

R Notebook

```
if (!("ggplot2" %in% installed.packages())){
  .libPaths("~/R/lib")
  install.packages("ggplot2")
}
if (!("gghighlight" %in% installed.packages())) install.packages("gghighlight")
if (!("patchwork" %in% installed.packages())) install.packages("patchwork")
if (!("paletteer" %in% installed.packages())) install.packages("paletteer")
if (!("ggsci" %in% installed.packages())) install.packages("ggsci")

library("ggplot2")
library("dplyr")
```

```
##
##   'dplyr'

## The following objects are masked from 'package:stats':
##
##   filter, lag

## The following objects are masked from 'package:base':
##
##   intersect, setdiff, setequal, union
```

```
library("gghighlight")
library("patchwork")
library("paletteer")
library("ggsci")

library("tidyverse")
```

```
## -- Attaching packages ----- tidyverse 1.3.1 --
```

```
## v tibble  3.1.6      v purrr   0.3.4
## v tidyr   1.2.0      v stringr 1.4.0
## v readr   2.1.2      v forcats 0.5.1
```

```
## -- Conflicts ----- tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
```

```
path_persistence <- file.path(getwd(), "persistence")

path_persistence_correlation <- file.path(path_persistence, "correlation")
```

```

path_persistence_statistics <- file.path(path_persistence,"statistics")
path_persistence_pca <- file.path(path_persistence,"pca")

#
multi_calc_frame <- read.csv(file.path(path_persistence,file="multi_calc_frame.csv"),row.names = 1)

health_names <- c(
  "Percent_Category",
  "Percent_ConceptualLevelResponse",
  "Percent_Correct",
  "Percent_pr",
  "Percent_npr_e",
  "Percent_pr_e",
  "Percent_FailureToMaintainSet"
)
new_names <- c(
  "CAT",
  "CLR",
  "TC",
  "PR",
  "NPE",
  "PE",
  "FMS"
)

exp_group = c("exp","health")

rownames(multi_calc_frame)[match(health_names,rownames(multi_calc_frame))] <- new_names

multi_calc_frame <- multi_calc_frame[new_names,]

multi_calc_frame <- multi_calc_frame %>% mutate(
  rownames=rownames(multi_calc_frame),
  frame_type = 'all')

multi_calc_frame$rownames <- factor(multi_calc_frame$rownames,levels=new_names %>% rev())

multi_calc_frame %>% knitr::kable()

```

	Mean	SD	first	second	third	fourth	fifth	sixth	seventh	eighth	ninth	tenth	lower	upper	name	type
CAT	0.0534	0.0205	0.6391	1.0000	0.9228	0.9035	0.9419	0.9295	0.9125	0.9468	CAT	all				
CLR	0.5501	0.1460	0.6593	0.9729	0.8327	0.7922	0.8723	0.8590	0.8229	0.8899	CLR	all				
TC	0.7686	0.1189	0.5977	0.9119	0.8180	0.7748	0.8618	0.8486	0.8073	0.8829	TC	all				
PR	0.1211	0.0865	0.5487	0.9003	0.7936	0.7381	0.8421	0.8310	0.7840	0.8751	PR	all				
NPE	0.1190	0.0821	0.4703	0.8493	0.7700	0.7088	0.8257	0.8166	0.7669	0.8670	NPE	all				
PE	0.1114	0.0666	0.5009	0.8084	0.6666	0.5814	0.7480	0.7543	0.6843	0.8162	PE	all				
FMS	0.0114	0.0127	0.1371	-	-0.0889	-	0.1454	0.4858	0.3169	0.6364	FMS	all				
				0.1133		0.3198										

```

#forest plot https://rgraphs.com/forest-plot-in-r/
#make plot
p <- ggplot(multi_calc_frame, aes(x=monte_carlo_median, y=rownames, color=frame_type, shape=rownames)) +
  geom_errorbar(aes(xmin = monte_carlo_lower, xmax = monte_carlo_upper), width = 0.5, position = position_dodge(0.5)) +
  geom_point(size = 2, position = position_dodge(0.5)) +
  labs(x="Split-Half Reliability (Monte-Carlo)", y = "Index") +
  scale_x_continuous(breaks=seq(0.2,1,0.1), limits = c(0.1,1)) +
  # scale_color_manual(values = c("#6699ff", "#3B80B9")) +
  scale_color_manual(values = c("#ff0000", "#0000ff")) +
  scale_shape_manual(values= c(16,16,16,16,16,16,16,16,16,16,16,16,16,16))+
  guides(
    colour=guide_legend(title = "Group"),
    shape=FALSE
  )+
  scale_color_discrete(breaks=exp_group)+
  theme_classic() +
  geom_vline(xintercept = 0.8, linetype = "longdash") +
  theme(axis.line.y = element_blank(),
        axis.ticks.y = element_blank())

```

```

## Warning: `guides(<scale> = FALSE)` is deprecated. Please use `guides(<scale> =
## "none")` instead.

```

```

## Scale for 'colour' is already present. Adding another scale for 'colour',
## which will replace the existing scale.

```

```

p

```

