```
* Encoding: UTF-8.


** OSEL age strats matched to Author's original data sample plus
additional age strats for ages 5 and over not included in original
sample (Feb 2013)

do if ((ageinmonths ge 24) and (ageinmonths le 27)).
comp agestrat_2013 eq 1.
else if ((ageinmonths ge 28) and (ageinmonths le 30)).
comp agestrat_2013 eq 2.
else if ((ageinmonths ge 31) and (ageinmonths le 35)).
comp agestrat_2013 eq 3.
else if ((ageinmonths ge 36) and (ageinmonths le 41)).
comp agestrat_2013 eq 4.
else if ((ageinmonths ge 42) and (ageinmonths le 47)).
comp agestrat_2013 eq 5.
else if ((ageinmonths ge 48) and (ageinmonths le 53)).
comp agestrat_2013 eq 6.
else if ((ageinmonths ge 54) and (ageinmonths le 60)).
comp agestrat_2013 eq 7.
else if ((ageinmonths ge 61) and (ageinmonths le 65)).
comp agestrat_2013 eq 8.
else if ((ageinmonths ge 66) and (ageinmonths le 71)).
comp agestrat_2013 eq 9.
else if ((ageinmonths ge 72) and (ageinmonths le 83)).
comp agestrat_2013 eq 10.
else if ((ageinmonths ge 84) and (ageinmonths le 95)).
comp agestrat_2013 eq 11.
else if ((ageinmonths ge 96) and (ageinmonths le 107)).
comp agestrat_2013 eq 12.
else if ((ageinmonths ge 108) and (ageinmonths le 119)).
comp agestrat_2013 eq 13.
else if ((ageinmonths ge 120) and (ageinmonths le 131)).
comp agestrat_2013 eq 14.
else if ((ageinmonths ge 132) and (ageinmonths le 143)).
comp agestrat_2013 eq 15.
else if ((ageinmonths ge 144) and (ageinmonths le 155)).
comp agestrat_2013 eq 16.
end if.

val lab agestrat_2013
1 '2-0 to 2-3'
2 '2-4 to 2-6'
3 '2-7 to 2-11'
4 '3-0 to 3-5'
5 '3-6 to 3-11'
6 '4-0 to 4-5'
7 '4-6 to 5-0'
8 '5-1 to 5-5'
```

```
9 '5–6 to 5–11'
10 '6–0 to 6–11'
11 '7–0 to 7–11'
12 '8–0 to 8–11'
13 '9–0 to 9–11'
14 '10–0 to 10–11'
15 '11–0 to 11–11'
16 '12–0 to 12–11'.
exe.
```

∗∗OSEL syntax based on Author's original variables and recoding rules
(Feb 2013)

∗∗compute summary variable of Articles (0–3) plus Demonstrative
Adjectives (0–3) (summary range is 0–6)

```
Compute Article_total_raw = Article + DemAdj.
Execute.
```

∗∗compute recoded Article variable based on 0–4 scoring

```
RECODE Article_total_raw (0=0) (1 THRU 2=1) (3 THRU 4=2) (5=3) (6=4)
into Article_total_rec.
```


∗∗compute recoded Adjective variable based on 1–4 scoring

```
RECODE Adjective (0 THRU 5=1) (6 THRU 10=2) (11 THRU 15=3) (16=4) into
Adjective_total_rec.
```

∗∗compute recoded Noun variable based on 1–4 scoring

```
RECODE Noun (0 THRU 5=1) (6 THRU 10=2) (11 THRU 15=3) (16=4) into
Noun_total_rec.
```

∗∗compute recoded Regular Plural variable based on 0–4 scoring

```
RECODE RegPlu (0=0) (1 THRU 3=1) (4=2) (5=3) (6=4) into
Plural_Regular_rec.
```


∗∗compute summary variable of all Subject Pronoun subscores (0–3) for
each with (0–18) total

```
Compute Pronoun_sub_total_raw = SubProI + SubProYou + SubProIt +
SubProHe + SubProWe + SubProOne.
Execute.
```

**compute recoded Subject Pronoun variable based on 0–4 scoring

RECODE Pronoun_sub_total_raw (0=0) (1 THRU 12=1) (13 THRU 14=2) (15 THRU 16=3) (17 THRU 18=4) into Pronoun_sub_total_rec.

**compute summary variable of all Object Pronoun subscores (0–3) for each with (0–15) total

Compute Pronoun_obj_total_raw = ObjProMe + ObjProYou + ObjProIt + ObjProHim + ObjProOne.
Execute.

**compute recoded Object Pronoun variable based on 0–4 scoring

RECODE Pronoun_obj_total_raw (0=0) (1 THRU 9=1) (10 THRU 11=2) (12 THRU 13=3) (14 THRU 15=4) into Pronoun_obj_total_rec.

**compute summary variable of all Possessive Pronoun subscores (0–3) for each with (0–12) total

Compute PossessivePronoun_total_raw = PosProMy + PosProYour + PosProOur + PosProHis.
Execute.

**compute recoded Possessive Pronoun variable based on 0–4 scoring

RECODE PossessivePronoun_total_raw (0=0) (1 THRU 7=1) (8 THRU 10=2) (11=3) (12=4) into PossessivePronoun_total_rec.

**compute recoded Spatial Prepositions based on 0–4 scoring

RECODE SpPrep (0=0) (1 THRU 2=1) (3=2) (4=3) (5=4) into Preposition_total_rec.

**compute summary variable of all Child Asks Questions subscores (0–3) for each with (0–18) total

Compute Question_total_raw = CAQ_Who + CAQ_What + CAQ_Why + CAQ_YN + CAQ_OW + CAQ_IO.
Execute.

**compute recoded Child Asks Questions variable based on 0–4 scoring

RECODE Question_total_raw (0=0) (1 THRU 6=1) (7 THRU 10=2) (11 THRU 13=3) (14 THRU 18=4) into Question_total_rec.

**compute recoded Longest Utterance (Sentence) based on 0—4 scoring

RECODE LongUtt (0=0) (1 THRU 5=1) (6=2) (7=3) (8=4) into
Sentence_total_rec.

**compute recoded Verb variable based on 1—4 scoring

RECODE Verb (0 THRU 5=1) (6 THRU 10=2) (11 THRU 15=3) (16=4) into
Verbs_total_rec.

**compute recoded Regular Past variable based on 0—4 scoring

RECODE RegPast (0=0) (1 THRU 3=1) (4=2) (5=3) (6=4) into Past_reg_rec.

**compute summary variable of Copula (range is 0—4)

Compute CopulaVerb_total_raw = CopAm + CopIs + CopAre + CopWas.
Execute.

**compute summary variable of Modal Auxililary (range is 0—4 and only
counts Can Shall May and Will)

Compute Modal_AuxiliaryVerb_total_raw = AuxCan + AuxMay + AuxShall +
AuxWill.
Execute.

**compute recoded raw Future variables based on author's original 2
point code (Gonna and Will each have 1 hit max)

RECODE FutGonna (0=0) (1=1) (2=1) into FutGonna_old_raw.
RECODE FutWill (0=0) (1=1) (2=1) into FutWill_old_raw.

**compute summary variable for Future using the recoded old 2 point
Future variable (0—2 scoring)

Compute Future_total_raw = FutGonna_old_raw + FutWill_old_raw.
Execute.

**compute recoded Future variable based on 0—4 scoring (which converts
the 2 point Future variable to 4)

RECODE Future_total_raw (0=0) (1=2) (2=4) into Future_total_rec.

**compute OSEL Syntax Total (sum of recoded scores, with range of 3–92)

```
Compute OSEL_Syntax_total = WhQ_C + YNQ_C + Article_total_rec +
Adjective_total_rec + Noun_total_rec + Plural_Regular_rec + IrregPlu +
Pronoun_sub_total_rec + Pronoun_obj_total_rec +
PossessivePronoun_total_rec + Preposition_total_rec +
Question_total_rec +
Sentence_total_rec + Verbs_total_rec + Past_reg_rec + IrregPast +
CopulaVerb_total_raw + Modal_AuxiliaryVerb_total_raw + Progressive +
Future_total_rec + InfPhrase + Negation + Coord + Subord .
Execute.
```

**explore syntax totals by age

```
sort cases by agestrat_mos.
split file by agestrat_mos.
temporary.
select if clinical eq 1 and gender eq 1.
DESCRIPTIVES VARIABLES=OSEL_Syntax_total
  /STATISTICS=MEAN STDDEV MIN MAX.
split file off.

sort cases by agestrat_mos.
split file by agestrat_mos.
temporary.
select if clinical eq 1 and gender eq 2.
DESCRIPTIVES VARIABLES=OSEL_Syntax_total
  /STATISTICS=MEAN STDDEV MIN MAX.
split file off.

sort cases by agestrat_mos2.
split file by agestrat_mos2.
temporary.
select if clinical eq 1 and gender eq 1.
DESCRIPTIVES VARIABLES=OSEL_Syntax_total
  /STATISTICS=MEAN STDDEV MIN MAX.
split file off.

sort cases by agestrat_mos2.
split file by agestrat_mos2.
temporary.
select if clinical eq 1 and gender eq 2.
DESCRIPTIVES VARIABLES=OSEL_Syntax_total
  /STATISTICS=MEAN STDDEV MIN MAX.
split file off.

sort cases by agestrat_mos3.
split file by agestrat_mos3.
temporary.
```

```
select if clinical eq 1 and gender eq 1.
DESCRIPTIVES VARIABLES=OSEL_Syntax_total
  /STATISTICS=MEAN STDDEV MIN MAX.
split file off.

sort cases by agestrat_mos3.
split file by agestrat_mos3.
temporary.
select if clinical eq 1 and gender eq 2.
DESCRIPTIVES VARIABLES=OSEL_Syntax_total
  /STATISTICS=MEAN STDDEV MIN MAX.
split file off.

sort cases by agestrat_mos3.
split file by agestrat_mos3.
temporary.
select if clinical eq 1 and gender eq 1 and site_ID ne 120.
DESCRIPTIVES VARIABLES=OSEL_Syntax_total
  /STATISTICS=MEAN STDDEV MIN MAX.
split file off.

sort cases by agestrat_mos3.
split file by agestrat_mos3.
temporary.
select if clinical eq 1 and gender eq 2 and site_ID ne 120.
DESCRIPTIVES VARIABLES=OSEL_Syntax_total
  /STATISTICS=MEAN STDDEV MIN MAX.
split file off.

temporary.
select if clinical eq 1.

FREQUENCIES VARIABLES=agestrat_2013
  /ORDER=ANALYSIS.

temporary.
select if clinical eq 1 and gender eq 1.

FREQUENCIES VARIABLES=agestrat_2013
  /ORDER=ANALYSIS.

temporary.
select if clinical eq 1 and gender eq 2.

FREQUENCIES VARIABLES=agestrat_2013
  /ORDER=ANALYSIS.


sort cases by agestrat_2013.
split file by agestrat_2013.
```

```
temporary.
select if clinical eq 1 and gender eq 1.
DESCRIPTIVES VARIABLES=OSEL_Syntax_total
  /STATISTICS=MEAN STDDEV MIN MAX.
split file off.


sort cases by agestrat_2013.
split file by agestrat_2013.
temporary.
select if clinical eq 1 and gender eq 2.
DESCRIPTIVES VARIABLES=OSEL_Syntax_total
  /STATISTICS=MEAN STDDEV MIN MAX.
split file off.



sort cases by Site_ID.
split file by Site_ID.
temporary.
select if clinical eq 1 and gender eq 1.
DESCRIPTIVES VARIABLES=OSEL_Syntax_total
  /STATISTICS=MEAN STDDEV MIN MAX.
split file off.

**review data excluding site 120

sort cases by agestrat_2013.
split file by agestrat_2013.
temporary.
select if clinical eq 1 and gender eq 1 and site_ID ne 120.
DESCRIPTIVES VARIABLES=OSEL_Syntax_total
  /STATISTICS=MEAN STDDEV MIN MAX.
split file off.

sort cases by agestrat_2013.
split file by agestrat_2013.
temporary.
select if clinical eq 1 and gender eq 2 and site_ID ne 120.
DESCRIPTIVES VARIABLES=OSEL_Syntax_total
  /STATISTICS=MEAN STDDEV MIN MAX.
split file off.

**review clinical data

sort cases by agestrat_2013.
split file by agestrat_2013.
temporary.
select if clinical eq 2 and gender eq 1.
DESCRIPTIVES VARIABLES=OSEL_Syntax_total
  /STATISTICS=MEAN STDDEV MIN MAX.
split file off.
```

```
sort cases by agestrat_2013.
split file by agestrat_2013.
temporary.
select if clinical eq 2 and gender eq 2.
DESCRIPTIVES VARIABLES=OSEL_Syntax_total
  /STATISTICS=MEAN STDDEV MIN MAX.
split file off.


**Internal Consistency – exploratory for OSEL syntax total from 2013

sort cases by agestrat_2013.
split file by agestrat_2013.
temporary.
select if clinical eq 1 and gender eq 1.
RELIABILITY
  /VARIABLES=WhQ_C YNQ_C Article_total_rec Adjective_total_rec
Noun_total_rec Plural_Regular_rec IrregPlu
Pronoun_sub_total_rec Pronoun_obj_total_rec
PossessivePronoun_total_rec Preposition_total_rec Question_total_rec
Sentence_total_rec Verbs_total_rec Past_reg_rec IrregPast
CopulaVerb_total_raw Modal_AuxiliaryVerb_total_raw Progressive
Future_total_rec InfPhrase Negation Coord Subord
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA.

sort cases by agestrat_2013.
split file by agestrat_2013.
temporary.
select if clinical eq 1 and gender eq 2.
RELIABILITY
  /VARIABLES=WhQ_C YNQ_C Article_total_rec Adjective_total_rec
Noun_total_rec Plural_Regular_rec IrregPlu
Pronoun_sub_total_rec Pronoun_obj_total_rec
PossessivePronoun_total_rec Preposition_total_rec Question_total_rec
Sentence_total_rec Verbs_total_rec Past_reg_rec IrregPast
CopulaVerb_total_raw Modal_AuxiliaryVerb_total_raw Progressive
Future_total_rec InfPhrase Negation Coord Subord
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA.

sort cases by agestrat_2013.
split file by agestrat_2013.
temporary.
select if clinical eq 1.
RELIABILITY
  /VARIABLES=WhQ_C YNQ_C Article_total_rec Adjective_total_rec
Noun_total_rec Plural_Regular_rec IrregPlu
Pronoun_sub_total_rec Pronoun_obj_total_rec
```

PossessivePronoun_total_rec Preposition_total_rec Question_total_rec
Sentence_total_rec Verbs_total_rec Past_reg_rec IrregPast
CopulaVerb_total_raw Modal_AuxiliaryVerb_total_raw Progressive
Future_total_rec InfPhrase Negation Coord Subord
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA.

**all alpha looked good except 10 year old girls — reviewed data and
there are only 4 girls and all scored within few points of each other
**so it appears that alpha being low is due to restricted range
**so interestingly, with developmental test like this should see steep
point where levels off but not really seeing that (probably bec
spontaneous)
**and if levels off should see attenuation of IC but don't see that at
all except in the 10 year old girls
**but overall, IC numbers for OSEL syntax total from 2013 look great
within age bands and are encouraging

temporary.
select if clinical eq 1 and gender eq 2 and agestrat_2013 eq 14.
FREQUENCIES VARIABLES=OSEL_Syntax_total
  /ORDER=ANALYSIS.

**compute OSEL PSP scores based on prior factors

**recode PSP 5 scores of 8 to 0

RECODE PSP_5 (0=0) (1=1) (2=2) (3=3) (8=0) into PSP_5_rec.

**compute Factor 1 total (1a, 2a, 3a, 4, 5) with 5 has scores of 8
recoded to 0

Compute OSEL_PSP_F1_T = PSP_1a + PSP_2a + PSP_3a + PSP_4 + PSP_5_rec.
Execute.

**compute Factor 2 total (7, 8, 9, 11, 12)

Compute OSEL_PSP_F2_T = PSP_7 + PSP_8 + PSP_9 + PSP_11 + PSP_12.
Execute.

**recode PSP 6a scores of 8 to 0

RECODE PSP_6a (0=0) (1=1) (2=2) (3=3) (8=0) into PSP_6a_rec.

**compute Factor 3 total (6a, 13, 14, 15, 16) with 6a has scores of 8
recoded to 0

Compute OSEL_PSP_F3_T = PSP_6a_rec + PSP_13 + PSP_14 + PSP_15 +

```
PSP_16.
Execute.

**compute 3 Factor Total (factor 1 plus 2 plus 3 with range of 0-45)

Compute OSEL_PSP_T = OSEL_PSP_F1_T + OSEL_PSP_F2_T + OSEL_PSP_F3_T.
Execute.



sort cases by agestrat_2013.
split file by agestrat_2013.
temporary.
select if clinical eq 1 and gender eq 1.
DESCRIPTIVES VARIABLES=OSEL_PSP_F1_T OSEL_PSP_F2_T OSEL_PSP_F3_T
OSEL_PSP_T
  /STATISTICS=MEAN STDDEV MIN MAX.
split file off.

sort cases by agestrat_2013.
split file by agestrat_2013.
temporary.
select if clinical eq 1 and gender eq 2.
DESCRIPTIVES VARIABLES=OSEL_PSP_F1_T OSEL_PSP_F2_T OSEL_PSP_F3_T
OSEL_PSP_T
  /STATISTICS=MEAN STDDEV MIN MAX.
split file off.



sort cases by agestrat_2013.
split file by agestrat_2013.
temporary.
select if clinical eq 2 and gender eq 1.
DESCRIPTIVES VARIABLES=OSEL_PSP_F1_T OSEL_PSP_F2_T OSEL_PSP_F3_T
OSEL_PSP_T
  /STATISTICS=MEAN STDDEV MIN MAX.
split file off.

sort cases by agestrat_2013.
split file by agestrat_2013.
temporary.
select if clinical eq 2 and gender eq 2.
DESCRIPTIVES VARIABLES=OSEL_PSP_F1_T OSEL_PSP_F2_T OSEL_PSP_F3_T
OSEL_PSP_T
  /STATISTICS=MEAN STDDEV MIN MAX.
split file off.
```

```
sort cases by agestrat_2013.
split file by agestrat_2013.
temporary.
select if clinical eq 1 and gender eq 1.
FREQUENCIES VARIABLES=OSEL_Syntax_total OSEL_PSP_F1_T OSEL_PSP_F2_T
OSEL_PSP_F3_T OSEL_PSP_T
  /ORDER=ANALYSIS.
split file off.


sort cases by agestrat_2013.
split file by agestrat_2013.
temporary.
select if clinical eq 1 and gender eq 2.
FREQUENCIES VARIABLES=OSEL_Syntax_total OSEL_PSP_F1_T OSEL_PSP_F2_T
OSEL_PSP_F3_T OSEL_PSP_T
  /ORDER=ANALYSIS.
split file off.



sort cases by agestrat_2013.
split file by agestrat_2013.
temporary.
select if clinical eq 2 and gender eq 1.
FREQUENCIES VARIABLES=OSEL_Syntax_total OSEL_PSP_F1_T OSEL_PSP_F2_T
OSEL_PSP_F3_T OSEL_PSP_T
  /ORDER=ANALYSIS.
split file off.


sort cases by agestrat_2013.
split file by agestrat_2013.
temporary.
select if clinical eq 2 and gender eq 2.
FREQUENCIES VARIABLES=OSEL_Syntax_total OSEL_PSP_F1_T OSEL_PSP_F2_T
OSEL_PSP_F3_T OSEL_PSP_T
  /ORDER=ANALYSIS.
split file off.



**explore site coding for PSP

sort cases by Site_ID.
split file by Site_ID.
temporary.
select if clinical eq 1 and gender eq 1.
DESCRIPTIVES VARIABLES=OSEL_PSP_F1_T
  /STATISTICS=MEAN STDDEV MIN MAX.
split file off.

sort cases by Site_ID.
```

```
split file by Site_ID.
temporary.
select if clinical eq 1 and gender eq 1.
DESCRIPTIVES VARIABLES=OSEL_PSP_F2_T
  /STATISTICS=MEAN STDDEV MIN MAX.
split file off.

sort cases by Site_ID.
split file by Site_ID.
temporary.
select if clinical eq 1 and gender eq 1.
DESCRIPTIVES VARIABLES=OSEL_PSP_F3_T
  /STATISTICS=MEAN STDDEV MIN MAX.
split file off.

sort cases by Site_ID.
split file by Site_ID.
temporary.
select if clinical eq 1 and gender eq 1.
DESCRIPTIVES VARIABLES=OSEL_PSP_T
  /STATISTICS=MEAN STDDEV MIN MAX.
split file off.


sort cases by Site_ID.
split file by Site_ID.
temporary.
select if clinical eq 1 and gender eq 2.
DESCRIPTIVES VARIABLES=OSEL_PSP_F1_T
  /STATISTICS=MEAN STDDEV MIN MAX.
split file off.

sort cases by Site_ID.
split file by Site_ID.
temporary.
select if clinical eq 1 and gender eq 2.
DESCRIPTIVES VARIABLES=OSEL_PSP_F2_T
  /STATISTICS=MEAN STDDEV MIN MAX.
split file off.

sort cases by Site_ID.
split file by Site_ID.
temporary.
select if clinical eq 1 and gender eq 2.
DESCRIPTIVES VARIABLES=OSEL_PSP_F3_T
  /STATISTICS=MEAN STDDEV MIN MAX.
split file off.

sort cases by Site_ID.
split file by Site_ID.
```

```
temporary.
select if clinical eq 1 and gender eq 2.
DESCRIPTIVES VARIABLES=OSEL_PSP_T
  /STATISTICS=MEAN STDDEV MIN MAX.
split file off.


**exploring demographic variables/bias

sort cases by agestrat_2013.
split file by agestrat_2013.
temporary.
select if clinical eq 1 and eth_groups eq 4.
DESCRIPTIVES VARIABLES=OSEL_Syntax_total
  /STATISTICS=MEAN STDDEV MIN MAX.
split file off.
```