This README document provides details for the data files and related documents of the project “The effects of bilingualism on attentional processes in the first year of life”.

**Contents:**

1. Pilot data: contains two .csv files with the pilot data reported in the manuscript. One file contains the proportion of looking time data and the other the correct anticipation score data.
2. Three R scripts: for calculating the preliminary power analysis (based on pilot data) (Script\_Power analysis.R), for computing track loss using the raw eye-tracking data (Script\_Trackloss.R), and for the main statistical analyses reported in the manuscript (Script\_Statistical analyses.R).
3. Metadata: an Excel spreadsheet with the participant information for this study.
4. Eye tracking data\_All: contains four .csv files with the raw eye-tracking data for this study.
5. Data\_Reward phase: contains two .csv files with the sub-set of data corresponding to the Reward time window for the analyses reported in the manuscript. One file contains the data in long format (Reward\_Long.csv) and the other in wide format (Reward\_Short.csv).
6. Data\_Anticipatory phase: contains three .csv files with the sub-set of data corresponding to the Anticipatory time window for the analyses reported in the manuscript. One file contains the data in long format (Anticipation\_Long.csv), one in wide format (Anticipation\_Short.csv), and the other in wide format prepared for Pearson correlation analyses (Anticipation\_Corr\_Stability.csv).

**Details of the data files:**

1. **Metadata.xls**

ID – participant ID.

Group – monolingual/bilingual

Sex – male/female

DoB – date of birth dd/mm/yyyy

DoT\_S1 – date of first testing session dd/mm/yyyy

DoT\_S2 – date of second testing session dd/mm/yyyy

Task\_Order – order of task administration; lists the task administered in the first visit, AUD/VIS

Side\_S1 – side where the reward appeared pre-switch in the task administered on the first testing session, Left/Right

Side\_S2 – side where the reward appeared pre-switch in the task administered on the second testing session, Left/Right

L1 – infant’s dominant language

L2 – infant’s non-dominant language

L1% - infant’s percent of exposure to the dominant language

L2% - infant’s percent of exposure to the non-dominant language

AuditoryTL – proportion of track loss in the auditory condition

VisualTL – proportion of track loss in the visual condition

Notes – experimenter’s notes

EdLevel – maternal education level. The levels are: 1 less than a high school degree, 2 high school degree, 3 vocational or technical diploma, 4 university degree, 5 masters degree, 6 doctorate.

IncomeLevel – family annual income level. The levels are: 1 < €25000, 2 €25000-50000, 3 €50000-75000, > €75000

Exposure – type of bilingual exposure

1. **PilotData\_Aud&Vis.csv**

ID – participant ID

Group – bi/mono  
Prop – proportion of looking time to the correct location

Block – task block

Phase – experimental phase, pre/post

Task – experimental condition, Auditory/Visual

Cohort – participant cohort for power simulation

1. **PilotData\_Aud&Vis.csv**

ID – participant ID

Group – bi/mono  
Ant – anticipation score (correct 1 vs. incorrect 0)

Block – task block

Phase – experimental phase, pre/post

Task – experimental condition, Auditory/Visual

Cohort – participant cohort for power simulation

1. **Eye-tracking data\_All.**

Note: All .csv files are identical in structure. Each file corresponds to each condition and counterbalancing order (auditory left, auditory right, visual left, visual right).

X...BIN\_DURATION – duration in msec for each time bin

BIN\_END\_TIME – time in trial at which the bin ended

BIN\_INDEX – number of each time bin

BIN\_SAMPLE\_COUNT – number of samples for each time bin

BIN\_START\_TIME – time in trial at which the bin started

EYE\_TRACKED – eye tracked during the task

IA\_1\_ID – name of the first AoI

IA\_2\_ID– name of the second AoI

IA\_3\_ID– name of the third AoI

IA\_0\_ID– name of the 0 AoI (not used in this task)

ID – participant ID

LEFT – gaze data in the left AoI

CENTER – gaze data in the center AoI

RIGHT – gaze data in the right AoI

LOSS – gaze loss, yes 1 vs. no 0

RIGHT\_IA\_4\_SAMPLE\_COUNT – number of samples in the fourth AoI (not used in this task)

RIGHT\_IA\_0\_SAMPLE\_COUNT – number of samples in the 0 AoI (not used in this task)

RIGHT\_OFF\_SCREEN\_SAMPLE\_COUNT – number of samples off screen

TRIAL\_INDEX – trial number (arbitrary assigned by the recording software)

TRIAL\_LABEL – actual trial number in the task

Message – message for analyses: “Start” – trial start, “Ant Start” – start of the anticipation period.

1. **Reward\_Long.csv**

ID – participant ID

Group – monolingual 1/bilingual 2

Sex – male 1/female 2

Task Order – Auditory first/Visual first

L1 – infant’s dominant language

L1\_Exp – percent of exposure to the dominant language

L2\_Exp – percent of exposure to the non-dominant language

Prop\_Gaze – proportion of gaze to the correct location

Block – task block

Phase – task phase (pre-switch/post-switch)

Task – experimental condition (Auditory/Visual)

1. **Reward\_Short.csv**

ID – participant ID

Group – monolingual 1/bilingual 2

Sex – male 1/female 2

Task Order – Auditory first/Visual first

L1 – infant’s dominant language

L1\_Exp – percent of exposure to the dominant language

L2\_Exp – percent of exposure to the non-dominant language

AU\_PRE\_Block1 – proportion of gaze to the correct location in pre-switch block 1 of the auditory condition

AU\_PRE\_Block2– proportion of gaze to the correct location in pre-switch block 2 of the auditory condition

AU\_PRE\_Block3– proportion of gaze to the correct location in pre-switch block 3 of the auditory condition

AU\_POST\_Block1– proportion of gaze to the correct location in post-switch block 1 of the auditory condition

AU\_POST\_Block2– proportion of gaze to the correct location in post-switch block 2 of the auditory condition

AU\_POST\_Block3 – proportion of gaze to the correct location in post-switch block 3 of the auditory condition

VI\_PRE\_Block1– proportion of gaze to the correct location in pre-switch block 1 of the visual condition

VI\_PRE\_Block2– proportion of gaze to the correct location in pre-switch block 2 of the visual condition

VI\_PRE\_Block3– proportion of gaze to the correct location in pre-switch block 3 of the visual condition

VI\_POST\_Block1– proportion of gaze to the correct location in post-switch block 1 of the visual condition

VI\_POST\_Block2– proportion of gaze to the correct location in post-switch block 2 of the visual condition

VI\_POST\_Block3– proportion of gaze to the correct location in post-switch block 3 of the visual condition

1. **Anticipation\_Long.csv**

ID – participant ID

Group – monolingual 1/bilingual 2

Sex – male 1/female 2

Task Order – Auditory first/Visual first

L1 – infant’s dominant language

L1\_Exp – percent of exposure to the dominant language

L2\_Exp – percent of exposure to the non-dominant language

Prop\_Gaze – proportion of gaze to the correct location

Prop\_Score – proportion of trials with a correct anticipation score

Block – task block

Phase – task phase (pre-switch/post-switch)

Task – experimental condition (Auditory/Visual)

1. **Anticipation\_Short.csv**

ID – participant ID

Group – monolingual 1/bilingual 2

Sex – male 1/female 2

Task Order – Auditory first/Visual first

L1 – infant’s dominant language

L1\_Exp – percent of exposure to the dominant language

L2\_Exp – percent of exposure to the non-dominant language

AU\_PRE\_Block1 – proportion of gaze to the correct location in pre-switch block 1 of the auditory condition

AU\_PRE\_Block2– proportion of gaze to the correct location in pre-switch block 2 of the auditory condition

AU\_PRE\_Block3– proportion of gaze to the correct location in pre-switch block 3 of the auditory condition

AU\_POST\_Block1– proportion of gaze to the correct location in post-switch block 1 of the auditory condition

AU\_POST\_Block2– proportion of gaze to the correct location in post-switch block 2 of the auditory condition

AU\_POST\_Block3 – proportion of gaze to the correct location in post-switch block 3 of the auditory condition

AU\_PRE\_Score\_B1 – proportion of trials with correct anticipation scores in pre-switch block 1 of the auditory condition

AU\_PRE\_Score\_B2– proportion of trials with correct anticipation scores in pre-switch block 2 of the auditory condition

AU\_PRE\_Score\_B3– proportion of trials with correct anticipation scores in pre-switch block 3 of the auditory condition

AU\_POST\_Score\_B1– proportion of trials with correct anticipation scores in post-switch block 1 of the auditory condition

AU\_POST\_Score\_B2– proportion of trials with correct anticipation scores in post-switch block 2 of the auditory condition

AU\_POST\_Score\_B3– proportion of trials with correct anticipation scores in post-switch block 3 of the auditory condition

VI\_PRE\_Block1– proportion of gaze to the correct location in pre-switch block 1 of the visual condition

VI\_PRE\_Block2– proportion of gaze to the correct location in pre-switch block 2 of the visual condition

VI\_PRE\_Block3– proportion of gaze to the correct location in pre-switch block 3 of the visual condition

VI\_POST\_Block1– proportion of gaze to the correct location in post-switch block 1 of the visual condition

VI\_POST\_Block2– proportion of gaze to the correct location in post-switch block 2 of the visual condition

VI\_POST\_Block3– proportion of gaze to the correct location in post-switch block 3 of the visual condition

VI\_PRE\_Score\_B1– proportion of trials with correct anticipation scores in pre-switch block 1 of the visual condition

VI\_PRE\_Score\_B2– proportion of trials with correct anticipation scores in pre-switch block 2 of the visual condition

VI\_PRE\_Score\_B3– proportion of trials with correct anticipation scores in pre-switch block 3 of the visual condition

VI\_POST\_Score\_B1– proportion of trials with correct anticipation scores in post-switch block 1 of the visual condition

VI\_POST\_Score\_B2– proportion of trials with correct anticipation scores in post-switch block 2 of the visual condition

VI\_POST\_Score\_B3– proportion of trials with correct anticipation scores in post-switch block 3 of the visual condition

1. **Anticipation\_Corr\_Stability.csv**

ID – participant ID

AU\_PRE\_Block1 – proportion of gaze to the correct location in pre-switch block 1 of the auditory condition

AU\_PRE\_Block2– proportion of gaze to the correct location in pre-switch block 2 of the auditory condition

AU\_PRE\_Block3– proportion of gaze to the correct location in pre-switch block 3 of the auditory condition

AU\_POST\_Block1– proportion of gaze to the correct location in post-switch block 1 of the auditory condition

AU\_POST\_Block2– proportion of gaze to the correct location in post-switch block 2 of the auditory condition

AU\_POST\_Block3 – proportion of gaze to the correct location in post-switch block 3 of the auditory condition

VI\_PRE\_Block1– proportion of gaze to the correct location in pre-switch block 1 of the visual condition

VI\_PRE\_Block2– proportion of gaze to the correct location in pre-switch block 2 of the visual condition

VI\_PRE\_Block3– proportion of gaze to the correct location in pre-switch block 3 of the visual condition

VI\_POST\_Block1– proportion of gaze to the correct location in post-switch block 1 of the visual condition

VI\_POST\_Block2– proportion of gaze to the correct location in post-switch block 2 of the visual condition

VI\_POST\_Block3– proportion of gaze to the correct location in post-switch block 3 of the visual condition