main

July 13, 2021

1 Clustered dotplots

```
[1]: library(tidyverse)
     library(ggplot2)
```

```
    Attaching packages                               tidyverse
1.3.1

    ggplot2 3.3.5        purrr   0.3.4
    tibble  3.1.2        dplyr   1.0.7
    tidyr   1.1.3        stringr 1.4.0
    readr   1.4.0        forcats 0.5.1

    Conflicts
tidyverse_conflicts()
    dplyr::filter() masks stats::filter()
    dplyr::lag()    masks stats::lag()
```

```
[2]: save_plot <- function(p, fn, w, h){
         for(ext in c(".pdf", ".png", ".svg")){
             ggsave(filename=paste0(fn,ext), plot=p, width=w, height=h)
         }
     }

     get_xci_enrichment <- function(){
         return(read_tsv("../../_m/xci_enrichment_analysis.txt"))
     }
```

1.1 Get data

```
[3]: xci <- get_xci_enrichment()
     xci %>% head(2)
```

```
    Column specification

cols(
  `XCI status` = col_character(),
```

```
  OR = col_double(),
  PValue = col_double(),
  Direction = col_character(),
  FDR = col_double()
)
```
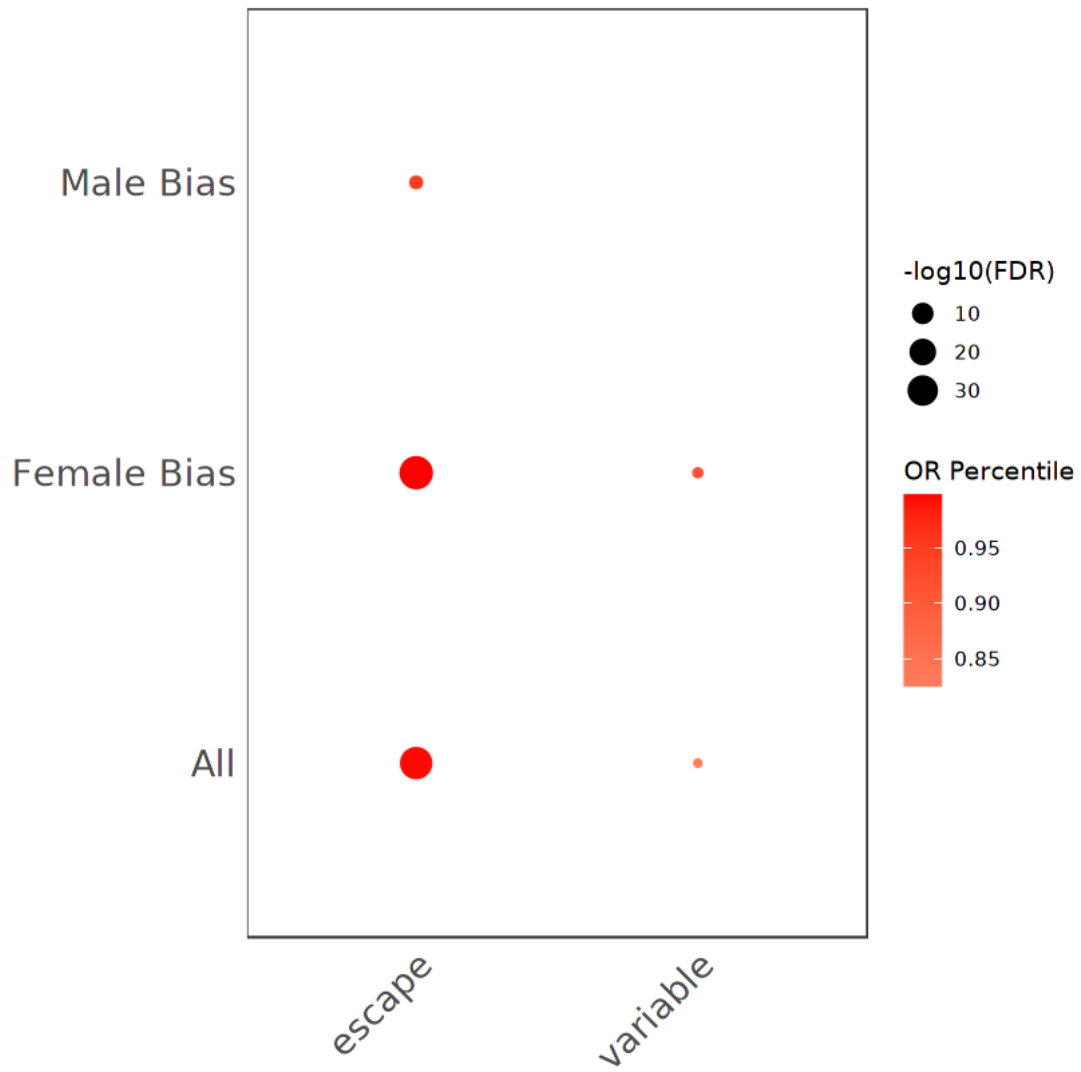
A tibble: 2 × 5	XCI status <chr>	OR <dbl>	PValue <dbl>	Direction <chr>	FDR <dbl>
	escape	192.308432	2.642862e-37	All	1.189288e-36
	variable	4.707192	1.956333e-01	All	3.521399e-01

```
[4]: dotplot <- xci %>% mutate_if(is.character, as.factor) %>%
         mutate(`-log10(FDR)` = -log10(FDR), `OR Percentile` = OR / (1+OR)) %>%
         filter(OR != 0) %>%
         ggplot(aes(x=`XCI status`, y=Direction, color=`OR Percentile`,
                    size=`-log10(FDR)`)) +
         geom_point() + ylab('') + xlab('') +
         scale_color_gradient2(midpoint = 0.5, low = "blue", mid = "white",
                               high = "red", space = "Lab" ) +
         theme_bw() +
         theme(axis.line  = element_blank(),
               axis.text.x = element_text(angle = 45, hjust=1),
               axis.text = element_text(size=16),
               axis.ticks = element_blank(),
               legend.position="right",
               panel.grid = element_blank(),
               strip.text=element_text(size=16, face="bold"))
     save_plot(dotplot, "dotplot_enrichment_xci", 5, 4)
     dotplot
```

1.2 Reproducibility Information

```
[5]: Sys.time()
     proc.time()
     options(width = 120)
     sessioninfo::session_info()
```

```
[1] "2021-07-13 12:44:22 EDT"

   user  system elapsed
  3.603   0.259   4.238

 Session info
 setting   value
```

```
version   R version 4.0.3 (2020-10-10)
os        Arch Linux
system    x86_64, linux-gnu
ui        X11
language  (EN)
collate   en_US.UTF-8
ctype     en_US.UTF-8
tz        America/New_York
date      2021-07-13

 Packages
package      * version  date        lib source
assertthat     0.2.1    2019-03-21 [1] CRAN (R 4.0.2)
backports      1.2.1    2020-12-09 [1] CRAN (R 4.0.2)
base64enc      0.1-3    2015-07-28 [1] CRAN (R 4.0.2)
broom          0.7.8    2021-06-24 [1] CRAN (R 4.0.3)
Cairo          1.5-12.2 2020-07-07 [1] CRAN (R 4.0.2)
cellranger     1.1.0    2016-07-27 [1] CRAN (R 4.0.2)
cli            3.0.0    2021-06-30 [1] CRAN (R 4.0.3)
colorspace     2.0-2    2021-06-24 [1] CRAN (R 4.0.3)
crayon         1.4.1    2021-02-08 [1] CRAN (R 4.0.3)
DBI            1.1.1    2021-01-15 [1] CRAN (R 4.0.2)
dbplyr         2.1.1    2021-04-06 [1] CRAN (R 4.0.3)
digest         0.6.27   2020-10-24 [1] CRAN (R 4.0.2)
dplyr        * 1.0.7    2021-06-18 [1] CRAN (R 4.0.3)
ellipsis       0.3.2    2021-04-29 [1] CRAN (R 4.0.3)
evaluate       0.14     2019-05-28 [1] CRAN (R 4.0.2)
fansi          0.5.0    2021-05-25 [1] CRAN (R 4.0.3)
farver         2.1.0    2021-02-28 [1] CRAN (R 4.0.3)
forcats      * 0.5.1    2021-01-27 [1] CRAN (R 4.0.2)
fs             1.5.0    2020-07-31 [1] CRAN (R 4.0.2)
generics       0.1.0    2020-10-31 [1] CRAN (R 4.0.2)
ggplot2      * 3.3.5    2021-06-25 [1] CRAN (R 4.0.3)
glue           1.4.2    2020-08-27 [1] CRAN (R 4.0.2)
gtable         0.3.0    2019-03-25 [1] CRAN (R 4.0.2)
haven          2.4.1    2021-04-23 [1] CRAN (R 4.0.3)
hms            1.1.0    2021-05-17 [1] CRAN (R 4.0.3)
htmltools      0.5.1.1  2021-01-22 [1] CRAN (R 4.0.2)
httr           1.4.2    2020-07-20 [1] CRAN (R 4.0.2)
IRdisplay      1.0      2021-01-20 [1] CRAN (R 4.0.2)
IRkernel       1.2      2021-05-11 [1] CRAN (R 4.0.3)
jsonlite       1.7.2    2020-12-09 [1] CRAN (R 4.0.2)
labeling       0.4.2    2020-10-20 [1] CRAN (R 4.0.2)
lifecycle      1.0.0    2021-02-15 [1] CRAN (R 4.0.3)
lubridate      1.7.10   2021-02-26 [1] CRAN (R 4.0.3)
magrittr       2.0.1    2020-11-17 [1] CRAN (R 4.0.2)
modelr         0.1.8    2020-05-19 [1] CRAN (R 4.0.2)
munsell        0.5.0    2018-06-12 [1] CRAN (R 4.0.2)
```

```
pbdZMQ        0.3-5    2021-02-10 [1] CRAN (R 4.0.3)
pillar        1.6.1    2021-05-16 [1] CRAN (R 4.0.3)
pkgconfig     2.0.3    2019-09-22 [1] CRAN (R 4.0.2)
purrr       * 0.3.4    2020-04-17 [1] CRAN (R 4.0.2)
R6            2.5.0    2020-10-28 [1] CRAN (R 4.0.2)
Rcpp          1.0.7    2021-07-07 [1] CRAN (R 4.0.3)
readr       * 1.4.0    2020-10-05 [1] CRAN (R 4.0.2)
readxl        1.3.1    2019-03-13 [1] CRAN (R 4.0.2)
repr          1.1.3    2021-01-21 [1] CRAN (R 4.0.2)
reprex        2.0.0    2021-04-02 [1] CRAN (R 4.0.3)
rlang         0.4.11   2021-04-30 [1] CRAN (R 4.0.3)
rstudioapi    0.13     2020-11-12 [1] CRAN (R 4.0.2)
rvest         1.0.0    2021-03-09 [1] CRAN (R 4.0.3)
scales        1.1.1    2020-05-11 [1] CRAN (R 4.0.2)
sessioninfo   1.1.1    2018-11-05 [1] CRAN (R 4.0.2)
stringi       1.6.2    2021-05-17 [1] CRAN (R 4.0.3)
stringr     * 1.4.0    2019-02-10 [1] CRAN (R 4.0.2)
svglite       2.0.0    2021-02-20 [1] CRAN (R 4.0.3)
systemfonts   1.0.2    2021-05-11 [1] CRAN (R 4.0.3)
tibble      * 3.1.2    2021-05-16 [1] CRAN (R 4.0.3)
tidyr       * 1.1.3    2021-03-03 [1] CRAN (R 4.0.3)
tidyselect    1.1.1    2021-04-30 [1] CRAN (R 4.0.3)
tidyverse   * 1.3.1    2021-04-15 [1] CRAN (R 4.0.3)
utf8          1.2.1    2021-03-12 [1] CRAN (R 4.0.3)
uuid          0.1-4    2020-02-26 [1] CRAN (R 4.0.2)
vctrs         0.3.8    2021-04-29 [1] CRAN (R 4.0.3)
withr         2.4.2    2021-04-18 [1] CRAN (R 4.0.3)
xml2          1.3.2    2020-04-23 [1] CRAN (R 4.0.2)

[1] /home/jbenja13/R/x86_64-pc-linux-gnu-library/4.0
[2] /usr/lib/R/library
```