

Date: July 18, 2018

To: [REDACTED]
[REDACTED]

From: Romano Robles, Undergraduate-Student, University of Maryland

Re: The connection between stressful workplace and consideration of changing job

Every employee must have dealt with work-related stress and it is inevitable but manageable. According to the American Psychological Association (APA), about 65% of Americans mentioned work as “a top source of stress”¹. Another survey in 2013 by APA’s Center for Organizational Excellence found that work-related stress is a “serious issue”¹. When stress becomes chronic in a work place, it can be harmful to both physical and emotional health.

Employees play a very important role in the business industry therefore they must be both physically and emotionally stable to do work. There is a lot of ways that work-related stress can be managed but I think that employees may want to consider changing jobs. I hypothesize that employees who finds work stressful is a good predictor that they might want to resign and move on to something else. This memo will show that there is a relationship.

To investigate this question, I used the General Social Survey (GSS), a nationally representative data in which 929 employees in the U.S. were asked questions about stress and consideration of changing job. The question associated with stress is, “How often do you find your work stressful?” The response options for this question were always, often, sometimes, hardly ever, and never. About 10% of employees said always, 22% said often, 50% said sometimes, 14% said hardly ever, and 3% said never.

As for the consideration of changing job question, they were simply asked, “To what extent do you agree or disagree with each of the following statements?

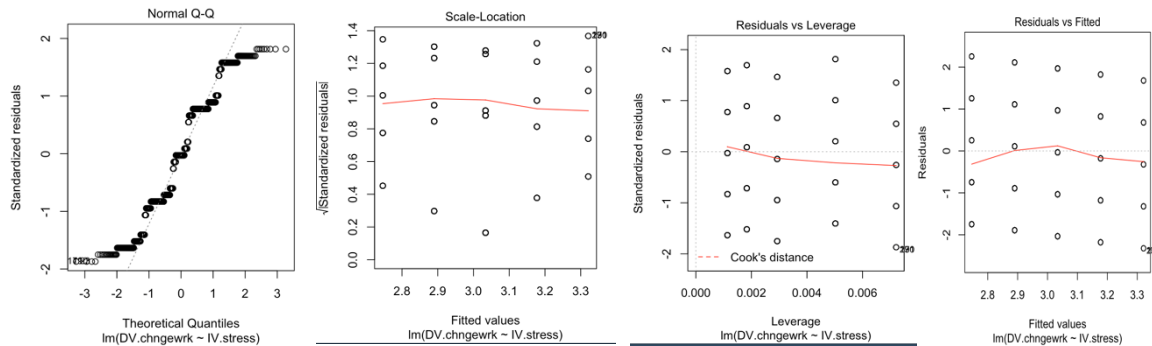
Given the chance, I would change my present type of work for something different.” The response options and results were: strongly agree (13%), agree (27%), neither agree nor disagree (19%), disagree (29%), and strongly disagree (12%). I took all the results as is to create a scale of “stress” and “change job” and give a simple mark down of the charts.

Table 1: Variable Summary

Stress	Freq.	Percent
Always	96	10%
Often	207	22%
Sometimes	467	50%
Hardly ever	130	14%
Never	32	3%
Total	932	100%
Change Job	Freq.	Percent
Strongly agree	121	13%
Agree	253	27%
Neither	175	19%
Disagree	270	29%
Strongly disagree	113	12%
Total	932	100%

¹ American Psychological Association. *Coping with stress at work*. Retrieved from <http://www.apa.org/helpcenter/work-stress.aspx>

These two measures do not violate the OLS regression assumptions given that there's a positive linear relationship and the independent variable has a variety of categories. A simple linear regression test was performed with an alpha of 0.01 and the independent variable is statistically significant, $t(927) = 3.271$, $p < .01$. With that said, the regression model of these two measures is: $\text{change in job(hat)} = 2.60254(\text{intercept}) + 0.14372(\text{stress})$. The regression diagnostics plots are all accurate as shown.



There is enough evidence from this study to reject the null hypothesis and favor the given alternative hypothesis. The independent variable itself is statistically significant at the alpha level (.01). However, the regression model itself isn't as statistically significant given that the R^2 is .01141 which means that independent variable (stress) can only explain 1% of the variances in the dependent variable (changing job). The regression diagnostics show that all the plots and models are as normal they can get. Normal Q-Q plot shows that most of the points in the dataset are hugging the best fit line. The Scale Location, as well as the Residuals vs Leverage and Residuals vs Fitted, show a linear relationship and a pattern of all the points. In conclusion, the results aren't as substantively significant even though that there is a statistically significant relationship between stress and changing job because there's a lot of factors of why employees would want to consider changing jobs. A potential weakness of this study is that there is a little number of valid participants in the survey. If a new study was to be done, it should specifically target employees and that will increase the number of valid participants for this study.

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5
6 # loads a file into R
7 load(file.choose())
8 # attaches gss7126 data file
9 attach(gss)
10 # installs "car" package
11 install.packages("car")
12 # pulls up the "car" library
13 library(car)
14 # creates a new variable that any missing data won't be copied
15 IV.stress <- NA
16 # recodes a dataset from the GSS into the IV
17 IV.stress <- recode(as.numeric(STRESS), "1=1; 2=2; 3=3; 4=4; 5=5")
18 # displays the variable in a table
19 table(IV.stress)
20 # creates a new variable that any missing data won't be copied
21 DV.chngewrk <- NA
22 # recodes a dataset from the GSS into the DV
23 DV.chngewrk <- recode(as.numeric(CHNGEWRK), "1=1; 2=2; 3=3; 4=4; 5=5")
24 # displays the variable in a table
25 table(DV.chngewrk)
26 # runs a regression model for the IV and DV and add it into a variable
27 stress.lm <- lm(DV.chngewrk ~ IV.stress)
28 # displays the summary statistic for the regression model
29 summary(stress.lm)
30 # displays the plots for regression diagnostics
31 plot(lm(DV.chngewrk ~ IV.stress))
32 # displays the histogram for the DV
33 hist(DV.chngewrk)
34 # displays the summary statistics for the frequency of the variables
35 summarytools::freq(IV.stress)
36 summarytools::freq(DV.chngewrk)
37 # gives the n value of the model
38 sum(table(DV.chngewrk, IV.stress))
39 # displays the correlation value of the variables
40 cor.test(DV.chngewrk, IV.stress)

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