ibname abcd "C:\Users\wangs31\Documents\KGS\Work\ABCD study";

/\*Extract data needed\*/

PROC IMPORT OUT= WORK.pdem02 /\*11878 rows. Checked: no duplication in subjectkey\*/

DATAFILE= "C:\Users\wangs31\Documents\alldata\ABCD data\datapacket\_v3\pdem02.txt"

DBMS=TAB REPLACE;

GETNAMES=YES;

DATAROW=3;

RUN;

PROC IMPORT OUT= WORK.abcd\_ksad01 /\*29684 rows. Checked: after restricting to eventname = 'baseline\_year\_1\_arm\_1'

there are 11878 rows and no duplication in subjectkey\*/

DATAFILE= "C:\Users\wangs31\Documents\alldata\ABCD data\datapacket\_v3\abcd\_ksad01.txt"

DBMS=TAB REPLACE;

GETNAMES=YES;

DATAROW=3;

RUN;

PROC IMPORT OUT= WORK.abcd\_ksad501 /\*29684 rows. Checked: after restricting to eventname = 'baseline\_year\_1\_arm\_1'

there are 11878 rows and no duplication in subjectkey\*/

DATAFILE= "C:\Users\wangs31\Documents\alldata\ABCD data\datapacket\_v3\abcd\_ksad501.txt"

DBMS=TAB REPLACE;

GETNAMES=YES;

DATAROW=3;

RUN;

PROC IMPORT OUT= WORK.dibf01 /\*11878 rows. Checked: no duplication in subjectkey\*/

DATAFILE= "C:\Users\wangs31\Documents\alldata\ABCD data\datapacket\_v3\dibf01.txt"

DBMS=TAB REPLACE;

GETNAMES=YES;

DATAROW=3;

RUN;

PROC IMPORT OUT= WORK.acspsw03 /\*23113 rows. Checked: after restricting to eventname = 'baseline\_year\_1\_arm\_1'

there are 11878 rows and no duplication in subjectkey\*/

DATAFILE= "C:\Users\wangs31\Documents\alldata\ABCD data\datapacket\_v3\acspsw03.txt"

DBMS=TAB REPLACE;

GETNAMES=YES;

DATAROW=3;

RUN;

PROC IMPORT OUT= WORK.abcd\_lt01 /\*54594 rows. Checked: after restricting to eventname = 'baseline\_year\_1\_arm\_1'

there are 11878 rows and no duplication in subjectkey\*/

DATAFILE= "C:\Users\wangs31\Documents\alldata\ABCD data\datapacket\_v3\abcd\_lt01.txt"

DBMS=TAB REPLACE;

GETNAMES=YES;

DATAROW=3;

RUN;

PROC IMPORT OUT= WORK.abcd\_ssphp01 /\*29684 rows. Checked: after restricting to eventname = 'baseline\_year\_1\_arm\_1'

there are 11878 rows and no duplication in subjectkey\*/

DATAFILE= "C:\Users\wangs31\Documents\alldata\ABCD data\datapacket\_v3\abcd\_ssphp01.txt"

DBMS=TAB REPLACE;

GETNAMES=YES;

DATAROW=3;

RUN;

PROC IMPORT OUT= WORK.abcd\_ant01 /\*29684 rows. Checked: after restricting to eventname = 'baseline\_year\_1\_arm\_1'

there are 11878 rows and no duplication in subjectkey\*/

DATAFILE= "C:\Users\wangs31\Documents\alldata\ABCD data\datapacket\_v3\abcd\_ant01.txt"

DBMS=TAB REPLACE;

GETNAMES=YES;

DATAROW=3;

RUN;

PROC IMPORT OUT= WORK.abcd\_lpds01 /\*29684 rows. Checked: after restricting to eventname = 'baseline\_year\_1\_arm\_1'

there are 11878 rows and no duplication in subjectkey\*/

DATAFILE= "C:\Users\wangs31\Documents\alldata\ABCD data\datapacket\_v3\abcd\_lpds01.txt"

DBMS=TAB REPLACE;

GETNAMES=YES;

DATAROW=3;

RUN;

PROC IMPORT OUT= WORK.abcd\_devhxss01 /\*11878 rows. Checked: after restricting to eventname = 'baseline\_year\_1\_arm\_1'

there are 11878 rows and no duplication in subjectkey\*/

DATAFILE= "C:\Users\wangs31\Documents\alldata\ABCD data\datapacket\_v3\abcd\_devhxss01.txt"

DBMS=TAB REPLACE;

GETNAMES=YES;

DATAROW=3;

RUN;

PROC IMPORT OUT= WORK.abcd\_cbcl01 /\*29684 rows. Checked: after restricting to eventname = 'baseline\_year\_1\_arm\_1'

there are 11878 rows and no duplication in subjectkey\*/

DATAFILE= "C:\Users\wangs31\Documents\alldata\ABCD data\datapacket\_v3\abcd\_cbcl01.txt"

DBMS=TAB REPLACE;

GETNAMES=YES;

DATAROW=3;

RUN;

PROC IMPORT OUT= WORK.abcd\_ssbpmtf01 /\*29684 rows. Checked: after restricting to eventname = 'baseline\_year\_1\_arm\_1'

there are 11878 rows and no duplication in subjectkey\*/

DATAFILE= "C:\Users\wangs31\Documents\alldata\ABCD data\datapacket\_v3\abcd\_ssbpmtf01.txt"

DBMS=TAB REPLACE;

GETNAMES=YES;

DATAROW=3;

RUN;

PROC IMPORT OUT= WORK.abcd\_cbcls01 /\*29684 rows. Checked: after restricting to eventname = 'baseline\_year\_1\_arm\_1'

there are 11878 rows and no duplication in subjectkey\*/

DATAFILE= "C:\Users\wangs31\Documents\alldata\ABCD data\datapacket\_v3\abcd\_cbcls01.txt"

DBMS=TAB REPLACE;

GETNAMES=YES;

DATAROW=3;

RUN;

PROC IMPORT OUT= WORK.abcd\_ps01 /\*18449 rows. Checked: after restricting to eventname = 'baseline\_year\_1\_arm\_1'

there are 11878 rows and no duplication in subjectkey\*/

DATAFILE= "C:\Users\wangs31\Documents\alldata\ABCD data\datapacket\_v3\abcd\_ps01.txt"

DBMS=TAB REPLACE;

GETNAMES=YES;

DATAROW=3;

RUN;

proc sql;

create table temp as

select subjectkey, count(\*) as count

from abcd\_ps01

where eventname = 'baseline\_year\_1\_arm\_1'/\*\*/

group by subjectkey

order by count desc;

quit;

proc freq data=abcd\_ksad01; table eventname; run;

proc freq data=abcd\_ksad501; table eventname; run;

proc freq data=acspsw03; table eventname; run;

proc freq data=abcd\_lt01; table eventname; run;

proc freq data=abcd\_ssphp01; table eventname; run;

proc freq data=abcd\_ant01; table eventname; run;

proc freq data=abcd\_lpds01; table eventname; run;

proc freq data=abcd\_devhxss01; table eventname; run;

proc freq data=abcd\_cbcl01; table eventname; run;

proc freq data=abcd\_ssbpmtf01; table eventname; run;

proc freq data=abcd\_cbcls01; table eventname; run;

proc freq data=abcd\_ps01; table eventname; run;

proc freq data=abcd\_ksad501/\*(where=(eventname = 'baseline\_year\_1\_arm\_1'))\*/;

table ksads\_5\_857\_t ksads\_5\_20\_t ksads\_5\_858\_t ksads\_7\_861\_t ksads\_7\_297\_t ksads\_7\_862\_t;

run;

data pdem02; set pdem02(keep=subjectkey interview\_age

demo\_sex\_v2 demo\_gender\_id\_v2 demo\_race\_a\_p\_\_\_10 demo\_race\_a\_p\_\_\_11 demo\_race\_a\_p\_\_\_12 demo\_race\_a\_p\_\_\_13

demo\_race\_a\_p\_\_\_14 demo\_race\_a\_p\_\_\_15 demo\_race\_a\_p\_\_\_16 demo\_race\_a\_p\_\_\_17 demo\_race\_a\_p\_\_\_18

demo\_race\_a\_p\_\_\_19 demo\_race\_a\_p\_\_\_20 demo\_race\_a\_p\_\_\_21 demo\_race\_a\_p\_\_\_22 demo\_race\_a\_p\_\_\_23

demo\_race\_a\_p\_\_\_24 demo\_race\_a\_p\_\_\_25 demo\_race\_a\_p\_\_\_77 demo\_race\_a\_p\_\_\_99 demo\_ethn\_v2

demo\_origin\_v2 demo\_prnt\_marital\_v2 demo\_prnt\_ed\_v2 demo\_prtnr\_ed\_v2 demo\_comb\_income\_v2 demo\_fam\_exp1\_v2

demo\_prim demo\_prnt\_age\_v2);

run;

data abcd\_ksad01; set abcd\_ksad01(where=(eventname = 'baseline\_year\_1\_arm\_1') keep=subjectkey eventname

ksads\_1\_840\_p ksads\_1\_841\_p ksads\_1\_842\_p ksads\_1\_843\_p ksads\_1\_844\_p ksads\_1\_845\_p ksads\_1\_846\_p ksads\_1\_847\_p

ksads\_2\_830\_p ksads\_2\_831\_p ksads\_2\_832\_p ksads\_2\_833\_p ksads\_2\_834\_p

ksads\_2\_835\_p ksads\_2\_836\_p ksads\_2\_837\_p ksads\_2\_838\_p ksads\_2\_839\_p

ksads\_5\_857\_p ksads\_5\_858\_p ksads\_7\_861\_p ksads\_7\_862\_p ksads\_8\_863\_p ksads\_8\_864\_p

ksads\_10\_869\_p ksads\_10\_870\_p ksads\_9\_867\_p ksads\_9\_868\_p

ksads\_15\_901\_p ksads\_15\_902\_p ksads\_16\_897\_p ksads\_16\_898\_p ksads\_16\_899\_p ksads\_16\_900\_p

ksads\_14\_853\_p ksads\_14\_854\_p ksads\_14\_855\_p ksads\_14\_856\_p

ksads\_13\_938\_p ksads\_13\_939\_p ksads\_13\_940\_p

ksads\_13\_929\_p ksads\_13\_934\_p ksads\_13\_931\_p ksads\_13\_932\_p ksads\_13\_933\_p

ksads\_13\_930\_p ksads\_13\_935\_p ksads\_13\_936\_p ksads\_13\_937\_p

ksads\_11\_917\_p ksads\_11\_918\_p ksads\_21\_921\_p ksads\_21\_922\_p

ksads\_23\_945\_p ksads\_23\_956\_p

ksads\_23\_946\_p ksads\_23\_947\_p ksads\_23\_948\_p ksads\_23\_949\_p ksads\_23\_950\_p

ksads\_23\_957\_p ksads\_23\_958\_p ksads\_23\_959\_p ksads\_23\_960\_p ksads\_23\_961\_p

ksads\_11\_345\_p ksads\_11\_337\_p

ksads\_14\_394\_p ksads\_14\_76\_p ksads\_14\_395\_p ksads\_14\_396\_p ksads\_14\_398\_p

ksads\_14\_399\_p ksads\_14\_80\_p ksads\_14\_400\_p ksads\_14\_397\_p

ksads\_14\_401\_p ksads\_14\_84\_p ksads\_14\_402\_p ksads\_14\_404\_p ksads\_14\_403\_p

ksads\_14\_408\_p ksads\_14\_405\_p ksads\_14\_406\_p ksads\_14\_407\_p

ksads\_1\_183\_p ksads\_11\_335\_p ksads\_11\_341\_p ksads\_4\_851\_p);

run;

data abcd\_ksad501; set abcd\_ksad501(where=(eventname = 'baseline\_year\_1\_arm\_1') keep=subjectkey eventname

ksads\_1\_840\_t ksads\_1\_841\_t ksads\_1\_842\_t ksads\_1\_843\_t ksads\_1\_844\_t ksads\_1\_845\_t ksads\_1\_846\_t ksads\_1\_847\_t

ksads\_2\_830\_t ksads\_2\_831\_t ksads\_2\_832\_t ksads\_2\_833\_t ksads\_2\_834\_t

ksads\_2\_835\_t ksads\_2\_836\_t ksads\_2\_837\_t ksads\_2\_838\_t ksads\_2\_839\_t

ksads\_5\_857\_t ksads\_5\_858\_t ksads\_7\_861\_t ksads\_7\_862\_t ksads\_8\_863\_t ksads\_8\_864\_t

ksads\_10\_869\_t ksads\_10\_870\_t ksads\_9\_867\_t ksads\_9\_868\_t

ksads\_15\_901\_t ksads\_15\_902\_t ksads\_16\_897\_t ksads\_16\_898\_t ksads\_16\_899\_t ksads\_16\_900\_t

ksads\_14\_853\_t ksads\_14\_854\_t ksads\_14\_855\_t ksads\_14\_856\_t

ksads\_13\_938\_t ksads\_13\_939\_t ksads\_13\_940\_t

ksads\_13\_929\_t ksads\_13\_930\_t ksads\_13\_931\_t ksads\_13\_932\_t ksads\_13\_933\_t

ksads\_13\_934\_t ksads\_13\_935\_t ksads\_13\_936\_t ksads\_13\_937\_t

ksads\_11\_917\_t ksads\_11\_918\_t ksads\_21\_921\_t ksads\_21\_922\_t ksads\_23\_945\_t ksads\_23\_956\_t

ksads\_23\_946\_t ksads\_23\_947\_t ksads\_23\_948\_t ksads\_23\_949\_t ksads\_23\_950\_t

ksads\_23\_957\_t ksads\_23\_958\_t ksads\_23\_959\_t ksads\_23\_960\_t ksads\_23\_961\_t

ksads\_1\_183\_t);

drop eventname;

run;

data dibf01; set dibf01(keep=subjectkey

kbi\_p\_c\_mh\_sa kbi\_p\_c\_age\_services kbi\_p\_c\_scheck1 kbi\_p\_c\_scheck2 kbi\_p\_c\_scheck3 kbi\_p\_c\_scheck4

kbi\_p\_c\_scheck5 kbi\_p\_c\_scheck6 kbi\_p\_c\_scheck7 kbi\_p\_c\_scheck8 kbi\_p\_c\_scheck9 kbi\_p\_c\_scheck10

kbi\_p\_c\_mental\_health kbi\_p\_c\_substance\_abuse);

run;

data acspsw03; set acspsw03(where=(eventname = 'baseline\_year\_1\_arm\_1')

keep=subjectkey eventname acs\_raked\_propensity\_score);

drop eventname;

run;

data abcd\_lt01; set abcd\_lt01(where=(eventname = 'baseline\_year\_1\_arm\_1')

keep=subjectkey eventname site\_id\_l);

drop eventname;

run;

data abcd\_ssphp01; set abcd\_ssphp01(where=(eventname = 'baseline\_year\_1\_arm\_1')

keep=subjectkey eventname pds\_p\_ss\_female\_category\_2 pds\_p\_ss\_male\_category\_2);

drop eventname;

run;

data abcd\_ant01; set abcd\_ant01(where=(eventname = 'baseline\_year\_1\_arm\_1')

keep=subjectkey eventname anthroweightcalc anthroheightcalc);

drop eventname;

run;

data abcd\_lpds01; set abcd\_lpds01(where=(eventname = 'baseline\_year\_1\_arm\_1') keep=subjectkey eventname

demo\_prim\_l demo\_prnt\_age\_v2\_l

demo\_med\_insur\_a\_p demo\_med\_insur\_b\_p demo\_med\_insur\_c\_p demo\_med\_insur\_d\_p demo\_med\_insur\_e\_p

demo\_med\_insur\_f\_p demo\_med\_insur\_g\_p demo\_med\_insur\_h\_p);

drop eventname;

run;

data abcd\_devhxss01; set abcd\_devhxss01(keep=subjectkey devhx\_ss\_12\_p); run;

data abcd\_cbcl01; set abcd\_cbcl01(where=(eventname = 'baseline\_year\_1\_arm\_1')

keep=subjectkey eventname cbcl\_q02\_p cbcl\_q99\_p cbcl\_q105\_p);

drop eventname;

run;

data abcd\_ssbpmtf01; set abcd\_ssbpmtf01(where=(eventname = 'baseline\_year\_1\_arm\_1')

keep=subjectkey eventname bpm\_t\_scr\_attention\_t bpm\_t\_scr\_external\_t);

drop eventname;

run;

data abcd\_cbcls01; set abcd\_cbcls01(where=(eventname = 'baseline\_year\_1\_arm\_1') keep=subjectkey eventname

cbcl\_scr\_syn\_attention\_t cbcl\_scr\_dsm5\_adhd\_t cbcl\_scr\_syn\_rulebreak\_t cbcl\_scr\_syn\_aggressive\_t

cbcl\_scr\_dsm5\_anxdisord\_t cbcl\_scr\_07\_ocd\_t cbcl\_scr\_dsm5\_depress\_t);

drop eventname;

run;

data abcd\_ps01; set abcd\_ps01(where=(eventname = 'baseline\_year\_1\_arm\_1')

keep=subjectkey eventname pea\_wiscv\_tss);

drop eventname;

run;

proc sort data=pdem02; by subjectkey; run;

proc sort data=abcd\_ksad01; by subjectkey; run;

proc sort data=abcd\_ksad501; by subjectkey; run;

proc sort data=dibf01; by subjectkey; run;

proc sort data=acspsw03; by subjectkey; run;

proc sort data=abcd\_lt01; by subjectkey; run;

proc sort data=abcd\_ssphp01; by subjectkey; run;

proc sort data=abcd\_ant01; by subjectkey; run;

proc sort data=abcd\_lpds01; by subjectkey; run;

proc sort data=abcd\_devhxss01; by subjectkey; run;

proc sort data=abcd\_cbcl01; by subjectkey; run;

proc sort data=abcd\_ssbpmtf01; by subjectkey; run;

proc sort data=abcd\_cbcls01; by subjectkey; run;

proc sort data=abcd\_ps01; by subjectkey; run;

data abcd.abcd\_bsln;

merge pdem02 abcd\_ksad01 abcd\_ksad501 dibf01 acspsw03 abcd\_lt01 abcd\_ssphp01 abcd\_ant01 abcd\_lpds01 abcd\_devhxss01 abcd\_cbcl01 abcd\_ssbpmtf01 abcd\_cbcls01 abcd\_ps01;

by subjectkey;

run;

proc contents data=abcd.abcd\_bsln; run;

proc freq data=abcd.abcd\_bsln; tables site\_id\_l bpm\_t\_scr\_attention\_t; run;

proc freq data=abcd.abcd\_bsln; tables interview\_age; run;

proc freq data=abcd.abcd\_bsln; tables demo\_prim\_l demo\_prnt\_age\_v2\_l demo\_prim demo\_prnt\_age\_v2; run;

proc freq data=abcd.abcd\_bsln;

tables ksads\_5\_857\_t ksads\_7\_861\_t ksads\_13\_938\_t ksads\_13\_929\_t ksads\_13\_932\_t ksads\_13\_935\_t ksads\_21\_921\_t;

run;

/\*Start cleaning the data\*/

data abcd\_bsln; set abcd.abcd\_bsln(where=(demo\_sex\_v2 in ('1','2')));

/\*weight for ABCD data\*/

acs\_raked\_propensity\_score\_num = input(acs\_raked\_propensity\_score, 20.);

/\*subpopulation for analysis\*/

if demo\_sex\_v2 in ('1','2') then subpopn='1'; else subpopn='2';

/\*Age First MH/SA Service\*/

kbi\_p\_c\_age\_services\_num = input(kbi\_p\_c\_age\_services, 6.);

if kbi\_p\_c\_age\_services\_num ne . then kbi\_p\_c\_age\_services\_nonmiss=1;

/\*Number of MH Inpatient Admissions\*/

kbi\_p\_c\_mental\_health\_num = input(kbi\_p\_c\_mental\_health, 2.);

if kbi\_p\_c\_mental\_health\_num ne . then kbi\_p\_c\_mental\_health\_nonmiss=1;

if kbi\_p\_c\_mental\_health\_num=. then kbi\_p\_c\_mental\_health\_num=0;

/\*Number of SA Inpatient Admissions\*/

kbi\_p\_c\_substance\_abuse\_num = input(kbi\_p\_c\_substance\_abuse, 2.);

if kbi\_p\_c\_substance\_abuse\_num ne . then kbi\_p\_c\_substance\_abuse\_nonmiss=1;

if kbi\_p\_c\_substance\_abuse\_num=. then kbi\_p\_c\_substance\_abuse\_num=0;

/\*Number of MH/SA Inpatient Admissions\*/

kbi\_p\_c\_mh\_sa\_num = kbi\_p\_c\_mental\_health\_num + kbi\_p\_c\_substance\_abuse\_num;

kbi\_p\_c\_mh\_sa\_num\_1p = kbi\_p\_c\_mh\_sa\_num;

if kbi\_p\_c\_mh\_sa\_num\_1p=0 then kbi\_p\_c\_mh\_sa\_num\_1p=.;

if kbi\_p\_c\_scheck1='1' or kbi\_p\_c\_scheck4='1' then any\_op\_mh\_sa\_service='1'; else

if kbi\_p\_c\_scheck1='0' and kbi\_p\_c\_scheck4='0' then any\_op\_mh\_sa\_service='0';

if kbi\_p\_c\_scheck3='1' or kbi\_p\_c\_scheck6='1' then any\_ip\_mh\_sa\_service='1'; else

if kbi\_p\_c\_scheck3='0' and kbi\_p\_c\_scheck6='0' then any\_ip\_mh\_sa\_service='0';

if kbi\_p\_c\_scheck2='1' or kbi\_p\_c\_scheck5='1' then any\_ph\_mh\_sa\_service='1'; else

if kbi\_p\_c\_scheck2='0' and kbi\_p\_c\_scheck5='0' then any\_ph\_mh\_sa\_service='0';

/\*if demo\_race\_a\_p\_\_\_10='1' and demo\_ethn\_v2='2' then race='1'; else

if demo\_race\_a\_p\_\_\_11='1' and demo\_ethn\_v2='2' then race='2'; else

if demo\_ethn\_v2='1' then race='3';\*/

if ksads\_14\_853\_p='1' OR ksads\_14\_854\_p='1' then ADHD\_simple='1'; else ADHD\_simple='2';

if kbi\_p\_c\_mh\_sa='3' then kbi\_p\_c\_mh\_sa='';

/\*disorders -- revised version\*/

if ksads\_5\_857\_p='1' OR ksads\_5\_857\_t='1' then PD=1; else PD=0;

if ksads\_7\_861\_p='1' OR ksads\_7\_861\_t='1' then SAD=1; else SAD=0; /\*Separation anxiety disorder\*/

if ksads\_8\_863\_p='1' OR ksads\_8\_863\_t='1' then SD=1; else SD=0; /\*Social anxiety disorder\*/

if ksads\_10\_869\_p='1' OR ksads\_10\_869\_t='1' then GAD=1; else GAD=0;

if PD=1 or SAD=1 or SD=1 or GAD=1 then anx=1; else anx=0;

if (ksads\_11\_917\_p='1') AND (ksads\_11\_335\_p='1' OR ksads\_11\_341\_p='1') AND (ksads\_11\_345\_p='1' OR ksads\_11\_337\_p='1') then OCD=1; else OCD=0;

if (ksads\_1\_840\_p='1' AND ksads\_1\_183\_p='1') OR (ksads\_1\_840\_t='1' AND ksads\_1\_183\_t='1') then MDD=1; else MDD=0;

if ksads\_1\_843\_p='1' OR ksads\_1\_843\_t='1' then PDD=1; else PDD=0;

if ksads\_1\_846\_p='1' OR ksads\_1\_846\_t='1' then UDD=1; else UDD=0;

if MDD=1 or PDD=1 or UDD=1 then MDDPDD=1; else MDDPDD=0;

if ksads\_2\_830\_p='1' OR ksads\_2\_831\_p='1' OR ksads\_2\_832\_p='1' OR ksads\_2\_830\_t='1' OR ksads\_2\_831\_t='1' OR ksads\_2\_832\_t='1' then BP1=1; else BP1=0;

if ksads\_2\_835\_p='1' OR ksads\_2\_836\_p='1' OR ksads\_2\_835\_t='1' OR ksads\_2\_836\_t='1' then BP2=1; else BP2=0;

if ksads\_2\_838\_p='1' OR ksads\_2\_838\_t='1' then UBP=1; else UBP=0;

if BP1=1 or BP2=1 or UBP=1 then BP=1; else BP=0;

if MDDPDD=1 or BP=1 then mood=1; else mood=0;

if ksads\_13\_938\_p='1' OR ksads\_13\_938\_t='1' then BED=1; else BED=0;

if ksads\_13\_929\_p='1' OR ksads\_13\_932\_p='1' OR ksads\_13\_935\_p='1' OR ksads\_13\_929\_t='1' OR ksads\_13\_932\_t='1' OR ksads\_13\_935\_t='1' then OED=1; else OED=0;

if BED=1 or OED=1 then ED=1; else ED=0;

if ksads\_21\_921\_p='1' OR ksads\_21\_921\_t='1' then PTSD=1; else PTSD=0;

/\*Externalizing Disorders (ADHD, Oppositional Defiant Disorder, and Conduct Disorder)\*/

bpm\_t\_scr\_attention\_t\_num = input(bpm\_t\_scr\_attention\_t, 4.);

bpm\_t\_scr\_external\_t\_num = input(bpm\_t\_scr\_external\_t, 4.);

pea\_wiscv\_tss\_num = input(pea\_wiscv\_tss, 4.);

cbcl\_scr\_syn\_attention\_t\_num = input(cbcl\_scr\_syn\_attention\_t, 4.);

cbcl\_scr\_dsm5\_adhd\_t\_num = input(cbcl\_scr\_dsm5\_adhd\_t, 4.);

cbcl\_scr\_syn\_rulebreak\_t\_num = input(cbcl\_scr\_syn\_rulebreak\_t, 4.);

cbcl\_scr\_syn\_aggressive\_t\_num = input(cbcl\_scr\_syn\_aggressive\_t, 4.);

if pea\_wiscv\_tss\_num ne . and pea\_wiscv\_tss\_num <= 3 then ADHD1=1; else ADHD1=0;

if (ksads\_2\_830\_p='1') OR (ksads\_2\_833\_p='1' AND (ksads\_1\_840\_p='1' OR ksads\_1\_841\_p='1' OR ksads\_1\_842\_p='1' OR

ksads\_1\_843\_p='1' OR ksads\_1\_844\_p='1' OR ksads\_1\_845\_p='1' OR ksads\_1\_846\_p='1' OR ksads\_1\_847\_p='1')) then ADHD2=1; else ADHD2=0;

if (ksads\_2\_830\_t='1') OR (ksads\_2\_833\_t='1' AND (ksads\_1\_840\_t='1' OR ksads\_1\_841\_t='1' OR ksads\_1\_842\_t='1' OR

ksads\_1\_843\_t='1' OR ksads\_1\_844\_t='1' OR ksads\_1\_845\_t='1' OR ksads\_1\_846\_t='1' OR ksads\_1\_847\_t='1')) then ADHD3=1; else ADHD3=0;

if ksads\_4\_851\_p = '1' then ADHD4=1; else ADHD4=0;

/\*if (ksads\_14\_853\_p='1' OR ksads\_14\_856\_p='1') AND (bpm\_t\_scr\_attention\_t\_num>=65) AND

(cbcl\_scr\_syn\_attention\_t\_num>=65 OR cbcl\_scr\_dsm5\_adhd\_t\_num>=65) AND ADHD1=0 AND ADHD2=0 AND ADHD3=0 AND ADHD4=0 then ADHD=1; else ADHD=0;

if (ksads\_16\_897\_p='1' OR ksads\_16\_898\_p='1') AND (bpm\_t\_scr\_external\_t\_num>=65) AND (cbcl\_scr\_syn\_rulebreak\_t\_num>=65) then CD=1; else CD=0;

if (ksads\_15\_901\_p='1') AND (bpm\_t\_scr\_external\_t\_num>=65) AND (cbcl\_scr\_syn\_aggressive\_t\_num>=65) then ODD=1; else ODD=0;

if ODD=1 or CD=1 then disruptive=1; else disruptive=0;

if mood=1 or anx=1 or disruptive=1 or ADHD=1 or ED=1 or OCD=1 or PTSD=1 then mendis=1; else mendis=0;

if ksads\_23\_945\_p='1' OR ksads\_23\_956\_p='1' then NSSI=1; else NSSI=0;

if ksads\_23\_946\_p='1' OR ksads\_23\_947\_p='1' OR ksads\_23\_948\_p='1' OR ksads\_23\_949\_p='1' OR ksads\_23\_950\_p='1' then SI=1; else SI=0;

if ED=1 or PTSD=1 then otherdis=1; else otherdis=0;

numdis=sum(MDDPDD, BP, PD, SAD, SD, GAD, ODD, CD, ADHD, BED, OED, OCD, PTSD);\*/

/\*dissect ADHD, CD, ODD\*/

if ksads\_14\_853\_p='1' OR ksads\_14\_856\_p='1' then ADHD\_step1=1; else ADHD\_step1=0;

if ADHD\_step1=1 AND ADHD1=0 then ADHD\_step2=1; else ADHD\_step2=0;

if ADHD\_step2=1 AND ADHD2=0 then ADHD\_step3=1; else ADHD\_step3=0;

if ADHD\_step3=1 AND ADHD3=0 then ADHD\_step4=1; else ADHD\_step4=0;

if ADHD\_step4=1 AND ADHD4=0 then ADHD\_step5=1; else ADHD\_step5=0;

/\*if ADHD\_step5=1 AND (cbcl\_scr\_syn\_attention\_t\_num>=65 OR cbcl\_scr\_dsm5\_adhd\_t\_num>=65) then ADHD\_step6=1; else ADHD\_step6=0;\*/

if /\*ADHD\_step6\*/ADHD\_step5=1 AND (bpm\_t\_scr\_attention\_t\_num>=65) then ADHD\_step7=1; else ADHD\_step7=0;

if ksads\_16\_897\_p='1' OR ksads\_16\_898\_p='1' then CD\_step1=1; else CD\_step1=0;

/\*if CD\_step1=1 AND (cbcl\_scr\_syn\_rulebreak\_t\_num>=65) then CD\_step2=1; else CD\_step2=0;\*/

if /\*CD\_step2\*/CD\_step1=1 AND (bpm\_t\_scr\_external\_t\_num>=65) then CD\_step3=1; else CD\_step3=0;

if ksads\_15\_901\_p='1' then ODD\_step1=1; else ODD\_step1=0;

/\*if ODD\_step1=1 AND (cbcl\_scr\_syn\_aggressive\_t\_num>=65) then ODD\_step2=1; else ODD\_step2=0;\*/

if /\*ODD\_step2\*/ODD\_step1=1 AND (bpm\_t\_scr\_external\_t\_num>=65) then ODD\_step3=1; else ODD\_step3=0;

/\*Redefine ADHD, CD, ODD and related variables\*/

ADHD=ADHD\_step7;

CD=CD\_step3;

ODD=ODD\_step3;

if ODD=1 or CD=1 then disruptive=1; else disruptive=0;

if mood=1 or anx=1 or disruptive=1 or ADHD=1 or ED=1 or OCD=1 or PTSD=1 then mendis=1; else mendis=0;

if ksads\_23\_945\_p='1' OR ksads\_23\_956\_p='1' then NSSI=1; else NSSI=0;

if ksads\_23\_946\_p='1' OR ksads\_23\_947\_p='1' OR ksads\_23\_948\_p='1' OR ksads\_23\_949\_p='1' OR ksads\_23\_950\_p='1' then SI=1; else SI=0;

if ED=1 or PTSD=1 then otherdis=1; else otherdis=0;

numdis=sum(MDDPDD, BP, PD, SAD, SD, GAD, ODD, CD, ADHD, BED, OED, OCD, PTSD);

/\*Socio-demographic and physical characteristics\*/

one='1';

/\*Race/Ethnicity, child\*/

if demo\_ethn\_v2='1' then race='1'; else

if demo\_race\_a\_p\_\_\_10='1' and demo\_ethn\_v2='2' then race='2'; else

if demo\_race\_a\_p\_\_\_11='1' and demo\_ethn\_v2='2' then race='3'; else

if demo\_ethn\_v2='2' then race='4';

/\*Nativity, child\*/

demo\_origin\_v2\_num = input(demo\_origin\_v2, 5.);

if demo\_origin\_v2\_num=189 then native='1'; else

if (1<=demo\_origin\_v2\_num and demo\_origin\_v2\_num<=188) or (190<=demo\_origin\_v2\_num and demo\_origin\_v2\_num<=197) then native='2';

/\*Marital status, caregiver\*/

if demo\_prnt\_marital\_v2 in ('1','6') then marital='1'; else

if demo\_prnt\_marital\_v2 in ('3','4') then marital='2'; else

if demo\_prnt\_marital\_v2='5' then marital='3'; else

if demo\_prnt\_marital\_v2='2' then marital='4';

/\*Education, highest caregiver\*/

demo\_prnt\_ed\_v2\_num = input(demo\_prnt\_ed\_v2, 4.);

demo\_prtnr\_ed\_v2\_num = input(demo\_prtnr\_ed\_v2, 4.);

if not(0<=demo\_prnt\_ed\_v2\_num and demo\_prnt\_ed\_v2\_num<=21) then demo\_prnt\_ed\_v2\_num=.;

if not(0<=demo\_prtnr\_ed\_v2\_num and demo\_prtnr\_ed\_v2\_num<=21) then demo\_prtnr\_ed\_v2\_num=.;

demo\_ed\_v2\_num = max(demo\_prnt\_ed\_v2\_num, demo\_prtnr\_ed\_v2\_num);

if 0<=demo\_ed\_v2\_num and demo\_ed\_v2\_num<=12 then educat='1'; else

if demo\_ed\_v2\_num in (13,14) then educat='2'; else

if demo\_ed\_v2\_num in (15,16,17) then educat='3'; else

if demo\_ed\_v2\_num in (18,19,20,21) then educat='4';

/\*Annual family income\*/

if demo\_comb\_income\_v2 in ('1','2','3','4') then famincome='1'; else

if demo\_comb\_income\_v2 in ('5','6') then famincome='2'; else

if demo\_comb\_income\_v2='7' then famincome='3'; else

if demo\_comb\_income\_v2 in ('8','9','10') then famincome='4';

/\*Food insecurity\*/

if demo\_fam\_exp1\_v2='1' then food\_insecurity='1'; else

if demo\_fam\_exp1\_v2='0' then food\_insecurity='2';

/\*Pubertal stage\*/

if demo\_sex\_v2='1' then pds\_p\_ss\_category\_2=pds\_p\_ss\_male\_category\_2; else

if demo\_sex\_v2='2' then pds\_p\_ss\_category\_2=pds\_p\_ss\_female\_category\_2;

if pds\_p\_ss\_category\_2 in ('1','2','3') then pubertal=pds\_p\_ss\_category\_2; else

if pds\_p\_ss\_category\_2 in ('4','5') then pubertal='3';

/\*Weight status\*/

interview\_age\_num = input(interview\_age, 5.);

if demo\_sex\_v2='1' and 107<=interview\_age\_num and interview\_age\_num<=113 then do; gc\_p5=14.00; gc\_p85=19.64; gc\_p95=22.29; end; else

if demo\_sex\_v2='1' and 114<=interview\_age\_num and interview\_age\_num<=119 then do; gc\_p5=13.98; gc\_p85=19.29; gc\_p95=21.78; end; else

if demo\_sex\_v2='1' and 120<=interview\_age\_num and interview\_age\_num<=125 then do; gc\_p5=14.54; gc\_p85=19.36; gc\_p95=22.03; end; else

if demo\_sex\_v2='1' and 126<=interview\_age\_num and interview\_age\_num<=133 then do; gc\_p5=14.59; gc\_p85=19.95; gc\_p95=24.16; end; else

if demo\_sex\_v2='2' and 107<=interview\_age\_num and interview\_age\_num<=113 then do; gc\_p5=14.09; gc\_p85=19.04; gc\_p95=22.88; end; else

if demo\_sex\_v2='2' and 114<=interview\_age\_num and interview\_age\_num<=119 then do; gc\_p5=13.96; gc\_p85=20.18; gc\_p95=23.29; end; else

if demo\_sex\_v2='2' and 120<=interview\_age\_num and interview\_age\_num<=125 then do; gc\_p5=13.80; gc\_p85=19.93; gc\_p95=23.18; end; else

if demo\_sex\_v2='2' and 126<=interview\_age\_num and interview\_age\_num<=133 then do; gc\_p5=14.09; gc\_p85=20.04; gc\_p95=23.35; end;

anthroweightcalc\_num = input(anthroweightcalc, 19.)\*0.4536;

anthroheightcalc\_num = input(anthroheightcalc, 19.)\*0.0254;

if anthroheightcalc\_num ne 0 then BMI = anthroweightcalc\_num / anthroheightcalc\_num\*\*2;

if BMI ne . and gc\_p5 ne . and BMI>=gc\_p5 and BMI<=gc\_p85 then weight\_status='1'; else

if BMI ne . and gc\_p5 ne . and BMI<gc\_p5 then weight\_status='2'; else

if BMI ne . and gc\_p5 ne . and BMI>gc\_p85 and BMI<gc\_p95 then weight\_status='3'; else

if BMI ne . and gc\_p5 ne . and BMI>=gc\_p95 then weight\_status='4';

/\*Maternal age at childís birth, years\*/

demo\_prnt\_age\_v2\_num = input(demo\_prnt\_age\_v2, 4.);

if demo\_prim='1' then maternal\_age=floor(demo\_prnt\_age\_v2\_num)-floor(interview\_age\_num/12);

if maternal\_age ne . and maternal\_age<20/\*18\*/ then maternal\_agecat='1'; else

if /\*18\*/20<=maternal\_age and maternal\_age<=34 then maternal\_agecat='2'; else

if maternal\_age>=35 then maternal\_agecat='3';

/\*Gestation period\*/

devhx\_ss\_12\_p\_num = input(devhx\_ss\_12\_p, 3.);

if devhx\_ss\_12\_p\_num in (0,1,2,3) then gestation='1'; else

if 4<=devhx\_ss\_12\_p\_num and devhx\_ss\_12\_p\_num<=13 then gestation='2';

/\*region\*/

if site\_id\_l in ('site07', 'site12', 'site15', 'site17', 'site21', 'site22') then region=1; else /\*Northeast\*/

if site\_id\_l in ('site06', 'site13', 'site14', 'site18', 'site20') then region=2; else /\*Midwest\*/

if site\_id\_l in ('site03', 'site04', 'site05', 'site11', 'site19') then region=3; else /\*South\*/

if site\_id\_l in ('site01', 'site02', 'site08', 'site09', 'site10', 'site16') then region=4; /\*West\*/

/\*Substance use\*/

if cbcl\_q02\_p in ('1','2') then alcuse='1'; else

if cbcl\_q02\_p='0' then alcuse='0';

if cbcl\_q99\_p in ('1','2') or cbcl\_q105\_p in ('1','2') then druguse='1'; else

if cbcl\_q99\_p='0' and cbcl\_q105\_p='0' then druguse='0';

if alcuse='1' or druguse='1' then subuse='1'; else

if alcuse='0' and druguse='0' then subuse='0';

/\*subsample with/without Teacher PMT Form\*/

if bpm\_t\_scr\_attention\_t='' then teacher\_pmt=2; else teacher\_pmt=1;

/\*three groups in preliminary table 2 -- group1: ADHD='1'\*/

if ADHD=1 AND teacher\_pmt=1 then group2=1; else group2=0;

if bpm\_t\_scr\_attention\_t\_num>=65 then group3=1; else group3=0;

/\*population with completed PMT scores\*/

if bpm\_t\_scr\_attention\_t ne '' or bpm\_t\_scr\_external\_t ne '' then pmt\_response=1; else pmt\_response=0;

/\*parent CBCL subscale t-scores\*/

cbcl\_scr\_dsm5\_anxdisord\_t\_num = input(cbcl\_scr\_dsm5\_anxdisord\_t, 4.);

cbcl\_scr\_07\_ocd\_t\_num = input(cbcl\_scr\_07\_ocd\_t, 4.);

cbcl\_scr\_dsm5\_depress\_t\_num = input(cbcl\_scr\_dsm5\_depress\_t, 4.);

run;

proc freq data=abcd\_bsln; tables maternal\_agecat teacher\_pmt; run;

proc freq data=abcd\_bsln; tables ADHD\*group3; run;

/\*Calculate Weight\*/

proc logistic data=abcd\_bsln;

class demo\_sex\_v2(ref='2') race(ref='2') native(ref=first) educat famincome region /param=ref;

model pmt\_response(event='1')=demo\_sex\_v2 race native educat famincome region;

output out=abcd\_bsln\_prob predicted=prob;

run;

data abcd\_bsln\_prob; set abcd\_bsln\_prob;

if prob ne . and prob ne 0 then non\_response\_weight=1/prob;

final\_weight=acs\_raked\_propensity\_score\_num\*non\_response\_weight;

run;

proc means data=abcd\_bsln\_prob(where=(pmt\_response=1 and final\_weight ne .)) sum; var final\_weight; output out=sumweight sum(final\_weight)= /autoname; run;

data sumweight; set sumweight(drop=\_TYPE\_); pmt\_response=1; run;

proc sort data=abcd\_bsln\_prob; by pmt\_response; run;

data abcd\_bsln\_prob; merge abcd\_bsln\_prob sumweight; by pmt\_response; run;

data abcd\_bsln\_prob; set abcd\_bsln\_prob;

final\_weight=final\_weight\*\_FREQ\_/final\_weight\_Sum;

if final\_weight=. then pmt\_response=0;

run;

proc means data=abcd\_bsln\_prob(where=(pmt\_response=1 and final\_weight ne .)) mean; var final\_weight; run;

/\*Output for histogram\*/

data tohist; set abcd\_bsln\_prob(keep=subjectkey pmt\_response non\_response\_weight); run;

PROC EXPORT DATA= WORK.Tohist

OUTFILE= "C:\Users\wangs31\Documents\KGS\Work\ABCD study\tohist.csv"

DBMS=CSV LABEL REPLACE;

PUTNAMES=YES;

RUN;

/\*Step Analysis\*/

proc surveyfreq data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2')));

\*strata one;

cluster site\_id\_l;

weight acs\_raked\_propensity\_score\_num;

tables ADHD\_step1 ADHD\_step2 ADHD\_step3 ADHD\_step4 ADHD\_step5 /\*ADHD\_step6\*/ CD\_step1 /\*CD\_step2\*/ ODD\_step1 /\*ODD\_step2\*/;

run;

proc surveyfreq data=abcd\_bsln\_prob(where=(pmt\_response=1));

\*strata one;

cluster site\_id\_l;

weight final\_weight;

tables ADHD\_step7 CD\_step3 ODD\_step3;

run;

/\*Preliminary Table 1\*/

proc freq data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2'))); tables teacher\_pmt; run;

proc freq data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2')));

tables race native marital educat famincome pubertal weight\_status maternal\_agecat gestation;

run;

proc freq data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2')));

tables (race native marital educat famincome pubertal weight\_status maternal\_agecat gestation)\*teacher\_pmt / norow nopercent;

run;

/\*Preliminary Table 2\*/

proc freq data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2'))); tables ADHD group2 group3; run;

proc freq data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2')));

tables (race native marital educat famincome pubertal weight\_status maternal\_agecat gestation)\*(ADHD group2 group3) / norow nopercent;

run;

/\*Weighted Version\*/

/\*Table 1: socio-demographic and physical characteristics\*/

/\*Supplemental Table\*/

proc surveyfreq data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2')));

\*strata one;

cluster site\_id\_l;

weight acs\_raked\_propensity\_score\_num;

tables demo\_sex\_v2 race native marital educat famincome pubertal weight\_status maternal\_agecat gestation region;

run;

proc surveyfreq data=abcd\_bsln\_prob(where=(pmt\_response=1));

\*strata one;

cluster site\_id\_l;

weight acs\_raked\_propensity\_score\_num;

tables demo\_sex\_v2 race native marital educat famincome pubertal weight\_status maternal\_agecat gestation region;

run;

proc surveyfreq data=abcd\_bsln\_prob(where=(pmt\_response=1));

\*strata one;

cluster site\_id\_l;

weight final\_weight;

tables demo\_sex\_v2 race native marital educat famincome pubertal weight\_status maternal\_agecat gestation region;

run;

proc surveyfreq data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2')));

\*strata one;

cluster site\_id\_l;

weight acs\_raked\_propensity\_score\_num;

tables (race native marital educat famincome pubertal weight\_status maternal\_agecat gestation)\*demo\_sex\_v2 / column chisq;

run;

/\*Table 2: Prevalence of Disorders Table\*/

proc surveyfreq data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2')));

\*strata one;

cluster site\_id\_l;

weight acs\_raked\_propensity\_score\_num;

tables anx PD SAD SD GAD OCD mood MDDPDD BP ED BED OED PTSD;

run;

proc surveyfreq data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2')));

\*strata one;

cluster site\_id\_l;

weight acs\_raked\_propensity\_score\_num;

tables (anx PD SAD SD GAD OCD mood MDDPDD BP ED BED OED PTSD)\*demo\_sex\_v2 / column chisq;

run;

proc surveyfreq data=abcd\_bsln\_prob(where=(pmt\_response=1));

\*strata one;

cluster site\_id\_l;

weight final\_weight;

tables mendis ADHD disruptive ODD CD;

run;

proc surveyfreq data=abcd\_bsln\_prob(where=(pmt\_response=1));

\*strata one;

cluster site\_id\_l;

weight final\_weight;

tables (mendis ADHD disruptive ODD CD)\*demo\_sex\_v2 / column chisq;

run;

proc surveymeans data=abcd\_bsln\_prob(where=(pmt\_response=1)) mean stderr;

\*strata one;

cluster site\_id\_l;

weight final\_weight;

var numdis;

domain demo\_sex\_v2;

run;

proc surveyreg data=abcd\_bsln\_prob(where=(pmt\_response=1));

\*strata one;

cluster site\_id\_l;

weight final\_weight;

class demo\_sex\_v2;

model numdis = demo\_sex\_v2 /solution;

run;

/\*Table 3\*/

%macro aor(depvar, indvar, reflevel);

proc surveylogistic data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2')));

\*strata one;

cluster site\_id\_l;

weight acs\_raked\_propensity\_score\_num;

class &indvar(ref=&reflevel) demo\_sex\_v2(ref='2') /param=ref;

model &depvar(event='1')=&indvar demo\_sex\_v2;

run;

%mend aor;

%macro subaor(depvar, indvar, reflevel);

proc surveylogistic data=abcd\_bsln\_prob(where=(pmt\_response=1));

\*strata one;

cluster site\_id\_l;

weight final\_weight;

class &indvar(ref=&reflevel) demo\_sex\_v2(ref='2') /param=ref;

model &depvar(event='1')=&indvar demo\_sex\_v2;

run;

%mend subaor;

%macro aorseries(indvar, reflevel);

%subaor(mendis, &indvar, &reflevel)

%subaor(ADHD, &indvar, &reflevel)

%subaor(disruptive, &indvar, &reflevel)

%aor(anx, &indvar, &reflevel)

%aor(OCD, &indvar, &reflevel)

%aor(mood, &indvar, &reflevel)

%mend aorseries;

%aorseries(race, '2')

%aorseries(native, '1')

%aorseries(marital, '1')

%aorseries(educat, '4')

%aorseries(famincome, '4')

%aorseries(one, '1')

%aorseries(pubertal, '1')

%aorseries(weight\_status, '1')

%aorseries(maternal\_agecat, '2')

%aorseries(gestation, '1')

/\*Table 4\*/

%macro fullaor(depvar);

proc surveylogistic data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2')));

\*strata one;

cluster site\_id\_l;

weight acs\_raked\_propensity\_score\_num;

class race(ref='2') native(ref='1') marital(ref='1') educat(ref='4') famincome(ref='4') demo\_sex\_v2(ref='2')

pubertal(ref='1') weight\_status(ref='1') maternal\_agecat(ref='2') gestation(ref='1') /param=ref;

model &depvar(event='1')=demo\_sex\_v2 race native marital educat famincome pubertal weight\_status maternal\_agecat gestation /DF=INFINITY;

run;

%mend fullaor;

%macro fullsubaor(depvar);

proc surveylogistic data=abcd\_bsln\_prob(where=(pmt\_response=1));

\*strata one;

cluster site\_id\_l;

weight final\_weight;

class race(ref='2') native(ref='1') marital(ref='1') educat(ref='4') famincome(ref='4') demo\_sex\_v2(ref='2')

pubertal(ref='1') weight\_status(ref='1') maternal\_agecat(ref='2') gestation(ref='1') /param=ref;

model &depvar(event='1')=demo\_sex\_v2 race native marital educat famincome pubertal weight\_status maternal\_agecat gestation /DF=INFINITY;

run;

%mend fullsubaor;

%macro fullaor(depvar);

proc logistic data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2')));

class race(ref='2') native(ref='1') marital(ref='1') educat(ref='4') famincome(ref='4') demo\_sex\_v2(ref='2')

pubertal(ref='1') weight\_status(ref='1') maternal\_agecat(ref='2') gestation(ref='1') /param=ref;

model &depvar(event='1')=demo\_sex\_v2 race native marital educat famincome pubertal weight\_status maternal\_agecat gestation / firth clparm=pl;

run;

%mend fullaor;

%macro fullsubaor(depvar);

proc logistic data=abcd\_bsln\_prob(where=(pmt\_response=1));

class race(ref='2') native(ref='1') marital(ref='1') educat(ref='4') famincome(ref='4') demo\_sex\_v2(ref='2')

pubertal(ref='1') weight\_status(ref='1') maternal\_agecat(ref='2') gestation(ref='1') /param=ref;

model &depvar(event='1')=demo\_sex\_v2 race native marital educat famincome pubertal weight\_status maternal\_agecat gestation / firth clparm=pl;

run;

%mend fullsubaor;

%fullsubaor(mendis)

%fullsubaor(ADHD)

%fullsubaor(disruptive)

%fullaor(anx)

%fullaor(OCD)

%fullaor(mood)

/\*Table 2S (Appendix Table 1)\*/

proc surveymeans data=abcd\_bsln\_prob(where=(pmt\_response=1)) mean stderr;

\*strata one;

cluster site\_id\_l;

weight final\_weight;

var cbcl\_scr\_dsm5\_adhd\_t\_num;

domain ADHD;

run;

proc surveyreg data=abcd\_bsln\_prob(where=(pmt\_response=1));

\*strata one;

cluster site\_id\_l;

weight final\_weight;

class ADHD(ref='0');

model cbcl\_scr\_dsm5\_adhd\_t\_num = ADHD /solution;

run;

proc surveymeans data=abcd\_bsln\_prob(where=(pmt\_response=1)) mean stderr;

\*strata one;

cluster site\_id\_l;

weight final\_weight;

var cbcl\_scr\_syn\_aggressive\_t\_num;

domain ODD;

run;

proc surveyreg data=abcd\_bsln\_prob(where=(pmt\_response=1));

\*strata one;

cluster site\_id\_l;

weight final\_weight;

class ODD(ref='0');

model cbcl\_scr\_syn\_aggressive\_t\_num = ODD /solution;

run;

proc surveymeans data=abcd\_bsln\_prob(where=(pmt\_response=1)) mean stderr;

\*strata one;

cluster site\_id\_l;

weight final\_weight;

var cbcl\_scr\_syn\_rulebreak\_t\_num;

domain CD;

run;

proc surveyreg data=abcd\_bsln\_prob(where=(pmt\_response=1));

\*strata one;

cluster site\_id\_l;

weight final\_weight;

class CD(ref='0');

model cbcl\_scr\_syn\_rulebreak\_t\_num = CD /solution;

run;

proc surveymeans data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2'))) mean stderr;

\*strata one;

cluster site\_id\_l;

weight acs\_raked\_propensity\_score\_num;

var cbcl\_scr\_dsm5\_anxdisord\_t\_num;

domain anx;

run;

proc surveyreg data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2')));

\*strata one;

cluster site\_id\_l;

weight acs\_raked\_propensity\_score\_num;

class anx(ref='0');

model cbcl\_scr\_dsm5\_anxdisord\_t\_num = anx /solution;

run;

proc surveymeans data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2'))) mean stderr;

\*strata one;

cluster site\_id\_l;

weight acs\_raked\_propensity\_score\_num;

var cbcl\_scr\_dsm5\_anxdisord\_t\_num;

domain PD;

run;

proc surveyreg data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2')));

\*strata one;

cluster site\_id\_l;

weight acs\_raked\_propensity\_score\_num;

class PD(ref='0');

model cbcl\_scr\_dsm5\_anxdisord\_t\_num = PD /solution;

run;

proc surveymeans data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2'))) mean stderr;

\*strata one;

cluster site\_id\_l;

weight acs\_raked\_propensity\_score\_num;

var cbcl\_scr\_dsm5\_anxdisord\_t\_num;

domain SAD;

run;

proc surveyreg data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2')));

\*strata one;

cluster site\_id\_l;

weight acs\_raked\_propensity\_score\_num;

class SAD(ref='0');

model cbcl\_scr\_dsm5\_anxdisord\_t\_num = SAD /solution;

run;

proc surveymeans data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2'))) mean stderr;

\*strata one;

cluster site\_id\_l;

weight acs\_raked\_propensity\_score\_num;

var cbcl\_scr\_dsm5\_anxdisord\_t\_num;

domain SD;

run;

proc surveyreg data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2')));

\*strata one;

cluster site\_id\_l;

weight acs\_raked\_propensity\_score\_num;

class SD(ref='0');

model cbcl\_scr\_dsm5\_anxdisord\_t\_num = SD /solution;

run;

proc surveymeans data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2'))) mean stderr;

\*strata one;

cluster site\_id\_l;

weight acs\_raked\_propensity\_score\_num;

var cbcl\_scr\_dsm5\_anxdisord\_t\_num;

domain GAD;

run;

proc surveyreg data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2')));

\*strata one;

cluster site\_id\_l;

weight acs\_raked\_propensity\_score\_num;

class GAD(ref='0');

model cbcl\_scr\_dsm5\_anxdisord\_t\_num = GAD /solution;

run;

proc surveymeans data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2'))) mean stderr;

\*strata one;

cluster site\_id\_l;

weight acs\_raked\_propensity\_score\_num;

var cbcl\_scr\_07\_ocd\_t\_num;

domain OCD;

run;

proc surveyreg data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2')));

\*strata one;

cluster site\_id\_l;

weight acs\_raked\_propensity\_score\_num;

class OCD(ref='0');

model cbcl\_scr\_07\_ocd\_t\_num = OCD /solution;

run;

proc surveymeans data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2'))) mean stderr;

\*strata one;

cluster site\_id\_l;

weight acs\_raked\_propensity\_score\_num;

var cbcl\_scr\_dsm5\_depress\_t\_num;

domain mood;

run;

proc surveyreg data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2')));

\*strata one;

cluster site\_id\_l;

weight acs\_raked\_propensity\_score\_num;

class mood(ref='0');

model cbcl\_scr\_dsm5\_depress\_t\_num = mood /solution;

run;

proc surveymeans data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2'))) mean stderr;

\*strata one;

cluster site\_id\_l;

weight acs\_raked\_propensity\_score\_num;

var cbcl\_scr\_dsm5\_depress\_t\_num;

domain MDDPDD;

run;

proc surveyreg data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2')));

\*strata one;

cluster site\_id\_l;

weight acs\_raked\_propensity\_score\_num;

class MDDPDD(ref='0');

model cbcl\_scr\_dsm5\_depress\_t\_num = MDDPDD /solution;

run;

proc surveymeans data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2'))) mean stderr;

\*strata one;

cluster site\_id\_l;

weight acs\_raked\_propensity\_score\_num;

var cbcl\_scr\_dsm5\_depress\_t\_num;

domain BP;

run;

proc surveyreg data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2')));

\*strata one;

cluster site\_id\_l;

weight acs\_raked\_propensity\_score\_num;

class BP(ref='0');

model cbcl\_scr\_dsm5\_depress\_t\_num = BP /solution;

run;

/\*Unweighted Version\*/

/\*Table 1: socio-demographic and physical characteristics\*/

proc freq data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2')));

tables race native marital educat famincome food\_insecurity pubertal weight\_status maternal\_agecat gestation;

run;

proc freq data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2')));

tables (race native marital educat famincome food\_insecurity pubertal weight\_status maternal\_agecat gestation)\*demo\_sex\_v2 / norow nopercent chisq;

run;

/\*Table 2: Prevalence of Disorders Table\*/

proc freq data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2')));

tables demo\_sex\_v2;

run;

proc freq data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2')));

tables mendis mood MDDPDD BP anx PD SAD SD GAD disruptive ODD CD ADHD ED BED OED OCD PTSD NSSI SI;

run;

proc freq data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2')));

tables (mendis mood MDDPDD BP anx PD SAD SD GAD disruptive ODD CD ADHD ED BED OED OCD PTSD NSSI SI)\*demo\_sex\_v2 / norow nopercent chisq;

run;

proc freq data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2')));

tables mendis\_chd mood\_chd MDDPDD\_chd BP\_chd anx\_chd PD\_chd SAD\_chd SD\_chd GAD\_chd disruptive\_chd ODD\_chd CD\_chd

ADHD\_chd ED\_chd BED\_chd OED\_chd OCD\_chd PTSD\_chd NSSI\_chd SI\_chd;

run;

proc freq data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2')));

tables (mendis\_chd mood\_chd MDDPDD\_chd BP\_chd anx\_chd PD\_chd SAD\_chd SD\_chd GAD\_chd disruptive\_chd ODD\_chd CD\_chd

ADHD\_chd ED\_chd BED\_chd OED\_chd OCD\_chd PTSD\_chd NSSI\_chd SI\_chd)\*demo\_sex\_v2 / norow nopercent chisq;

run;

proc freq data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2')));

tables mendis\_narrow mendis\_broad mendis\_expansive mood\_narrow mood\_broad MDDPDD\_broad BP\_broad

anx\_narrow anx\_broad PD\_both SAD\_both SD\_both GAD\_both disruptive\_narrow disruptive\_broad ODD\_both CD\_both

ADHD\_both ED\_narrow ED\_broad BED\_both OED\_both OCD\_both PTSD\_both NSSI\_both SI\_both;

run;

proc freq data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2')));

tables (mendis\_narrow mendis\_broad mendis\_expansive mood\_narrow mood\_broad MDDPDD\_broad BP\_broad

anx\_narrow anx\_broad PD\_both SAD\_both SD\_both GAD\_both disruptive\_narrow disruptive\_broad ODD\_both CD\_both

ADHD\_both ED\_narrow ED\_broad BED\_both OED\_both OCD\_both PTSD\_both NSSI\_both SI\_both)\*demo\_sex\_v2 / norow nopercent chisq;

run;

/\*Table 3\*/

%macro aor(depvar, indvar, reflevel);

proc logistic data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2')));

class &indvar(ref=&reflevel) demo\_sex\_v2(ref='2') /param=ref;

model &depvar(event='1')=&indvar demo\_sex\_v2;

run;

%mend aor;

%macro aorseries(indvar, reflevel);

%aor(mendis, &indvar, &reflevel)

%aor(mood, &indvar, &reflevel)

%aor(anx, &indvar, &reflevel)

%aor(disruptive, &indvar, &reflevel)

%aor(ADHD, &indvar, &reflevel)

%aor(OCD, &indvar, &reflevel)

%aor(otherdis, &indvar, &reflevel)

%mend aorseries;

%aorseries(race, '2')

%aorseries(native, '1')

%aorseries(marital, '1')

%aorseries(educat, '4')

%aorseries(famincome, '4')

%aorseries(food\_insecurity, '1')

/\*Table 4\*/

%aorseries(one, '1')

%aorseries(pubertal, '1')

%aorseries(weight\_status, '1')

%aorseries(maternal\_agecat, '2')

%aorseries(gestation, '1')

/\*Old Analysis\*/

/\*Frequency Distributions\*/

proc freq data=abcd\_bsln;

tables demo\_sex\_v2 demo\_gender\_id\_v2 demo\_race\_a\_p\_\_\_10 demo\_race\_a\_p\_\_\_11 demo\_race\_a\_p\_\_\_12 demo\_race\_a\_p\_\_\_13

demo\_race\_a\_p\_\_\_14 demo\_race\_a\_p\_\_\_15 demo\_race\_a\_p\_\_\_16 demo\_race\_a\_p\_\_\_17 demo\_race\_a\_p\_\_\_18

demo\_race\_a\_p\_\_\_19 demo\_race\_a\_p\_\_\_20 demo\_race\_a\_p\_\_\_21 demo\_race\_a\_p\_\_\_22 demo\_race\_a\_p\_\_\_23

demo\_race\_a\_p\_\_\_24 demo\_race\_a\_p\_\_\_25 demo\_race\_a\_p\_\_\_77 demo\_race\_a\_p\_\_\_99 demo\_ethn\_v2

ksads\_14\_853\_p ksads\_14\_854\_p

kbi\_p\_c\_mh\_sa kbi\_p\_c\_age\_services\_nonmiss kbi\_p\_c\_scheck1 kbi\_p\_c\_scheck2 kbi\_p\_c\_scheck3 kbi\_p\_c\_scheck4

kbi\_p\_c\_scheck5 kbi\_p\_c\_scheck6 kbi\_p\_c\_scheck7 kbi\_p\_c\_scheck8 kbi\_p\_c\_scheck9 kbi\_p\_c\_scheck10

kbi\_p\_c\_mental\_health\_nonmiss kbi\_p\_c\_substance\_abuse\_nonmiss / nocum;

run;

proc means data=abcd\_bsln;

var kbi\_p\_c\_age\_services\_num kbi\_p\_c\_mental\_health\_num kbi\_p\_c\_substance\_abuse\_num;

run;

proc freq data=abcd\_bsln;

tables ksads\_10\_869\_p ksads\_10\_870\_p ksads\_14\_853\_p ksads\_14\_854\_p / nocum;

run;

/\*Table 0/1\*/

proc freq data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2')));

tables kbi\_p\_c\_mh\_sa kbi\_p\_c\_scheck7 kbi\_p\_c\_scheck8

any\_op\_mh\_sa\_service kbi\_p\_c\_scheck1 kbi\_p\_c\_scheck4

any\_ip\_mh\_sa\_service kbi\_p\_c\_scheck3 kbi\_p\_c\_scheck6

any\_ph\_mh\_sa\_service kbi\_p\_c\_scheck2 kbi\_p\_c\_scheck5

kbi\_p\_c\_scheck9 kbi\_p\_c\_scheck10;

run;

proc freq data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2')));

tables (kbi\_p\_c\_mh\_sa kbi\_p\_c\_scheck7 kbi\_p\_c\_scheck8

any\_op\_mh\_sa\_service kbi\_p\_c\_scheck1 kbi\_p\_c\_scheck4

any\_ip\_mh\_sa\_service kbi\_p\_c\_scheck3 kbi\_p\_c\_scheck6

any\_ph\_mh\_sa\_service kbi\_p\_c\_scheck2 kbi\_p\_c\_scheck5

/\*\*/kbi\_p\_c\_scheck9 kbi\_p\_c\_scheck10)\*demo\_sex\_v2 / norow nopercent chisq;

run;

proc means data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2')));

var kbi\_p\_c\_age\_services\_num kbi\_p\_c\_mh\_sa\_num\_1p;

run;

proc means data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2')));

class demo\_sex\_v2;

var kbi\_p\_c\_age\_services\_num kbi\_p\_c\_mh\_sa\_num\_1p /\*kbi\_p\_c\_mh\_sa\_num kbi\_p\_c\_mental\_health\_num kbi\_p\_c\_substance\_abuse\_num\*/;

run;

proc ttest data=abcd\_bsln(where=(demo\_sex\_v2 in ('1','2')));

class demo\_sex\_v2;

var kbi\_p\_c\_age\_services\_num kbi\_p\_c\_mh\_sa\_num\_1p /\*kbi\_p\_c\_mh\_sa\_num kbi\_p\_c\_mental\_health\_num kbi\_p\_c\_substance\_abuse\_num\*/;

run;

/\*Table 2\*/

proc freq data=abcd\_bsln; tables race; run;

proc freq data=abcd\_bsln(where=(race in ('1','2','3')));

tables (kbi\_p\_c\_mh\_sa kbi\_p\_c\_scheck7 kbi\_p\_c\_scheck8

any\_op\_mh\_sa\_service kbi\_p\_c\_scheck1 kbi\_p\_c\_scheck4

any\_ip\_mh\_sa\_service kbi\_p\_c\_scheck3 kbi\_p\_c\_scheck6

any\_ph\_mh\_sa\_service kbi\_p\_c\_scheck2 kbi\_p\_c\_scheck5)\*race / norow nopercent chisq;

run;

proc means data=abcd\_bsln(where=(race in ('1','2','3')));

class race;

var kbi\_p\_c\_age\_services\_num kbi\_p\_c\_mh\_sa\_num kbi\_p\_c\_mental\_health\_num kbi\_p\_c\_substance\_abuse\_num;

run;

/\*two-way ANOVA\*/

%macro twowayanova(depvar);

proc glm data=abcd\_bsln(where=(race in ('1','2', '3')));

class race;

model &depvar = race;

run;

quit;

%mend twowayanova;

%twowayanova(kbi\_p\_c\_age\_services\_num)

%twowayanova(kbi\_p\_c\_mh\_sa\_num)

%twowayanova(kbi\_p\_c\_mental\_health\_num)

%twowayanova(kbi\_p\_c\_substance\_abuse\_num)

/\*Table 3\*/

proc freq data=abcd\_bsln; tables ADHD\_simple; run;

proc freq data=abcd\_bsln(where=(ADHD\_simple in ('1','2')));

tables (kbi\_p\_c\_mh\_sa kbi\_p\_c\_scheck7 kbi\_p\_c\_scheck8

any\_op\_mh\_sa\_service kbi\_p\_c\_scheck1 kbi\_p\_c\_scheck4

any\_ip\_mh\_sa\_service kbi\_p\_c\_scheck3 kbi\_p\_c\_scheck6

any\_ph\_mh\_sa\_service kbi\_p\_c\_scheck2 kbi\_p\_c\_scheck5)\*ADHD\_simple / norow nopercent chisq;

run;

proc means data=abcd\_bsln(where=(ADHD\_simple in ('1','2')));

class ADHD\_simple;

var kbi\_p\_c\_age\_services\_num kbi\_p\_c\_mh\_sa\_num kbi\_p\_c\_mental\_health\_num kbi\_p\_c\_substance\_abuse\_num;

run;

proc ttest data=abcd\_bsln(where=(ADHD\_simple in ('1','2')));

class ADHD\_simple;

var kbi\_p\_c\_age\_services\_num kbi\_p\_c\_mh\_sa\_num kbi\_p\_c\_mental\_health\_num kbi\_p\_c\_substance\_abuse\_num;

run;