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/** TABLE 1 TZ individual selected children models *****/
/** READ IN THE RAW DATA **/
FILENAME REFFILE '/folders/myfolders/TZallchildrenSAS.csv';
PROC IMPORT DATAFILE=REFFILE
    DBMS=CSV
    OUT=work.TZ
    replace;
    datarow=2;
    GETNAMES=YES;
    guessingrows=MAX;
RUN;
PROC CONTENTS DATA=WORK.TZ; RUN;
/** 9, 103, 2 100 **/

/** child id=9 **/
data child;
set TZ;
if subjidN=9;
run;

ods html5 file='/folders/myfolders/SI1output.html';

/** OU */
proc nlmixed data=child;
    parms sigma2=5 theta=8 mu=0.2;
    mean = exp((-agects1+agects0)*theta)*(zwfl0-mu) + mu;
    var=(exp(-2*agects1*theta)*( exp(2*agects1*theta) -exp(2*agects0*theta) )*sigma2)/(2*theta);
    model zwfl1 ~ normal(mean,var);
    predict mean out=meanOU9;
run;

/** LINEAR REGRESSION */
proc nlmixed data=child;
    parms sigma2=10 a1=1.0 a2=1.0;
    mean = a1+a2*agects1;
    var=sigma2;
    model zwfl1 ~ normal(mean,var);
    predict mean out=meanLM9;
run;

proc export data=work.meanOU9
    outfile='/folders/myfolders/OUfitschild9.csv'
    dbms=csv
    replace;
run;
proc export data=work.meanLM9
    outfile='/folders/myfolders/LMfitschild9.csv'
    dbms=csv
    replace;
run;

/** child id=103 **/
data child;
set TZ;
if subjidN=103;
run;

/** OU */
proc nlmixed data=child;
    parms sigma2=5 theta=10 mu=-1.2;
    mean = exp((-agects1+agects0)*theta)*(zwfl0-mu) + mu;
    var=(exp(-2*agects1*theta)*( exp(2*agects1*theta) -exp(2*agects0*theta) )*sigma2)/(2*theta);
    model zwfl1 ~ normal(mean,var);
    predict mean out=meanOU103;
run;

/** LINEAR REGRESSION */
proc nlmixed data=child;
    parms sigma2=10 a1=1.0 a2=1.0;
    mean = a1+a2*agects1;
    var=sigma2;
    model zwfl1 ~ normal(mean,var);
    predict mean out=meanLM103;
run;
```

```
proc export data=work.meanOU103
  outfile='/folders/myfolders/OUfitschild103.csv'
  dbms=csv
  replace;
run;

proc export data=work.meanLM103
  outfile='/folders/myfolders/LMfitschild103.csv'
  dbms=csv
  replace;
run;

/** child id=2 **/
data child;
set TZ;
if subjidN=2;
run;

/** OU */
proc nlmixed data=child;
  parms sigma2=5 theta=8 mu=0.2;
  mean = exp((-agects1+agects0)*theta)*(zwfl0-mu) + mu;
  var=(exp(-2*agects1*theta)*( exp(2*agects1*theta) -exp(2*agects0*theta) ) *sigma2)/(2*theta);
  model zwfl1 ~ normal(mean,var);
  predict mean out=meanOU2;
run;

/** LINEAR REGRESSION */
proc nlmixed data=child;
  parms sigma2=10 a1=1.0 a2=1.0;
  mean = a1+a2*agects1;
  var=sigma2;
  model zwfl1 ~ normal(mean,var);
  predict mean out=meanLM2;
run;

proc export data=work.meanOU2
  outfile='/folders/myfolders/OUfitschild2.csv'
  dbms=csv
  replace;
run;

proc export data=work.meanLM2
  outfile='/folders/myfolders/LMfitschild2.csv'
  dbms=csv
  replace;
run;

/** child id=100 **/
data child;
set TZ;
if subjidN=100;
run;

/** OU */
proc nlmixed data=child;
  parms sigma2=5 theta=8 mu=0.2;
  mean = exp((-agects1+agects0)*theta)*(zwfl0-mu) + mu;
  var=(exp(-2*agects1*theta)*( exp(2*agects1*theta) -exp(2*agects0*theta) ) *sigma2)/(2*theta);
  model zwfl1 ~ normal(mean,var);
  predict mean out=meanOU100;
run;

/** LINEAR REGRESSION */
proc nlmixed data=child;
  parms sigma2=10 a1=1.0 a2=1.0;
  mean = a1+a2*agects1;
  var=sigma2;
  model zwfl1 ~ normal(mean,var);
  predict mean out=meanLM100;
run;

proc export data=work.meanOU100
  outfile='/folders/myfolders/OUfitschild100.csv'
  dbms=csv
  replace;
```

```
run;  
proc export data=work.meanLM100  
  outfile='/folders/myfolders/LMfitschild100.csv'  
  dbms=csv  
  replace;  
run;  
  
ods html5 close;
```