Exposure Consequences - Statistics and Figures

Overview

Here I collect the 'right' statistics and figures for the exposure consequences project.

As I think of it right now, we will have these

Figures:

1. Setup & Task
2. Reach Aftereffects
3. Localization
4. Correlation

Maybe not the 4th one.

There will also be a *Table* with tasks, and their order and number of trials in both the classic and exposure version of the task.

Tables:

1. Task order

Source scripts

All the scripts doing the statistics and figures are in separate R files, but here we will only see / do the ones that we think should go to the manuscript.

First we load those other scripts:

```r
source('shared.R') # functions used everywhere
source('nocursor.R') # functions for no-cursor reach data
```

```
## Loading required package: nlme
```

```
## Loading required package: car
```

```r
source('localization.R') # functions for localization data
```

```
## Loading required package: lme4
```

```
## Loading required package: Matrix
```

```
##
## Attaching package: 'lme4'
```

```
## The following object is masked from 'package:nlme':
##
##     lmList
```

```
## Loading required package: lmerTest
```

```
##
## Attaching package: 'lmerTest'
```

```
## The following object is masked from 'package:lme4':
##
##     lmer
```

```
## The following object is masked from 'package:stats':
##
##     step
```

```r
source('relateLocalizationNoCursors.R') # functions that correlate the two kinds of data
```

Topics

In the manuscript we'll first show that there are motor changes after exposure training (with the no-cursor data) and then compare that with the classic. Second is the localization: a) localization shifts after exposure b) the shifts are the same/different from those after classic c) the effects are different across the workspace d) this pattern is indistinguishable / different from that after classic. A third topic might be if localization shifts can predict no-cursor changes. Here we'll also follow this order:
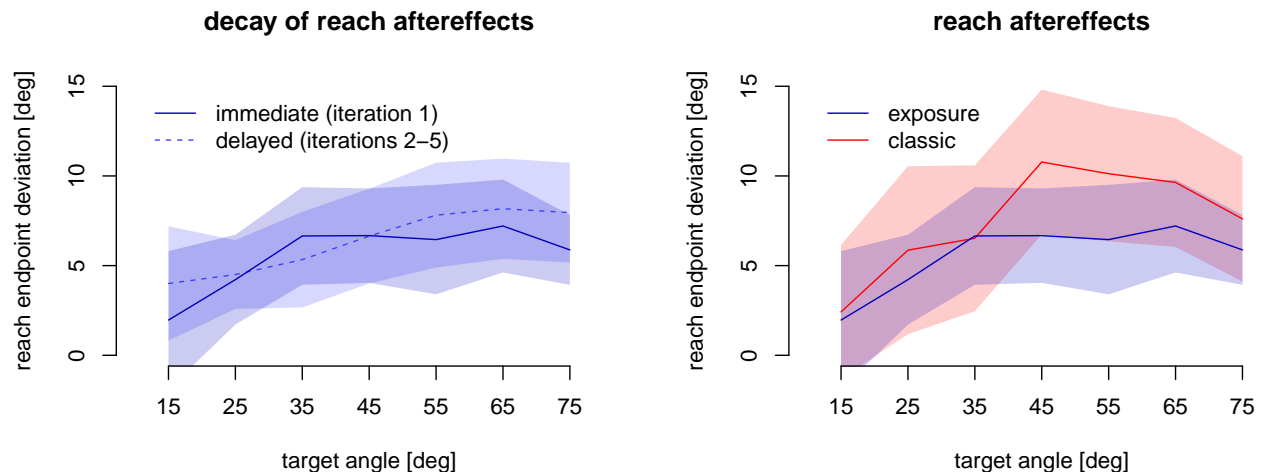
1. Reach aftereffects
2. Localization
3. Correlations

Reach Aftereffects

Here is a plot, probably Figure 2:

```r
plotReachAftereffects()
```

```
## removed 133 outliers, kept 96.6%
## removed 131 outliers, kept 96.7%
## removed 133 outliers, kept 96.6%
```


Messages of the figure:

- Panel A: there are substantial and persisting reach aftereffects
- Panel B: that are somewhat lower than those in classic (but not that much? but only for some targets?)

These claims require analyses.

First, we show that no-cursor reaches change direction after exposure training: