Report 2 - Infant gestures data

03/08/2018

1 Number of infant gestures

This is how the dataset looks like:

```
## # A tibble: 531 x 6
##    dyad  background  months gesture count    ct
##    <fct> <fct>        <int> <fct>   <int> <int>
##  1 b01   Bangladeshi     10 ho_gv       0     0
##  2 b01   Bangladeshi     10 point       0     0
##  3 b01   Bangladeshi     10 reach       5     1
##  4 b01   Bangladeshi     11 ho_gv       0     0
##  5 b01   Bangladeshi     11 point       1     0
##  6 b01   Bangladeshi     11 reach       8     3
##  7 b01   Bangladeshi     12 ho_gv       3     0
##  8 b01   Bangladeshi     12 point       0     0
##  9 b01   Bangladeshi     12 reach       0     0
## 10 b02   Bangladeshi     10 ho_gv       1     0
## # ... with 521 more rows
```

Columns:

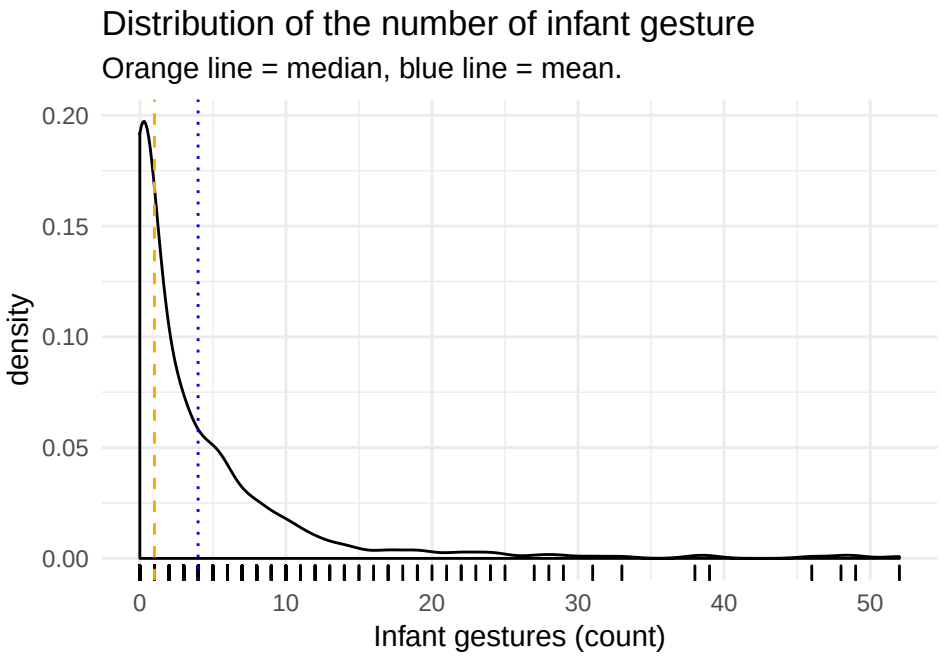
- `dyad`: the dyad ID
- `background`: the background of the dyad (`Bangladeshi`, `Chinese`, `English`)
- `months`: the age of the child in months (`10:12`)
- `gesture`: the type of gesture (`reach`, `point`, `ho_gv`)
- `count`: the number of child gestures
- `ct`: number of mother's contingent talks

Each gesture type (`reach`, `point`, `ho_gv`) and contingent talks have been aggregated within dyad from the counts of the 3 tasks (`five`, `tp1`, `tp2`). There are 519 observations plus 12 missing observations (n = 531).

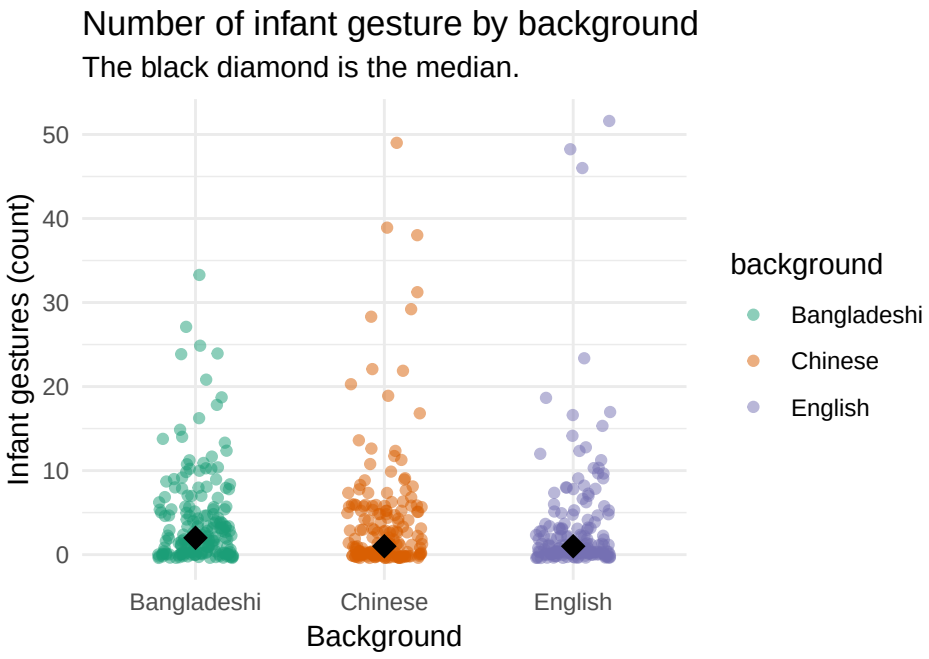
Number of dyads per background:

```
## # A tibble: 3 x 2
##   background      n
##   <chr>       <int>
## 1 Bangladeshi    20
## 2 Chinese        20
## 3 English        19
```

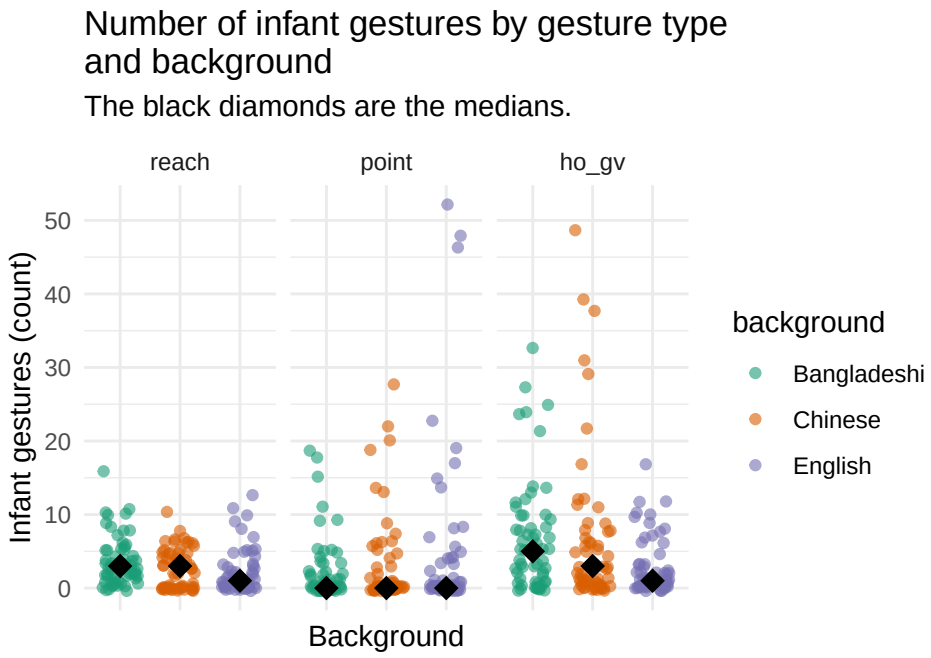
The following graph shows the density distribution of the infant gestures counts. The distribution is the negative binomial.



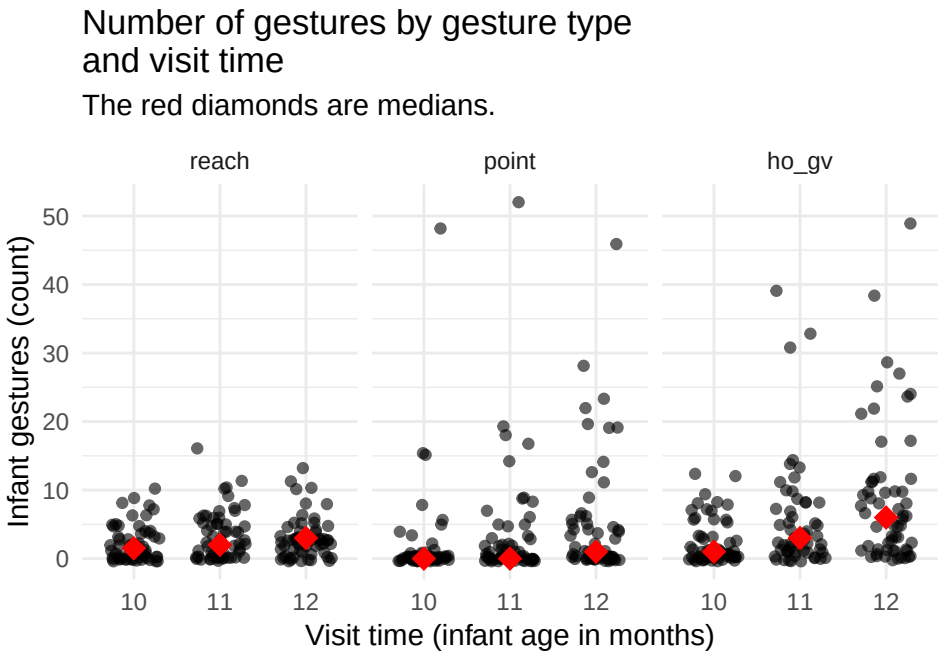
The following stripchart indicates that English infants have slightly lower median counts of gestures.



The number of point gestures does not differ much across background. Reaches and HG counts tend to be higher for Bangladeshi and Chinese infants.

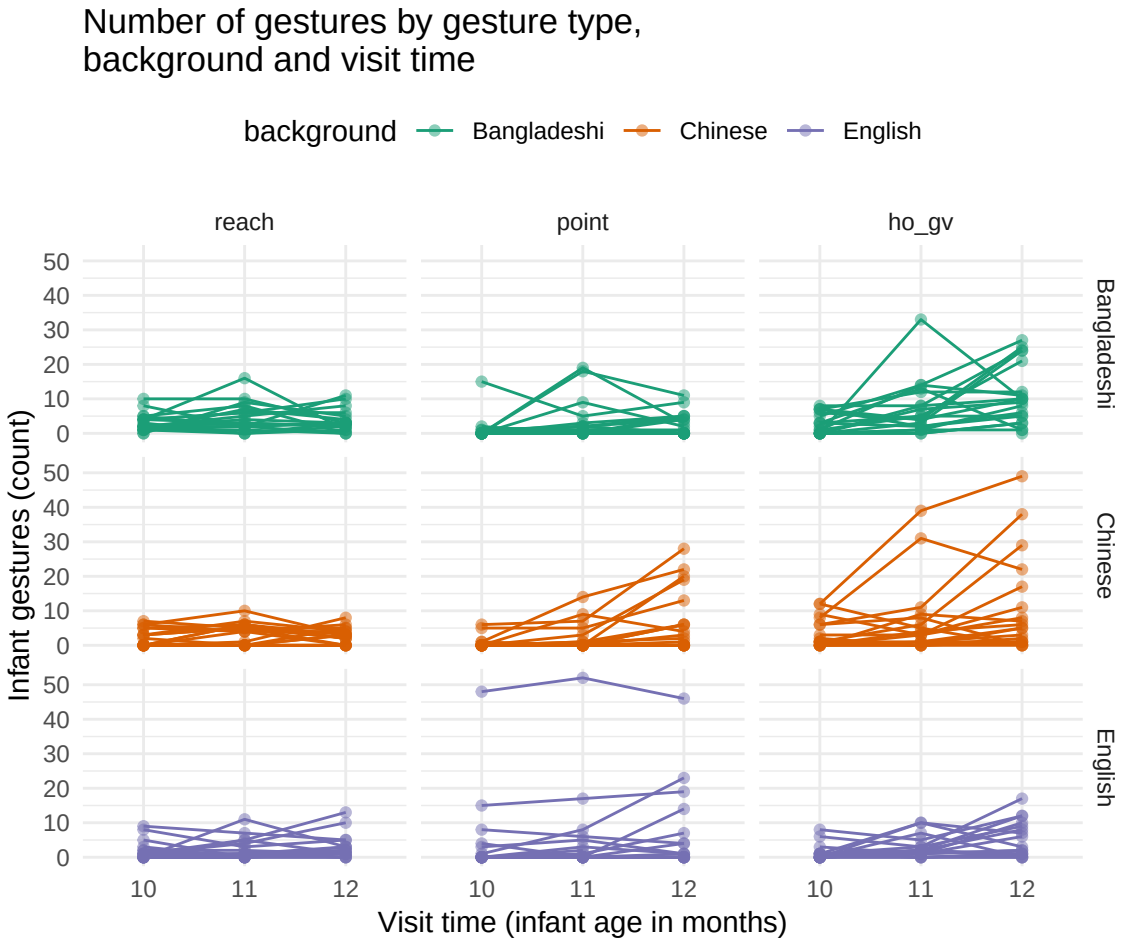


The median number of gestures increases with visit time, but more so for the HG and reach gestures, as shown in the following graph.



2 Number of gestures by infant, background, and visit time

In the following connected points plot, a point is plotted for each infant at each visit time (10, 11, 12), and the points of an infant are connected by a line. The lines show the change in number of gestures of each single infant across visit time.

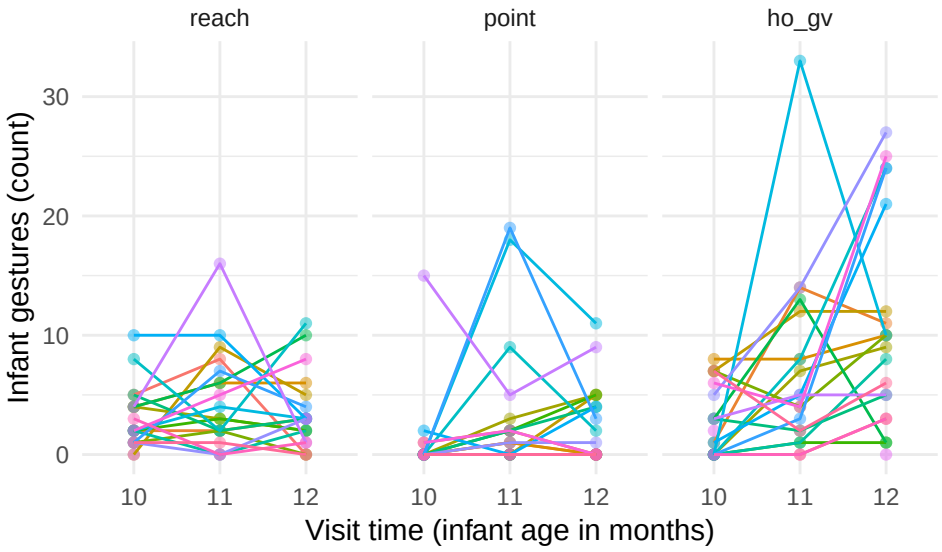


In general, there is an increase of gesture counts for all infants and backgrounds, but more so with point and HG gestures. The increase is greater in HGs of Bangladeshi and Chinese infants.

The following plots show connected points for each background. Each infant is assigned a different colour.

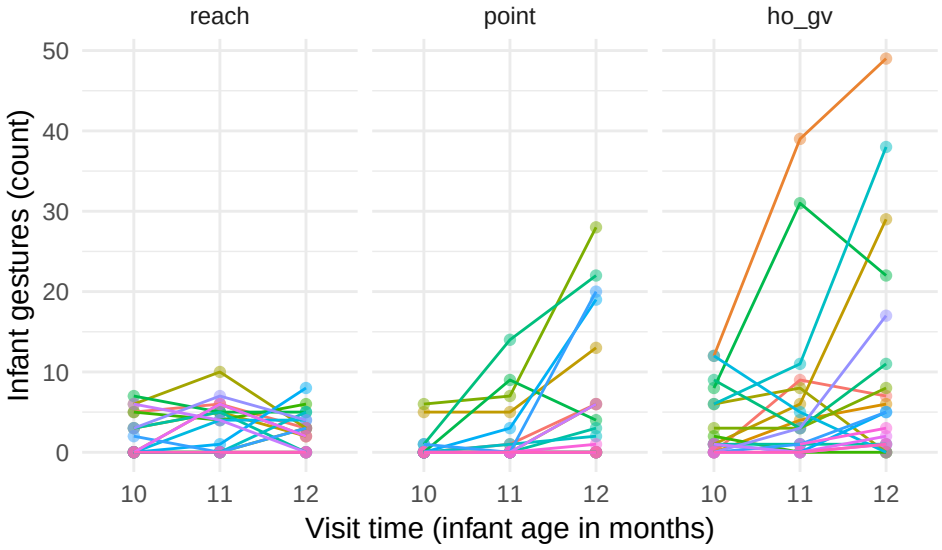
Number of gestures by gesture type and visit time

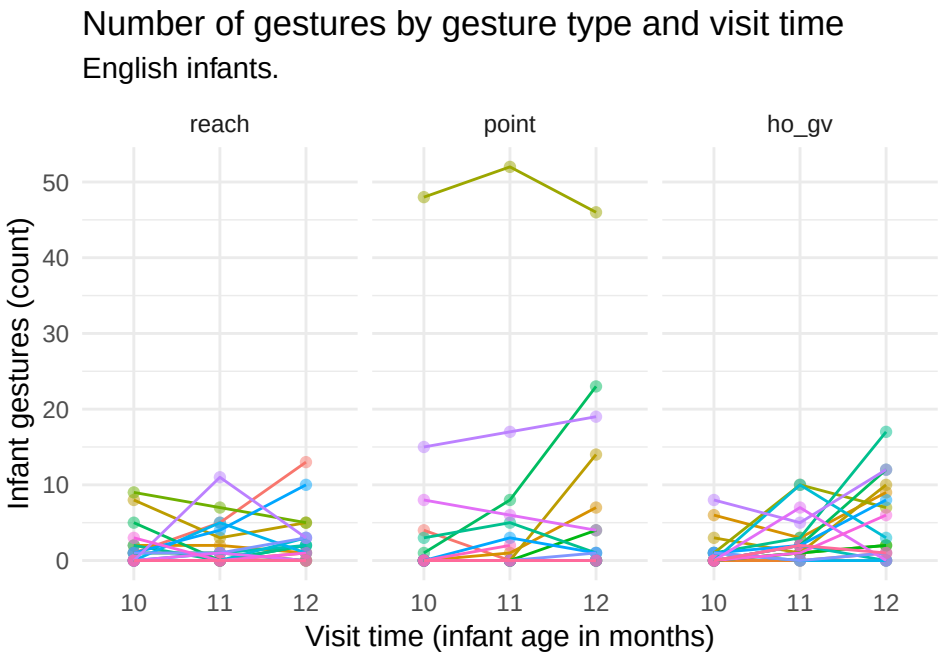
Bangladeshi infants.



Number of gestures by gesture type and visit time

Chinese infants.




Number of gestures by gesture type and visit time
English infants.
reach
point
ho_gv
Infant gestures (count)
50
40
30
20
10
0
10
11
12
Visit time (infant age in months)