

Resiliency Collab

S.Kelly

Final Models: Education (hsg & sc), Health (lbw, pud, mud), and Housing (rent30, median, owned)

To address VIF, dropped the following three IVs from all previous final models:
z_SVI_RPL_THEMES_ALL, z_ACS_PER_CAPITA_INCOME, z_pfh_percent

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dim(Z_and_Final_Variables_10.28.22)
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[1] 3141 129
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glimpse(Z_and_Final_Variables_10.28.22)
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Rows: 3,141

Columns: 129

\$ FIPS	<int> 1001, 1003, 1005, 1007, 1009, 1011, 1013, 10~
\$ State.x	<chr> "al", "al", "al", "al", "al", "al", "al", "a~
\$ county	<chr> "autauga", "baldwin", "barbour", "bibb", "bl~
\$ hsg_rate	<dbl> 90.00000, 86.36158, 81.41026, 83.76384, 93.4~
\$ sc_percent	<dbl> 62.00997, 67.37162, 34.85765, 44.13735, 53.3~
\$ rs_average	<dbl> 2.959586, 3.005642, 2.660388, 2.628688, 3.02~
\$ ms_average	<dbl> 2.802699, 2.860696, 2.443271, 2.381308, 2.84~
\$ pfh_percent	<dbl> 20.88299, 17.50913, 29.59180, 19.43972, 21.7~
\$ pphd_avgnum	<dbl> 4.743889, 4.224519, 5.430279, 4.591482, 4.86~
\$ pmhd_avgnum	<dbl> 4.654031, 4.304056, 5.185594, 4.551699, 4.89~
\$ lbw_percent_lb	<dbl> 8.619529, 8.345003, 11.474559, 10.308710, 7.~
\$ pi_phy_inact	<dbl> 34.7, 26.5, 23.5, 33.5, 30.3, 24.6, 39.5, 31~
\$ cip_perc	<dbl> 19.3, 13.9, 43.9, 27.8, 18.0, 68.3, 36.3, 26~
\$ csph_perc	<dbl> 26.24268, 24.13960, 56.60343, 28.68924, 28.5~

\$ ACS_PCT_CHILD_DISAB	<dbl> 9.013, 3.656, 8.609, 4.047, 2.495, 5.814, 3.~
\$ ACS_PCT_BLACK	<dbl> 19.139, 9.497, 47.576, 22.275, 1.495, 76.246~
\$ ACS_PCT_HISPAN	<dbl> 2.768, 4.494, 4.290, 2.428, 9.127, 0.493, 0.~
\$ SVI_RPL_THEME1_SOCIECO	<dbl> 0.3631, 0.2232, 0.9780, 0.7694, 0.6143, 0.97~
\$ SVI_RPL_THEME2_HH_DISB	<dbl> 0.5810, 0.1990, 0.9153, 0.1203, 0.3187, 0.44~
\$ SVI_RPL_THEME3_MINO	<dbl> 0.5947, 0.4358, 0.8558, 0.4323, 0.5915, 0.67~
\$ SVI_RPL_THEME4_HH_TRANS	<dbl> 0.3741, 0.3359, 0.9889, 0.7189, 0.1741, 0.76~
\$ SVI_RPL_THEMES_ALL	<dbl> 0.4354, 0.2162, 0.9959, 0.6003, 0.4242, 0.88~
\$ ACS_PCT_ENGL_NOT_WELL	<dbl> 0.732, 0.477, 1.451, 0.216, 1.366, 0.441, 0.~
\$ ACS_PCT_NON_CITIZEN	<dbl> 0.969, 1.850, 1.420, 0.870, 2.840, 0.000, 0.~
\$ ACS_MEDIAN_AGE	<dbl> 37.8, 42.8, 39.9, 39.9, 40.8, 39.6, 40.7, 39~
\$ food_afford	<dbl> 0.1440757, 0.1656779, 0.2300316, 0.1781116, ~
\$ fd_enviro_indx	<dbl> 7.2, 8.0, 5.6, 7.8, 8.4, 4.3, 6.6, 6.9, 6.4,~
\$ fi_percent	<dbl> 13.2, 11.6, 22.0, 14.3, 10.7, 24.8, 20.6, 15~
\$ ACS_PCT_FOOD_STAMP	<dbl> 13.010, 7.932, 27.749, 12.924, 9.762, 26.517~
\$ childelig_lunch_perc	<dbl> 43.40867, 48.48656, 63.29230, 61.56212, 52.9~
\$ shp_percent	<dbl> 14.663462, 13.566201, 14.583333, 10.496454, ~
\$ shcb_percent	<dbl> 13.403481, 11.725808, 14.059546, 9.886874, 8~
\$ ACS_PCT_NO_VEH	<dbl> 5.641, 3.441, 9.242, 5.994, 4.155, 11.721, 7~
\$ ACS_PCT_RENTER_HH_CHILD	<dbl> 40.747, 28.721, 43.373, 30.557, 31.070, 62.6~
\$ ACS_PCT_RENT_COST_30PCT	<dbl> 53.066, 48.301, 47.601, 46.154, 42.469, 58.5~
\$ ACS_PCT_MOBILE_HOME	<dbl> 18.353, 11.680, 29.187, 28.545, 25.217, 33.3~
\$ ACS_PCT_OWNED_HH	<dbl> 74.895, 73.619, 61.398, 75.073, 78.626, 75.5~
\$ ACS_PCT_OWNER_HH_CHILD	<dbl> 34.128, 24.981, 24.078, 28.549, 30.765, 26.9~
\$ ACS_PCT_RENTED_HH	<dbl> 25.105, 26.381, 38.602, 24.927, 21.374, 24.4~
\$ ACS_MEDIAN_HOME_VALUE	<dbl> 147900, 189800, 92900, 96500, 124700, 77500,~
\$ soc_assoc_num	<int> 67, 217, 19, 19, 49, 8, 18, 166, 60, 22, 67,~
\$ aeo_perc_w_acc	<dbl> 69.130124, 73.713549, 53.166770, 16.251364, ~
\$ dwv_presence	<int> 1, 1, 1, 1, 1, 1, 2, 1, 1, 1, 1, 2, 1, 2, 1,~
\$ ACS_PCT_HH_PUB_ASSIST	<dbl> 1.345, 1.372, 2.841, 4.474, 1.587, 4.378, 1.~
\$ AHRF_TXC_SITE_NO_CNTRL	<int> 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0,~
\$ unemp_perc	<dbl> 3.629079, 3.615382, 5.171384, 3.971828, 3.51~
\$ ACS_GINI_INDEX	<dbl> 0.4602, 0.4609, 0.4731, 0.4294, 0.4331, 0.51~
\$ ACS_MEDIAN_HH_INCOME	<int> 58786, 55962, 34186, 45340, 48695, 32152, 39~
\$ ACS_PCT_WORK_NO_CAR	<dbl> 0.767, 1.219, 4.158, 1.650, 1.121, 5.282, 2.~
\$ ACS_PER_CAPITA_INCOME	<int> 29372, 31203, 18461, 20199, 22656, 20346, 20~
\$ ACS_PCT_BROADBAND	<dbl> 78.859, 78.126, 60.396, 66.096, 68.461, 58.8~
\$ ACS_PCT_NO_PC	<dbl> 13.010, 11.431, 23.949, 23.728, 21.350, 27.0~
\$ ACS_PCT_SMARTPHONE	<dbl> 5.588, 7.245, 10.592, 11.535, 8.553, 13.993,~
\$ uninsur_perc	<dbl> 8.721686, 11.333404, 12.242792, 10.206253, 1~
\$ uc_percent	<dbl> 2.669154, 3.538763, 2.913534, 2.617801, 4.07~
\$ pcp_ratio	<chr> "92.500694444444406", "57.167361111111099", ~
\$ opcp_rate	<dbl> 39.56763, 55.95766, 52.24870, 111.60714, 22.~

\$ dents_ratio	<chr> "128.70902777777701", "84.125694444444406", ~
\$ mhp_ratio	<chr> "178.20902777777701", "43.250694444444399", ~
\$ phs_rate	<int> 7108, 4041, 6209, 5961, 4060, 6632, 9203, 65~
\$ ms_perc_ann	<int> 41, 43, 45, 40, 34, 35, 42, 32, 38, 36, 39, ~
\$ AMFAR_AMATFAC	<int> 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, ~
\$ MP_PERCPEN	<dbl> 44.98, 42.77, 37.25, 49.98, 51.56, 41.15, 21~
\$ AHRF_RURAL_H_CLINIC	<int> 0, 0, 1, 1, 4, 3, 3, 0, 0, 1, 1, 2, 5, 0, 0, ~
\$ TeenBirths	<int> 1839, 6194, 694, 529, 1719, 286, 645, 3743, ~
\$ phys_per_cap	<dbl> 0.0004710145, 0.0007351987, 0.0003102940, 0.~
\$ mhp_per_cap	<dbl> 0.000000e+00, 7.688353e-05, 3.878675e-05, 0.~
\$ dents_per_cap	<dbl> 3.260870e-04, 5.670160e-04, 2.327205e-04, 2.~
\$ z_hsg_rate	<dbl> 0.17560941, -0.33273076, -1.02450160, -0.695~
\$ z_sc_percent	<dbl> 0.348003662, 0.801035960, -1.946232079, -1.1~
\$ z_rs_average	<dbl> -0.2130832, -0.2088286, -0.2407231, -0.24365~
\$ z_ms_average	<dbl> -0.5362162, -0.4295601, -1.1972017, -1.31115~
\$ z_ACS_PCT_BLACK	<dbl> 0.69336041, 0.02990109, 2.65009061, 0.909146~
\$ z_ACS_PCT_HISPAN	<dbl> -0.470973965, -0.345828201, -0.360619474, -0~
\$ z_SVI_RPL_THEME1_SOCIECO	<dbl> -0.47437091, -0.95880330, 1.65484620, 0.9325~
\$ z_SVI_RPL_THEME2_HH_DISB	<dbl> 0.2801763, -1.0427818, 1.4379378, -1.3153388~
\$ z_SVI_RPL_THEME3_MINO	<dbl> 0.32822699, -0.22165854, 1.23178338, -0.2337~
\$ z_SVI_RPL_THEME4_HH_TRANS	<dbl> -0.43546688, -0.56774285, 1.69341454, 0.7584~
\$ z_SVI_RPL_THEMES_ALL	<dbl> -0.22388945, -0.98281156, 1.71669377, 0.3470~
\$ z_ACS_PCT_ENGL_NOT_WELL	<dbl> -0.270050837, -0.421196223, 0.156119876, -0.~
\$ z_ACS_PCT_NON_CITIZEN	<dbl> -0.51019277, -0.26306389, -0.38368298, -0.53~
\$ z_ACS_MEDIAN_AGE	<dbl> -0.64439450, 0.27909238, -0.25653001, -0.256~
\$ z_food_afford	<dbl> -0.439448964, 0.071371779, 1.593128721, 0.36~
\$ z_fd_enviro_indx	<dbl> -0.21949409, 0.47886061, -1.61620350, 0.3042~
\$ z_fi_percent	<dbl> -0.04477055, -0.44348572, 2.14816286, 0.2293~
\$ z_ACS_PCT_FOOD_STAMP	<dbl> -0.12543469, -0.89616985, 2.11164002, -0.138~
\$ z_childelig_lunch_perc	<dbl> -0.42325470, -0.18342220, 0.51586352, 0.4341~
\$ z_shp_percent	<dbl> 0.17404824, -0.06580777, 0.15653260, -0.7368~
\$ z_shcb_percent	<dbl> 0.55598033, 0.08942385, 0.73843031, -0.42197~
\$ z_ACS_PCT_NO_VEH	<dbl> -0.15863051, -0.65012243, 0.64585240, -0.079~
\$ z_ACS_PCT_RENTER_HH_CHILD	<dbl> 0.77902931, -0.64319146, 1.08958575, -0.4260~
\$ z_ACS_PCT_RENT_COST_30PCT	<dbl> 0.9236173, 0.4262663, 0.3532032, 0.2021713, ~
\$ z_ACS_PCT_MOBILE_HOME	<dbl> 0.56349590, -0.13039326, 1.69006494, 1.62330~
\$ z_ACS_PCT_OWNED_HH	<dbl> 0.4190011, 0.2645905, -1.2142909, 0.4405412, ~
\$ z_ACS_PCT_OWNER_HH_CHILD	<dbl> 1.17618972, -0.35796554, -0.50941871, 0.2404~
\$ z_ACS_MEDIAN_HOME_VALUE	<dbl> 0.008481818, 0.472893552, -0.601127858, -0.5~
\$ z_ACS_PCT_BROADBAND	<dbl> 0.66668600, 0.58749438, -1.32801377, -0.7121~
\$ z_ACS_PCT_NO_PC	<dbl> -0.5158114, -0.7435088, 1.0616311, 1.0297621~
\$ z_ACS_PCT_SMARTPHONE	<dbl> -0.35156862, 0.20891337, 1.34103963, 1.66001~
\$ z_pfh_percent	<dbl> 0.62132388, -0.09043965, 2.45857541, 0.31684~

\$ z_pphd_avgnum	<dbl> 1.0686813, 0.3317775, 2.0425608, 0.8524406, ~
\$ z_pmhd_avgnum	<dbl> 0.8071895, 0.2263430, 1.6894141, 0.6373502, ~
\$ z_lbw_percent_lbw	<dbl> 0.23414587, 0.09957632, 1.63365236, 1.062165~
\$ z_pi_phy_inact	<dbl> 1.28678114, -0.15283038, -0.67951752, 1.0761~
\$ z_cip_perc	<dbl> -0.20340963, -0.80996824, 2.55980185, 0.7513~
\$ z_csph_perc	<dbl> -0.57497431, -0.77237114, 2.27471379, -0.345~
\$ z_ACS_PCT_CHILD_DISAB	<dbl> 1.9789546, -0.5137625, 1.7909655, -0.3318225~
\$ z_phys_per_cap	<dbl> -0.12978042, 0.57993866, -0.56154881, 0.0359~
\$ z_mhp_per_cap	<dbl> -0.49269142, 0.32117672, -0.08210541, -0.492~
\$ z_dents_per_cap	<dbl> -0.14768020, 0.80656949, -0.51747750, -0.560~
\$ z_uninsur_perc	<dbl> -0.535429391, -0.027813084, 0.148936505, -0.~
\$ z_uc_percent	<dbl> -0.7572901, -0.6010458, -0.7133819, -0.76651~
\$ z_opcp_rate	<dbl> -0.73164417, -0.46603422, -0.52614007, 0.435~
\$ z_TeenBirths	<dbl> -0.13945763, 0.27695051, -0.24893807, -0.264~
\$ z_phs_rate	<dbl> 1.221509621, -0.443936625, 0.733333496, 0.59~
\$ z_ms_perc_ann	<dbl> 0.04485619, 0.30548105, 0.56610592, -0.08545~
\$ z_AMFAR_AMATFAC	<dbl> -0.1985903, -0.1985903, -0.1985903, -0.19859~
\$ z_MP_PERCPEN	<dbl> 1.433688929, 1.274661948, 0.877454284, 1.793~
\$ z_AHRF_RURAL_H_CLINIC	<dbl> -0.6641385, -0.6641385, -0.1888237, -0.18882~
\$ z_unemp_perc	<dbl> -0.33580552, -0.34492510, 0.69109612, -0.107~
\$ z_ACS_GINI_INDEX	<dbl> 0.40562723, 0.42479806, 0.75891841, -0.43788~
\$ z_ACS_MEDIAN_HH_INCOME	<dbl> 0.5266713, 0.3204602, -1.2696432, -0.4551679~
\$ z_ACS_PCT_WORK_NO_CAR	<dbl> -0.505363092, -0.376387589, 0.462238521, -0.~
\$ z_ACS_PER_CAPITA_INCOME	<dbl> 0.35932791, 0.64059481, -1.31675245, -1.0497~
\$ z_soc_assoc_num	<dbl> -0.115790810, 0.539443880, -0.325465911, -0.~
\$ z_aeo_perc_w_acc	<dbl> 0.27088719, 0.46709498, -0.41247397, -1.9927~
\$ z_dwv_presence	<dbl> -0.7682178, -0.7682178, -0.7682178, -0.76821~
\$ z_ACS_PCT_HH_PUB_ASSIST	<dbl> -0.5760527, -0.5601563, 0.3047219, 1.2661556~
\$ z_AHRF_TXC_SITE_NO_CNTRL	<dbl> -0.1671344, -0.1671344, -0.1671344, -0.16713~

Final Education Model

DV: High School Rate

IVs: Demographics, Food/Housing, Technology, Health 1, (DOES NOT INCLUDE health 2), HWCC, Business, Government

```
options(scipen = 999)
z_hsg_levels_1234678 <- lm(formula = z_hsg_rate ~ z_ACS_PCT_BLACK +
  z_ACS_PCT_HISPAN + z_SVI_RPL_THEME1_SOCIECO + z_SVI_RPL_THEME2_HH_DISB +
  z_SVI_RPL_THEME3_MINO + z_SVI_RPL_THEME4_HH_TRANS + z_ACS_PCT_ENGL_NOT_WELL +
  z_ACS_PCT_NON_CITIZEN + z_ACS_MEDIAN_AGE + z_food_afford +
  z_fd_enviro_indx + z_fi_percent + z_ACS_PCT_FOOD_STAMP +
  z_childelig_lunch_perc + z_shp_percent + z_shcb_percent +
  z_ACS_PCT_NO_VEH + z_ACS_PCT_RENTER_HH_CHILD + z_ACS_PCT_RENT_COST_30PCT +
  z_ACS_PCT_MOBILE_HOME + z_ACS_PCT_OWNED_HH + z_ACS_PCT_OWNER_HH_CHILD +
  z_ACS_MEDIAN_HOME_VALUE + z_ACS_PCT_BROADBAND + z_ACS_PCT_NO_PC +
  z_ACS_PCT_SMARTPHONE + z_phys_per_cap + z_mhp_per_cap + z_dents_per_cap +
  z_uninsur_perc + z_uc_percent + z_opcp_rate + z_TeenBirths +
  z_pphd_avgnum + z_pmhd_avgnum + z_lbw_percent_lbw + z_pi_phy_inact +
  z_cip_perc + z_csph_perc + z_ACS_PCT_CHILD_DISAB + z_unemp_perc +
  z_ACS_GINI_INDEX + z_ACS_MEDIAN_HH_INCOME + z_ACS_PCT_WORK_NO_CAR +
  z_soc_assoc_num + z_aeo_perc_w_acc + z_dvw_presence + z_ACS_PCT_HH_PUB_ASSIST +
  z_AHRF_TXC_SITE_NO_CNTRL, data = Z_and_Final_Variables_10.28.22)
summary(z_hsg_levels_1234678)
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Call:

```
lm(formula = z_hsg_rate ~ z_ACS_PCT_BLACK + z_ACS_PCT_HISPAN +
  z_SVI_RPL_THEME1_SOCIECO + z_SVI_RPL_THEME2_HH_DISB + z_SVI_RPL_THEME3_MINO +
  z_SVI_RPL_THEME4_HH_TRANS + z_ACS_PCT_ENGL_NOT_WELL + z_ACS_PCT_NON_CITIZEN +
  z_ACS_MEDIAN_AGE + z_food_afford + z_fd_enviro_indx + z_fi_percent +
  z_ACS_PCT_FOOD_STAMP + z_childelig_lunch_perc + z_shp_percent +
  z_shcb_percent + z_ACS_PCT_NO_VEH + z_ACS_PCT_RENTER_HH_CHILD +
  z_ACS_PCT_RENT_COST_30PCT + z_ACS_PCT_MOBILE_HOME + z_ACS_PCT_OWNED_HH +
  z_ACS_PCT_OWNER_HH_CHILD + z_ACS_MEDIAN_HOME_VALUE + z_ACS_PCT_BROADBAND +
  z_ACS_PCT_NO_PC + z_ACS_PCT_SMARTPHONE + z_phys_per_cap +
  z_mhp_per_cap + z_dents_per_cap + z_uninsur_perc + z_uc_percent +
  z_opcp_rate + z_TeenBirths + z_pphd_avgnum + z_pmhd_avgnum +
  z_lbw_percent_lbw + z_pi_phy_inact + z_cip_perc + z_csph_perc +
```

z_ACS_PCT_CHILD_DISAB + z_unemp_perc + z_ACS_GINI_INDEX +
z_ACS_MEDIAN_HH_INCOME + z_ACS_PCT_WORK_NO_CAR + z_soc_assoc_num +
z_aeo_perc_w_acc + z_dwv_presence + z_ACS_PCT_HH_PUB_ASSIST +
z_AHRF_TXC_SITE_NO_CNTRL, data = Z_and_Final_Variables_10.28.22)

Residuals:

Min	1Q	Median	3Q	Max
-6.0736	-0.3829	0.1047	0.5005	2.2237

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)	
(Intercept)	0.079080	0.017903	4.417	0.000010419195144	***
z_ACS_PCT_BLACK	-0.056832	0.037003	-1.536	0.124697	
z_ACS_PCT_HISPAN	0.030385	0.033100	0.918	0.358717	
z_SVI_RPL_THEME1_SOCIECO	0.148532	0.049923	2.975	0.002955	**
z_SVI_RPL_THEME2_HH_DISB	-0.073186	0.028526	-2.566	0.010359	*
z_SVI_RPL_THEME3_MINO	-0.212499	0.033893	-6.270	0.000000000423809	***
z_SVI_RPL_THEME4_HH_TRANS	-0.121791	0.026213	-4.646	0.000003553222011	***
z_ACS_PCT_ENGL_NOT_WELL	0.084921	0.051575	1.647	0.099778	.
z_ACS_PCT_NON_CITIZEN	0.015747	0.047828	0.329	0.741999	
z_ACS_MEDIAN_AGE	0.159220	0.038758	4.108	0.000041164284073	***
z_food_afford	-0.139488	0.031774	-4.390	0.000011796280202	***
z_fd_enviro_indx	0.098296	0.034269	2.868	0.004160	**
z_fi_percent	0.170410	0.049907	3.415	0.000649	***
z_ACS_PCT_FOOD_STAMP	0.090184	0.042176	2.138	0.032590	*
z_childelig_lunch_perc	-0.221645	0.035687	-6.211	0.0000000000614205	***
z_shp_percent	-0.180918	0.035613	-5.080	0.000000404666364	***
z_shcb_percent	0.132581	0.037298	3.555	0.000385	***
z_ACS_PCT_NO_VEH	0.105318	0.056873	1.852	0.064170	.
z_ACS_PCT_RENTER_HH_CHILD	0.052475	0.024187	2.170	0.030135	*
z_ACS_PCT_RENT_COST_30PCT	0.013532	0.026123	0.518	0.604481	
z_ACS_PCT_MOBILE_HOME	-0.114869	0.026493	-4.336	0.000015092563372	***
z_ACS_PCT_OWNED_HH	-0.033395	0.034071	-0.980	0.327102	
z_ACS_PCT_OWNER_HH_CHILD	0.128695	0.034327	3.749	0.000181	***
z_ACS_MEDIAN_HOME_VALUE	-0.156575	0.037272	-4.201	0.000027505502431	***
z_ACS_PCT_BROADBAND	0.090783	0.049616	1.830	0.067409	.
z_ACS_PCT_NO_PC	0.181280	0.049259	3.680	0.000238	***
z_ACS_PCT_SMARTPHONE	0.076845	0.026091	2.945	0.003257	**
z_phys_per_cap	-0.009151	0.027023	-0.339	0.734909	
z_mhp_per_cap	0.017030	0.024764	0.688	0.491726	
z_dents_per_cap	-0.059618	0.027478	-2.170	0.030127	*
z_uninsur_perc	-0.086799	0.046847	-1.853	0.064024	.
z_uc_percent	0.363729	0.069037	5.269	0.000000149032129	***

z_opcp_rate	0.007027	0.022172	0.317	0.751313
z_TeenBirths	0.038864	0.051603	0.753	0.451440
z_pphd_avgnum	0.093795	0.059394	1.579	0.114415
z_pmhd_avgnum	-0.036368	0.051623	-0.704	0.481191
z_lbw_percent_lbw	-0.019361	0.026053	-0.743	0.457475
z_pi_phy_inact	0.023931	0.023503	1.018	0.308670
z_cip_perc	-0.037167	0.046999	-0.791	0.429137
z_csph_perc	-0.164744	0.032165	-5.122	0.000000325415557 ***
z_ACS_PCT_CHILD_DISAB	-0.004463	0.019209	-0.232	0.816273
z_unemp_perc	-0.056345	0.024956	-2.258	0.024043 *
z_ACS_GINI_INDEX	0.121843	0.024667	4.940	0.000000834064601 ***
z_ACS_MEDIAN_HH_INCOME	0.167916	0.052133	3.221	0.001294 **
z_ACS_PCT_WORK_NO_CAR	-0.111213	0.047995	-2.317	0.020574 *
z_soc_assoc_num	-0.062071	0.056858	-1.092	0.275076
z_aeo_perc_w_acc	-0.077810	0.023457	-3.317	0.000922 ***
z_dwv_presence	-0.053564	0.016660	-3.215	0.001320 **
z_ACS_PCT_HH_PUB_ASSIST	-0.153868	0.020980	-7.334	0.0000000000000299 ***
z_AHRF_TXC_SITE_NO_CNTRL	-0.006993	0.015743	-0.444	0.656965

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.7914 on 2532 degrees of freedom

(559 observations deleted due to missingness)

Multiple R-squared: 0.3687, Adjusted R-squared: 0.3565

F-statistic: 30.19 on 49 and 2532 DF, p-value: < 0.00000000000000022

Final Education Model, High School Rate

Confidence Intervals

```
confint(z_hsg_levels_1234678)
```

	2.5 %	97.5 %
(Intercept)	0.043974625	0.114186011
z_ACS_PCT_BLACK	-0.129391485	0.015727714
z_ACS_PCT_HISPAN	-0.034521031	0.095291754
z_SVI_RPL_THEME1_SOCIECO	0.050638224	0.246426469
z_SVI_RPL_THEME2_HH_DISB	-0.129123404	-0.017248281
z_SVI_RPL_THEME3_MINO	-0.278959325	-0.146038601
z_SVI_RPL_THEME4_HH_TRANS	-0.173190885	-0.070390135

z_ACS_PCT_ENGL_NOT_WELL	-0.016213728	0.186055030
z_ACS_PCT_NON_CITIZEN	-0.078039168	0.109533396
z_ACS_MEDIAN_AGE	0.083219885	0.235220889
z_food_afford	-0.201793062	-0.077183399
z_fd_enviro_indx	0.031099160	0.165493718
z_fi_percent	0.072548004	0.268272965
z_ACS_PCT_FOOD_STAMP	0.007480800	0.172887773
z_childelig_lunch_perc	-0.291622946	-0.151666072
z_shp_percent	-0.250751768	-0.111084743
z_shcb_percent	0.059443549	0.205719437
z_ACS_PCT_NO_VEH	-0.006204523	0.216840246
z_ACS_PCT_RENTER_HH_CHILD	0.005046140	0.099904381
z_ACS_PCT_RENT_COST_30PCT	-0.037691579	0.064756390
z_ACS_PCT_MOBILE_HOME	-0.166820208	-0.062918430
z_ACS_PCT_OWNED_HH	-0.100204473	0.033414784
z_ACS_PCT_OWNER_HH_CHILD	0.061382789	0.196007960
z_ACS_MEDIAN_HOME_VALUE	-0.229661924	-0.083488947
z_ACS_PCT_BROADBAND	-0.006508466	0.188075265
z_ACS_PCT_NO_PC	0.084688483	0.277871305
z_ACS_PCT_SMARTPHONE	0.025682083	0.128007647
z_phys_per_cap	-0.062141086	0.043838802
z_mhp_per_cap	-0.031530805	0.065590020
z_dents_per_cap	-0.113500654	-0.005735722
z_uninsur_perc	-0.178660427	0.005063004
z_uc_percent	0.228354532	0.499103137
z_opcp_rate	-0.036449682	0.050504131
z_TeenBirths	-0.062324173	0.140051708
z_pphd_avgnum	-0.022670901	0.210260949
z_pmhd_avgnum	-0.137595998	0.064859766
z_lbw_percent_lbw	-0.070448579	0.031727005
z_pi_phy_inact	-0.022155356	0.070016849
z_cip_perc	-0.129327636	0.054994001
z_csph_perc	-0.227816354	-0.101670789
z_ACS_PCT_CHILD_DISAB	-0.042129580	0.033202751
z_unemp_perc	-0.105280290	-0.007409159
z_ACS_GINI_INDEX	0.073473486	0.170211572
z_ACS_MEDIAN_HH_INCOME	0.065687213	0.270144235
z_ACS_PCT_WORK_NO_CAR	-0.205326419	-0.017098996
z_soc_assoc_num	-0.173565125	0.049422352
z_aeo_perc_w_acc	-0.123806142	-0.031813778
z_dwv_presence	-0.086232745	-0.020894932
z_ACS_PCT_HH_PUB_ASSIST	-0.195008603	-0.112728173
z_AHRF_TXC_SITE_NO_CNTRL	-0.037863408	0.023878389

Final Education Model, High School Rate

VIF

```
vif(z_hsg_levels_1234678)
```

z_ACS_PCT_BLACK	z_ACS_PCT_HISPAN	z_SVI_RPL_THEME1_SOCIECO
5.986239	4.790007	10.209992
z_SVI_RPL_THEME2_HH_DISB	z_SVI_RPL_THEME3_MINO	z_SVI_RPL_THEME4_HH_TRANS
3.302636	4.612389	2.713486
z_ACS_PCT_ENGL_NOT_WELL	z_ACS_PCT_NON_CITIZEN	z_ACS_MEDIAN_AGE
10.980536	9.026072	5.874310
z_food_afford	z_fd_enviro_indx	z_fi_percent
3.959762	4.316293	9.960199
z_ACS_PCT_FOOD_STAMP	z_childelig_lunch_perc	z_shp_percent
6.748474	3.970270	4.705439
z_shcb_percent	z_ACS_PCT_NO_VEH	z_ACS_PCT_RENTER_HH_CHILD
5.352030	11.952928	2.230955
z_ACS_PCT_RENT_COST_30PCT	z_ACS_PCT_MOBILE_HOME	z_ACS_PCT_OWNED_HH
2.343245	2.947404	4.357617
z_ACS_PCT_OWNER_HH_CHILD	z_ACS_MEDIAN_HOME_VALUE	z_ACS_PCT_BROADBAND
4.695585	5.535924	10.398107
z_ACS_PCT_NO_PC	z_ACS_PCT_SMARTPHONE	z_phys_per_cap
10.134087	2.812610	2.576760
z_mhp_per_cap	z_dents_per_cap	z_uninsur_perc
2.205391	2.678205	9.032061
z_uc_percent	z_opcp_rate	z_TeenBirths
7.051198	1.743018	11.868977
z_pphd_avgnum	z_pmhd_avgnum	z_lbw_percent_lbw
14.837853	10.959208	2.853103
z_pi_phy_inact	z_cip_perc	z_csph_perc
2.402281	9.385820	4.014187
z_ACS_PCT_CHILD_DISAB	z_unemp_perc	z_ACS_GINI_INDEX
1.382749	2.487257	2.339564
z_ACS_MEDIAN_HH_INCOME	z_ACS_PCT_WORK_NO_CAR	z_soc_assoc_num
11.224234	8.264878	13.412388
z_aeo_perc_w_acc	z_dwv_presence	z_ACS_PCT_HH_PUB_ASSIST
2.078271	1.163771	1.612934
z_AHRF_TXC_SITE_NO_CNTRL		
1.099189		

Final Education Model

DV: Some College

IVs: Demographics, Food/Housing, Technology, Health 1, Health 2, HWCC, Business, Government

```
z_sc_levels_12345678 <- lm(formula = z_sc_percent ~ z_ACS_PCT_BLACK +
  z_ACS_PCT_HISPAN + z_SVI_RPL_THEME1_SOCIECO + z_SVI_RPL_THEME2_HH_DISB +
  z_SVI_RPL_THEME3_MINO + z_SVI_RPL_THEME4_HH_TRANS + z_ACS_PCT_ENGL_NOT_WELL +
  z_ACS_PCT_NON_CITIZEN + z_ACS_MEDIAN_AGE + z_food_afford +
  z_fd_enviro_indx + z_fi_percent + z_ACS_PCT_FOOD_STAMP +
  z_childelig_lunch_perc + z_shp_percent + z_shcb_percent +
  z_ACS_PCT_NO_VEH + z_ACS_PCT_RENTER_HH_CHILD + z_ACS_PCT_RENT_COST_30PCT +
  z_ACS_PCT_MOBILE_HOME + z_ACS_PCT_OWNED_HH + z_ACS_PCT_OWNER_HH_CHILD +
  z_ACS_MEDIAN_HOME_VALUE + z_ACS_PCT_BROADBAND + z_ACS_PCT_NO_PC +
  z_ACS_PCT_SMARTPHONE + z_phys_per_cap + z_mhp_per_cap + z_dents_per_cap +
  z_uninsur_perc + z_uc_percent + z_opcp_rate + z_TeenBirths +
  z_phs_rate + z_ms_perc_ann + z_AMFAR_AMATFAC + z_MP_PERCPEN +
  z_AHRF_RURAL_H_CLINIC + z_pphd_avgnum + z_pmhd_avgnum + z_lbw_percent_lbw +
  z_pi_phy_inact + z_cip_perc + z_csph_perc + z_ACS_PCT_CHILD_DISAB +
  z_unemp_perc + z_ACS_GINI_INDEX + z_ACS_MEDIAN_HH_INCOME +
  z_ACS_PCT_WORK_NO_CAR + z_soc_assoc_num + z_aeo_perc_w_acc +
  z_dwv_presence + z_ACS_PCT_HH_PUB_ASSIST + z_AHRF_TXC_SITE_NO_CNTRL,
  data = Z_and_Final_Variables_10.28.22)
summary(z_sc_levels_12345678)
```

Call:

```
lm(formula = z_sc_percent ~ z_ACS_PCT_BLACK + z_ACS_PCT_HISPAN +
  z_SVI_RPL_THEME1_SOCIECO + z_SVI_RPL_THEME2_HH_DISB + z_SVI_RPL_THEME3_MINO +
  z_SVI_RPL_THEME4_HH_TRANS + z_ACS_PCT_ENGL_NOT_WELL + z_ACS_PCT_NON_CITIZEN +
  z_ACS_MEDIAN_AGE + z_food_afford + z_fd_enviro_indx + z_fi_percent +
  z_ACS_PCT_FOOD_STAMP + z_childelig_lunch_perc + z_shp_percent +
  z_shcb_percent + z_ACS_PCT_NO_VEH + z_ACS_PCT_RENTER_HH_CHILD +
  z_ACS_PCT_RENT_COST_30PCT + z_ACS_PCT_MOBILE_HOME + z_ACS_PCT_OWNED_HH +
  z_ACS_PCT_OWNER_HH_CHILD + z_ACS_MEDIAN_HOME_VALUE + z_ACS_PCT_BROADBAND +
  z_ACS_PCT_NO_PC + z_ACS_PCT_SMARTPHONE + z_phys_per_cap +
  z_mhp_per_cap + z_dents_per_cap + z_uninsur_perc + z_uc_percent +
  z_opcp_rate + z_TeenBirths + z_phs_rate + z_ms_perc_ann +
  z_AMFAR_AMATFAC + z_MP_PERCPEN + z_AHRF_RURAL_H_CLINIC +
```

z_pphd_avgnum + z_pmhd_avgnum + z_lbw_percent_lbw + z_pi_phy_inact +
z_cip_perc + z_csph_perc + z_ACS_PCT_CHILD_DISAB + z_unemp_perc +
z_ACS_GINI_INDEX + z_ACS_MEDIAN_HH_INCOME + z_ACS_PCT_WORK_NO_CAR +
z_soc_assoc_num + z_aeo_perc_w_acc + z_dvw_presence + z_ACS_PCT_HH_PUB_ASSIST +
z_AHRF_TXC_SITE_NO_CNTRL, data = Z_and_Final_Variables_10.28.22)

Residuals:

Min	1Q	Median	3Q	Max
-2.93975	-0.29737	0.00421	0.30410	2.37554

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	-0.028527	0.011193	-2.549	0.010870 *
z_ACS_PCT_BLACK	-0.033258	0.023509	-1.415	0.157272
z_ACS_PCT_HISPAN	0.055009	0.021822	2.521	0.011771 *
z_SVI_RPL_THEME1_SOCIECO	-0.292260	0.031850	-9.176	< 0.0000000000000002 ***
z_SVI_RPL_THEME2_HH_DISB	0.103086	0.018510	5.569	0.00000002829795 ***
z_SVI_RPL_THEME3_MINO	-0.009385	0.021657	-0.433	0.664782
z_SVI_RPL_THEME4_HH_TRANS	-0.113070	0.017132	-6.600	0.00000000004988 ***
z_ACS_PCT_ENGL_NOT_WELL	-0.035731	0.033235	-1.075	0.282437
z_ACS_PCT_NON_CITIZEN	-0.110942	0.030814	-3.600	0.000324 ***
z_ACS_MEDIAN_AGE	-0.098847	0.025109	-3.937	0.00008481136035 ***
z_food_afford	0.016316	0.020713	0.788	0.430935
z_fd_enviro_indx	-0.080712	0.022079	-3.656	0.000262 ***
z_fi_percent	0.117635	0.031167	3.774	0.000164 ***
z_ACS_PCT_FOOD_STAMP	-0.010705	0.027008	-0.396	0.691869
z_childelig_lunch_perc	-0.007110	0.022987	-0.309	0.757094
z_shp_percent	-0.005608	0.025559	-0.219	0.826328
z_shcb_percent	0.057836	0.024763	2.336	0.019591 *
z_ACS_PCT_NO_VEH	0.043240	0.037969	1.139	0.254879
z_ACS_PCT_RENTER_HH_CHILD	-0.109777	0.015446	-7.107	0.00000000000153 ***
z_ACS_PCT_RENT_COST_30PCT	0.021260	0.016709	1.272	0.203374
z_ACS_PCT_MOBILE_HOME	-0.028567	0.017327	-1.649	0.099334 .
z_ACS_PCT_OWNED_HH	-0.095454	0.022345	-4.272	0.00002009288519 ***
z_ACS_PCT_OWNER_HH_CHILD	0.038796	0.022340	1.737	0.082579 .
z_ACS_MEDIAN_HOME_VALUE	0.006357	0.024799	0.256	0.797694
z_ACS_PCT_BROADBAND	-0.032550	0.031788	-1.024	0.305944
z_ACS_PCT_NO_PC	-0.212218	0.031699	-6.695	0.00000000002650 ***
z_ACS_PCT_SMARTPHONE	-0.092291	0.016687	-5.531	0.00000003514662 ***
z_phys_per_cap	0.037069	0.017656	2.100	0.035869 *
z_mhp_per_cap	0.040475	0.015811	2.560	0.010527 *
z_dents_per_cap	0.030155	0.017272	1.746	0.080951 .
z_uninsur_perc	-0.034841	0.029665	-1.174	0.240320

z_uc_percent	-0.160421	0.042452	-3.779	0.000161	***
z_opcp_rate	0.024151	0.014184	1.703	0.088756	.
z_TeenBirths	-0.055651	0.033234	-1.675	0.094151	.
z_phs_rate	0.009163	0.012935	0.708	0.478767	
z_ms_perc_ann	0.043874	0.014851	2.954	0.003163	**
z_AMFAR_AMATFAC	0.006309	0.014217	0.444	0.657270	
z_MP_PERCPEN	-0.026348	0.011759	-2.241	0.025139	*
z_AHRF_RURAL_H_CLINIC	-0.013410	0.010437	-1.285	0.198949	
z_pphd_avgnum	-0.013447	0.038477	-0.349	0.726764	
z_pmhd_avgnum	-0.151292	0.033458	-4.522	0.00000641054209	***
z_lbw_percent_lbw	0.036280	0.016829	2.156	0.031193	*
z_pi_phy_inact	-0.033893	0.015057	-2.251	0.024473	*
z_cip_perc	-0.061174	0.030340	-2.016	0.043879	*
z_csph_perc	-0.073978	0.020736	-3.568	0.000367	***
z_ACS_PCT_CHILD_DISAB	-0.002033	0.012307	-0.165	0.868786	
z_unemp_perc	-0.013811	0.016232	-0.851	0.394951	
z_ACS_GINI_INDEX	0.075269	0.015699	4.795	0.00000172434171	***
z_ACS_MEDIAN_HH_INCOME	0.062392	0.034214	1.824	0.068337	.
z_ACS_PCT_WORK_NO_CAR	-0.084914	0.031275	-2.715	0.006671	**
z_soc_assoc_num	0.103089	0.037027	2.784	0.005407	**
z_aeo_perc_w_acc	0.020289	0.015030	1.350	0.177163	
z_dwv_presence	-0.027017	0.010677	-2.530	0.011450	*
z_ACS_PCT_HH_PUB_ASSIST	-0.032037	0.014391	-2.226	0.026088	*
z_AHRF_TXC_SITE_NO_CNTRL	-0.000113	0.010075	-0.011	0.991049	

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.5055 on 2538 degrees of freedom

(548 observations deleted due to missingness)

Multiple R-squared: 0.7349, Adjusted R-squared: 0.7293

F-statistic: 130.3 on 54 and 2538 DF, p-value: < 0.00000000000000022

Final Education Model, Some College

Confidence Intervals

```
confint(z_sc_levels_12345678)
```

	2.5 %	97.5 %
(Intercept)	-0.050475153	-0.006579393

z_ACS_PCT_BLACK	-0.079355675	0.012839763
z_ACS_PCT_HISPAN	0.012217462	0.097800508
z_SVI_RPL_THEME1_SOCIECO	-0.354714623	-0.229804427
z_SVI_RPL_THEME2_HH_DISB	0.066788992	0.139382726
z_SVI_RPL_THEME3_MINO	-0.051851859	0.033081148
z_SVI_RPL_THEME4_HH_TRANS	-0.146663077	-0.079475837
z_ACS_PCT_ENGL_NOT_WELL	-0.100901206	0.029439934
z_ACS_PCT_NON_CITIZEN	-0.171364675	-0.050518498
z_ACS_MEDIAN_AGE	-0.148083028	-0.049611424
z_food_afford	-0.024300489	0.056933021
z_fd_enviro_indx	-0.124006983	-0.037417539
z_fi_percent	0.056519592	0.178750203
z_ACS_PCT_FOOD_STAMP	-0.063665447	0.042255238
z_childelig_lunch_perc	-0.052184872	0.037963864
z_shp_percent	-0.055726282	0.044509303
z_shcb_percent	0.009278126	0.106394950
z_ACS_PCT_NO_VEH	-0.031212811	0.117693356
z_ACS_PCT_RENTER_HH_CHILD	-0.140064600	-0.079490108
z_ACS_PCT_RENT_COST_30PCT	-0.011505562	0.054024753
z_ACS_PCT_MOBILE_HOME	-0.062543849	0.005409607
z_ACS_PCT_OWNED_HH	-0.139269698	-0.051638856
z_ACS_PCT_OWNER_HH_CHILD	-0.005010866	0.082602040
z_ACS_MEDIAN_HOME_VALUE	-0.042269979	0.054984615
z_ACS_PCT_BROADBAND	-0.094883071	0.029782862
z_ACS_PCT_NO_PC	-0.274376878	-0.150059353
z_ACS_PCT_SMARTPHONE	-0.125011759	-0.059569439
z_phys_per_cap	0.002447517	0.071689794
z_mhp_per_cap	0.009471114	0.071479919
z_dents_per_cap	-0.003713644	0.064024684
z_uninsur_perc	-0.093011041	0.023329813
z_uc_percent	-0.243664865	-0.077178210
z_opcp_rate	-0.003663079	0.051964472
z_TeenBirths	-0.120820103	0.009517366
z_phs_rate	-0.016201035	0.034526965
z_ms_perc_ann	0.014752796	0.072995767
z_AMFAR_AMATFAC	-0.021569488	0.034186718
z_MP_PERCPEN	-0.049406298	-0.003288926
z_AHRF_RURAL_H_CLINIC	-0.033876083	0.007055484
z_pphd_avgnum	-0.088897265	0.062003619
z_pmhd_avgnum	-0.216898711	-0.085684632
z_lbw_percent_lbw	0.003279994	0.069279984
z_pi_phy_inact	-0.063418999	-0.004367668
z_cip_perc	-0.120668802	-0.001679402

z_csph_perc	-0.114639926	-0.033316300
z_ACS_PCT_CHILD_DISAB	-0.026165315	0.022098776
z_unemp_perc	-0.045640551	0.018019164
z_ACS_GINI_INDEX	0.044485007	0.106051961
z_ACS_MEDIAN_HH_INCOME	-0.004699109	0.129482170
z_ACS_PCT_WORK_NO_CAR	-0.146242268	-0.023586429
z_soc_assoc_num	0.030482606	0.175695740
z_aeo_perc_w_acc	-0.009182817	0.049760337
z_dwv_presence	-0.047953662	-0.006081395
z_ACS_PCT_HH_PUB_ASSIST	-0.060255507	-0.003818019
z_AHRF_TXC_SITE_NO_CNTRL	-0.019869409	0.019643338

Final Education Model, Some College

VIF

```
vif(z_sc_levels_12345678)
```

z_ACS_PCT_BLACK	z_ACS_PCT_HISPAN	z_SVI_RPL_THEME1_SOCIECO
5.984693	5.116041	10.241988
z_SVI_RPL_THEME2_HH_DISB	z_SVI_RPL_THEME3_MINO	z_SVI_RPL_THEME4_HH_TRANS
3.454238	4.634665	2.830548
z_ACS_PCT_ENGL_NOT_WELL	z_ACS_PCT_NON_CITIZEN	z_ACS_MEDIAN_AGE
11.175520	9.096697	6.015478
z_food_afford	z_fd_enviro_indx	z_fi_percent
4.079734	4.392939	9.816684
z_ACS_PCT_FOOD_STAMP	z_childelig_lunch_perc	z_shp_percent
6.656686	4.074120	5.127465
z_shcb_percent	z_ACS_PCT_NO_VEH	z_ACS_PCT_RENTER_HH_CHILD
5.857526	9.502766	2.237009
z_ACS_PCT_RENT_COST_30PCT	z_ACS_PCT_MOBILE_HOME	z_ACS_PCT_OWNED_HH
2.370509	3.052488	4.534235
z_ACS_PCT_OWNER_HH_CHILD	z_ACS_MEDIAN_HOME_VALUE	z_ACS_PCT_BROADBAND
4.669415	6.015653	10.493166
z_ACS_PCT_NO_PC	z_ACS_PCT_SMARTPHONE	z_phys_per_cap
10.267259	2.845675	2.658822
z_mhp_per_cap	z_dents_per_cap	z_uninsur_perc
2.236844	2.630188	8.954414
z_uc_percent	z_opcp_rate	z_TeenBirths
6.819500	1.764710	12.073355

z_phs_rate	z_ms_perc_ann	z_AMFAR_AMATFAC
1.711294	2.180132	2.170016
z_MP_PERCPEN	z_AHRF_RURAL_H_CLINIC	z_pphd_avgnum
1.406493	1.184002	15.377550
z_pmhd_avgnum	z_lbw_percent_lbw	z_pi_phy_inact
11.437133	2.922845	2.453453
z_cip_perc	z_csph_perc	z_ACS_PCT_CHILD_DISAB
9.655712	4.150368	1.391167
z_unemp_perc	z_ACS_GINI_INDEX	z_ACS_MEDIAN_HH_INCOME
2.415039	2.322590	11.826439
z_ACS_PCT_WORK_NO_CAR	z_soc_assoc_num	z_aeo_perc_w_acc
5.668515	13.949884	2.105564
z_dwv_presence	z_ACS_PCT_HH_PUB_ASSIST	z_AHRF_TXC_SITE_NO_CNTRL
1.175208	1.528072	1.103666

Final Health Model

DV: Low Birth Weight

IVs: Demographics, Health 1, Health 2, Food/Housing, Technology, HWCC, Business, Government

```
z_lbw_levels_12345678 <- lm(formula = z_lbw_percent_lbw ~ z_ACS_PCT_BLACK +
  z_ACS_PCT_HISPAN + z_SVI_RPL_THEME1_SOCIECO + z_SVI_RPL_THEME2_HH_DISB +
  z_SVI_RPL_THEME3_MINO + z_SVI_RPL_THEME4_HH_TRANS + z_ACS_PCT_ENGL_NOT_WELL +
  z_ACS_PCT_NON_CITIZEN + z_ACS_MEDIAN_AGE + z_phys_per_cap +
  z_mhp_per_cap + z_dents_per_cap + z_uninsur_perc + z_uc_percent +
  z_opcp_rate + z_TeenBirths + z_phs_rate + z_ms_perc_ann +
  z_AMFAR_AMATFAC + z_MP_PERCPEN + z_AHRF_RURAL_H_CLINIC +
  z_food_afford + z_fd_enviro_indx + z_fi_percent + z_ACS_PCT_FOOD_STAMP +
  z_childelig_lunch_perc + z_shp_percent + z_shcb_percent +
  z_ACS_PCT_NO_VEH + z_ACS_PCT_RENTER_HH_CHILD + z_ACS_PCT_RENT_COST_30PCT +
  z_ACS_PCT_MOBILE_HOME + z_ACS_PCT_OWNED_HH + z_ACS_PCT_OWNER_HH_CHILD +
  z_ACS_MEDIAN_HOME_VALUE + z_ACS_PCT_BROADBAND + z_ACS_PCT_NO_PC +
  z_ACS_PCT_SMARTPHONE + z_pi_phy_inact + z_cip_perc + z_csph_perc +
  z_ACS_PCT_CHILD_DISAB + z_unemp_perc + z_ACS_GINI_INDEX +
  z_ACS_MEDIAN_HH_INCOME + z_ACS_PCT_WORK_NO_CAR + z_soc_assoc_num +
  z_aeo_perc_w_acc + z_dwv_presence + z_ACS_PCT_HH_PUB_ASSIST +
  z_AHRF_TXC_SITE_NO_CNTRL, data = Z_and_Final_Variables_10.28.22)
summary(z_lbw_levels_12345678)
```

Call:

```
lm(formula = z_lbw_percent_lbw ~ z_ACS_PCT_BLACK + z_ACS_PCT_HISPAN +
    z_SVI_RPL_THEME1_SOCIECO + z_SVI_RPL_THEME2_HH_DISB + z_SVI_RPL_THEME3_MINO +
    z_SVI_RPL_THEME4_HH_TRANS + z_ACS_PCT_ENGL_NOT_WELL + z_ACS_PCT_NON_CITIZEN +
    z_ACS_MEDIAN_AGE + z_phys_per_cap + z_mhp_per_cap + z_dents_per_cap +
    z_uninsur_perc + z_uc_percent + z_opcp_rate + z_TeenBirths +
    z_phs_rate + z_ms_perc_ann + z_AMFAR_AMATFAC + z_MP_PERCPEN +
    z_AHRF_RURAL_H_CLINIC + z_food_afford + z_fd_enviro_indx +
    z_fi_percent + z_ACS_PCT_FOOD_STAMP + z_childelig_lunch_perc +
    z_shp_percent + z_shcb_percent + z_ACS_PCT_NO_VEH + z_ACS_PCT_RENTER_HH_CHILD +
    z_ACS_PCT_RENT_COST_30PCT + z_ACS_PCT_MOBILE_HOME + z_ACS_PCT_OWNED_HH +
    z_ACS_PCT_OWNER_HH_CHILD + z_ACS_MEDIAN_HOME_VALUE + z_ACS_PCT_BROADBAND +
    z_ACS_PCT_NO_PC + z_ACS_PCT_SMARTPHONE + z_pi_phy_inact +
    z_cip_perc + z_csph_perc + z_ACS_PCT_CHILD_DISAB + z_unemp_perc +
    z_ACS_GINI_INDEX + z_ACS_MEDIAN_HH_INCOME + z_ACS_PCT_WORK_NO_CAR +
    z_soc_assoc_num + z_aeo_perc_w_acc + z_dvw_presence + z_ACS_PCT_HH_PUB_ASSIST +
    z_AHRF_TXC_SITE_NO_CNTRL, data = Z_and_Final_Variables_10.28.22)
```

Residuals:

Min	1Q	Median	3Q	Max
-2.1734	-0.3376	-0.0198	0.3006	5.7704

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)	
(Intercept)	-0.048694	0.013276	-3.668	0.000250	***
z_ACS_PCT_BLACK	0.524645	0.024692	21.248	< 0.0000000000000002	***
z_ACS_PCT_HISPAN	0.189184	0.025254	7.491	0.0000000000000936	***
z_SVI_RPL_THEME1_SOCIECO	0.215902	0.036089	5.983	0.0000000025065234	***
z_SVI_RPL_THEME2_HH_DISB	-0.070791	0.021899	-3.233	0.001242	**
z_SVI_RPL_THEME3_MINO	-0.025861	0.025632	-1.009	0.313109	
z_SVI_RPL_THEME4_HH_TRANS	-0.048658	0.020327	-2.394	0.016749	*
z_ACS_PCT_ENGL_NOT_WELL	-0.120313	0.039473	-3.048	0.002328	**
z_ACS_PCT_NON_CITIZEN	-0.100959	0.036602	-2.758	0.005852	**
z_ACS_MEDIAN_AGE	0.081734	0.029796	2.743	0.006129	**
z_phys_per_cap	0.027556	0.020974	1.314	0.189012	
z_mhp_per_cap	-0.018408	0.018783	-0.980	0.327181	
z_dents_per_cap	0.016371	0.020488	0.799	0.424334	
z_uninsur_perc	0.041650	0.035252	1.182	0.237515	
z_uc_percent	-0.170050	0.049649	-3.425	0.000624	***
z_opcp_rate	0.033681	0.016856	1.998	0.045806	*
z_TeenBirths	-0.080532	0.039257	-2.051	0.040327	*
z_phs_rate	0.033858	0.015279	2.216	0.026777	*

z_ms_perc_ann	-0.107398	0.017244	-6.228	0.0000000005508395	***
z_AMFAR_AMATFAC	-0.003680	0.016906	-0.218	0.827721	
z_MP_PERCPEN	-0.023882	0.013956	-1.711	0.087153	.
z_AHRF_RURAL_H_CLINIC	-0.034665	0.012391	-2.798	0.005185	**
z_food_afford	-0.002039	0.024615	-0.083	0.933985	
z_fd_enviro_indx	0.029154	0.026183	1.113	0.265616	
z_fi_percent	0.027577	0.036315	0.759	0.447688	
z_ACS_PCT_FOOD_STAMP	0.023437	0.032015	0.732	0.464212	
z_childelig_lunch_perc	0.062290	0.027200	2.290	0.022100	*
z_shp_percent	-0.144696	0.030275	-4.779	0.0000018582661953	***
z_shcb_percent	0.025056	0.029335	0.854	0.393107	
z_ACS_PCT_NO_VEH	0.007635	0.045168	0.169	0.865775	
z_ACS_PCT_RENTER_HH_CHILD	0.033353	0.018312	1.821	0.068664	.
z_ACS_PCT_RENT_COST_30PCT	0.001269	0.019715	0.064	0.948683	
z_ACS_PCT_MOBILE_HOME	0.061446	0.020561	2.988	0.002831	**
z_ACS_PCT_OWNED_HH	-0.027445	0.026465	-1.037	0.299828	
z_ACS_PCT_OWNER_HH_CHILD	0.029766	0.026522	1.122	0.261836	
z_ACS_MEDIAN_HOME_VALUE	0.102732	0.029236	3.514	0.000449	***
z_ACS_PCT_BROADBAND	0.073548	0.037775	1.947	0.051641	.
z_ACS_PCT_NO_PC	0.028853	0.037649	0.766	0.443531	
z_ACS_PCT_SMARTPHONE	0.016332	0.019822	0.824	0.410065	
z_pi_phy_inact	0.018463	0.017825	1.036	0.300391	
z_cip_perc	0.115792	0.035804	3.234	0.001236	**
z_csph_perc	0.021468	0.024500	0.876	0.380994	
z_ACS_PCT_CHILD_DISAB	0.009228	0.014563	0.634	0.526347	
z_unemp_perc	-0.052960	0.019274	-2.748	0.006043	**
z_ACS_GINI_INDEX	0.059845	0.018586	3.220	0.001299	**
z_ACS_MEDIAN_HH_INCOME	-0.059676	0.040553	-1.472	0.141261	
z_ACS_PCT_WORK_NO_CAR	-0.012469	0.037198	-0.335	0.737500	
z_soc_assoc_num	0.104186	0.043625	2.388	0.017004	*
z_aeo_perc_w_acc	0.061850	0.017813	3.472	0.000525	***
z_dwv_presence	0.003610	0.012552	0.288	0.773657	
z_ACS_PCT_HH_PUB_ASSIST	-0.052191	0.016908	-3.087	0.002046	**
z_AHRF_TXC_SITE_NO_CNTRL	0.001394	0.011978	0.116	0.907375	

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.6015 on 2541 degrees of freedom

(548 observations deleted due to missingness)

Multiple R-squared: 0.6514, Adjusted R-squared: 0.6444

F-statistic: 93.1 on 51 and 2541 DF, p-value: < 0.00000000000000022

Final Health Model, Low Birth Weight

Confidence Intervals

```
confint(z_lbw_levels_12345678)
```

	2.5 %	97.5 %
(Intercept)	-0.0747273099	-0.022661582
z_ACS_PCT_BLACK	0.4762267904	0.573063532
z_ACS_PCT_HISPAN	0.1396639013	0.238704972
z_SVI_RPL_THEME1_SOCIECO	0.1451353809	0.286668050
z_SVI_RPL_THEME2_HH_DISB	-0.1137331196	-0.027849004
z_SVI_RPL_THEME3_MINO	-0.0761236694	0.024401490
z_SVI_RPL_THEME4_HH_TRANS	-0.0885171246	-0.008798785
z_ACS_PCT_ENGL_NOT_WELL	-0.1977151878	-0.042910053
z_ACS_PCT_NON_CITIZEN	-0.1727306295	-0.029186405
z_ACS_MEDIAN_AGE	0.0233065545	0.140161934
z_phys_per_cap	-0.0135707331	0.068683631
z_mhp_per_cap	-0.0552397823	0.018424563
z_dents_per_cap	-0.0238034887	0.056545038
z_uninsur_perc	-0.0274754033	0.110776125
z_uc_percent	-0.2674059982	-0.072693345
z_opcp_rate	0.0006280163	0.066734935
z_TeenBirths	-0.1575101153	-0.003553966
z_phs_rate	0.0038983078	0.063818373
z_ms_perc_ann	-0.1412122067	-0.073584005
z_AMFAR_AMATFAC	-0.0368302400	0.029471180
z_MP_PERCPEN	-0.0512470660	0.003483692
z_AHRF_RURAL_H_CLINIC	-0.0589619341	-0.010368904
z_food_afford	-0.0503067361	0.046228520
z_fd_enviro_indx	-0.0221887881	0.080497017
z_fi_percent	-0.0436328277	0.098787730
z_ACS_PCT_FOOD_STAMP	-0.0393423863	0.086215507
z_childelig_lunch_perc	0.0089528322	0.115626714
z_shp_percent	-0.2040619162	-0.085330162
z_shcb_percent	-0.0324661784	0.082577779
z_ACS_PCT_NO_VEH	-0.0809337789	0.096204490
z_ACS_PCT_RENTER_HH_CHILD	-0.0025545321	0.069260700
z_ACS_PCT_RENT_COST_30PCT	-0.0373904150	0.039928441
z_ACS_PCT_MOBILE_HOME	0.0211276818	0.101763493
z_ACS_PCT_OWNED_HH	-0.0793398049	0.024450573

z_ACS_PCT_OWNER_HH_CHILD	-0.0222411698	0.081773615
z_ACS_MEDIAN_HOME_VALUE	0.0454039108	0.160060449
z_ACS_PCT_BROADBAND	-0.0005236999	0.147620504
z_ACS_PCT_NO_PC	-0.0449729985	0.102678581
z_ACS_PCT_SMARTPHONE	-0.0225377022	0.055201672
z_pi_phy_inact	-0.0164896982	0.053416086
z_cip_perc	0.0455838608	0.185999901
z_csph_perc	-0.0265751814	0.069510780
z_ACS_PCT_CHILD_DISAB	-0.0193278512	0.037783988
z_unemp_perc	-0.0907540124	-0.015165933
z_ACS_GINI_INDEX	0.0233990317	0.096290467
z_ACS_MEDIAN_HH_INCOME	-0.1391952689	0.019843440
z_ACS_PCT_WORK_NO_CAR	-0.0854106221	0.060472854
z_soc_assoc_num	0.0186410483	0.189731302
z_aeo_perc_w_acc	0.0269218466	0.096778855
z_dwv_presence	-0.0210023687	0.028222742
z_ACS_PCT_HH_PUB_ASSIST	-0.0853469931	-0.019035847
z_AHRF_TXC_SITE_NO_CNTRL	-0.0220944910	0.024882122

Final Health Model, Low Birth Weight

VIF

```
vif(z_lbwt_levels_12345678)
```

z_ACS_PCT_BLACK	z_ACS_PCT_HISPAN	z_SVI_RPL_THEME1_SOCIECO
4.663252	4.839213	9.287257
z_SVI_RPL_THEME2_HH_DISB	z_SVI_RPL_THEME3_MINO	z_SVI_RPL_THEME4_HH_TRANS
3.414800	4.585645	2.814485
z_ACS_PCT_ENGL_NOT_WELL	z_ACS_PCT_NON_CITIZEN	z_ACS_MEDIAN_AGE
11.134251	9.065149	5.983168
z_phys_per_cap	z_mhp_per_cap	z_dents_per_cap
2.650025	2.229612	2.613721
z_uninsur_perc	z_uc_percent	z_opcp_rate
8.930959	6.588213	1.760244
z_TeenBirths	z_phs_rate	z_ms_perc_ann
11.897866	1.686395	2.076047
z_AMFAR_AMATFAC	z_MP_PERCPEN	z_AHRF_RURAL_H_CLINIC
2.167244	1.399126	1.178607
z_food_afford	z_fd_enviro_indx	z_fi_percent

	4.069292	4.363467	9.413168
z_ACS_PCT_FOOD_STAMP		z_childelig_lunch_perc	z_shp_percent
	6.606481	4.029176	5.081339
z_shcb_percent		z_ACS_PCT_NO_VEH	z_ACS_PCT_RENTER_HH_CHILD
	5.805484	9.498064	2.220787
z_ACS_PCT_RENT_COST_30PCT		z_ACS_PCT_MOBILE_HOME	z_ACS_PCT_OWNED_HH
	2.330846	3.035794	4.492518
z_ACS_PCT_OWNER_HH_CHILD		z_ACS_MEDIAN_HOME_VALUE	z_ACS_PCT_BROADBAND
	4.648384	5.905352	10.465642
z_ACS_PCT_NO_PC		z_ACS_PCT_SMARTPHONE	z_pi_phy_inact
	10.229433	2.836191	2.428456
z_cip_perc		z_csph_perc	z_ACS_PCT_CHILD_DISAB
	9.497008	4.092217	1.375843
z_unemp_perc		z_ACS_GINI_INDEX	z_ACS_MEDIAN_HH_INCOME
	2.404844	2.299407	11.734414
z_ACS_PCT_WORK_NO_CAR		z_soc_assoc_num	z_aeo_perc_w_acc
	5.663575	13.677128	2.088850
z_dwv_presence		z_ACS_PCT_HH_PUB_ASSIST	z_AHRF_TXC_SITE_NO_CNTRL
	1.147152	1.489934	1.101824

Final Health Model

DV: Physically Unhealthy Days

IVs: Demographics, Health 1, Health 2, Food/Housing, Technology, HWCC, Business, Government

Note: z_pfh_percent was previously excluded from the final physically unhealthy days model

```
z_pphd_levels_12345678 <- lm(formula = z_pphd_avgnum ~ z_ACS_PCT_BLACK +
  z_ACS_PCT_HISPAN + z_SVI_RPL_THEME1_SOCIECO + z_SVI_RPL_THEME2_HH_DISB +
  z_SVI_RPL_THEME3_MINO + z_SVI_RPL_THEME4_HH_TRANS + z_ACS_PCT_ENGL_NOT_WELL +
  z_ACS_PCT_NON_CITIZEN + z_ACS_MEDIAN_AGE + z_phys_per_cap +
  z_mhp_per_cap + z_dents_per_cap + z_uninsur_perc + z_uc_percent +
  z_opcp_rate + z_TeenBirths + z_phs_rate + z_ms_perc_ann +
  z_AMFAR_AMATFAC + z_MP_PERCPEN + z_AHRF_RURAL_H_CLINIC +
  z_food_afford + z_fd_enviro_indx + z_fi_percent + z_ACS_PCT_FOOD_STAMP +
  z_childelig_lunch_perc + z_shp_percent + z_shcb_percent +
  z_ACS_PCT_NO_VEH + z_ACS_PCT_RENTER_HH_CHILD + z_ACS_PCT_RENT_COST_30PCT +
```

```

z_ACS_PCT_MOBILE_HOME + z_ACS_PCT_OWNED_HH + z_ACS_PCT_OWNER_HH_CHILD +
z_ACS_MEDIAN_HOME_VALUE + z_ACS_PCT_BROADBAND + z_ACS_PCT_NO_PC +
z_ACS_PCT_SMARTPHONE + z_pi_phy_inact + z_cip_perc + z_csph_perc +
z_ACS_PCT_CHILD_DISAB + z_unemp_perc + z_ACS_GINI_INDEX +
z_ACS_MEDIAN_HH_INCOME + z_ACS_PCT_WORK_NO_CAR + z_soc_assoc_num +
z_aeo_perc_w_acc + z_dvw_presence + z_ACS_PCT_HH_PUB_ASSIST +
z_AHRF_TXC_SITE_NO_CNTRL, data = Z_and_Final_Variables_10.28.22)
summary(z_pphd_levels_12345678)

```

Call:

```

lm(formula = z_pphd_avgnum ~ z_ACS_PCT_BLACK + z_ACS_PCT_HISPAN +
  z_SVI_RPL_THEME1_SOCIECO + z_SVI_RPL_THEME2_HH_DISB + z_SVI_RPL_THEME3_MINO +
  z_SVI_RPL_THEME4_HH_TRANS + z_ACS_PCT_ENGL_NOT_WELL + z_ACS_PCT_NON_CITIZEN +
  z_ACS_MEDIAN_AGE + z_phys_per_cap + z_mhp_per_cap + z_dents_per_cap +
  z_uninsur_perc + z_uc_percent + z_opcp_rate + z_TeenBirths +
  z_phs_rate + z_ms_perc_ann + z_AMFAR_AMATFAC + z_MP_PERCPEN +
  z_AHRF_RURAL_H_CLINIC + z_food_afford + z_fd_enviro_indx +
  z_fi_percent + z_ACS_PCT_FOOD_STAMP + z_childelig_lunch_perc +
  z_shp_percent + z_shcb_percent + z_ACS_PCT_NO_VEH + z_ACS_PCT_RENTER_HH_CHILD +
  z_ACS_PCT_RENT_COST_30PCT + z_ACS_PCT_MOBILE_HOME + z_ACS_PCT_OWNED_HH +
  z_ACS_PCT_OWNER_HH_CHILD + z_ACS_MEDIAN_HOME_VALUE + z_ACS_PCT_BROADBAND +
  z_ACS_PCT_NO_PC + z_ACS_PCT_SMARTPHONE + z_pi_phy_inact +
  z_cip_perc + z_csph_perc + z_ACS_PCT_CHILD_DISAB + z_unemp_perc +
  z_ACS_GINI_INDEX + z_ACS_MEDIAN_HH_INCOME + z_ACS_PCT_WORK_NO_CAR +
  z_soc_assoc_num + z_aeo_perc_w_acc + z_dvw_presence + z_ACS_PCT_HH_PUB_ASSIST +
  z_AHRF_TXC_SITE_NO_CNTRL, data = Z_and_Final_Variables_10.28.22)

```

Residuals:

	Min	1Q	Median	3Q	Max
	-1.93566	-0.32537	-0.00452	0.31120	1.61331

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	-0.019041	0.010048	-1.895	0.058196 .
z_ACS_PCT_BLACK	-0.252207	0.018941	-13.315	< 0.0000000000000002 ***
z_ACS_PCT_HISPAN	0.027363	0.019306	1.417	0.156510
z_SVI_RPL_THEME1_SOCIECO	0.414899	0.027695	14.981	< 0.0000000000000002 ***
z_SVI_RPL_THEME2_HH_DISB	-0.079699	0.016741	-4.761	0.00000203450029 ***
z_SVI_RPL_THEME3_MINO	-0.089862	0.019784	-4.542	0.00000582398126 ***
z_SVI_RPL_THEME4_HH_TRANS	-0.047280	0.015706	-3.010	0.002636 **

z_ACS_PCT_ENGL_NOT_WELL	-0.010211	0.030322	-0.337	0.736337
z_ACS_PCT_NON_CITIZEN	0.010800	0.028156	0.384	0.701339
z_ACS_MEDIAN_AGE	-0.043173	0.022479	-1.921	0.054890 .
z_phys_per_cap	-0.002804	0.015211	-0.184	0.853771
z_mhp_per_cap	0.011967	0.014556	0.822	0.411071
z_dents_per_cap	0.024385	0.015242	1.600	0.109750
z_uninsur_perc	0.039114	0.026883	1.455	0.145796
z_uc_percent	-0.348035	0.036945	-9.420	< 0.0000000000000002 ***
z_opcp_rate	0.007379	0.012662	0.583	0.560113
z_TeenBirths	-0.093131	0.030593	-3.044	0.002357 **
z_phs_rate	0.055513	0.011713	4.739	0.00000225899248 ***
z_ms_perc_ann	-0.115312	0.013193	-8.740	< 0.0000000000000002 ***
z_AMFAR_AMATFAC	-0.024342	0.013170	-1.848	0.064681 .
z_MP_PERCPEN	-0.028002	0.010847	-2.582	0.009890 **
z_AHRF_RURAL_H_CLINIC	0.010330	0.009641	1.071	0.284074
z_food_afford	0.031118	0.018538	1.679	0.093350 .
z_fd_enviro_indx	-0.021676	0.019386	-1.118	0.263626
z_fi_percent	0.300430	0.027346	10.986	< 0.0000000000000002 ***
z_ACS_PCT_FOOD_STAMP	0.100439	0.024561	4.089	0.00004458209892 ***
z_childelig_lunch_perc	-0.019336	0.020732	-0.933	0.351062
z_shp_percent	0.002859	0.023184	0.123	0.901851
z_shcb_percent	-0.093910	0.022473	-4.179	0.00003028352196 ***
z_ACS_PCT_NO_VEH	-0.009377	0.034098	-0.275	0.783346
z_ACS_PCT_RENTER_HH_CHILD	0.048419	0.013846	3.497	0.000479 ***
z_ACS_PCT_RENT_COST_30PCT	0.041279	0.014385	2.870	0.004144 **
z_ACS_PCT_MOBILE_HOME	-0.019032	0.015648	-1.216	0.223975
z_ACS_PCT_OWNED_HH	0.055316	0.019966	2.770	0.005638 **
z_ACS_PCT_OWNER_HH_CHILD	0.014718	0.020171	0.730	0.465660
z_ACS_MEDIAN_HOME_VALUE	0.091673	0.022509	4.073	0.00004785668125 ***
z_ACS_PCT_BROADBAND	0.048963	0.028710	1.705	0.088232 .
z_ACS_PCT_NO_PC	0.063807	0.028719	2.222	0.026384 *
z_ACS_PCT_SMARTPHONE	0.042062	0.015276	2.753	0.005938 **
z_pi_phy_inact	0.069198	0.013737	5.037	0.00000050426320 ***
z_cip_perc	0.026727	0.027069	0.987	0.323564
z_csph_perc	0.109025	0.018362	5.938	0.00000000328129 ***
z_ACS_PCT_CHILD_DISAB	0.031452	0.011181	2.813	0.004947 **
z_unemp_perc	0.021833	0.014924	1.463	0.143603
z_ACS_GINI_INDEX	0.050273	0.014031	3.583	0.000346 ***
z_ACS_MEDIAN_HH_INCOME	-0.109164	0.031105	-3.510	0.000457 ***
z_ACS_PCT_WORK_NO_CAR	0.041707	0.027852	1.497	0.134393
z_soc_assoc_num	0.117652	0.033985	3.462	0.000545 ***
z_aeo_perc_w_acc	-0.025798	0.013554	-1.903	0.057113 .
z_dwv_presence	0.023080	0.009749	2.367	0.017990 *

z_ACS_PCT_HH_PUB_ASSIST	-0.090405	0.013031	-6.938	0.000000000000501 ***
z_AHRF_TXC_SITE_NO_CNTRL	-0.003146	0.009348	-0.337	0.736489

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.4696 on 2585 degrees of freedom

(504 observations deleted due to missingness)

Multiple R-squared: 0.79, Adjusted R-squared: 0.7859

F-statistic: 190.7 on 51 and 2585 DF, p-value: < 0.00000000000000022

Final Health Model, Physically Unhealthy Days

Confidence Intervals

```
confint(z_pphd_levels_12345678)
```

	2.5 %	97.5 %
(Intercept)	-0.038743853	0.0006613713
z_ACS_PCT_BLACK	-0.289347650	-0.2150658719
z_ACS_PCT_HISPAN	-0.010493906	0.0652190738
z_SVI_RPL_THEME1_SOCIECO	0.360591070	0.4692059339
z_SVI_RPL_THEME2_HH_DISB	-0.112524768	-0.0468723329
z_SVI_RPL_THEME3_MINO	-0.128655795	-0.0510676396
z_SVI_RPL_THEME4_HH_TRANS	-0.078078214	-0.0164812918
z_ACS_PCT_ENGL_NOT_WELL	-0.069669201	0.0492475440
z_ACS_PCT_NON_CITIZEN	-0.044411948	0.0660110991
z_ACS_MEDIAN_AGE	-0.087250684	0.0009051744
z_phys_per_cap	-0.032630916	0.0270232657
z_mhp_per_cap	-0.016575189	0.0405089924
z_dents_per_cap	-0.005502650	0.0542736441
z_uninsur_perc	-0.013599957	0.0918276129
z_uc_percent	-0.420479245	-0.2755913081
z_opcp_rate	-0.017449610	0.0322068789
z_TeenBirths	-0.153120954	-0.0331420419
z_phs_rate	0.032545519	0.0784811750
z_ms_perc_ann	-0.141182091	-0.0894425681
z_AMFAR_AMATFAC	-0.050167671	0.0014834992
z_MP_PERCPEN	-0.049270828	-0.0067324567
z_AHRF_RURAL_H_CLINIC	-0.008575608	0.0292360650
z_food_afford	-0.005232738	0.0674678088

z_fd_enviro_indx	-0.059690792	0.0163384835
z_fi_percent	0.246806892	0.3540522572
z_ACS_PCT_FOOD_STAMP	0.052277148	0.1485998763
z_childelig_lunch_perc	-0.059988930	0.0213159702
z_shp_percent	-0.042601334	0.0483201121
z_shcb_percent	-0.137976842	-0.0498425855
z_ACS_PCT_NO_VEH	-0.076238780	0.0574855735
z_ACS_PCT_RENTER_HH_CHILD	0.021268412	0.0755699388
z_ACS_PCT_RENT_COST_30PCT	0.013071487	0.0694856548
z_ACS_PCT_MOBILE_HOME	-0.049715407	0.0116506215
z_ACS_PCT_OWNED_HH	0.016164026	0.0944677119
z_ACS_PCT_OWNER_HH_CHILD	-0.024834560	0.0542704013
z_ACS_MEDIAN_HOME_VALUE	0.047535680	0.1358096410
z_ACS_PCT_BROADBAND	-0.007333648	0.1052590354
z_ACS_PCT_NO_PC	0.007493052	0.1201215686
z_ACS_PCT_SMARTPHONE	0.012107295	0.0720166341
z_pi_phy_inact	0.042261912	0.0961337477
z_cip_perc	-0.026352615	0.0798057173
z_csph_perc	0.073019160	0.1450304415
z_ACS_PCT_CHILD_DISAB	0.009526332	0.0533770784
z_unemp_perc	-0.007431128	0.0510970891
z_ACS_GINI_INDEX	0.022759358	0.0777872185
z_ACS_MEDIAN_HH_INCOME	-0.170157627	-0.0481706097
z_ACS_PCT_WORK_NO_CAR	-0.012906785	0.0963209493
z_soc_assoc_num	0.051011812	0.1842912202
z_aeo_perc_w_acc	-0.052376373	0.0007805739
z_dwv_presence	0.003962601	0.0421970748
z_ACS_PCT_HH_PUB_ASSIST	-0.115956960	-0.0648535453
z_AHRF_TXC_SITE_NO_CNTRL	-0.021477177	0.0151849351

Final Health Model, Physically Unhealthy Days

VIF

```
vif(z_pphd_levels_12345678)
```

z_ACS_PCT_BLACK	z_ACS_PCT_HISPAN	z_SVI_RPL_THEME1_SOCIECO
4.529229	4.726446	9.171810
z_SVI_RPL_THEME2_HH_DISB	z_SVI_RPL_THEME3_MINO	z_SVI_RPL_THEME4_HH_TRANS
3.342324	4.615735	2.838081

z_ACS_PCT_ENGL_NOT_WELL	z_ACS_PCT_NON_CITIZEN	z_ACS_MEDIAN_AGE
10.899941	8.857321	5.891301
z_phys_per_cap	z_mhp_per_cap	z_dents_per_cap
2.454924	2.207193	2.487009
z_uninsur_perc	z_uc_percent	z_opcp_rate
8.817804	6.618692	1.700850
z_TeenBirths	z_phs_rate	z_ms_perc_ann
11.875686	1.669183	2.055610
z_AMFAR_AMATFAC	z_MP_PERCPEN	z_AHRF_RURAL_H_CLINIC
2.159504	1.409142	1.176095
z_food_afford	z_fd_enviro_indx	z_fi_percent
3.865361	4.086159	8.926335
z_ACS_PCT_FOOD_STAMP	z_childelig_lunch_perc	z_shp_percent
6.576455	3.949665	5.076091
z_shcb_percent	z_ACS_PCT_NO_VEH	z_ACS_PCT_RENTER_HH_CHILD
5.782730	9.020581	2.170695
z_ACS_PCT_RENT_COST_30PCT	z_ACS_PCT_MOBILE_HOME	z_ACS_PCT_OWNED_HH
2.231458	2.942657	4.282905
z_ACS_PCT_OWNER_HH_CHILD	z_ACS_MEDIAN_HOME_VALUE	z_ACS_PCT_BROADBAND
4.587054	5.801900	10.136963
z_ACS_PCT_NO_PC	z_ACS_PCT_SMARTPHONE	z_pi_phy_inact
9.950410	2.819536	2.386377
z_cip_perc	z_csph_perc	z_ACS_PCT_CHILD_DISAB
9.049575	3.929775	1.387881
z_unemp_perc	z_ACS_GINI_INDEX	z_ACS_MEDIAN_HH_INCOME
2.398661	2.238907	11.451117
z_ACS_PCT_WORK_NO_CAR	z_soc_assoc_num	z_aeo_perc_w_acc
5.307013	13.657631	2.077177
z_dwv_presence	z_ACS_PCT_HH_PUB_ASSIST	z_AHRF_TXC_SITE_NO_CNTRL
1.150918	1.494101	1.101568

Final Health Model

DV: Mentally Unhealthy Days

IVs: Demographics, Health 1, Health 2, Food/Housing, Technology, HWCC, Business, Government

Note: `z_pfh_percent` was previously excluded from the final mentally unhealthy days model

```
z_pmhd_levels_12345678 <- lm(formula = z_pmhd_avgnum ~ z_ACS_PCT_BLACK +
  z_ACS_PCT_HISPAN + z_SVI_RPL_THEME1_SOCIECO + z_SVI_RPL_THEME2_HH_DISB +
  z_SVI_RPL_THEME3_MINO + z_SVI_RPL_THEME4_HH_TRANS + z_ACS_PCT_ENGL_NOT_WELL +
  z_ACS_PCT_NON_CITIZEN + z_ACS_MEDIAN_AGE + z_phys_per_cap +
  z_mhp_per_cap + z_dents_per_cap + z_uninsur_perc + z_uc_percent +
  z_opcp_rate + z_TeenBirths + z_phs_rate + z_ms_perc_ann +
  z_AMFAR_AMATFAC + z_MP_PERCPEN + z_AHRF_RURAL_H_CLINIC +
  z_food_afford + z_fd_enviro_indx + z_fi_percent + z_ACS_PCT_FOOD_STAMP +
  z_childelig_lunch_perc + z_shp_percent + z_shcb_percent +
  z_ACS_PCT_NO_VEH + z_ACS_PCT_RENTER_HH_CHILD + z_ACS_PCT_RENT_COST_30PCT +
  z_ACS_PCT_MOBILE_HOME + z_ACS_PCT_OWNED_HH + z_ACS_PCT_OWNER_HH_CHILD +
  z_ACS_MEDIAN_HOME_VALUE + z_ACS_PCT_BROADBAND + z_ACS_PCT_NO_PC +
  z_ACS_PCT_SMARTPHONE + z_pi_phy_inact + z_cip_perc + z_csph_perc +
  z_ACS_PCT_CHILD_DISAB + z_unemp_perc + z_ACS_GINI_INDEX +
  z_ACS_MEDIAN_HH_INCOME + z_ACS_PCT_WORK_NO_CAR + z_soc_assoc_num +
  z_aeo_perc_w_acc + z_dwv_presence + z_ACS_PCT_HH_PUB_ASSIST +
  z_AHRF_TXC_SITE_NO_CNTRL, data = Z_and_Final_Variables_10.28.22)
summary(z_pmhd_levels_12345678)
```

Call:

```
lm(formula = z_pmhd_avgnum ~ z_ACS_PCT_BLACK + z_ACS_PCT_HISPAN +
  z_SVI_RPL_THEME1_SOCIECO + z_SVI_RPL_THEME2_HH_DISB + z_SVI_RPL_THEME3_MINO +
  z_SVI_RPL_THEME4_HH_TRANS + z_ACS_PCT_ENGL_NOT_WELL + z_ACS_PCT_NON_CITIZEN +
  z_ACS_MEDIAN_AGE + z_phys_per_cap + z_mhp_per_cap + z_dents_per_cap +
  z_uninsur_perc + z_uc_percent + z_opcp_rate + z_TeenBirths +
  z_phs_rate + z_ms_perc_ann + z_AMFAR_AMATFAC + z_MP_PERCPEN +
  z_AHRF_RURAL_H_CLINIC + z_food_afford + z_fd_enviro_indx +
  z_fi_percent + z_ACS_PCT_FOOD_STAMP + z_childelig_lunch_perc +
  z_shp_percent + z_shcb_percent + z_ACS_PCT_NO_VEH + z_ACS_PCT_RENTER_HH_CHILD +
  z_ACS_PCT_RENT_COST_30PCT + z_ACS_PCT_MOBILE_HOME + z_ACS_PCT_OWNED_HH +
```

z_ACS_PCT_OWNER_HH_CHILD + z_ACS_MEDIAN_HOME_VALUE + z_ACS_PCT_BROADBAND +
z_ACS_PCT_NO_PC + z_ACS_PCT_SMARTPHONE + z_pi_phy_inact +
z_cip_perc + z_csph_perc + z_ACS_PCT_CHILD_DISAB + z_unemp_perc +
z_ACS_GINI_INDEX + z_ACS_MEDIAN_HH_INCOME + z_ACS_PCT_WORK_NO_CAR +
z_soc_assoc_num + z_aeo_perc_w_acc + z_dwv_presence + z_ACS_PCT_HH_PUB_ASSIST +
z_AHRF_TXC_SITE_NO_CNTRL, data = Z_and_Final_Variables_10.28.22)

Residuals:

Min	1Q	Median	3Q	Max
-2.23380	-0.36879	0.01596	0.35327	2.15973

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	-0.0184687	0.0115845	-1.594	0.111001
z_ACS_PCT_BLACK	-0.2772987	0.0218377	-12.698	< 0.00000000000000002
z_ACS_PCT_HISPAN	-0.0864820	0.0222585	-3.885	0.000105
z_SVI_RPL_THEME1_SOCIECO	0.4924509	0.0319311	15.422	< 0.00000000000000002
z_SVI_RPL_THEME2_HH_DISB	-0.0761964	0.0193008	-3.948	0.0000809661729286
z_SVI_RPL_THEME3_MINO	-0.0483390	0.0228097	-2.119	0.034166
z_SVI_RPL_THEME4_HH_TRANS	-0.0616293	0.0181086	-3.403	0.000676
z_ACS_PCT_ENGL_NOT_WELL	-0.0175062	0.0349597	-0.501	0.616586
z_ACS_PCT_NON_CITIZEN	-0.0107645	0.0324627	-0.332	0.740220
z_ACS_MEDIAN_AGE	-0.0296551	0.0259165	-1.144	0.252623
z_phys_per_cap	0.0188246	0.0175374	1.073	0.283193
z_mhp_per_cap	0.0365979	0.0167819	2.181	0.029288
z_dents_per_cap	-0.0098478	0.0175733	-0.560	0.575267
z_uninsur_perc	0.0058381	0.0309941	0.188	0.850607
z_uc_percent	-0.3300625	0.0425948	-7.749	0.0000000000000132
z_opcp_rate	-0.0020289	0.0145982	-0.139	0.889477
z_TeenBirths	-0.1882578	0.0352720	-5.337	0.0000001025264787
z_phs_rate	0.0261710	0.0135044	1.938	0.052737
z_ms_perc_ann	-0.1545506	0.0152106	-10.161	< 0.00000000000000002
z_AMFAR_AMATFAC	-0.0221356	0.0151847	-1.458	0.145028
z_MP_PERCPEN	-0.0408478	0.0125056	-3.266	0.001104
z_AHRF_RURAL_H_CLINIC	0.0015444	0.0111161	0.139	0.889510
z_food_afford	0.0028865	0.0213729	0.135	0.892580
z_fd_enviro_indx	0.0231060	0.0223514	1.034	0.301347
z_fi_percent	0.2874539	0.0315285	9.117	< 0.00000000000000002
z_ACS_PCT_FOOD_STAMP	0.0784956	0.0283174	2.772	0.005611
z_childelig_lunch_perc	0.0446255	0.0239024	1.867	0.062016
z_shp_percent	-0.0003403	0.0267295	-0.013	0.989844
z_shcb_percent	-0.0631787	0.0259101	-2.438	0.014820
z_ACS_PCT_NO_VEH	0.0221794	0.0393129	0.564	0.572684

z_ACS_PCT_RENTER_HH_CHILD	0.0652621	0.0159638	4.088	0.0000448144498579
z_ACS_PCT_RENT_COST_30PCT	0.0912382	0.0165849	5.501	0.0000000414053286
z_ACS_PCT_MOBILE_HOME	-0.0298886	0.0180407	-1.657	0.097695
z_ACS_PCT_OWNED_HH	0.1007706	0.0230201	4.378	0.0000124812934878
z_ACS_PCT_OWNER_HH_CHILD	-0.0246722	0.0232557	-1.061	0.288829
z_ACS_MEDIAN_HOME_VALUE	0.0254936	0.0259512	0.982	0.326011
z_ACS_PCT_BROADBAND	0.0712055	0.0331005	2.151	0.031554
z_ACS_PCT_NO_PC	0.0171438	0.0331111	0.518	0.604666
z_ACS_PCT_SMARTPHONE	0.0488184	0.0176124	2.772	0.005614
z_pi_phy_inact	0.0765973	0.0158375	4.836	0.0000013993622739
z_cip_perc	-0.0671040	0.0312089	-2.150	0.031636
z_csph_perc	0.1385844	0.0211702	6.546	0.0000000000709288
z_ACS_PCT_CHILD_DISAB	0.0594626	0.0128914	4.613	0.0000041710815168
z_unemp_perc	0.0221024	0.0172064	1.285	0.199066
z_ACS_GINI_INDEX	0.0634769	0.0161774	3.924	0.0000894320071040
z_ACS_MEDIAN_HH_INCOME	-0.0540323	0.0358623	-1.507	0.132020
z_ACS_PCT_WORK_NO_CAR	0.0459641	0.0321113	1.431	0.152436
z_soc_assoc_num	0.2420900	0.0391821	6.179	0.0000000007490725
z_aeo_perc_w_acc	-0.0046546	0.0156273	-0.298	0.765843
z_dwv_presence	0.0692059	0.0112404	6.157	0.0000000008573682
z_ACS_PCT_HH_PUB_ASSIST	-0.1162973	0.0150236	-7.741	0.0000000000000140
z_AHRF_TXC_SITE_NO_CNTRL	-0.0149920	0.0107781	-1.391	0.164354

(Intercept)

z_ACS_PCT_BLACK	***
z_ACS_PCT_HISPAN	***
z_SVI_RPL_THEME1_SOCIECO	***
z_SVI_RPL_THEME2_HH_DISB	***
z_SVI_RPL_THEME3_MINO	*
z_SVI_RPL_THEME4_HH_TRANS	***
z_ACS_PCT_ENGL_NOT_WELL	
z_ACS_PCT_NON_CITIZEN	
z_ACS_MEDIAN_AGE	
z_phys_per_cap	
z_mhp_per_cap	*
z_dents_per_cap	
z_uninsur_perc	
z_uc_percent	***
z_opcp_rate	
z_TeenBirths	***
z_phs_rate	.
z_ms_perc_ann	***
z_AMFAR_AMATFAC	

z_MP_PERCPEN	**
z_AHRF_RURAL_H_CLINIC	
z_food_afford	
z_fd_enviro_indx	
z_fi_percent	***
z_ACS_PCT_FOOD_STAMP	**
z_childelig_lunch_perc	.
z_shp_percent	
z_shcb_percent	*
z_ACS_PCT_NO_VEH	
z_ACS_PCT_RENTER_HH_CHILD	***
z_ACS_PCT_RENT_COST_30PCT	***
z_ACS_PCT_MOBILE_HOME	.
z_ACS_PCT_OWNED_HH	***
z_ACS_PCT_OWNER_HH_CHILD	
z_ACS_MEDIAN_HOME_VALUE	
z_ACS_PCT_BROADBAND	*
z_ACS_PCT_NO_PC	
z_ACS_PCT_SMARTPHONE	**
z_pi_phy_inact	***
z_cip_perc	*
z_csph_perc	***
z_ACS_PCT_CHILD_DISAB	***
z_unemp_perc	
z_ACS_GINI_INDEX	***
z_ACS_MEDIAN_HH_INCOME	
z_ACS_PCT_WORK_NO_CAR	
z_soc_assoc_num	***
z_aeo_perc_w_acc	
z_dwv_presence	***
z_ACS_PCT_HH_PUB_ASSIST	***
z_AHRF_TXC_SITE_NO_CNTRL	

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.5414 on 2585 degrees of freedom

(504 observations deleted due to missingness)

Multiple R-squared: 0.7187, Adjusted R-squared: 0.7131

F-statistic: 129.5 on 51 and 2585 DF, p-value: < 0.000000000000000022

Final Health Model, Mentally Unhealthy Days

Confidence Intervals

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confint(z_pmhd_levels_12345678)
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	2.5 %	97.5 %
(Intercept)	-0.041184601	0.004247210
z_ACS_PCT_BLACK	-0.320119895	-0.234477552
z_ACS_PCT_HISPAN	-0.130128244	-0.042835814
z_SVI_RPL_THEME1_SOCIECO	0.429837790	0.555064079
z_SVI_RPL_THEME2_HH_DISB	-0.114043032	-0.038349793
z_SVI_RPL_THEME3_MINO	-0.093066220	-0.003611826
z_SVI_RPL_THEME4_HH_TRANS	-0.097138001	-0.026120521
z_ACS_PCT_ENGL_NOT_WELL	-0.086058100	0.051045627
z_ACS_PCT_NON_CITIZEN	-0.074420052	0.052890961
z_ACS_MEDIAN_AGE	-0.080474264	0.021164044
z_phys_per_cap	-0.015564198	0.053213422
z_mhp_per_cap	0.003690646	0.069505213
z_dents_per_cap	-0.044306980	0.024611427
z_uninsur_perc	-0.054937630	0.066613904
z_uc_percent	-0.413585972	-0.246539051
z_opcp_rate	-0.030654301	0.026596591
z_TeenBirths	-0.257421939	-0.119093598
z_phs_rate	-0.000309540	0.052651459
z_ms_perc_ann	-0.184376878	-0.124724375
z_AMFAR_AMATFAC	-0.051910908	0.007639730
z_MP_PERCPEN	-0.065369878	-0.016325740
z_AHRF_RURAL_H_CLINIC	-0.020252833	0.023341712
z_food_afford	-0.039023164	0.044796116
z_fd_enviro_indx	-0.020722590	0.066934510
z_fi_percent	0.225630255	0.349277595
z_ACS_PCT_FOOD_STAMP	0.022968495	0.134022704
z_childelig_lunch_perc	-0.002244292	0.091495280
z_shp_percent	-0.052753702	0.052073159
z_shcb_percent	-0.113985450	-0.012372048
z_ACS_PCT_NO_VEH	-0.054908611	0.099267382
z_ACS_PCT_RENTER_HH_CHILD	0.033958903	0.096565240
z_ACS_PCT_RENT_COST_30PCT	0.058717172	0.123759255
z_ACS_PCT_MOBILE_HOME	-0.065264231	0.005487043
z_ACS_PCT_OWNED_HH	0.055630967	0.145910323

z_ACS_PCT_OWNER_HH_CHILD	-0.070273792	0.020929385
z_ACS_MEDIAN_HOME_VALUE	-0.025393629	0.076380844
z_ACS_PCT_BROADBAND	0.006299312	0.136111783
z_ACS_PCT_NO_PC	-0.047783129	0.082070656
z_ACS_PCT_SMARTPHONE	0.014282454	0.083354254
z_pi_phy_inact	0.045541790	0.107652718
z_cip_perc	-0.128301036	-0.005906978
z_csph_perc	0.097072140	0.180096739
z_ACS_PCT_CHILD_DISAB	0.034184024	0.084741250
z_unemp_perc	-0.011637304	0.055842147
z_ACS_GINI_INDEX	0.031754979	0.095198734
z_ACS_MEDIAN_HH_INCOME	-0.124354054	0.016289509
z_ACS_PCT_WORK_NO_CAR	-0.017002311	0.108930581
z_soc_assoc_num	0.165258493	0.318921492
z_aeo_perc_w_acc	-0.035297930	0.025988776
z_dwv_presence	0.047164851	0.091246858
z_ACS_PCT_HH_PUB_ASSIST	-0.145756806	-0.086837697
z_AHRF_TXC_SITE_NO_CNTRL	-0.036126605	0.006142567

Final Health Model, Mentally Unhealthy Days

VIF

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vif(z_pmhd_levels_12345678)
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z_ACS_PCT_BLACK	4.529229	z_ACS_PCT_HISPAN	4.726446	z_SVI_RPL_THEME1_SOCIECO	9.171810
z_SVI_RPL_THEME2_HH_DISB	3.342324	z_SVI_RPL_THEME3_MINO	4.615735	z_SVI_RPL_THEME4_HH_TRANS	2.838081
z_ACS_PCT_ENGL_NOT_WELL	10.899941	z_ACS_PCT_NON_CITIZEN	8.857321	z_ACS_MEDIAN_AGE	5.891301
z_phys_per_cap	2.454924	z_mhp_per_cap	2.207193	z_dents_per_cap	2.487009
z_uninsur_perc	8.817804	z_uc_percent	6.618692	z_opcp_rate	1.700850
z_TeenBirths	11.875686	z_phs_rate	1.669183	z_ms_perc_ann	2.055610
z_AMFAR_AMATFAC	2.159504	z_MP_PERCPEN	1.409142	z_AHRF_RURAL_H_CLINIC	1.176095
z_food_afford		z_fd_enviro_indx		z_fi_percent	

3.865361	4.086159	8.926335
z_ACS_PCT_FOOD_STAMP	z_childelig_lunch_perc	z_shp_percent
6.576455	3.949665	5.076091
z_shcb_percent	z_ACS_PCT_NO_VEH	z_ACS_PCT_RENTER_HH_CHILD
5.782730	9.020581	2.170695
z_ACS_PCT_RENT_COST_30PCT	z_ACS_PCT_MOBILE_HOME	z_ACS_PCT_OWNED_HH
2.231458	2.942657	4.282905
z_ACS_PCT_OWNER_HH_CHILD	z_ACS_MEDIAN_HOME_VALUE	z_ACS_PCT_BROADBAND
4.587054	5.801900	10.136963
z_ACS_PCT_NO_PC	z_ACS_PCT_SMARTPHONE	z_pi_phy_inact
9.950410	2.819536	2.386377
z_cip_perc	z_csph_perc	z_ACS_PCT_CHILD_DISAB
9.049575	3.929775	1.387881
z_unemp_perc	z_ACS_GINI_INDEX	z_ACS_MEDIAN_HH_INCOME
2.398661	2.238907	11.451117
z_ACS_PCT_WORK_NO_CAR	z_soc_assoc_num	z_aeo_perc_w_acc
5.307013	13.657631	2.077177
z_dwv_presence	z_ACS_PCT_HH_PUB_ASSIST	z_AHRF_TXC_SITE_NO_CNTRL
1.150918	1.494101	1.101568