

Analysis of The Green Chair Project Client Demographics

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Abstract

This report contains an exploration and initial analysis of data on The Green Chair Project’s (TGCP) clients, the community vulnerability and economic health of Wake County’s block groups, the CDC Social Vulnerability Indices of Wake County’s census tracts, and Wake County public schools.

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1 Section 1

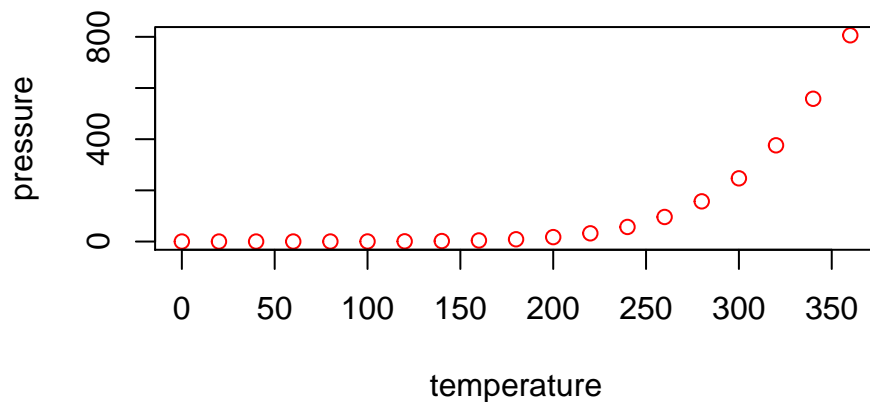
This is an R Markdown document. Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documents. For more details on using R Markdown see <http://rmarkdown.rstudio.com>.

When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

```
##           [,1] [,2]
## [1,]      1    2
## [2,]      2    3
## [3,]      3    4
## [4,]      4    5
## [5,]      5    6
## [6,]      6    7
## [7,]      7    8
## [8,]      8    9
## [9,]      9   10
## [10,]     10   11
```

1.1 Including Plots 1

You can also embed plots, for example:



Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.

2 Gathering some initial descriptive statistics on the numerical data

```
##          vars      n      mean      sd      median      trimmed      mad
## Id          1 5448 35417.06 10733.98 38435.50 38435.50 2019.30
## Veteran     2 5448   0.06   0.24   0.00   0.00   0.00
## Incarcerated 3 5448   0.03   0.18   0.00   0.00   0.00
## Disability   4 5448   0.05   0.22   0.00   0.00   0.00
## AnnualIncomeAmount 5 3493 13246.58 28104.24 10140.00 11488.37 12898.62
## TotalHHNumber 6 5332   3.10   2.55   3.00   2.82   1.48
## NumAdultFemales 7 3923   1.05   0.76   1.00   1.00   0.00
## NumAdultMales 8 3037   0.79   0.96   1.00   0.70   0.00
## NumChildren  9 3896   2.16   1.49   2.00   2.05   1.48
## QueenBeds    10 1534   0.19   0.40   0.00   0.10   0.00
## Cribs        11 1535   0.24   0.47   0.00   0.16   0.00
## TwinBeds     12 2326   1.07   1.32   1.00   0.86   1.48
## AREA_SQMI    13 4793   5.87  11.99   4.57   4.30   2.75
## EP_POV       14 4793  16.68   7.21  16.27  16.60   8.43
## EP_UNEMP     15 4793   5.72   2.08   5.12   5.57   1.78
## EP_PCI       16 4793 30847.33 9701.99 27931.25 29386.65 8080.87
## EP_NOHSDP    17 4793  11.87   4.94  11.83  12.09   6.68
## EP_AGE65     18 4793  10.45   2.97   9.24  10.06   1.33
## EP_AGE17     19 4793  23.15   4.70  23.70  23.63   5.23
## EP_DISABL    20 4793  10.34   2.58  10.35  10.38   3.65
## EP_SNGPNT    21 4793  11.60   4.15  11.77  11.69   5.86
## EP_MINRTY    22 4793  53.96  21.21  60.77  54.59  30.64
## EP_LIMENG    23 4793   3.54   1.97   3.52   3.42   2.04
## EP_MUNIT     24 4793  15.07   8.99  12.13  14.46   7.42
## EP_MOBILE    25 4793   4.54   4.21   4.30   3.89   3.14
## EP_CROWD     26 4793   3.21   1.43   2.85   3.27   1.64
## EP_NOVEH     27 4793   7.02   4.59   6.41   6.27   4.04
## EP_GROUPQ    28 4793   4.24   6.30   2.44   2.70   2.51
## EP_UNINSUR   29 4793  12.85   4.16  14.00  13.20   4.00
## totalBedNeeded 30 5448   0.31   0.85   0.00   0.06   0.00
##          min      max      range      skew      kurtosis      se
## Id          509.00 41360.00 40851.00 -2.86   6.39 145.43
## Veteran     0.00   1.00   1.00 3.72  11.87  0.00
## Incarcerated 0.00   1.00   1.00 5.07  23.70  0.00
## Disability   0.00   1.00   1.00 4.17  15.37  0.00
## AnnualIncomeAmount 0.00 1500000.00 1500000.00 42.83 2242.63 475.52
## TotalHHNumber 0.00   60.00   60.00 10.84 231.77  0.03
## NumAdultFemales 0.00  10.00  10.00  5.30  48.39  0.01
## NumAdultMales 0.00  17.00  17.00  5.51  55.19  0.02
## NumChildren  0.00  12.00  12.00  0.96   1.78  0.02
## QueenBeds    0.00   3.00   3.00  1.97   3.25  0.01
## Cribs        0.00   2.00   2.00  1.71   2.00  0.01
## TwinBeds     0.00   7.00   7.00  1.17   0.82  0.03
## AREA_SQMI    0.62  612.33  611.72 30.23 1405.53  0.17
## EP_POV       2.88  34.33  31.45  0.12  -0.66  0.10
## EP_UNEMP     1.43  15.75  14.32  0.77   0.17  0.03
## EP_PCI      10868.37 73055.91 62187.54 1.31   1.72 140.14
## EP_NOHSDP    1.26  33.04  31.79 -0.14  -0.80  0.07
## EP_AGE65     6.34  34.54  28.19  1.30   2.05  0.04
```

## EP_AGE17	8.50	31.73	23.23	-0.72	-0.33	0.07
## EP_DISABL	4.94	28.30	23.37	0.24	1.03	0.04
## EP_SNGPNT	3.07	21.93	18.86	0.07	-1.23	0.06
## EP_MINRTY	4.08	81.43	77.36	-0.07	-1.37	0.31
## EP_LIMENG	0.10	9.32	9.22	0.53	0.27	0.03
## EP_MUNIT	0.00	49.20	49.20	0.87	0.73	0.13
## EP_MOBILE	0.14	46.79	46.65	3.02	15.85	0.06
## EP_CROWD	0.00	6.11	6.11	-0.09	-1.26	0.02
## EP_NOVEH	1.10	22.54	21.44	1.69	2.93	0.07
## EP_GROUPQ	0.00	59.45	59.45	2.74	7.77	0.09
## EP_UNINSUR	2.64	21.45	18.81	-0.52	-0.86	0.06
## totalBedNeeded	0.00	6.00	6.00	3.11	9.90	0.01

Some things worth noting about clients:

- Annual Income is right skewed; most annual incomes are small with a few large outliers
- NumAdultMale is slightly left skewed; most households have about one adult male but a lot of outliers with none
- Most beds needed are twin beds

Some things worth noting about SVI statistics of where clients live:

- Percent Poverty averages about 17%, but Percent Unemployment averages only about 5-6%
- About 10-12% have no high school diploma
- About 10-12% are single parents
- About 10-12% have a disability
- Average percent minority is over half
- About a fifth to a fourth are seventeen or younger
- On average, about 16% live in housing structures with more than 10 units per structure
- About 7-8% do not have a vehicle
- About 13% do not possess insurance

Some things of note for categorical variables:

- We see that a need for queen beds is positively correlated with those incarcerated and especially those with a disability
- We see some of the largest correlation values for the disability column
 - SVI measures of poverty, no high school diploma, speaking English “less than well”, living in apartment-like structures and crowded environments, having no vehicle, and not being insured

3 Some correlation statistics:

Again some interesting things to note:

- NumChildren negatively correlated with SVI measures of poverty, living in apartment-like structures, and not having a vehicle
- Need for queen beds is slightly positively correlated with SVI measures of poverty and not having a vehicle
- Need for twin beds is slightly positively correlated with SVI measures of percent of population aged less than or equal to 17, and percent of population living in mobile homes (in fact need for beds in general is correlated with these SVI measures)

However, it is worth noting that SVI statistics may not be reliable for the given data. For instance, the correlation between those with a disability among the clients in the original dataset and the percent of population among that client with a disability is quite small.

##	Id	Veteran	Incarcerated	Disability
----	----	---------	--------------	------------

## Id	1.000000000	-0.0585610297	-0.0777649804	-0.09857245
## Veteran	-0.058561030	1.0000000000	-0.0040452936	0.15752888
## Incarcerated	-0.077764980	-0.0040452936	1.0000000000	0.22783623
## Disability	-0.098572452	0.1575288811	0.2278362313	1.00000000
## AnnualIncomeAmount	0.040151500	-0.0222481825	-0.0303993038	-0.08877691
## TotalHHNNumber	0.090104185	-0.1287923882	-0.1815580742	-0.40423868
## NumAdultFemales	0.074358264	-0.1276922148	-0.1538877947	-0.33484527
## NumAdultMales	-0.056638917	0.1079114384	0.1017501175	0.19405214
## NumChildren	0.088100978	-0.1203845331	-0.1943599419	-0.40289325
## QueenBeds	-0.041088404	0.0658331323	0.1250491152	0.31866283
## Cribs	0.025259944	-0.1035239559	-0.1247662464	-0.23848150
## TwinBeds	0.051602714	-0.0944273910	-0.1149557636	-0.28945141
## AREA_SQMI	0.036264460	-0.0508915918	-0.0361966797	-0.07673890
## EP_POV	-0.045629544	0.1001651331	0.0688524430	0.18183079
## EP_UNEMP	-0.004432934	-0.0009891527	0.0494543817	0.05490866
## EP_PCI	0.008545807	-0.0278542059	-0.0256721094	-0.05674462
## EP_NOHSDP	0.007285500	0.0831087424	0.0626362968	0.09120429
## EP_AGE65	0.048659403	-0.0407760218	-0.0302466093	-0.08282131
## EP_AGE17	0.052799604	-0.0547869393	0.0005252573	-0.11663996
## EP_DISABL	0.024024411	-0.0006741678	0.0239464390	-0.00640091
## EP_SNGPNT	-0.008426296	0.0063498664	0.0573684672	0.02323929
## EP_MINRTY	-0.024694148	0.0417715458	0.0536618332	0.06097843
## EP_LIMENG	0.023570710	0.1262204714	0.0596380012	0.14217491
## EP_MUNIT	-0.057367997	0.0819866158	0.0077691872	0.12372275
## EP_MOBILE	0.039237640	-0.0560276412	-0.0385746913	-0.09265279
## EP_CROWD	-0.018838549	0.0568337762	0.0582452378	0.07883842
## EP_NOVEH	-0.006305145	0.1100662019	0.0739836407	0.17671029
## EP_GROUPQ	-0.016821268	0.0311253371	0.0289136714	0.11517297
## EP_UNINSUR	-0.011357857	0.0745367105	0.0505312555	0.07972229
## totalBedNeeded	-0.130356138	-0.0279639743	-0.0800729072	-0.23457432
##	AnnualIncomeAmount	TotalHHNNumber	NumAdultFemales	
## Id	0.040151500	0.090104185	0.07435826	
## Veteran	-0.022248182	-0.128792388	-0.12769221	
## Incarcerated	-0.030399304	-0.181558074	-0.15388779	
## Disability	-0.088776906	-0.404238680	-0.33484527	
## AnnualIncomeAmount	1.000000000	0.122314097	0.11114776	
## TotalHHNNumber	0.122314097	1.000000000	0.48137036	
## NumAdultFemales	0.111147764	0.481370358	1.00000000	
## NumAdultMales	-0.004545622	-0.001691197	-0.34634788	
## NumChildren	0.087791712	0.941992816	0.38105359	
## QueenBeds	-0.123166197	-0.349047273	-0.25940693	
## Cribs	-0.217961894	0.351613884	0.21909772	
## TwinBeds	0.196108599	0.664869170	0.30745492	
## AREA_SQMI	0.004529638	0.160049520	0.07510477	
## EP_POV	-0.071271938	-0.179231169	-0.17395329	
## EP_UNEMP	-0.027371908	0.003321150	-0.05072405	
## EP_PCI	0.053186781	-0.017860023	0.03967041	
## EP_NOHSDP	-0.028178324	-0.006319401	-0.06747569	
## EP_AGE65	0.023375586	0.085826633	0.02341106	
## EP_AGE17	0.030721141	0.204408212	0.13149684	
## EP_DISABL	-0.020790616	0.093387934	-0.01322793	
## EP_SNGPNT	-0.013542630	0.039849227	-0.01676292	
## EP_MINRTY	-0.009481104	-0.002247807	-0.02926137	
## EP_LIMENG	0.002737233	-0.064515906	-0.06555345	

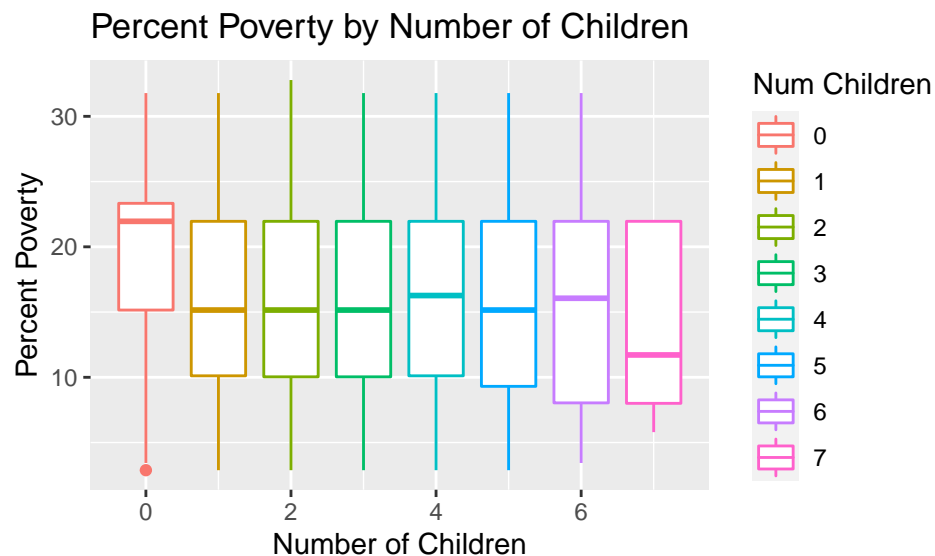
## EP_MUNIT	-0.008060343	-0.237303342	-0.13267928	
## EP_MOBILE	0.006411496	0.189608853	0.11165816	
## EP_CROWD	-0.029484772	-0.045794223	-0.09501378	
## EP_NOVEH	-0.042259635	-0.178190461	-0.17917696	
## EP_GROUPQ	-0.038937022	-0.132855301	-0.11307103	
## EP_UNINSUR	-0.027781673	-0.026300444	-0.06066401	
## totalBedNeeded	0.024512502	0.518304344	0.25923605	
##	NumAdultMales	NumChildren	QueenBeds	Cribs
## Id	-0.056638917	0.088100978	-0.041088404	0.025259944
## Veteran	0.107911438	-0.120384533	0.065833132	-0.103523956
## Incarcerated	0.101750117	-0.194359942	0.125049115	-0.124766246
## Disability	0.194052135	-0.402893253	0.318662827	-0.238481496
## AnnualIncomeAmount	-0.004545622	0.087791712	-0.123166197	-0.217961894
## TotalHHNNumber	-0.001691197	0.941992816	-0.349047273	0.351613884
## NumAdultFemales	-0.346347877	0.381053590	-0.259406932	0.219097723
## NumAdultMales	1.000000000	-0.171283519	0.141297825	-0.040372667
## NumChildren	-0.171283519	1.000000000	-0.342336131	0.346127362
## QueenBeds	0.141297825	-0.342336131	1.000000000	-0.184143488
## Cribs	-0.040372667	0.346127362	-0.184143488	1.000000000
## TwinBeds	-0.147670269	0.675141095	-0.243592911	-0.013705872
## AREA_SQMI	-0.053470617	0.162085383	-0.062729793	0.072993326
## EP_POV	0.029544020	-0.155583619	0.156332307	-0.096245669
## EP_UNEMP	-0.018166976	0.017041767	0.028647202	-0.027866080
## EP_PCI	0.018839136	-0.027899576	-0.078647594	0.029470244
## EP_NOHSDP	0.018675213	-0.001103489	0.062296986	-0.049556911
## EP_AGE65	0.010716360	0.080111985	-0.103019846	0.051407152
## EP_AGE17	-0.047696010	0.194707874	-0.093494622	0.054591556
## EP_DISABL	-0.017160369	0.097252026	-0.005538143	0.007620681
## EP_SNGPNT	-0.012308734	0.044247983	0.014202936	-0.030385281
## EP_MINRITY	-0.004056113	0.003053117	0.050345741	-0.060330325
## EP_LIMENG	0.063479488	-0.071385536	0.086509129	-0.084113163
## EP_MUNIT	0.050471912	-0.226939703	0.080775081	-0.091837029
## EP_MOBILE	-0.042885084	0.179560159	-0.051837563	0.092576594
## EP_CROWD	0.017669240	-0.032375529	0.088620027	-0.068325622
## EP_NOVEH	0.045878790	-0.158472473	0.096149706	-0.099393034
## EP_GROUPQ	0.024029845	-0.119809180	0.058209794	-0.047341982
## EP_UNINSUR	0.004433608	-0.022357626	0.060873471	-0.063513673
## totalBedNeeded	-0.100386693	0.532777889	-0.198013697	0.299999196
##	TwinBeds	AREA_SQMI	EP_POV	EP_UNEMP
## Id	0.051602714	0.036264460	-0.04562954	-0.0044329336
## Veteran	-0.094427391	-0.050891592	0.10016513	-0.0009891527
## Incarcerated	-0.114955764	-0.036196680	0.06885244	0.0494543817
## Disability	-0.289451406	-0.076738898	0.18183079	0.0549086609
## AnnualIncomeAmount	0.196108599	0.004529638	-0.07127194	-0.0273719083
## TotalHHNNumber	0.664869170	0.160049520	-0.17923117	0.0033211503
## NumAdultFemales	0.307454925	0.075104774	-0.17395329	-0.0507240532
## NumAdultMales	-0.147670269	-0.053470617	0.02954402	-0.0181669758
## NumChildren	0.675141095	0.162085383	-0.15558362	0.0170417673
## QueenBeds	-0.243592911	-0.062729793	0.15633231	0.0286472016
## Cribs	-0.013705872	0.072993326	-0.09624567	-0.0278660797
## TwinBeds	1.000000000	0.172649764	-0.10696555	0.0405930932
## AREA_SQMI	0.172649764	1.000000000	-0.21737054	-0.0015680845
## EP_POV	-0.106965549	-0.217370541	1.00000000	0.7052487190
## EP_UNEMP	0.040593093	-0.001568084	0.70524872	1.0000000000

## EP_PCI	-0.029623810	-0.101019648	-0.69599659	-0.7575535917
## EP_NOHSDP	0.005692942	0.042861638	0.69737348	0.7708733977
## EP_AGE65	0.052686064	0.203960009	-0.51556434	-0.3798500220
## EP_AGE17	0.162381056	0.290115077	-0.24951129	0.3145578346
## EP_DISABL	0.093537920	0.319473001	0.43780008	0.7176904601
## EP_SNGPNT	0.041055912	-0.095170013	0.55541877	0.8348274843
## EP_MINRTY	0.010695178	-0.160557126	0.62085127	0.8095846633
## EP_LIMENG	-0.071210977	-0.143066443	0.33080848	0.2454187274
## EP_MUNIT	-0.183301980	-0.499972386	0.13640746	-0.3234444681
## EP_MOBILE	0.149448032	0.805318615	-0.11937072	0.0486901355
## EP_CROWD	-0.006169949	-0.105939840	0.81124743	0.7489673328
## EP_NOVEH	-0.105790148	-0.310519031	0.82956526	0.7164698673
## EP_GROUPQ	-0.084840753	-0.240657194	0.66423172	0.4945282030
## EP_UNINSUR	-0.021351609	-0.160849577	0.65851654	0.6572775835
## totalBedNeeded	0.655735893	0.166228727	-0.14922168	-0.0249167270
##	EP_PCI	EP_NOHSDP	EP_AGE65	EP_AGE17
## Id	0.008545807	0.007285500	0.04865940	0.0527996038
## Veteran	-0.027854206	0.083108742	-0.04077602	-0.0547869393
## Incarcerated	-0.025672109	0.062636297	-0.03024661	0.0005252573
## Disability	-0.056744617	0.091204288	-0.08282131	-0.1166399561
## AnnualIncomeAmount	0.053186781	-0.028178324	0.02337559	0.0307211409
## TotalHHNNumber	-0.017860023	-0.006319401	0.08582663	0.2044082124
## NumAdultFemales	0.039670405	-0.067475687	0.02341106	0.1314968423
## NumAdultMales	0.018839136	0.018675213	0.01071636	-0.0476960098
## NumChildren	-0.027899576	-0.001103489	0.08011198	0.1947078736
## QueenBeds	-0.078647594	0.062296986	-0.10301985	-0.0934946225
## Cribs	0.029470244	-0.049556911	0.05140715	0.0545915556
## TwinBeds	-0.029623810	0.005692942	0.05268606	0.1623810560
## AREA_SQMI	-0.101019648	0.042861638	0.20396001	0.2901150766
## EP_POV	-0.695996594	0.697373480	-0.51556434	-0.2495112921
## EP_UNEMP	-0.757553592	0.770873398	-0.37985002	0.3145578346
## EP_PCI	1.000000000	-0.870230946	0.54117190	-0.3465228516
## EP_NOHSDP	-0.870230946	1.000000000	-0.35054874	0.3717643886
## EP_AGE65	0.541171900	-0.350548741	1.000000000	-0.0595635328
## EP_AGE17	-0.346522852	0.371764389	-0.05956353	1.0000000000
## EP_DISABL	-0.695349742	0.802788485	0.06814241	0.4724262120
## EP_SNGPNT	-0.798721500	0.860990859	-0.31637670	0.5698511549
## EP_MINRTY	-0.836557661	0.876066072	-0.50094661	0.4870356369
## EP_LIMENG	-0.543690520	0.660790605	-0.35214819	0.2993375914
## EP_MUNIT	0.438991208	-0.411532789	0.03174851	-0.8379396130
## EP_MOBILE	-0.321879545	0.222202062	0.03350783	0.3273368067
## EP_CROWD	-0.771512227	0.804265089	-0.46273036	0.1539897727
## EP_NOVEH	-0.435756721	0.624503237	-0.21495452	-0.2038094545
## EP_GROUPQ	-0.199432594	0.246208115	-0.26926187	-0.5224495793
## EP_UNINSUR	-0.827999644	0.921201115	-0.36697773	0.2778387172
## totalBedNeeded	0.024253694	-0.042107275	0.09303127	0.1282805747
##	EP_DISABL	EP_SNGPNT	EP_MINRTY	EP_LIMENG
## Id	0.0240244105	-0.008426296	-0.024694148	0.023570710
## Veteran	-0.0006741678	0.006349866	0.041771546	0.126220471
## Incarcerated	0.0239464390	0.057368467	0.053661833	0.059638001
## Disability	-0.0064009101	0.023239294	0.060978434	0.142174906
## AnnualIncomeAmount	-0.0207906158	-0.013542630	-0.009481104	0.002737233
## TotalHHNNumber	0.0933879342	0.039849227	-0.002247807	-0.064515906
## NumAdultFemales	-0.0132279268	-0.016762920	-0.029261370	-0.065553448

## NumAdultMales	-0.0171603693	-0.012308734	-0.004056113	0.063479488
## NumChildren	0.0972520260	0.044247983	0.003053117	-0.071385536
## QueenBeds	-0.0055381429	0.014202936	0.050345741	0.086509129
## Cribs	0.0076206808	-0.030385281	-0.060330325	-0.084113163
## TwinBeds	0.0935379197	0.041055912	0.010695178	-0.071210977
## AREA_SQMI	0.3194730011	-0.095170013	-0.160557126	-0.143066443
## EP_POV	0.4378000833	0.555418768	0.620851267	0.330808477
## EP_UNEMP	0.7176904601	0.834827484	0.809584663	0.245418727
## EP_PCI	-0.6953497416	-0.798721500	-0.836557661	-0.543690520
## EP_NOHSDP	0.8027884845	0.860990859	0.876066072	0.660790605
## EP_AGE65	0.0681424064	-0.316376702	-0.500946609	-0.352148190
## EP_AGE17	0.4724262120	0.569851155	0.487035637	0.299337591
## EP_DISABL	1.0000000000	0.775706148	0.675052812	0.286605327
## EP_SNGPNT	0.7757061484	1.000000000	0.946001151	0.492263763
## EP_MINRTY	0.6750528117	0.946001151	1.000000000	0.606556961
## EP_LIMENG	0.2866053266	0.492263763	0.606556961	1.000000000
## EP_MUNIT	-0.5193667669	-0.460404484	-0.377817307	-0.257935799
## EP_MOBILE	0.3904163353	0.031182687	0.001866056	0.093682446
## EP_CROWD	0.6087075606	0.760369977	0.801617566	0.436214097
## EP_NOVEH	0.4681812926	0.534345353	0.529224208	0.227251547
## EP_GROUPQ	0.0636049001	0.112224414	0.146139094	-0.120333695
## EP_UNINSUR	0.6905172299	0.832099281	0.873814047	0.714404161
## totalBedNeeded	0.0532211358	-0.013472686	-0.045267933	-0.093998796
##	EP_MUNIT	EP_MOBILE	EP_CROWD	EP_NOVEH
## Id	-0.057367997	0.039237640	-0.018838549	-0.006305145
## Veteran	0.081986616	-0.056027641	0.056833776	0.110066202
## Incarcerated	0.007769187	-0.038574691	0.058245238	0.073983641
## Disability	0.123722747	-0.092652788	0.078838415	0.176710291
## AnnualIncomeAmount	-0.008060343	0.006411496	-0.029484772	-0.042259635
## TotalHHNumber	-0.237303342	0.189608853	-0.045794223	-0.178190461
## NumAdultFemales	-0.132679282	0.111658164	-0.095013776	-0.179176964
## NumAdultMales	0.050471912	-0.042885084	0.017669240	0.045878790
## NumChildren	-0.226939703	0.179560159	-0.032375529	-0.158472473
## QueenBeds	0.080775081	-0.051837563	0.088620027	0.096149706
## Cribs	-0.091837029	0.092576594	-0.068325622	-0.099393034
## TwinBeds	-0.183301980	0.149448032	-0.006169949	-0.105790148
## AREA_SQMI	-0.499972386	0.805318615	-0.105939840	-0.310519031
## EP_POV	0.136407457	-0.119370721	0.811247431	0.829565261
## EP_UNEMP	-0.323444468	0.048690136	0.748967333	0.716469867
## EP_PCI	0.438991208	-0.321879545	-0.771512227	-0.435756721
## EP_NOHSDP	-0.411532789	0.222202062	0.804265089	0.624503237
## EP_AGE65	0.031748505	0.033507831	-0.462730358	-0.214954516
## EP_AGE17	-0.837939613	0.327336807	0.153989773	-0.203809455
## EP_DISABL	-0.519366767	0.390416335	0.608707561	0.468181293
## EP_SNGPNT	-0.460404484	0.031182687	0.760369977	0.534345353
## EP_MINRTY	-0.377817307	0.001866056	0.801617566	0.529224208
## EP_LIMENG	-0.257935799	0.093682446	0.436214097	0.227251547
## EP_MUNIT	1.000000000	-0.600152845	-0.151410285	0.237576169
## EP_MOBILE	-0.600152845	1.000000000	0.020648334	-0.339249158
## EP_CROWD	-0.151410285	0.020648334	1.000000000	0.658746610
## EP_NOVEH	0.237576169	-0.339249158	0.658746610	1.000000000
## EP_GROUPQ	0.350011263	-0.252880544	0.340061460	0.730377832
## EP_UNINSUR	-0.235572823	0.077822569	0.774141897	0.558046008
## totalBedNeeded	-0.154106828	0.149649176	-0.071329744	-0.149338960

##	EP_GROUPQ	EP_UNINSUR	totalBedNeeded
## Id	-0.01682127	-0.011357857	-0.13035614
## Veteran	0.03112534	0.074536711	-0.02796397
## Incarcerated	0.02891367	0.050531255	-0.08007291
## Disability	0.11517297	0.079722295	-0.23457432
## AnnualIncomeAmount	-0.03893702	-0.027781673	0.02451250
## TotalHHNNumber	-0.13285530	-0.026300444	0.51830434
## NumAdultFemales	-0.11307103	-0.060664010	0.25923605
## NumAdultMales	0.02402985	0.004433608	-0.10038669
## NumChildren	-0.11980918	-0.022357626	0.53277789
## QueenBeds	0.05820979	0.060873471	-0.19801370
## Cribs	-0.04734198	-0.063513673	0.29999920
## TwinBeds	-0.08484075	-0.021351609	0.65573589
## AREA_SQMI	-0.24065719	-0.160849577	0.16622873
## EP_POV	0.66423172	0.658516542	-0.14922168
## EP_UNEMP	0.49452820	0.657277584	-0.02491673
## EP_PCI	-0.19943259	-0.827999644	0.02425369
## EP_NOHSDP	0.24620811	0.921201115	-0.04210728
## EP_AGE65	-0.26926187	-0.366977728	0.09303127
## EP_AGE17	-0.52244958	0.277838717	0.12828057
## EP_DISABL	0.06360490	0.690517230	0.05322114
## EP_SNGPNT	0.11222441	0.832099281	-0.01347269
## EP_MINRITY	0.14613909	0.873814047	-0.04526793
## EP_LIMENG	-0.12033370	0.714404161	-0.09399880
## EP_MUNIT	0.35001126	-0.235572823	-0.15410683
## EP_MOBILE	-0.25288054	0.077822569	0.14964918
## EP_CROWD	0.34006146	0.774141897	-0.07132974
## EP_NOVEH	0.73037783	0.558046008	-0.14933896
## EP_GROUPQ	1.00000000	0.133293384	-0.11054012
## EP_UNINSUR	0.13329338	1.000000000	-0.06856281
## totalBedNeeded	-0.11054012	-0.068562805	1.00000000

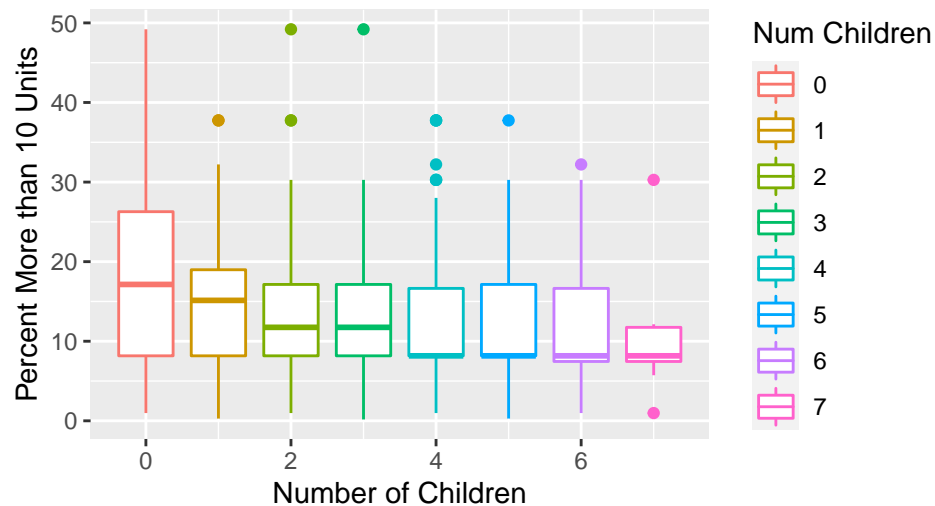
4 Deeper Dive Into Correlated Relationships



Some things to note:

- We see that that distribution among number of children is about the same for percent poverty
- Those with no children, however, often are among more impoverished areas, with a bit of a left-skew (indicating more distributed closer to more impoverished areas)

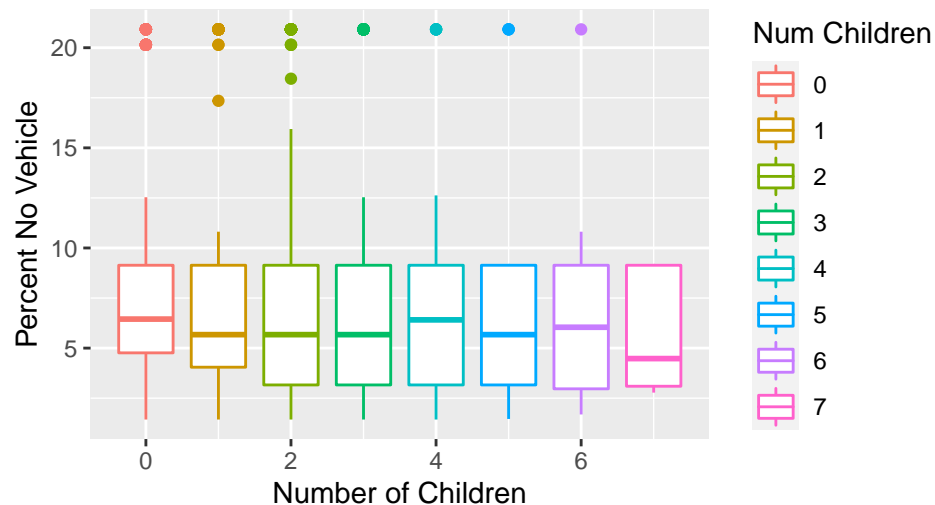
Percent More than 10 Units by Number of Children



Some things to note:

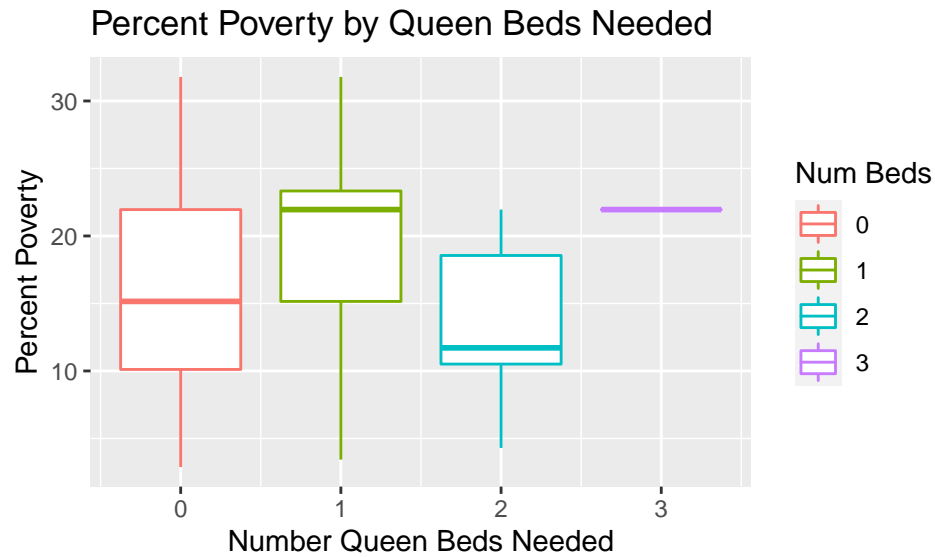
- We see that the distribution among number of children varies; in general we see that having more children is associated with a smaller probability of living in a structure with more than ten housing units
 - This probability is pretty constant among after more than two kids

Percent No Vehicle by Number of Children



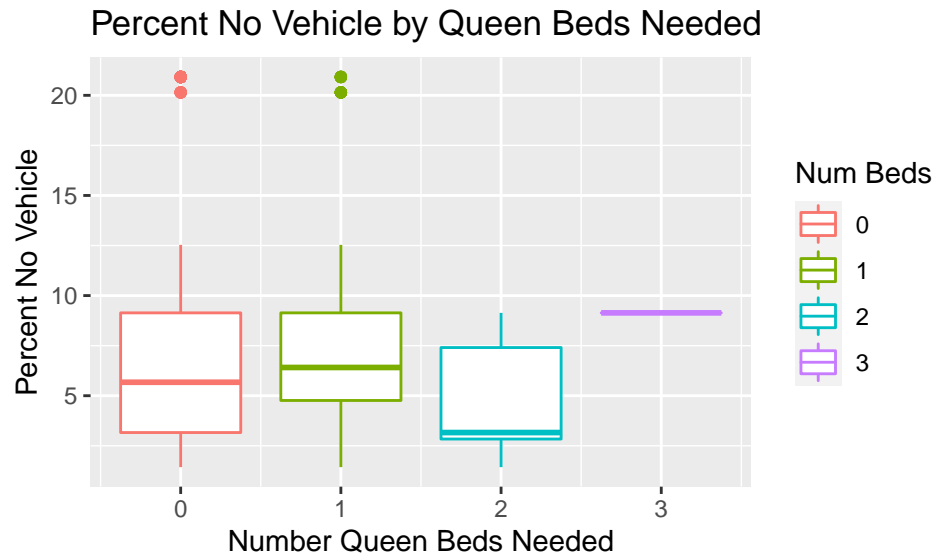
Some things to note:

- We see that that distribution among number of children is about the same, perhaps with a right skew (more towards a lower probability of having no vehicle) after the first child
 - There are a few clients that live in areas where the probability of having no vehicle is high no matter the number of children (long right tail)



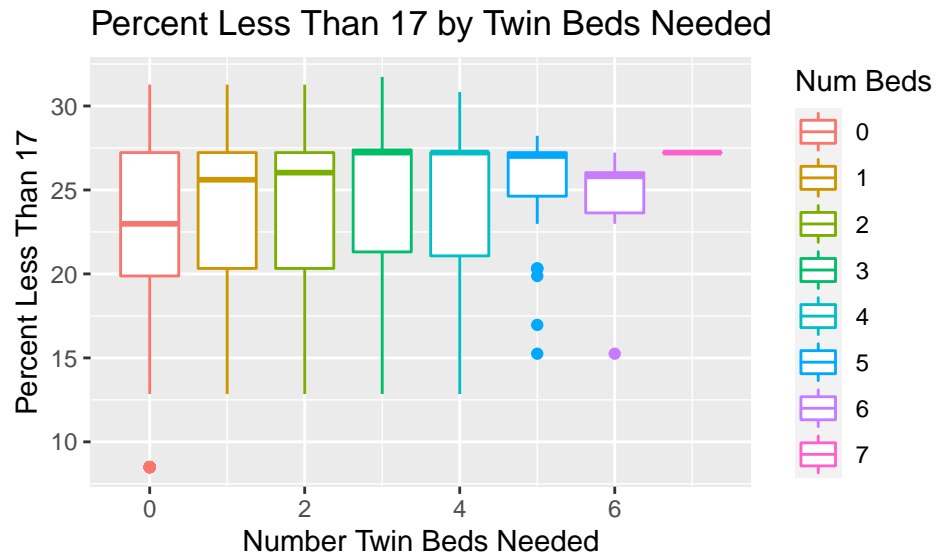
Some things to note:

- We see that that distribution among number of queen beds varies. It is worth noting that:
 - Those that need one queen bed tend to live among more impoverished areas
 - It would be worth looking into how the need for a queen bed is distributed among those with a disability



Some things to note:

- We see that that distribution among number of queen beds varies. It is worth noting that:
 - Those that need more than one queen bed tend to live in areas where the probability of having no vehicle tends to be lower (assuming that the need for three queen beds is an outlier)
 - Again, it would be worth looking into how the need for a queen bed is distributed among those with a disability



Some things to note:

- We see that that distribution among number of twin beds varies. It is worth noting that overall, however, that the need for twin beds increases as one tends to live in areas with more people less than 17 years of age