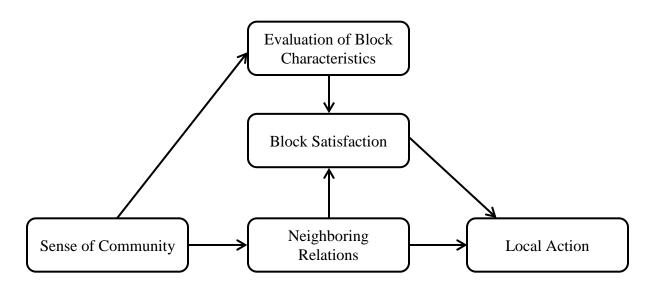
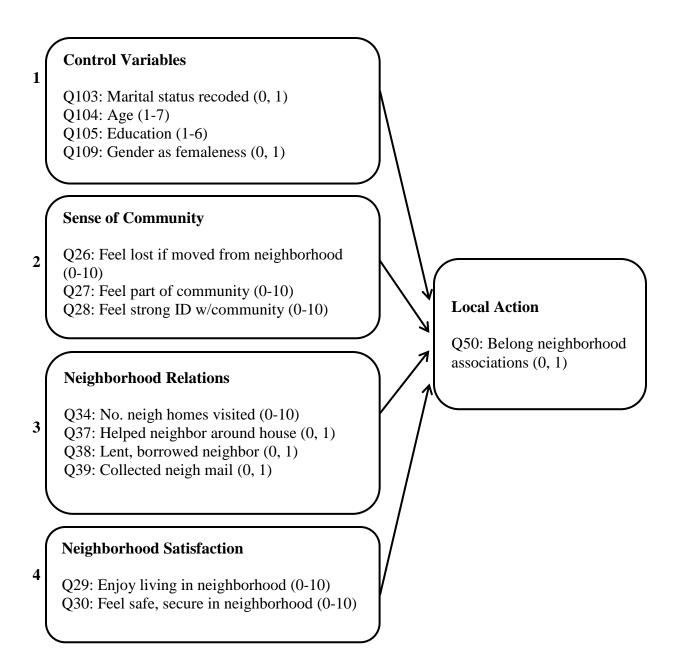
LOGISTIC REGRESSION Pat Groble & Serineh Baboomian 04/03/13 COM 631/731 National Community Study 2006 data set

1. Model and Theory



General path model for determinants of local action adopted from Chavis and Wandersman, 1990—Chavis, D. M., & Wandersman, A. (1990). Sense of community in the urban environment: a catalyst for participation and community development. *American Journal of Community Psychology*, *18*(1), 55-81.



Page 2

2. Running SPSS

ANALYZE REGRESSION BINARY LOGISTIC

DEPENDENT: Insert dependent variable

BLOCK 1

COVARIATES: Insert independent variables for Block 1

METHOD: Enter (Forced entry)

].sav (DataSet	1] - PASW Statis	itics Data Ec	litor							
jew <u>D</u> ata <u>T</u> r	anaform <u>A</u> nalyz		_	.dd- <u>o</u> ns <u>Wi</u> ndow <u>H</u> elp		_				
		× 🔚		🛯 👫 📗 🔛		► 45				
Name	Туре	Width	Decimals		Label	Values	Missing	Columns	Align	Measure
m10000to14	Numeric	8	2	\$10,000 to \$14,999		None	None	8	ा≣ Right	🧬 Scale
m15000to24	Numeric	8	2	\$15,000 to \$24,999		None	None	8	≡ Right	🧬 Scale
m25000ta34	Numeric	8	2	\$25,000 to \$34,999		None	None	8	竃 Right	🧬 Scale
m35000to49	Numeric	8	2	\$35,000 to \$49,999		None	None	8	ा≣ Right	🧬 Scale
m50000ta74	Numeric	8	2	\$50,000 to \$74,999		None	None	8	≔ Right	🧬 Scale
m75000ta99	Numeric	8	2	\$75,000 to \$99,999		None	None	8	≡ Right	🧬 Scale
m100000to1	Numeric	8	2	\$100,000 to \$149,999		None	None	8	竃 Right	🧬 Scale
m150000ta1	Numeric	8	2	\$150,000 to \$ 199,999		None	None	8	≡ Right	🧬 Scale
m200000	Numeric	8	2	\$200,000 or more		None	None	8	🗐 Right	🧬 Scale
householdin	Numeric	8	2	E Logistic Regression			×	8	≡ Bight	🧬 Scale
famly.income	Numeric	8	2	Eddade Kedi caalon				8	≡ Right	🧬 Scale
poverty	Numeric	8	2			Categorical		8	≡ Bight	🔗 Scale
sturc.built	Numeric	8	2	√AR00001 ✓ respons	Course ong neghoomood asso	Save	i	8	🗏 Right	🔗 Scale
y1995to98	Numeric	8	2	🖋 dispos\$	Block 1 of	Options	-	8	≡ Right	🧬 Scale
y1990to94	Numeric	8	2	🛷 statusti	Previous Next		-	8	≡ Bight	🔗 Scale
y1980to89	Numeric	8	2	🛷 time\$	<u>C</u> ovariates:		P	8	🗏 Right	🔗 Scale
y1970to79	Numeric	8	2	timeans\$	u104	N		8	≡ Right	🧬 Scale
y60to69	Numeric	8	2	piscida	q105		8	8	≡ Bight	🔗 Scale
y40to59	Numeric	8	2	🖉 C1:Where live [q1]	femoleness marriednew		2	8	≡ Bight	🔗 Scale
y39or.ealier	Numeric	8	2	🥔 G2 Time ived there	2 <u>a</u> 1			8	≡ Right	🔗 Scale
housemove	Numeric	8	2	a3 Deciding factors			8	11	≡ Right	🔗 Scale
y95to98	Numeric	8	2	Q4: Community QOL Q5: Neighborthood	Method: Ener		e	8	≡ Right	🧬 Scale
y90to94	Numeric	8	2	SG Value family [q6]	Selection Variable:		e	8	≡ Right	🔗 Scale
y80to89	Numeric	8	2	ST: Value work [g7]	Rul	e	þ	8	≔≣ Right	🔗 Scale
y70to79	Numeric	8	2				þ	8	≡ Right	🔗 Scale
y69or. earlier	Numeric	8	2	ок	Easte Reset Cancel Help		þ	8	≡ Right	🔗 Scale
Q108Zip2	Numeric	40	0	Q108:ZipcodeDuplicated		None	999999	12	≡ Right	💰 Nominal
VARCCC02	String	40	0	Q108:Zipcode repeated		None	None	8	≣ Left	💰 Nominal
regian	Numeric	8	2	Region		(1.00, New	None	8	≡ Right	🔗 Scale
CityName	String	25	0	City name		None	None	16	≣ Left	💰 Nominal
CityPop	Numeric	11	0	City population		None	None	11	≡ Right	🔗 Scale
County	String	26	0	County name		None	None	13	≣ Left	📤 Nominal

Click NEXT

REPEAT this process for Blocks 2 and 3

BLOCK 4

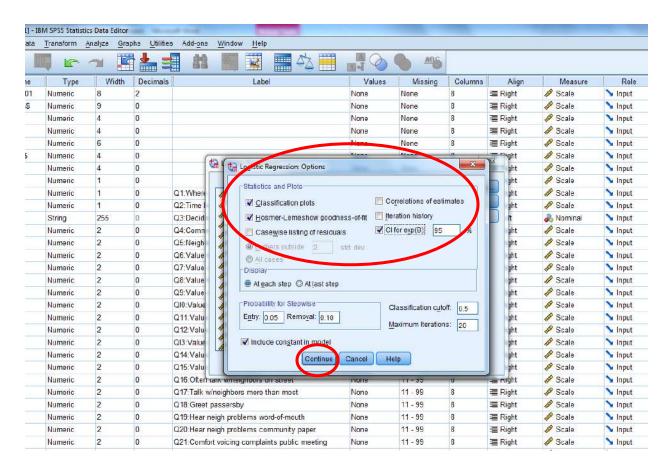
COVARIATES: Insert independent variables for Block 4

Then click on OPTIONS:

Check boxes for Classification Plots

Hosmer-Lemeshow

CI for exp(B) at 95%



Click on CONTINUE

Then click OK

orm /	Analyze Grap	ohs Utilitie	s Add-ons	Window Help							
<u>r</u>	~] 📥 =		- III III III - A	2 🎹		A				
Туре	Width	Decimals		Label		Values	Missing	Columns	Align	Measure	Role
eric	8	2				None	None	8	≣ Right	🥔 Scale	💊 Input
oire	9	0				None	None	8	≣ Right	Scale 🔗	💊 Input
eric	4	0				None	None	8	≣ Right	Scale 🖉	💊 Input
oric	4	0				None	None	8	≣ Right	Scale Scale	S Input
eric	6	0				None	None	8	≣ Right	Scale Scale	💊 Input
oric	4	0	(E 5		Mana	Mana	0	🔀 Dight	Scale Scale	💊 Input
oric	4	0		Logistic Regression		- Manual	No.		ht	Scale Scale	💊 Input
oric	1	0				ependent		(Determine)	ht	🧬 Scale	💊 Input
oric	1	0	Q1:Where	🔗 Q29:Enjoy living i 🔝	🖌 🛉		ichborhood as	Categoric	al	Scale	💊 Input
oric	1	0	Q2:Time	🖉 Q30:Feel safe, s	Block 4		igneonioed do	Save.	ht	Scale	💊 Input
3	255	0	Q3:Decid	🔗 Q31:Public officia 🔳	Dentitat		Next	Options) t	🚴 Nominal	💊 Input
oric	2	0	Q4:Comn	Q32:Have little inf	Previou		Next		pht	Scale Scale	💊 Input
əric	2	0	Q5:Neigh	Q34:No.neigh ho		<u>C</u> ovariates:			ht	🔗 Scale	💊 Input
oric	2	0	Q6:Value	🖉 Q35:No.neighbor		q29	1		ht	Scale Scale	💊 Input
eric	2	0	Q7:Value	🔗 Q36:% friends livi	*	q30			ht	🛷 Scale	💊 Input
oric	2	0	Q8:Value	Q37:Helped neig Q38:Lent borrow	To served	16			ht	🖉 Scale	💊 Input
əric	2	0	Q9:Value	Q39:Collected ne	>a"b>	12			ht	🛷 Scale	💊 Input
eric	2	0	QI0 Value	Q40:% neighbors	Method:	Enter	-		iht	Ø Scale	💊 Input
eric	2	0	Q11:Valu	🔗 Q41:Belong civic	Method.	Einter			ht	Ø Scale	💊 Input
eric	2	D	Q12:Valu	Q42:Belong religi		election Variable:			iht	Ø Scale	💊 Input
eric	2	0	QI3 Value	Q43:Belong chari Q44:Belong ethni	*		Rule		ht	Ø Scale	🔪 Input
eric	2	0	Q14:Valu		1				pht	Scale	💊 Input
eric	2	0	Q15:Valu	OK	Paste	Reset Can	Help		ht	Scale	🔪 Input
eric	2	0	Q16:Often	Taik wineignoors on saleet		TNOUS:	11-35	0	- raight	Scale 8	💊 Input
eric	2	0	Q17:Talk	w/neighbors more than most		None	11 - 99	8	≣ Right	Scale 8	> Input
eric	2	0	Q18:Greet	passersby		None	11 - 99	8	■ Right	Scale Scale	🔪 Input
eric	2	0	Q19:Hear	neigh problems word-of-mouth	1	None	11 - 99	8	■ Right	Scale 8	🔪 Input
eric	2	0	Q20:Hear	neigh problems community pa	aper	None	11 - 99	8	≣ Right	Scale 8	🖌 Input
eric	2	0	Q21:Comf	ort voicing complaints public r	neeting	None	11 - 99	8	≣ Right	Scale	🔪 Input
eric	2	0	Q22-Peop	le afraid to speak up		None	11 - 99	8	≡ Right	Scale 8	> Input

3. SPSS Output

```
LOGISTIC REGRESSION VARIABLES q50

/METHOD=ENTER q104 q105 femaleness marriednew

/METHOD=ENTER q26 q27 q28

/METHOD=ENTER q34 q37 q38 q39

/METHOD=ENTER q29 q30

/CLASSPLOT

/PRINT=GOODFIT CI(95)

/CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
```

Logistic Regression

[DataSet1] C:\Documents and Settings\2532364\Local Settings\Temporary Internet Files\Content.IE5\OHETIL6R\natcom[1].sav

Case Processing Summary

Unweighted Case	a s	N	Percent	
Selected Cases	Included in Analysis	411	86.2	
	Missing Cases	66	13.8	
	Total	477	100.0	
Unselected Case	s	0	.0	
Total		477	100.0	

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
no	0
yes	1

Block 0: Beginning Block

Classification Table^{a,b}

	Observed		Predicted			
			Q50:Belong neighbort associations			
			no	yes		
Step 0	Q50:Belong neighborhood associations	no	327	0		
		yes	84	0		
	Overall Percentage					

a. Constant is included in the model.

b. The cut value is .500

Classification Table^{a,b}

	Observed		Predicted
			Percentage Correct
Step 0	Q50:Belong neighborhood	no	100.0
	associations	yes	.0
	Overall Percentage		79.6

a. Constant is included in the model.

b. The cut value is .500

Variables in the Equation

	В	S.E.	Wald	df	Sig.	Exp(B)
Step 0 Con	stant -1.359	.122	123.457	1	.000	.257

Variables not in the Equation

			Score	df	Sig.
Step 0	Variables	q104	2.395	1	.122
		q105	13.470	1	.000
		femaleness	3.783	1	.052
		marriednew	5.837	1	.016
	Overall Sta	tistics	22.687	4	.000

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	25.018	4	.000
	Block	25.018	4	.000
	Model	25.018	4	.000

Model Summary

Step	-2 Log	Cox & Snell R	Nagelkerke R
	likelihood	Square	Square
1	391.254 ^a	.059	.093

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than . 001.

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	15.428	8	.051

		Q50:Belong ne associatio		Q50:Belong neighborhood associations = yes			
		Observed	Expected	Observed	Expected	Total	
Step 1	1	37	38.665	4	2.335	41	
	2	39	38.659	4	4.341	43	
	3	38	36.371	4	5.629	42	
	4	35	32.065	3	5.935	38	
	5	29	33.639	12	7.361	41	
	6	36	33.498	6	8.502	42	
	7	35	31.483	6	9.517	41	
	8	23	29.672	18	11.328	41	
	9	28	26.647	11	12,353	39	
	10	27	26.300	16	16.700	43	

Contingency Table for Hosmer and Lemeshow Test

Classification Table^a

	Observed		Predicted		
			Q50:Belong neighborhood associations		
			no	yes	
Step 1	Q50:Belong neighborhood	no	327	0	
	associations	yes	84	0	
	Overall Percentage				

a. The cut value is .500

Classification Table^a

Observed		Predicted	
		Percentage Correct	
Step 1	Q50:Belong neighborhood	no	100.0
	associations	yes	.0
	Overall Percentage		79.6

a. The cut value is .500

Variables in the Equation

		В	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	q104	165	.082	4.037	1	.045	.848
	q105	.352	.105	11.244	1	.001	1.421
	femaleness	460	.254	3.279	1	.070	.631
	marriednew	.578	.272	4.523	1	.033	1.783
	Constant	-2.284	.574	15.860	1	.000	.102

a. Variable(s) entered on step 1: q104, q105, femaleness, marriednew.

Variables in the Equation

		95% C.I.for EXP(B)	
		Lower	Upper
Step 1 ^a	q104	.721	.996
	q105	1.157	1.746
	femaleness	.384	1.039
	marriednew	1.046	3.038
	Constant		

a. Variable(s) entered on step 1: q104, q105, femaleness, marriednew.

Step number: 1

Observed Groups and Predicted Probabilities

	32	+			
		т			+
		I			I
		I			
F		I			I
1		-			I
R	24	+	n		
-					+
Е		I	n	У	-
~		Ŧ			I
Q		I	ny	У	Ŧ
					I

: - :		n	nnyy n nnyyyn nnnynn	I Y + nn y		уу							
Ĺ				У +		уу							
Ĺ				+		УУ							
		n n	nnnynn	+ nn y									
		n n	n nnnynn	nn v									
C				a en contra l'allo		yn	У	У					
E				I									
	n	yn yn	iyynnnynn	nnyn	У	yn	У	У					
				I									
C.	n	nn nn	nnnnnnny	mnnn	УУ	nn	У	У					
+	п	nnvnn	nnnnnnnn	innnnv	nvv	vnn	n	n	v				
				+	- 4 4 .				-				
E 1	n ny	mnnnn	Innnnnnnn	nnnnn	ynny	nnn	пу	n	n				
				I									
L 1	nnnn	nnnnr	nnnnnnnn	mnnnn	ynnn	nnn	nn	n	n				
				I									
E 1	nnnn	nnnnn	nnnnnnnn	nnnnn	nnnn	nnny	nnn	nn	n	n			
				I									
		+	+ -		+			+		+		-+	
+		+	+										
0		.1	.2		.3			.4		.5		.6	
. 8		. 9	Э	1									
nn	nnnn	nnnnr	ınnnnnnn	nnnnn	nnnn	nnnn	nnnni	nnnn	nnnn	nnnnyy	уууууу	уууууууу	уу
	+ 0 .8 nn	n ny n ny nnnni nnnni 	n nnynn n nynnnnn nnnnnnnnn nnnnnnnnn nnnnnnnn	n nnynnnnnnnnnn n nynnnnnnnnnnnnn nnnnnnnn	n nn nnnnnnnnnnnnnnnn I n nnynnnnnnnnnnn	n nn nanananananan yy I n nayaananananananananan nyy + n nyaananananananananananananananananana	n nn nannannann yy na I n anyaanaanaanaanaanaanaanyaanaan i nannanaanaanaanaanaanaanaanaan I nannaanaanaanaanaanaanaanaanaan I 0 .1 .2 .3 .8 .9 1 nanaanaanaanaanaanaanaanaanaanaanaanaan	n nn nannannann yy nn y I n naynanananannannan ayyyan n + n aynananananananananananan ay I nanananananananananananan na I nanananananananananananan na I 0 .1 .2 .3 .8 .9 1 nanananananananananananananananananana	n nn nnnnnnnnnn yy nn y y I n nnynnnnnnnnnn	n nn nnnnnnnnnnn yy nn y y I n nnynnnnnnnnnn	n nn nannannann yy nn y y I n nnynannanannannany nyyynn n n y + n nynannannannannanny nyyynn n n y I nnannannannannannann n n n n I nnannannannannannann nn n n n I nnannannannannannann nn n n n I 1 nannannannannannann nn n n n I 1 nannannannannannann n n n n I 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	n nn nannannannny nyy nn y y I n naynananananananny nyyyan n n y + n aynananananananananyanyana ny n n I nananananananananananan n n n I nananananananananananan n n n I 0 .1 .2 .3 .4 .5 .8 .9 1 nanananananananananananananananananana	n nn nananananannan yy na y y I n aayaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa

Predicted Probability is of Membership for yes The Cut Value is .50 Symbols: n - no y - yes Each Symbol Represents 2 Cases.

Block 2: Method = Enter

Omnibus Tests of Model Coefficients

	3	Chi-square	df	Sig.
Step 1	Step	.997	3	.802
	Block	.997	3	.802
	Model	26.016	7	.001

Model Summary

Step	-2 Log	Cox & Snell R	Nagelkerke R
	likelihood	Square	Square
1	390.257 ^a	.061	.096

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than . 001.

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	10.462	8	.234

Contingency Table for Hosmer and Lemeshow Test

		Q50:Belong neighborhood associations = no		Q50:Belong ne association		
		Observed	Expected	Observed	Expected	Total
Step 1	1	38	38.653	3	2.347	41
	2	35	36.949	6	4.051	41
	3	40	35.688	1	5.312	41
	4	32	34.696	9	6.304	41
	5	33	33.667	8	7.333	41
	6	36	32.711	5	8.289	41
	7	32	31.513	9	9.487	4
	8	30	29.971	11	11.029	41
	9	24	27.972	17	13.028	41
	10	27	25.180	15	16.820	42

Classification Table^a

	Observed		Predicted		
				ghborhood ons	
			no	yes	
Step 1 Q50:Belong neighborh associations	Q50:Belong neighborhood	no	326	1	
	associations	yes	84	0	
	Overall Percentage				

a. The cut value is .500

Classification Table^a

Observed			Predicted
			Percentage Correct
Step 1 C	Q50:Belong neighborhood	no	99.7
	associations	yes	.0
	Overall Percentage		79.3

a. The cut value is .500

Variables in the Equation

		В	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	q104	182	.088	4.316	1	.038	.834
	q105	.339	.108	9.962	1	.002	1.404
	femaleness	456	.259	3.102	1	.078	.634
	marriednew	.561	.274	4.189	1	.041	1.752
	q26	018	.040	.204	1	.652	.982
	q27	.042	.070	.367	1	.544	1.043
	q28	.010	.067	.021	1	.885	1.010
	Constant	-2.427	.613	15.673	1	.000	.088

a. Variable(s) entered on step 1: q26, q27, q28.

Variables in the Equation

		95% C.I.fc	or EXP(B)
		Lower	Upper
Step 1 ^a	q104	.702	.990
	q105	1.137	1.734
	femaleness marriednew	.381	1.053
		1.024	2.997
	q26	.909	1.062
	q27	.910	1.196
	q28	.886	1.151
	Constant		

a. Variable(s) entered on step 1: q26, q27, q28.

Step number: 1

Observed Groups and Predicted Probabilities

	32	+															
	52						à										
		I				У											
						227]										
		I				У											
]										
F		I				У											
	~ ·						1										
R	24	+				У											
E		I				n	У										
		-					1										
Q		Ι				n	У										
								C .									
U		I			ny	n	ny	У									
								2									
E	16	+			nn	n	nnyy										
N		I		v	v nn	nv	nnnyy	⊦ ∕vm	v								
14		-		<u>у</u>	y IIII	шy		с ул.	Y								
С		I		n :	n nn	nn	ynnnn		У								
								E									
Y		I	n	nyy	nynni	nnn	ynnnn	ny nn	n	У							
								5									
	8	+	ny	mnn	nnnni	nnn	nnnnni		yn	У	У						
		I						+		1.003							
		T				11111	nnnnn	E	y y 11	YII	yny	YYY					
		I	n nnr	ınnn	nnnn	nnn	nnnnni		nnn	mnr	nnny	nyny	v				
								C		8	1		1				
		I	nnnnr	innn	nnnn	nnn	nnnnn	ınnnn	nnni	nnn	nnnn	nnnn	ynnn	n	n		
								Γ									
							+		+-			-+		+-		• = = + = •	
									7					F		c	
.7	b:	0			. 9		.2		.3			.4		.5		.6	
															YYYYY		

Predicted Probability is of Membership for yes The Cut Value is .50 Symbols: n - no y - yes

Each Symbol Represents 2 Cases.

Block 3: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	11.221	4	.024
	Block	11.221	4	.024
	Model	37.237	11	.000

Model Summary

Step	-2 Log	Cox & Snell R	Nagelkerke R
	likelihood	Square	Square
1	379.036 ^a	.087	.136

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than . 001.

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	2.633	8	.955

Contingency Table for Hosmer and Lemeshow Test

		Q50:Belong ne associatio		Q50:Belong ne association		
		Observed	Expected	Observed	Expected	Total
Step 1	1	39	39.319	2	1.681	41
	2	38	37.566	3	3.434	41
	3	35	36.353	6	4.647	41
	4	35	35.204	6	5.796	41
	5	35	34.150	6	6.850	41
	6	33	32.889	8	8.111	41
	7	34	31.667	7	9.333	41
	8	30	30.023	11	10.977	41
	9	24	27.071	17	13.929	41
	10	24	22.757	18	19.243	42

Classification Table^a

	Observed		Predicted			
			Q50:Belong neighborhood associations			
			no	yes		
Step 1 Q50:Belong neigh associations	Q50:Belong neighborhood associations	no ves	323 81	4		
	Overall Percentage	,				

a. The cut value is .500

Classification Table^a

Observed		Predicted
		Percentage Correct
Q50:Belong neighborhood	no	98.8
associations	yes	3.6
Overall Percentage		79.3

a. The cut value is .500

			variable	es in the Equ	ation		
		В	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	q104	188	.090	4.344	1	.037	.828
	q105	.287	.109	6.959	1	.008	1.333
	femaleness	372	.267	1.940	1	.164	.690
	marriednew	.478	.280	2.916	1	.088	1.612
	q26	020	.040	.253	1	.615	.980
	q27	011	.073	.023	1	.879	.989
	q28	005	.069	.005	1	.943	.995
	q34	.106	.045	5.509	1	.019	1.111
	q37	.370	.438	.715	1	.398	1.448
	q38	.028	.464	.004	1	.952	1.029
	q39	.346	.302	1.314	1	.252	1.413
	Constant	-2.767	.723	14.646	1	.000	.063

Variables in the Equation

a. Variable(s) entered on step 1: q34, q37, q38, q39.

	95% C.I.fc	or EXP(B)
	Lower	Upper
Step 1 ⁸ q104	.694	.989
q105	1.077	1.650
femaleness	.409	1.163
marriednew	.932	2.790
q26	.906	1.060
q27	.857	1.141
q28	.870	1.139
q34	1.018	1.214
q37	.614	3.416
q38	.414	2.556
q39	.782	2.552
Constant		

Variables in the Equation

a. Variable(s) entered on step 1: q34, q37, q38, q39.

Step number: 1

Observed Groups and Predicted Probabilities

	20	+						
							+	
		I	У			У		
							Ι	
		I	n	У		n		
							I	
F		I	yn	УУ	У	n	У	
							Ι	
R	15	+	yn	УУ	У	ny	У	
							+	
E		I	yn	yny	yn	ny	n	
							I	
Q		I	nynn	nnnı	nn	nyy	n	У
							I	
U		I	nnnn	nnnı	nn	nyy	n	γу
							Ι	

5 10	+	n nnnnnynnnn	n nyn nyy									
			+									
4	I	n yynnnnnnnn	n nnnynyy									
			I									
2	I	nn nnnnnnnnnnn	nnnnnnnn	У	УУ	У						
			I									
Y	I	nnnnnnnnnnnnn	nnnnnnnnn	У	УУ	УУ			У			
			I									
5	+	nnnnnnnnnnnnn	nnnnnnnnn	ny	УУ	УУ	У		У			
			+									
	I	nnnnnnnnnnnnn	nnnnnnnnn	nn	nn	упуу	У	У	У	У		
			I									
	In	որ	nnnnnnnnn	nnn	nnnı	nnnn	nnn	nnn	nyny	'nyn	У	
			I									
	In	าทานทานทานทานทานทานทานทานทานทานทานทานทาน	nnnnnnnnn	nnn	nnni	nnnn	nnnr	nnn	nnnr	inyn	n n	
			I									
Predicted	1	+	+	+			+-			+	+	
-+	+											
Prob:	0	.1	.2	.3			.4		3	. 5	.6	
.7	. 8	.9	1									
Group:	nn	าทุกมาทุกมาทุกมาทุกมาทุก	nnnnnnnnn	nnn	nnni	nnnr	nnnr	ınnnr	Innni	туу	үүүүүүүүүүүүү	ry
~~~~~	vvv	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	vvvvv									

ууууууууууууууууууууууууууууу

Predicted Probability is of Membership for yes The Cut Value is .50 Symbols: n - no y - yes Each Symbol Represents 1.25 Cases.

## Block 4: Method = Enter

#### **Omnibus Tests of Model Coefficients**

		Chi-square	df	Sig.
Step 1	Step 4.219		2	.121
	Block	4.219	2	.121
	Model	41.456	13	.000

### Model Summary

Step	-2 Log	Cox & Snell R	Nagelkerke R	
	likelihood	Square	Square	
1	374.817 ^a	.096	.151	

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than . 001.

#### Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	11.134	8	.194

#### Contingency Table for Hosmer and Lemeshow Test

		Q50:Belong no associatio		Q50:Belong ne association		
		Observed	Expected	Observed	Expected	Total
Step 1	1	39	39.518	2	1.482	41
	2	38	37.961	3	3.039	41
	з	36	36.761	5	4.239	41
	4	34	35.361	7	5.639	41
	5	38	34.199	3	6.801	41
	6	33	32.998	8	8.002	41
	7	36	31.384	5	9.616	41
	8	27	29.597	14	11.403	41
	9	21	26.740	20	14.260	41
	10	25	22.479	17	19.521	42

### Classification Table^a

	Observed		Predicted				
			Q50:Belong nei associati				
			no	yes			
Step 1	Q50:Belong neighborhood	no	319	8			
	associations	yes	81	3			
	Overall Percentage						

a. The cut value is .500

# Classification Table^a

	Observed		Predicted
			Percentage Correct
Step 1	Q50:Belong neighborhood	no	97.6
	associations	yes	3.6
	Overall Percentage		78.3

a. The cut value is .500

			variable	so in the Equ	auon		
		В	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	q104	154	.092	2.797	1	.094	.857
	q105	.331	112	8.719	1	.003	1.393
	femaleness	332	.270	1.515	1	.218	.717
	marriednew	.495	.282	3.094	1	.079	1.641
	q26	014	.042	.116	1	.733	.986
	q27	.019	.080	.058	1	.809	1.020
	q28	.017	.073	.057	1	.812	1.018
	q34	.113	.046	5.979	1	.014	1.119
	q37	.327	.445	.540	1	.462	1.387
	q38	.018	.474	.001	1	.969	1.018
	q39	.397	.303	1.717	1	.190	1.488
	q29	078	.087	.816	1	.366	.925
	q30	089	.069	1.665	1	.197	.914
	Constant	-2.156	.764	7.969	1	.005	.116

### Variables in the Equation

a. Variable(s) entered on step 1: q29, q30.

		95% C.I.fo	or EXP(B)
		Lower	Upper
Step 1 ^a	q104	.715	1.027
	q105	1.118	1.735
	femaleness	.423	1.217
	marriednew	.945	2.850
	q26	.908	1.070
	q27	.871	1.193
	q28	.881	1.175
	q34	1.023	1.225
	q37	.580	3.318
	q38	.403	2.577
	q39	.821	2.695
	q29	.780	1.096
	q30	.798	1.048
	Constant		

Variables in the Equation

a. Variable(s) entered on step 1: q29, q30.

Step number: 1

Observed Groups and Predicted Probabilities

	20 +	У		
	I	У	У	+
		1	1	I
	I	n	y n	I
F	I	n	y n	Ê
R	15 +	n	n n	I Y
	10			+
E	I	n	n n	I Л
Q	I	nnnyy	y nnny	уп
				I

U		I	n y	mnnnny nyn	nnny n n					
					I					
Е	10	+	n ı	mannannan	nnny yn n	У				
					+					
N		I	n ı	nnnnnnnnn	nnny ynyn	УУ				
					I					
С		I	nyni	าทุกทุกทุกทุกทุก	nnnnynnnnr	nyyn y y	УУ			
					I					
Y		I	nnnı	nnnnnnnnn	nnnnynnnn	nnn yyy	уу			
					I					
	5	+	nnnı	nnnnnnnnn	nnnnnnnn	ınnn yyyy	УУ	У		
					+					
		In	nnni	nnnnnnnnnn	nnnnnnnnn	ınnn yyny	nyyn y	УУ	У	
					I					
		I n	nnni	nnnnnnnnn	nnnnnnnn	nnnnynnn	nnnnnynn	nyn n n	Y	
					I					
		Inn	nnni	nnnnnnnnn	nnnnnnnnn	nnnnnnnn	nnnnnynn	nnynyn nr	innn n	n
					I					
Pre	adicte	d		+	+	+	+	+		
-+-		+								
I	Prob:	0		.1	.2	.3	. 4	.5	. 6	
.7		. 8		. 9	1					
0	Group:	nn	nnnı	nnnnnnnnn	nnnnnnnn	nnnnnnn	nnnnnnn	nnnnnnyyy	/YYYYYYYYY	уууууу
YYY	YYYYYY	уууу	YYY	ууууууууууу	уууууу					
		Pr	edi	cted Probab	ility is d	of Member	ship for	yes		

The Cut Value is .50 Symbols: n - no y - yes Each Symbol Represents 1.25 Cases.

# 4. Tables of Results

						Model Statistics					
	r	Exp (B) in	Final Exp (B)	Block Chi-Sq	Model Chi-Sq	Model - 2LL	Cox & Snell R ²	Nag. R ²	Hosmer & Lemeshow Chi-Sq		
Block 1: Control				25.018**	25.018**	391.254	.059	.093	10.462		
marriednew	.112*	1.783*	1.641								
Q104	089	.848*	.857								
Q105	.141**	1.421**	1.393**								
femaleness	080	.631	.717								
Block 2:											
Sense of				.997	26.016**	390.257	.061	.096	4.940		
Comm.											
Q26	068	0.982	.986								
Q27	.006	1.043	1.020								
Q28	.009	1.010	1.018								
Block 3: Soc. Rels.				11.221*	37.237**	379.036	.087	.136	2.633		
Q34	.163**	1.111*	1.119*								
Q37	.110*	1.448	1.387								
Q38	.109*	1.029	1.018								
Q39	.147**	1.413	1.488								
Block 4:											
Neighbor.				4.219	41.456**	374.817	.096	.151	11.134		
Satisfaction											
Q29	068	.925	.925								
Q30	080	.914	.914								

# Table 1: Prediction of Belonging to Neighborhood Organizations via Logistic Regression.

* p < .05; **p < .01

# Table 2: Classification Results

			Final Pre	Final Predicted Group (Blocks 1 – 4)		
			Q50		Percentage	
					Correct	
			No	Yes		
Block 4	Q50 Belong	No	319	8	97.6	
	to					
	neighborhood	Yes	81	3	3.6	
	associations					
Overall percentage					78.3	

# Press' Q Calculation:

**Formula**:  $[N-(nK)]^2 / N(K-1)$ 

Where N= total sample size

n=number of observations correctly classified

K=number of groups

In our model:

N = 411 n = 322 [319+3] K = 2 [411-(322*2)]² / 411(2-1) 54289/411 Press' Q = 132.09 df = 1

Chi-sq_{crit} = 10.83; p = .001

# 5. Findings

We used logistic regression to predict the likelihood of someone belonging to a neighborhood association, based on variables dealing with social relations, a sense of community and a sense of belonging.

Table 1 summarizes the findings from the logistic regression. Only two blocks had significant Chi-squares: Block 1 (Control) and Block 3 (Social Relations). The total equation with four blocks in is significant at p < .01. Each Exp(B) indicates a decrease or increase in the odds of the occurrence of the dependent value, assuming all other IVs are controlled for. Within

the two significant blocks, only two independent variables have significant unique contributions to the prediction of belonging to neighborhood associations. Both of these Exp(B)s are positive, indicating that each increases the odds of the dependent variable occurring (here, belonging to a neighborhood association), when controlling for all other independent variables in the model. In terms of education, with a Final Exp(B) of 1.393, this means that for every increase in one unit of education, there will be a predicted increase of 39% in the odds of belonging to a neighborhood association occurring, when all other independent variables are controlled. The other significant predictor variable, number of close neighborhood homes visited, had a Final Exp(B) of 1.119, indicating that for every additional house visited, the odds of belonging to a neighborhood association occurring increases by 11.9%, when all other independent variables are controlled. All our Hosmer and Lemeshow Chi-squares were non-significant, which is what we want.

Table 2 shows that our model correctly predicted 78.3% of the classification. This is supported by the Press' Q and Critical chi-square statistics. Press' Q was calculated at 132.09. Critical Chi-square equals 10.83. Since our Press' Q exceeds critical chi-square, the accuracy of our predictions is greater than what could be expected by chance