Report 1 - Mother utterances data

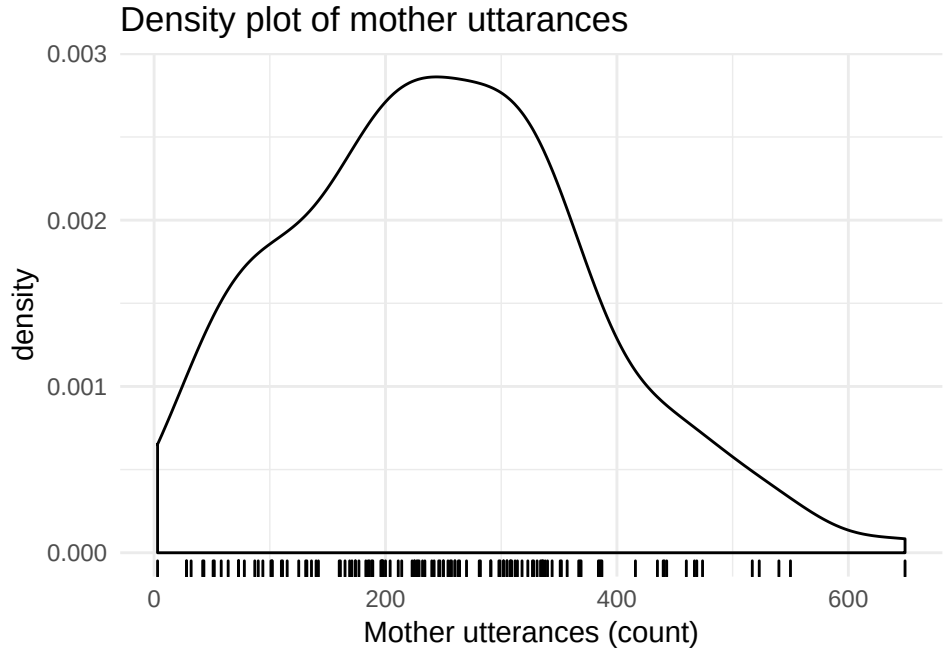
23/07/2018

1 Number of mother utterances

This is how the dataset looks like:

```
## # A tibble: 132 x 4
##    dyad  background  months utterances
##    <fct> <fct>        <int>      <int>
##  1 b01   Bangladeshi     10        223
##  2 b01   Bangladeshi     11        299
##  3 b01   Bangladeshi     12        227
##  4 b02   Bangladeshi     10         73
##  5 b02   Bangladeshi     11         43
##  6 b02   Bangladeshi     12         73
##  7 b03   Bangladeshi     10         73
##  8 b03   Bangladeshi     11         78
##  9 b03   Bangladeshi     12         90
## 10 b04   Bangladeshi     10        469
## # ... with 122 more rows
```

The utterances have been aggredated within dyad from the counts of the 3 tasks (`five`, `tp1`, `tp2`). There are 125 observations plus 7 missing observations (n = 132). The following graph shows the density distribution of the utterances counts.

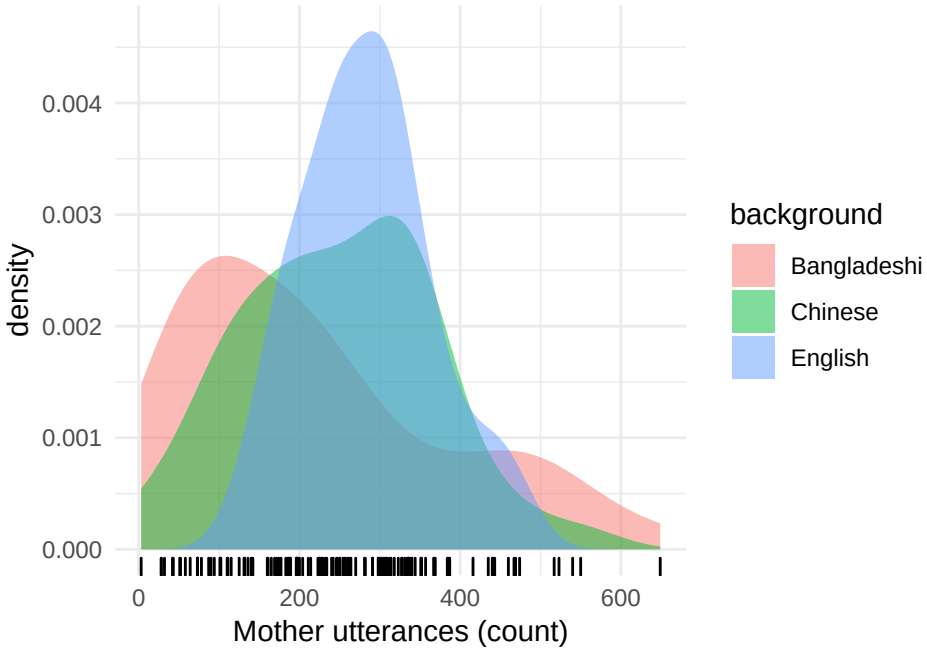


Number of dyads per background.

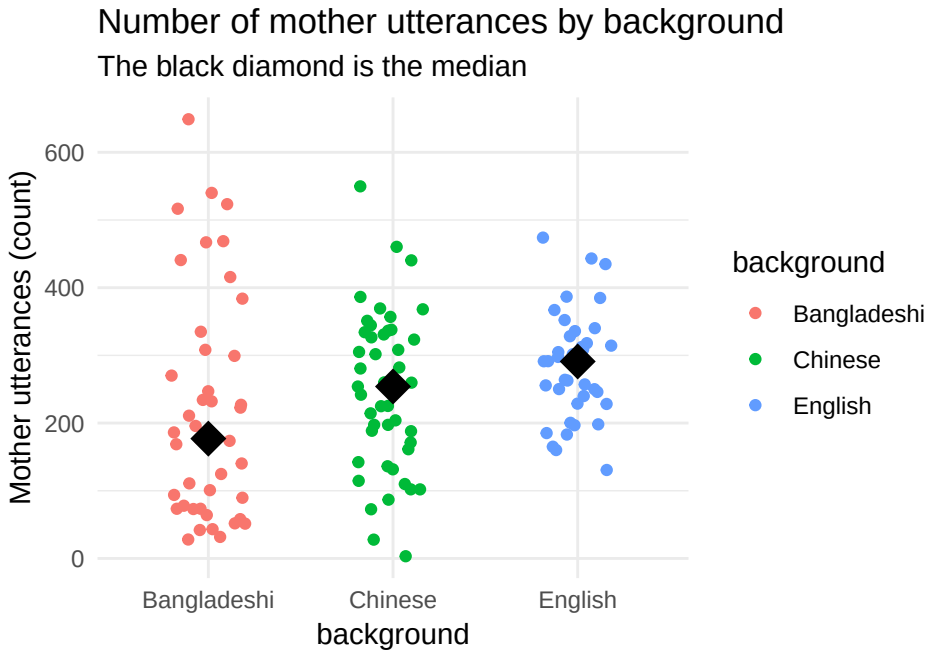
```
## # A tibble: 3 x 2
##   background      n
##   <fct>       <int>
## 1 Bangladeshi    15
```

```
## 2 Chinese         15
## 3 English         14
```

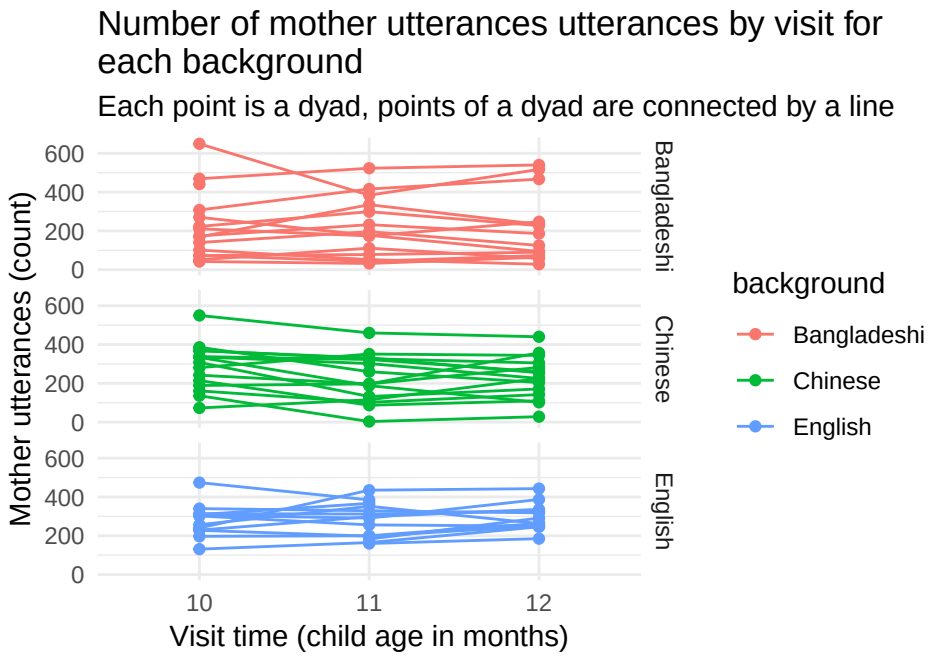
Possibly, Bangladeshi mothers have a lower utterance count than Chinese and English.



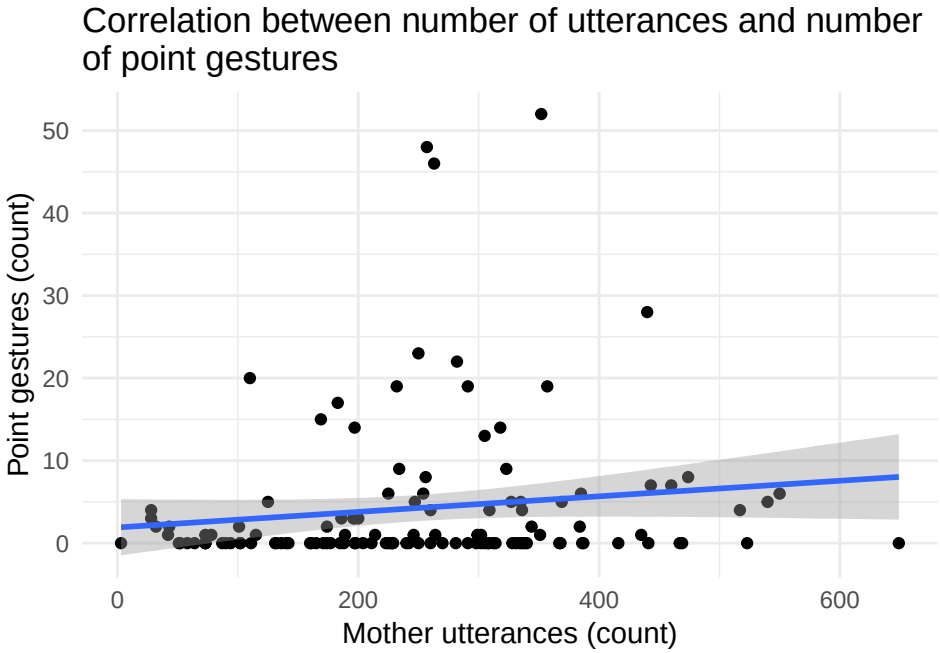
A stripchart shows the same information, but the differences in variance stand out. From higher to lower variance, Bangladeshi > Chinese > English. The is a difference in median of about 100/150 utterances between Bangladeshi on one hand and Chinese/English on the other.



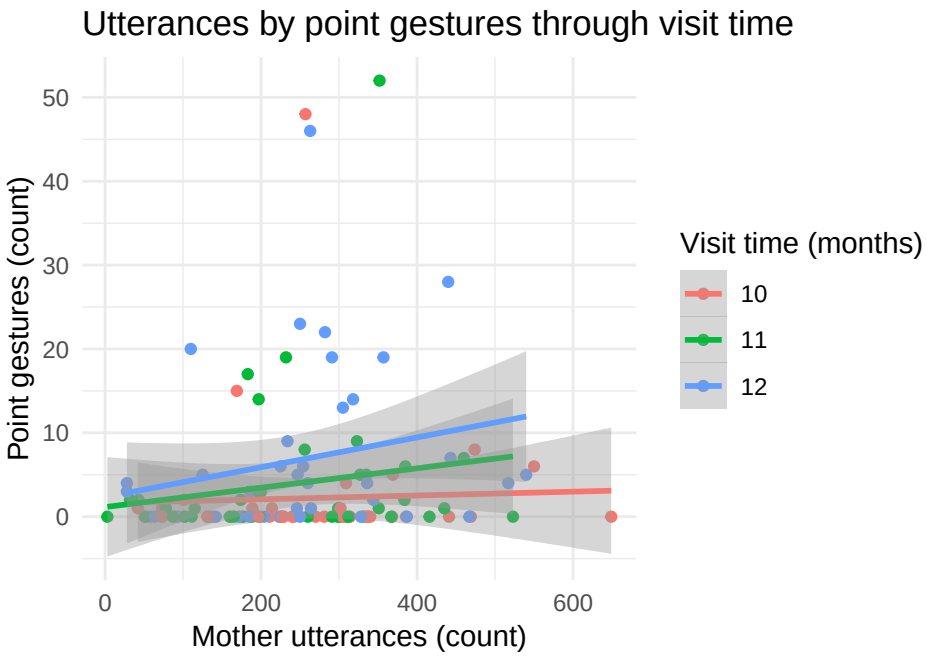
The following connected points plot shows that there is no clear pattern of change in number of utterances through visit time. For each dyad, a point is plotted at each visit times (10, 11, 12) and the points of a dyad are connected by a line. The lines show the change within dyads across visit times. Most lines are almost flat.



2 Utterances vs. pointing



Is there an interaction between mother utterances and visit time? In the following plot, the effect seems to increase through visit time (although notice wide confidence intervals).



The increase might be driven by the Chinese dyads.