```
. 
. ************************************************************COGN VS. NODDI MEASURES************************
. 
. use finaldata_unimputedFINAL,clear

. 
. 
. lowess zISOVF_mean  POORCOGN if sample_final==1 & zISOVF_mean<5 & zISOVF_mean>-5

. graph save ISOVF_COGN.gph, replace
file ISOVF_COGN.gph saved

. 
. lowess zICVF_mean  POORCOGN if sample_final==1 & zICVF_mean<5 & zICVF_mean>-5

. graph save ICVF_COGN.gph,replace
file ICVF_COGN.gph saved

. 
. 
. lowess zOD_mean  POORCOGN if sample_final==1 & zOD_mean<5 & zOD_mean>-5

. graph save OD_COGN.gph,replace
file OD_COGN.gph saved

. 
. graph matrix zISOVF_mean zICVF_mean zOD_mean if sample_final==1 & zISOVF_mean<5 & zISOVF_mean>-5 & zICVF_mean<5

. graph save NODDI_SCATTER.gph,replace
file NODDI_SCATTER.gph saved

. 
. 
. graph combine "ISOVF_COGN.gph" "ICVF_COGN.gph" "OD_COGN.gph" "NODDI_SCATTER.gph"

. graph save NODDI_COGN.gph,replace
file NODDI_COGN.gph saved

. 
. pwcorr zISOVF_mean zICVF_mean zOD_mean POORCOGN if sample_final==1 & zISOVF_mean<5 & zISOVF_mean>-5 & zICVF_mea
```

	zISOVF~n	zICVF_~n	zOD_mean	POORCOGN
zISOVF_mean	**1.0000**			
zICVF_mean	**-0.2158** **0.0000**	**1.0000**		
zOD_mean	**0.2955** **0.0000**	**-0.0942** **0.0000**	**1.0000**	
POORCOGN	**0.1291** **0.0000**	**-0.1135** **0.0000**	**0.1009** **0.0000**	**1.0000**

```
25 .
26 . su zISOVF_mean zICVF_mean zOD_mean if sample_final==1 & zISOVF_mean<5 & zISOVF_mean>-5 & zICVF_mean<5 & zICVF_m
```

Variable	Obs	Mean	Std. dev.	Min	Max
zISOVF_mean	38,716	-.0069687	.9793151	-3.57592	4.972591
zICVF_mean	38,716	-.0015772	.952794	-4.921672	4.528325
zOD_mean	38,716	-.0130507	.9212545	-2.676899	4.998987

```
27 .
28 . *********BIVARIATE MODEL********
29 .
30 . reg zISOVF_mean POORCOGN  if  sample_final==1 & zISOVF_mean<5 & zISOVF_mean>-5
```

Source	SS	df	MS		
				Number of obs	= 36,223
				F(1, 36221)	= 623.05
Model	594.303863	1	594.303863	Prob > F	= 0.0000
Residual	34549.7404	36,221	.953859374	R-squared	= 0.0169
				Adj R-squared	= 0.0169
Total	35144.0442	36,222	.970240303	Root MSE	= .97666

zISOVF_mean	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
POORCOGN	.1052752	.0042176	24.96	0.000	.0970086	.1135418
_cons	.0301693	.0052834	5.71	0.000	.0198136	.040525

```
31 .
32 . reg zICVF_mean POORCOGN if  sample_final==1 &  zICVF_mean<5 & zICVF_mean>-5
```

Source	SS	df	MS		
				Number of obs	= 36,231
				F(1, 36229)	= 485.22
Model	439.054481	1	439.054481	Prob > F	= 0.0000
Residual	32781.9931	36,229	.904855035	R-squared	= 0.0132
				Adj R-squared	= 0.0132
Total	33221.0476	36,230	.916948594	Root MSE	= .95124

zICVF_mean	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
POORCOGN	-.0904638	.0041068	-22.03	0.000	-.0985133	-.0824143
_cons	-.0333517	.0051447	-6.48	0.000	-.0434355	-.023268

```
33 .
34 . reg zOD_mean POORCOGN  if  sample_final==1 & zOD_mean<5 & zOD_mean>-5
```

Source	SS	df	MS		
				Number of obs	= 36,203
				F(1, 36201)	= 381.57
Model	323.107832	1	323.107832	Prob > F	= 0.0000
Residual	30654.2373	36,201	.846778742	R-squared	= 0.0104
				Adj R-squared	= 0.0104
Total	30977.3451	36,202	.85568049	Root MSE	= .92021

zOD_mean	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
POORCOGN	.0776395	.0039746	19.53	0.000	.0698492	.0854298
_cons	.0150728	.0049795	3.03	0.002	.0053129	.0248326

```
. 
. 
. ********FULL MODEL*************
. 
. reg zISOVF_mean POORCOGN AGE SEX  NonWhite householdsize TIME_V0V2 LE8_TOTALSCORE AD_PGS invmillsMRIINF  if  sa
> D_mean>-5
```

Source	SS	df	MS	Number of obs	=	36,090
				F(9, 36080)	=	1019.25
Model	7037.12988	9	781.90332	Prob > F	=	0.0000
Residual	27678.2575	36,080	.76713574	R-squared	=	0.2027
				Adj R-squared	=	0.2025
Total	34715.3874	36,089	.961938191	Root MSE	=	.87586

zISOVF_mean	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
POORCOGN	.0153747	.0039497	3.89	0.000	.0076332	.0231161
AGE	.0539295	.0006892	78.25	0.000	.0525787	.0552803
SEX	-.1098836	.0094194	-11.67	0.000	-.1283458	-.0914213
NonWhite	.0367182	.0603458	0.61	0.543	-.0815613	.1549977
householdsize	-.0167633	.0040586	-4.13	0.000	-.0247182	-.0088085
TIME_V0V2	.0001763	7.29e-06	24.19	0.000	.000162	.0001906
LE8_TOTALSCORE	-.0003298	.0000511	-6.45	0.000	-.00043	-.0002297
AD_PGS	.0070367	.0046754	1.51	0.132	-.0021272	.0162006
invmillsMRIINF	-.0000389	.00004	-0.97	0.331	-.0001173	.0000395
_cons	-3.225393	.0821539	-39.26	0.000	-3.386418	-3.064369

```
. 
. reg zICVF_mean POORCOGN AGE SEX  NonWhite householdsize TIME_V0V2 LE8_TOTALSCORE AD_PGS invmillsMRIINF if  samp
> mean>-5
```

Source	SS	df	MS	Number of obs	=	36,090
				F(9, 36080)	=	441.70
Model	3260.27242	9	362.252491	Prob > F	=	0.0000
Residual	29590.471	36,080	.820135004	R-squared	=	0.0992
				Adj R-squared	=	0.0990
Total	32850.7434	36,089	.910270259	Root MSE	=	.90561

zICVF_mean	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
POORCOGN	-.026446	.0040838	-6.48	0.000	-.0344504	-.0184415
AGE	-.0381414	.0007126	-53.53	0.000	-.0395381	-.0367447
SEX	-.0026979	.0097393	-0.28	0.782	-.0217873	.0163914
NonWhite	-.105295	.0623955	-1.69	0.092	-.227592	.0170021
householdsize	.0101277	.0041964	2.41	0.016	.0019026	.0183527
TIME_V0V2	-6.66e-06	7.54e-06	-0.88	0.377	-.0000214	8.11e-06
LE8_TOTALSCORE	-.0000122	.0000528	-0.23	0.818	-.0001157	.0000914
AD_PGS	-.011653	.0048342	-2.41	0.016	-.0211282	-.0021778
invmillsMRIINF	.0000173	.0000414	0.42	0.675	-.0000637	.0000984
_cons	2.219163	.0849444	26.12	0.000	2.05267	2.385657

```
42 .
43 . reg zOD_mean POORCOGN AGE SEX  NonWhite householdsize TIME_V0V2 LE8_TOTALSCORE AD_PGS invmillsMRIINF if  sample
   > an>-5
```

Source	SS	df	MS		
Model	**2822.79158**	**9**	**313.643508**	Number of obs	= **36,090**
Residual	**27779.3402**	**36,080**	**.769937366**	F(9, 36080)	= **407.36**
				Prob > F	= **0.0000**
Total	**30602.1317**	**36,089**	**.847962862**	R-squared	= **0.0922**
				Adj R-squared	= **0.0920**
				Root MSE	= **.87746**

zOD_mean	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
POORCOGN	**.0318676**	**.0039569**	**8.05**	**0.000**	**.024112**	**.0396232**
AGE	**.0250183**	**.0006904**	**36.24**	**0.000**	**.0236651**	**.0263716**
SEX	**.0743421**	**.0094366**	**7.88**	**0.000**	**.0558461**	**.092838**
NonWhite	**-.235008**	**.0604559**	**-3.89**	**0.000**	**-.3535032**	**-.1165127**
householdsize	**-.0197372**	**.004066**	**-4.85**	**0.000**	**-.0277066**	**-.0117678**
TIME_V0V2	**.0002515**	**7.30e-06**	**34.45**	**0.000**	**.0002372**	**.0002659**
LE8_TOTALSCORE	**-.0009568**	**.0000512**	**-18.69**	**0.000**	**-.0010571**	**-.0008564**
AD_PGS	**.0044455**	**.0046839**	**0.95**	**0.343**	**-.0047352**	**.0136261**
invmillsMRIINF	**-.0000402**	**.0000401**	**-1.00**	**0.315**	**-.0001188**	**.0000383**
_cons	**-1.540102**	**.0823038**	**-18.71**	**0.000**	**-1.70142**	**-1.378784**

```
44 .
45 .
46 .
47 . capture log close
```