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Teacher Job Satisfaction:

A Quantitative Study on Why Teachers Remain Teachers

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Abstract

Teacher job satisfaction is of very high importance as it is the reason for educational growth. The longer a teacher remains the more comfortable and devote they become. A survey of sixty teachers was used to collect data for this study. Using a qualitative test employing a chi-squared test for association, multiple regression and ANCOVA, assessments were made on some of the reasons for teacher job satisfaction. These include age, teacher longevity, gender, education level, and commute time. The survey results indicate that there is a relationship between teacher longevity and age. However, there is none between longevity and commute. Also, test conducted to predict the relationship between job satisfaction and education levels were statistically insignificant even when controlling for age. Thus, it is concluded that are no associations between job satisfaction and education level, and the variables are independent.

Teacher Job Satisfaction: A Quantitative Study on Why Teachers Remain

Introduction

Many studies have been conducted on teachers' job satisfaction because "The relevance of job satisfaction… [is] very crucial to the long-term growth of any educational system around the world. They probably rank alongside professional knowledge and skills, center competencies, educational resources and strategies as the veritable determinants of educational success and performance" (Ololube, 2006, p.1). Thus, teacher satisfaction is rank as one of the highest indicators of overall success. And as Morgan and O'Leary (2004) summarize, "there is a growing body of evidence that when teachers feel good about their work, pupil achievement improves" (p.73). Not only does job satisfaction affect teacher roles, it also influences student achievements. As a result, the topic of teacher job satisfaction is one that needs to be examined from every aspect and angle.

I believe that this issue is of even more importance today than it was a few years ago because as Brunetti (2001) mentions "teachers have had to contend with difficult working conditions for more than two decades. These conditions include large class sizes, a highly diverse student population (more than a quarter of whom, in recent years, have been English-language learners), deteriorating or inadequate facilities, a shortage of supplies and equipment, and a paucity of other resources needed to support sound classroom instruction" (p. 49). With degenerating resources and a large number of students, I believe that the issue of what keeps a teacher with the job title of 'teacher' is of dire importance.

Studies have been conducted on the importance of teacher job satisfaction from different angles. However, many focus of the psychological or intrinsic aspects of this issue (Verner, 2009; Bareket, 2009; Ololube, 2006; Morgan and O'Leary, 2004; and Brunette, 2001). This

paper aims at researching teacher job satisfaction using variables rarely examined. These include commute, age, education level, and years experience at current position.

Justification of need for this study

Although looking at teacher job satisfaction is widely researched, not much is known about the extrinsic factors that relate to teacher job satisfaction including commute, age and current job experience. As mentioned above, teachers play a major role in the growth of the educational system and there is a need to understand and better prepare for teacher retention and recruitment. Thus this paper aims to understand the relationship between teacher job satisfaction and the variables mentioned above.

Purpose and research questions

The purpose of this study is to understand the relationship between the dependent extrinsic factors: age, education level, current job experience, and commute. My research questions are as follows:

- What may be a better predictor or explanation of teachers' longevity, age or over all commute time? These will be the variables used to test my hypothesis, which states that there is a dependent relationship between the above mentioned variables on the dependent variable of teacher longevity. The null hypothesis states that there is no relationship between the variables.
- Is there an association between teacher job satisfaction and education level? My hypothesis is that the higher the teachers' education level the more satisfied he/ she feels. The null hypothesis states that there is no association between the two categorical variables.

- How much of teacher job satisfaction can be explained by education level when controlling for age? My hypothesis is that there is a difference between at least two of the adjusted groups mean. The null is that there is no difference in the means of the adjusted groups.

Research methodology

A survey quantitative design was used in this study to investigate job satisfaction using multiple regression, chi-square and ANCOVA.

Sample

For the purpose of this study, sixty teachers were selected from a sample of three hundred and five people. The sample was gathered by fifteen students for the requirements of EDRS 811 class. Each student collected information from at least ten people. For this purpose, convenience procedure was used as I only chose to focus on teachers ranging from child care to college professors. My focus was on teachers in general and therefore I did not specify a level. Also, due to the limitations of the class and not having an HSRB approval, all educators of any subject and level were included.

Participants in this study include 47 females and 13 males, ranging in age from 24- 68 years old, and either having a Bachelor's degree (14), a Masters degree (41) or a PhD (5). All but three put English as their native language (the others include Greek, Arabia and Korean), and all but 8 spoke a second language. All participants were from the Eastern Coast of the United States.

Procedures and Data Collection

Data was collect for this study using a questioner generated by the EDRS 811 class. Each student came up with at least one question, and then the questions were gathered and formed into a survey with the addition of supplemental questions by the professor. Surveys were

not limited to teachers, but involved many people from different professions including stay at home parents. Each student was responsible for collecting at least ten surveys in a two week period. The purpose of the survey was explained to all participants who then had to sign a consent form before taking the questionnaire. No portion of this study or results will be used for publication; it is all for the purpose of furthering the qualitative research methods education of the EDRS 811 students.

Data Analysis and Measures

Three different tests will be used to measure teacher job satisfaction for the purpose of this paper. The first will be multiple regressions, where different variable will be used as predictors of why a teacher may remain in a current job. The variables will include age and over all commute time. Here the ages will range from 24- 68, and the overall commute ranges from 1 to 80 miles with only one missing data value. We will use the above variables to predict the continuous variable of teacher's current job experience which, in this data set, ranges from 2- 31 years with only one missing data value.

The second test used in this paper will be a Chi-square test for association. An analysis of job satisfaction and education level will be conducted for the purpose of this paper. Job satisfaction was collapsed from its original form of five categories to only three, which are very dissatisfied/ dissatisfied as 1, nutral as 2 and very satisfied/ satisfied as 3. Also after looking through teachers' education level I noticed that all had a Bachelors' degree and above, therefore I decided to collapse the variable into three categories, which include Bachelors degree as 1, Masters degree as 2 and PhD as 3.

The third and final test conducted for the purpose of this study is ANCOVA. An analysis of the differences on job satisfaction will be conducted using the categorical variable education

level controlling for age. As mentioned above, ages range from 24-68 years, and current experience ranges from 2- 31 with only one data set. However for the purpose of this study using this type of test, job satisfaction will be used in its original form of five categories; that is very dissatisfied as 1, dissatisfied as 2, neutral as 3, satisfied as 4 and very satisfied as 5.

By conducting the sample size estimation for power test, it was made clear that 73 participants will be needed to better predict the effect size and reject the null hypothesis. However, due to the limitations of this study, only sixty participants were used and that has to be taken into consideration when looking at the results.

Results

Multiple Regression Analyses

Multiple regression analysis was conducted and the correlations show that there is a statistically significant relationship between all variables tested, i.e. teacher longevity, age and commute, $F(2, 54)=12.615$, $p<.05$. It is also indicated that 31.8% of the variance in teacher longevity is explained by age and commute together (affect size: $R^2=.318$, $R^2_{adj}=.293$; $F(2, 54) = 12.615$, $p <.001$). However it is clear from the beta of both variables that age is the stronger contributor than commute in this correlation with teacher longevity ($\beta_1= .579, p<.05$ and $\beta_2= -.098$, $p>.05$ respectively). This is reaffirmed in the unique contribution of each predictor where age explains 31.7% of the variance in job longevity over and above commute, which only explains .9% of the variance.

Stepwise selection multiple regression was used to further explore this relationship between job longevity, age and commute. The reason for this selection was that stepwise combines both methods of forward selection and backward elimination, thus eliminating the early and quick deletion of a variable as it tests at each stage for the variables to be included or

excluded. Age or X_1, was significantly contributing to the prediction of the dependent Y variable, job longevity, with a beta of .579, $p<.001$. Average daily roundtrip commute (X_2) was not a significant predictors in this model.

Preliminary analyses of the assumptions of multiple regression were conducted on the data set and many conclusions were drawn. It is clear from the output on the data set that the variables were fairly normally distributed. Also multicolnearity did not emerge as a problem. It is also made clear that there is a moderate positive relationship between our predictor age and our criterion of teacher longevity, as it would seem common sense that the older a person is, the longer he/ she may have had the opportunity to work. However, there is no relationship between our predictor commute and teacher longevity as the data points are scattered all over the plot.

In addition, a preliminary analysis was conducted to detect outliers and influential data points. Based on the results it can be concluded that there were none that may cause suspect. However, The Scatter plot of homoscedasticity shows a violation; in this case, for the lower values on the X-axis, the points are all closely clumped around the regression line. While for the higher values on the X-axis, they are scattered all around. Again this violation could be due to the small number of participants.

Chi- squared

For this section, an examination of the relationship between job satisfaction and education level was conducted using the chi-square test of association. Sixty teachers were selected from the class data to see whether or not the variables appear to be independent or related. That is, if there is an association between teacher's job satisfaction and teacher's highest level of education.

Teachers' education level and job satisfaction did not differ significantly from what was expected. The observed value X^2 =5.303, and the critical value X^2=9.49 (α=0.5, DF= 4, n=60). Therefore, the null hypothesis was retained, and it was concluded that teacher job satisfaction and teacher's highest level of education are independent and that there is no association between the two categorical variables used for this study. Also, the p > .05 signifies again the need to retain the null and concluded that the relationship is not statistically significant. In addition, it can be concluded that none of the categories deviate form what was expected, and therefore the data does support the null hypothesis of no association.

ANCOVA

From the above test it is concluded that there is no relationship between job satisfaction and education level, but how might that change when age is controlled for? Age could be an influential contributor in this relationship influencing both variables. It could be assumed that the older one might be, the higher education he might have, or that the younger one might be the less or more satisfied he could be with the job. Thus, having retained the null in the above analysis, this variable needs to be controlled in order to better assess the association between the two.

Tests were conducted and the assumptions of homogeneity of regression of slopes were met F (2,53) = .390, p>.05, thus it was concluded that groups were not statistically significant or different. Also the assumptions of homogeneity of variance were also met F (2, 56) = 2.644, p> .05, concluding that the variance for each individual group was equal. However, age was not a significant covariate in this analysis of job satisfaction and education level F (1, 55) = 3.538, p> .05. There is also evidence that there were no group differences by education level F (2, 55) = 1.748, p>.05, η^2 = .060. This indicates that the omnibus test was not significant, and the null

hypothesis is retained concluding that there are not differences in job satisfaction based on education level when age is controlled for.

Table 1
Analysis of covariance results

Highest Level of Education	Mean	Standard deviation	Adjusted group mean	N
Bachelors	3.7857	1.18831	3.843	14
Masters	4.1250	.75744	4.120	40
PhD	4.8000	.44721	4.677	5

Discussion

Although I believe that teacher satisfaction is a very important variable that needs to be examined form every possible aspect, the results above indicates that not all factors used were significant in assessing teacher satisfaction. I found that commute for example was not an indicator at all, whereas age did play a partial role. This goes hand in hand with some of the literature on this subject, Morgan and O'Leary, (2004) stated that "In general, these studies have shown that major socio-demographic factors (gender, age, social background) have relatively *modest* influences on life satisfaction compared to personal and social factors" (, p. 74)[italicized for emphases]. They go on to conclude that "factors such as gender, course attended (BEd or Post-graduate Diploma), or experience (whether teacher had one years experience or had just graduated) were not related to job satisfaction" (p.77). This statement supports my findings, that is, education level is not a statistically significant indicator of teacher job satisfaction.

As mention above, in relation to teacher longevity predicted by the variables of age and commute using a multiple regressions test we find that a statistically significant relationship does exist, but it was age that explained more of the variance over and above commute. Also in

conducting the chi-square we found that there was no association between job satisfaction and education level, indicating that other variables play a more important role in teacher satisfaction than level of education, more research needs to be conducted. Finally, after conducting an ANCOVA test we found that there still is no association between job satisfaction and education level when controlling for age. Thus, age was not a significant covariate.

Statement of limitations

There were many limitations placed on this paper. First it was simply an introductory class to qualitative research therefore there was no approval from HSRB and data was gathered by the students using convenience methods of asking friends, coworkers, and family to participate. Also, there were many missing data, making it difficult to conduct analysis on a larger sample size. And finally, what limited me the most was the feeling of being confined to this data set. Although the professor gave permission to look for outside data sets, this was not easy for a novice researcher, and without HSRB approval. Again, I must point out that at least seventy three participants were needed but only sixty were used and that could have caused the greatest limitations on this study.

Recommendations for future research

Teachers are the educators of the future, and there is a need in understanding what keeps them motivated and satisfied. Although this study attempted to touch upon some of the extrinsic factors that may contribute to job satisfaction like commute and education level, I do not fell it did the subject justice. More participants are needed and more research must be conducted.

Future studies can continue to look at extrinsic effects such as student numbers in the classroom, classroom environment, school environment…etc. However that does not mean that the intrinsic factors are not as important, it is just that I found abundant research on this subject

matter and wished to shed a different light. Over all, it must be stated that teachers are a very important subject matter for they affect the larger part of society and the future.

Reflection

For me this paper was more of a practice than an interest in the subject of teacher satisfaction. I wanted to learn the process of conducting a quantitative study on a subject. And although my study here yielded statistically insignificant results, which disappointed me, never the less I have taken away a great deal of knowledge about the process of quantitative research.

First and foremost, it was not an easy process. I thought that with the use of SPSS things would go smoothly. That was not the case. I had to learn to use SPSS properly first and I found that this paper helped me do that but through many trial and errors. One thing that truly helped was the SPSS steps for different analyses provided for the class in both the slides provided by the professor and in the required book. To me they were my stable; I referred to them over and over again, conducting the same test many times until I felt comfortable. But by doing that I realized that I have saved many SPSS files on my computer and had to delete them all and start from scratch for the final analysis, which to me was like taking a test on my knowledge of using SPSS.

Knowing what to do after conducting the SPSS analysis was another thing. I would look over the output and try to make sense of all the charts, which to me at first could have been in a different language. However, with the use of the color coded explanation of results provided for the class, I was able to read and understand what each number stood for and meant. I don't think this step would have been truly possible without those PowerPoint slides provided. I did look through some other materials such as books and different websites, but none were as clear as those slides. This step was both frustrating and gratifying, but mostly a lot of work.

However, making sense of the numbers is very satisfying. In the beginning of the course, this was the hardest part for I could never really make sense of the numbers. I could say whether a test was statistically significant or not but what did the numbers mean in relation to the theory? I think by applying it to my own research questions and hypothesis helped clear things up for me. I believe that is because it is me who asked the question, and me who conducted the test and finally me who found the answer. By being the lead in this research, the data was closer to home, and thus I was able to make meaning out of things.

Finally, I wanted to mention the fact that my results were significantly insignificant and how that upset me at first. I felt that this meant that this paper was a waste. However, stepping back and reflecting, I realized that because my results were statistically insignificant, I had to step outside the comforts of the class handouts and think for myself. I no longer had that stable and had to rely on myself (and many emails to my professor), but I think I learned a great deal more by seeing the other side and realizing that there aren't always checklists and summarize to use. And the really rewarding realization was that just because the results were insignificant does not mean the research was. That took me the longest to comprehend, but in my conclusion I understood that I have helped research by shedding light on a different angle of a topic and in making recommendations. So all is not lost, it simply part of a long process of discovery.

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Appendix A

Multiple Regression

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.564[a]	.318	.293	6.84554

a. Predictors: (Constant), Average daily roundtrip commute, Age

b. Dependent Variable: Years experience in current position

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1182.358	2	591.179	12.615	.000[a]
	Residual	2530.519	54	46.861		
	Total	3712.877	56			

a. Predictors: (Constant), Average daily roundtrip commute, Age

b. Dependent Variable: Years experience in current position

Coefficients[a]

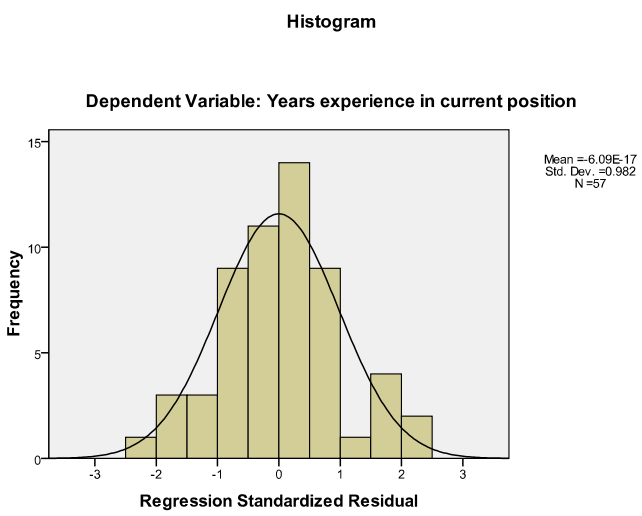
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	-5.052	3.228		-1.565	.123					
	Age	.388	.077	.579	5.012	.000	.556	.563	.563	.945	1.058
	Average daily roundtrip commute	-.041	.049	-.098	-.846	.401	.038	-.114	-.095	.945	1.058

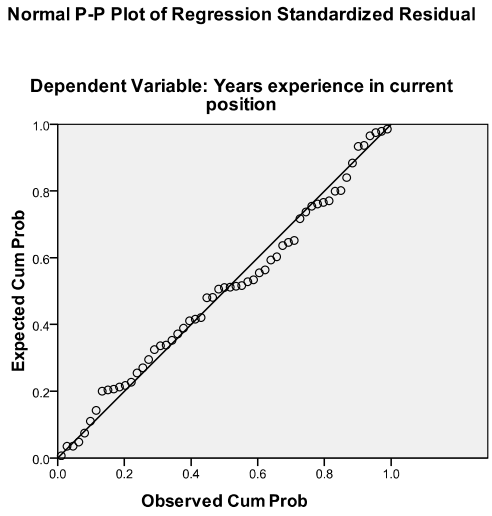
a. Dependent Variable: Years experience in current position

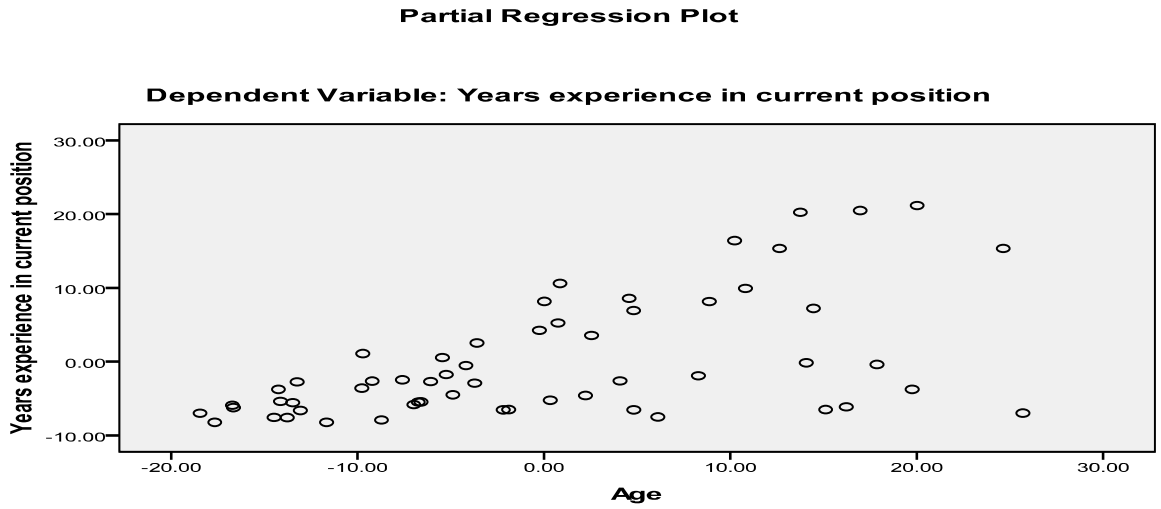
Residuals Statistics[a]

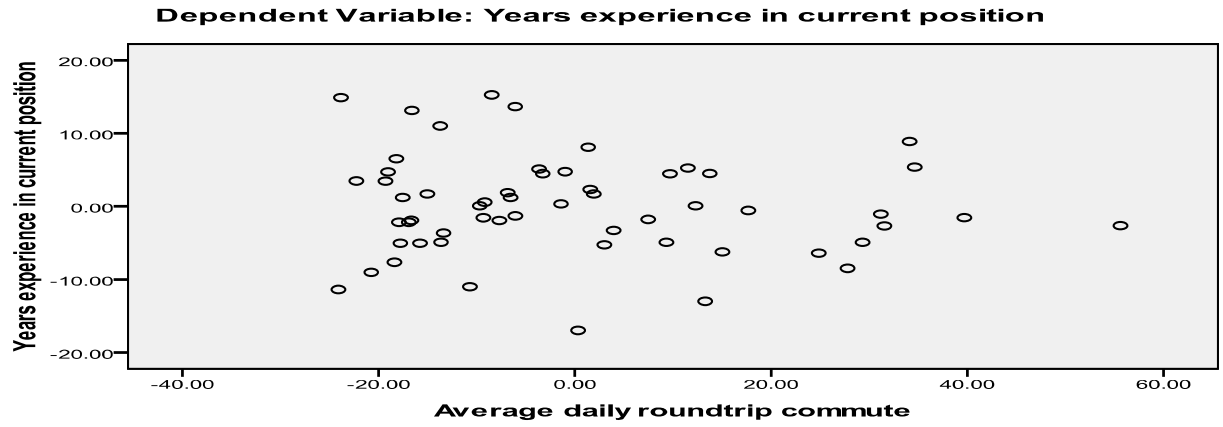
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.8233	19.9483	9.8070	4.59495	57
Std. Predicted Value	-1.520	2.207	.000	1.000	57
Standard Error of Predicted Value	.909	2.864	1.520	.398	57
Adjusted Predicted Value	2.8105	21.9855	9.8337	4.67513	57
Residual	-16.94833	14.91008	.00000	6.72219	57
Std. Residual	-2.476	2.178	.000	.982	57
Stud. Residual	-2.620	2.226	-.002	1.014	57
Deleted Residual	-18.98552	15.56985	-.02664	7.16940	57
Stud. Deleted Residual	-2.779	2.314	-.002	1.036	57
Mahal. Distance	.006	8.820	1.965	1.647	57
Cook's Distance	.000	.275	.023	.045	57
Centered Leverage Value	.000	.157	.035	.029	57

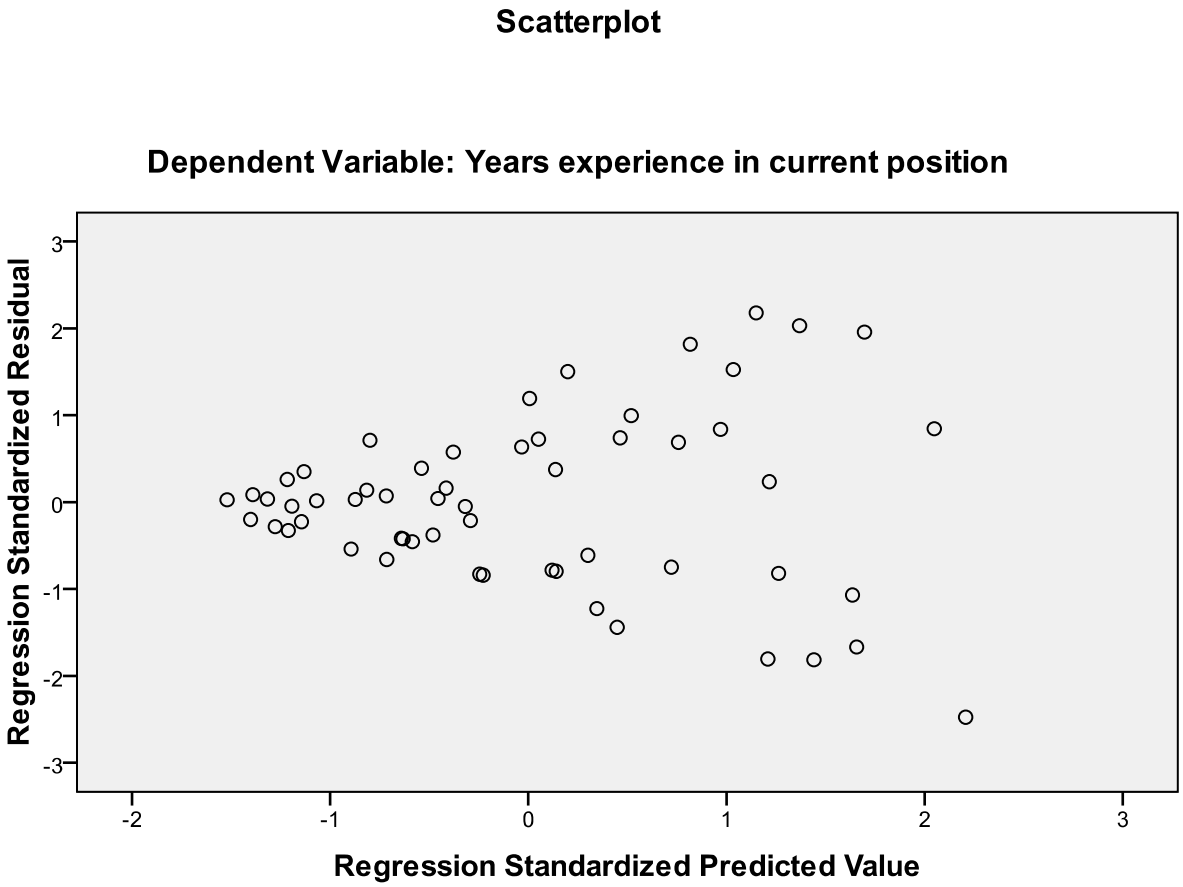
a. Dependent Variable: Years experience in current position


Histogram
Dependent Variable: Years experience in current position
Mean =-6.09E-17
Std. Dev. =0.982
N =57
Frequency
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Years experience in current position
Expected Cum Prob
Observed Cum Prob


Partial Regression Plot
Dependent Variable: Years experience in current position
Years experience in current position
Age


Partial Regression Plot
Dependent Variable: Years experience in current position
Years experience in current position
Average daily roundtrip commute


Scatterplot
Dependent Variable: Years experience in current position
Regression Standardized Residual
Regression Standardized Predicted Value
3
2
1
0
-1
-2
-3
-2
-1
0
1
2
3

Appendix B

Chi- Square

How satisfied are you with your occupation? * Highest Level of Education Completed Crosstabulation

			Highest Level of Education Completed			
			Bachelors	Masters	PhD	Total
How satisfied are you with your occupation?	Very Dissatisfied- Dissatisfied	Count	1	0	0	1
		Expected Count	.2	.7	.1	1.0
		Std. Residual	1.6	-.8	-.3	
	"Neutral"	Count	4	11	0	15
		Expected Count	3.5	10.3	1.3	15.0
		Std. Residual	.3	.2	-1.1	
	"Satisfied- Very Satisfied"	Count	9	30	5	44
		Expected Count	10.3	30.1	3.7	44.0
		Std. Residual	-.4	.0	.7	
Total		Count	14	41	5	60
		Expected Count	14.0	41.0	5.0	60.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.303[a]	4	.258
Likelihood Ratio	6.131	4	.190
Linear-by-Linear Association	2.805	1	.094
N of Valid Cases	60		

a. 6 cells (66.7%) have expected count less than 5. The minimum expected count is .08.

Appendix C

ANCOVA

Tests of Between-Subjects Effects

Dependent Variable:How satisfied are you with your occupation?

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	6.934[a]	5	1.387	1.911	.108
Intercept	22.190	1	22.190	30.582	.000
Ed_Level	1.219	2	.610	.840	.437
Age	.320	1	.320	.440	.510
Ed_Level * Age	.566	2	.283	.390	.679
Error	38.456	53	.726		
Total	1038.000	59			
Corrected Total	45.390	58			

a. R Squared = .153 (Adjusted R Squared = .073)

Levene's Test of Equality of Error Variances[a]

Dependent Variable:How satisfied are you with your occupation?

F	df1	df2	Sig.
2.644	2	56	.080

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Age + Ed_Level

Tests of Between-Subjects Effects

Dependent Variable:How satisfied are you with your occupation?

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	6.368[a]	3	2.123	2.992	.039	.140	8.975	.676
Intercept	49.825	1	49.825	70.226	.000	.561	70.226	1.000
Age	2.510	1	2.510	3.538	.065	.060	3.538	.456
Ed_Level	2.481	2	1.240	1.748	.184	.060	3.496	.351
Error	39.022	55	.709					
Total	1038.000	59						
Corrected Total	45.390	58						

a. R Squared = .140 (Adjusted R Squared = .093)

b. Computed using alpha = .05

Descriptive Statistics

Dependent Variable:How satisfied are you with your occupation?

Highest Level of Education Completed	Mean	Std. Deviation	N
Bachelors	3.7857	1.18831	14
Masters	4.1250	.75744	40
PhD	4.8000	.44721	5
Total	4.1017	.88464	59

b

2. Highest Level of Education Completed

Dependent Variable:How satisfied are you with your occupation?

Highest Level of Education Completed	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Bachelors	3.843[a]	.227	3.388	4.299
Masters	4.120[a]	.133	3.853	4.387
PhD	4.677[a]	.382	3.911	5.443

a. Covariates appearing in the model are evaluated at the following values: Age = 40.8983.