Report for Categorical project

"The **impact** of education, **Area** and age on work **Status** in Mania Governate at 1995/1996"

Written by

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To: Dr. Laila Elzaini

In the Menia Gouvernement sample consisting of 600 observations in the first some of descriptive statistics for variable , I used some of the variables (education, area, age), how they affect on working status, Worked on whether there was a relationship or association between the variables and each others . i recode some of variables into groups and generate a variable to calculate the independence in three way contingency table, and finally create a multinomial model and work status as the dependent variable

First, like education, I recoded some variables to enable the test. It divide into four categories instead of eight, but the Menia sample does not have a higher bachelor's degree and below age to the six categories

```
4 . recode educate 2=1 3/4=2 5/6=3 7=4, generate(education)
  (600 differences between educate and education)

5 . label define education 1 "illiterate" 2 "Basic Education" 3 "Secondary Education" 4 "University degre
> e"

6 . label values education education

7 . tab education
```

RECODE of educate (Education of Person)	Freq.	Percent	Cum.
illiterate	223	37.17	37.17
Basic Education	165	27.50	64.67
Secondary Education	146	24.33	89.00
University degree	66	11.00	100.00
Total	600	100.00	

And make age group as following:

RECODE of age (Age of Person)	Freq.	Percent	Cum.
20-29	56	9.33	9.33
30-39	165	27.50	36.83
40-49	176	29.33	66.17
50-59	103	17.17	83.33
60-69	67	11.17	94.50
+70	33	5.50	100.00
Total	600	100.00	

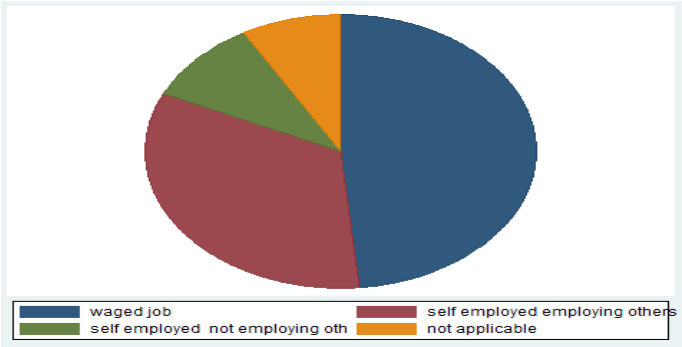
Descriptive Statistics

Wrkstat: Work Status of person

```
. tab wrkstat
```

Work Status of Person	Freq.	Percent	Cum.
waged job	291	48.50	48.50
self employed employing others	201	33.50	82.00
self employed not employing others	58	9.67	91.67
not applicable	50	8.33	100.00
Total	600	100.00	

In work status we notice the waged job(mode) is the most common in data which has 291 obs and this pie chart explain how work status distribute in data

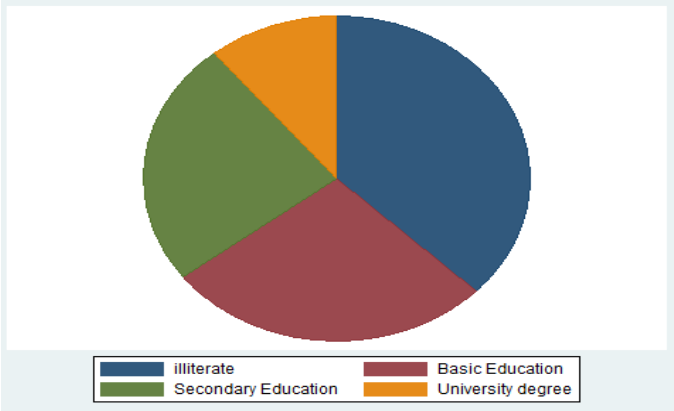


Education : education of person

RECODE of educate (Education of Person)	Freq.	Percent	Cum.
illiterate	223	37.17	37.17
Basic Education	165	27.50	64.67
Secondary Education	146	24.33	89.00
University degree	66	11.00	100.00
Total	600	100.00	

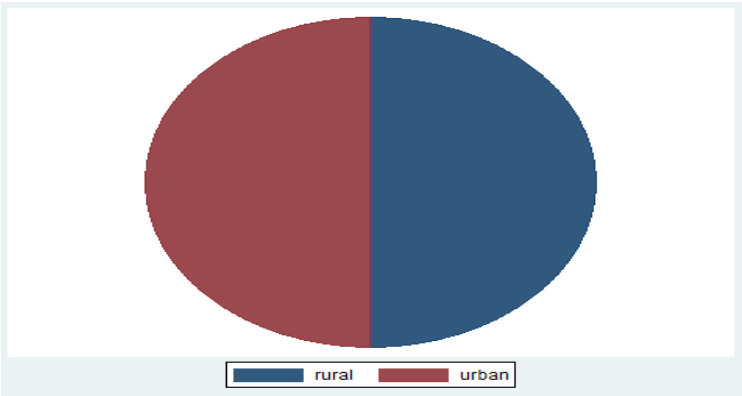
In work status we notice the waged job(mode) is the most common in data which has 223 obs that mean the education in menia is not necessary

and this pie chart explain how education distribute in menia sample



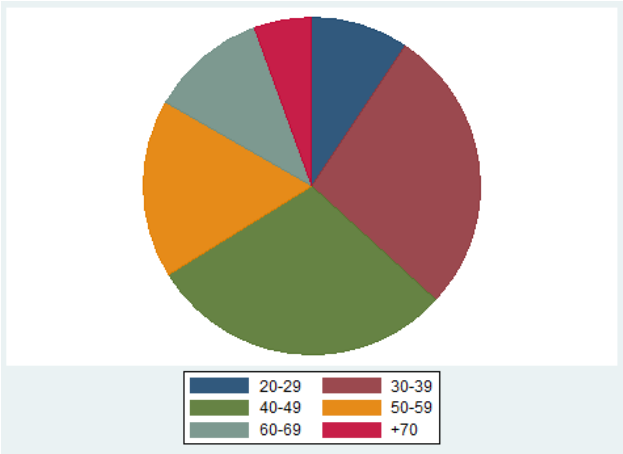
Urbrur : area (urban , rural)

In my sample I have equal number of who live in rural and live in urban



And from agegroup variable

We notice the most common age between 35-39



And make **two way contingency table** between work status and age group to study relation between us using Chi- Square Test for independence and assuming multinomial sample case

$$H_0: \pi_{ij} = \pi_{i+}\pi_{+j} \text{ for all } i \,\&\, j$$

RECODE of age (Age of Person)	Work Status of Person				
	waged job	self empl	self empl	not appli	Total
20-29	30	17	7	2	56
	27.2	18.8	5.4	4.7	56.0
30-39	96	48	19	2	165
	80.0	55.3	15.9	13.8	165.0
40-49	102	53	19	2	176
	85.4	59.0	17.0	14.7	176.0
50-59	55	37	8	3	103
	50.0	34.5	10.0	8.6	103.0
60-69	5	34	3	25	67
	32.5	22.4	6.5	5.6	67.0
+70	3	12	2	16	33
	16.0	11.1	3.2	2.8	33.0
Total	291	201	58	50	600
	291.0	201.0	58.0	50.0	600.0

Pearson chi2(15) = 210.4814 Pr = 0.000

assuming alpha equal 0.05 then we reject H0 and we can say no evidence they're independent which we have significant relationship between work status and age

Also make another contingency table between education of person and work status and testing if there is association between them and assuming this is multinomial sample case with

$$H_0: \pi_{ij} = \pi_{i+}\pi_{+j} \text{ for all } i \,\&\, j$$

```
. tab wrkstat education , chi2
```

Work Status of Person	RECODE of educate (Education of Person)				Total
	illiterat	Basic Edu	Secondary	Universit	
waged job	69	64	109	49	291
self employed employi	113	59	19	10	201
self employed not em	24	21	9	4	58
not applicable	17	21	9	3	50
Total	223	165	146	66	600

Pearson chi2(9) = 102.3389 Pr = 0.000

we reject H0 at alpha equal 0.05

There is no evidence to say that work status and education are independent which we have significant relationship between work status and education

In 2 way contingency table I study the relation between work status assuming that is multinomial case and

$$H_0: \pi_{ij} = \pi_{i+}\pi_{+j} \text{ for all } i \ \& \ j$$

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10 . tab wrkstat urbrur, chi2
```

Work Status of Person	Area rural	urban	Total
waged job	115	176	291
self employed employi	149	52	201
self employed not em	17	41	58
not applicable	19	31	50
Total	300	300	600

Pearson chi2(3) = 72.4089 Pr = 0.000

we reject H0 at alpha equal 0.05

There is no evidence to say that work status and education are independent which we have significant relationship between work status and area

Using Cramer 's V to know the strength the association and ignoring the ordinal nature for variables in first we test association between age groups and work status

RECODE of age (Age of Person)	Work Status of Person waged job	self empl	self empl	not appli	Total
20-29	30	17	7	2	56
30-39	96	48	19	2	165
40-49	102	53	19	2	176
50-59	55	37	8	3	103
60-69	5	34	3	25	67
+70	3	12	2	16	33
Total	291	201	58	50	600

Cramér's V = 0.3420

From the result of carmer there is association but is weak association between age and work status

This is carmer association between work status and education to know the relationship between them

```
. tab wrkstat education , V
```

Work Status of Person	RECODE of educate (Education of Person) illiterat	Basic Edu	Secondary	Universit	Total
waged job	69	64	109	49	291
self employed employi	113	59	19	10	201
self employed not em	24	21	9	4	58
not applicable	17	21	9	3	50
Total	223	165	146	66	600

Cramér's V = 0.2384

We notice here there is low relationship between the variables

```
. tab wrkstat urbrur , V
```

Work Status of Person	Area rural	urban	Total
waged job	115	176	291
self employed employi	149	52	201
self employed not em	17	41	58
not applicable	19	31	50
Total	300	300	600

Cramér's V = 0.3474

Also, here there is a relationship between variables but is low association

But we want to study there variables to test the relationship between them and I decide to make a 3 way contingency table between work status and education of person and area who live in we notice is used here Spss Package to calculate conditional independent test for every table where

$$H_0: \pi^{xy|z} = \pi^{x|z}_{i+|k}\pi^{y|z}_{+j|k}$$

$$H_1: there\ is\ no\ conditional\ independence$$

Where z is area

Count

Area			education				Total
			illiterate	Basic Education	Secondary Education	University Degree	
rural	Work Status of Person	waged job	47	29	30	9	115
		self employed employing others	98	42	8	1	149
		self employed not employing others	7	9	1	0	17
		not applicable	13	5	1	0	19
	Total		165	85	40	10	300
urban	Work Status of Person	waged job	22	35	79	40	176
		self employed employing others	15	17	11	9	52
		self employed not employing others	17	12	8	4	41
		not applicable	4	16	8	3	31
	Total		58	80	106	56	300
Total	Work Status of Person	waged job	69	64	109	49	291
		self employed employing others	113	59	19	10	201
		self employed not employing others	24	21	9	4	58
		not applicable	17	21	9	3	50
	Total		223	165	146	66	600

Chi-Square Tests

Area		Value	df	Asymp. Sig. (2-sided)
rural	Pearson Chi-Square	46.672[a]	9	.000
	Likelihood Ratio	46.470	9	.000
	Linear-by-Linear Association	2.343	1	.126
	N of Valid Cases	300		
urban	Pearson Chi-Square	44.712[b]	9	.000
	Likelihood Ratio	42.528	9	.000
	Linear-by-Linear Association	1.546	1	.214
	N of Valid Cases	300		
Total	Pearson Chi-Square	102.339[c]	9	.000
	Likelihood Ratio	105.124	9	.000
	Linear-by-Linear Association	.936	1	.333
	N of Valid Cases	600		

From the output the first table when rural is fixed the p-value less than 0.05 we will reject Ho when chi(9) of rural = 46.672 and in also second table we will reject Ho at 0.05 when chi(9)of urban = 44.712

Then the total table (marginal independence)chi2 = 91.384 when the tabulated chi – square =28.4 there is no evidence there is conditional independence

We notice here the variables I used have more than two categories then we can't use odds ratio or association tools but we can use Poisson regression(and use this test I generate a new dataset with frequencies) to study relation with the 3 variables and decide what is simplest model and fit the data well

H_0: *the Homogenous model fits the data well*

```
. poisson freq i.wrkstat i.education i.urbrur i.wrkstat#i.education i.wrkstat#i.urbrur i.education#urbrur

Iteration 0:   log likelihood = -90.069106
Iteration 1:   log likelihood = -71.244674
Iteration 2:   log likelihood = -71.117155
Iteration 3:   log likelihood = -71.116931
Iteration 4:   log likelihood = -71.116931

Poisson regression                              Number of obs     =         30
                                                LR chi2(22)       =     567.99
                                                Prob > chi2       =     0.0000
Log likelihood = -71.116931                     Pseudo R2         =     0.7997
```

freq	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
wrkstat						
self employed employing others	.6888325	.1628615	4.23	0.000	.3696299	1.008035
self employed not employing others	-1.498681	.2943575	-5.09	0.000	-2.075611	-.9217511
not applicable	-1.586752	.3043555	-5.21	0.000	-2.183278	-.9902261
education						
Basic Education	-.4401773	.2000723	-2.20	0.028	-.8323119	-.0480427
Secondary Education	-.5232446	.2132413	-2.45	0.014	-.9411898	-.1052994
University degree	-1.919343	.3577228	-5.37	0.000	-2.620467	-1.218219
urbrur						
urban	-.8441279	.203979	-4.14	0.000	-1.243919	-.4443364
wrkstat#education						
self employed employing others#Basic Education	-.4078549	.2433781	-1.68	0.094	-.8848673	.0691576
self employed employing others # Secondary Education	-1.863443	.3058808	-6.09	0.000	-2.462958	-1.263927
self employed employing others # University degree	-1.574051	.4011865	-3.92	0.000	-2.360362	-.7877404
self employed not employing others # Basic Education	-.2849387	.3577689	-0.80	0.426	-.9861528	.4162754
self employed not employing others # Secondary Education	-1.856663	.443787	-4.18	0.000	-2.72647	-.9868568
self employed not employing others # University degree	-1.898785	.6007411	-3.16	0.002	-3.076216	-.7213539
not applicable#Basic Education	.1726437	.3782725	0.46	0.648	-.5687567	.9140442
not applicable#Secondary Education	-1.31358	.4645514	-2.83	0.005	-2.224084	-.4030764
not applicable#University degree	-1.568818	.6877955	-2.28	0.023	-2.916873	-.2207641
wrkstat#urbrur						
self employed employing others#urban	-.8934311	.2248537	-3.97	0.000	-1.334136	-.452726
self employed not employing others#urban	1.047974	.34352	3.05	0.002	.3746872	1.721261
not applicable#urban	.5183964	.3468289	1.49	0.135	-.1613758	1.198169
education#urbrur						
Basic Education#urban	.9021536	.2300488	3.92	0.000	.4512663	1.353041
Secondary Education#urban	1.877968	.2597812	7.23	0.000	1.368807	2.38713
University degree#urban	2.622778	.3944363	6.65	0.000	1.849697	3.395859
_cons	3.87648	.1351076	28.69	0.000	3.611673	4.141286

LRT=13.678 and Chi -Square (7)=14.067 Don't reject H0 at alpha =0.05

there is evidence the homogenous model fits the data well

Now comparing the homogenous model with 3 conditionality independence model

H_0: *the conditionally model fits the data well*

LRT = 84.28 and chi(3)=7.815

Then reject Ho at alpha =0.05

There is evidence that the model that assume that education is conditionally independence of area given work status doesn't fit data well

The second model (conditionally independence between work status and area given education)

$$H_0: the\ conditionally\ \ model\ fits\ the\ data\ well$$

LRT =42.5998 and chi(3)=7.815

Then reject Ho at alpha =0.05

There is evidence that the model that assume that conditionally independence between work status and area given education doesn't fit data well

The third model (conditionally independence between work status and education given area)

$$H_0: the\ conditionally\ \ model\ fits\ the\ data\ well$$

LRT = 72.716498 and chi(9) =16.919

Then reject Ho at alpha =0.05

There is evidence that the model that assume that conditionally independence between work status and education given area doesn't fit data well

After rejection for all possible combination for conditional independence models that mean the simplest model is Homogenous model (the partial association of X and Y is same at all levels of Z) that fits the data well

Now, modeling using multinomial regression the response are nominal and more than 2 categories and base category (waged job in work status, rural in area and illiterate in education)

```
. mlogit wrkstat age i.urbrur i.education ,rrr

Iteration 0:   log likelihood = -690.14959
Iteration 1:   log likelihood = -570.81643
Iteration 2:   log likelihood = -553.17915
Iteration 3:   log likelihood = -552.27826
Iteration 4:   log likelihood = -552.27448
Iteration 5:   log likelihood = -552.27448

Multinomial logistic regression               Number of obs     =        600
                                              LR chi2(15)       =     275.75
                                              Prob > chi2       =     0.0000
Log likelihood = -552.27448                   Pseudo R2         =     0.1998
```

wrkstat	RRR	Std. Err.	z	P>|z|	[95% Conf.	Interval]
waged_job	(base outcome)					
self_employed_employing_others						
age	1.030592	.0091573	3.39	0.001	1.012799	1.048697
urbrur						
urban	.3706249	.085429	-4.31	0.000	.2359026	.5822861
education						
Basic Education	.6467762	.1601769	-1.76	0.078	.3980617	1.050891
Secondary Education	.1942413	.060877	-5.23	0.000	.1050914	.3590178
University degree	.248784	.1010645	-3.42	0.001	.112211	.5515812
_cons	.5165522	.2197392	-1.55	0.120	.2243967	1.189082
self_employed__not_employing_oth						
age	.9797132	.0142297	-1.41	0.158	.9522168	1.008004
urbrur						
urban	3.070622	1.06581	3.23	0.001	1.55516	6.06286
education						
Basic Education	.7470187	.2693308	-0.81	0.419	.3685008	1.514344
Secondary Education	.1393271	.0630976	-4.35	0.000	.057352	.3384719
University degree	.1313264	.0784623	-3.40	0.001	.0407186	.4235563
_cons	.5194066	.3411035	-1.00	0.319	.1433865	1.88151
not_applicable						
age	1.172151	.0222902	8.35	0.000	1.129268	1.216664
urbrur						
urban	1.838959	.77544	1.44	0.149	.8047166	4.202436
education						
Basic Education	1.126558	.4949868	0.27	0.786	.4761603	2.66535
Secondary Education	.9117768	.5240552	-0.16	0.872	.2955627	2.812726
University degree	.424639	.3284996	-1.11	0.268	.093225	1.934226
_cons	.0000285	.0000356	-8.38	0.000	2.46e-06	.0003299

As all the model is significant

$\beta_{self\ emp\ employing\ others\ ,basic\ education}$ is insig that mean there is no evidence relation between them in $self\ emp\ employing\ others$ holding other variables

$,\beta_{self\ emp\ employing\ others\ ,secondary\ education}$ is sig and the estimate relative risk of self empolyed employing between secondary education compared to illiterate is14 % larger than corresponding relative risk of waged job , holding other variable

$,\beta_{self\ emp\ employing\ others,university}$ is sig and the estimate relative risk of self empolyed employing between univdersity compared to illiterate is 14 % larger than corresponding relative risk of waged job , holding other variable

$,\beta_{self\ emp\ employing\ others,urban}$ is sig and the estimate relative risk of self empolyed employing between urban compared to rural is 44% larger than corresponding relative risk of waged job , holding other variable

$\beta_{self\ emp\ employing\ others\ ,age}$ = 2.80272 With each one year increase in age , the relative risk of self employed employing other is 180% greater than the corresponding relative risk of waged job holding other variables

$\beta_{not\ applicable,basic\ education}$, $\beta_{not\ applicable,secondary\ education}$
$,\beta_{not\ applicable,university}$, $\beta_{not\ applicable,urban}$ is insig that mean there is no evidence relation between them holding other variables

$\beta_{not\ applicable,age}$ = 3.2289

With each one year increase in age , the relative risk of not aplicable is 222% greater than the corresponding relative risk of waged job holding other variables

Conclusion

After making categorical analysis using two way contingency table to see relation between work status and education , work status and area also between work satuts and we find there is association between each two variable and that mean education of person , area who live in and age effect on work status of the person ,then we make a three way contengenct table where the work status in rows and education in colums at all level of area (Urban , Rural) and test Conditional independence using SPSS Package and there is no conditional independence between the variables and after testing association by thee poisson model we figured at all levels of z the partial association

will be the same and finally, using multinomial model at each level for work status that explain how differ by area and education

Appendix

```
. poisson freq i.wrkstat i.education i.urbrur i.wrkstat#i.education i.wrkstat#i.urbrur i.education#urbrur i.wrksta
> t#i.education#i.urbrur
note: 3.wrkstat#4.education#0.urbrur identifies no observations in the sample
note: 3.wrkstat#4.education#1.urbrur omitted because of collinearity
note: 999.wrkstat#4.education#0.urbrur identifies no observations in the sample
note: 999.wrkstat#4.education#1.urbrur omitted because of collinearity

Iteration 0:   log likelihood = -222.76294
Iteration 1:   log likelihood = -65.720255
Iteration 2:   log likelihood = -64.282232
Iteration 3:   log likelihood = -64.277877
Iteration 4:   log likelihood = -64.277877

Poisson regression                              Number of obs     =         30
                                                LR chi2(29)       =     581.67
                                                Prob > chi2       =     0.0000
Log likelihood = -64.277877                     Pseudo R2         =     0.8190
```

freq	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
wrkstat						
self employed employing others	.7348199	.1774279	4.14	0.000	.3870675	1.082572
self employed not employing others	-1.904237	.4051342	-4.70	0.000	-2.698286	-1.110189
not applicable	-1.285198	.3133683	-4.10	0.000	-1.899389	-.6710077
education						
Basic Education	-.4828518	.2361342	-2.04	0.041	-.9456663	-.0200373
Secondary Education	-.4489502	.2336877	-1.92	0.055	-.9069696	.0090692
University degree	-1.652923	.3638512	-4.54	0.000	-2.366058	-.9397877
urbrur						
urban	-.7591051	.2583237	-2.94	0.003	-1.26541	-.2528
wrkstat#education						
self employed employing others#Basic Education	-.3644461	.2996214	-1.22	0.224	-.9516932	.222801
self employed employing others # Secondary Education	-2.056576	.4356765	-4.72	0.000	-2.910486	-1.202665
self employed employing others # University degree	-2.932044	1.068921	-2.74	0.006	-5.027091	-.8369981
self employed not employing others # Basic Education	.7341662	.5565318	1.32	0.187	-.356616	1.824948
self employed not employing others # Secondary Education	-1.49696	1.094288	-1.37	0.171	-3.641726	.6478059
self employed not employing others # University degree	-2.044756	.6158556	-3.32	0.001	-3.251811	-.8377013
not applicable#Basic Education	-.4726597	.5767863	-0.82	0.413	-1.60314	.6578207
not applicable#Secondary Education	-2.115999	1.063735	-1.99	0.047	-4.200882	-.0311161
not applicable#University degree	-.8855191	.8085715	-1.10	0.273	-2.47029	.699252
wrkstat#urbrur						
self employed employing others#urban	-1.117812	.3789484	-2.95	0.003	-1.860537	-.3750869
self employed not employing others#urban	1.646408	.5180848	3.18	0.001	.6309809	2.661836
not applicable#urban	-.4195498	.6274187	-0.67	0.504	-1.649268	.8101682
education#urbrur						
Basic Education#urban	.9471574	.3602573	2.63	0.009	.241066	1.653249
Secondary Education#urban	1.727356	.335742	5.14	0.000	1.069313	2.385398
University degree#urban	2.25076	.4503801	5.00	0.000	1.368031	3.133489
wrkstat#education#urbrur						
self employed employing others # Basic Education # urban	.0253036	.537856	0.05	0.962	-1.028875	1.079482
self employed employing others # Secondary Education # urban	.4680154	.6367908	0.73	0.462	-.7800717	1.716102
self employed employing others # University degree # urban	1.823382	1.179332	1.55	0.122	-.4880665	4.13483
self employed not employing others # Basic Education # urban	-1.546779	.7251968	-2.13	0.033	-2.968138	-.1254188
self employed not employing others # Secondary Education # urban	-.5352173	1.199751	-0.45	0.656	-2.886687	1.816252
self employed not employing others # University degree # rural	0	(empty)				
self employed not employing others # University degree # urban	0	(omitted)				
not applicable#Basic Education#urban	1.394648	.8480616	1.64	0.100	-.2675217	3.056819
not applicable#Secondary Education#urban	1.530741	1.250858	1.22	0.221	-.9208957	3.982378
not applicable#University degree#rural	0	(empty)				
not applicable#University degree#urban	0	(omitted)				
_cons	3.850148	.145865	26.40	0.000	3.564257	4.136038

```
. poisson freq i.wrkstat i.education i.urbrur i.wrkstat#i.education i.wrkstat#i.urbrur

Iteration 0:   log likelihood =  -115.3737
Iteration 1:   log likelihood = -113.26464
Iteration 2:   log likelihood = -113.25794
Iteration 3:   log likelihood = -113.25794

Poisson regression                              Number of obs     =         30
                                                LR chi2(19)       =     483.71
                                                Prob > chi2       =     0.0000
Log likelihood = -113.25794                     Pseudo R2         =     0.6811
```

freq	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
wrkstat						
self employed employing others	1.122314	.1741776	6.44	0.000	.7809321	1.463696
self employed not employing others	-1.283432	.3189415	-4.02	0.000	-1.908546	-.6583185
not applicable	-1.378211	.3315577	-4.16	0.000	-2.028052	-.7283695
education						
Basic Education	-.0752234	.1735447	-0.43	0.665	-.4153647	.2649179
Secondary Education	.4572414	.153841	2.97	0.003	.1557185	.7587643
University degree	-.3422862	.1868179	-1.83	0.067	-.7084425	.0238701
urbrur						
urban	.4255519	.1199061	3.55	0.000	.1905402	.6605635
wrkstat#education						
self employed employing others#Basic Education	-.574627	.2364666	-2.43	0.015	-1.038093	-.1111609
self employed employing others # Secondary Education	-2.24019	.2918016	-7.68	0.000	-2.812111	-1.668269
self employed employing others # University degree	-2.082517	.3791444	-5.49	0.000	-2.825626	-1.339407
self employed not employing others # Basic Education	-.058308	.3455481	-0.17	0.866	-.7355697	.6189538
self employed not employing others # Secondary Education	-1.438071	.4200534	-3.42	0.001	-2.26136	-.6147811
self employed not employing others # University degree	-1.071407	.5788576	-1.85	0.064	-2.205947	.0631329
not applicable#Basic Education	.2865325	.3695407	0.78	0.438	-.437754	1.010819
not applicable#Secondary Education	-1.09323	.4400019	-2.48	0.013	-1.955618	-.2308422
not applicable#University degree	-.8743718	.6644513	-1.32	0.188	-2.176672	.4279288
wrkstat#urbrur						
self employed employing others#urban	-1.478254	.2007975	-7.36	0.000	-1.87181	-1.084699
self employed not employing others#urban	.3521527	.3165881	1.11	0.266	-.2683486	.972654
not applicable#urban	-.0377863	.3205048	-0.12	0.906	-.6659642	.5903916
_cons	3.305715	.1405417	23.52	0.000	3.030259	3.581172

```
. poisson freq i.wrkstat i.education i.urbrur i.wrkstat#i.education i.education#urbrur

Iteration 0:   log likelihood = -94.819852
Iteration 1:   log likelihood =  -92.42528
Iteration 2:   log likelihood = -92.416844
Iteration 3:   log likelihood = -92.416844

Poisson regression                              Number of obs     =         30
                                                LR chi2(19)       =     525.39
                                                Prob > chi2       =     0.0000
Log likelihood = -92.416844                     Pseudo R2         =     0.7398
```

freq	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
wrkstat						
self employed employing others	.4932813	.1527819	3.23	0.001	.1938343	.7927283
self employed not employing others	-1.056053	.2369798	-4.46	0.000	-1.520525	-.5915808
not applicable	-1.400893	.2707698	-5.17	0.000	-1.931592	-.8701941
education						
Basic Education	-.4372913	.193386	-2.26	0.024	-.816321	-.0582617
Secondary Education	-.5362595	.2083124	-2.57	0.010	-.9445443	-.1279747
University degree	-1.816012	.3457283	-5.25	0.000	-2.493627	-1.138397
urbrur						
urban	-1.045502	.1526499	-6.85	0.000	-1.344691	-.7463142
wrkstat#education						
self employed employing others#Basic Education	-.574627	.2364666	-2.43	0.015	-1.038093	-.1111609
self employed employing others # Secondary Education	-2.24019	.2918016	-7.68	0.000	-2.812111	-1.668269
self employed employing others # University degree	-2.082517	.3791444	-5.49	0.000	-2.825626	-1.339407
self employed not employing others # Basic Education	-.058308	.3455481	-0.17	0.866	-.7355697	.6189538
self employed not employing others # Secondary Education	-1.438071	.4200534	-3.42	0.001	-2.26136	-.6147811
self employed not employing others # University degree	-1.263756	.5744794	-2.20	0.028	-2.389715	-.1377972
not applicable#Basic Education	.2865325	.3695407	0.78	0.438	-.437754	1.010819
not applicable#Secondary Education	-1.09323	.4400019	-2.48	0.013	-1.955618	-.2308422
not applicable#University degree	-1.206598	.6561378	-1.84	0.066	-2.492604	.0794087
education#urbrur						