ADA1 Poster Session

UNM Stat 427/527
Fall 2019

Success in the workplace

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Introduction

Success is a difficult variable to measure. For many employees, success means being the highest supervisor or having the highest rank. As an early professional, I'm interested in finding out how different job roles or "level of success" can affect satisfaction and income.
In the article [Dumludag, D.], life satisfaction is compared from groups of different income in different countries. In transition countries,downward and upward income variation have an impact on life satisfaction, while it is worthy of note that all upward variation have no effect on life satisfaction in developed European countries.
In the article [Kawada, T. and Otsuka, T.], job duty plays a big role in job satisfaction where the mean satisfaction score for managers was significantly higher than for general workers. In addition, unskilled manual workers showed significantly higher job dissatisfaction compared with office workers.

Research questions

1. **First research question : Income and level of satisfaction**
   We are going to study if the mean income of the employees are the same depending on their job satisfaction. where we say that the means are the same for the different level of satisfaction.
2. **Second research question : Job role and level of satisfaction**
   Looking for a relationship between job duty and level of satisfaction at your job.

Methods

Data sources

1. Personality [H4PE] and Economy [H4EC] dataset are selected from AddHealthW4
2. Interviewed in 1994 and repeated to the same participant in 2007/2008
3. Initial sample of 20745 people from north carolina.
4. Response rate of 15701/20745=75%,where 15701 participants answered

Measures/Variables

1. Income y and job duty x for ANOVA testing hypothesis
2. Job duty and satisfaction level for testing Chi-squares hypothesis

Methods

1. First research question :
   * ANOVA : compare average income for the different level of satisfaction groups
   * Fishermultiple comparison test : which groups have different average income
2. Second research question :
   * chi-square analysis: to see if there is a relationship between the two variables
   * Mosaic plot : show us graphically the relationship
   * Residual analysis

Discussion

We studied the satisfaction difference between the two level of supervisor employees. Low supervisor employees have slightly a higher level of satisfaction than high level supervisor employees. This might be a result from having as much freedom as the high supervisor but less stress and responsability. This findings don't precisely support our initial thinking where the highest rank employees where the most satisfied with their jobs. Where instead having a medium/high rank might be better for satisfaction, which could be considered one of the most important variables to meaure success in the workplace.
We found that higher incomes bring higher level of satisfaction in north carolina. On previous papers, incresing incomes wouldn't increase satisfaction in developed european countries with less economic inequality. It makes sense that in our experiment, based in a strong capitalist country and similar to transitioning countries, there is a direct correlation between income and level of satisfaction.

Further directions

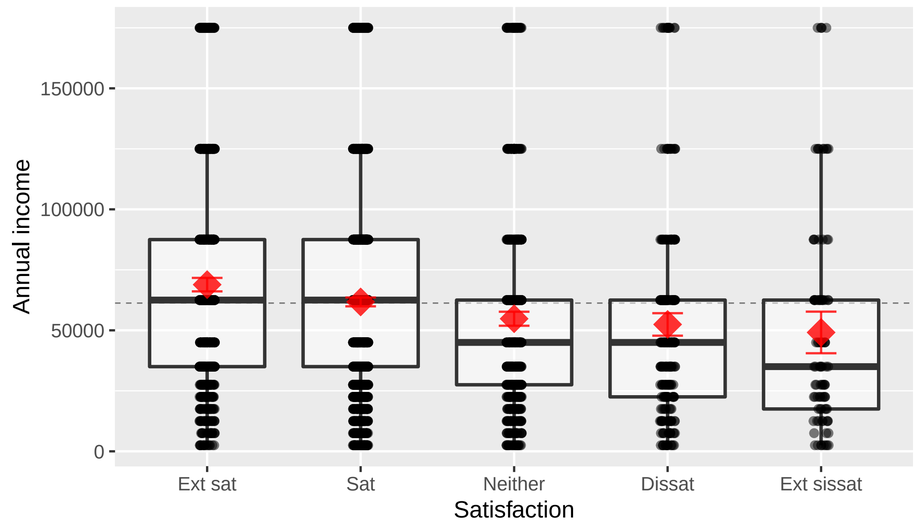
Future studies would be to check whether high supervisor employees have a higher level of stress while having the same level of freedom as low supervisor employees. This future research could explain why more lower supervisor employees are satisfied than high level employees. Another posible question to follow would be to study the relation between productivity and satisfaction at work. This would help explain why highest satisfaction employees have the higher income.

References

1. Dumludag, D., 2014. Satisfaction and comparison income in transition and developed economies. International Review of Economics, 61(2), pp.127-152
2. Kawada, T. and Otsuka, T., 2011. Relationship between job stress, occupational position and job satisfaction using a brief job stress questionnaire (BJSQ). Work, 40(4), pp.393-399.

Results

BOX PLOT Income based on satisfaction



ANOVA Hypothesis test (significance level of the test $\alpha = 0.1$) We tried to meet ANOVA assumptions but residuals aren't normally distributed (QQ-plot) and populations don't have equal variance (Barlett,Levene and Fligner-Killeen)

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[1] "The p-value is 1.904427e-14"
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- Reject the null hypothesis
- Average anual income between groups differs at least between one of the groups.

Fisher multiple comparison

	Ext sat	Sat	Neither	Dissat
Sat	1.219911e-05	NA	NA	NA
Neither	6.628432e-12	0.0001261123	NA	NA
Dissat	6.512852e-09	0.0004821535	0.4223093	NA
Ext sissat	8.376878e-06	0.0035685588	0.2077012	0.4992094

Ext satisfied — Satisfied — Neither — Dissatisfied — Ext dissatisfied

Second research question results

CHI squares (significance level of the test $\alpha = 0.05$)

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[1] "The p-value is 3.384926e-25"
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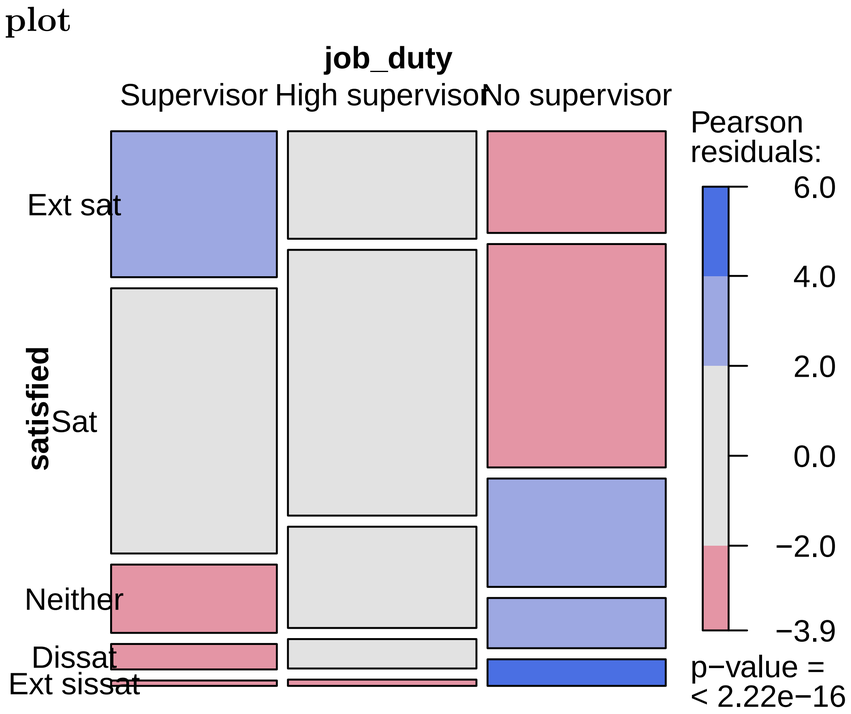
Mosaic plot



Lets do first a general interpretation of the mosaic plot. From what it's shown, not supervisor employees have a lower level of satisfaction (or a higher level of dissatisfaction) than the supervisor employees. Low supervisor employees have a higher level of satisfaction that high supervisors.

Residual analysis

satisfied	job_duty Supervisor	High supervisor	No supervisor
Ext sat	3.923031	-1.474014	-2.267290
Sat	1.302355	1.444617	-2.741721
Neither	-3.884168	1.302589	2.406119
Dissat	-2.451185	-1.539467	3.947180
Ext sissat	-3.108966	-2.903550	5.984460

Residuals bigger than 2 or smaller than 2 show higher or lower frequencies than expected for each category. For no supervisor employees we expected a higher frequency of satisfied employees and less dissatisfied employees. For low supervisor employees we expected a lower frequency of satisfied employees and more dissatisfied employees.