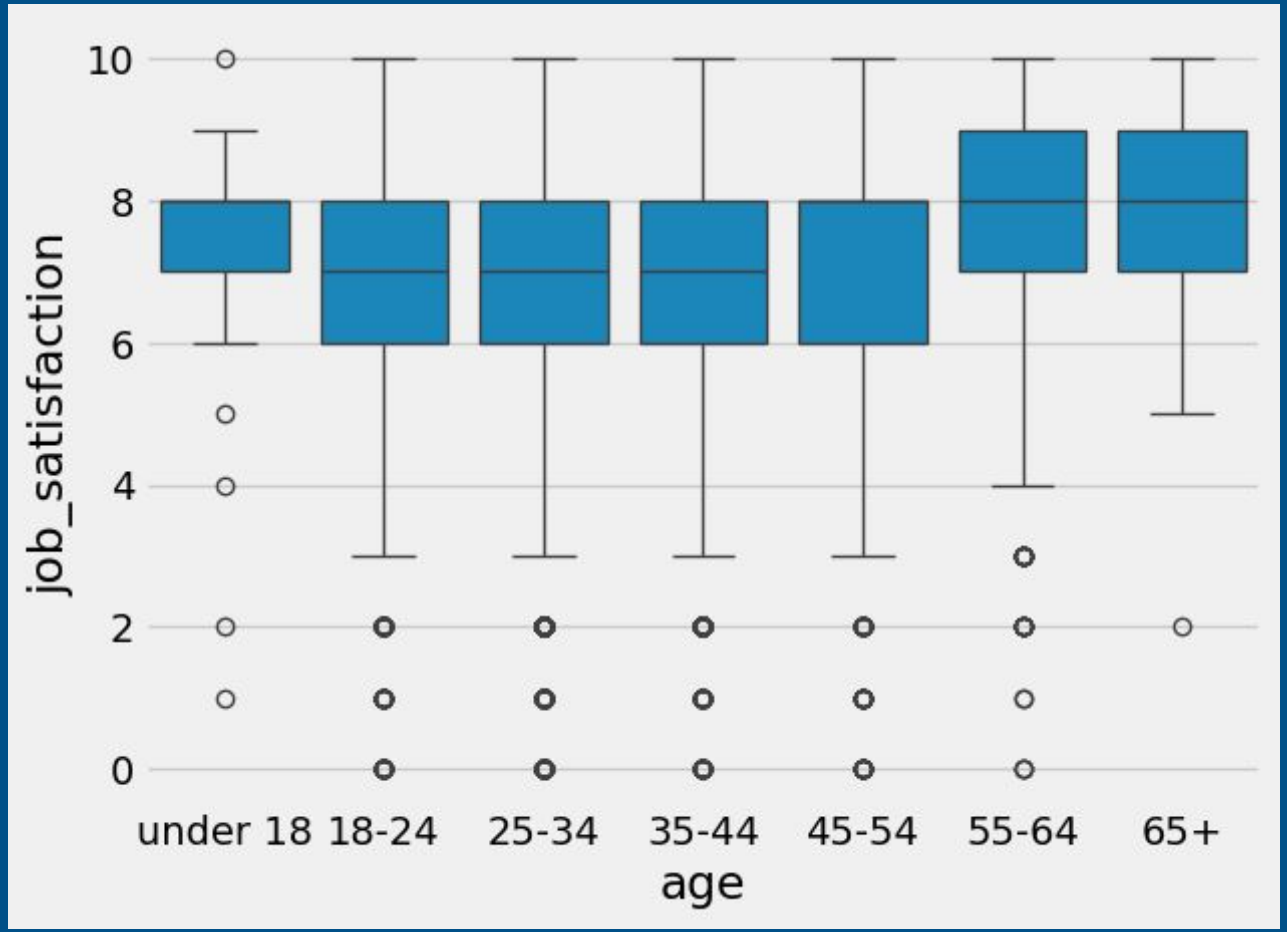
- As age increases, job satisfaction will decrease for remote workers and increase for in person workers.
- Regardless of work mode, an increase in salary will correlate with an increase in employee satisfaction.
- As the education level increases, job satisfaction for remote workers will increase.

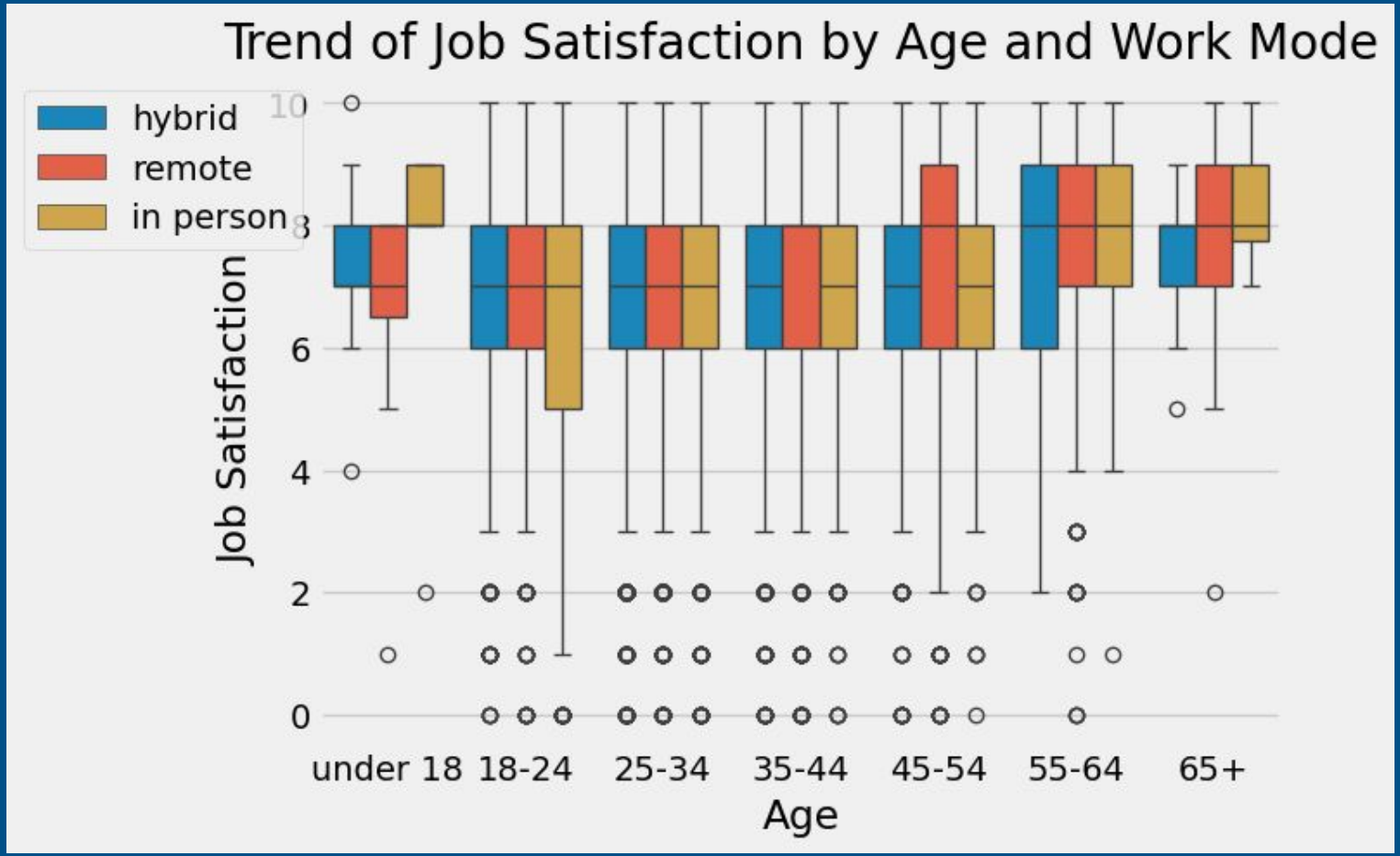
Exploratory Data Analysis and Statistical Analysis

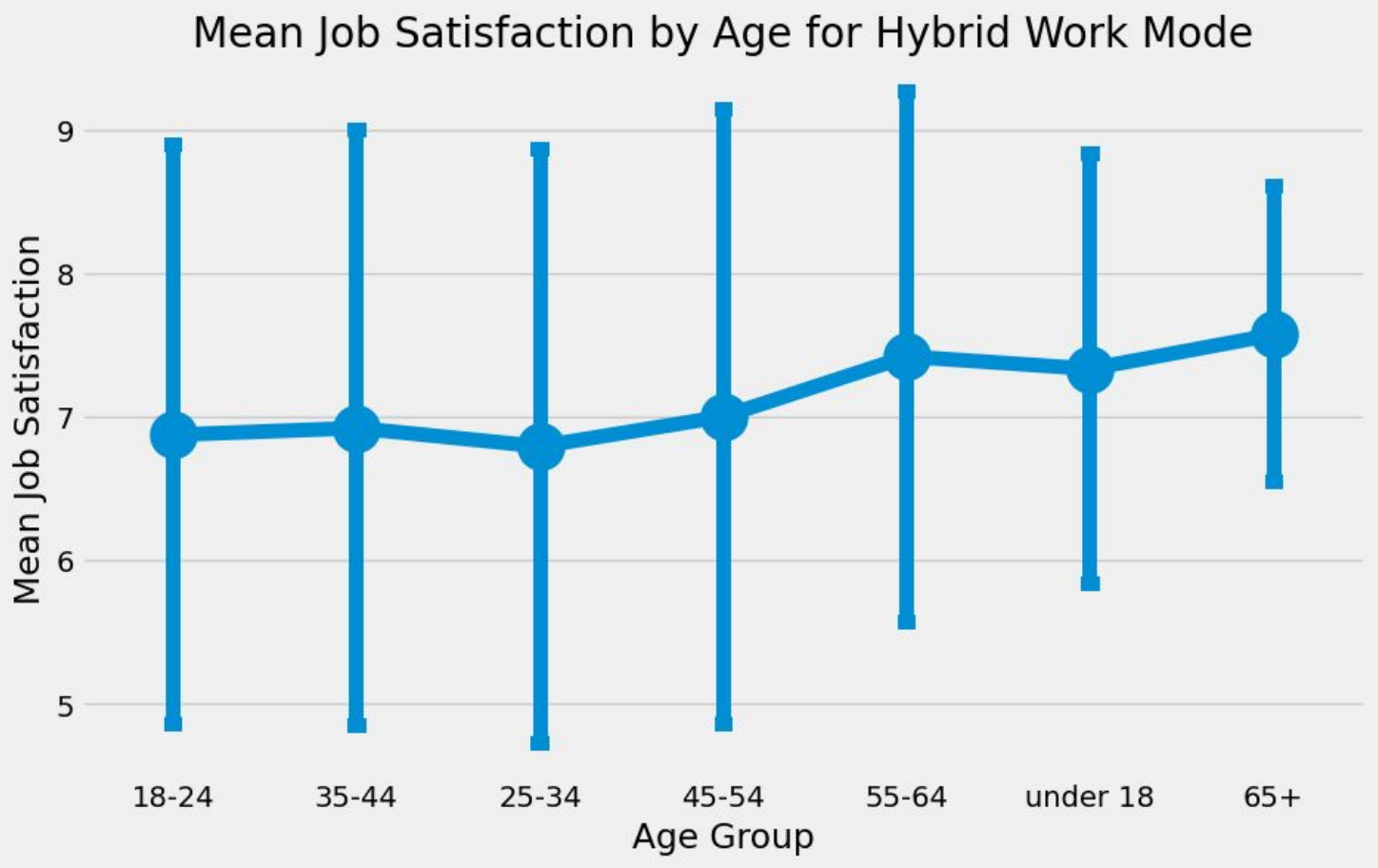


What is the relationship between Age and Job Satisfaction?

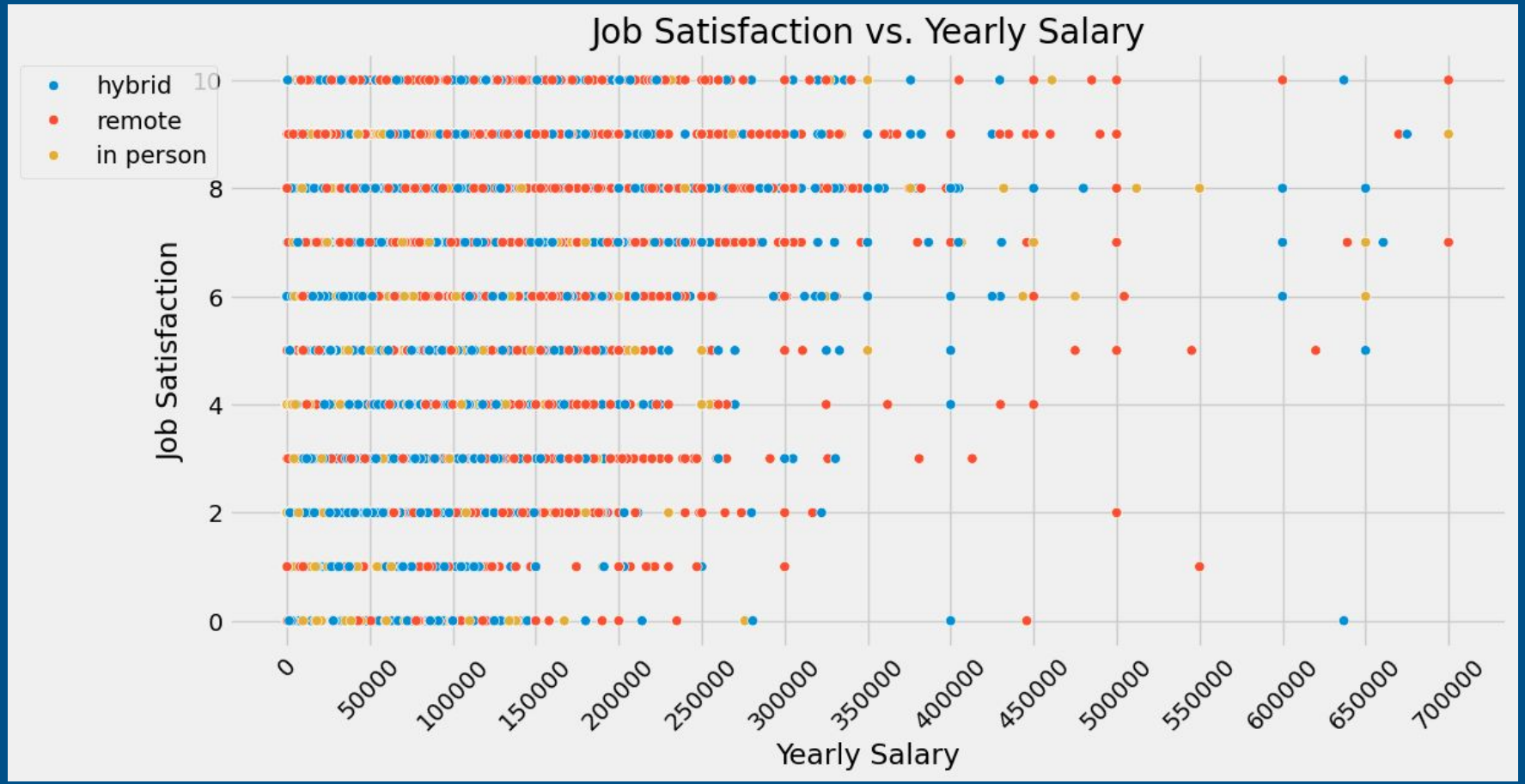
Exploratory Data Analysis: Age vs Job Satisfaction

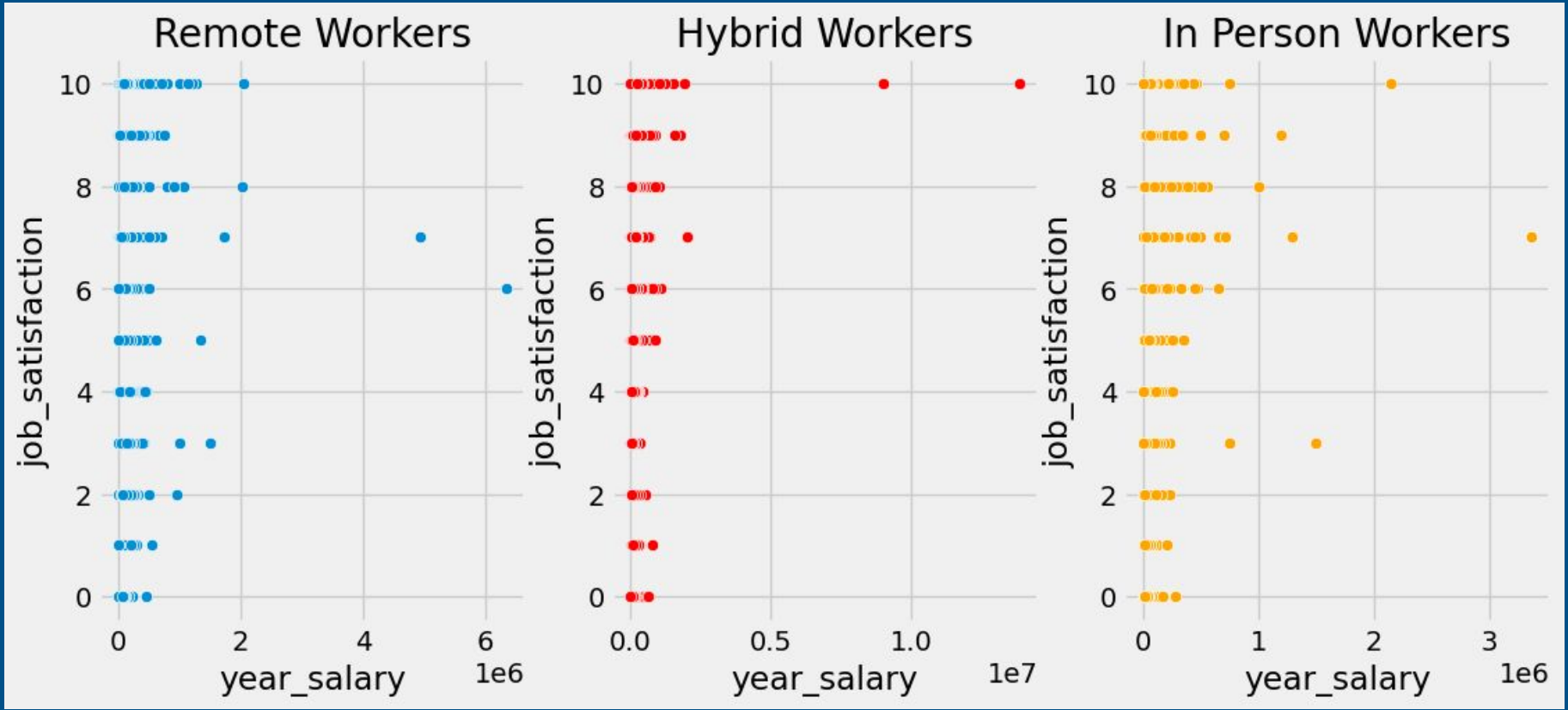


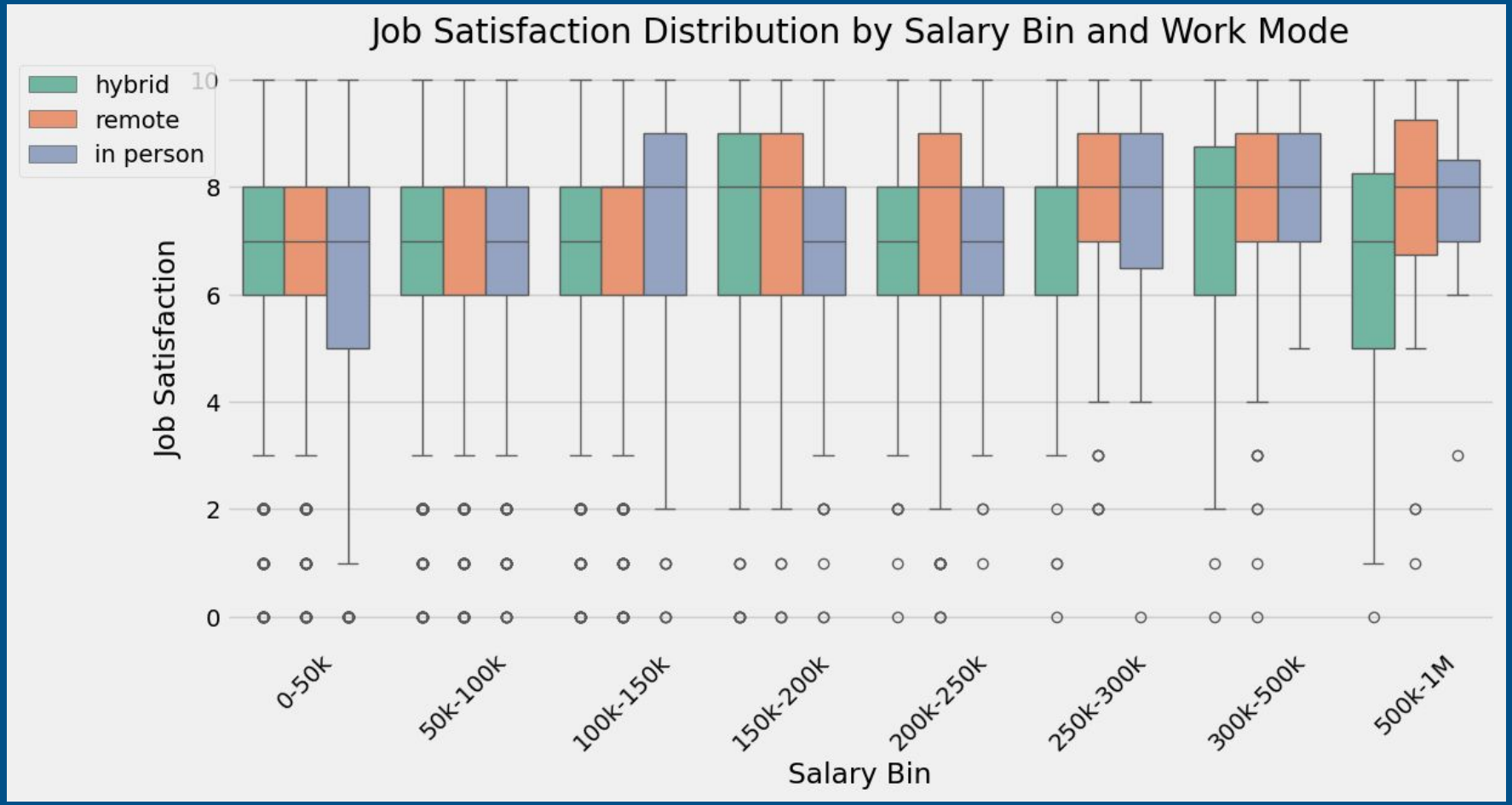

Trend of Job Satisfaction by Age and Work Mode
hybrid
remote
in person
Job Satisfaction
10
8
6
4
2
0
under 18
18-24
25-34
35-44
45-54
55-64
65+
Age

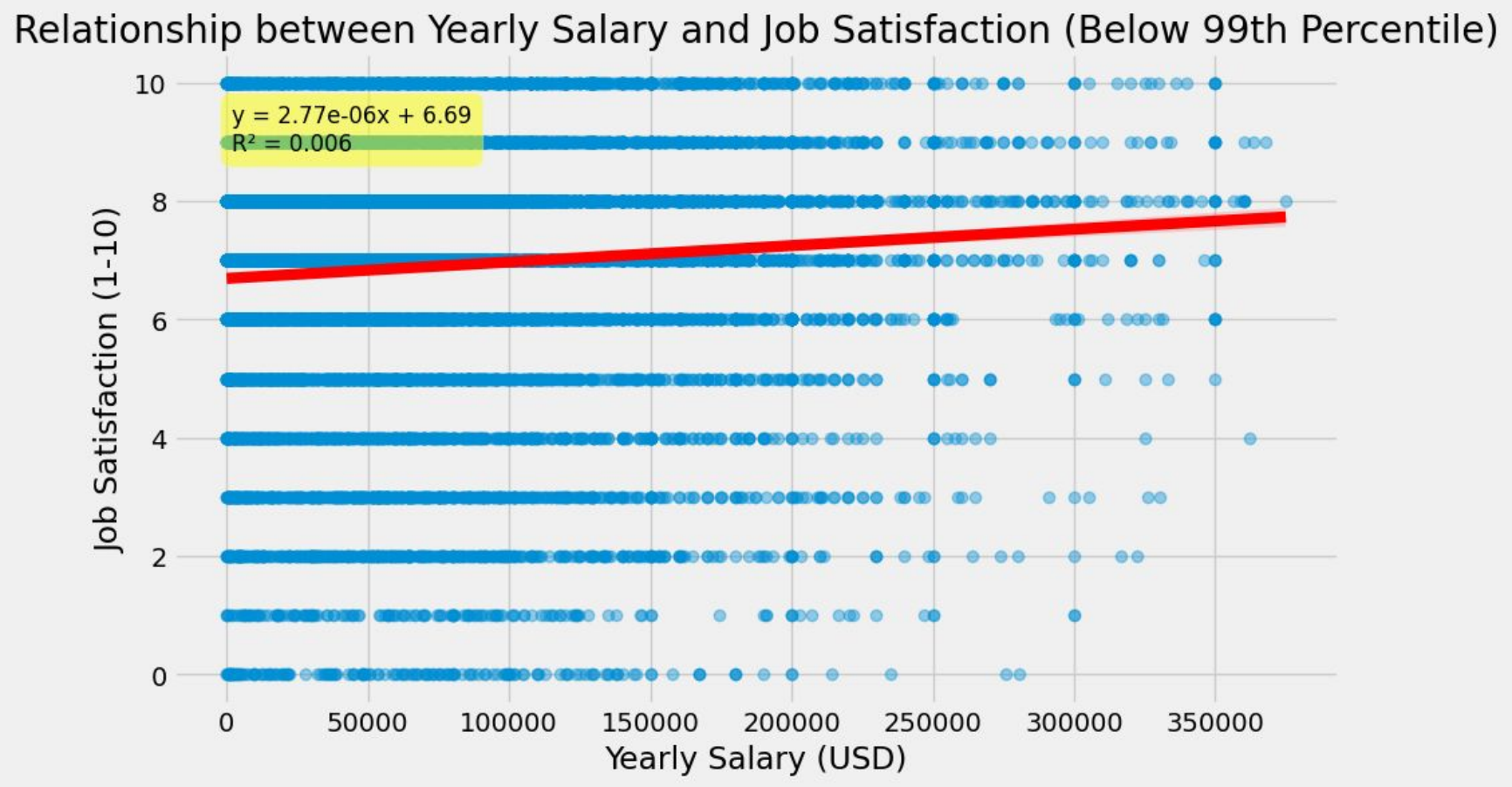

Mean Job Satisfaction by Age for Hybrid Work Mode
Mean Job Satisfaction
9
8
7
6
5
18-24
35-44
25-34
45-54
55-64
under 18
65+
Age Group

What is the relationship between Salary and Job Satisfaction?


Job Satisfaction vs. Yearly Salary
hybrid
remote
in person
Job Satisfaction
0
2
4
6
8
10
0
50000
100000
150000
200000
250000
300000
350000
400000
450000
500000
550000
600000
650000
700000
Yearly Salary

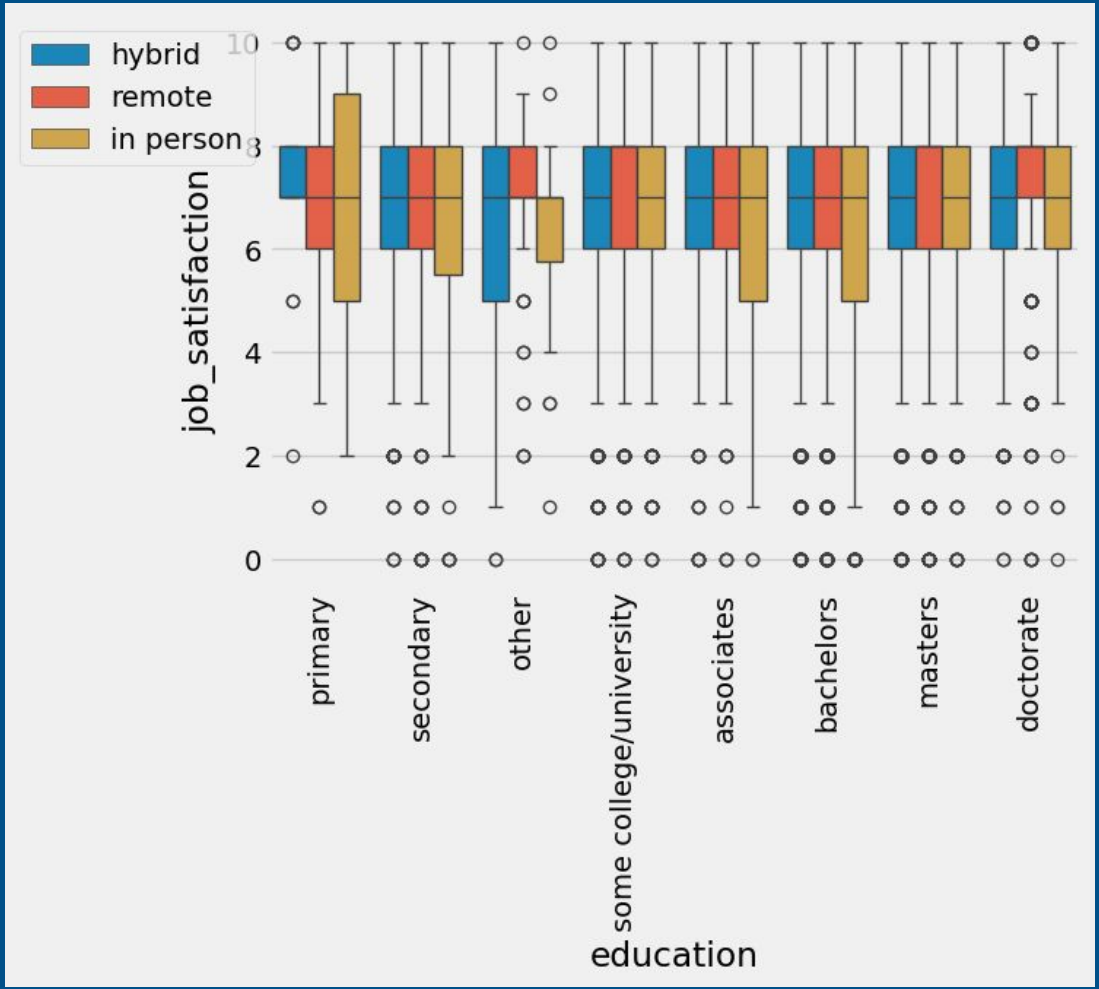

Remote Workers
Hybrid Workers
In Person Workers
job_satisfaction
year_salary
1e6
1e7
0
2
4
6
8
10
0.0
0.5
1.0
1
3

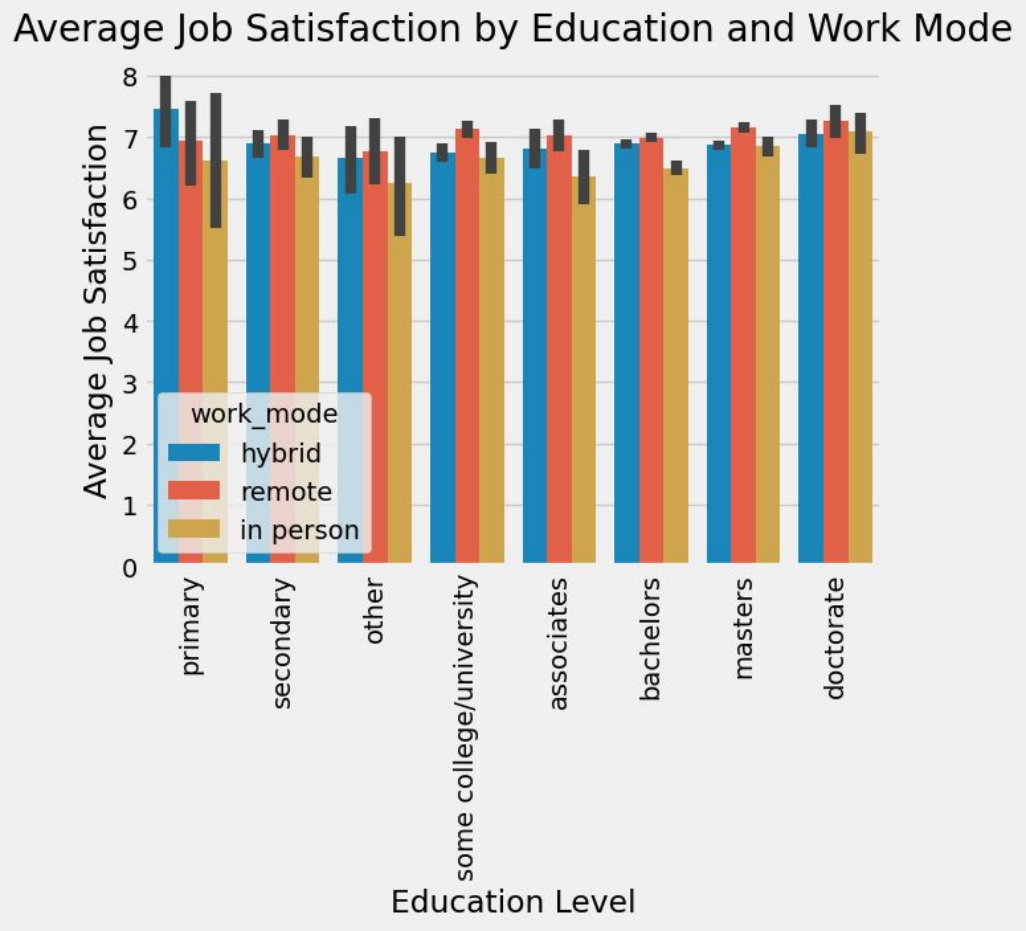

Job Satisfaction Distribution by Salary Bin and Work Mode
hybrid
remote
in person
Job Satisfaction
0
2
4
6
8
10
0-50K
50K-100K
100K-150K
150K-200K
200K-250K
250K-300K
300K-500K
500K-1M
Salary Bin


Relationship between Yearly Salary and Job Satisfaction (Below 99th Percentile)
y = 2.77e-06x + 6.69
R² = 0.006
Job Satisfaction (1-10)
Yearly Salary (USD)
0
2
4
6
8
10
0
50000
100000
150000
200000
250000
300000
350000

What is the relationship between Education Level and Job Satisfaction?

Exploratory Data Analysis: Education Level vs Job Satisfaction




Average Job Satisfaction by Education and Work Mode
Average Job Satisfaction
0
1
2
3
4
5
6
7
8
work_mode
hybrid
remote
in person
primary
secondary
other
some college/university
associates
bachelors
masters
doctorate
Education Level

Our Findings

Analysis	Metric/Test	Result	Interpretation
Age Analysis (Hybrid)	ANOVA: $F = 4.108$, $p < 0.001$	Significant differences across age groups	55-64 group significantly differs from 18-24, 25-34, and 35-44 groups
Age Analysis (Remote)	ANOVA: $F = 3.200$, $p = 0.004$	Significant overall; specific post-hoc differences less clear	Age effect exists but specific group differences are less defined
Age Analysis (In Person)	ANOVA: $F = 8.583$, $p < 0.001$	Significant differences across age groups	18-24 differs significantly from several older groups
Salary Analysis (Overall)	Regression: coef = 5.91×10^{-7}, $p < 0.001$, $R^2 = 0.002$	Statistically significant positive relationship	Salary explains only 0.2% of variance in job satisfaction
Salary Analysis (After Outlier Removal)	Regression: coef = 2.77×10^{-6}, $p < 0.001$, $R^2 = 0.006$	Slightly higher explanatory power after trimming extremes	Even after outlier removal, salary remains a weak predictor
Education Analysis (Hybrid & Remote)	ANOVA: Non-significant p-values	No significant differences in job satisfaction by education	Education level does not significantly impact satisfaction in these modes
Education Analysis (In Person)	ANOVA: $F = 8.583$, $p < 0.001$; Post-hoc: Bachelor's vs. Master's significant	Significant difference between Bachelor's and Master's (others non-significant)	In-person workers with a Master's report higher satisfaction than those with a Bachelor's

Our Findings

Age

There are significant differences across all work modes but specific post-hoc differences are unclear at the Remote work level.

Education Level

In hybrid and remote settings, education level does not significantly affect job satisfaction.

In person employees with a Master's report significantly higher satisfaction than those with a Bachelor's degree ($F = 8.583$, $p < 0.001$), possibly due to career advantages in traditional office environments.

Salary

Salary has a statistically significant positive relationship with job satisfaction ($p < 0.001$), but explains only a small portion of job satisfaction variance ($R^2 = 0.002–0.006$), suggesting other factors play a more significant role.

Work Mode

Remote workers report the highest job satisfaction, aligning with prior research on flexibility and work-life balance benefits.

Does It Prove Or Disprove Our Hypothesis?

Age

The findings partially support our hypothesis.

Work satisfaction showed an overall age effect but lacked clear post-hoc differences, suggesting weaker age-related trends than expected.

Education Level

The findings opposed our hypothesis.

The education hypothesis was contradicted, as education level did not impact remote/hybrid satisfaction as hypothesized.

Salary

The findings partially support our hypothesis.

The salary hypothesis was only weakly supported, as salary played a much smaller role in satisfaction than expected.

Overall

The study suggests job satisfaction is more complex than direct correlations with age, salary, or education, highlighting the need for a multi-faceted approach in workplace policies.

Thank You!