

# LOC\_Arules\_CascadeApproach

##Participant Characteristics

	Full Sample	LOC	
		Yes	No
Total( <i>N</i> )	162	37	112
LOC Not Reported	13		
Sex( <i>N</i> )			
Male	85	19	58
Female	77	18	54
BMI Status( <i>N</i> )			
Obese	22	8	13
Overweight	23	7	14
Healthy Weight	115	22	84
Underweight	1	0	1
Not Reported	1	0	0
Ethnicity( <i>N</i> )			
Hispanic/Latino	8	2	5
Not Hispanic/Latino	124	33	79
Not Reported	30	2	28
Race <sup>A</sup> ( <i>N</i> )			
Black/African American	6	4	2
White	147	31	160
Other	7	1	3
Not Reported	2	1	1
SES( <i>N</i> )			
> \$100,000	41	6	33
\$50,000 – \$100,000	77	21	52
< \$50,000	39	10	24
Not Reported	5	0	3
Breast Fed Duration( <i>N</i> )			
Never	46	10	26
1-3 months	14	3	11
4-6 months	47	13	32
7-9 months	34	5	29
10+ months	16	5	11
Not Reported	5	1	3

<sup>A</sup>Fisher's exact test p<0.05

<sup>B</sup>Fisher's exact test p=0.05, Other category not included

	Full Sample				LOC		d	p
	Mean (SD)	Range	No		Yes			
			Mean (SD)	Range	Mean (SD)	Range		
Age (2/0/0)	9.22 (1.33)	[7.00, 12.58]	9.30 (1.38)	[7.00, 12.58]	8.89 (1.32)	[7.00, 11.83]	0.30	0.105
CEBQ-FR	2.57 (0.73)	[1, 4.75]	2.47 (0.65)	[1, 4]	2.78 (0.88)	[1, 4.75]	0.44	0.052†
CEBQ-EOE	2.13 (0.65)	[1, 3.8]	2.10 (0.62)	[1, 3.8]	2.19 (0.75)	[1, 3.8]	0.15	0.486
CEBQ-EF	3.8 (0.66)	[1.75, 5]	3.76 (0.67)	[1.75, 5]	3.90 (0.63)	[2.5, 5]	0.21	0.252
CEBQ-DD	2.60 (0.92)	[1, 4.7]	2.56 (0.86)	[1, 4.7]	2.73 (1.09)	[1, 4.7]	0.19	0.375
CEBQ-SR	2.82 (0.61)	[1.4, 4.2]	2.90 (0.57)	[1.4, 4.2]	2.63 (0.67)	[1.4, 4.2]	0.46	0.028*
CEBQ-SE	2.68 (0.73)	[1, 4.75]	2.73 (0.67)	[1.5, 4.75]	2.59 (0.87)	[1.25, 4.5]	0.19	0.376
CEBQ-EUE	2.64 (0.80)	[1, 5]	2.69 (0.85)	[1, 5]	2.48 (0.64)	[1.33, 3.67]	0.26	0.118
CEBQ-FF	2.86 (0.86)	[1, 5]	2.77 (0.84)	[1, 5]	3.08 (1.0)	[1.33, 5]	0.35	0.093†
CFQ-PR	4.03 (0.70)	[2, 5]	4.05 (0.68)	[2.33, 5]	4 (0.74)	[2, 5]	0.07	0.734
CFQ-PPW	3.17 (0.51)	[2, 5]	3.15 (0.50)	[2, 4.5]	3.22 (0.57)	[2.25, 5]	0.12	0.550
CFQ-PCW	2.98 (0.21)	[1.5, 4.2]	2.96 (0.37)	[2, 4.2]	3.04 (0.36)	[2, 4]	0.21	0.286
CFQ-CONC	2.90 (1.71)	[1, 5]	2.95 (1.70)	[1, 5]	2.64 (1.73)	[1, 5]	0.18	0.350
CFQ-REST	3.20 (0.87)	[1,4.88]	3.24 (0.86)	[1, 4.88]	3.14 (0.94)	[1.25, 4.63]	0.11	0.598
CFQ-PE	2.15 (0.90)	[1, 4.5]	2.24 (0.91)	[1, 4.5]	1.86 (0.77)	[1, 4.25]	0.43	0.019*
CFQ-MON	3.72 (0.89)	[1, 5]	3.67 (0.87)	[1, 5]	3.85 (0.95)	[2, 5]	0.20	0.328

All but CFQ-PR have 2 missing in full sample; CFQ-PR has 16 missing in full sample.

##Parent Characteristics

	Full Sample	LOC	
		Yes	No
Total( $N$ )	162	37	112
LOC Not Reported	2		
Breast Fed Duration( $N$ )			
Never	46	10	26
1-3 months	14	3	11
4-6 months	47	13	32
7-9 months	34	5	29
10+ months	16	5	11
Not Reported	5	1	3
Maternal Ed <sup>A</sup> ( $N$ )			
High School	25	10	11
Post High School	137	27	101
Not Reported	3	0	0
Paternal Ed( $N$ )			
High School	34	9	21
Post High School	17	28	90
Not Reported	1	0	1
Maternal BMI Status( $N$ )			
Severely Obese (BMI 35+)	20	8	11
Obese	19	4	14
Overweight	24	5	18
Healthy Weight	75	15	57
Underweight	4	2	2
Not Reported	20	3	10
Paternal BMI Status( $N$ )			
Severely Obese (BMI 35+)	18	5	10
Obese	30	7	22
Overweight	61	15	43
Healthy Weight	45	9	30
Underweight	0	0	0
Not Reported	8	1	7

<sup>A</sup>Fisher's exact test  $p < 0.05$

<sup>B</sup>Fisher's exact test  $p = 0.05$ , Other category not included

## Determinants of LOC

### Step 1: Single Predictor

Confidence = 0.33

Support = 0.055 (25%)

26 rules were identified:

- 3 after controlling for multiple comparisons
- all significant uncorrected

Table 1: Determinants of LOC-Single Predictors

LHS	count	support	confidence	lift	oddsRatio	fisher.p	fisher.padj_holm	Cat
cBMI_OWOB	15	0.093	0.333	1.459	2.159	0.041	0.424	cBMI_OWOB
cebq12=Sometimes	13	0.080	0.333	1.459	2.062	0.061	0.424	sFR
cebq14_gSometimes	11	0.068	0.333	1.459	1.981	0.087	0.424	gS_FR
cebq14=Often	9	0.056	0.333	1.459	1.911	0.122	0.424	gFR
cebq19_gSometimes	10	0.062	0.455	1.990	3.488	0.010	0.180	gS_FR
cebq27_gSometimes	13	0.080	0.371	1.626	2.536	0.023	0.323	gS_EOE
cebq31_gSometimes	10	0.062	0.333	1.459	1.944	0.103	0.424	gS_DD
cebq33_gSometimes	17	0.105	0.378	1.654	2.945	0.006	0.118	gS_FF
cebq33=Often	13	0.080	0.394	1.725	2.844	0.013	0.218	gFF
cebq34_gRarely	16	0.099	0.421	1.844	3.567	0.002	0.045	gR_FR
cebq7_gSometimes	17	0.105	0.370	1.618	2.814	0.008	0.144	gS_FF
cebq8_lsSometimes	14	0.086	0.341	1.495	2.209	0.040	0.424	lsS_SE
cfq17_lsNeutralAD	9	0.056	0.346	1.516	2.042	0.099	0.424	lsN_Rest
cfq20=Agree	19	0.117	0.380	1.664	3.201	0.003	0.058	gRest
cfq22_gNeutralAD	9	0.056	0.360	1.576	2.190	0.078	0.424	gN_Rest
cfq23_lsNeutralAD	15	0.093	0.395	1.728	3.024	0.006	0.128	lsN_Rest
cfq24_lsNeutralAD	12	0.074	0.353	1.545	2.247	0.046	0.424	lsN_Rest
cfq24=SlightlyDis	9	0.056	0.429	1.876	3.027	0.024	0.323	lsRest
cfq26=Disagree	28	0.173	0.394	1.727	5.933	0.000	0.000	lsPE
cfq28=Disagree	26	0.160	0.347	1.518	3.666	0.001	0.020	lsPE
cfq29=Always	15	0.093	0.405	1.775	3.192	0.005	0.101	gMon
cfq30=Always	13	0.080	0.394	1.725	2.844	0.013	0.218	gMon
cfq31=Always	11	0.068	0.423	1.852	3.103	0.013	0.218	gMon
cfq6_gOW	13	0.080	0.351	1.538	2.280	0.039	0.424	PPW_gOW
cfq6=Overwt	10	0.062	0.357	1.564	2.202	0.066	0.424	PPW_OW
mEducation_HS	10	0.062	0.400	1.751	2.716	0.029	0.346	mEducation_HS

Crosstable of rule categories

Table 2: Determinants of LOC-Cross Tab of Single Predictors

Cat	Freq
cBMI_OWOB	1

gFF	1
gFR	1
gMon	3
gN_Rest	1
gR_FR	1
gRest	1
gS_DD	1
gS_EOE	1
gS_FF	2
gS_FR	2
lsN_Rest	3
lsPE	2
lsRest	1
lsS_SE	1
mEducation_HS	1
PPW_gOW	1
PPW_OW	1
sFR	1

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## Step 2: Multiple Predictors

Confidence = 0.50

Support = 0.07 (33%)

50 rules were identified:

- all 50 significant after controlling for multiple comparisons

Table 3: Determinants of LOC-Multiple Predictors

LHS2	LHS1	count	support	confidence	lift	oddsRatio	OR_upperCI	fisher.p	fisher.padj_holm	Cluster
cebq1_gSometimes	cebq33=Often	12	0.074	0.522	2.284	4.975	12.553	0.001	0.008	
cebq19_gRarely	cfq26=Disagree	21	0.130	0.500	2.189	6.500	14.492	0.000	0.000	
cebq26_lsSometimes	cebq12_gRarely	13	0.080	0.520	2.277	5.101	12.544	0.000	0.008	
cebq26_lsSometimes	cebq19_gRarely	16	0.099	0.552	2.416	6.564	15.631	0.000	0.001	
cebq26_lsSometimes	cebq7_gSometimes	12	0.074	0.706	3.091	11.520	35.618	0.000	0.000	
cebq27_gRarely	cfq27=Disagree	13	0.080	0.500	2.189	4.667	11.321	0.001	0.008	
cebq27_gSometimes	cfq26=Disagree	13	0.080	0.650	2.846	9.131	25.279	0.000	0.001	
cebq27_gSometimes	cfq28=Disagree	12	0.074	0.600	2.627	7.020	18.957	0.000	0.004	
cebq32_gSometimesRev	cfq28=Disagree	12	0.074	0.522	2.284	4.975	12.553	0.001	0.008	
cebq32_lsSometimesRev	cfq28=Disagree	12	0.074	0.522	2.284	4.975	12.553	0.001	0.008	
cebq33_gSometimes	BreastFed_ls7mo	15	0.093	0.556	2.432	6.420	15.571	0.000	0.002	
cebq33_gSometimes	cfq28=Disagree	13	0.080	0.722	3.162	13.000	39.870	0.000	0.000	
cebq33_gSometimes	cebq11=Sometimes	12	0.074	0.500	2.189	4.520	11.228	0.001	0.008	
cebq33_gSometimes	cebq1_gSometimes	16	0.099	0.533	2.335	6.041	14.213	0.000	0.002	
cebq33_gSometimes	cfq26=Disagree	12	0.074	0.706	3.091	11.520	35.618	0.000	0.000	
cebq33_gSometimes	cebq26_lsSometimes	12	0.074	0.632	2.765	8.091	22.601	0.000	0.002	
cebq33_gSometimes	cebq22_gSometimes	13	0.080	0.520	2.277	5.101	12.544	0.000	0.008	
cebq33=Often	BreastFed_ls7mo	12	0.074	0.600	2.627	7.020	18.957	0.000	0.004	
cebq34_gRarely	cfq4=Avg	12	0.074	0.500	2.189	4.520	11.228	0.001	0.008	
cebq34_gRarely	cebq5_gSometimes	15	0.093	0.517	2.265	5.406	12.776	0.000	0.004	
cebq34_gRarely	cebq9_lsSometimes	12	0.074	0.545	2.388	5.520	14.189	0.000	0.008	
cebq34_gRarely	cebq25_lsSometimes	13	0.080	0.520	2.277	5.101	12.544	0.000	0.008	
cebq34_gRarely	cebq20_gSometimes	13	0.080	0.520	2.277	5.101	12.544	0.000	0.008	
cebq34_gRarely	cfq28=Disagree	14	0.086	0.609	2.665	7.845	20.274	0.000	0.001	
cebq34_gRarely	cfq26=Disagree	15	0.093	0.625	2.736	8.788	22.582	0.000	0.000	
cebq7_gSometimes	cfq28=Disagree	12	0.074	0.667	2.919	9.520	27.773	0.000	0.001	
cebq7_gSometimes	cebq1_gSometimes	15	0.093	0.500	2.189	5.000	11.693	0.000	0.006	
cebq7_gSometimes	cfq4=Avg	12	0.074	0.500	2.189	4.520	11.228	0.001	0.008	
cebq7_gSometimes	cebq11=Sometimes	12	0.074	0.571	2.502	6.187	16.260	0.000	0.006	
cfq20=Agree	cebq28=Sometimes	12	0.074	0.632	2.765	8.091	22.601	0.000	0.002	
cfq20=Agree	cBMI_OWOB	12	0.074	0.600	2.627	7.020	18.957	0.000	0.004	
cfq21_lsNeutralAD	cfq20=Agree	14	0.086	0.560	2.452	6.308	15.640	0.000	0.002	

Table 3: Determinants of LOC-Multiple Predictors (*continued*)

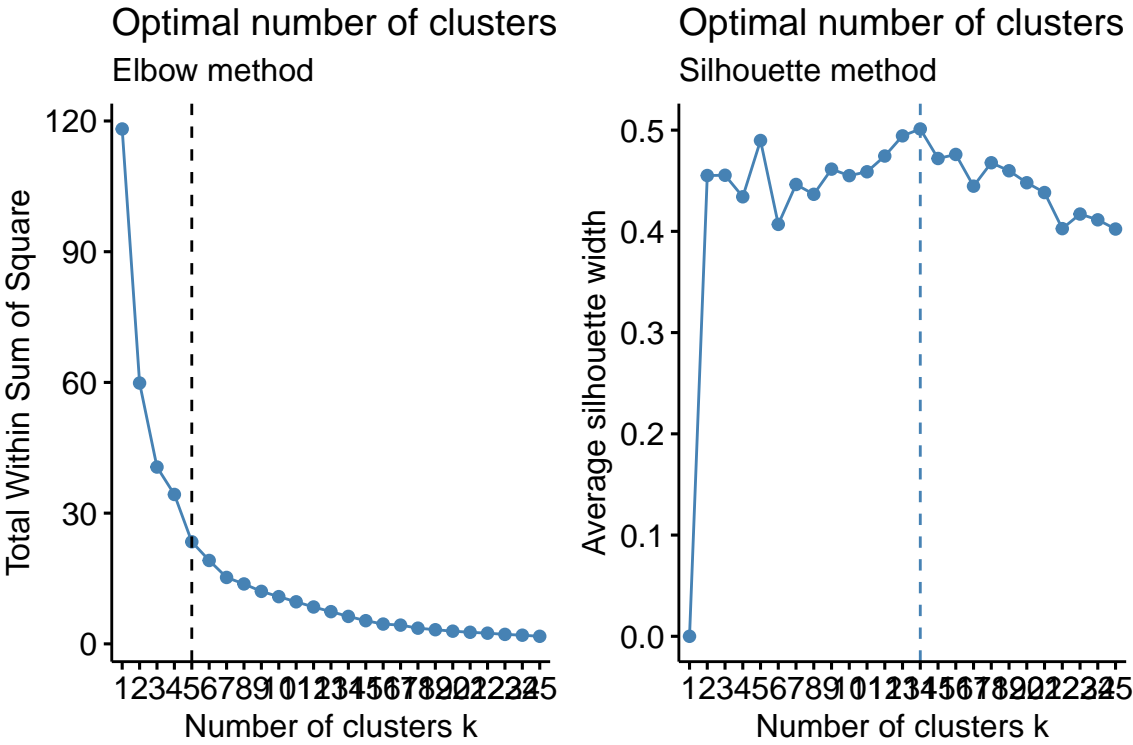
LHS2	LHS1	count	support	confidence	lift	oddsRatio	OR_upperCI	fisher.p	fisher.padj_holm	Cluster
cfq23_lsNeutralAD	cfq14=Unconcerned	13	0.080	0.500	2.189	4.667	11.321	0.001	0.008	
cfq23_lsNeutralAD	cfq16=Unconcerned	12	0.074	0.522	2.284	4.975	12.553	0.001	0.008	
cfq23_lsNeutralAD	cebq21_gRarely	13	0.080	0.542	2.372	5.614	14.026	0.000	0.006	
cfq26_lsNeutralAD	cebq7_gSometimes	14	0.086	0.519	2.270	5.244	12.620	0.000	0.006	
cfq26_lsNeutralAD	cebq34_gRarely	16	0.099	0.552	2.416	6.564	15.631	0.000	0.001	
cfq26_lsNeutralAD	cebq33_gSometimes	14	0.086	0.560	2.452	6.308	15.640	0.000	0.002	
cfq26_lsNeutralAD	cebq27_gSometimes	13	0.080	0.500	2.189	4.667	11.321	0.001	0.008	
cfq26_lsNeutralAD	cfq20=Agree	18	0.111	0.514	2.252	6.019	13.705	0.000	0.001	
cfq26=Disagree	cBMI_OWOB	14	0.086	0.519	2.270	5.244	12.620	0.000	0.006	
cfq26=Disagree	cfq20=Agree	16	0.099	0.571	2.502	7.175	17.324	0.000	0.001	
cfq27_lsNeutralAD	cebq34_gRarely	14	0.086	0.609	2.665	7.845	20.274	0.000	0.001	
cfq28_lsNeutralAD	cebq33_gSometimes	14	0.086	0.583	2.554	7.000	17.685	0.000	0.002	
cfq28_lsNeutralAD	cebq7_gSometimes	14	0.086	0.560	2.452	6.308	15.640	0.000	0.002	
cfq28_lsNeutralAD	cebq34_gRarely	16	0.099	0.533	2.335	6.041	14.213	0.000	0.002	
cfq28_lsNeutralAD	cebq27_gSometimes	13	0.080	0.520	2.277	5.101	12.544	0.000	0.008	
cfq28=Disagree	cfq20=Agree	16	0.099	0.500	2.189	5.190	11.971	0.000	0.004	
cfq29=Always	cfq28=Disagree	12	0.074	0.571	2.502	6.187	16.260	0.000	0.006	
cfq29=Always	cfq26=Disagree	12	0.074	0.667	2.919	9.520	27.773	0.000	0.001	

Corsstable of rule categories

Table 4: Determinants of LOC-Cross tabs Multiple Predictors

	gFF	gMon	gR_EOE	gR_FR	gRest	gS_EF	gS_EOE	gS_FF	lsN_PE	lsN_Rest	ls
BreastFed_ls7mo	1	0	0	0	0	0	0	1	0	0	
cBMI_OWOB	0	0	0	0	1	0	0	0	0	0	
gFF	0	0	0	0	0	1	0	0	0	0	
gR_FR	0	0	0	0	0	0	0	0	3	0	
gR_SR	0	0	0	0	0	0	0	0	0	1	
gRest	0	0	0	0	0	0	0	0	1	1	
gS_EF	0	0	0	2	0	0	0	3	0	0	
gS_EOE	0	0	0	0	0	0	0	0	2	0	
gS_FF	0	0	0	0	0	0	0	0	4	0	
lsConc	0	0	0	0	0	0	0	0	0	2	
lsPE	0	2	1	3	0	0	2	4	0	0	
lsS_EUE	0	0	0	2	0	0	0	0	0	0	
lsS_SR	0	0	0	0	0	0	0	1	0	0	
PPW_avg	0	0	0	1	0	0	0	1	0	0	
sEUE	0	0	0	0	0	0	0	2	0	0	
sFR	0	0	0	0	1	0	0	0	0	0	

Clustering



Plot of cluster metrics

Cluster Metrics



Table 5: Determinants of LOC-Cluster Metrics

measure	score	method	clusters	clusters10
Connectivity	0.58333333	pam	2	2
Dunn	0.57169548	pam	5	5
Silhouette	0.50112078	pam	14	5
APN	0	pam	2	2
AD	0.15972607	pam	25	10
ADM	0	pam	2	2
FOM	0.03870045	pam	25	10

Number of clusters:

- 2: Connectivity, Average Proportion of Non-Overlap, and Average distance between centers
- 5: The within sums of square elbow of the plot, Dunn metric, not the highest, but is a peak for silhouette width

Overlap of clustering solutions

- It appears cluster 1 is identical in both and that cluster 2 in the 2 cluster solution was split into three clusters in the 5 cluster solution. There was some leakage of items from the first cluster in the 2 cluster solution into clusters 2 and 3 in the 5 cluster solution, but it was minimal.

Table 6: Determinants of LOC-Overlap of clustering solutions

1	2	3	4	5
20	1	2	1	0
0	5	7	2	12

## 2 Cluster Solution

### Silhouette plot of pam(x = dist\_pruned.rules\_lhs2\_conf5

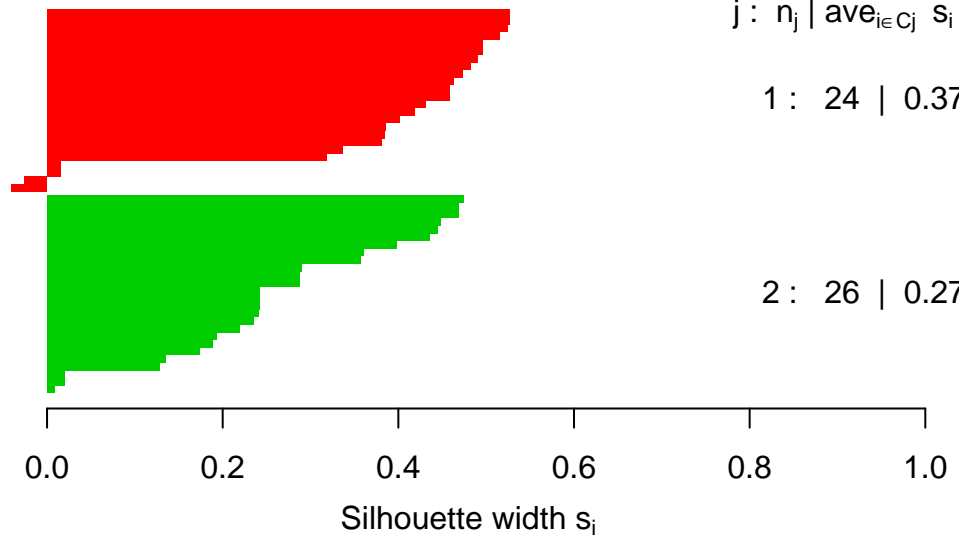
n = 50

2 clusters  $C_j$

$j : n_j \mid \text{ave}_{i \in C_j} s_i$

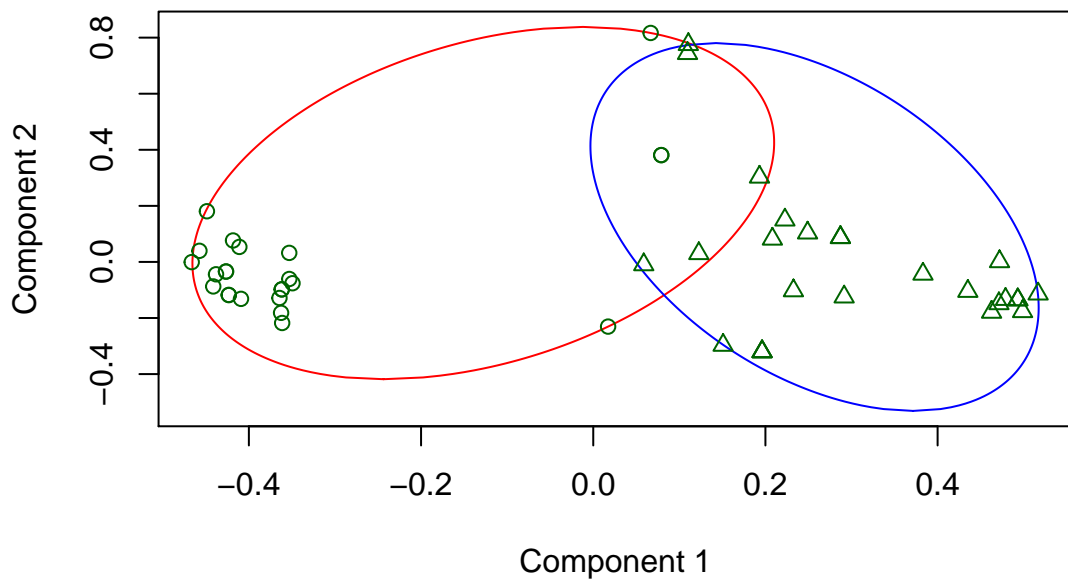
1 : 24 | 0.37

2 : 26 | 0.27



Average Silhouette Widths Average silhouette width : 0.32

### Cluster plot, k = 2



These two components explain 45.46 % of the point variability.

Cluster Plot

Cluster 1

Table 7: Determinants of LOC-Cluster 1

	gMon	gR_FR	gRest	gS_EOE	gS_FF	lsN_PE	lsN_Rest	lsPE	lsS_FF	lsS_SR	rowto
cBMI_OWOB	0	0	1	0	0	0	0	1	0	0	
gR_FR	0	0	0	0	0	1	0	0	0	1	
gR_SR	0	0	0	0	0	0	1	0	0	0	
gRest	0	0	0	0	0	1	0	1	0	0	
gS_EF	0	2	0	0	2	0	0	0	0	0	
gS_EOE	0	0	0	0	0	1	0	0	0	0	
gS_FF	0	0	0	0	0	1	0	0	0	0	
lsPE	1	1	0	2	2	0	0	0	1	0	
lsS_EUE	0	2	0	0	0	0	0	0	0	0	
sEUE	0	0	0	0	2	0	0	0	0	0	
coltotals	1	5	1	2	6	4	1	2	1	1	

Table 8: Determinants of LOC-Cluster 1 Question Frequency

LHS1	Freq.x	Freq.y
cBMI_OWOB	2	NA
cebq1_gSometimes	1	NA
cebq11=Sometimes	2	NA
cebq12_gRarely	1	NA
cebq20_gSometimes	1	NA
cebq21_gRarely	1	NA
cebq22_gSometimes	1	NA
cebq25_lsSometimes	1	NA
cebq27_gSometimes	1	2
cebq34_gRarely	1	4
cebq5_gSometimes	1	NA
cebq7_gSometimes	1	2
cebq9_lsSometimes	1	NA
cfq20=Agree	2	1
cfq26=Disagree	2	1
cfq28=Disagree	5	1
cebq19_gRarely	NA	1
cebq26_lsSometimes	NA	1
cebq32_gSometimesRev	NA	1
cebq32_lsSometimesRev	NA	1
cebq33_gSometimes	NA	3
cfq23_lsNeutralAD	NA	1
cfq26_lsNeutralAD	NA	3
cfq28_lsNeutralAD	NA	1
cfq29=Always	NA	1

Cluster 2

Table 9: Determinants of LOC-Cluster 2

	gFF	gMon	gR_EOE	gR_FR	gRest	gS_EF	gS_FF	lsN_PE	lsN_Rest	lsPE	lsS_S
BreastFed_ls7mo	1	0	0	0	0	0	1	0	0	0	
gFF	0	0	0	0	0	1	0	0	0	0	
gR_FR	0	0	0	0	0	0	0	2	0	0	
gRest	0	0	0	0	0	0	0	0	1	1	
gS_EF	0	0	0	0	0	0	1	0	0	0	
gS_EOE	0	0	0	0	0	0	0	1	0	0	
gS_FF	0	0	0	0	0	0	0	3	0	0	
lsConc	0	0	0	0	0	0	0	0	2	0	
lsPE	0	1	1	2	0	0	2	0	0	0	
lsS_SR	0	0	0	0	0	0	1	0	0	0	
PPW_avg	0	0	0	1	0	0	1	0	0	0	
sFR	0	0	0	0	1	0	0	0	0	0	
coltotals	1	1	1	3	1	1	6	6	3	1	

Table 10: Determinants of LOC-Cluster 2 Question Frequency

LHS1	Freq.x	Freq.y
BreastFed_ls7mo	2	NA
cebq1_gSometimes	1	1
cebq19_gRarely	1	NA
cebq26_lsSometimes	1	2
cebq27_gSometimes	1	NA
cebq28=Sometimes	1	NA
cebq33_gSometimes	2	4
cebq33=Often	1	1
cebq34_gRarely	2	3
cebq7_gSometimes	2	2
cfq14=Unconcerned	1	NA
cfq16=Unconcerned	1	NA
cfq20=Agree	2	1
cfq26=Disagree	3	1
cfq27=Disagree	1	NA
cfq28=Disagree	2	NA
cfq4=Avg	2	NA
cebq27_gRarely	NA	1
cfq21_lsNeutralAD	NA	1
cfq23_lsNeutralAD	NA	2
cfq26_lsNeutralAD	NA	2
cfq27_lsNeutralAD	NA	1
cfq28_lsNeutralAD	NA	3
cfq29=Always	NA	1

## 5 Cluster Solution

### Silhouette plot of pam(x = dist\_pruned.rules\_lhs2\_conf5

n = 50

5 clusters  $C_j$

$j : n_j \mid \text{ave}_{i \in C_j} s_i$

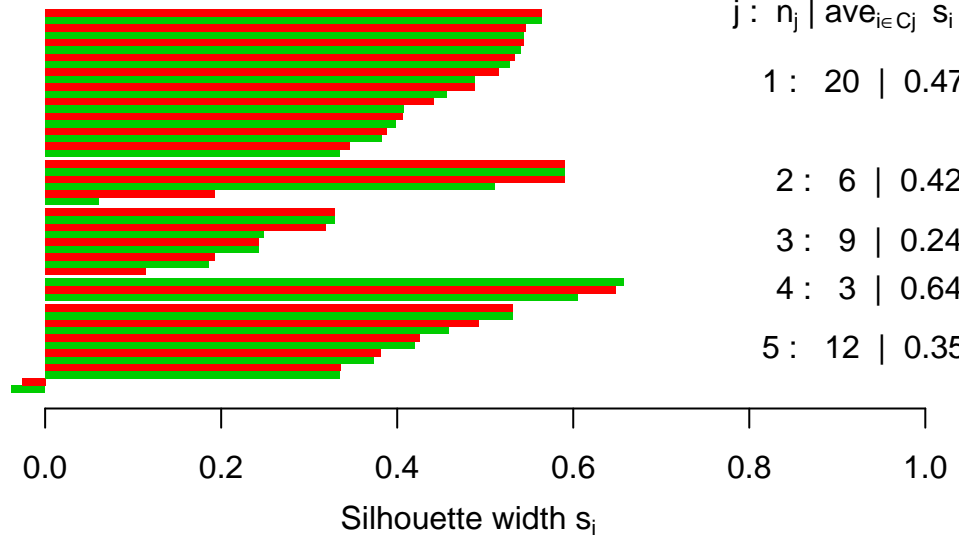
1 : 20 | 0.47

2 : 6 | 0.42

3 : 9 | 0.24

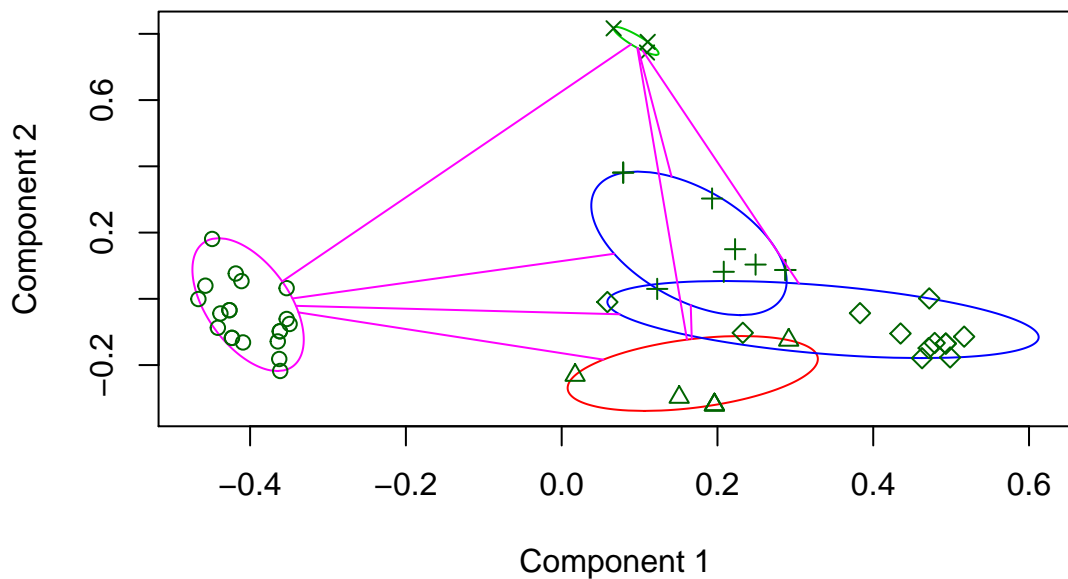
4 : 3 | 0.64

5 : 12 | 0.35



Average Silhouette Widths Average silhouette width : 0.41

### Cluster plot, k = 2



Cluster Plot

Cluster 1

These two components explain 45.46 % of the point variability.

Table 11: Determinants of LOC-Cluster 1

	gMon	gR_FR	gRest	gS_EOE	gS_FF	lsN_PE	lsN_Rest	lsPE	lsS_FF	lsS_SR	rowto
cBMI_OWOB	0	0	1	0	0	0	0	1	0	0	
gR_FR	0	0	0	0	0	0	0	0	0	1	
gR_SR	0	0	0	0	0	0	1	0	0	0	
gRest	0	0	0	0	0	0	0	1	0	0	
gS_EF	0	2	0	0	2	0	0	0	0	0	
gS_EOE	0	0	0	0	0	1	0	0	0	0	
gS_FF	0	0	0	0	0	1	0	0	0	0	
lsPE	1	1	0	1	2	0	0	0	1	0	
lsS_EUE	0	2	0	0	0	0	0	0	0	0	
sEUE	0	0	0	0	1	0	0	0	0	0	
coltotals	1	5	1	1	5	2	1	2	1	1	

Table 12: Determinants of LOC-Cluster 1 Question Frequency

LHS1	Freq.x	Freq.y
cBMI_OWOB	2	NA
cebq1_gSometimes	1	NA
cebq11=Sometimes	1	NA
cebq12_gRarely	1	NA
cebq20_gSometimes	1	NA
cebq21_gRarely	1	NA
cebq22_gSometimes	1	NA
cebq25_lsSometimes	1	NA
cebq27_gSometimes	1	1
cebq5_gSometimes	1	NA
cebq7_gSometimes	1	2
cebq9_lsSometimes	1	NA
cfq20=Agree	1	1
cfq26=Disagree	1	1
cfq28=Disagree	5	1
cebq19_gRarely	NA	1
cebq26_lsSometimes	NA	1
cebq32_gSometimesRev	NA	1
cebq32_lsSometimesRev	NA	1
cebq33_gSometimes	NA	2
cebq34_gRarely	NA	4
cfq23_lsNeutralAD	NA	1
cfq26_lsNeutralAD	NA	1
cfq28_lsNeutralAD	NA	1
cfq29=Always	NA	1

Cluster 2

Table 13: Determinants of LOC-Cluster 2 Question Frequency

	gR_FR	gS_FF	lsN_PE	lsPE	lsS_SR	rowtotals
gRest	0	0	0	1	0	1
gS_FF	0	0	1	0	1	2
lsPE	1	1	0	0	0	2
sEUE	0	1	0	0	0	1
coltotals	1	2	1	1	1	6

Table 14: Determinants of LOC-Cluster 2 Question Frequency

LHS1	Freq.x	Freq.y
cebq11=Sometimes	1	NA
cebq7_gSometimes	2	NA
cfq20=Agree	1	NA
cfq26=Disagree	2	1
cebq26_lsSometimes	NA	1
cebq33_gSometimes	NA	2
cebq34_gRarely	NA	1
cfq28_lsNeutralAD	NA	1

Cluster 3

Table 15: Determinants of LOC-Cluster 3

	gFF	gR_EOE	gS_EF	gS_EOE	lsN_PE	lsN_Rest	rowtotals
BreastFed_ls7mo	1	0	0	0	0	0	1
gFF	0	0	1	0	0	0	1
gRest	0	0	0	0	1	1	2
gS_EOE	0	0	0	0	1	0	1
lsConc	0	0	0	0	0	2	2
lsPE	0	1	0	1	0	0	2
coltotals	1	1	1	1	2	3	9

Table 16: Determinants of LOC-Cluster 3 Question Frequency

LHS1	Freq.x	Freq.y
BreastFed_ls7mo	1	NA
cebq27_gSometimes	1	1
cebq33=Often	1	1
cfq14=Unconcerned	1	NA
cfq16=Unconcerned	1	NA
cfq20=Agree	2	NA
cfq26=Disagree	1	NA

Table 16: Determinants of LOC-Cluster 3 Question Frequency (*continued*)

LHS1	Freq.x	Freq.y
cfq27=Disagree	1	NA
cebq1_gSometimes	NA	1
cebq27_gRarely	NA	1
cfq21_lsNeutralAD	NA	1
cfq23_lsNeutralAD	NA	2
cfq26_lsNeutralAD	NA	2

Cluster 4

Table 17: Determinants of LOC-Cluster 4

	gR_FR	lsN_PE	rowtotals
gR_FR	0	2	2
lsPE	1	0	1
coltotals	1	2	3

Table 18: Determinants of LOC-Cluster 4 Question Frequency

LHS1	Freq.x	Freq.y
cebq34_gRarely	2	1
cfq28=Disagree	1	NA
cfq26_lsNeutralAD	NA	1
cfq27_lsNeutralAD	NA	1

Cluster 5

Table 19: Determinants of LOC-Cluster 5

	gMon	gR_FR	gRest	gS_FF	lsN_PE	lsS_SR	rowtotals
BreastFed_ls7mo	0	0	0	1	0	0	1
gR_FR	0	0	0	0	1	1	2
gS_EF	0	0	0	1	0	0	1
gS_FF	0	0	0	0	2	0	2
lsPE	1	0	0	1	0	0	2
lsS_SR	0	0	0	1	0	0	1
PPW_avg	0	1	0	1	0	0	2
sFR	0	0	1	0	0	0	1
coltotals	1	1	1	5	3	1	12



Table 20: Determinants of LOC-Cluster 5 Question Frequency

LHS1	Freq.x	Freq.y
BreastFed_ls7mo	1	NA
cebq1_gSometimes	1	NA
cebq19_gRarely	1	NA
cebq26_lsSometimes	1	1
cebq28=Sometimes	1	NA
cebq33_gSometimes	2	3
cebq34_gRarely	1	1
cfq26=Disagree	1	NA
cfq28=Disagree	1	NA
cfq4=Avg	2	NA
cebq7_gSometimes	NA	2
cfq20=Agree	NA	1
cfq26_lsNeutralAD	NA	1
cfq28_lsNeutralAD	NA	2
cfq29=Always	NA	1

## Testing Additive Effects

Subset: Contains predictors from step 1 (i.e., CFQ 26 and 28 = ‘Disagree’ and CEBQ 34 > ‘Rarely’)

23 rules were identified

Table 21: Determinants of LOC-Significant Additive

LHS2	RHS	count	support	confidence	lift	chi.sq.p	OR	OR_lowerCI	fisher.p
cebq19_gRarely	loc1=Yes	21	0.130	0.500	2.189	0.000	6.500	2.915	0.000
cebq27_gSometimes	loc1=Yes	12	0.074	0.600	2.627	0.000	7.020	2.600	0.000
cebq27_gSometimes	loc1=Yes	13	0.080	0.650	2.846	0.000	9.131	3.298	0.000
cebq32_gSometimesRev	loc1=Yes	12	0.074	0.522	2.284	0.000	4.975	1.971	0.001
cebq32_lsSometimesRev	loc1=Yes	12	0.074	0.522	2.284	0.000	4.975	1.971	0.001
cebq33_gSometimes	loc1=Yes	13	0.080	0.722	3.162	0.000	13.000	4.239	0.000
cebq33_gSometimes	loc1=Yes	12	0.074	0.706	3.091	0.000	11.520	3.726	0.000
cebq34_gRarely	loc1=Yes	13	0.080	0.520	2.277	0.000	5.101	2.074	0.000
cebq34_gRarely	loc1=Yes	13	0.080	0.520	2.277	0.000	5.101	2.074	0.000
cebq34_gRarely	loc1=Yes	12	0.074	0.545	2.388	0.000	5.520	2.147	0.000
cebq34_gRarely	loc1=Yes	15	0.093	0.517	2.265	0.000	5.406	2.287	0.000
cebq34_gRarely	loc1=Yes	15	0.093	0.625	2.736	0.000	8.788	3.420	0.000
cebq34_gRarely	loc1=Yes	14	0.086	0.609	2.665	0.000	7.845	3.036	0.000
cebq34_gRarely	loc1=Yes	12	0.074	0.500	2.189	0.001	4.520	1.820	0.001
cebq7_gSometimes	loc1=Yes	12	0.074	0.667	2.919	0.000	9.520	3.263	0.000
cfq26_lsNeutralAD	loc1=Yes	16	0.099	0.552	2.416	0.000	6.564	2.756	0.000
cfq26=Disagree	loc1=Yes	14	0.086	0.519	2.270	0.000	5.244	2.179	0.000

Table 21: Determinants of LOC-Significant Additive (*continued*)

LHS2	RHS	count	support	confidence	lift	chi.sq.p	OR	OR_lowerCI	fisher.p
cfq26=Disagree	loc1=Yes	16	0.099	0.571	2.502	0.000	7.175	2.971	0.000
cfq27_lsNeutralAD	loc1=Yes	14	0.086	0.609	2.665	0.000	7.845	3.036	0.000
cfq28_lsNeutralAD	loc1=Yes	16	0.099	0.533	2.335	0.000	6.041	2.568	0.000
cfq28=Disagree	loc1=Yes	16	0.099	0.500	2.189	0.000	5.190	2.250	0.000
cfq29=Always	loc1=Yes	12	0.074	0.667	2.919	0.000	9.520	3.263	0.000
cfq29=Always	loc1=Yes	12	0.074	0.571	2.502	0.000	6.187	2.354	0.000

CEBQ 34 > Rarely (FR) + CFQ 26 = Dissagree (PE)

Table 22: Determinants of LOC-CEBQ 34 &gt; Rarely (FR) + CFQ 26 = Dissagree (PE)

	Beta	SE	z	P	e <sup>beta</sup>	e <sup>se</sup>
cebq34_gRarelyTRUE	-0.606	1.112	-0.545	0.586	0.545	3.039
cfq26_DisagreeTRUE	0.923	0.505	1.827	0.068	2.516	1.657
cebq34_gRarelyTRUE:cfq26_DisagreeTRUE	2.237	1.247	1.794	0.073	9.368	3.479

CFQ 28 = Disagree (PE) + CEBQ 33 > Sometimes (FF)

Table 23: Determinants of LOC-CFQ 28 = Disagree (PE) + CEBQ 33 &gt; Sometimes (FF)

	Beta	SE	z	P	e <sup>beta</sup>	e <sup>se</sup>
cebq33_gSometimesTRUE	0.191	0.692	0.275	0.783	1.210	1.999
cfq28_DisagreeTRUE	0.434	0.528	0.821	0.412	1.543	1.696
cebq33_gSometimesTRUE:cfq28_DisagreeTRUE	2.192	0.956	2.292	0.022	8.953	2.602

CFQ 28 = Disagree (PE) + CEBQ 7 > Sometimes (FF)

Table 24: Determinants of LOC-CFQ 28 = Disagree (PE) + CEBQ 7 &gt; Sometimes (FF)

	Beta	SE	z	P	e <sup>beta</sup>	e <sup>se</sup>
cebq7_gSometimesTRUE	0.483	0.671	0.719	0.472	1.620	1.957
cfq28_DisagreeTRUE	0.689	0.539	1.277	0.202	1.992	1.715
cebq7_gSometimesTRUE:cfq28_DisagreeTRUE	1.978	0.981	2.016	0.044	7.229	2.668

##Determinants of Absence of LOC

## Step 1: Single Predictor

Confidence = 0.33

Support = 0.17 (25%)

Identified 125 rules, 16 of which were significant uncorrected and 1 after correction

Table 25: Determinants of No LOC-Single Predictors

LHS	count	support	confidence	lift	oddsRatio	OR_lowerCI	OR_upperCI	fisher.p	fisher
BreastFed_least7mo	38	0.235	0.809	1.169	2.339	1.030	5.315	0.028	
cebq14_lsSometimes	65	0.401	0.793	1.147	2.685	1.340	5.380	0.004	
cebq14=Rarely	48	0.296	0.800	1.157	2.375	1.123	5.024	0.016	
cebq26_gRarely	77	0.475	0.755	1.092	2.200	1.111	4.357	0.018	
cebq29_lsSometimes	73	0.451	0.745	1.077	1.872	0.951	3.684	0.050	
cebq29=Rarely	57	0.352	0.792	1.145	2.418	1.190	4.915	0.010	
cebq3_gRarelyRev	70	0.432	0.761	1.101	2.121	1.078	4.174	0.022	
cebq30_gRarely	69	0.426	0.767	1.109	2.216	1.124	4.368	0.016	
cebq33_lsSometimes	44	0.272	0.786	1.136	2.049	0.966	4.345	0.042	
cebq34_lsSometimes	94	0.580	0.770	1.114	4.103	1.934	8.707	0.000	
cebq34=Rarely	55	0.340	0.775	1.120	2.050	1.018	4.130	0.031	
cebq7=Sometimes	48	0.296	0.814	1.177	2.659	1.235	5.724	0.008	
cebq8_gRarely	87	0.537	0.737	1.066	2.133	1.034	4.399	0.031	
income_g50K	64	0.395	0.762	1.102	2.000	1.015	3.941	0.032	
income_g75K	64	0.395	0.762	1.102	2.000	1.015	3.941	0.032	
mEducation_gHS	96	0.593	0.733	1.060	2.571	1.151	5.744	0.018	

Category frequencies for uncorrected rules

Table 26: Determinants of No LOC-Cross Tab Single Predictors

Cat	Freq
gR_SR	1
lsFR	1
lsS_FR	1
mBMI=HealthyWeight	1
sFF	3
sSE	1
sSR	1

## Step 2: Multiple Predictors

Confidence = 0.50

Support = 0.23 (33%)

Found 1518 rules, No significant rules after correction ( $p$ 's  $> 0.0522$ ). There were 46 rules  $< 0.10$  corrected and 411 uncorrected were significant

Table 27: Determinants of No LO

LHS2	LHS1	count	support	confidence	lift	oddsRatio	OR_lowerCI	OR_upperCI
BreastFed_least4mo	cBMI=HW	56	0.346	0.789	1.141	2.333	1.148	4.711
BreastFed_least7mo	BreastFed_least7mo	38	0.235	0.809	1.169	2.339	1.030	5.941
cBMI=HW	cAge_9.12yr	47	0.290	0.783	1.133	2.058	0.987	4.291
cebq1_gRarely	income_g75K	62	0.383	0.765	1.107	2.023	1.023	4.041
cebq1_gRarely	cAge_10.12yr	38	0.235	0.809	1.169	2.339	1.030	5.941
cebq1_gRarely	cBMI=HW	83	0.512	0.748	1.082	2.249	1.116	4.541
cebq1_gRarely	mBMI=HealthyWeight	56	0.346	0.778	1.125	2.125	1.055	4.341
cebq1_gRarely	mEducation_gHS	94	0.580	0.740	1.071	2.690	1.243	5.641
cebq1_gRarely	income_g50K	62	0.383	0.765	1.107	2.023	1.023	4.041
cebq1_gRarely	cebq7=Sometimes	48	0.296	0.828	1.197	3.000	1.365	6.841
cebq1_gSometimes	cebq14=Rarely	38	0.235	0.826	1.195	2.696	1.151	5.441
cebq10=Sometimes	cAge_9.12yr	38	0.235	0.844	1.221	3.154	1.296	7.841
cebq10=Sometimes	mEducation_gHS	51	0.315	0.785	1.135	2.150	1.046	4.241
cebq11_gRarely	income_g75K	53	0.327	0.768	1.111	1.909	0.947	3.941
cebq11_gRarely	income_g50K	53	0.327	0.768	1.111	1.909	0.947	3.941
cebq11_gRarely	cebq23=Sometimes	47	0.290	0.797	1.152	2.290	1.082	4.841
cebq13_lsSometimes	cAge_9.12yr	58	0.358	0.763	1.104	1.909	0.961	3.961
cebq13_lsSometimes	cebq34=Rarely	48	0.296	0.787	1.138	2.135	1.024	4.241
cebq13_lsSometimes	income_g50K	58	0.358	0.763	1.104	1.909	0.961	3.961
cebq13_lsSometimes	cebq3_gRarelyRev	67	0.414	0.761	1.101	2.056	1.045	4.141
cebq13_lsSometimes	income_g75K	58	0.358	0.763	1.104	1.909	0.961	3.961
cebq13_lsSometimes	cebq8_gRarely	78	0.481	0.750	1.085	2.118	1.067	4.341
cebq13_lsSometimes	cebq29=Rarely	50	0.309	0.806	1.166	2.554	1.208	5.341
cebq14_lsSometimes	BreastFed_least4mo	45	0.278	0.865	1.252	4.126	1.705	10.141
cebq14_lsSometimes	cebq5_gRarely	63	0.389	0.808	1.168	3.000	1.474	6.241
cebq14_lsSometimes	mEducation_gAssoc	45	0.278	0.804	1.162	2.381	1.104	4.741
cebq14_lsSometimes	cebq14_lsSometimes	65	0.401	0.793	1.147	2.685	1.340	5.341
cebq14_lsSometimes	cebq8_gRarely	53	0.327	0.815	1.179	2.845	1.347	5.741
cebq14_lsSometimes	mEducation_gHS	55	0.340	0.833	1.205	3.421	1.592	7.541
cebq14_lsSometimes	cebq1_gRarely	64	0.395	0.800	1.157	2.833	1.404	5.641
cebq14_lsSometimes	cBMI=HW	56	0.346	0.800	1.157	2.571	1.252	4.941
cebq14_lsSometimes	BreastFed_ls10mo	57	0.352	0.814	1.178	2.950	1.418	5.841
cebq14_lsSometimes	cAge_8.10yr	43	0.265	0.796	1.152	2.209	1.023	4.041
cebq14_lsSometimes	cebq7_gRarely	41	0.253	0.820	1.186	2.631	1.162	4.541
cebq14_lsSometimes	cebq3_gRarelyRev	49	0.302	0.817	1.181	2.758	1.282	4.941
cebq14_lsSometimes	dEducation_gHS	45	0.278	0.818	1.183	2.687	1.220	4.841
cebq14=Rarely	BreastFed_ls10mo	42	0.259	0.824	1.191	2.733	1.208	4.841
cebq14=Rarely	cBMI=HW	42	0.259	0.808	1.168	2.400	1.088	4.441
cebq14=Rarely	mEducation_gHS	40	0.247	0.816	1.181	2.531	1.116	4.641
cebq14=Rarely	cebq14=Rarely	48	0.296	0.800	1.157	2.375	1.123	4.541
cebq15_lsSometimes	income_g75K	61	0.377	0.762	1.103	1.951	0.987	3.987
cebq15_lsSometimes	mEducation_gHS	89	0.549	0.742	1.073	2.372	1.140	4.641
cebq15_lsSometimes	income_g50K	61	0.377	0.762	1.103	1.951	0.987	3.987
cebq15_lsSometimes	cebq18=Rarely	46	0.284	0.780	1.128	1.984	0.951	3.951

Table 27: Determinants of No LOC-Mu

LHS2	LHS1	count	support	confidence	lift	oddsRatio	OR_lowerCI	OR_upperCI
cebq15_lsSometimes	cebq8_gRarely	80	0.494	0.748	1.081	2.130	1.067	4.100
cebq15_lsSometimes	cebq8=Sometimes	52	0.321	0.776	1.123	2.022	0.994	4.100
cebq17_gRarely	cebq23=Sometimes	40	0.247	0.833	1.205	2.917	1.248	6.881
cebq17_gRarely	cebq15=Rarely	46	0.284	0.780	1.128	1.984	0.951	4.100
cebq17_gRarely	dEducation_gHS	62	0.383	0.765	1.107	2.023	1.023	4.100
cebq17_gRarely	cebq13_lsSometimes	73	0.451	0.745	1.077	1.872	0.951	4.100
cebq17_gRarely	cfq6=Avg	52	0.321	0.776	1.123	2.022	0.994	4.100
cebq17_gRarely	cebq2_lsSometimes	78	0.481	0.743	1.074	1.954	0.983	4.100
cebq17_gRarely	cBMI=HW	64	0.395	0.780	1.129	2.370	1.191	4.100
cebq17_gRarely	income_g50K	55	0.340	0.833	1.205	3.421	1.592	4.100
cebq17_gRarely	income_g75K	55	0.340	0.833	1.205	3.421	1.592	4.100
cebq17_gRarely	mEducation_gHS	74	0.457	0.779	1.127	2.689	1.356	4.100
cebq17_gRarely	cfq5=Avg	55	0.340	0.775	1.120	2.050	1.018	4.100
cebq17_gRarely	cebq10=Sometimes	46	0.284	0.793	1.147	2.207	1.042	4.100
cebq17_gRarely	cebq29=Rarely	44	0.272	0.815	1.179	2.588	1.175	4.100
cebq17_gRarely	cebq3_gRarelyRev	58	0.358	0.784	1.134	2.282	1.133	4.100
cebq18=Rarely	mEducation_gHS	40	0.247	0.800	1.157	2.222	1.005	4.100
cebq19_lsSometimes	cebq14_lsSometimes	52	0.321	0.812	1.175	2.744	1.299	4.100
cebq19_lsSometimes	cAge_9.12yr	39	0.241	0.812	1.175	2.434	1.072	4.100
cebq19_lsSometimes	cebq29=Rarely	38	0.235	0.905	1.309	5.905	1.977	4.100
cebq19_lsSometimes	income_g50K	39	0.241	0.812	1.175	2.434	1.072	4.100
cebq19_lsSometimes	BreastFed_least4mo	45	0.278	0.804	1.162	2.381	1.104	4.100
cebq19_lsSometimes	income_g75K	39	0.241	0.812	1.175	2.434	1.072	4.100
cebq2_lsSometimes	cebq7=Sometimes	42	0.259	0.857	1.240	3.686	1.520	4.100
cebq2_lsSometimes	income_g75K	60	0.370	0.769	1.113	2.051	1.032	4.100
cebq2_lsSometimes	mEducation_gHS	87	0.537	0.744	1.076	2.320	1.130	4.100
cebq2_lsSometimes	cebq29=Rarely	54	0.333	0.818	1.183	2.948	1.396	4.100
cebq2_lsSometimes	income_g50K	60	0.370	0.769	1.113	2.051	1.032	4.100
cebq2_lsSometimes	BreastFed_least4mo	65	0.401	0.756	1.093	1.910	0.972	4.100
cebq2_lsSometimes	cebq8=Sometimes	52	0.321	0.776	1.123	2.022	0.994	4.100
cebq20_gRarely	cebq14=Rarely	47	0.290	0.810	1.172	2.564	1.190	4.100
cebq20_gRarely	mBMI=HealthyWeight	54	0.333	0.771	1.116	1.978	0.982	4.100
cebq20_gRarely	cebq8=Sometimes	55	0.340	0.775	1.120	2.050	1.018	4.100
cebq20_gRarely	cebq14_lsSometimes	59	0.364	0.808	1.169	2.863	1.393	4.100
cebq20_gRarely	cebq3_gRarelyRev	61	0.377	0.772	1.117	2.126	1.070	4.100
cebq20_gRarely	cBMI=HW	78	0.481	0.750	1.085	2.118	1.067	4.100
cebq20_gRarely	cebq8_gRarely	80	0.494	0.741	1.071	1.964	0.983	4.100
cebq21_gRarely	mEducation_gHS	73	0.451	0.753	1.089	2.028	1.030	4.100
cebq21_gRarely	cebq34=Rarely	43	0.265	0.827	1.196	2.839	1.256	4.100
cebq21_gRarely	cebq17_gRarely	74	0.457	0.747	1.081	1.947	0.988	4.100
cebq21_gRarely	cebq29=Rarely	44	0.272	0.830	1.201	2.948	1.305	4.100
cebq21_gRarely	income_g50K	52	0.321	0.800	1.157	2.467	1.185	4.100
cebq21_gRarely	income_g75K	52	0.321	0.800	1.157	2.467	1.185	4.100
cebq22_gRarely	mBMI=HealthyWeight	56	0.346	0.767	1.110	1.941	0.971	4.100

Table 27: Determinants of No LOC-Mu

LHS2	LHS1	count	support	confidence	lift	oddsRatio	OR_lowerCI	OR_upperCI
cebq22_gRarely	cBMI=HW	82	0.506	0.739	1.069	1.979	0.983	3.979
cebq22_gRarely	mEducation_gHS	94	0.580	0.734	1.062	2.458	1.127	5.381
cebq22_gRarely	cebq8_gRarely	85	0.525	0.739	1.069	2.099	1.029	4.169
cebq22_gRarely	cebq8=Sometimes	58	0.358	0.763	1.104	1.909	0.961	3.859
cebq22_gRarely	cebq3_gRarelyRev	68	0.420	0.764	1.105	2.134	1.084	4.254
cebq22_gRarely	cAge_10.12yr	38	0.235	0.809	1.169	2.339	1.030	5.509
cebq23_gRarely	BreastFed_ls10mo	63	0.389	0.759	1.098	1.929	0.979	3.979
cebq23_gRarely	cAge_9.10yr	39	0.241	0.796	1.151	2.137	0.965	4.254
cebq23_gRarely	cAge_9.12yr	44	0.272	0.815	1.179	2.588	1.175	5.688
cebq23_gRarely	cebq17_gRarely	53	0.327	0.791	1.144	2.310	1.124	4.680
cebq23_gRarely	mEducation_gHS	63	0.389	0.778	1.125	2.286	1.149	4.581
cebq23_gRarely	cebq8_gRarely	58	0.358	0.784	1.134	2.282	1.133	4.581
cebq23_gRarely	dEducation_gHS	56	0.346	0.767	1.110	1.941	0.971	3.979
cebq23_gRarely	cebq34=Rarely	39	0.241	0.812	1.175	2.434	1.072	5.381
cebq23_gRarely	cebq3_gRarelyRev	44	0.272	0.800	1.157	2.294	1.063	4.581
cebq23=Sometimes	mEducation_gHS	47	0.290	0.825	1.193	2.892	1.315	6.254
cebq23=Sometimes	dEducation_gHS	43	0.265	0.827	1.196	2.839	1.256	6.081
cebq23=Sometimes	BreastFed_ls10mo	45	0.278	0.804	1.162	2.381	1.104	4.904
cebq24_lsSometimes	BreastFed_ls10mo	55	0.340	0.786	1.136	2.251	1.108	4.581
cebq25_gRarely	mEducation_gHS	43	0.265	0.796	1.152	2.209	1.023	4.581
cebq25_gRarely	cebq23_gRarely	43	0.265	0.843	1.220	3.272	1.403	7.381
cebq25_gRarely	cebq8_gRarely	41	0.253	0.788	1.140	2.047	0.946	4.169
cebq26_gRarely	cAge_9.12yr	41	0.253	0.788	1.140	2.047	0.946	4.169
cebq26_gRarely	cebq17=Sometimes	39	0.241	0.848	1.226	3.282	1.350	7.381
cebq26_gRarely	cebq22_gRarely	75	0.463	0.758	1.096	2.196	1.112	4.581
cebq26_gRarely	cebq15=Rarely	41	0.253	0.820	1.186	2.631	1.162	5.381
cebq26_gRarely	cebq26_gRarely	77	0.475	0.755	1.092	2.200	1.111	4.581
cebq26_gRarely	cebq20_gRarely	72	0.444	0.774	1.120	2.486	1.257	5.381
cebq26_gRarely	cebq23=Sometimes	42	0.259	0.824	1.191	2.733	1.208	5.381
cebq26_gRarely	cebq23_gRarely	55	0.340	0.821	1.187	3.056	1.447	6.254
cebq26_gRarely	mEducation_gHS	64	0.395	0.790	1.143	2.588	1.292	5.381
cebq26_gRarely	cebq17_gRarely	63	0.389	0.778	1.125	2.286	1.149	4.581
cebq26_gRarely	cfq8=Avg	52	0.321	0.776	1.123	2.022	0.994	4.169
cebq26_gRarely	cebq15_lsSometimes	71	0.438	0.755	1.093	2.033	1.034	4.581
cebq26_gRarely	dEducation_gHS	54	0.333	0.771	1.116	1.978	0.982	3.979
cebq26_gRarely	cebq5_gRarely	74	0.457	0.771	1.115	2.478	1.253	5.381
cebq26_gRarely	cebq11_gRarely	65	0.401	0.765	1.106	2.074	1.052	4.169
cebq26_gRarely	cebq20_gSometimes	43	0.265	0.796	1.152	2.209	1.023	4.581
cebq26_gRarely	dBMI_OBOW	53	0.327	0.768	1.111	1.909	0.947	3.979
cebq26_gRarely	cAge_8.10yr	53	0.327	0.768	1.111	1.909	0.947	3.979
cebq26_gRarely	cebq6_gRarely	54	0.333	0.806	1.166	2.650	1.274	5.381
cebq26_gRarely	BreastFed_least4mo	46	0.284	0.793	1.147	2.207	1.042	4.581
cebq26_gRarely	income_g50K	44	0.272	0.863	1.248	3.975	1.642	9.754
cebq26_gRarely	cBMI=HW	59	0.364	0.766	1.108	1.979	0.996	4.169

Table 27: Determinants of No LOC-Mu

LHS2	LHS1	count	support	confidence	lift	oddsRatio	OR_lowerCI	OR_upperCI
cebq26_gRarely	income_g75K	44	0.272	0.863	1.248	3.975	1.642	9.842
cebq26_gRarely	BreastFed_ls10mo	69	0.426	0.758	1.097	2.042	1.039	4.039
cebq26_gRarely	cebq1_gRarely	75	0.463	0.758	1.096	2.196	1.112	4.212
cebq26_gRarely	cebq9_gRarely	41	0.253	0.804	1.163	2.310	1.046	5.546
cebq26=Sometimes	mEducation_gHS	45	0.278	0.789	1.142	2.127	1.004	4.204
cebq27_gRarely	cebq26_gRarely	41	0.253	0.788	1.140	2.047	0.946	4.546
cebq28_gRarely	cBMI=HW	68	0.420	0.756	1.093	1.967	1.001	3.967
cebq28_gRarely	cebq26_gRarely	59	0.364	0.766	1.108	1.979	0.996	4.079
cebq28_gRarely	cebq8=Sometimes	49	0.302	0.790	1.143	2.214	1.063	4.663
cebq28_gRarely	cebq25_gRarely	42	0.259	0.792	1.146	2.127	0.984	4.127
cebq28_gRarely	cebq14_lsSometimes	46	0.284	0.807	1.167	2.471	1.147	5.147
cebq28_gSometimes	cebq21_gRarely	39	0.241	0.796	1.151	2.137	0.965	4.537
cebq29_lsSometimes	cebq19_lsSometimes	51	0.315	0.810	1.171	2.648	1.253	5.548
cebq29_lsSometimes	income_g50K	44	0.272	0.815	1.179	2.588	1.175	5.588
cebq29_lsSometimes	cebq1_gRarely	72	0.444	0.750	1.085	1.950	0.992	4.085
cebq29_lsSometimes	cBMI=HW	57	0.352	0.814	1.178	2.950	1.418	6.018
cebq29_lsSometimes	cebq10=Sometimes	41	0.253	0.837	1.210	3.032	1.298	7.532
cebq29_lsSometimes	cebq14_lsSometimes	48	0.296	0.814	1.177	2.659	1.235	5.577
cebq29_lsSometimes	cebq4_gRarelyRev	58	0.358	0.784	1.134	2.282	1.133	4.582
cebq29_lsSometimes	cebq29_lsSometimes	73	0.451	0.745	1.077	1.872	0.951	4.077
cebq29_lsSometimes	cebq27_lsSometimes	41	0.253	0.820	1.186	2.631	1.162	5.631
cebq29_lsSometimes	cebq2_lsSometimes	69	0.426	0.767	1.109	2.216	1.124	4.316
cebq29_lsSometimes	mBMI=HealthyWeight	42	0.259	0.792	1.146	2.127	0.984	4.127
cebq29_lsSometimes	cebq3_gRarelyRev	50	0.309	0.820	1.186	2.859	1.329	6.159
cebq29_lsSometimes	mEducation_gHS	64	0.395	0.780	1.129	2.370	1.191	4.770
cebq29_lsSometimes	income_g75K	44	0.272	0.815	1.179	2.588	1.175	5.588
cebq29_lsSometimes	BreastFed_least4mo	50	0.309	0.794	1.148	2.295	1.102	4.595
cebq29_lsSometimes	cebq13_lsSometimes	65	0.401	0.756	1.093	1.910	0.972	4.093
cebq29=Rarely	BreastFed_least4mo	39	0.241	0.886	1.282	4.808	1.765	13.008
cebq29=Rarely	cebq29=Rarely	57	0.352	0.792	1.145	2.418	1.190	4.718
cebq29=Rarely	cAge_8.10yr	40	0.247	0.816	1.181	2.531	1.116	5.531
cebq29=Rarely	EatOut_1.4mo	41	0.253	0.804	1.163	2.310	1.046	4.546
cebq29=Rarely	mEducation_gAssoc	38	0.235	0.809	1.169	2.339	1.030	4.339
cebq29=Rarely	mEducation_gHS	48	0.296	0.828	1.197	3.000	1.365	6.365
cebq29=Rarely	dEducation_gHS	43	0.265	0.796	1.152	2.209	1.023	4.209
cebq29=Rarely	cBMI=HW	44	0.272	0.863	1.248	3.975	1.642	9.842
cebq3_gRarelyRev	BreastFed_least4mo	46	0.284	0.793	1.147	2.207	1.042	4.547
cebq3_gRarelyRev	cebq13=Rarely	44	0.272	0.786	1.136	2.049	0.966	4.049
cebq3_gRarelyRev	mEducation_gHS	60	0.370	0.769	1.113	2.051	1.032	4.051
cebq3_gRarelyRev	cAge_9.12yr	38	0.235	0.826	1.195	2.696	1.151	5.696
cebq3_gRarelyRev	income_g50K	45	0.278	0.818	1.183	2.687	1.220	5.687
cebq3_gRarelyRev	cebq1_gRarely	68	0.420	0.764	1.105	2.134	1.084	4.234
cebq3_gRarelyRev	cebq3_gRarelyRev	70	0.432	0.761	1.101	2.121	1.078	4.221
cebq3_gRarelyRev	income_g75K	45	0.278	0.818	1.183	2.687	1.220	5.687

Table 27: Determinants of No LOC-Mu

LHS2	LHS1	count	support	confidence	lift	oddsRatio	OR_lowerCI	OR_upperCI
cebq3_gRarelyRev	BreastFed_ls10mo	65	0.401	0.774	1.119	2.256	1.139	4.481
cebq3_gRarelyRev	cBMI=HW	56	0.346	0.767	1.110	1.941	0.971	3.891
cebq30_gRarely	mEducation_gHS	59	0.364	0.776	1.123	2.161	1.081	4.301
cebq30_gRarely	cBMI=HW	54	0.333	0.806	1.166	2.650	1.274	5.541
cebq30_gRarely	cfq11=Avg	53	0.327	0.779	1.127	2.096	1.031	4.251
cebq30_gRarely	cebq27_gRarely	44	0.272	0.800	1.157	2.294	1.063	5.301
cebq30_gRarely	cebq23=Sometimes	38	0.235	0.844	1.221	3.154	1.296	7.701
cebq30_gRarely	cfq6=Avg	41	0.253	0.820	1.186	2.631	1.162	6.101
cebq30_gRarely	income_g50K	44	0.272	0.863	1.248	3.975	1.642	9.701
cebq30_gRarely	cebq8_gRarely	56	0.346	0.767	1.110	1.941	0.971	3.891
cebq30_gRarely	BreastFed_ls10mo	58	0.358	0.773	1.119	2.085	1.043	4.351
cebq30_gRarely	cebq30_gRarely	69	0.426	0.767	1.109	2.216	1.124	4.401
cebq30_gRarely	cebq17_gRarely	55	0.340	0.775	1.120	2.050	1.018	4.101
cebq30_gRarely	cebq28_gRarely	55	0.340	0.775	1.120	2.050	1.018	4.101
cebq30_gRarely	cebq11_gRarely	62	0.383	0.775	1.121	2.204	1.109	4.361
cebq30_gRarely	cebq6_gRarely	49	0.302	0.803	1.162	2.463	1.165	4.861
cebq30_gRarely	cebq29_lsSometimes	41	0.253	0.788	1.140	2.047	0.946	4.501
cebq30_gRarely	cAge_8.10yr	49	0.302	0.790	1.143	2.214	1.063	4.561
cebq30_gRarely	dBMI_OBOW	49	0.302	0.803	1.162	2.463	1.165	4.861
cebq30_gRarely	cebq22_gRarely	67	0.414	0.770	1.114	2.233	1.131	4.421
cebq30_gRarely	cfq5=Avg	46	0.284	0.793	1.147	2.207	1.042	4.521
cebq30_gRarely	cebq1_gRarely	68	0.420	0.773	1.118	2.318	1.173	4.681
cebq30_gRarely	cebq15_lsSometimes	64	0.395	0.771	1.115	2.175	1.099	4.601
cebq30_gRarely	cebq15=Rarely	40	0.247	0.833	1.205	2.917	1.248	7.101
cebq30_gRarely	cebq2_lsSometimes	63	0.389	0.768	1.111	2.098	1.060	4.321
cebq30_gRarely	income_g75K	44	0.272	0.863	1.248	3.975	1.642	9.701
cebq30_gRarely	cebq14_lsSometimes	38	0.235	0.809	1.169	2.339	1.030	4.781
cebq30_gRarely	cebq20_gRarely	61	0.377	0.772	1.117	2.126	1.070	4.381
cebq30_gRarely	cebq20_gSometimes	38	0.235	0.844	1.221	3.154	1.296	7.701
cebq30_gRarely	cebq26_gRarely	53	0.327	0.768	1.111	1.909	0.947	4.001
cebq30_gRarely	cebq5_gRarely	66	0.407	0.786	1.136	2.551	1.280	5.101
cebq30_gRarely	cebq25_gRarely	38	0.235	0.864	1.249	3.766	1.473	9.501
cebq30_gRarely	cebq23_gRarely	51	0.315	0.836	1.209	3.344	1.523	7.401
cebq30=Sometimes	mEducation_gHS	42	0.259	0.792	1.146	2.127	0.984	4.621
cebq31_lsSometimes	dEducation_gHS	54	0.333	0.771	1.116	1.978	0.982	4.081
cebq31_lsSometimes	mEducation_gAssoc	53	0.327	0.768	1.111	1.909	0.947	4.001
cebq31_lsSometimes	cebq1_gRarely	69	0.426	0.750	1.085	1.884	0.960	3.961
cebq31_lsSometimes	cebq27_lsSometimes	40	0.247	0.816	1.181	2.531	1.116	5.361
cebq31_lsSometimes	cebq19_lsSometimes	49	0.302	0.803	1.162	2.463	1.165	4.861
cebq31_lsSometimes	cBMI=HW	55	0.340	0.809	1.170	2.746	1.320	5.601
cebq31_lsSometimes	cebq4_gRarelyRev	53	0.327	0.768	1.111	1.909	0.947	4.001
cebq31_lsSometimes	cebq3_gRarelyRev	49	0.302	0.817	1.181	2.758	1.282	5.161
cebq31_lsSometimes	cebq2_lsSometimes	65	0.401	0.765	1.106	2.074	1.052	4.281
cebq31_lsSometimes	cebq14_lsSometimes	48	0.296	0.814	1.177	2.659	1.235	5.541



Table 27: Determinants of No LOC-Mu

LHS2	LHS1	count	support	confidence	lift	oddsRatio	OR_lowerCI	OR_upperCI
cebq31_lsSometimes	cebq13=Rarely	41	0.253	0.788	1.140	2.047	0.946	4.511
cebq31_lsSometimes	BreastFed_least4mo	50	0.309	0.794	1.148	2.295	1.102	4.511
cebq31_lsSometimes	mEducation_gHS	63	0.389	0.797	1.153	2.732	1.354	5.555
cebq31_lsSometimes	income_g50K	42	0.259	0.808	1.168	2.400	1.088	5.555
cebq31_lsSometimes	income_g75K	42	0.259	0.808	1.168	2.400	1.088	5.555
cebq31_lsSometimes	cebq10=Sometimes	40	0.247	0.816	1.181	2.531	1.116	5.555
cebq31_lsSometimes	mBMI=HealthyWeight	43	0.265	0.796	1.152	2.209	1.023	5.555
cebq31=Rarely	cBMI=HW	38	0.235	0.826	1.195	2.696	1.151	5.555
cebq31=Rarely	mEducation_gHS	42	0.259	0.792	1.146	2.127	0.984	5.555
cebq32_gRarelyRev	cebq29=Rarely	42	0.259	0.792	1.146	2.127	0.984	5.555
cebq32_gRarelyRev	cebq31_lsSometimes	53	0.327	0.768	1.111	1.909	0.947	5.555
cebq32_gRarelyRev	cebq7=Sometimes	41	0.253	0.820	1.186	2.631	1.162	5.555
cebq33_gRarely	income_g75K	43	0.265	0.796	1.152	2.209	1.023	5.555
cebq33_gRarely	cebq7=Sometimes	39	0.241	0.830	1.200	2.805	1.199	5.555
cebq33_gRarely	income_g50K	43	0.265	0.796	1.152	2.209	1.023	5.555
cebq33_lsSometimes	BreastFed_ls10mo	40	0.247	0.816	1.181	2.531	1.116	5.555
cebq33_lsSometimes	cebq33_lsSometimes	44	0.272	0.786	1.136	2.049	0.966	5.555
cebq33_lsSometimes	cebq20_gRarely	43	0.265	0.796	1.152	2.209	1.023	5.555
cebq33_lsSometimes	cebq15_lsSometimes	39	0.241	0.796	1.151	2.137	0.965	5.555
cebq34_lsSometimes	cAge_9.12yr	56	0.346	0.800	1.157	2.571	1.252	5.555
cebq34_lsSometimes	cfq2=MostTimes	38	0.235	0.826	1.195	2.696	1.151	5.555
cebq34_lsSometimes	mEducation_gAssoc	65	0.401	0.774	1.119	2.256	1.139	5.555
cebq34_lsSometimes	cebq3_gRarelyRev	64	0.395	0.790	1.143	2.588	1.292	5.555
cebq34_lsSometimes	cAge_9.10yr	46	0.284	0.780	1.128	1.984	0.951	5.555
cebq34_lsSometimes	cebq10=Sometimes	44	0.272	0.800	1.157	2.294	1.063	5.555
cebq34_lsSometimes	income_g50K	53	0.327	0.828	1.198	3.185	1.482	5.555
cebq34_lsSometimes	sex=Female	49	0.302	0.803	1.162	2.463	1.165	5.555
cebq34_lsSometimes	cBMI=HW	72	0.444	0.791	1.144	2.937	1.474	5.555
cebq34_lsSometimes	dEducation_gHS	69	0.426	0.784	1.134	2.618	1.318	5.555
cebq34_lsSometimes	cebq13_lsSometimes	86	0.531	0.775	1.121	3.308	1.631	5.555
cebq34_lsSometimes	cebq20_gRarely	86	0.531	0.775	1.121	3.308	1.631	5.555
cebq34_lsSometimes	cebq28_gRarely	70	0.432	0.778	1.125	2.500	1.263	5.555
cebq34_lsSometimes	cebq8_gRarely	74	0.457	0.804	1.163	3.462	1.724	5.555
cebq34_lsSometimes	cebq2=Rarely	42	0.259	0.792	1.146	2.127	0.984	5.555
cebq34_lsSometimes	cebq33_lsSometimes	41	0.253	0.837	1.210	3.032	1.298	5.555
cebq34_lsSometimes	cebq20_gSometimes	54	0.333	0.771	1.116	1.978	0.982	5.555
cebq34_lsSometimes	income_g75K	53	0.327	0.828	1.198	3.185	1.482	5.555
cebq34_lsSometimes	cebq14=Rarely	44	0.272	0.846	1.224	3.397	1.458	5.555
cebq34_lsSometimes	mEducation_gHS	81	0.500	0.794	1.149	3.608	1.796	5.555
cebq34_lsSometimes	BreastFed_least4mo	63	0.389	0.818	1.183	3.306	1.607	5.555
cebq34_lsSometimes	cebq4_gRarelyRev	64	0.395	0.780	1.129	2.370	1.191	5.555
cebq34_lsSometimes	cebq21_gRarely	70	0.432	0.778	1.125	2.500	1.263	5.555
cebq34_lsSometimes	cebq24_lsSometimes	49	0.302	0.803	1.162	2.463	1.165	5.555
cebq34_lsSometimes	cebq18_gRarely	38	0.235	0.826	1.195	2.696	1.151	5.555

Table 27: Determinants of No LOC-Mu

LHS2	LHS1	count	support	confidence	lift	oddsRatio	OR_lowerCI	OR_upperCI
cebq34_lsSometimes	cebq5_gRarely	89	0.549	0.774	1.119	3.572	1.739	7.348
cebq34_lsSometimes	cebq17_gRarely	69	0.426	0.784	1.134	2.618	1.318	5.148
cebq34_lsSometimes	cebq5=Often	45	0.278	0.818	1.183	2.687	1.220	5.748
cebq34_lsSometimes	cebq29=Rarely	49	0.302	0.875	1.266	4.778	1.978	11.648
cebq34_lsSometimes	cebq26_gRarely	60	0.370	0.779	1.127	2.240	1.120	4.518
cebq34_lsSometimes	cebq15=Rarely	48	0.296	0.814	1.177	2.659	1.235	5.548
cebq34_lsSometimes	cebq8=Sometimes	47	0.290	0.797	1.152	2.290	1.082	4.948
cebq34_lsSometimes	cebq9_lsSometimes	53	0.327	0.791	1.144	2.310	1.124	4.748
cebq34_lsSometimes	cebq1_gRarely	92	0.568	0.773	1.118	3.919	1.875	8.048
cebq34_lsSometimes	cebq13=Rarely	56	0.346	0.789	1.141	2.333	1.148	4.848
cebq34_lsSometimes	cebq6=Sometimes	39	0.241	0.796	1.151	2.137	0.965	4.748
cebq34_lsSometimes	cebq28_gSometimes	38	0.235	0.826	1.195	2.696	1.151	6.248
cebq34_lsSometimes	cebq31_lsSometimes	65	0.401	0.823	1.190	3.556	1.727	7.348
cebq34_lsSometimes	cfq8=Avg	61	0.377	0.772	1.117	2.126	1.070	4.248
cebq34_lsSometimes	cfq29=Mostly	38	0.235	0.809	1.169	2.339	1.030	5.148
cebq34_lsSometimes	cAge_8.10yr	67	0.414	0.779	1.127	2.429	1.225	4.848
cebq34_lsSometimes	cfq9=Avg	63	0.389	0.778	1.125	2.286	1.149	4.748
cebq34_lsSometimes	cebq29_lsSometimes	65	0.401	0.812	1.175	3.227	1.584	6.648
cebq34_lsSometimes	cebq31=Rarely	44	0.272	0.846	1.224	3.397	1.458	7.648
cebq34_lsSometimes	cebq7=Sometimes	38	0.235	0.864	1.249	3.766	1.473	9.548
cebq34_lsSometimes	cebq5_gSometimes	56	0.346	0.800	1.157	2.571	1.252	5.148
cebq34_lsSometimes	cebq14_lsSometimes	61	0.377	0.836	1.209	3.788	1.793	8.048
cebq34_lsSometimes	cebq34_lsSometimes	94	0.580	0.770	1.114	4.103	1.934	8.548
cebq34_lsSometimes	cfq5=Avg	55	0.340	0.786	1.136	2.251	1.108	4.748
cebq34_lsSometimes	cebq30_gRarely	55	0.340	0.809	1.170	2.746	1.320	5.648
cebq34_lsSometimes	cebq23_gRarely	57	0.352	0.792	1.145	2.418	1.190	5.148
cebq34_lsSometimes	cebq23=Sometimes	42	0.259	0.808	1.168	2.400	1.088	4.948
cebq34_lsSometimes	cebq17=Sometimes	41	0.253	0.804	1.163	2.310	1.046	4.748
cebq34_lsSometimes	cfq30=Mostly	40	0.247	0.816	1.181	2.531	1.116	5.148
cebq34=Rarely	cBMI=HW	40	0.247	0.800	1.157	2.222	1.005	4.748
cebq34=Rarely	dBMI_OBOW	40	0.247	0.800	1.157	2.222	1.005	4.748
cebq34=Rarely	cebq34=Rarely	55	0.340	0.775	1.120	2.050	1.018	4.248
cebq34=Rarely	cAge_8.10yr	40	0.247	0.816	1.181	2.531	1.116	5.148
cebq34=Rarely	dEducation_gHS	41	0.253	0.788	1.140	2.047	0.946	4.248
cebq34=Rarely	mEducation_gHS	47	0.290	0.797	1.152	2.290	1.082	4.948
cebq35_gRarely	cebq34_lsSometimes	45	0.278	0.865	1.252	4.126	1.705	9.548
cebq35_gRarely	cebq23_gRarely	41	0.253	0.820	1.186	2.631	1.162	5.648
cebq35_gRarely	cebq30_gRarely	40	0.247	0.800	1.157	2.222	1.005	4.748
cebq4_gRarelyRev	cBMI=HW	60	0.370	0.759	1.099	1.883	0.953	3.948
cebq4_gRarelyRev	income_g75K	49	0.302	0.803	1.162	2.463	1.165	5.148
cebq4_gRarelyRev	cebq29=Rarely	47	0.290	0.855	1.236	3.796	1.632	8.548
cebq4_gRarelyRev	income_g50K	49	0.302	0.803	1.162	2.463	1.165	5.148
cebq5_gRarely	cebq8=Sometimes	56	0.346	0.767	1.110	1.941	0.971	3.948
cebq5_gRarely	cebq26=Sometimes	53	0.327	0.768	1.111	1.909	0.947	3.948

Table 27: Determinants of No LOC-Mu

LHS2	LHS1	count	support	confidence	lift	oddsRatio	OR_lowerCI	OR_upperCI
cebq5_gRarely	mBMI=HealthyWeight	55	0.340	0.775	1.120	2.050	1.018	4.085
cebq5_gRarely	income_g50K	62	0.383	0.765	1.107	2.023	1.023	4.031
cebq5_gRarely	cebq3_gRarelyRev	65	0.401	0.774	1.119	2.256	1.139	4.481
cebq5_gRarely	mEducation_gHS	93	0.574	0.738	1.068	2.522	1.173	5.341
cebq5_gRarely	income_g75K	62	0.383	0.765	1.107	2.023	1.023	4.031
cebq5_gRarely	cBMI=HW	82	0.506	0.752	1.088	2.328	1.161	4.681
cebq5_gRarely	cebq30=Sometimes	47	0.290	0.797	1.152	2.290	1.082	5.141
cebq5_gRarely	cebq7=Sometimes	46	0.284	0.821	1.188	2.788	1.267	6.241
cebq5_gSometimes	mBMI=HealthyWeight	38	0.235	0.826	1.195	2.696	1.151	6.141
cebq5=Often	mEducation_gHS	46	0.284	0.780	1.128	1.984	0.951	4.141
cebq6_gRarely	cebq26=Sometimes	40	0.247	0.816	1.181	2.531	1.116	5.541
cebq6_gRarely	cebq8=Sometimes	41	0.253	0.820	1.186	2.631	1.162	5.841
cebq7_gRarely	income_g75K	47	0.290	0.810	1.172	2.564	1.190	5.941
cebq7_gRarely	income_g50K	47	0.290	0.810	1.172	2.564	1.190	5.941
cebq7=Sometimes	mEducation_gHS	43	0.265	0.860	1.244	3.828	1.580	9.541
cebq7=Sometimes	cebq7=Sometimes	48	0.296	0.814	1.177	2.659	1.235	6.341
cebq8_gRarely	mEducation_gHS	72	0.444	0.750	1.085	1.950	0.992	3.841
cebq8_gRarely	cfq5=Avg	51	0.315	0.773	1.118	1.951	0.959	3.941
cebq8_gRarely	cBMI=HW	65	0.401	0.765	1.106	2.074	1.052	4.141
cebq8_gRarely	cebq2_lsSometimes	80	0.494	0.748	1.081	2.130	1.067	4.241
cebq8_gRarely	cebq8_gRarely	87	0.537	0.737	1.066	2.133	1.034	4.241
cebq8_gRarely	cebq5_gRarely	82	0.506	0.739	1.069	1.979	0.983	3.941
cebq8_gRarely	BreastFed_ls10mo	78	0.481	0.743	1.074	1.954	0.983	3.941
cebq8_gRarely	cebq3_gRarelyRev	61	0.377	0.782	1.131	2.322	1.161	4.681
cebq8_gRarely	income_g50K	49	0.302	0.803	1.162	2.463	1.165	4.941
cebq8_gRarely	BreastFed_least4mo	55	0.340	0.786	1.136	2.251	1.108	4.681
cebq8_gRarely	cebq23=Sometimes	44	0.272	0.846	1.224	3.397	1.458	7.741
cebq8_gRarely	cebq34=Rarely	41	0.253	0.837	1.210	3.032	1.298	7.341
cebq8_gRarely	cebq14=Rarely	40	0.247	0.816	1.181	2.531	1.116	5.541
cebq8_gRarely	income_g75K	49	0.302	0.803	1.162	2.463	1.165	4.941
cebq8_gRarely	cebq29=Rarely	46	0.284	0.836	1.210	3.175	1.407	7.041
cebq8_gRarely	mBMI=HealthyWeight	44	0.272	0.815	1.179	2.588	1.175	5.841
cebq8_gRarely	cebq1_gRarely	85	0.525	0.739	1.069	2.099	1.029	4.141
cebq8_gRarely	cebq7=Sometimes	39	0.241	0.848	1.226	3.282	1.350	7.541
cebq8_gRarely	cebq6_gRarely	57	0.352	0.781	1.129	2.202	1.093	4.481
cebq8=Sometimes	cBMI=HW	43	0.265	0.796	1.152	2.209	1.023	4.031
cebq8=Sometimes	mEducation_gHS	46	0.284	0.793	1.147	2.207	1.042	4.481
cebq9_lsSometimes	mBMI=HealthyWeight	38	0.235	0.809	1.169	2.339	1.030	4.681
cfq1_gHalf	cebq29=Rarely	42	0.259	0.808	1.168	2.400	1.088	4.941
cfq17_gNeutralAD	cBMI=HW	56	0.346	0.767	1.110	1.941	0.971	3.941
cfq17_gNeutralAD	cfq5=Avg	56	0.346	0.767	1.110	1.941	0.971	3.941
cfq17_gNeutralAD	cebq23=Sometimes	39	0.241	0.812	1.175	2.434	1.072	5.141
cfq17_gNeutralAD	income_g75K	48	0.296	0.787	1.138	2.135	1.024	4.141
cfq17_gNeutralAD	cebq26_gRarely	55	0.340	0.786	1.136	2.251	1.108	4.681

Table 27: Determinants of No LOC-Mu

LHS2	LHS1	count	support	confidence	lift	oddsRatio	OR_lowerCI	OR_upperCI
cfq17_gNeutralAD	cebq14_lsSometimes	38	0.235	0.826	1.195	2.696	1.151	1.000
cfq17_gNeutralAD	cebq34_lsSometimes	62	0.383	0.785	1.135	2.407	1.203	1.000
cfq17_gNeutralAD	income_g50K	48	0.296	0.787	1.138	2.135	1.024	1.000
cfq17_gNeutralAD	cebq3_gRarelyRev	49	0.302	0.778	1.125	2.000	0.972	1.000
cfq2_gHalf	cebq34_lsSometimes	54	0.333	0.794	1.149	2.394	1.165	1.000
cfq2_gHalf	income_g50K	39	0.241	0.796	1.151	2.137	0.965	1.000
cfq2_gHalf	income_g75K	39	0.241	0.796	1.151	2.137	0.965	1.000
cfq2_gHalf	cebq17_gRarely	53	0.327	0.768	1.111	1.909	0.947	1.000
cfq2_gSeldom	cebq14_lsSometimes	51	0.315	0.797	1.153	2.380	1.143	1.000
cfq2_gSeldom	cebq30_gRarely	60	0.370	0.779	1.127	2.240	1.120	1.000
cfq2_gSeldom	cebq26_gRarely	67	0.414	0.761	1.101	2.056	1.045	1.000
cfq2_gSeldom	cebq3_gRarelyRev	59	0.364	0.766	1.108	1.979	0.996	1.000
cfq2_gSeldom	mEducation_gHS	80	0.494	0.741	1.071	1.964	0.983	1.000
cfq2_gSeldom	income_g50K	55	0.340	0.775	1.120	2.050	1.018	1.000
cfq2_gSeldom	cebq29=Rarely	50	0.309	0.794	1.148	2.295	1.102	1.000
cfq2_gSeldom	income_g75K	55	0.340	0.775	1.120	2.050	1.018	1.000
cfq2_gSeldom	cebq14=Rarely	40	0.247	0.816	1.181	2.531	1.116	1.000
cfq20_gNeutralAD	cebq34_lsSometimes	44	0.272	0.786	1.136	2.049	0.966	1.000
cfq23_gNeutralAD	cebq34_lsSometimes	52	0.321	0.800	1.157	2.467	1.185	1.000
cfq23_gNeutralAD	cebq30_gRarely	44	0.272	0.786	1.136	2.049	0.966	1.000
cfq23_gNeutralAD	cebq21_gRarely	58	0.358	0.773	1.119	2.085	1.043	1.000
cfq23_gNeutralAD	cebq3_gRarelyRev	43	0.265	0.811	1.174	2.493	1.131	1.000
cfq23_gNeutralAD	cebq26_gRarely	52	0.321	0.839	1.213	3.467	1.579	1.000
cfq23_gNeutralAD	income_g75K	41	0.253	0.788	1.140	2.047	0.946	1.000
cfq23_gNeutralAD	income_g50K	41	0.253	0.788	1.140	2.047	0.946	1.000
cfq24_gNeutralAD	cebq26_gRarely	46	0.284	0.821	1.188	2.788	1.267	1.000
cfq24_gNeutralAD	cebq34_lsSometimes	49	0.302	0.831	1.201	3.111	1.416	1.000
cfq24_gNeutralAD	cebq17_gRarely	49	0.302	0.778	1.125	2.000	0.972	1.000
cfq24_gNeutralAD	cebq21_gRarely	52	0.321	0.788	1.140	2.229	1.084	1.000
cfq24_gNeutralAD	cebq3_gRarelyRev	38	0.235	0.809	1.169	2.339	1.030	1.000
cfq27_lsNeutralAD	cebq34_lsSometimes	50	0.309	0.794	1.148	2.295	1.102	1.000
cfq31_gRarely	cebq34=Rarely	45	0.278	0.804	1.162	2.381	1.104	1.000
cfq6=Avg	cebq29=Rarely	38	0.235	0.809	1.169	2.339	1.030	1.000
cfq6=Avg	cfq5=Avg	54	0.333	0.794	1.149	2.394	1.165	1.000
cfq8=Avg	cfq5=Avg	51	0.315	0.773	1.118	1.951	0.959	1.000
cfq8=Avg	cebq29=Rarely	38	0.235	0.826	1.195	2.696	1.151	1.000
cfq8=Avg	cebq8=Sometimes	41	0.253	0.788	1.140	2.047	0.946	1.000
cfq9=Avg	cebq7=Sometimes	38	0.235	0.826	1.195	2.696	1.151	1.000
cfq9=Avg	cebq10=Sometimes	39	0.241	0.796	1.151	2.137	0.965	1.000
dEducation_gHS	mBMI=HealthyWeight	45	0.278	0.789	1.142	2.127	1.004	1.000
income_g50K	income_g50K	64	0.395	0.762	1.102	2.000	1.015	1.000
income_g50K	cBMI=HW	51	0.315	0.785	1.135	2.150	1.046	1.000
income_g50K	BreastFed_ls10mo	55	0.340	0.786	1.136	2.251	1.108	1.000
income_g50K	BreastFed_least4mo	47	0.290	0.810	1.172	2.564	1.190	1.000

Table 27: Determinants of No LOC-Mu

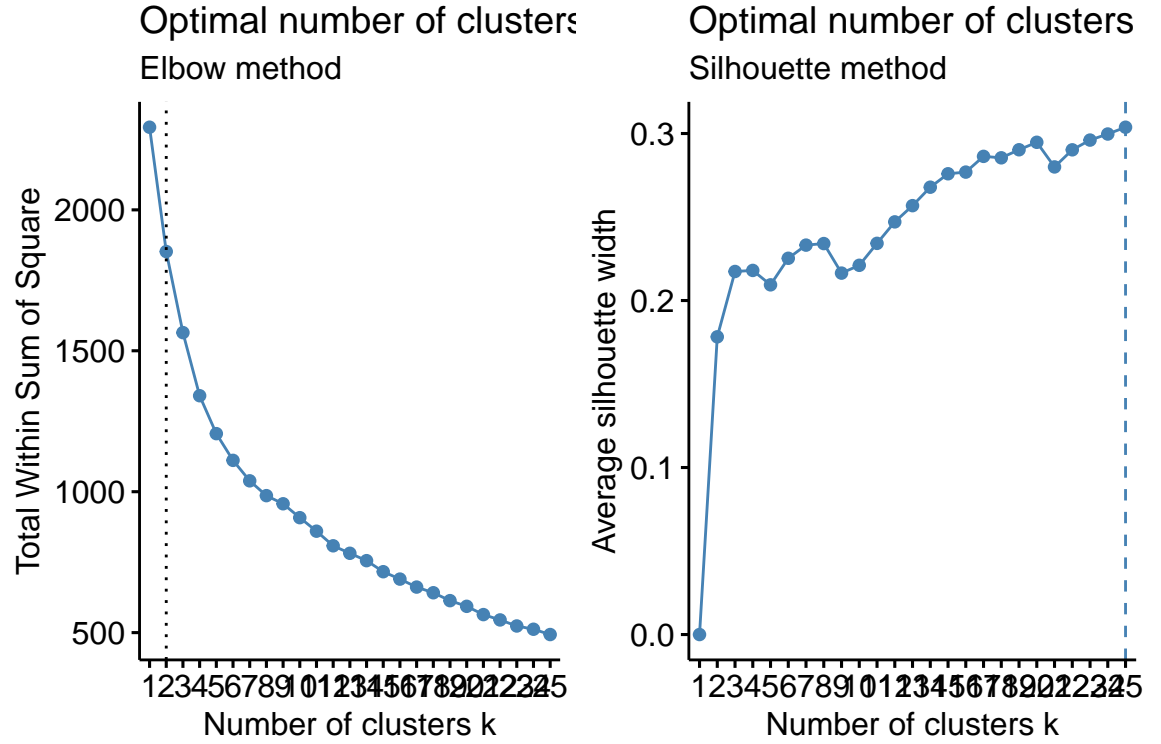
LHS2	LHS1	count	support	confidence	lift	oddsRatio	OR_lowerCI	OR_upperCI
income_g50K	cAge_8.10yr	48	0.296	0.800	1.157	2.375	1.123	4.944
income_g75K	cAge_8.10yr	48	0.296	0.800	1.157	2.375	1.123	4.944
income_g75K	cBMI=HW	51	0.315	0.785	1.135	2.150	1.046	4.375
income_g75K	BreastFed_least4mo	47	0.290	0.810	1.172	2.564	1.190	5.444
income_g75K	BreastFed_ls10mo	55	0.340	0.786	1.136	2.251	1.108	4.556
income_g75K	income_g75K	64	0.395	0.762	1.102	2.000	1.015	3.981
mBMI=HealthyWeight	cBMI=HW	47	0.290	0.810	1.172	2.564	1.190	5.444
mEducation_gAssoc	mBMI=HealthyWeight	49	0.302	0.790	1.143	2.214	1.063	4.667
mEducation_gHS	income_g50K	59	0.364	0.766	1.108	1.979	0.996	3.981
mEducation_gHS	mBMI=HealthyWeight	54	0.333	0.794	1.149	2.394	1.165	4.889
mEducation_gHS	BreastFed_least4mo	63	0.389	0.778	1.125	2.286	1.149	4.667
mEducation_gHS	cBMI=HW	76	0.469	0.760	1.099	2.287	1.156	4.667
mEducation_gHS	BreastFed_ls10mo	82	0.506	0.739	1.069	1.979	0.983	3.981
mEducation_gHS	income_g75K	59	0.364	0.766	1.108	1.979	0.996	3.981
mEducation_gHS	mEducation_gHS	96	0.593	0.733	1.060	2.571	1.151	4.667

Category frequencies for uncorrected rules

	BreastFed_least4mo	BreastFed_least7mo	cBMI=HW	dEducation_gHS	gEF	gH_PR
BreastFed_least4mo	0	0	0	0	0	0
BreastFed_least7mo	0	1	0	0	0	0
BreastFed_ls10mo	0	0	0	0	0	0
cAge_10.12yr	0	0	0	0	0	0
cAge_8.10yr	0	0	0	0	0	0
cAge_9.10yr	0	0	0	0	0	0
cAge_9.12yr	0	0	1	0	0	0
cBMI=HW	1	0	0	0	0	0
dBMI_OBOW	0	0	0	0	0	0
dEducation_gHS	0	0	0	0	0	0
EatOut_1.4mo	0	0	0	0	0	0
Female	0	0	0	0	0	0
gEF	0	0	0	0	0	0
gMon	0	0	0	0	0	0
gPR	0	0	0	0	0	0
gR_DD	0	0	0	0	0	0
gR_EF	0	0	0	0	0	0
gR_EOE	0	0	0	0	0	0
gR_EUE	0	0	0	0	0	0
gR_FF	0	0	0	0	0	0
gR_FR	0	0	0	0	0	0
gR_SE	0	0	0	0	0	0
gR_SR	0	0	0	0	0	1

	BreastFed_least4mo	BreastFed_least7mo	cBMI=HW	dEducation_gHS	gEF	gH_PR
gS_EF	0	0	0	0	0	0
gS_FR	0	0	0	0	0	0
income_g50K	0	0	0	0	0	1
income_g75K	0	0	0	0	0	1
lsDD	0	0	0	0	0	1
lsEOE	0	0	0	0	0	0
lsFR	0	0	0	0	0	0
lsS_DD	0	0	0	0	0	0
lsS_EOE	0	0	0	0	0	0
lsS_EUE	0	0	0	0	0	0
lsS_FF	0	0	0	0	0	0
lsS_FR	0	0	0	0	0	1
lsSE	0	0	0	0	0	0
mBMI=HealthyWeight	0	0	0	1	0	0
mEducation_gAssoc	0	0	0	0	0	0
mEducation_gHS	0	0	0	0	1	0
PCW_avg	0	0	0	0	0	0
PPW_avg	0	0	0	0	0	0
sDD	0	0	0	0	0	0
sEUE	0	0	0	0	0	0
sFF	0	0	0	0	0	0
sSE	0	0	0	0	0	0
sSR	0	0	0	0	0	0

## Clustering



Plot of cluster metrics

Cluster Metrics

Table 29: Determinants of No LOC-Cluster Metrics

measure	score	method	clusters	clusters10
Connectivity	74.448015873	pam	3	3
Dunn	0.174957004	pam	13	4
Silhouette	0.303765951	pam	25	8
APN	0.004191298	pam	14	3
AD	2.00324124	pam	25	10
ADM	0.012124617	pam	14	3
FOM	0.07401739	pam	25	10

Number of clusters:

- 2: Connectivity, Average Proportion of Non-Overlap, and Average distance between centers, first peak silhouette width (not the heighest though)
- 10: lower sums of square, Dunn metric, close to 3 in silhouette width (not the heighest though)

Table 30: Determinants of NO LOC-Clusters

Cluster_gupta3	Freq
1	231
2	85

### 3 Cluster Solution

#### Silhouette plot of pam(x = dist\_pruned.rules\_lhs2\_conf5

n = 620

5 clusters  $C_j$

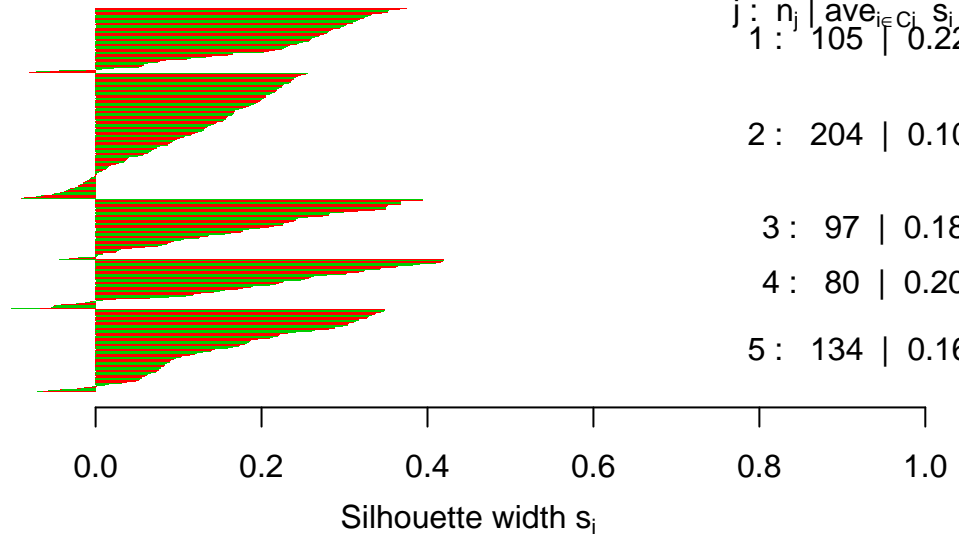
$j : n_j \mid \text{ave}_{i \in C_j} s_i$   
1 : 105 | 0.22

2 : 204 | 0.10

3 : 97 | 0.18

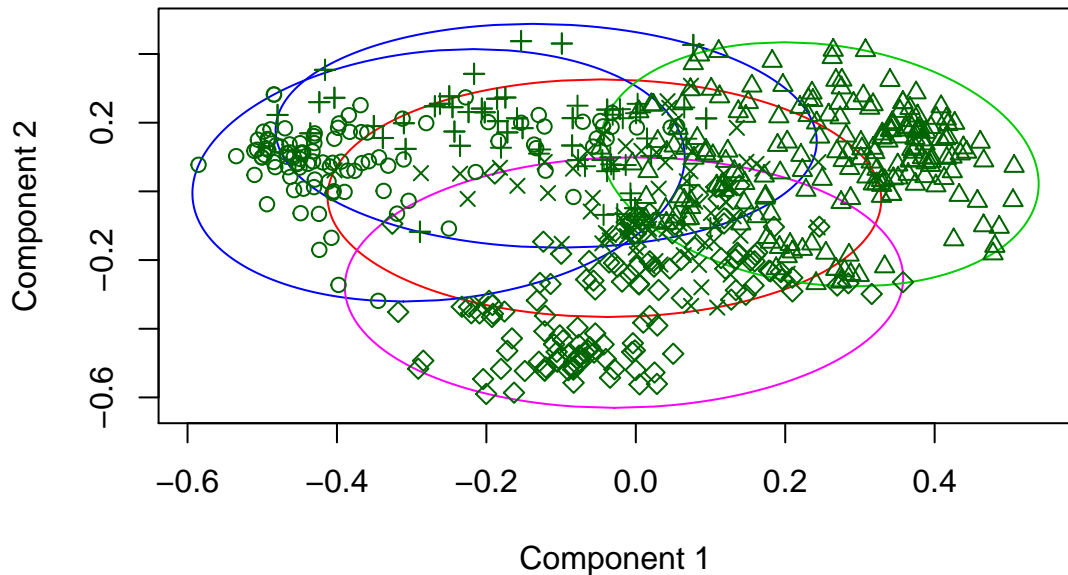
4 : 80 | 0.20

5 : 134 | 0.16



Average Silhouette Widths Average silhouette width : 0.16

#### Cluster plot, k = 2



Cluster Plot

Cluster 1

These two components explain 20.17 % of the point variability.



	BreastFed_least4mo	BreastFed_least7mo	BreastFed_ls10mo	cAge_10.12yr	cAge_8.10yr
BreastFed_least4mo	0	0	0	0	0
BreastFed_least7mo	0	1	0	0	0
cBMI=HW	0	0	0	0	0
dEducation_gHS	0	0	0	0	0
gH_PR	0	0	0	0	0
gN_Rest	0	0	0	0	0
gR_EF	0	0	0	2	0
gR_EUE	0	0	0	0	0
gR_FF	0	0	0	0	0
gR_FR	0	0	0	0	0
gR_Mon	0	0	0	0	0
gR_SE	1	0	1	0	0
gR_SR	1	0	1	0	0
gS_EF	0	0	0	0	0
gS_PR	0	0	0	0	0
lsDD	1	0	0	0	0
lsFR	0	0	1	0	1
lsN_PE	0	0	0	0	0
lsS_DD	2	0	0	0	0
lsS_EOE	1	0	0	0	0
lsS_EUE	0	0	0	0	0
lsS_FF	0	0	2	0	0
lsS_FR	3	0	1	0	2
lsSE	0	0	0	0	0
mBMI=HealthyWeight	0	0	0	0	0
mEducation_gAssoc	0	0	0	0	0
mEducation_gHS	1	0	1	0	0
PCW_avg	0	0	0	0	0
PPW_avg	0	0	0	0	0
sFF	0	0	0	0	0
sSE	0	0	0	0	0
coltotals	10	1	7	2	3

Table 32: Determinants of NO LOC-Cluster 1 Question Frequency

LHS1	Freq
BreastFed_least4mo	10
BreastFed_least7mo	1
BreastFed_ls10mo	7
cAge_10.12yr	2
cAge_8.10yr	3
cAge_9.10yr	1
cAge_9.12yr	7

Table 32: Determinants of NO LOC-Cluster 1 Question Frequency (*continued*)

LHS1	Freq
cBMI=HW	23
cebq1_gRarely	6
cebq10=Sometimes	2
cebq13_lsSometimes	3
cebq13=Rarely	3
cebq14_lsSometimes	9
cebq14=Rarely	6
cebq15_lsSometimes	1
cebq15=Rarely	1
cebq17_gRarely	1
cebq17=Sometimes	1
cebq18_gRarely	1
cebq18=Rarely	1
cebq19_lsSometimes	2
cebq2_lsSometimes	4
cebq2=Rarely	1
cebq20_gRarely	2
cebq20_gSometimes	1
cebq21_gRarely	1
cebq23_gRarely	1
cebq23=Sometimes	1
cebq24_lsSometimes	1
cebq26_gRarely	1
cebq27_lsSometimes	2
cebq28_gRarely	1
cebq28_gSometimes	1
cebq29_lsSometimes	2
cebq29=Rarely	9
cebq3_gRarelyRev	14
cebq31_lsSometimes	2
cebq31=Rarely	1
cebq33_lsSometimes	2
cebq34_lsSometimes	8
cebq34=Rarely	6
cebq4_gRarelyRev	3
cebq5_gRarely	3
cebq5_gSometimes	1
cebq5=Often	1
cebq6=Sometimes	1
cebq7_gRarely	1
cebq7=Sometimes	1
cebq8_gRarely	7
cebq8=Sometimes	8
cebq9_lsSometimes	1

Table 32: Determinants of NO LOC-Cluster 1 Question Frequency (*continued*)

LHS1	Freq
cfq2=MostTimes	1
cfq29=Mostly	1
cfq30=Mostly	1
cfq5=Avg	4
cfq8=Avg	1
cfq9=Avg	1
dBMI_OBOW	1
dEducation_gHS	6
EatOut_1.4mo	1
mBMI=HealthyWeight	11
mEducation_gAssoc	3
mEducation_gHS	20
sex=Female	1

Cluster 2

Table

	gEF	gH_PR	gN_Rest	gR_EF	gR_EUE	gR_FF	gR_SE	gR_SR	gS_EF	gS_L
BreastFed_least4mo	0	0	0	0	0	0	0	0	0	
BreastFed_ls10mo	0	0	0	0	0	0	0	0	0	
cAge_8.10yr	0	0	0	0	0	0	0	0	0	
cBMI=HW	0	0	0	0	0	0	0	0	0	
dEducation_gHS	0	0	0	0	0	0	0	1	0	
gR_SR	0	0	1	0	0	0	0	1	0	
income_g50K	0	1	2	2	1	2	2	5	0	
income_g75K	0	1	2	2	1	2	2	5	0	
lsDD	0	0	0	0	0	0	0	2	0	
mBMI=HealthyWeight	0	0	0	0	0	0	0	0	1	
mEducation_gHS	1	0	0	0	0	0	0	0	0	
PPW_avg	0	0	0	0	0	0	0	1	0	
sFF	0	0	0	2	0	2	1	1	0	
sSR	0	0	0	0	0	0	0	1	0	
coltotals	1	2	5	6	2	6	5	17	1	

Table 34: Determinants of NO LOC-Cluster 2 Question Frequency

LHS1	Freq
BreastFed_least4mo	2
BreastFed_ls10mo	2
cAge_8.10yr	3
cBMI=HW	2
cebq10=Sometimes	3

Table 34: Determinants of NO LOC-Cluster 2 Question Frequency (*continued*)

LHS1	Freq
cebq17_gRarely	2
cebq17=Sometimes	1
cebq29=Rarely	4
cebq7=Sometimes	8
cfq6=Avg	1
dEducation_gHS	1
income_g50K	25
income_g75K	25
mBMI=HealthyWeight	1
mEducation_gHS	5

Cluster 3

Table 35: Determinants of NO LOC-Cluster 3

	gH_PR	gN_Rest	gR_DD	gR_EF	gR_EOE	gR_EUE	gR_FR	gR_SE	gR_SR	g
BreastFed_least4mo	0	0	0	0	0	0	0	0	1	
BreastFed_ls10mo	0	0	0	0	0	1	0	0	2	
cAge_8.10yr	0	0	0	0	0	0	0	0	2	
cAge_9.10yr	0	0	0	0	0	1	0	0	0	
cAge_9.12yr	0	0	0	0	0	0	0	0	1	
cBMI=HW	0	0	0	0	0	0	0	0	1	
dBMI_OBOW	0	0	0	0	0	0	0	0	2	
dEducation_gHS	0	0	0	0	0	0	0	0	1	
gR_DD	0	0	0	0	0	0	0	1	2	
gR_EF	0	0	0	0	0	0	0	0	8	
gR_EOE	0	0	0	0	0	0	0	0	1	
gR_EUE	0	0	0	0	0	1	1	1	6	
gR_FR	0	0	0	0	0	0	0	0	1	
gR_SE	0	0	0	0	0	2	0	0	1	
gR_SR	1	7	0	0	1	2	1	1	5	
gS_EF	0	0	0	0	0	0	0	0	2	
lsDD	1	0	0	0	0	0	0	0	0	
lsEOE	0	0	0	0	0	0	0	0	3	
lsS_DD	0	0	0	0	0	0	0	0	1	
lsS_EOE	0	0	0	0	0	0	0	0	3	
lsS_FR	0	0	0	0	0	0	0	0	1	
mEducation_gAssoc	0	0	0	0	0	0	0	0	0	
mEducation_gHS	0	0	0	0	0	2	0	0	2	
PCW_avg	0	0	0	0	0	0	0	0	2	
PPW_avg	0	1	0	0	0	0	0	0	3	
sEUE	0	1	0	0	0	1	0	1	3	
sSE	0	0	1	0	0	0	0	0	0	
sSR	0	0	1	2	0	0	0	0	0	

Table 35: Determinants of NO LOC-Cluster 3 (*continued*)

	gH_PR	gN_Rest	gR_DD	gR_EF	gR_EOE	gR_EUE	gR_FR	gR_SE	gR_SR	g
coltotals	2	9	2	2	1	10	2	4	54	

Table 36: Determinants of NO LOC-Cluster 2 Question Frequency

LHS1	Freq
BreastFed_least4mo	1
BreastFed_ls10mo	4
cAge_8.10yr	2
cAge_9.10yr	1
cAge_9.12yr	1
cBMI=HW	1
cebq1_gRarely	2
cebq11_gRarely	2
cebq14_lsSometimes	1
cebq15_lsSometimes	2
cebq15=Rarely	3
cebq17_gRarely	4
cebq2_lsSometimes	1
cebq20_gRarely	2
cebq20_gSometimes	2
cebq21_gRarely	3
cebq22_gRarely	2
cebq23_gRarely	4
cebq23=Sometimes	6
cebq25_gRarely	2
cebq26_gRarely	8
cebq26=Sometimes	2
cebq27_gRarely	1
cebq28_gRarely	1
cebq29_lsSometimes	1
cebq29=Rarely	1
cebq3_gRarelyRev	2
cebq30_gRarely	5
cebq30=Sometimes	1
cebq5_gRarely	2
cebq6_gRarely	3
cebq8_gRarely	3
cebq8=Sometimes	1
cebq9_gRarely	1
cfq11=Avg	1
cfq5=Avg	3
cfq6=Avg	1
cfq8=Avg	1

Table 36: Determinants of NO LOC-Cluster 2 Question Frequency (*continued*)

LHS1	Freq
dBMI_OBOW	2
dEducation_gHS	2
mEducation_gAssoc	1
mEducation_gHS	6

## Testing Additive Effects

Subset: Contains predictor from step 1

- 67 rules contained a significant predictor from step 1
- 61 were significant
- 13 were significant after controlling for multiple comparisons
- No odds ratios from step two exceeded the single predictor odds ratio at step one.

Table 37: Determinants of No LOC-

LHS2	LHS1	RHS	count	support	confidence	lift	oddsRatio	chi.sq	chi
cebq34_lsSometimes	BreastFed_least4mo	loc1=No	63	0.389	0.818	1.183	3.306	11.062	6
cebq34_lsSometimes	cAge_8.10yr	loc1=No	67	0.414	0.779	1.127	2.429	6.609	6
cebq34_lsSometimes	cAge_9.12yr	loc1=No	56	0.346	0.800	1.157	2.571	6.818	6
cebq34_lsSometimes	cBMI=HW	loc1=No	72	0.444	0.791	1.144	2.937	9.702	6
cebq34_lsSometimes	cebq1_gRarely	loc1=No	92	0.568	0.773	1.118	3.919	14.042	6
cebq34_lsSometimes	cAge_9.10yr	loc1=No	46	0.284	0.780	1.128	1.984	3.391	6
cebq34_lsSometimes	cebq13_lsSometimes	loc1=No	86	0.531	0.775	1.121	3.308	11.498	6
cebq34_lsSometimes	cebq13=Rarely	loc1=No	56	0.346	0.789	1.141	2.333	5.616	6
cebq34_lsSometimes	cebq14_lsSometimes	loc1=No	61	0.377	0.836	1.209	3.788	12.959	6
cebq34_lsSometimes	cebq14=Rarely	loc1=No	44	0.272	0.846	1.224	3.397	8.600	6
cebq34_lsSometimes	cebq15=Rarely	loc1=No	48	0.296	0.814	1.177	2.659	6.494	6
cebq34_lsSometimes	cebq17_gRarely	loc1=No	69	0.426	0.784	1.134	2.618	7.764	6
cebq34_lsSometimes	cebq17=Sometimes	loc1=No	41	0.253	0.804	1.163	2.310	4.420	6
cebq34_lsSometimes	cebq18_gRarely	loc1=No	38	0.235	0.826	1.195	2.696	5.465	6
cebq34_lsSometimes	cebq2=Rarely	loc1=No	42	0.259	0.792	1.146	2.127	3.773	6
cebq34_lsSometimes	cebq20_gRarely	loc1=No	86	0.531	0.775	1.121	3.308	11.498	6
cebq34_lsSometimes	cebq20_gSometimes	loc1=No	54	0.333	0.771	1.116	1.978	3.704	6
cebq34_lsSometimes	cebq21_gRarely	loc1=No	70	0.432	0.778	1.125	2.500	7.088	6
cebq34_lsSometimes	cebq10=Sometimes	loc1=No	44	0.272	0.800	1.157	2.294	4.606	6
cebq34_lsSometimes	cebq23=Sometimes	loc1=No	42	0.259	0.808	1.168	2.400	4.857	6
cebq34_lsSometimes	cebq24_lsSometimes	loc1=No	49	0.302	0.803	1.162	2.463	5.744	6
cebq34_lsSometimes	cebq26_gRarely	loc1=No	60	0.370	0.779	1.127	2.240	5.309	6
cebq34_lsSometimes	cebq28_gRarely	loc1=No	70	0.432	0.778	1.125	2.500	7.088	6
cebq34_lsSometimes	cebq28_gSometimes	loc1=No	38	0.235	0.826	1.195	2.696	5.465	6
cebq34_lsSometimes	cebq29_lsSometimes	loc1=No	65	0.401	0.812	1.175	3.227	10.870	6

Table 37: Determinants of No LOC-Additi

LHS2	LHS1	RHS	count	support	confidence	lift	oddsRatio	chi.sq	chi
cebq34_lsSometimes	cebq29=Rarely	loc1=No	49	0.302	0.875	1.266	4.778	13.526	
cebq34_lsSometimes	cebq3_gRarelyRev	loc1=No	64	0.395	0.790	1.143	2.588	7.406	
cebq34_lsSometimes	cebq30_gRarely	loc1=No	55	0.340	0.809	1.170	2.746	7.578	
cebq34_lsSometimes	cebq31_lsSometimes	loc1=No	65	0.401	0.823	1.190	3.556	12.482	
cebq34_lsSometimes	cebq31=Rarely	loc1=No	44	0.272	0.846	1.224	3.397	8.600	
cebq34_lsSometimes	cebq33_lsSometimes	loc1=No	41	0.253	0.837	1.210	3.032	6.958	
cebq34_lsSometimes	cebq23_gRarely	loc1=No	57	0.352	0.792	1.145	2.418	6.111	
cebq34_lsSometimes	cebq8_gRarely	loc1=No	74	0.457	0.804	1.163	3.462	12.739	
cebq34_lsSometimes	cebq8=Sometimes	loc1=No	47	0.290	0.797	1.152	2.290	4.818	
cebq34_lsSometimes	cebq9_lsSometimes	loc1=No	53	0.327	0.791	1.144	2.310	5.321	
cebq34_lsSometimes	cfq2=MostTimes	loc1=No	38	0.235	0.826	1.195	2.696	5.465	
cebq34_lsSometimes	cfq29=Mostly	loc1=No	38	0.235	0.809	1.169	2.339	4.259	
cebq34_lsSometimes	cfq30=Mostly	loc1=No	40	0.247	0.816	1.181	2.531	5.141	
cebq34_lsSometimes	cfq5=Avg	loc1=No	55	0.340	0.786	1.136	2.251	5.143	
cebq34_lsSometimes	cebq4_gRarelyRev	loc1=No	64	0.395	0.780	1.129	2.370	6.182	
cebq34_lsSometimes	cebq5_gRarely	loc1=No	89	0.549	0.774	1.119	3.572	12.660	
cebq34_lsSometimes	cebq5_gSometimes	loc1=No	56	0.346	0.800	1.157	2.571	6.818	
cebq34_lsSometimes	cebq5=Often	loc1=No	45	0.278	0.818	1.183	2.687	6.277	
cebq34_lsSometimes	cebq6=Sometimes	loc1=No	39	0.241	0.796	1.151	2.137	3.599	
cebq34_lsSometimes	cebq7=Sometimes	loc1=No	38	0.235	0.864	1.249	3.766	8.402	
cebq34_lsSometimes	mEducation_gHS	loc1=No	81	0.500	0.794	1.149	3.608	13.629	
cebq34_lsSometimes	sex=Female	loc1=No	49	0.302	0.803	1.162	2.463	5.744	
cebq34_lsSometimes	income_g50K	loc1=No	53	0.327	0.828	1.198	3.185	9.274	
cebq34_lsSometimes	cfq8=Avg	loc1=No	61	0.377	0.772	1.117	2.126	4.717	
cebq34_lsSometimes	cfq9=Avg	loc1=No	63	0.389	0.778	1.125	2.286	5.670	
cebq34_lsSometimes	dEducation_gHS	loc1=No	69	0.426	0.784	1.134	2.618	7.764	
cebq34_lsSometimes	income_g75K	loc1=No	53	0.327	0.828	1.198	3.185	9.274	
cebq34_lsSometimes	mEducation_gAssoc	loc1=No	65	0.401	0.774	1.119	2.256	5.558	
cebq35_gRarely	cebq34_lsSometimes	loc1=No	45	0.278	0.865	1.252	4.126	10.869	
cfq17_gNeutralAD	cebq34_lsSometimes	loc1=No	62	0.383	0.785	1.135	2.407	6.311	
cfq2_gHalf	cebq34_lsSometimes	loc1=No	54	0.333	0.794	1.149	2.394	5.799	
cfq20_gNeutralAD	cebq34_lsSometimes	loc1=No	44	0.272	0.786	1.136	2.049	3.571	
cfq23_gNeutralAD	cebq34_lsSometimes	loc1=No	52	0.321	0.800	1.157	2.467	6.005	
cfq24_gNeutralAD	cebq34_lsSometimes	loc1=No	49	0.302	0.831	1.201	3.111	8.421	
cfq27_lsNeutralAD	cebq34_lsSometimes	loc1=No	50	0.309	0.794	1.148	2.295	5.055	

##Determinants of Absence of LOC in High Risk Sample}

## Step 1: Single Predictor

- Confidence = 0.33
- Support = 0.15 (25%)

A total of 93 children were in this subsample, 56 of which did not report LOC (50% of all no LOC sample).  
143 rules were identified, none of which were significant with multiple comparisons

Table 38: Determinants of Absence of LOC in High Risk Sample

LHS	RHS	count	support	confidence	lift	oddsRatio	chi.sq	chi.sq.p	OR_lowerCI
BreastFed_least7mo	loc1=No	38	0.235	0.809	1.169	2.339	4.259	0.039	1.030
cebq14_lsSometimes	loc1=No	65	0.401	0.793	1.147	2.685	7.989	0.005	1.340
cebq14=Rarely	loc1=No	48	0.296	0.800	1.157	2.375	5.271	0.022	1.123
cebq26_gRarely	loc1=No	77	0.475	0.755	1.092	2.200	5.211	0.022	1.111
cebq29_lsSometimes	loc1=No	73	0.451	0.745	1.077	1.872	3.332	0.068	0.951
cebq29=Rarely	loc1=No	57	0.352	0.792	1.145	2.418	6.111	0.013	1.190
cebq3_gRarelyRev	loc1=No	70	0.432	0.761	1.101	2.121	4.821	0.028	1.078
cebq30_gRarely	loc1=No	69	0.426	0.767	1.109	2.216	5.382	0.020	1.124
cebq33_lsSometimes	loc1=No	44	0.272	0.786	1.136	2.049	3.571	0.059	0.966
cebq34_lsSometimes	loc1=No	94	0.580	0.770	1.114	4.103	14.500	0.000	1.934
cebq34=Rarely	loc1=No	55	0.340	0.775	1.120	2.050	4.109	0.043	1.018
cebq7=Sometimes	loc1=No	48	0.296	0.814	1.177	2.659	6.494	0.011	1.235
cebq8_gRarely	loc1=No	87	0.537	0.737	1.066	2.133	4.295	0.038	1.034
income_g50K	loc1=No	64	0.395	0.762	1.102	2.000	4.069	0.044	1.015
income_g75K	loc1=No	64	0.395	0.762	1.102	2.000	4.069	0.044	1.015
mEducation_gHS	loc1=No	96	0.593	0.733	1.060	2.571	5.516	0.019	1.151

## Step 2: Multiple Predictors

- Confidence = 0.50
- Support = 0.23 (33%)

No significant rules after correction, 411 uncorrected were significant

## Clustering

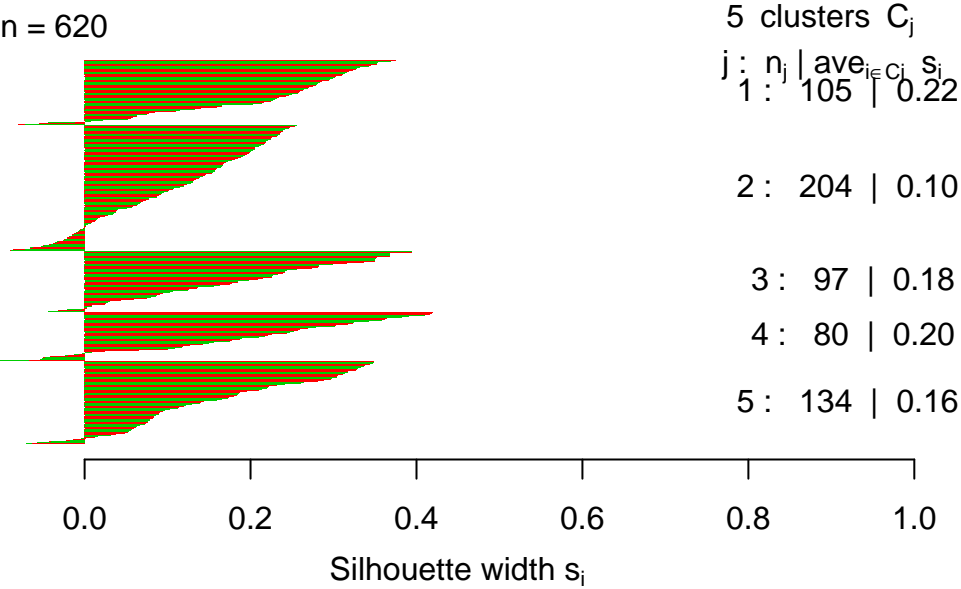
Number of clusters:

- 5: Connectivity, Average Proportion of Non-Overlap, and Average distance between centers
- 10: Dunn, Average Distance, Dunn metric, silhouette width (not the heighest though)



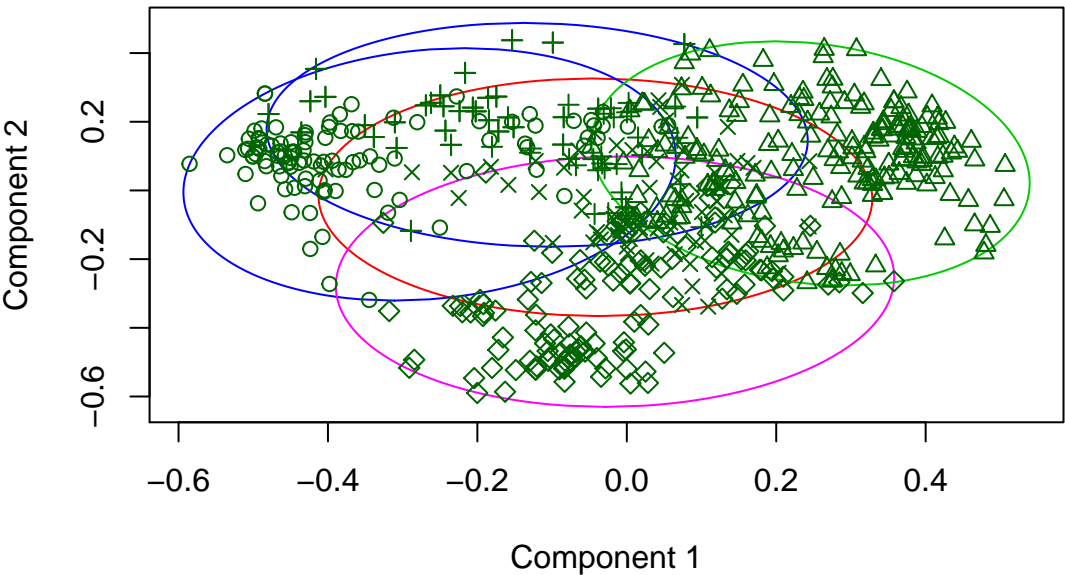
3 Cluster Solution

Silhouette plot of pam(x = dist\_pruned.rules\_lhs2\_conf5



Average Silhouette Widths Average silhouette width : 0.16

Cluster plot, k = 2



Cluster Plot

Cluster 1

These two components explain 20.17 % of the point variability.

Table 39: Determinants

	BreastFed_ls10mo	cAge_8.10yr	cBMI=HW	dBMI_OBOW	dEducation_gHS	gEF	gPR
gEF	0	0	0	0	0	0	0
gH_PR	0	0	0	0	0	0	0
gN_Rest	0	0	0	0	0	0	0
gR_DD	0	0	0	0	0	0	0
gR_EF	0	0	0	0	0	0	0
gR_FF	0	0	0	0	0	0	1
gR_FR	0	0	0	0	0	0	0
gR_Mon	0	0	0	0	0	0	0
gR_SE	0	0	0	0	0	0	0
gR_SR	0	0	0	0	0	0	0
gS_EF	0	0	0	0	0	0	0
gS_PR	0	0	0	0	0	0	0
lsDD	0	0	1	0	0	0	0
lsN_PE	0	0	0	0	0	0	0
lsS_DD	0	0	0	0	0	0	0
lsS_EOE	0	0	0	0	0	0	0
lsS_EUE	0	0	0	0	0	0	0
lsS_SE	0	0	0	0	0	0	0
mEducation_gHS	0	0	0	0	0	0	0
PCW_avg	0	0	0	0	0	0	0
PPW_avg	0	0	0	0	0	0	0
sFF	3	1	0	1	3	1	0
sSR	0	0	0	0	0	0	0
coltotals	3	1	1	1	3	1	1

Table 40: Determinants of NO LOC in High Risk Sample-Cluster 1 Question Frequency

LHS1	Freq
BreastFed_ls10mo	3
cAge_8.10yr	1
cBMI=HW	1
cebq1=Often	1
cebq10=Sometimes	33
cebq17=Sometimes	1
cebq29=Rarely	8
cebq33=Sometimes	22
cebq7=Sometimes	14
cebq8=Sometimes	1
cfq1=Most Times	1
cfq5=Avg	2
cfq6=Avg	2
dBMI_OBOW	1
dEducation_gHS	3

Table 40: Determinants of NO LOC in High Risk Sample-Cluster 1 Question Frequency (*continued*)

LHS1	Freq
income_g50K	1
income_g75K	1
mBMI=HealthyWeight	5
mEducation_gAssoc	1
mEducation_gHS	3

Cluster 2

	BreastFed_least4mo	BreastFed_ls10mo	cAge_7.9yr	cAge_8.10yr	cAge_8.9yr	cBMI=I
dEducation_gAssoc	0	0	0	0	0	
dEducation_gHS	0	0	0	0	0	
gEF	0	0	0	0	0	
gH_PR	0	0	0	0	0	
gMon	0	0	0	0	0	
gN_Rest	0	0	0	0	0	
gR_EF	0	0	0	0	0	
gR_Mon	0	0	0	0	0	
gRest	0	0	0	0	0	
gS_EF	0	0	0	0	0	
gS_Mon	0	0	0	0	0	
gS_PR	0	0	0	0	0	
lsFR	0	1	1	0	0	
lsN_PE	0	0	0	0	0	
lsN_Rest	0	0	0	0	0	
lsPE	0	0	0	0	0	
lsS_DD	0	0	0	0	0	
lsS_EUE	0	0	0	0	0	
lsS_FF	0	0	0	2	0	
lsS_FR	2	1	0	2	1	
lsS_SE	0	0	0	0	0	
lsSE	0	0	0	0	0	
mBMI=HealthyWeight	0	0	0	0	0	
PCW_avg	0	0	0	0	0	
PPW_avg	0	0	0	0	0	
coltotals	2	2	1	4	1	

Table 42: Determinants of NO LOC in High Risk Sample-Cluster 2 Question Frequency

LHS1	Freq
BreastFed_least4mo	2

Table 42: Determinants of NO LOC in High Risk Sample-Cluster 2 Question Frequency (*continued*)

LHS1	Freq
BreastFed_ls10mo	2
cAge_7.9yr	1
cAge_8.10yr	4
cAge_8.9yr	1
cBMI=HW	5
cebq1_gSometimes	1
cebq13_lsSometimes	1
cebq13=Rarely	1
cebq14_lsSometimes	12
cebq14=Rarely	18
cebq15_lsSometimes	1
cebq18_lsSometimes	3
cebq18=Rarely	14
cebq19_lsSometimes	8
cebq19=Rarely	1
cebq20_gRarely	1
cebq22_gSometimes	1
cebq22=Often	2
cebq24_lsSometimes	4
cebq25_lsSometimes	1
cebq27_lsSometimes	4
cebq28_gRarely	1
cebq29_lsSometimes	2
cebq31_lsSometimes	1
cebq33_lsSometimes	3
cebq34_lsSometimes	16
cebq4=Often	1
cebq5_gRarely	3
cebq5_gSometimes	1
cebq5=Often	1
cebq8_gRarely	2
cfq1=MostTimes	2
cfq10=Avg	3
cfq11=Avg	11
cfq12=Avg	5
cfq28=Disagree	2
cfq29=Mostly	3
cfq3=MostTimes	1
cfq30=Mostly	3
cfq31=Mostly	3
cfq5=Avg	6
cfq6=Avg	3
cfq8=Avg	8
cfq9=Avg	7

Table 42: Determinants of NO LOC in High Risk Sample-Cluster 2 Question Frequency (*continued*)

LHS1	Freq
dEducation_gAssoc	1
dEducation_gBS	1
dEducation_gHS	7
mBMI=HealthyWeight	6
mEducation_gAssoc	2
mEducation_gHS	8

Cluster 3

Table 43: 1

	BreastFed_least4mo	BreastFed_ls10mo	cAge_8.10yr	cBMI=HW	dEducation_gHS	gM
gEF	0	0	0	0	0	
gH_PR	0	0	0	0	0	
gMon	0	0	0	0	0	
gN_Rest	0	0	0	1	1	
gR_FF	0	0	0	0	0	
gR_Mon	0	0	0	0	0	
gR_SR	0	0	0	0	0	
gS_PR	0	0	0	0	1	
income_g50K	1	1	1	0	0	
income_g75K	1	1	1	0	0	
lsDD	0	0	1	0	0	
lsN_Rest	0	0	0	0	0	
lsS_DD	0	0	0	0	0	
lsS_EOE	0	0	0	0	0	
lsS_FR	0	0	0	0	0	
lsS_SE	0	0	0	0	0	
mBMI=HealthyWeight	0	0	0	0	0	
mEducation_gAssoc	0	0	0	0	0	
PCW_avg	0	0	0	0	2	
sEUE	0	1	0	0	1	
sFF	0	0	0	0	0	
sSE	0	0	0	0	0	
sSR	0	0	0	0	0	
coltotals	2	3	3	1	5	

Table 44: Determinants of NO LOC in High Risk Sample-Cluster 3 Question Frequency

LHS1	Freq
BreastFed_least4mo	2
BreastFed_ls10mo	3

Table 44: Determinants of NO LOC in High Risk Sample-Cluster 3 Question Frequency (*continued*)

LHS1	Freq
cAge_8.10yr	3
cBMI=HW	1
cebq15=Rarely	1
cebq17_gRarely	1
cebq17=Sometimes	2
cebq23=Sometimes	1
cebq29=Rarely	1
cfq17=Slightly Agree	1
cfq29=Mostly	1
cfq30=Mostly	1
dEducation_gHS	5
income_g50K	28
income_g75K	28
mBMI=HealthyWeight	11
mEducation_gAssoc	1
mEducation_gHS	6

Cluster 4

	BreastFed_least4mo	BreastFed_ls10mo	cAge_7.9yr	cAge_8.10yr	cAge_8.9yr	cBMI=HW	gEF
gEF	0	0	0	0	0	0	0
gPR	0	0	0	0	0	0	0
gR_DD	0	0	0	0	0	0	0
gR_EF	0	0	0	0	0	0	0
gR_EUE	0	0	0	0	0	0	0
gR_FF	0	0	0	0	0	0	0
gR_FR	0	0	0	0	0	0	0
gR_Mon	0	0	0	0	0	0	0
gR_SE	0	0	0	0	0	0	0
gR_SR	0	0	0	0	0	0	0
gS_EF	0	0	0	0	0	0	0
gS_Mon	0	0	0	0	0	0	0
gS_PR	0	0	0	0	0	0	0
lsFF	0	0	0	0	0	0	0
lsN_PE	0	0	0	0	0	0	0
lsN_Rest	0	0	0	0	0	0	0
lsPE	0	0	0	0	0	0	0
lsS_DD	0	0	0	0	0	0	0
lsS_EOE	1	0	0	0	0	0	0
lsS_EUE	0	0	0	0	0	0	0
lsS_FF	0	0	0	0	0	0	0
lsS_FR	0	0	0	0	0	0	0

	BreastFed_least4mo	BreastFed_ls10mo	cAge_7.9yr	cAge_8.10yr	cAge_8.9yr	cBMI=HW	gEF
lsS_SE	0	0	0	0	0	0	1
PCW_avg	0	0	0	0	0	0	0
PPW_avg	0	0	0	0	0	0	0
sFF	0	0	0	0	0	0	0
sSE	0	0	1	1	1	1	1
sSR	0	1	0	0	0	0	0
coltotals	1	1	1	1	1	1	2

Table 46: Determinants of NO LOC in High Risk Sample-Cluster 4 Question Frequency

LHS1	Freq
BreastFed_least4mo	1
BreastFed_ls10mo	1
cAge_7.9yr	1
cAge_8.10yr	1
cAge_8.9yr	1
cBMI=HW	1
cebq1=Often	1
cebq14=Rarely	1
cebq18_lsSometimes	1
cebq18=Rarely	2
cebq20=Often	1
cebq22_gSometimes	1
cebq25_lsSometimes	1
cebq27_lsSometimes	2
cebq29=Rarely	1
cebq30=Sometimes	1
cebq4=Sometimes	1
cebq7=Sometimes	1
cebq8_gRarely	2
cebq8=Sometimes	43
cfq5=Avg	1
cfq6=Avg	4
cfq8=Avg	2
cfq9=Avg	1
mBMI=HealthyWeight	4
mEducation_gHS	1
sex=Male	1

Cluster 5

	BreastFed_ls10mo	BreastFed_ls7mo	cAge_9.10yr	cAge_9.12yr	cBMI=HW	dEducation_gHS	g
gEF	0	0	0	0	1	0	0
gN_Rest	0	0	0	0	0	0	0
gR_DD	0	0	0	0	0	0	0
gR_EF	0	0	0	0	0	0	0
gR_EUE	1	0	0	0	0	0	0
gR_FF	0	0	0	0	0	0	0
gR_FR	0	0	0	0	0	0	0
gR_Mon	0	0	0	0	0	0	0
gR_SR	1	0	0	0	1	1	1
gS_EF	0	0	0	0	0	0	0
gS_FR	0	0	0	0	0	0	0
gS_Mon	0	0	0	0	0	0	0
gS_PR	0	0	0	0	0	0	0
lsFF	0	0	0	0	0	0	0
lsN_PE	0	0	0	0	0	0	0
lsS_EOE	0	0	0	0	0	0	0
lsS_EUE	0	0	0	0	0	0	0
lsS_FF	1	1	1	1	0	0	0
lsS_SE	0	0	0	0	1	0	0
lsSE	0	0	0	0	0	0	0
PCW_avg	2	0	0	0	2	0	0
PPW_avg	0	0	0	0	0	0	0
PPW_gOW	0	0	0	0	0	0	0
sSR	0	0	0	0	1	0	0
coltotals	5	1	1	1	6	1	1

Table 48: Determinants of NO LOC in High Risk Sample-Cluster 5 Question Frequency

LHS1	Freq
BreastFed_ls10mo	5
BreastFed_ls7mo	1
cAge_9.10yr	1
cAge_9.12yr	1
cBMI=HW	6
cebq1_gSometimes	1
cebq15_lsSometimes	2
cebq15=Rarely	1
cebq17=Sometimes	2
cebq18_lsSometimes	8
cebq18=Rarely	10
cebq19_gRarely	1
cebq2_lsSometimes	1
cebq2=Rarely	3



Table 48: Determinants of NO LOC in High Risk Sample-Cluster 5 Question Frequency (*continued*)

LHS1	Freq
cebq20_gRarely	2
cebq20_gSometimes	2
cebq21_gRarely	2
cebq22_gRarely	2
cebq22_gSometimes	1
cebq22=Often	1
cebq23_gRarely	4
cebq24_lsSometimes	3
cebq24=Rarely	3
cebq25_lsSometimes	1
cebq26_gRarely	12
cebq26=Sometimes	26
cebq3_gRarelyRev	1
cebq30=Sometimes	2
cebq5_gRarely	2
cebq6_gRarely	1
cfq10=Avg	2
cfq11=Avg	2
cfq2=Most Times	2
cfq29=Mostly	3
cfq30=Mostly	1
cfq31=Mostly	2
cfq6=Avg	1
cfq8=Avg	5
cfq9=Avg	3
dEducation_gHS	1
mEducation_gHS	3
sex=Male	1

## Testing Additive Effects

Additive effects were not tested because there were no significant (after correction) rules in Step 1