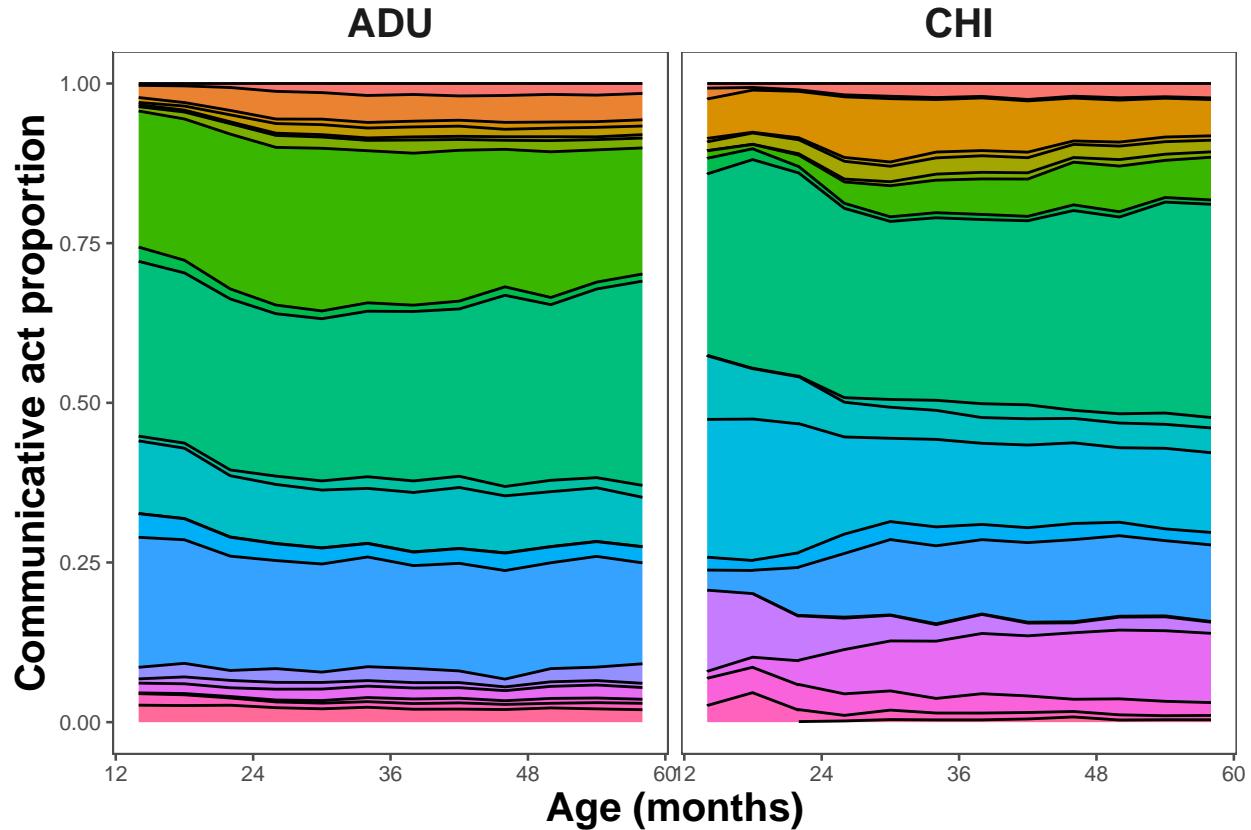
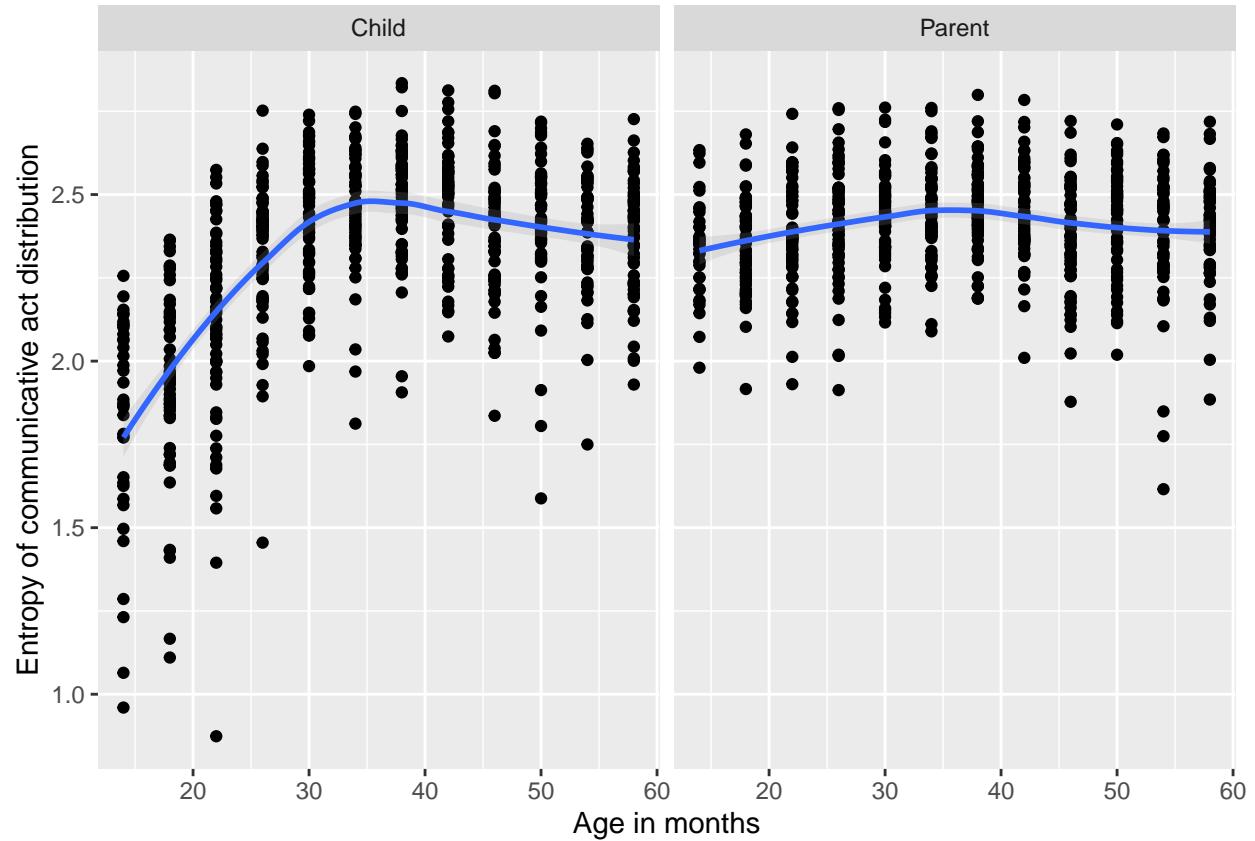


# communicative act entropies

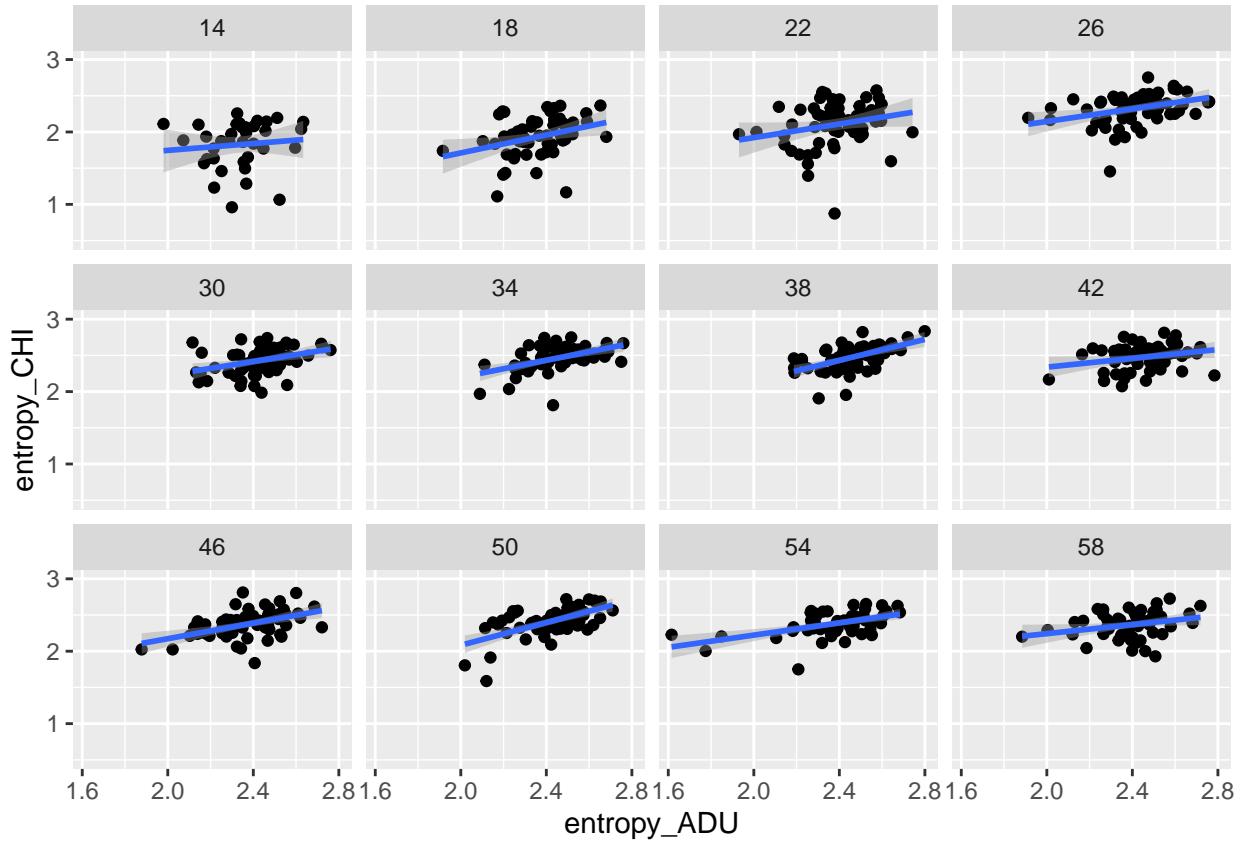
2023-11-28



Children's communicative act repertoires expand over this age range.



Children's diversity of communicative act use increases rapidly from 14-36 months.

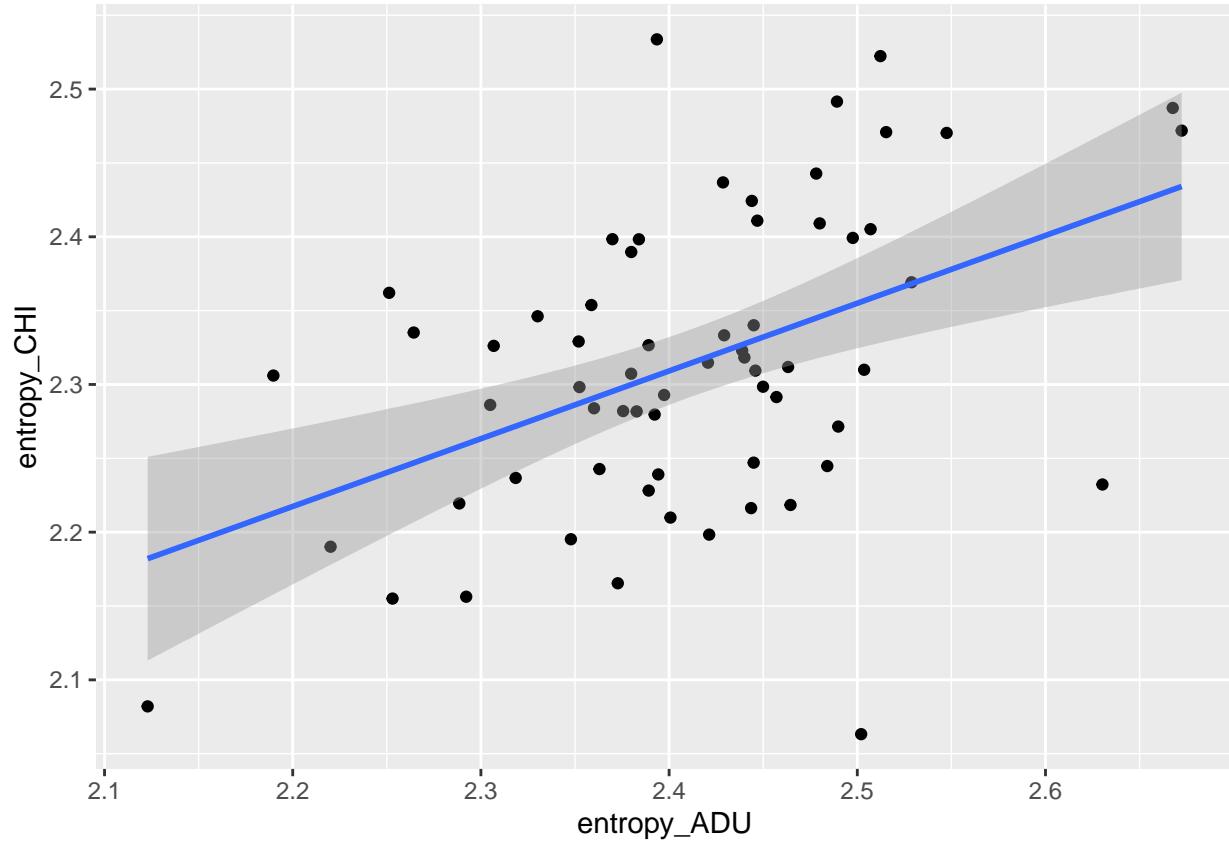


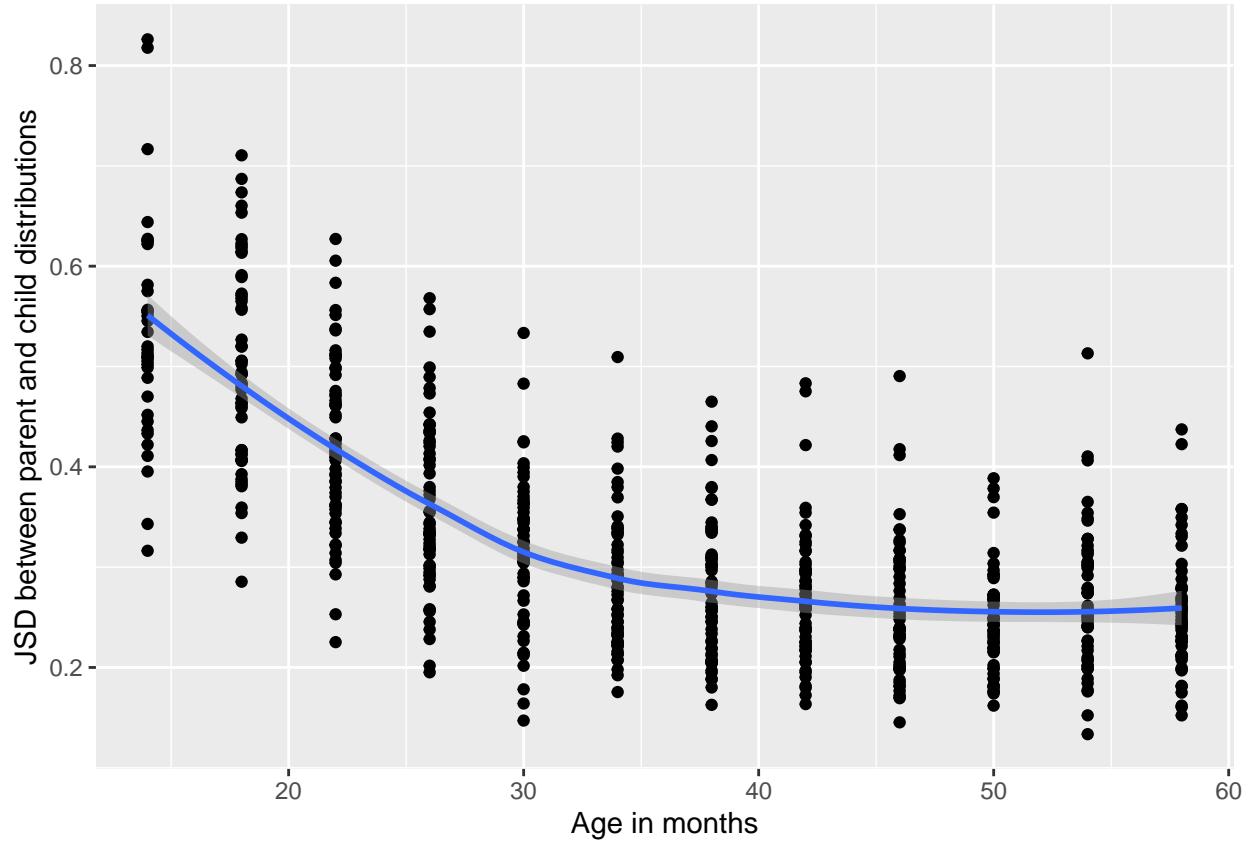
```

## 
## Pearson's product-moment correlation
## 
## data: avg_entropies_by_child$entropy_ADU and avg_entropies_by_child$entropy_CHI
## t = 4.0518, df = 62, p-value = 0.000144
## alternative hypothesis: true correlation is not equal to 0
## 95 percent confidence interval:
##  0.2385762 0.6322521
## sample estimates:
##        cor
## 0.4575527

```

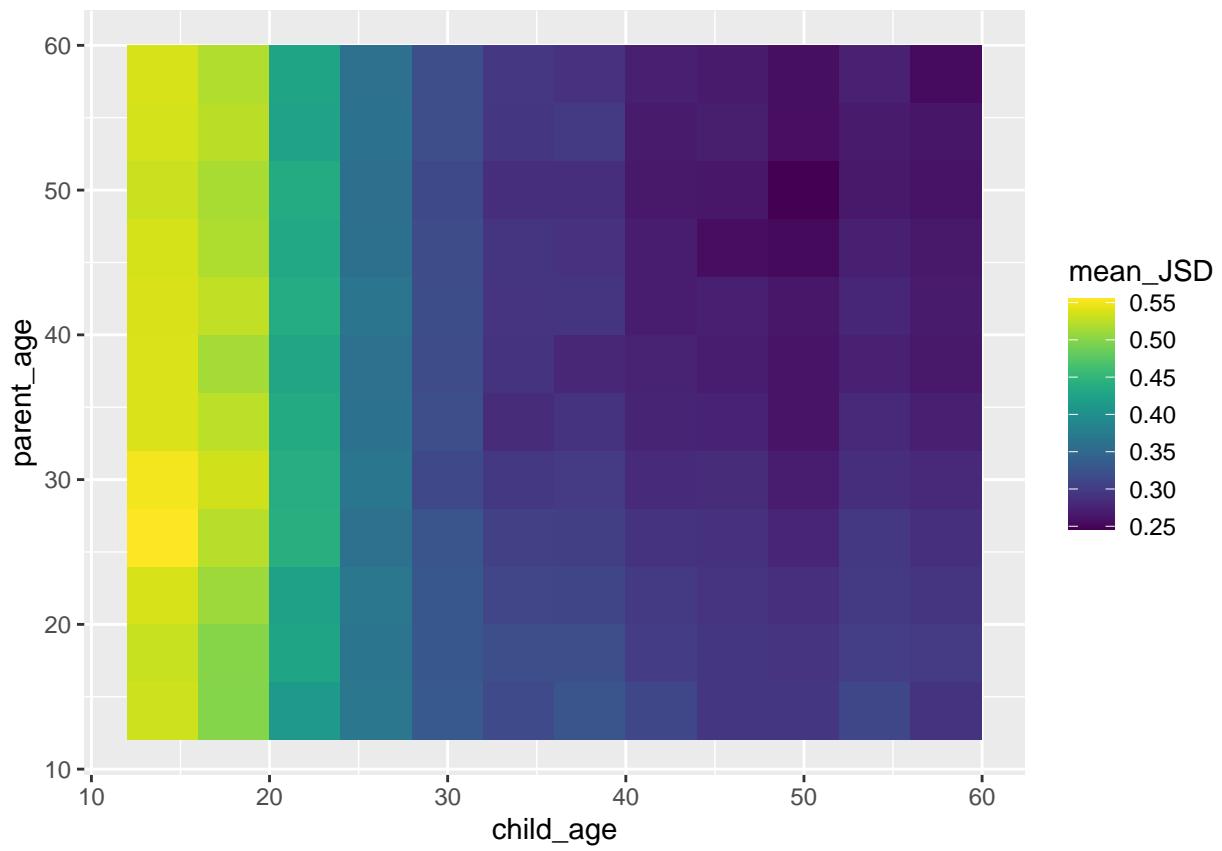
Children's and parents' average entropies are correlated – children with more diverse communicative acts are talking to parents with more diverse communicative acts.

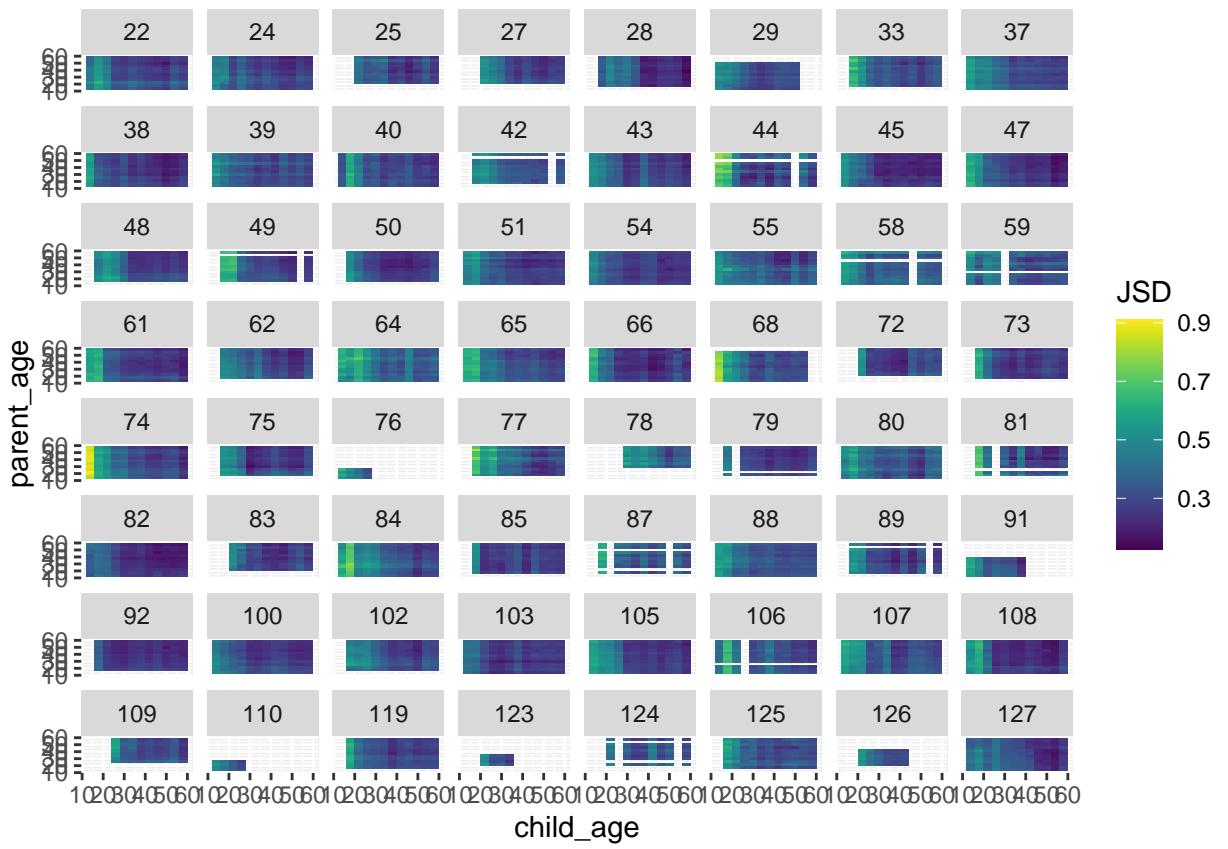


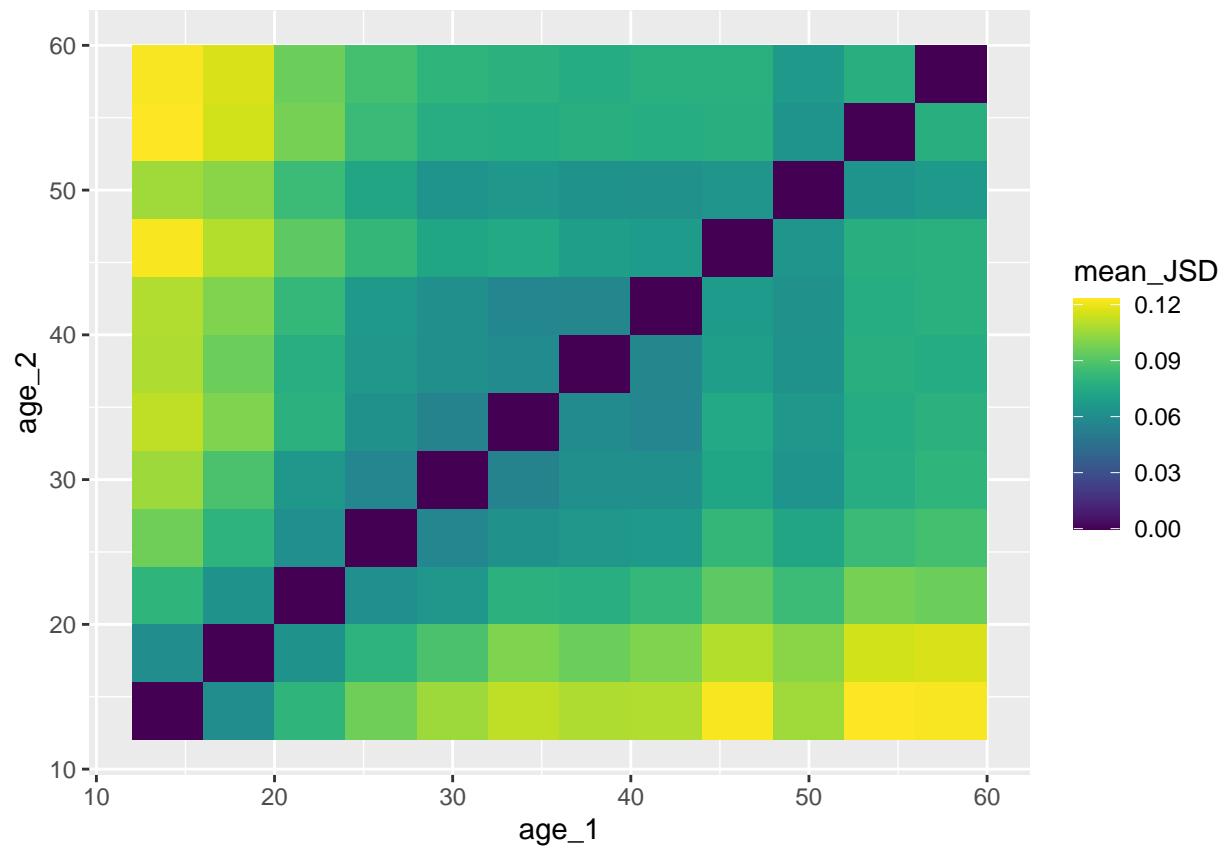


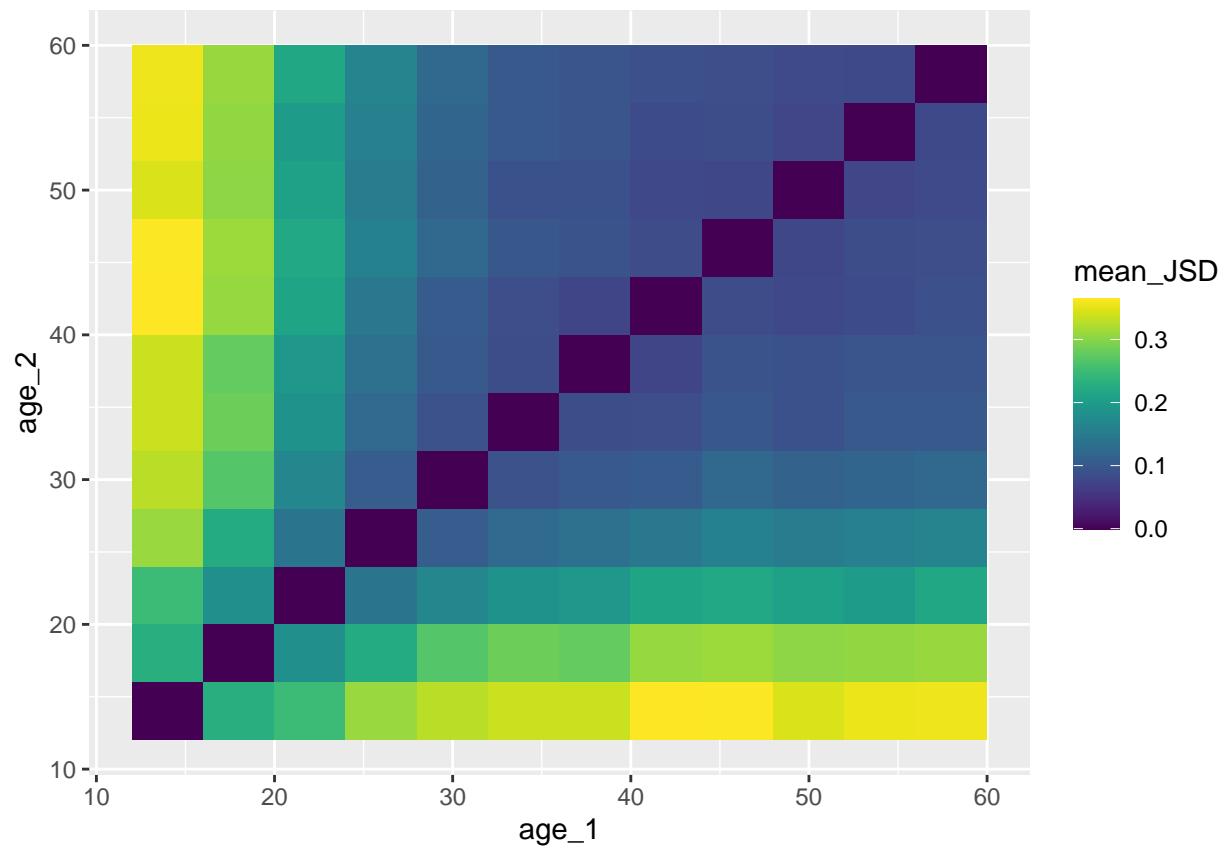
Children's and parents' distributions of communicative acts get more similar over development (as measured by lower JSD).

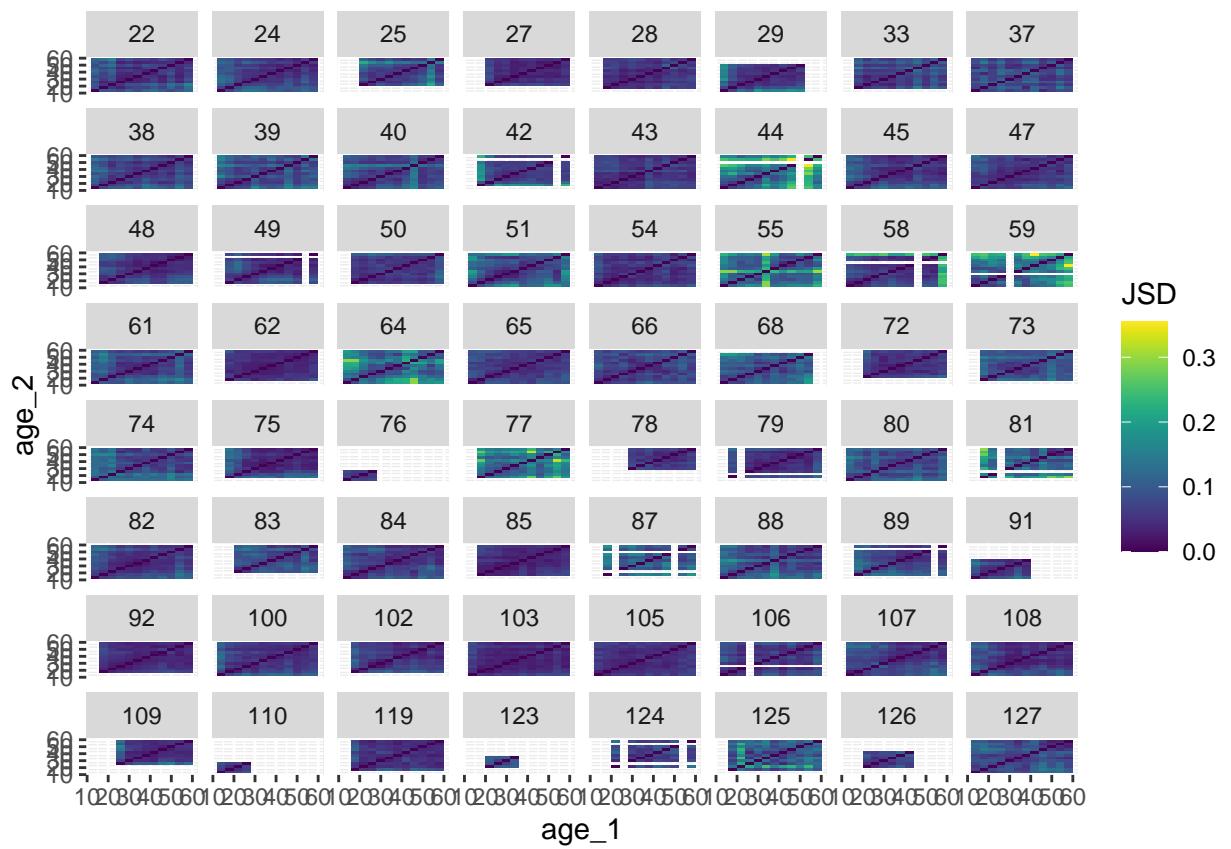
```
## # A tibble: 1 x 1
##      n
##   <int>
## 1     64
```

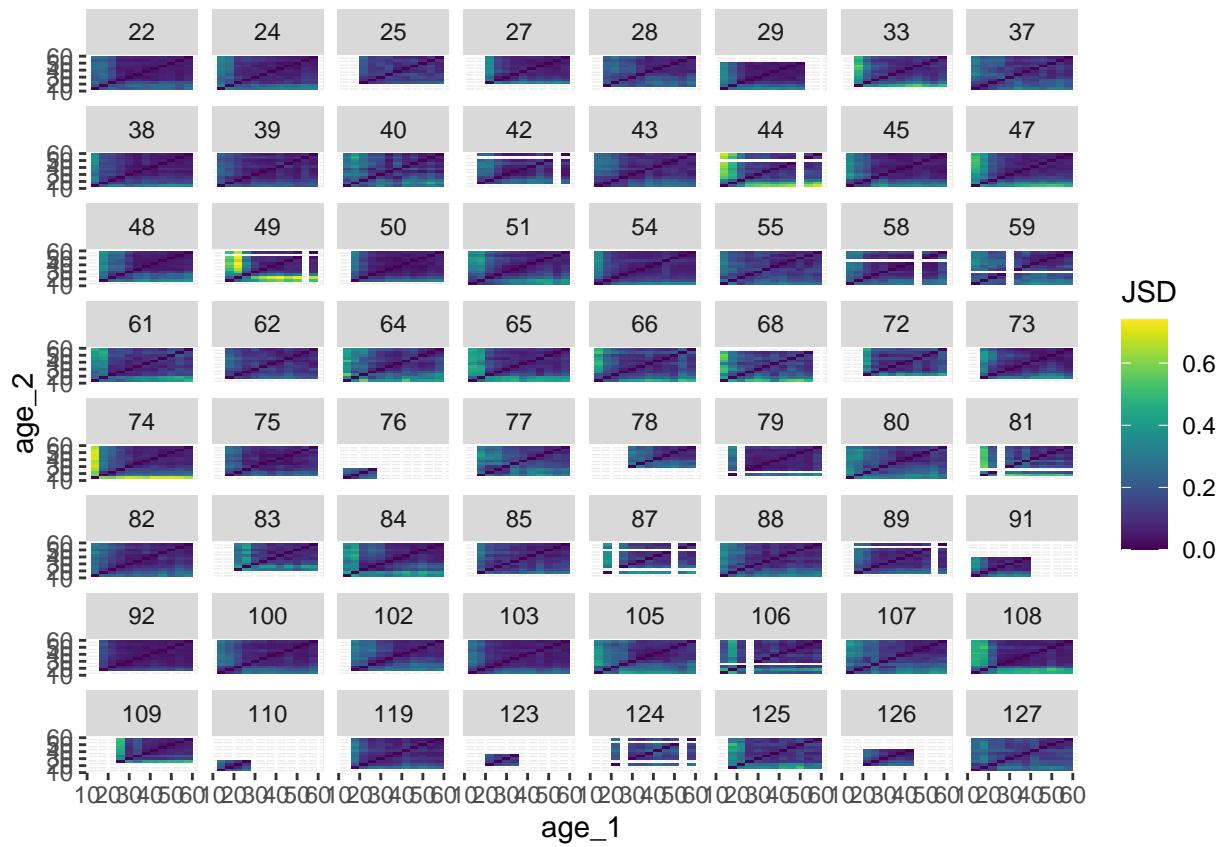


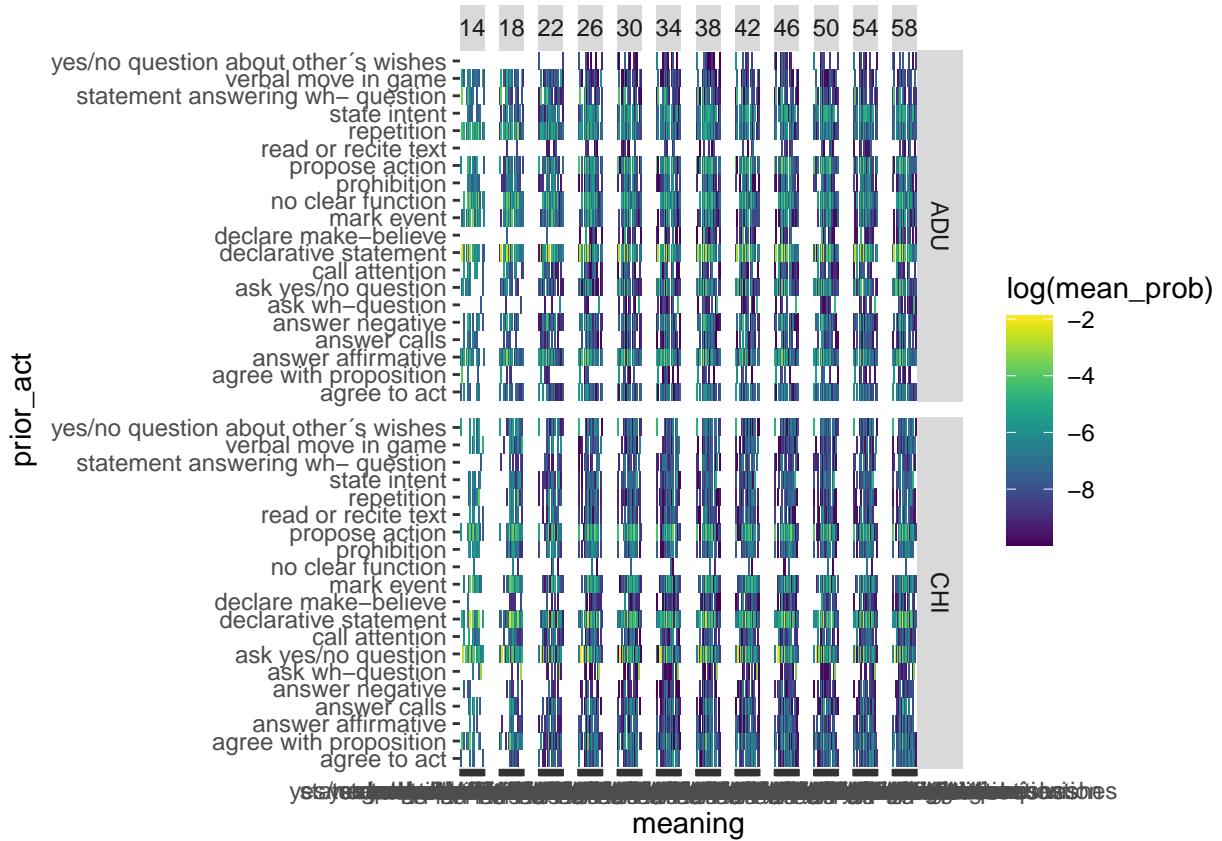


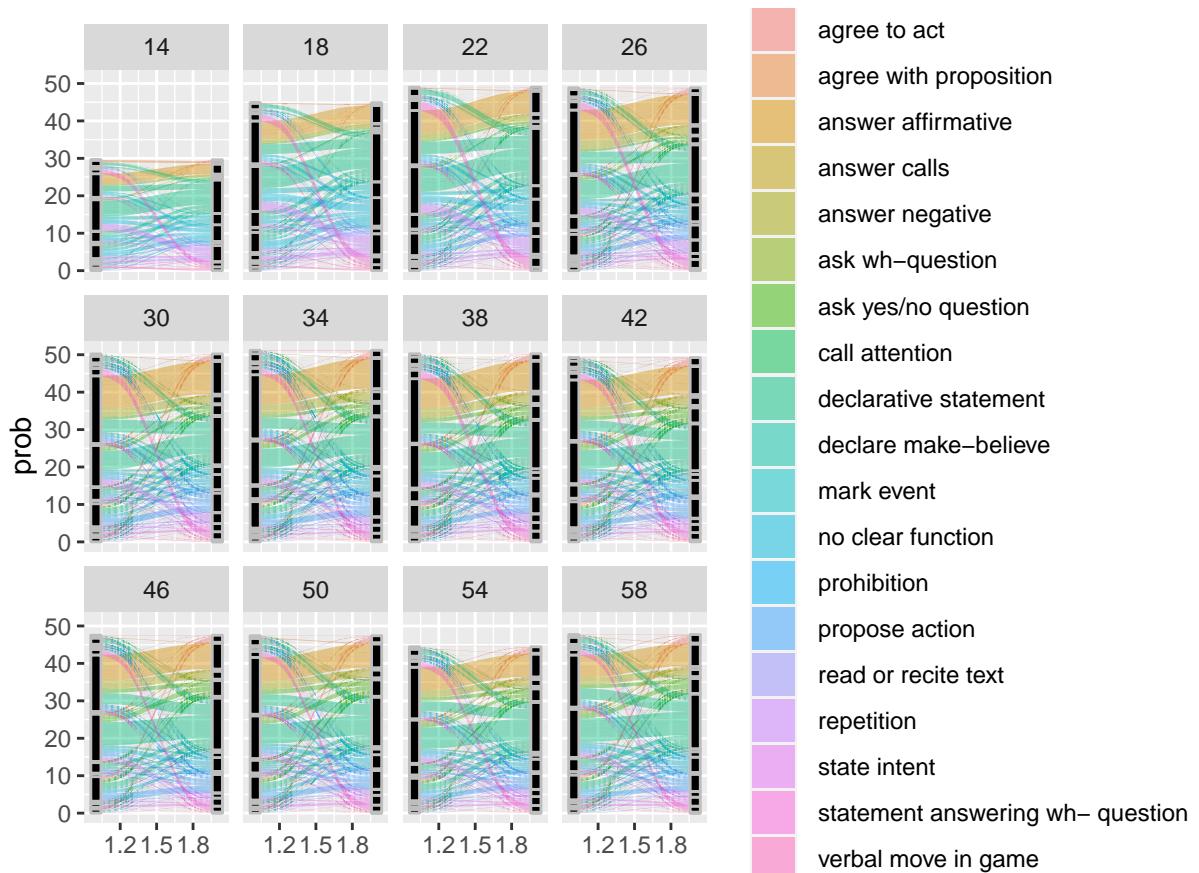


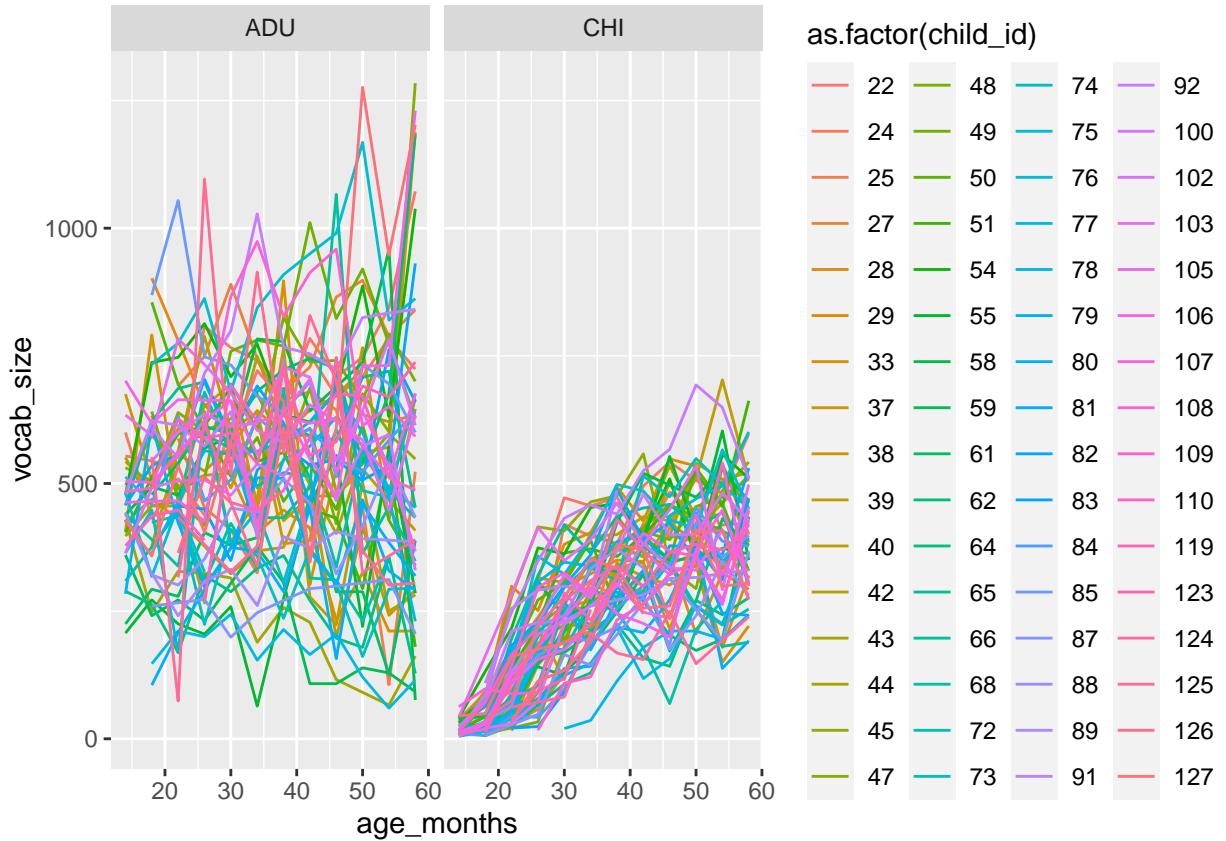


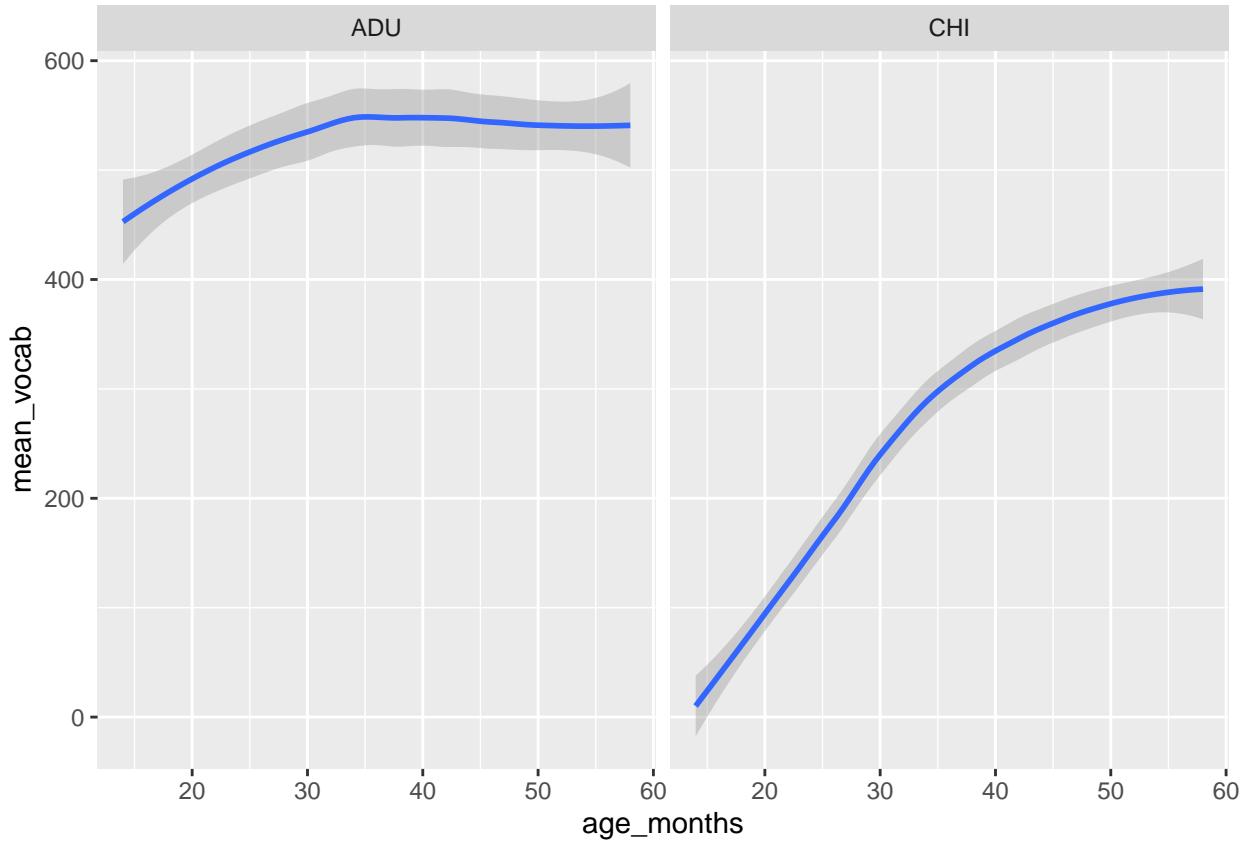






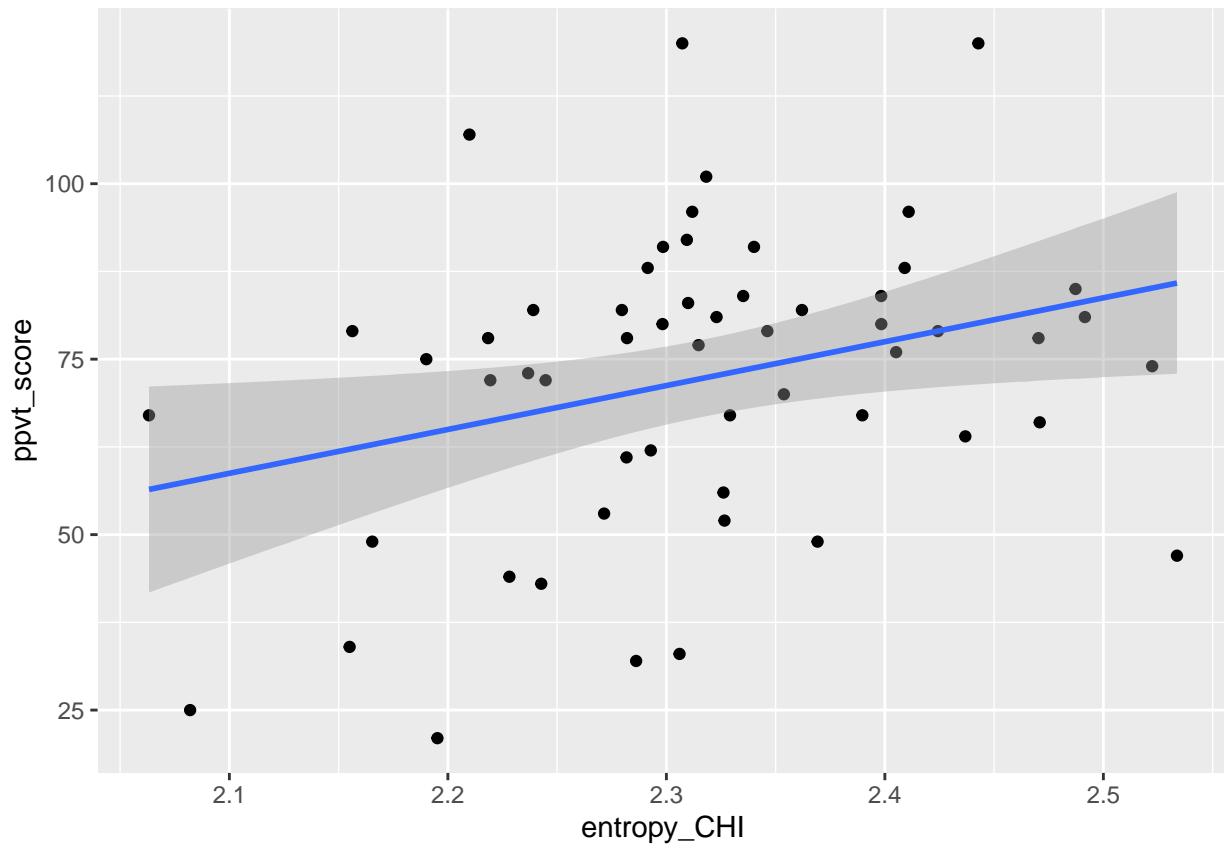


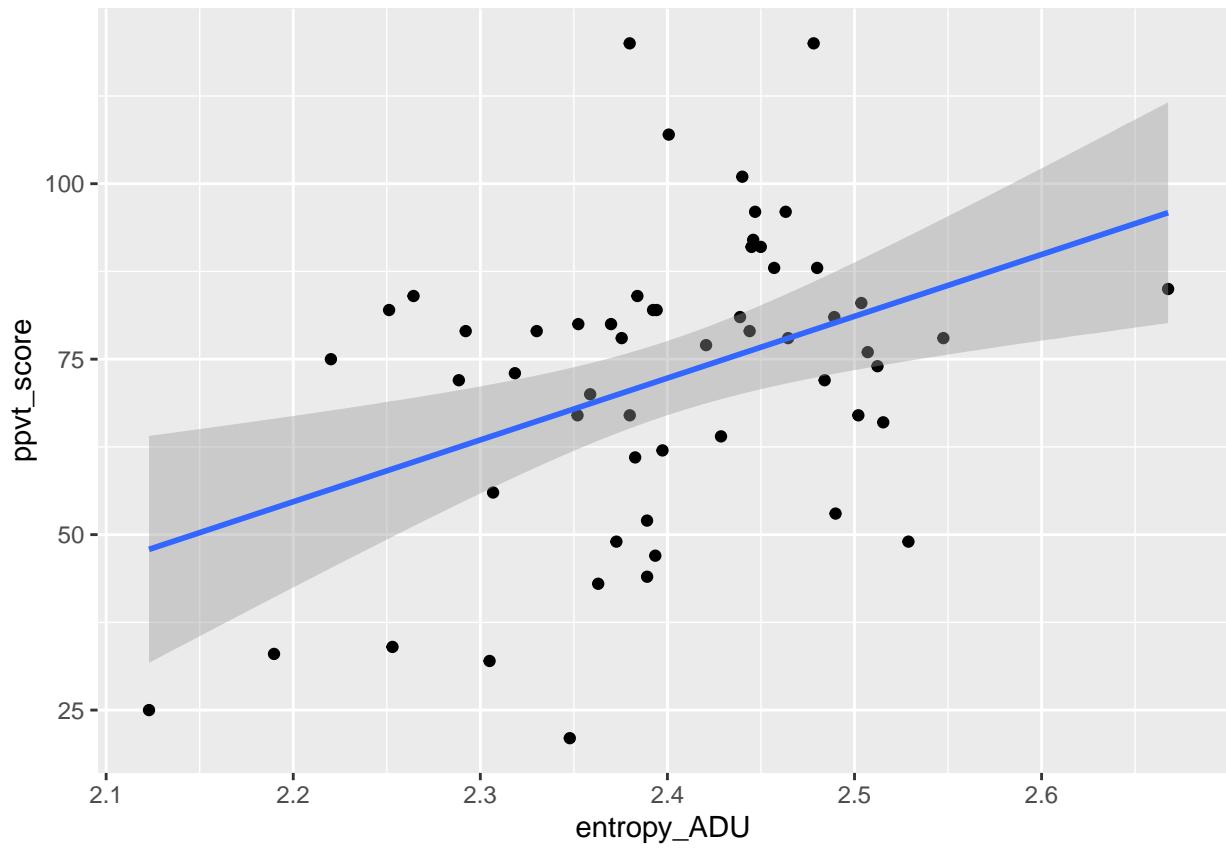


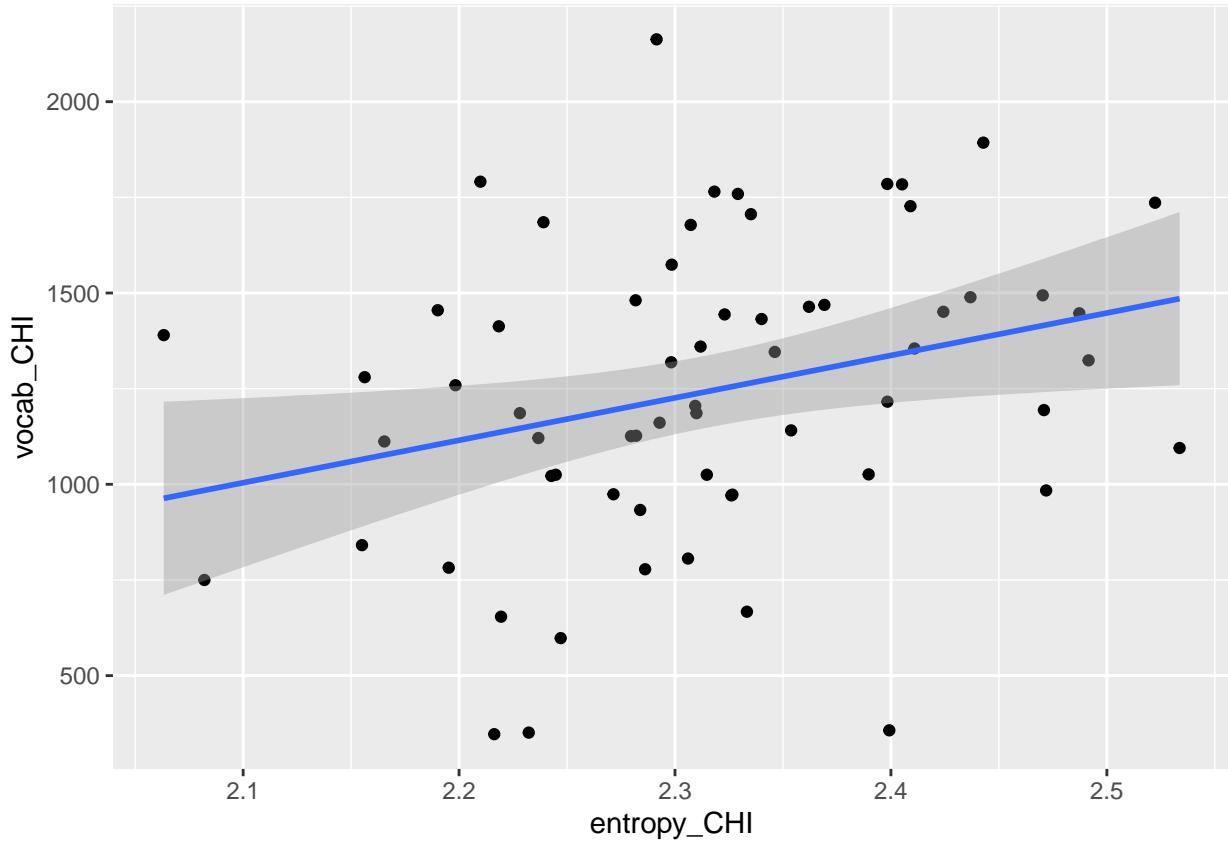


```
##
## Pearson's product-moment correlation
##
## data: ent_vocab_session$entropy_CHI and ent_vocab_session$vocab_size_CHI
## t = 16.599, df = 679, p-value < 2.2e-16
## alternative hypothesis: true correlation is not equal to 0
## 95 percent confidence interval:
##  0.4815675 0.5886299
## sample estimates:
##        cor
## 0.5372595

## # A tibble: 6 x 8
##   effect  group    term      estimate std.error statistic    df   p.value
##   <chr>   <chr>   <chr>     <dbl>     <dbl>     <dbl> <dbl> <dbl>
## 1 fixed    <NA>   (Intercept) -473.      53.7     -8.82 677.  9.58e- 18
## 2 fixed    <NA>   entropy_CHI  88.7      12.8      6.91 637.  1.17e- 11
## 3 fixed    <NA>   entropy_ADU  98.1      23.9      4.11 673.  4.48e-  5
## 4 fixed    <NA>   age_months   8.02      0.251     32.0 629.  6.31e-134
## 5 ran_pars child_id sd__(Intercep~ 61.6      NA       NA    NA   NA
## 6 ran_pars Residual sd__Observati~ 73.8      NA       NA    NA   NA
```







```
##
## Pearson's product-moment correlation
##
## data: ent_ppvt_vocab$entropy_CHI and ent_ppvt_vocab$ppvt_score
## t = 3.1973, df = 54, p-value = 0.00232
## alternative hypothesis: true correlation is not equal to 0
## 95 percent confidence interval:
## 0.1520168 0.5990395
## sample estimates:
##       cor
## 0.3989723

##
## Pearson's product-moment correlation
##
## data: ent_ppvt_vocab$entropy_CHI and ent_ppvt_vocab$ppvt_score
## t = 2.3311, df = 54, p-value = 0.02351
## alternative hypothesis: true correlation is not equal to 0
## 95 percent confidence interval:
## 0.04288497 0.52364943
## sample estimates:
##       cor
## 0.3023764

##
```

```

## Pearson's product-moment correlation
##
## data: ent_ppvt_vocab$entropy_ADU and ent_ppvt_vocab$vocab_CHI
## t = 0.90841, df = 62, p-value = 0.3672
## alternative hypothesis: true correlation is not equal to 0
## 95 percent confidence interval:
## -0.1350049 0.3505417
## sample estimates:
## cor
## 0.1146077

##
## Pearson's product-moment correlation
##
## data: ent_ppvt_vocab$entropy_CHI and ent_ppvt_vocab$vocab_CHI
## t = 2.3735, df = 62, p-value = 0.02074
## alternative hypothesis: true correlation is not equal to 0
## 95 percent confidence interval:
## 0.04606213 0.49901232
## sample estimates:
## cor
## 0.2886037

## # A tibble: 8 x 8
##   effect group term      estimate std.error statistic    df  p.value
##   <chr>  <chr> <chr>     <dbl>     <dbl>     <dbl> <dbl> <dbl>
## 1 fixed   <NA>  (Intercept)  0.328     0.181      1.81  611. 7.05e- 2
## 2 fixed   <NA>  prior_child_ent 0.419     0.0375     11.2   611. 1.85e-26
## 3 fixed   <NA>  prior_adult_ent -0.0345    0.0576     -0.598  611. 5.50e- 1
## 4 fixed   <NA>  prior_JSD      0.0235    0.109      0.216  611. 8.29e- 1
## 5 fixed   <NA>  ent_ADU        0.455     0.0538      8.47  611. 1.90e-16
## 6 fixed   <NA>  age_months     0.00112   0.000870     1.29  611. 1.98e- 1
## 7 ran_pars child_id sd_(Intercept) 0          NA         NA     NA  NA
## 8 ran_pars Residual sd_Observation 0.187     NA         NA     NA  NA

```