Stepwise Multiple Regression

COM 631/731, Spring 2013

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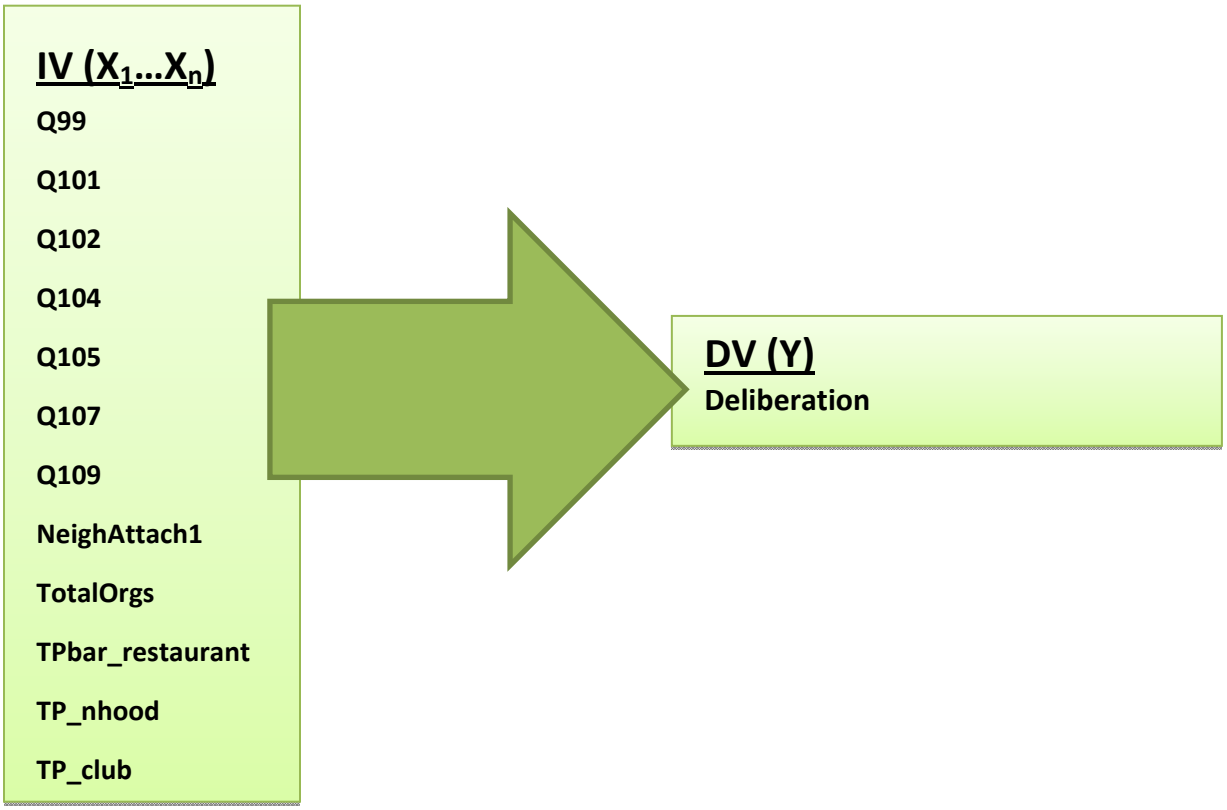
I. MODEL:

From the Jeffres National Community Study (2006).



Variables:

DV

Deliberation	**A scale constructed using the mean standardized values of the below questions:**
Q21	I'd feel comfortable voicing a complaint at a public meeting in my community.
Q22*	People in this community seem to be afraid to speak up when they disagree.
Q23	Public officials in my community seem receptive to views of residents.
Q24	I generally discuss political candidates and issues with neighbors at election time.
Q25	I generally discuss political candidates and issues with family and friends at election time.
Q80	How many days in the past week did you engage in political discussion with friends and family, never, once, a couple times, almost every day, or several times a day?
Q81	How often do you discuss politics with people whose political views are different from yours--almost never, seldom, sometimes, or frequently?
Q82	About how many people do you discuss politics with on a regular basis, none, one, two or three, five to ten, or more than that?

*reverse coded

IV

Q99	**Hours of TV you watched yesterday (0-11)**
Q101	**Hours you listened to radio yesterday (0-11)**
Q102	**Days last week you read a paper (0-7)**
Q104	**Age (in categories)**
Q105	**Education level**
Q107	**Household income in categories**
Q109	**Gender (coded to be female as 1, male as 0)**
NeighAttach1	**A scale constructed by summing standardized values:**
Q26	I'd feel lost if I had to move from my neighborhood.
Q27	I feel I'm a part of the community in which I live.
Q28	I feel a strong identification with my community.
Q29	I enjoy living in my neighborhood.
Neighborhood Involvement / TotalOrgs	**A scale constructed by summing non-standardized values of dummy coded variables:**
Q41	Do you belong to any business or civic groups like Kiwanis or Rotary?
Q42	How about religious organizations?
Q43	Charity or volunteer organizations?
Q44	Ethnic or racial organizations?
Q45	PTA or other school related groups?
Q46	Political clubs or organizations?
Q47	Social clubs such as card playing, music, hobbies, book club, and so on?
Q48	Youth groups like scouts or children's sports?

Q49	Any professional or work-related organizations?
Q50	Neighborhood associations such as block clubs?
Q51	Any other types of organizations not mentioned?
TPbar_restaurant	**A dummy created by summing and recoding as zero or one or more (all from Q53*):**
Café	
tp_coffee	
tp_bar	
tp_restaurant	
TP_nhood	**A dummy created by summing and recoding as zero or one or more (all from Q53*):**
tp_neighbor_outside	
tp_neighbor_party	
tp_neighbor_home	
TP_club	**A dummy created by summing and recoding as zero or one or more (all from Q53*):**
tp_church	
tp_club_org	
tp_commtgs	
tp_senior	
tp_recreation	

*Q53: What are the opportunities for communication in public places in your neighborhood, for example, places where people might chat informally or where friends and neighbors might go for a conversation?

DV

The dependent variable is Deliberation, a scale that represents "a combination of thoughtful problem analysis and egalitarian process that communicators have adequate communication opportunities and engage in attentive listening or dialogue that connects divergent spectrums of speaking and knowing. So I included below questions in the manner of perception of deliberation. Each measurement has been standardized and Q22 has been reverse coded." -Hocheol Yang

IV Scales & Dummys

NeighAttach1 is a scale (constructed in the original dataset) that represents the attachment of respondents to their neighborhood.

TotalOrgs[1] is a scale (constructed in the original dataset) measuring Neighborhood Involvement.

The third places dummy variables represent the presence or absence of broader categories of third places.

[1] In Hocheol's handout, TotalOrgs appears as n_inv or Neighborhood Involvement

II. Running SPSS:

Dummy Coding Third Places

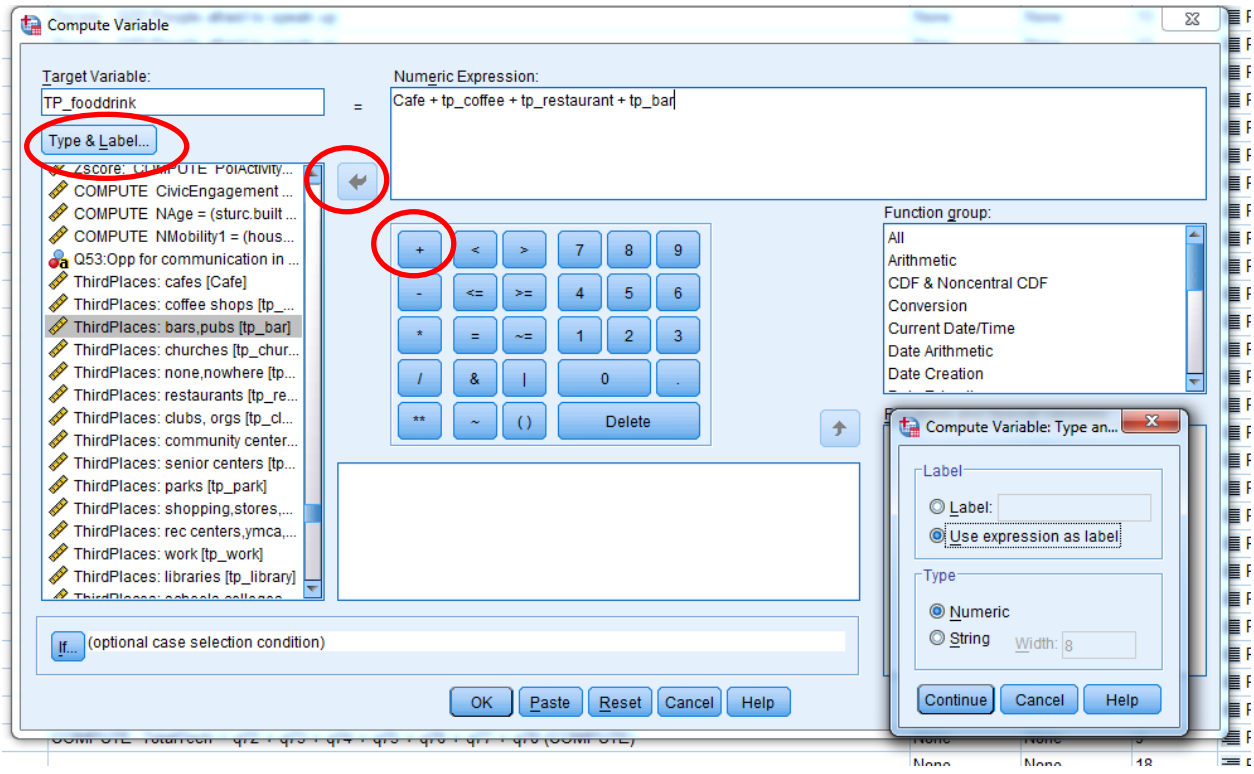
Transform → Compute Variable

Give the new variable a name in the 'Target Variable:' box

Select variables on left to sum in the expression on the right (add variable, include operator, add variable.. Repeat)

Select 'Type & Label' button, and select 'Use expression as label'

Click Continue, then Okay



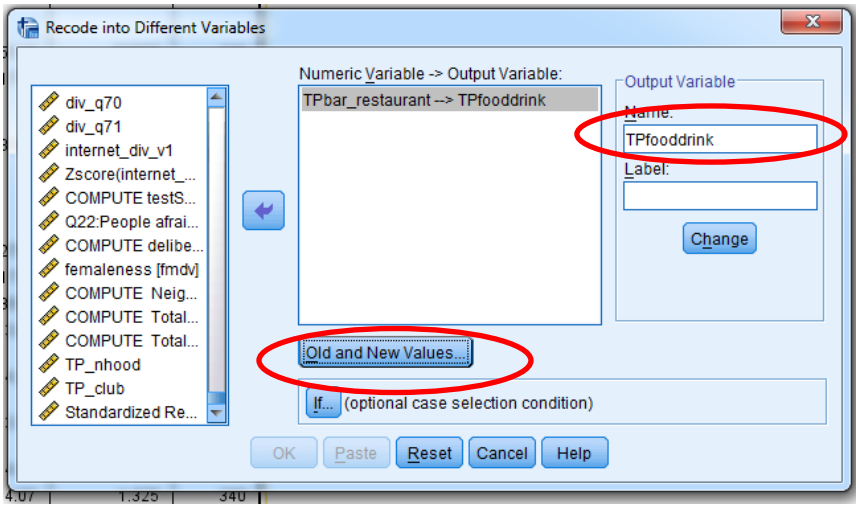
Dummy Coding Third Places (cont.)

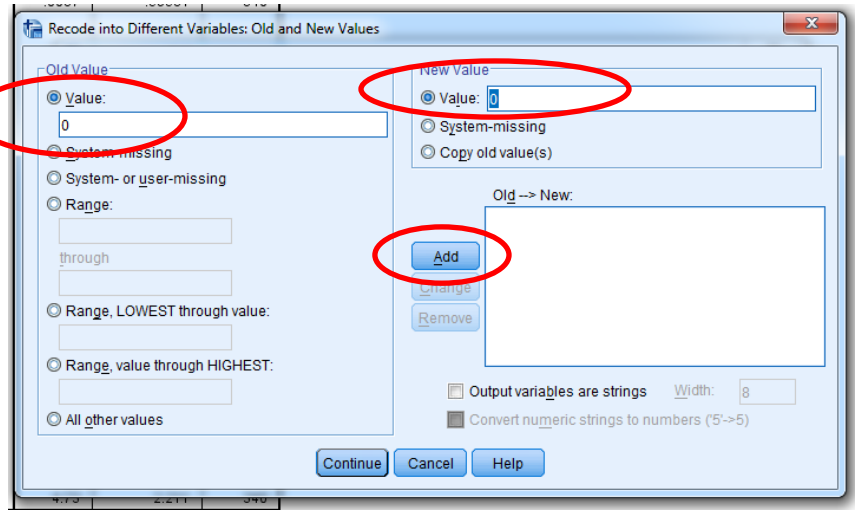
Transform → Recode into Different Variables

Select variable from left, add to right, and give the new variable a name

Select 'Old and New Values…'

For cases with a '0' old value, we keep the value as '0'; Enter a '0' under 'Old Value' > 'Value:' as well as 'New Value' > 'Value:'; then click 'Add'



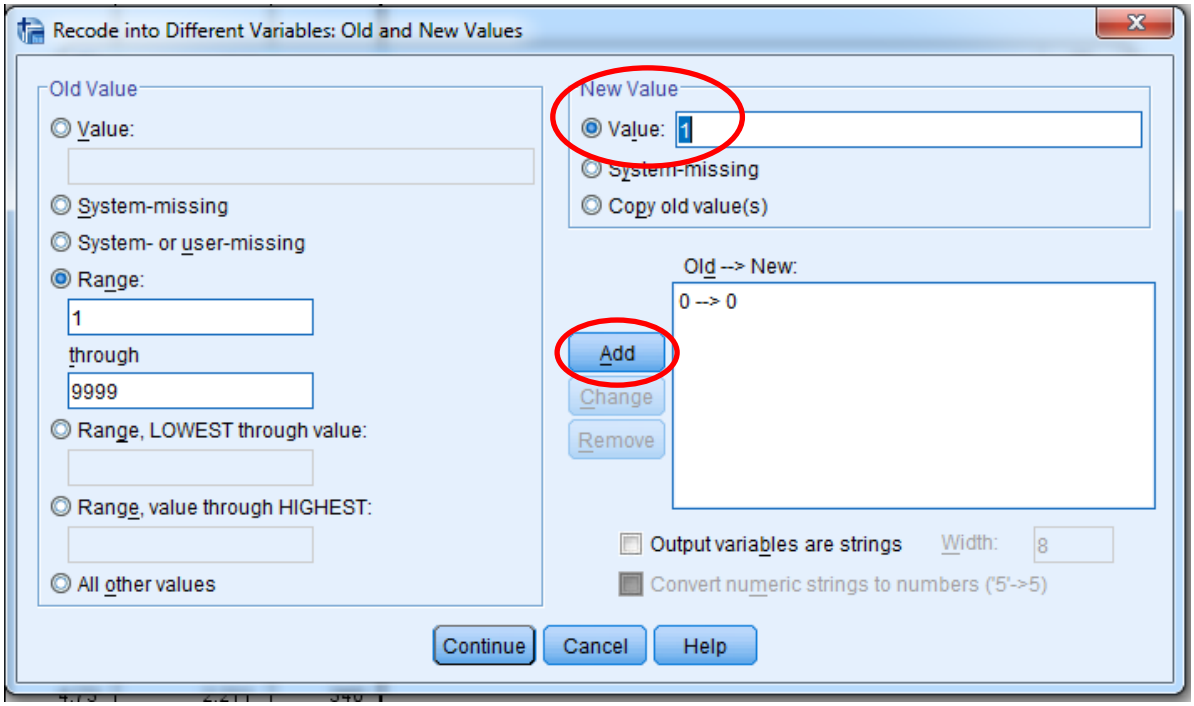


Dummy Coding Third Places (cont.)

For cases with values of 1 or greater, select ‘Range’ under ‘Old Value’, and enter a range of 1 to some number larger than the maximum value of your variable.

Under ‘Value’ for ‘New Value’ enter 1, and click ‘Add’

Then click Continue, repeat for other variables as necessary, then click ‘OK’



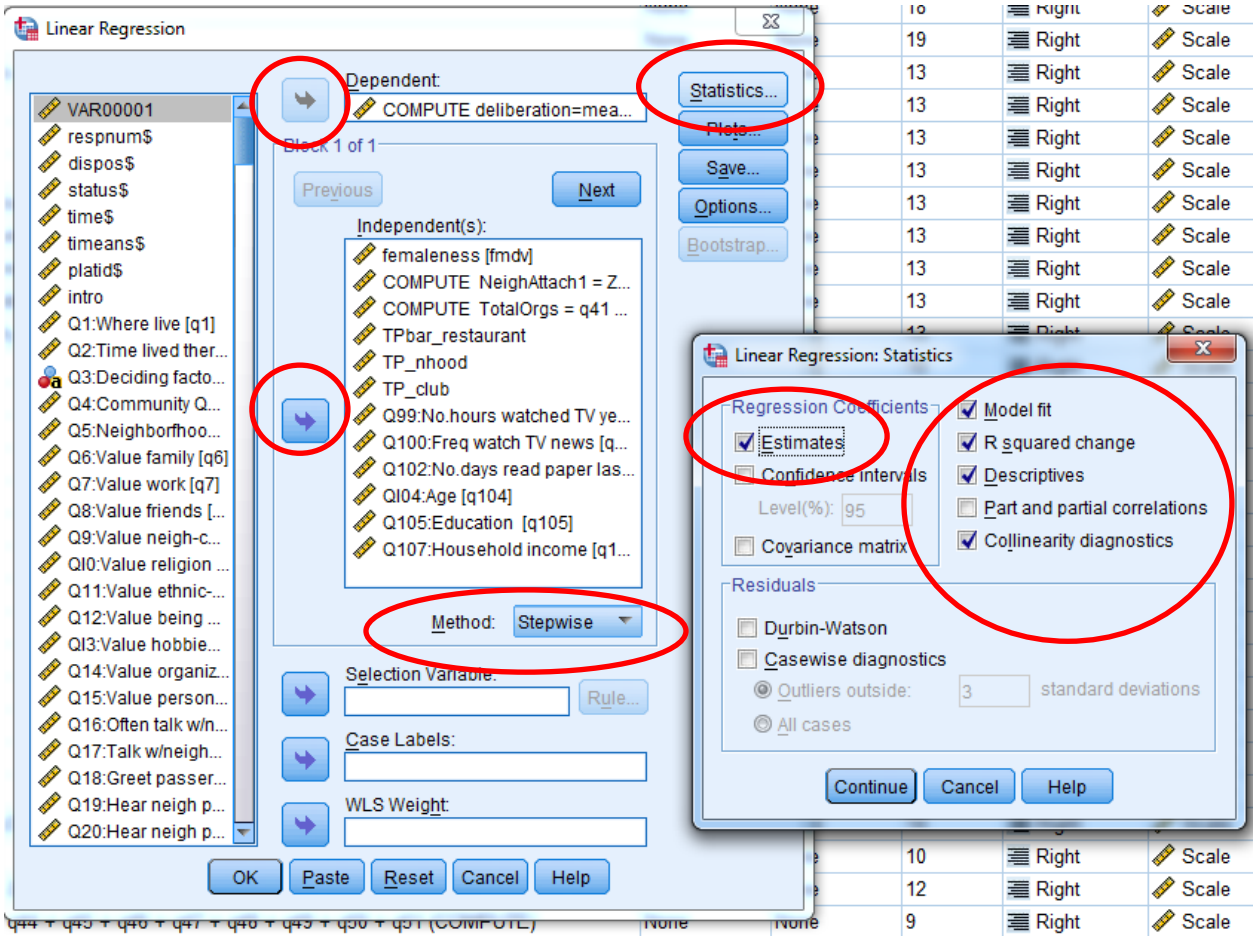
Running the Stepwise Regression

Analyze → Regression → Linear…

Add your DV at the top right, and your IVs below

Select ‘Stepwise’ from the ‘Method:’ dropdown box below your IV list

Click the ‘Statistics…’ button on the top right. Make sure that ‘Estimate’, ‘Model fit’, ‘R squared change’, ‘Descriptives’, and ‘Collinearity diagnostics’ are checked.



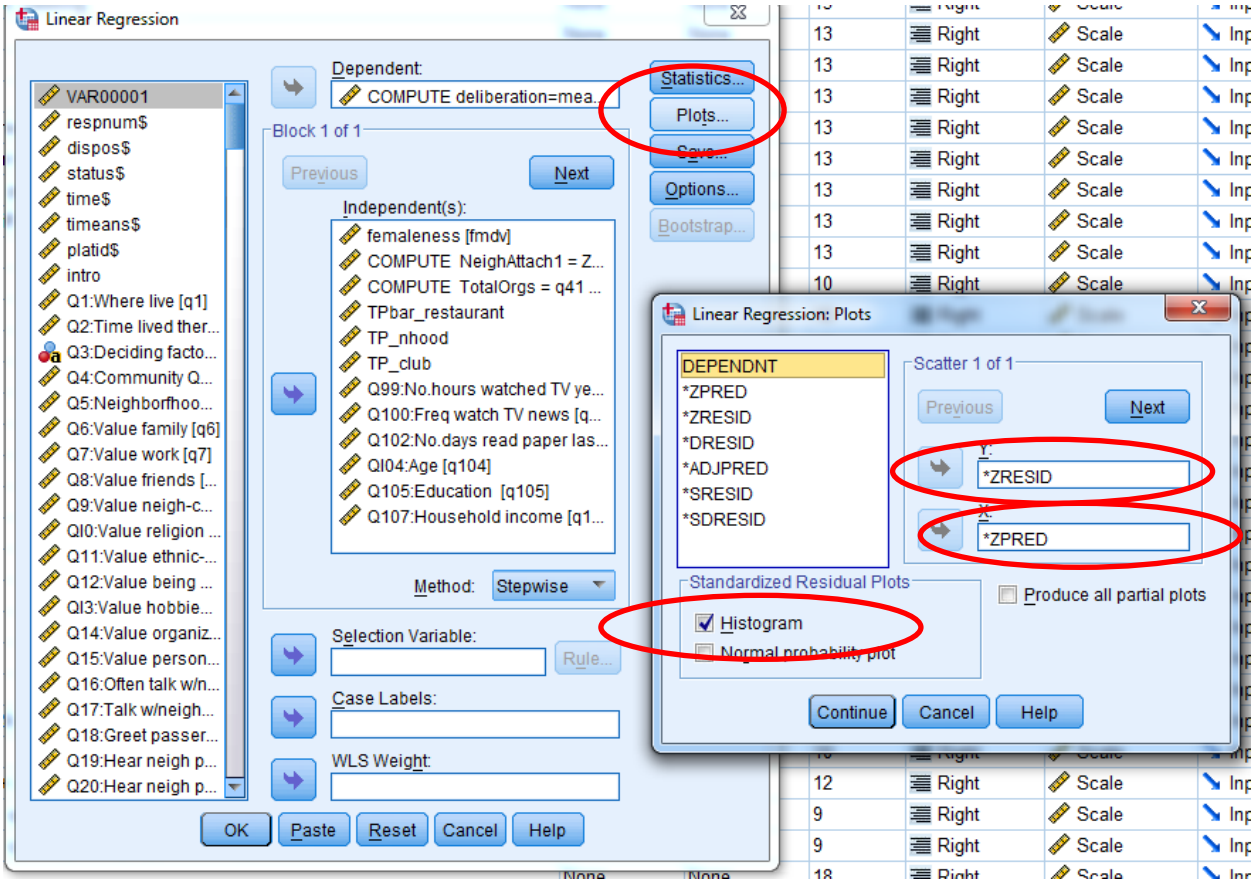
Running the Stepwise Regression (cont.)

Select ‘Plots…’

Add *ZRESID as the Y, and *ZPRED as the X

Check the ‘Histogram’ box under ‘Standardized Residual Plots’

Select ‘Continue’ then ‘OK’ to run the regression



III. SPSS Output:

```
CORRELATIONS
  /VARIABLES=q99 q101 q102 deliberation fmdv n_att n_inv TPbar_restaurant TP_nhood TP_club q104 q105 q107
  /PRINT=TWOTAIL NOSIG
  /MISSING=LISTWISE.
```

Correlations

Correlations[c]

		Q99:No.hours watched TV yesterday	Q101:Hours listened to radio yesterday	Q102:No.days read paper last week	Deliberation	femaleness	NeighAttach1	TotalOrgs	TPbar_restaurant	TP_nhood	TP_club	Age	Education	Household Income
Q99:No.hours watched TV yesterday	Pearson	1	-.071	-.096	-.210**	.067	.006	-.202**	-.042	-.016	-.028	.105	-.271**	-.288**
	Sig. (2-		0.195	0.077	0.000	0.217	0.915	0.000	0.437	0.773	0.609	0.053	0.000	0.000
Q101:Hours listened to radio yesterday	Pearson	-.071	1	.039	.138*	-.014	-.049	.032	.048	.045	.003	-.109*	-.078	-.018
	Sig. (2-	0.195		0.473	0.011	0.797	0.368	0.562	0.380	0.409	0.961	0.044	0.152	0.747
Q102:No.days read paper last week	Pearson	-.096	.039	1	.348**	.028	.235**	.267**	.095	.003	.098	.311**	.263**	.151**
	Sig. (2-	0.077	0.473		0.000	0.601	0.000	0.000	0.082	0.954	0.071	0.000	0.000	0.005
Deliberation	Pearson	-.210**	.138*	.348**	1	-.172**	.290**	.354**	.099	.034	.221**	.128*	.302**	.324**
	Sig. (2-	0.000	0.011	0.000		0.001	0.000	0.000	0.069	0.530	0.000	0.018	0.000	0.000
femaleness	Pearson	.067	-.014	.028	-.172**	1	.095	-.142**	.025	-.034	-.017	-.031	-.083	-.064
	Sig. (2-	0.217	0.797	0.601	0.001		0.081	0.009	0.641	0.531	0.749	0.575	0.125	0.241
NeighAttach1	Pearson	.006	-.049	.235**	.290**	.095	1	.143**	.036	.040	.171**	.355**	-.003	-.003
	Sig. (2-	0.915	0.368	0.000	0.000	0.081		0.008	0.508	0.464	0.002	0.000	0.951	0.954
TotalOrgs	Pearson	-.202**	.032	.267**	.354**	-.142**	.143**	1	.073	.026	.269**	.004	.285**	.246**
	Sig. (2-	0.000	0.562	0.000	0.000	0.009	0.008		0.176	0.633	0.000	0.944	0.000	0.000
TPbar_restaurant	Pearson	-.042	.048	.095	.099	.025	.036	.073	1	-.052	-.117*	-.028	.124*	.054
	Sig. (2-	0.437	0.380	0.082	0.069	0.641	0.508	0.176		0.341	0.031	0.602	0.022	0.324
TP_nhood	Pearson	-.016	.045	.003	.034	-.034	.040	.026	-.052	1	-.176**	-.026	-.006	-.018
	Sig. (2-	0.773	0.409	0.954	0.530	0.531	0.464	0.633	0.341		0.001	0.629	0.915	0.745
TP_club	Pearson	-.028	.003	.098	.221**	-.017	.171**	.269**	-.117*	-.176**	1	.112*	.139*	.071
	Sig. (2-	0.609	0.961	0.071	0.000	0.749	0.002	0.000	0.031	0.001		0.040	0.010	0.192
Ql04:Age	Pearson	.105	-.109*	.311**	.128*	-.031	.355**	.004	-.028	-.026	.112*	1	-.004	-.040
	Sig. (2-	0.053	0.044	0.000	0.018	0.575	0.000	0.944	0.602	0.629	0.040		0.940	0.467
Q105:Education	Pearson	-.271**	-.078	.263**	.302**	-.083	-.003	.285**	.124*	-.006	.139*	-.004	1	.485**
	Sig. (2-	0.000	0.152	0.000	0.000	0.125	0.951	0.000	0.022	0.915	0.010	0.940		0.000
Q107:Household income	Pearson	-.288**	-.018	.151**	.324**	-.064	-.003	.246**	.054	-.018	.071	-.040	.485**	1
	Sig. (2-	0.000	0.747	0.005	0.000	0.241	0.954	0.000	0.324	0.745	0.192	0.467	0.000	

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

c. Listwise N=340

NOTE: This table was modified in Excel for readability

```
REGRESSION
  /DESCRIPTIVES MEAN STDDEV CORR SIG N
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA COLLIN TOL CHANGE
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT deliberation
  /METHOD=STEPWISE q99 q101 q102 q104 q105 q107 fmdv n_att n_inv
TPbar_restaurant TP_nhood TP_club
  /SCATTERPLOT=(*ZRESID ,*ZPRED)
  /RESIDUALS HISTOGRAM(ZRESID)
  /SAVE ZRESID.
```

Regression

[DataSet1] H:\spring13\com631\Presentation\Rpresentation.sav

Descriptive Statistics

	Mean	Std. Deviation	N
COMPUTE deliberation=mean(z21, zq22r, z23, z24, z25, z80, z81, z82), alpha=.72	.0037	.59531	340
Q99:No.hours watched TV yesterday	3.06	2.304	340
Q101:Hours listened to radio yesterday	1.97	2.695	340
Q102:No.days read paper last week	3.73	2.817	340
Ql04:Age	4.35	1.619	340
Q105:Education	4.07	1.325	340
Q107:Household income	4.73	2.211	340
femaleness	.5118	.50060	340
COMPUTE NeighAttach1 = Zq26 + Zq27 + Zq28 + Zq29 (COMPUTE)	-.1773	3.23016	340
COMPUTE TotalOrgs = q41 + q42 + q43 + q44 + q45 + q46 + q47 + q48 + q49 + q50 + q51 (COMPUTE)	2.8647	2.38591	340
TPbar_restaurant	.2706	.44492	340
TP_nhood	.1735	.37926	340
TP_club	.3529	.47859	340

Variables Entered/Removed[a]

		Variables Entered	Variables Removed	Method
Model	1	COMPUTE TotalOrgs = q41 + q42 + q43 + q44 + q45 + q46 + q47 + q48 + q49 + q50 + q51 (COMPUTE)	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
	2	Q102:No.days read paper last week	.	
	3	Q107:Household income	.	
	4	COMPUTE NeighAttach1 = Zq26 + Zq27 + Zq28 + Zq29 (COMPUTE)	.	
	5	femaleness	.	
	6	Q101:Hours listened to radio yesterday	.	
	7	TP_club	.	

a. Dependent Variable: COMPUTE deliberation=mean(z21, zq22r, z23, z24, z25, z80, z81, z82), alpha=.72

Model Summary[h]

Model		R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
						R Square Change	F Change	df1	df2	Sig. F Change
Model	1	.354[a]	0.125	0.123	0.55765	0.125	48.334	1	338	0
	2	.441[b]	0.194	0.189	0.53602	0.069	28.834	1	337	0
	3	.493[c]	0.243	0.236	0.52031	0.049	21.649	1	336	0
	4	.534[d]	0.285	0.277	0.50629	0.042	19.862	1	335	0
	5	.556[e]	0.309	0.299	0.49837	0.024	11.735	1	334	0.001
	6	.573[f]	0.329	0.316	0.4922	0.019	9.431	1	333	0.002
	7	.581[g]	0.338	0.324	0.4895	0.009	4.682	1	332	0.031

a. Predictors: (Constant), COMPUTE TotalOrgs = q41 + q42 + q43 + q44 + q45 + q46 + q47 + q48 + q49 + q50 + q51 (COMPUTE)

b. Predictors: (Constant), COMPUTE TotalOrgs = q41 + q42 + q43 + q44 + q45 + q46 + q47 + q48 + q49 + q50 + q51 (COMPUTE), Q102:No.days read paper last week

c. Predictors: (Constant), COMPUTE TotalOrgs = q41 + q42 + q43 + q44 + q45 + q46 + q47 + q48 + q49 + q50 + q51 (COMPUTE), Q102:No.days read paper last week, Q107:Household income

d. Predictors: (Constant), COMPUTE TotalOrgs = q41 + q42 + q43 + q44 + q45 + q46 + q47 + q48 + q49 + q50 + q51 (COMPUTE), Q102:No.days read paper last week, Q107:Household income, COMPUTE NeighAttach1 = Zq26 + Zq27 + Zq28 + Zq29 (COMPUTE)

e. Predictors: (Constant), COMPUTE TotalOrgs = q41 + q42 + q43 + q44 + q45 + q46 + q47 + q48 + q49 + q50 + q51 (COMPUTE), Q102:No.days read paper last week, Q107:Household income, COMPUTE NeighAttach1 = Zq26 + Zq27 + Zq28 + Zq29 (COMPUTE), femaleness

f. Predictors: (Constant), COMPUTE TotalOrgs = q41 + q42 + q43 + q44 + q45 + q46 + q47 + q48 + q49 + q50 + q51 (COMPUTE), Q102:No.days read paper last week, Q107:Household income, COMPUTE NeighAttach1 = Zq26 + Zq27 + Zq28 + Zq29 (COMPUTE), femaleness, Q101:Hours listened to radio yesterday

g. Predictors: (Constant), COMPUTE TotalOrgs = q41 + q42 + q43 + q44 + q45 + q46 + q47 + q48 + q49 + q50 + q51 (COMPUTE), Q102:No.days read paper last week, Q107:Household income, COMPUTE NeighAttach1 = Zq26 + Zq27 + Zq28 + Zq29 (COMPUTE), femaleness, Q101:Hours listened to radio yesterday, TP_club

h. Dependent Variable: COMPUTE deliberation=mean(z21, zq22r, z23, z24, z25, z80, z81, z82), alpha=.72

ANOVA[a]

			Sum of Squares	df	Mean Square	F	Sig.
Model	1	Regression	15.031	1	15.031	48.334	.000[b]
		Residual	105.108	338	.311		
		Total	120.139	339			
	2	Regression	23.315	2	11.657	40.574	.000[c]
		Residual	96.824	337	.287		
		Total	120.139	339			
	3	Regression	29.176	3	9.725	35.923	.000[d]
		Residual	90.963	336	.271		
		Total	120.139	339			
	4	Regression	34.267	4	8.567	33.420	.000[e]
		Residual	85.872	335	.256		
		Total	120.139	339			
	5	Regression	37.182	5	7.436	29.940	.000[f]
		Residual	82.957	334	.248		
		Total	120.139	339			
	6	Regression	39.466	6	6.578	27.152	.000[g]
		Residual	80.673	333	.242		
		Total	120.139	339			
	7	Regression	40.588	7	5.798	24.199	.000[h]
		Residual	79.551	332	.240		
		Total	120.139	339			

a. Dependent Variable: COMPUTE deliberation=mean(z21, zq22r, z23, z24, z25, z80, z81, z82), alpha=.72

b. Predictors: (Constant), COMPUTE TotalOrgs = q41 + q42 + q43 + q44 + q45 + q46 + q47 + q48 + q49 + q50 + q51 (COMPUTE)

c. Predictors: (Constant), COMPUTE TotalOrgs = q41 + q42 + q43 + q44 + q45 + q46 + q47 + q48 + q49 + q50 + q51 (COMPUTE), Q102:No.days read paper last week

d. Predictors: (Constant), COMPUTE TotalOrgs = q41 + q42 + q43 + q44 + q45 + q46 + q47 + q48 + q49 + q50 + q51 (COMPUTE), Q102:No.days read paper last week, Q107:Household income

e. Predictors: (Constant), COMPUTE TotalOrgs = q41 + q42 + q43 + q44 + q45 + q46 + q47 + q48 + q49 + q50 + q51 (COMPUTE), Q102:No.days read paper last week, Q107:Household income, COMPUTE NeighAttach1 = Zq26 + Zq27 + Zq28 + Zq29 (COMPUTE)

f. Predictors: (Constant), COMPUTE TotalOrgs = q41 + q42 + q43 + q44 + q45 + q46 + q47 + q48 + q49 + q50 + q51 (COMPUTE), Q102:No.days read paper last week, Q107:Household income, COMPUTE NeighAttach1 = Zq26 + Zq27 + Zq28 + Zq29 (COMPUTE), femaleness

g. Predictors: (Constant), COMPUTE TotalOrgs = q41 + q42 + q43 + q44 + q45 + q46 + q47 + q48 + q49 + q50 + q51 (COMPUTE), Q102:No.days read paper last week, Q107:Household income, COMPUTE NeighAttach1 = Zq26 + Zq27 + Zq28 + Zq29 (COMPUTE), femaleness, Q101:Hours listened to radio yesterday

h. Predictors: (Constant), COMPUTE TotalOrgs = q41 + q42 + q43 + q44 + q45 + q46 + q47 + q48 + q49 + q50 + q51 (COMPUTE), Q102:No.days read paper last week, Q107:Household income, COMPUTE NeighAttach1 = Zq26 + Zq27 + Zq28 + Zq29 (COMPUTE), femaleness, Q101:Hours listened to radio yesterday, TP_club

Coefficients[a]

Model			Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
			B	Std. Error	Beta			Tolerance	VIF
Model	1	(Constant)	-.249	.047		-5.266	0.000		
		COMPUTE TotalOrgs = q41 + q42 + q43 + q44 + q45 + q46 + q47 + q48 + q49 + q50 + q51 (COMPUTE)	.088	.013	.354	6.952	0.000	1.000	1.000
	2	(Constant)	-.412	.055		-7.536	0.000		
		COMPUTE TotalOrgs = q41 + q42 + q43 + q44 + q45 + q46 + q47 + q48 + q49 + q50 + q51 (COMPUTE)	.070	.013	.281	5.536	0.000	.929	1.077
		Q102:No.days read paper last week	.058	.011	.272	5.370	0.000	.929	1.077
	3	(Constant)	-.650	.074		-8.816	0.000		
		COMPUTE TotalOrgs = q41 + q42 + q43 + q44 + q45 + q46 + q47 + q48 + q49 + q50 + q51 (COMPUTE)	.057	.013	.230	4.562	0.000	.885	1.130
		Q102:No.days read paper last week	.053	.010	.251	5.084	0.000	.921	1.086
		Q107:Household income	.062	.013	.229	4.653	0.000	.931	1.074
	4	(Constant)	-.608	.072		-8.398	0.000		
		COMPUTE TotalOrgs = q41 + q42 + q43 + q44 + q45 + q46 + q47 + q48 + q49 + q50 + q51 (COMPUTE)	.052	.012	.209	4.237	0.000	.877	1.140
		Q102:No.days read paper last week	.043	.010	.205	4.164	0.000	.880	1.137
		Q107:Household income	.065	.013	.242	5.042	0.000	.928	1.077
		COMPUTE NeighAttach1 = Zq26 + Zq27 + Zq28 + Zq29 (COMPUTE)	.039	.009	.213	4.457	0.000	.934	1.070
	5	(Constant)	-.493	.079		-6.249	0.000		
		COMPUTE TotalOrgs = q41 + q42 + q43 + q44 + q45 + q46 + q47 + q48 + q49 + q50 + q51 (COMPUTE)	.046	.012	.183	3.726	0.000	.856	1.168
		Q102:No.days read paper last week	.045	.010	.213	4.394	0.000	.878	1.139
		Q107:Household income	.064	.013	.237	5.015	0.000	.927	1.078
		COMPUTE NeighAttach1 = Zq26 + Zq27 + Zq28 + Zq29 (COMPUTE)	.042	.009	.230	4.858	0.000	.924	1.082

	femaleness	-.189	.055	-.159	-3.426	0.001	.963	1.038
6	(Constant)	-.550	.080		-6.871	0.000		
	COMPUTE TotalOrgs = q41 + q42 + q43 + q44 + q45 + q46 + q47 + q48 + q49 + q50 + q51 (COMPUTE)	.044	.012	.178	3.671	0.000	.855	1.169
	Q102:No.days read paper last week	.044	.010	.206	4.299	0.000	.876	1.142
	Q107:Household income	.065	.013	.242	5.178	0.000	.926	1.080
	COMPUTE NeighAttach1 = Zq26 + Zq27 + Zq28 + Zq29 (COMPUTE)	.044	.009	.239	5.103	0.000	.921	1.086
	femaleness	-.188	.054	-.158	-3.449	0.001	.963	1.038
	Q101:Hours listened to radio yesterday	.031	.010	.138	3.071	0.002	.993	1.007
7	(Constant)	-.575	.080		-7.149	0.000		
	COMPUTE TotalOrgs = q41 + q42 + q43 + q44 + q45 + q46 + q47 + q48 + q49 + q50 + q51 (COMPUTE)	.038	.012	.153	3.081	0.002	.808	1.237
	Q102:No.days read paper last week	.044	.010	.207	4.327	0.000	.876	1.142
	Q107:Household income	.065	.012	.240	5.182	0.000	.926	1.080
	COMPUTE NeighAttach1 = Zq26 + Zq27 + Zq28 + Zq29 (COMPUTE)	.041	.009	.225	4.792	0.000	.904	1.106
	femaleness	-.188	.054	-.158	-3.481	0.001	.963	1.038
	Q101:Hours listened to radio yesterday	.031	.010	.138	3.084	0.002	.993	1.007
	TP_club	.126	.058	.101	2.164	0.031	.909	1.100

a. Dependent Variable: COMPUTE deliberation=mean(z21, zq22r, z23, z24, z25, z80, z81, z82), alpha=.72

Excluded Variables[a]

Model			Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
							Tolerance	VIF	Minimum Tolerance
	1	Q99:No.hours watched TV yesterday	-.144[b]	-2.804	0.005	-.151	.959	1.043	.959
		Q101:Hours listened to radio yesterday	.127[b]	2.521	0.012	.136	.999	1.001	.999
		Q102:No.days read paper last week	.272[b]	5.370	0.000	.281	.929	1.077	.929
		Ql04:Age	.127[b]	2.519	0.012	.136	1.000	1.000	1.000
		Q105:Education	.220[b]	4.240	0.000	.225	.919	1.088	.919
		Q107:Household income	.252[b]	4.959	0.000	.261	.939	1.065	.939
		femaleness	-.124[b]	-2.434	0.015	-.131	.980	1.021	.980
		COMPUTE NeighAttach1 = Zq26 + Zq27 + Zq28 + Zq29 (COMPUTE)	.245[b]	4.924	0.000	.259	.980	1.021	.980
		TPbar_restaurant	.073[b]	1.435	0.152	.078	.995	1.005	.995
		TP_nhood	.025[b]	.491	0.624	.027	.999	1.001	.999
		TP_club	.136[b]	2.597	0.010	.140	.927	1.078	.927
	2	Q99:No.hours watched TV yesterday	-.133[c]	-2.676	0.008	-.144	.957	1.045	.897
		Q101:Hours listened to radio yesterday	.119[c]	2.450	0.015	.133	.998	1.002	.928
		Ql04:Age	.048[c]	.923	0.356	.050	.897	1.115	.833
		Q105:Education	.171[c]	3.333	0.001	.179	.881	1.135	.879
		Q107:Household income	.229[c]	4.653	0.000	.246	.931	1.074	.885
		femaleness	-.143[c]	-2.927	0.004	-.158	.975	1.026	.906
		COMPUTE NeighAttach1 = Zq26 + Zq27 + Zq28 + Zq29 (COMPUTE)	.198[c]	4.017	0.000	.214	.938	1.066	.889
		TPbar_restaurant	.053[c]	1.076	0.283	.059	.989	1.012	.923
		TP_nhood	.026[c]	.532	0.595	.029	.999	1.001	.928
		TP_club	.128[c]	2.549	0.011	.138	.927	1.079	.869
	3	Q99:No.hours watched TV	-.082[d]	-1.632	0.104	-.089	.898	1.113	.870

	yesterday							
	Q101:Hours listened to radio yesterday	.126[d]	2.667	0.008	.144	.997	1.003	.885
	Ql04:Age	.066[d]	1.308	0.192	.071	.892	1.121	.823
	Q105:Education	.084[d]	1.493	0.136	.081	.711	1.406	.711
	femaleness	-.135[d]	-2.843	0.005	-.154	.974	1.027	.867
	COMPUTE NeighAttach1 = Zq26 + Zq27 + Zq28 + Zq29 (COMPUTE)	.213[d]	4.457	0.000	.237	.934	1.070	.877
	TPbar_restaurant	.046[d]	.970	0.333	.053	.988	1.012	.884
	TP_nhood	.032[d]	.663	0.508	.036	.999	1.001	.884
	TP_club	.128[d]	2.616	0.009	.141	.927	1.079	.831
4	Q99:No.hours watched TV yesterday	-.089[e]	-1.824	0.069	-.099	.897	1.114	.861
	Q101:Hours listened to radio yesterday	.139[e]	3.044	0.003	.164	.993	1.007	.876
	Ql04:Age	-.003[e]	-.049	0.961	-.003	.805	1.242	.805
	Q105:Education	.102[e]	1.870	0.062	.102	.707	1.414	.707
	femaleness	-.159[e]	-3.426	0.001	-.184	.963	1.038	.856
	TPbar_restaurant	.044[e]	.944	0.346	.052	.988	1.013	.875
	TP_nhood	.024[e]	.518	0.605	.028	.997	1.003	.876
	TP_club	.101[e]	2.088	0.038	.114	.910	1.099	.828
5	Q99:No.hours watched TV yesterday	-.083[f]	-1.744	0.082	-.095	.896	1.116	.842
	Q101:Hours listened to radio yesterday	.138[f]	3.071	0.002	.166	.993	1.007	.855
	Ql04:Age	-.019[f]	-.381	0.704	-.021	.798	1.254	.798
	Q105:Education	.095[f]	1.753	0.081	.096	.706	1.417	.706
	TPbar_restaurant	.049[f]	1.066	0.287	.058	.987	1.014	.854
	TP_nhood	.018[f]	.405	0.686	.022	.996	1.004	.856
	TP_club	.102[f]	2.143	0.033	.117	.909	1.100	.809
6	Q99:No.hours watched TV yesterday	-.073[g]	-1.547	0.123	-.085	.892	1.121	.842
	Ql04:Age	-.001[g]	-.029	0.977	-.002	.787	1.271	.787
	Q105:Education	.112[g]	2.104	0.036	.115	.699	1.431	.699
	TPbar_restaurant	.043[g]	.941	0.347	.052	.985	1.016	.854

		TP_nhood	.012[g]	.270	0.788	.015	.994	1.006	.855
		TP_club	.101[g]	2.164	0.031	.118	.909	1.100	.808
	7	Q99:No.hours watched TV yesterday	-.076[h]	-1.616	0.107	-.088	.891	1.122	.795
		Ql04:Age	-.010[h]	-.194	0.847	-.011	.782	1.278	.782
		Q105:Education	.104[h]	1.944	0.053	.106	.694	1.441	.694
		TPbar_restaurant	.058[h]	1.285	0.200	.070	.963	1.039	.803
		TP_nhood	.033[h]	.711	0.477	.039	.955	1.047	.805

a. Dependent Variable: COMPUTE deliberation=mean(z21, zq22r, z23, z24, z25, z80, z81, z82), alpha=.72

b. Predictors in the Model: (Constant), COMPUTE TotalOrgs = q41 + q42 + q43 + q44 + q45 + q46 + q47 + q48 + q49 + q50 + q51 (COMPUTE)

c. Predictors in the Model: (Constant), COMPUTE TotalOrgs = q41 + q42 + q43 + q44 + q45 + q46 + q47 + q48 + q49 + q50 + q51 (COMPUTE), Q102:No.days read paper last week

d. Predictors in the Model: (Constant), COMPUTE TotalOrgs = q41 + q42 + q43 + q44 + q45 + q46 + q47 + q48 + q49 + q50 + q51 (COMPUTE), Q102:No.days read paper last week, Q107:Household income

e. Predictors in the Model: (Constant), COMPUTE TotalOrgs = q41 + q42 + q43 + q44 + q45 + q46 + q47 + q48 + q49 + q50 + q51 (COMPUTE), Q102:No.days read paper last week, Q107:Household income, COMPUTE NeighAttach1 = Zq26 + Zq27 + Zq28 + Zq29 (COMPUTE)

f. Predictors in the Model: (Constant), COMPUTE TotalOrgs = q41 + q42 + q43 + q44 + q45 + q46 + q47 + q48 + q49 + q50 + q51 (COMPUTE), Q102:No.days read paper last week, Q107:Household income, COMPUTE NeighAttach1 = Zq26 + Zq27 + Zq28 + Zq29 (COMPUTE), femaleness

g. Predictors in the Model: (Constant), COMPUTE TotalOrgs = q41 + q42 + q43 + q44 + q45 + q46 + q47 + q48 + q49 + q50 + q51 (COMPUTE), Q102:No.days read paper last week, Q107:Household income, COMPUTE NeighAttach1 = Zq26 + Zq27 + Zq28 + Zq29 (COMPUTE), femaleness, Q101:Hours listened to radio yesterday

h. Predictors in the Model: (Constant), COMPUTE TotalOrgs = q41 + q42 + q43 + q44 + q45 + q46 + q47 + q48 + q49 + q50 + q51 (COMPUTE), Q102:No.days read paper last week, Q107:Household income, COMPUTE NeighAttach1 = Zq26 + Zq27 + Zq28 + Zq29 (COMPUTE), femaleness, Q101:Hours listened to radio yesterday, TP_club

Collinearity Diagnostics[a]

						Variance Proportions								
				Eigenvalue	Condition Index	(Constant)	COMPUTE TotalOrgs = q41 + q42 + q43 + q44 + q45 + q46 + q47 + q48 + q49 + q50 + q51 (COMPUTE)	Q102:No.days read paper last week	Q107:Household income	COMPUTE NeighAttach1 = Zq26 + Zq27 + Zq28 + Zq29 (COMPUTE)	femalenes s	Q101:Hours listened to radio yesterday	TP_club
Model	1	Dimension	1	1.769	1.000	.12	.12							
			2	.231	2.766	.88	.88							
	2	Dimension	1	2.523	1.000	.04	.05	.04						
			2	.286	2.968	.02	.79	.45						
			3	.191	3.637	.94	.16	.51						
	3	Dimension	1	3.360	1.000	.01	.03	.02	.01					
			2	.288	3.419	.02	.88	.29	.01					
			3	.261	3.588	.08	.09	.65	.18					
			4	.091	6.075	.89	.00	.04	.79					
	4	Dimension	1	3.361	1.000	.01	.02	.02	.01	.00				
			2	1.023	1.813	.00	.00	.00	.00	.88				
			3	.287	3.419	.02	.86	.30	.01	.00				
			4	.239	3.751	.08	.12	.62	.21	.11				
			5	.091	6.088	.89	.00	.05	.77	.00				
	5	Dimension	1	3.872	1.000	.01	.02	.02	.01	.00	.02			
			2	1.023	1.946	.00	.00	.00	.00	.88	.00			
			3	.540	2.678	.00	.16	.02	.00	.00	.62			
			4	.268	3.801	.00	.42	.76	.00	.02	.06			
			5	.216	4.237	.06	.40	.16	.33	.09	.17			
			6	.081	6.898	.93	.01	.04	.65	.01	.13			
	6	Dimension	1	4.260	1.000	.01	.01	.01	.01	6.28E-09	.01	.02		
			2	1.038	2.026	.00	.00	.01	.00	.83	.00	.02		
			3	.602	2.659	.00	.01	.01	.01	.05	.06	.90		
			4	.539	2.812	.00	.17	.02	.01	.00	.58	.02		
			5	.268	3.988	.00	.41	.77	.00	.02	.05	.00		
			6	.215	4.454	.06	.39	.15	.35	.09	.16	.01		
			7	.079	7.356	.94	.01	.04	.63	.01	.13	.04		
	7	Dimension	1	4.689	1.000	.00	.01	.01	.01	.00	.01	.01	.01	
			2	1.062	2.101	.00	.00	.00	.00	.75	.00	.03	.02	
			3	.633	2.722	.00	.04	.00	.00	.12	.08	.39	.33	
			4	.591	2.816	.00	.01	.00	.00	.00	.32	.48	.10	
			5	.473	3.149	.00	.11	.09	.02	.00	.25	.04	.46	
			6	.259	4.253	.00	.45	.70	.01	.03	.04	.00	.06	
			7	.215	4.673	.05	.39	.15	.34	.08	.17	.01	.00	
			8	.078	7.756	.94	.00	.04	.62	.01	.13	.04	.01	

a. Dependent Variable: COMPUTE deliberation=mean(z21, zq22r, z23, z24, z25, z80, z81, z82), alpha=.72

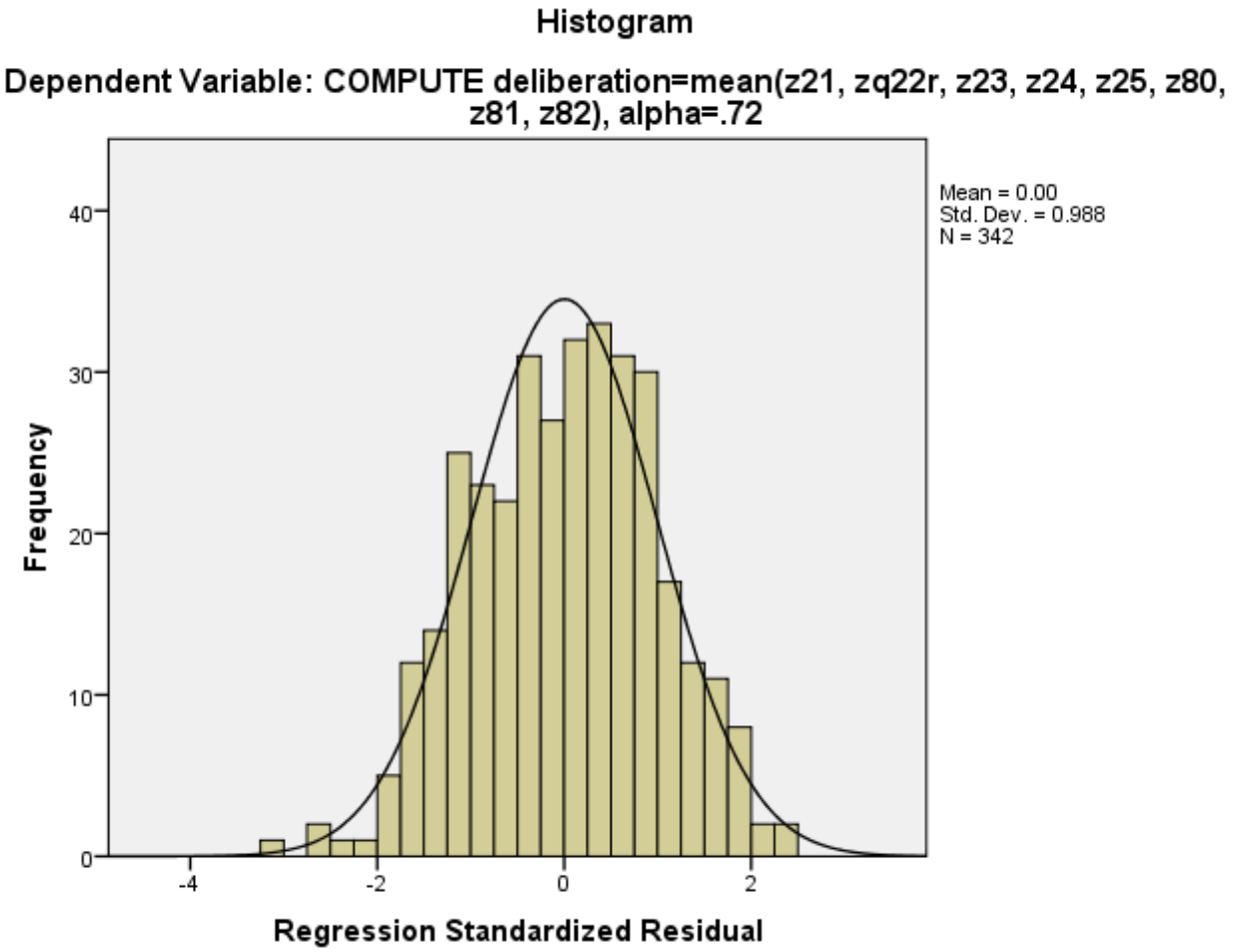
NOTE: Table modified in Excel for readability.

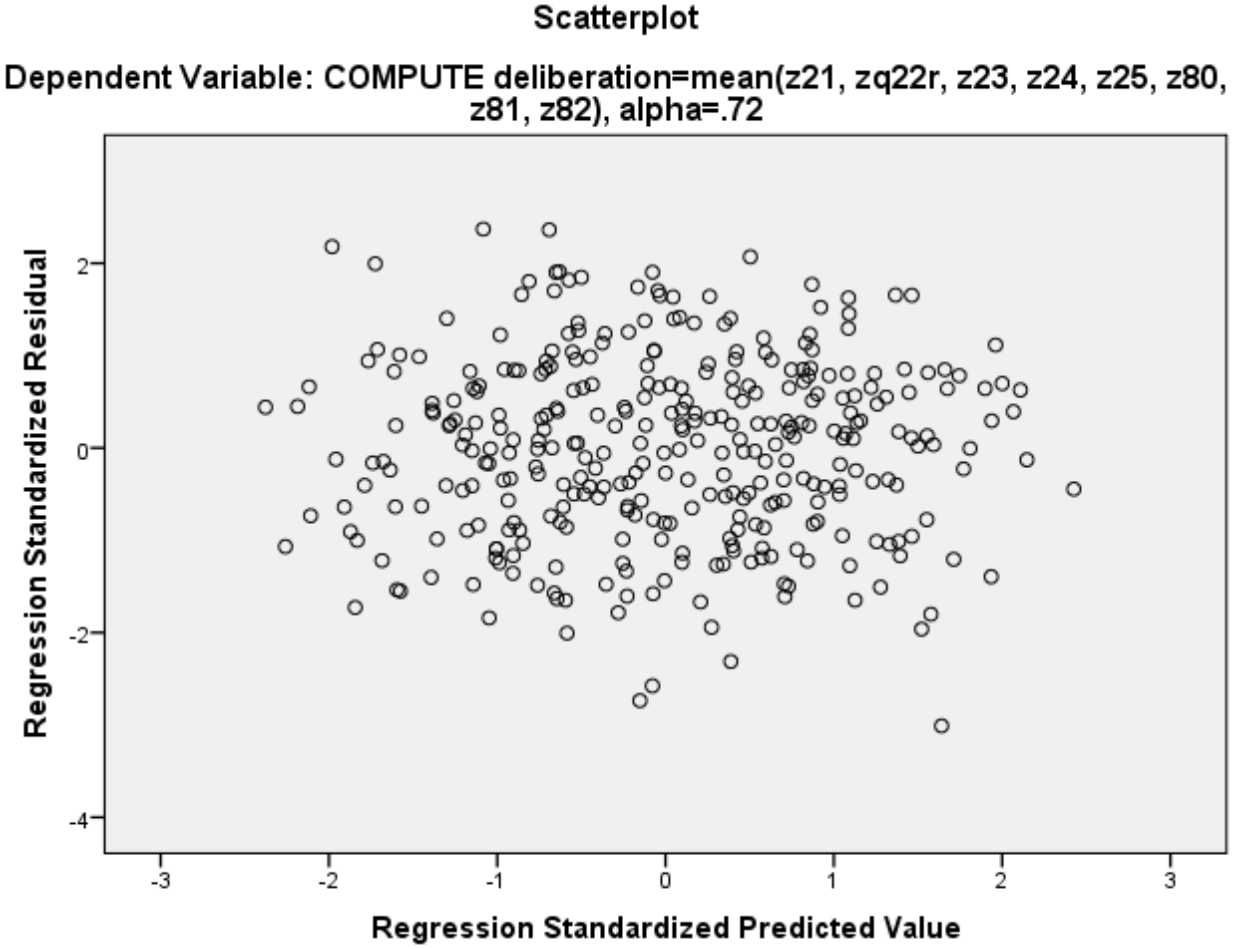
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.8187	.8432	.0025	.34568	342
Residual	-1.47331	1.16011	.00069	.48369	342
Std. Predicted Value	-2.377	2.426	-.004	.999	342
Std. Residual	-3.010	2.370	.001	.988	342

a. Dependent Variable: COMPUTE deliberation=mean(z21, zq22r, z23, z24, z25, z80, z81, z82), alpha=.72

Charts




Scatterplot
Dependent Variable: COMPUTE deliberation=mean(z21, zq22r, z23, z24, z25, z80, z81, z82), alpha=.72
Regression Standardized Residual
2
0
-2
-4
-3
-2
-1
0
1
2
3
Regression Standardized Predicted Value

IV. Tabling Results:

Final Model (7) of Stepwise Regression Against 'Deliberation'

	Pearson r	B	Std. Error	Final ß	t-statistic	p-value	TOL	VIF
(Constant)	-	-0.575**	.080	-	-7.149	.000	-	-
TotalOrgs (n_inv)	0.281**	0.038**	.012	.153	3.081	.002	.808	1.237
Q102:No.days read paper last week	0.305**	0.044**	.010	.207	4.327	.000	.876	1.142
Q107:Household income	0.305**	0.065**	.012	.240	5.182	.000	.926	1.080
NeighAttach1	0.259**	0.041**	.009	.225	4.792	.000	.904	1.106
femaleness	-0.161**	-0.188**	.054	-.158	-3.481	.001	.963	1.038
Q101:Hours listened to radio yesterday	0.126**	0.031**	.010	.138	3.084	.002	.993	1.007
TP_club	0.193**	0.126*	.058	.101	2.164	.031	.909	1.100

** Significant at the 0.01 level
* Significant at the 0.05 level

$R^2 = 0.338$
adjusted $R^2 = 0.324$
$F = 24.199$ ($p < 0.001$)
N = 340

V. Write-up of Results:

The stepwise regression inserted 7 of the original twelve variables in the final model. Multicollinearity is limited, based on the tolerance (TOL) values associated with the included variables. All variables have beta values that are significant at the 0.05 level; while most are significant at 0.01 or even 0.001 (p-value).

The overall model fit is good, with an R^2 of 0.338. This means that this model accounts for 38.8% of the variance in Deliberation. The number of cases for this test is limited to 340, nearly a hundred less than are available in the full data set. This is mostly the result of respondents choosing not to provide income information, and those cases being removed from analysis (listwise).

Of the demographic variables included initially, only household income and gender show up in the final model. Gender (as femaleness) shows a negative relationship in the zero-order correlation with the DV as well as within the regression, based on the unstandardized B coefficient. This indicates that femaleness results in a score that is 0.188 points lower than in instances of maleness, when controlling for the other variables in the final model.

The relationship with income shows that with each increase in income brackets (brackets being $10,000 steps) the Deliberation score is shown to increase by 0.065 points, controlling for the variables selected in the final model.

When comparing the media related variables relating to newspaper and radio, it should be kept in mind that these variables deal in very different units. For radio, the measure is hours listened to in the previous day; so for each hour of additional radio listening, an increase of 0.031 can be predicted in the Deliberation score. For newspapers, the units are days of having read a paper; for each additional day of paper reading, an increase of 0.044 can be predicted in a respondents Deliberation score.

TotalOrgs, the scale for Neighborhood Involvement, shows that as neighborhood involvement increases across methods of involvement, for each additional type of neighborhood organization, the Deliberation score increases 0.038. This is a more difficult interpretation, and caution should be made not to think of increased involvement as the total number of organizations, but the diversity of organizations.

Neighborhood attachment (NeighAttach1) is an even more difficult interpretation given that the variable is a sum of standardized variables. For every unit increase in neighborhood attachment, the Deliberation score will be expected to increase by 0.041 points.

Like gender (or femaleness) the beta for TP_club is interpreted in the context of the dummy; an involvement in local clubs predicts a Deliberation score that is 0.126 points higher than non-involvement (or the absence of involvement).

Using the Standardized Beta as a way to rank the predictive power of variables, it appears that income is the strongest unique predictor, followed quickly by neighborhood attachment, and newspaper reading.

Femaleness (as absolute value), just barely ranks above neighborhood involvement, followed by radio use and lastly the dummy variable for local club involvement.

Hocheol will discuss the interpretation of *standardized* regression coefficients in further detail.