

# **Workplace Well-being Analysis**

a study of US employee reviews



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IRONHACK BOOTCAMP 2024

**WHO estimates that depression and anxiety cost the global economy \$1 trillion annually in lost productivity**

source: <https://www.who.int/teams/mental-health-and-substance-use/promotion-prevention/mental-health-in-the-workplace>

# Well-being & workplace productivity analysis

## WHAT?

analysis of **key factors of mental health** & how they influence employee productivity

## WHY?

**mental health** is increasingly recognized as a **critical factor in workplace performance** and organizational success

## WHERE?

**US market,**  
Glassdoor job reviews dataset from Kaggle

## WHO?

for **HR managers, business executives**, or employee wellness program managers

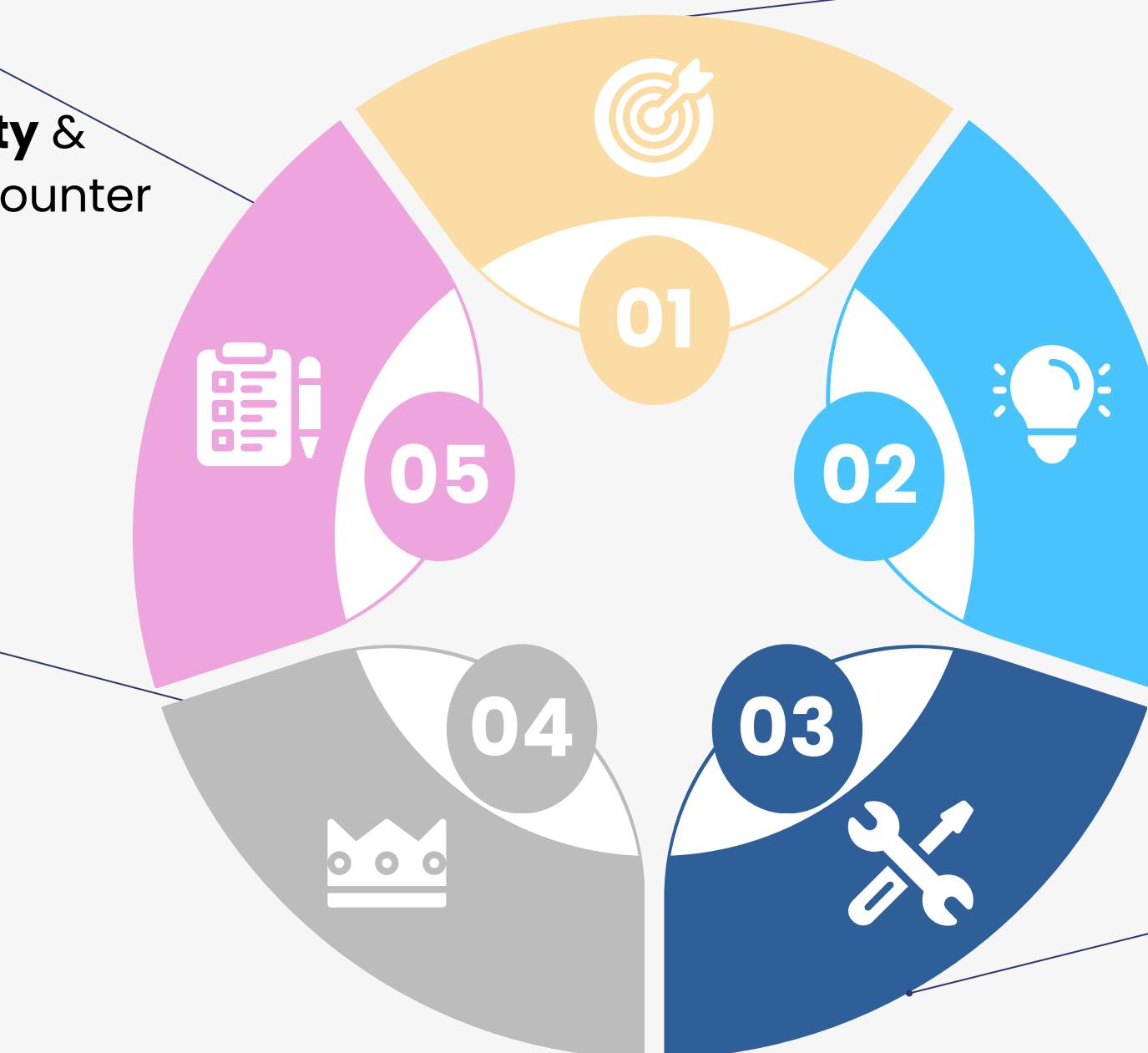
# Data cleaning & analysis process

## Sentiment analysis

using **blob** library, analysing **polarity** & **subjectivity**, **collections** library & counter overall sentiment

## Natural language processing

**pre-process** & **tokenize** words in pros/cons, remove **stop words** get the **frequency counts**



## Clean datasets

initial dataset with 6 million inputs  
unify column names & job titles

## Create industries

extract company names  
from firm link create industry

## Additional KPI's

**flags** for stress, burnout, depression, toxic, support, assign well-being flags

# Analysis overview

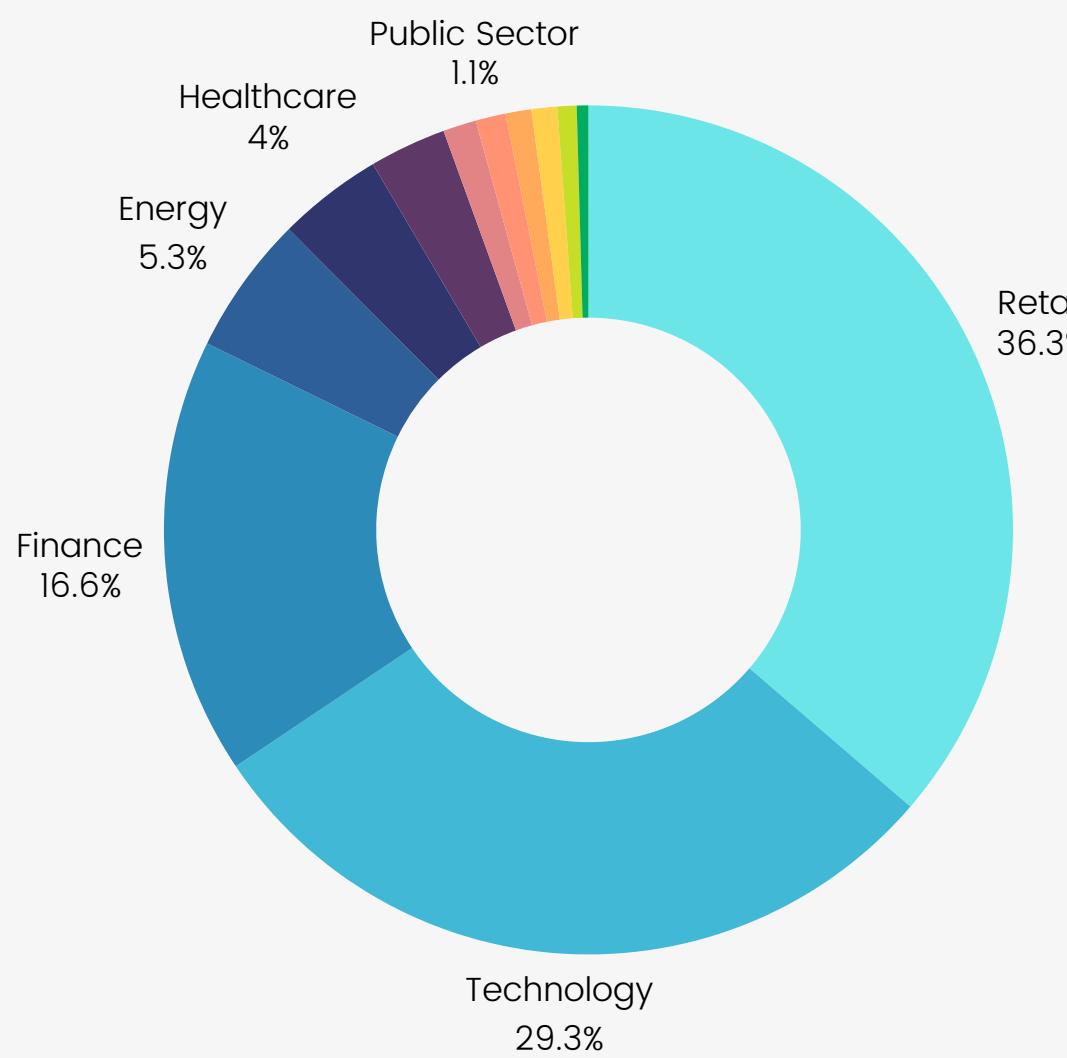
100 000 respondents

reviews from 2015 to 2023

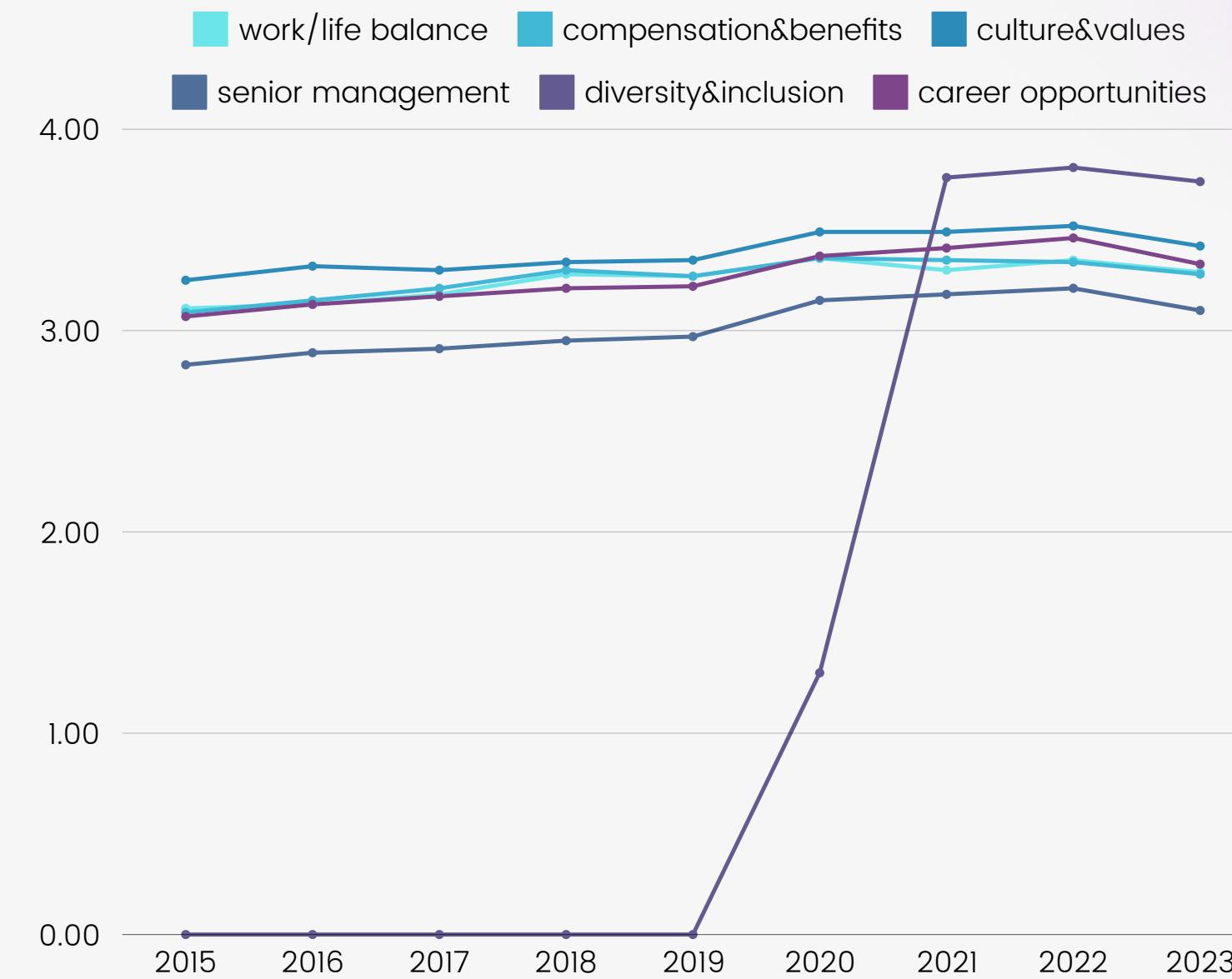


current employees: **54%**  
former employees: **46%**

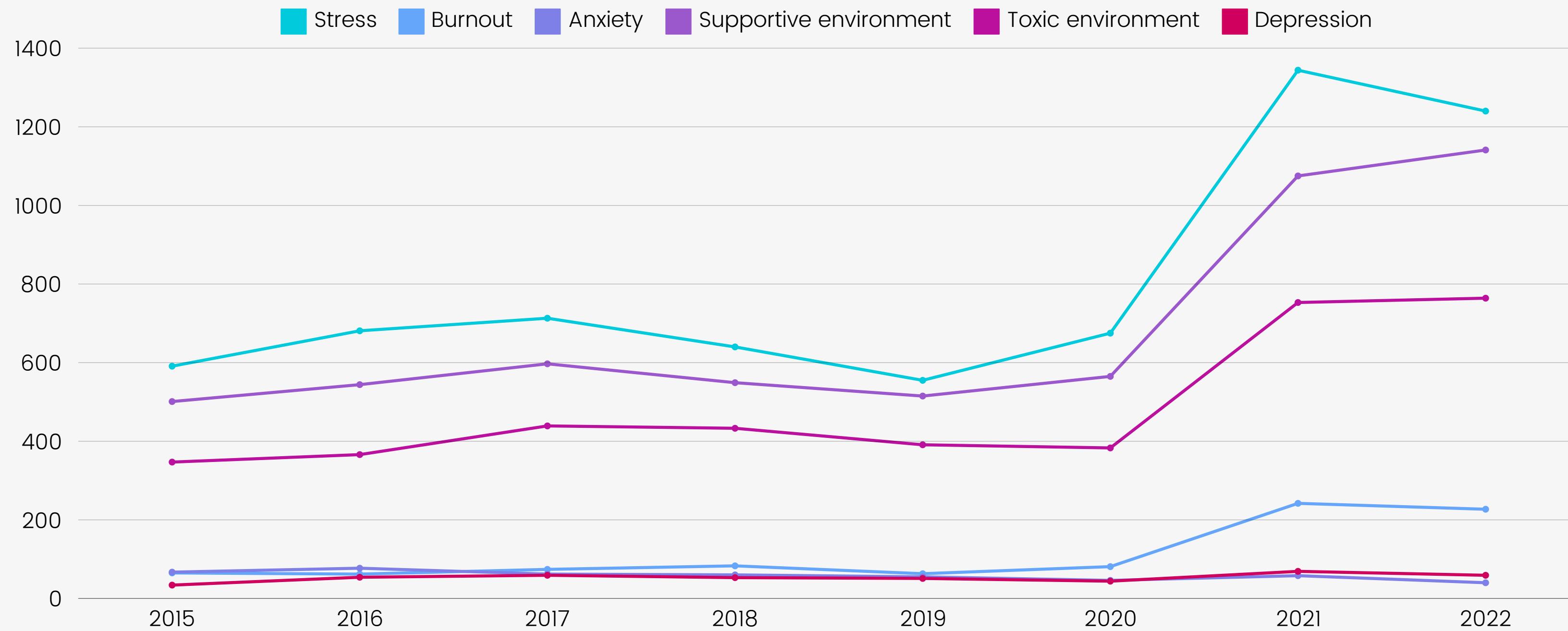
## Most affected industries



## Well-being metrics



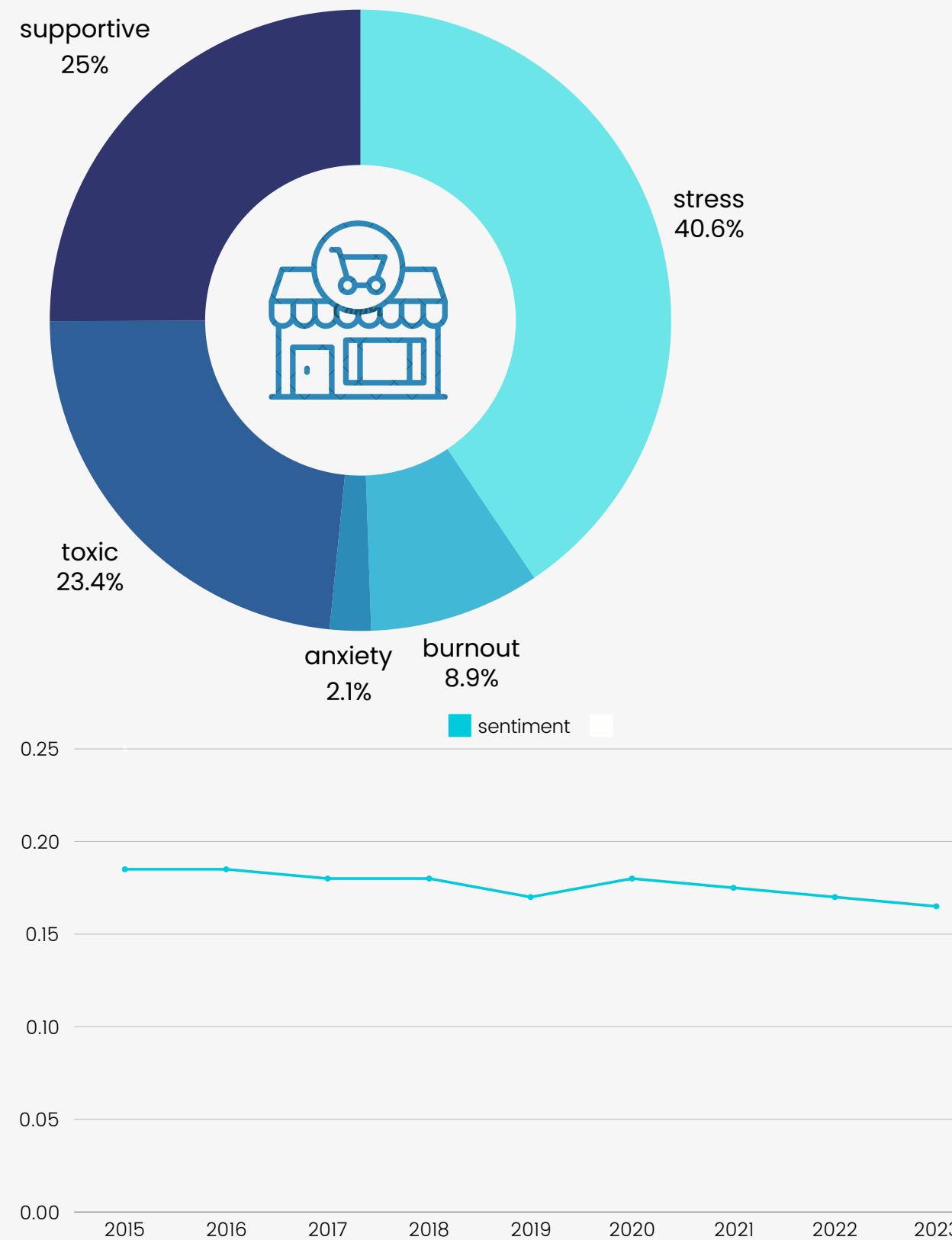
# Additional well-being indicators (KPI's)



# RETAIL



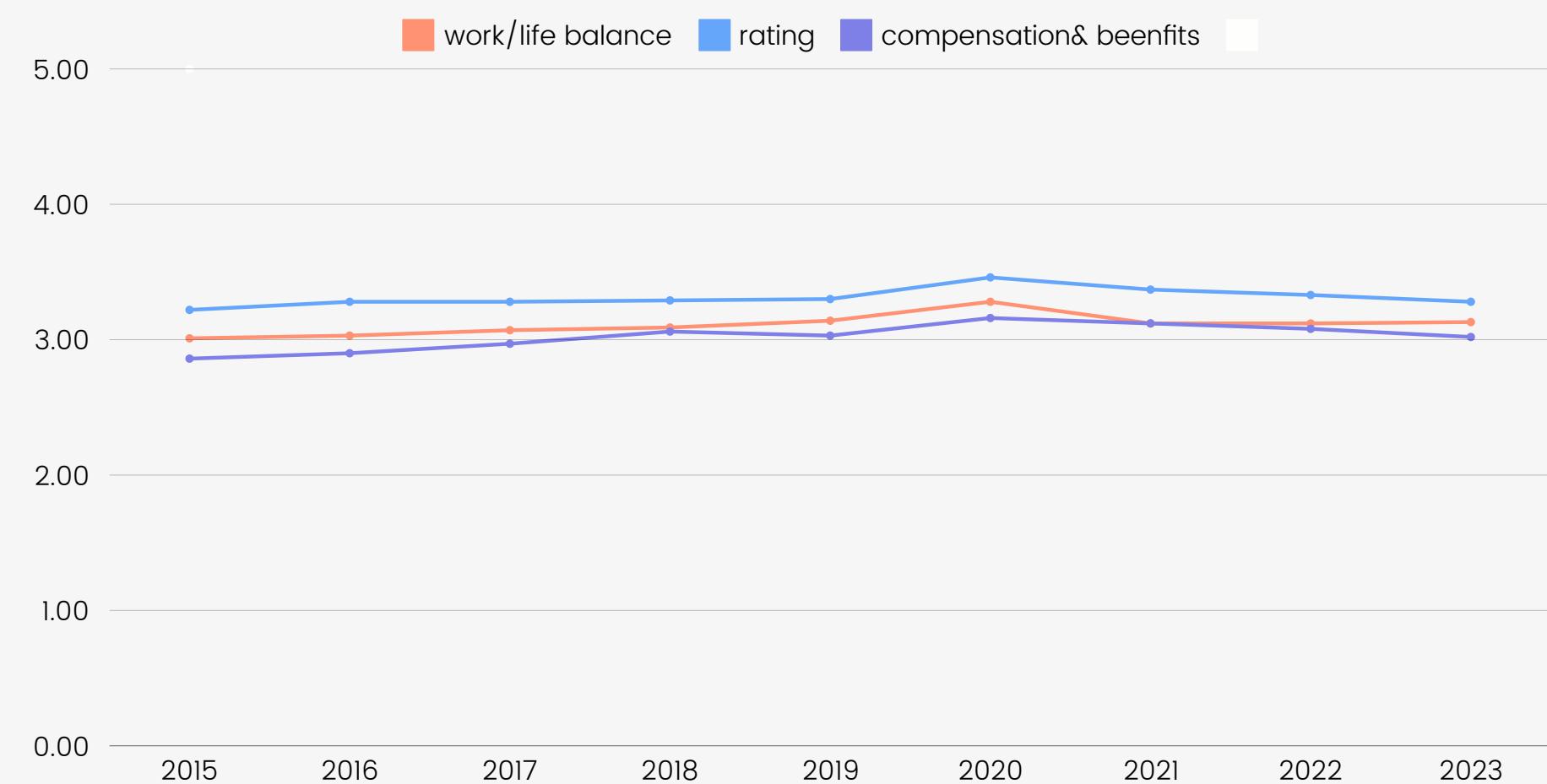
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😢 High **stress (40%) & toxic work culture (23%)**

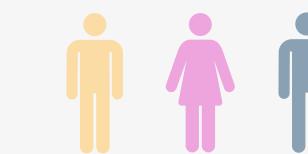
🙌 Underdeveloped supportive environments, **only 25% of employees feeling supported**

😴 Sentiment low and declining over time = **persistent dissatisfaction**



frequent words "**manager**", "**bad**", and "**lack**" = potential dissatisfaction with leadership, organizational practices, or managerial behavior

# TECHNOLOGY

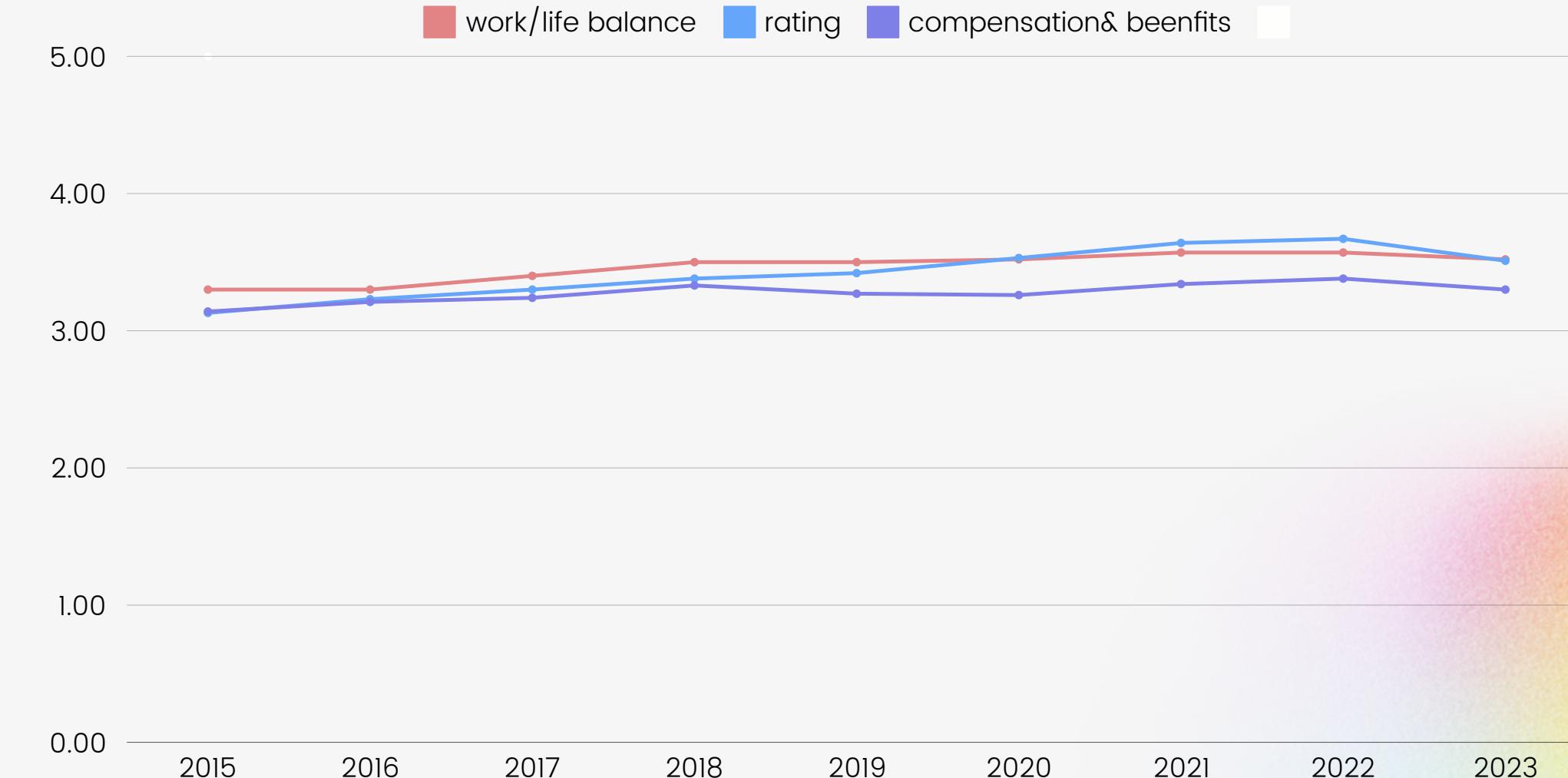
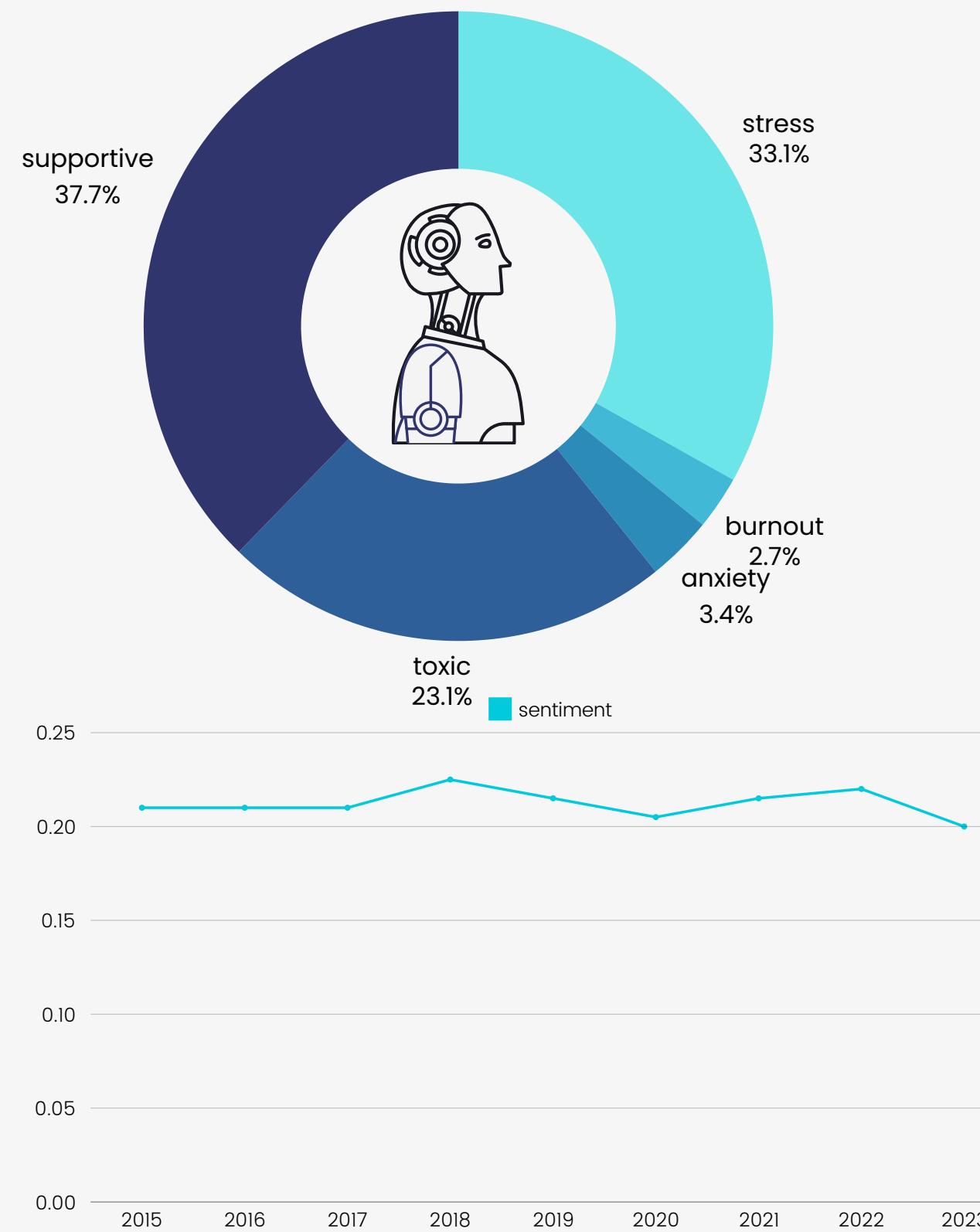


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😢 struggles with demanding workloads, tight deadlines

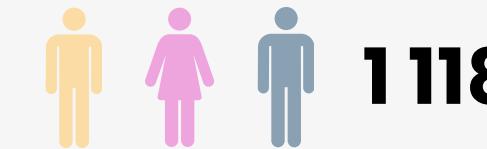
💻 stable work-life balance = remote&hybrid jobs

🤝 **37% support** shows efforts to improve well-being

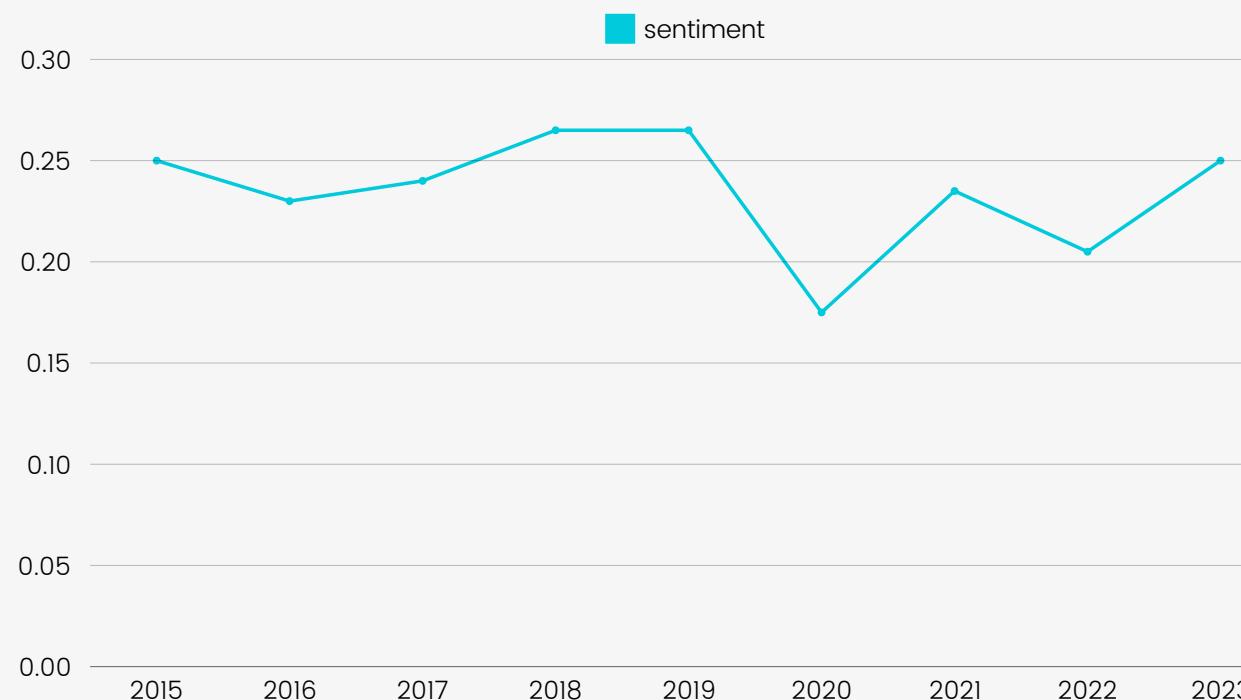
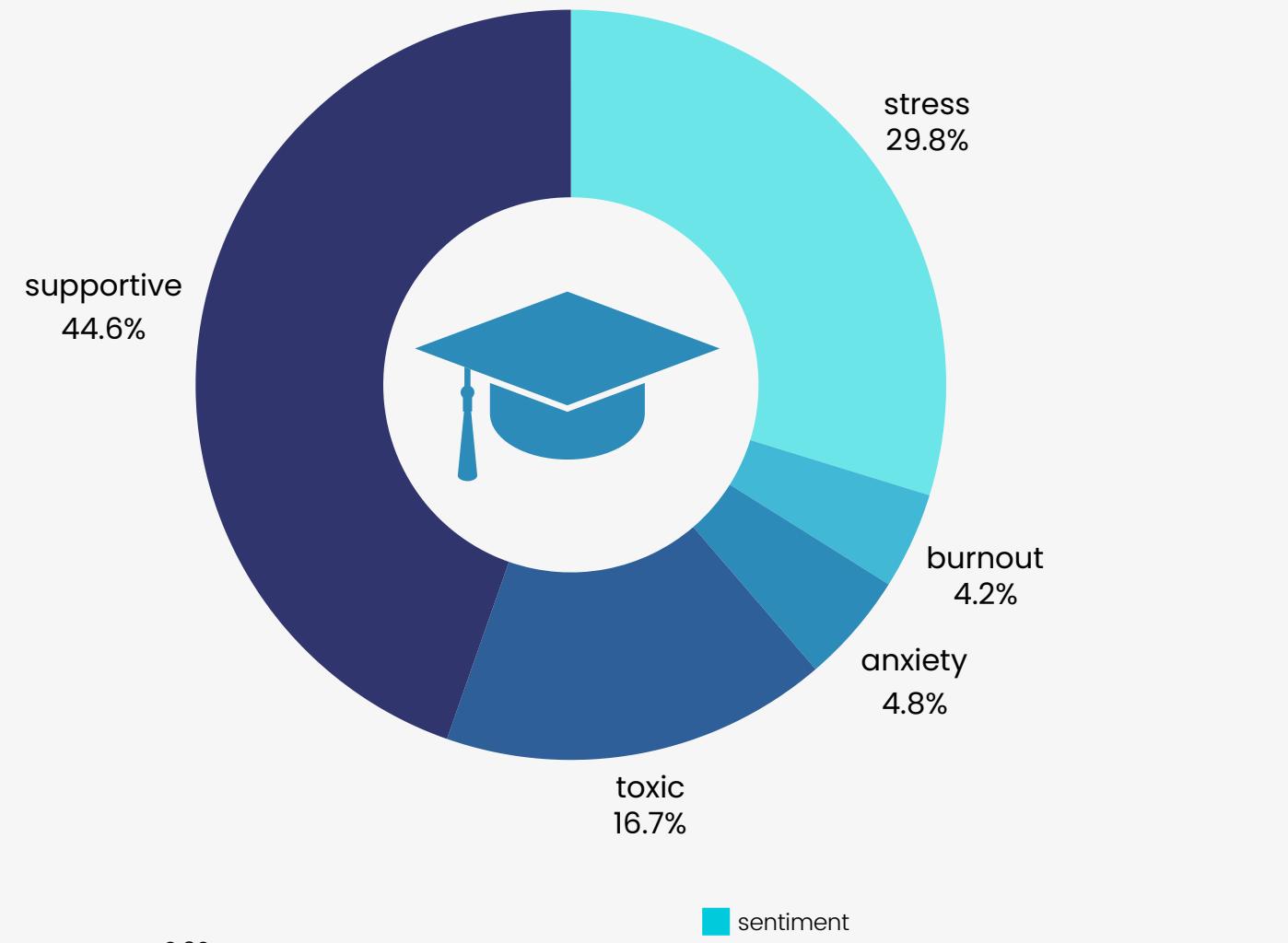


**"management", "time", "project"** = dissatisfaction with leadership and workload contribute to burnout and stress,  
pros = **"people", "environment", & "culture"**

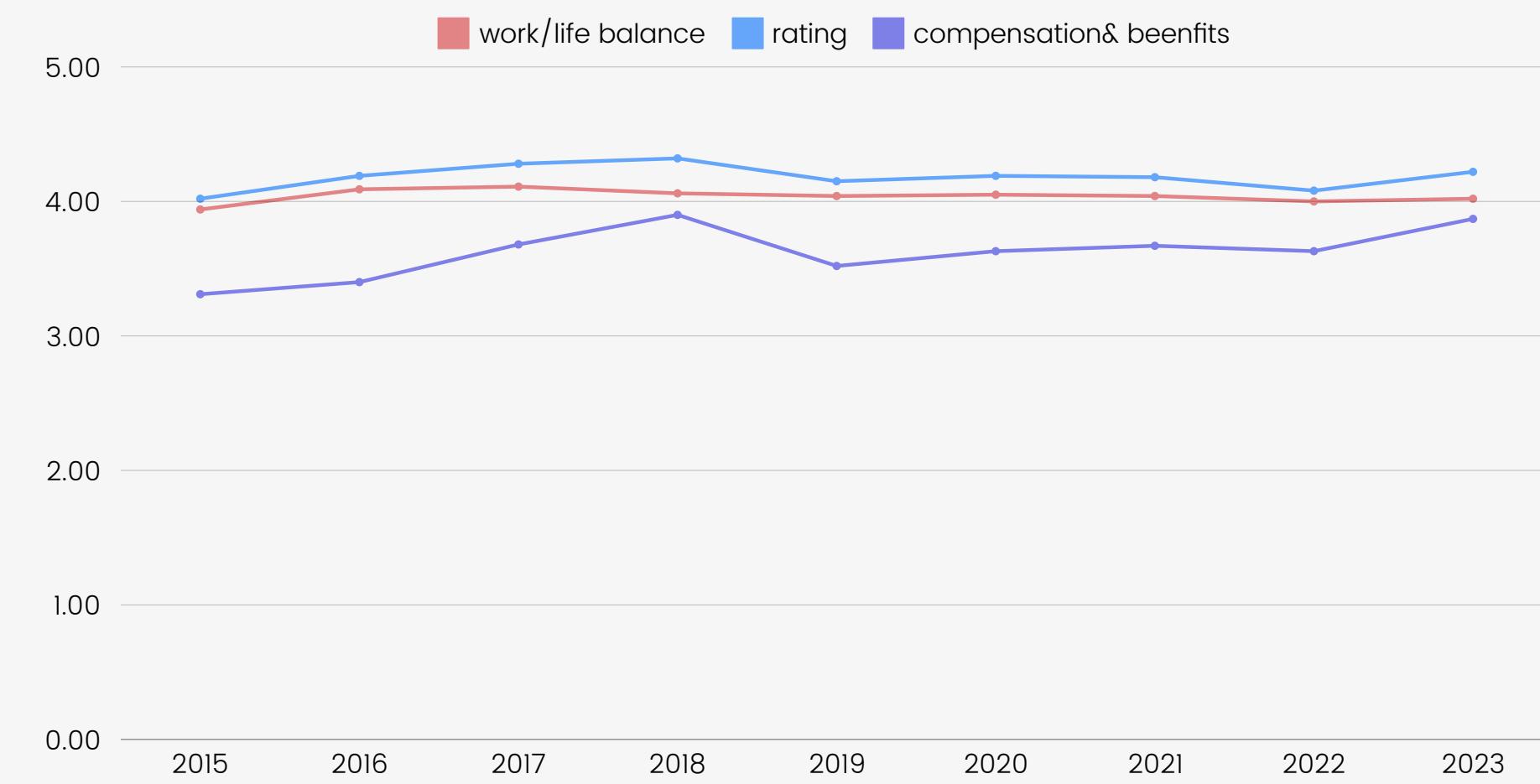
# EDUCATION



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😊 44% of employees **feel positively** about their work environment  
😐 **sentiment** generally positive, **dipped significantly in 2020**,  
pandemic uncertainty

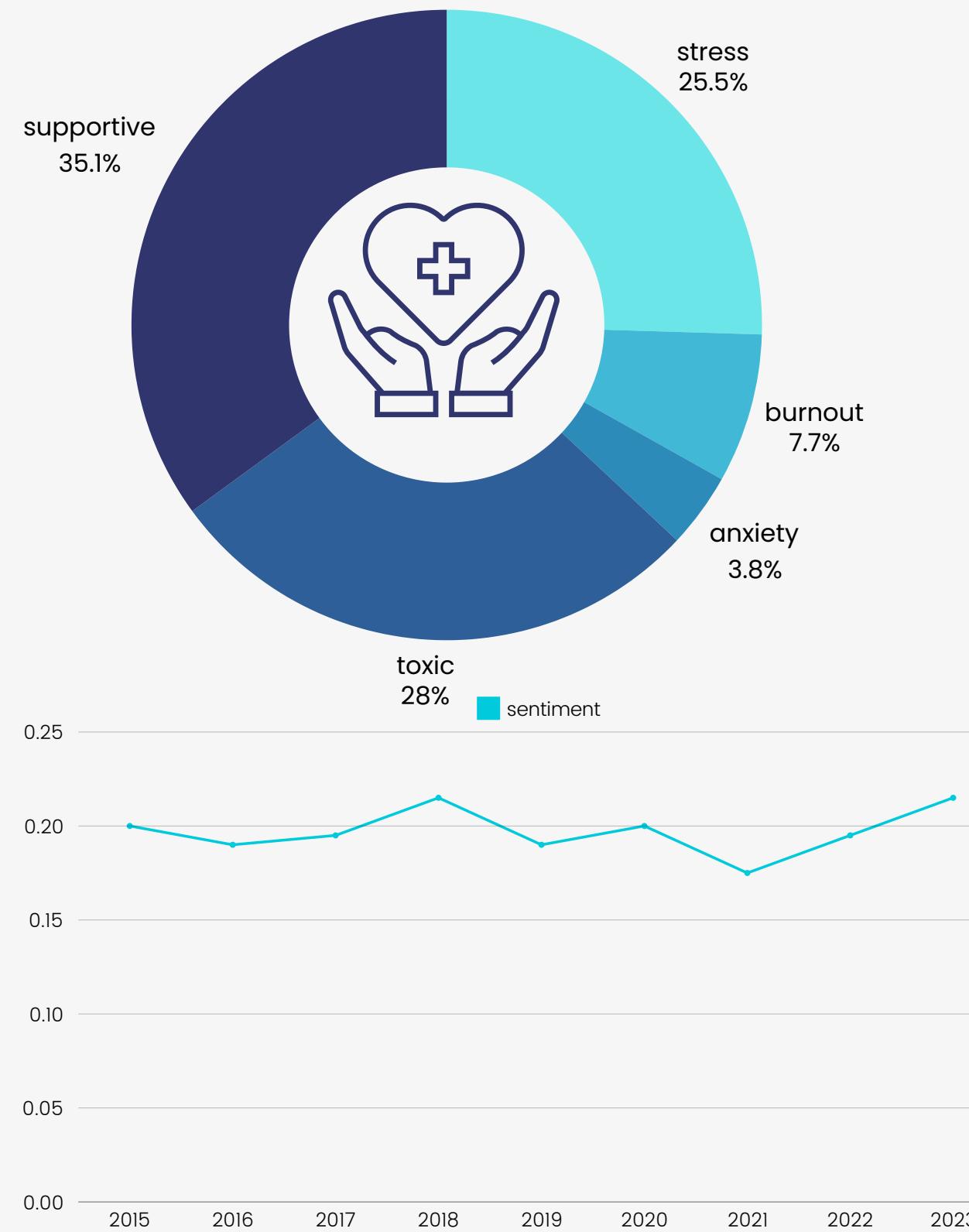


"**work**", "**pay**", "**time**", "**low salary**" as cons = employees feel **underpaid**  
relative to their work demands

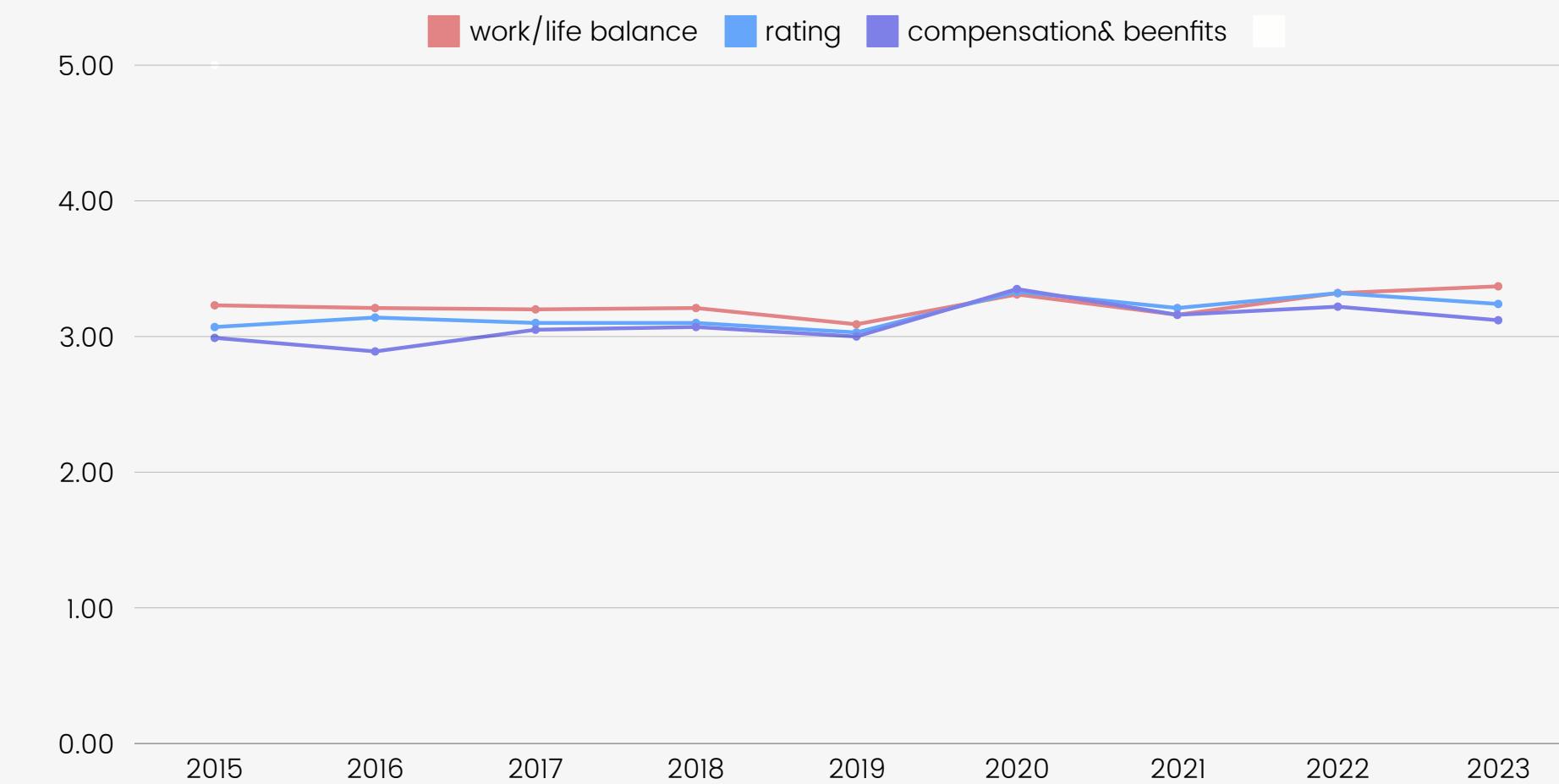
# HEALTHCARE



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- ⌚ **stress & toxicity** likely driven by workload, management practices, staff shortages
- ⌚ temporary improvements in 2020–2021
- ⌚ **sentiment dip to 0.18 in 2021** = post-pandemic exhaustion, increased demands on healthcare workers
- ⌚ "life" and "balance" doesn't even appear in keywords

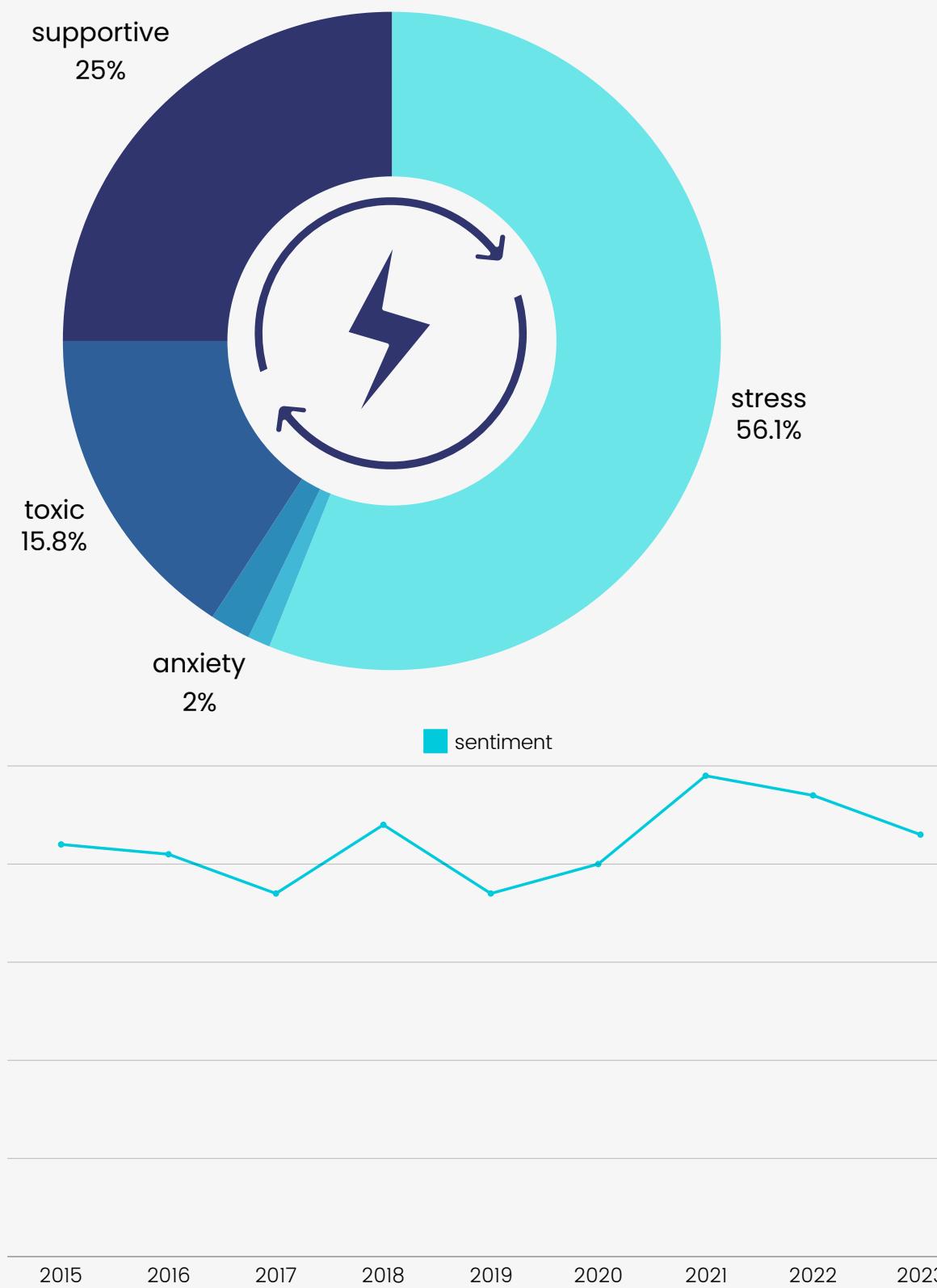


**top pros:** "work", "great", "people" = employees appreciate the work itself and team dynamics, **"workload", "pay", and "time"** = major frustrations

# ENERGY



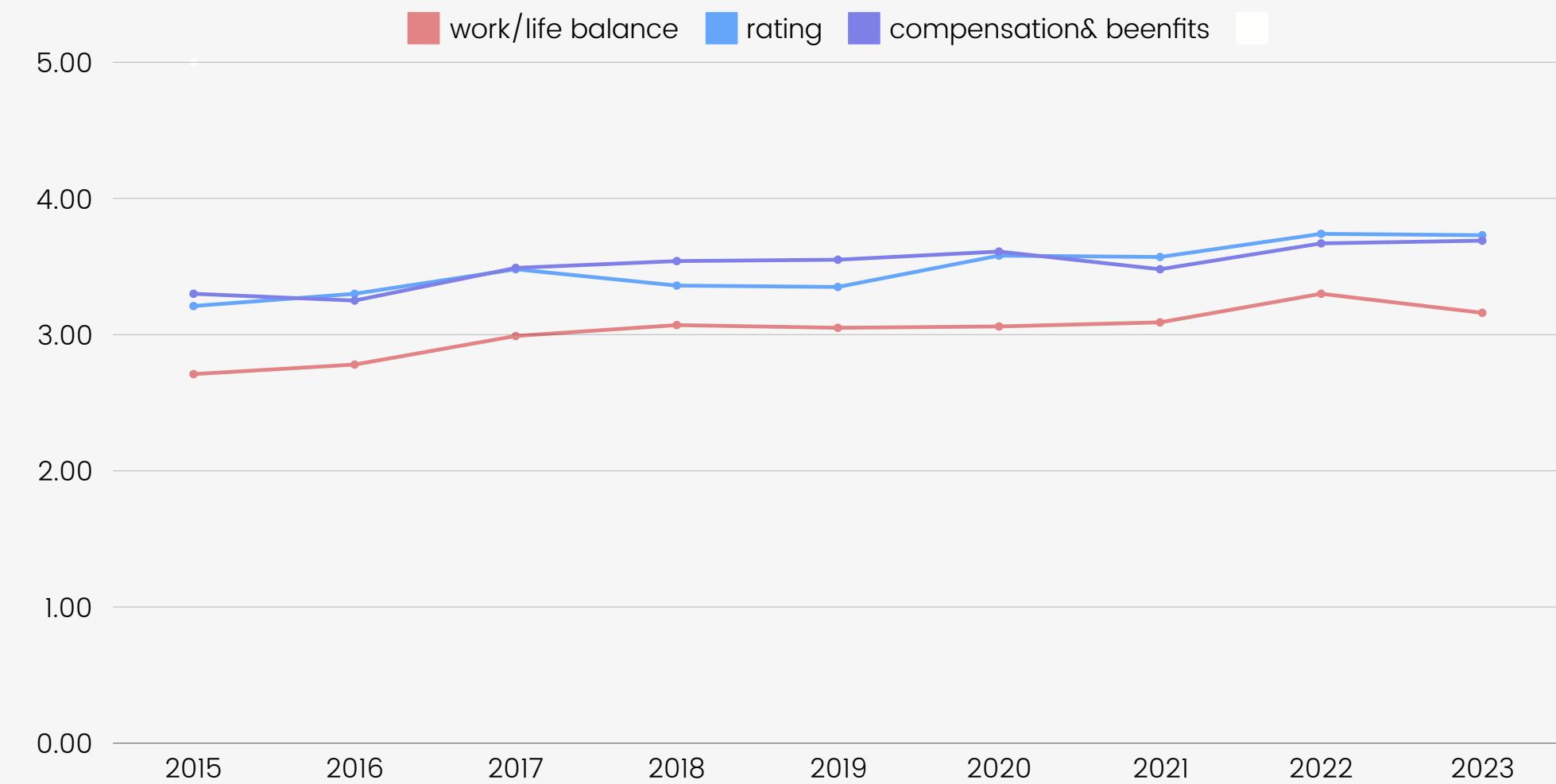
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😢 56% stress = **highest of all industries**, reflects demanding work environments, safety concerns, long hours

📊 **sentiment** relatively positive after post-pandemic, **supported by** consistent growth in **compensation**

🤝 **low support (25%)** & frequent mentions of "**bad management**"



frequent words "**good salaries**", "**benefits**" & "**learn**" = opportunities for knowledge growth & skill development, financial stability

# Hypothesis testing

## BURNOUT x well-being metrics



**H0:** **No** significant **difference in burnout** rates between employees with higher rating of well-being metrics and benefits and those with low compensation

**Rejected H0:** Higher levels of well-being metrics are statistically associated with lower burnout

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### two-sample t-test

**threshold** = 3.3 # threshold for splitting high vs. low groups

**alpha** = 0.05 # significance level

# Hypothesis testing

## RETENTION x Well-being metrics



**H0:** Industries with higher number of well-being flags **do not show lower retention rates**

**Burnout x Retention / correlation: -0.5012**

- higher burnout flag percentages are moderately associated with lower retention, rejected H0

**Anxiety x Retention / correlation: -0.5889**

- strong negative correlation, higher anxiety levels are associated with lower retention rates, rejected H0

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### correlation matrix

retention calculated based on former/current employees

# Insights & Conclusion



**Work/life balance** has the **strongest statistical association** with lower stress levels

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As senior management, culture and values & rating is increasing, **burnout level is decreasing**

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Higher reports of **burnout and anxiety** being associated with **lower retention** rates

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**Technology & Education** as a **leader** in the effort of creating a **healthier work environment**

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**Energy** a particularly challenging work environment with highest stress levels

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# Recommendations

1

## Accessible mental health services

Implement mental health programs & support (eg. regular team check-ups)

 **lower healthcare costs** = addressing mental health reduces absenteeism

2

## Flexible Work Policies

Hybrid/ remote work if possible, adjust work hours to personal needs

 **employees** with good mental health are **more productive**, innovative & efficient

3

## Fair compensation & benefits

Equal salaries, shares, gym membership, extra days off

 **higher retention rates** decrease turnover, saving recruitment and training costs

4

## Get inspired

Salesforce's /Basecamp well-being programs

 **free mental health counseling**, guided meditation sessions, summer hours from May to October sabbaticals

Nearly 2/3 of people who need treatment never seek help from a health professional due to stigma & discrimination ([source](#)).



# Thank you!

Any questions? :)