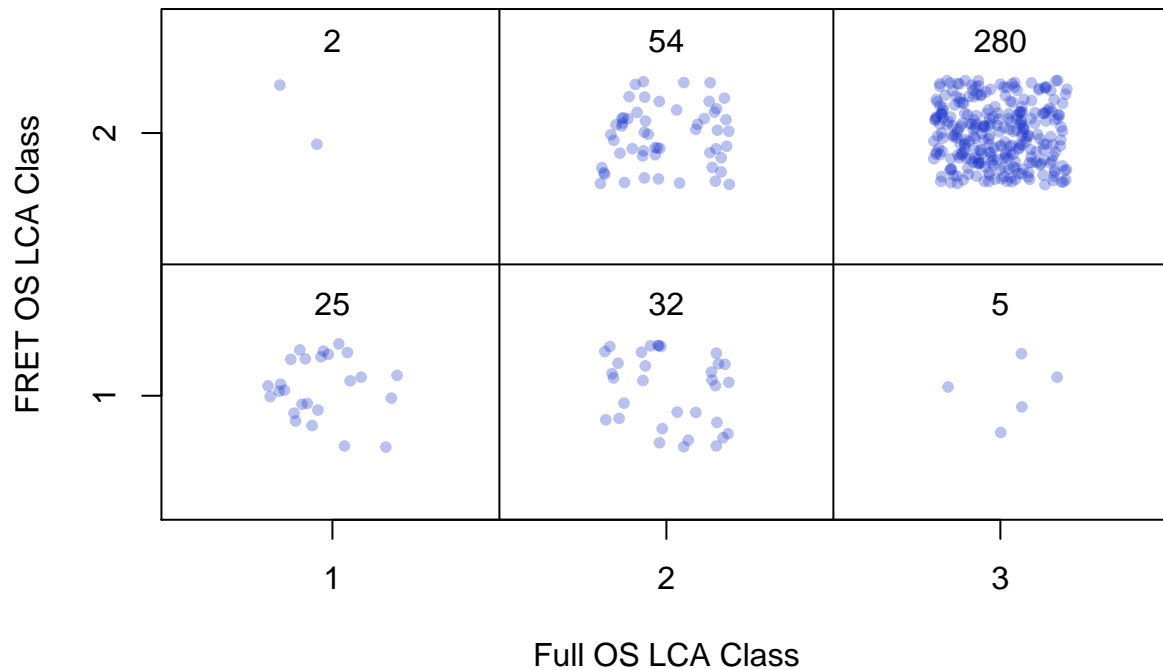


Compare LCA Classes

P Barber

30 November 2018

```
load(file = "COIN_Final.Rdata")
as.numeric.factor <- function(x) {as.numeric(levels(x))[x]}
data <- patient_data[patient_data$FRET.cohort==1,]
data$Class.FRET.OS <- as.numeric.factor(data$Class.FRET.OS)
data$Class.OS <- as.numeric.factor(data$Class.OS)
```



Cohen's Kappa

```
library(irr)
```

```
## Warning: package 'irr' was built under R version 3.5.2
```

```
## Loading required package: lpSolve
```

```
## Warning: package 'lpSolve' was built under R version 3.5.2
```

```
kappa2(data[,c("Class.FRET.OS", "Class.OS")])
```

```
## Cohen's Kappa for 2 Raters (Weights: unweighted)
```

```
##
```

```
## Subjects = 398
```

```
## Raters = 2
```

```
##      Kappa = 0.00682
##
##      z = 0.592
##      p-value = 0.554
```

Calculate the means and standard deviations from 100,000 random group assignments with the same number per subclass as the real data. Also do permutations test and see how many random group are as, or more, extreme as the real data.

```
## Warning: package 'randomizr' was built under R version 3.5.2

## [1] "Class number mean and sd."

##      [,1]      [,2]      [,3]
## [1,] "4.2±1.82" "13.4±2.99" "44.4±3.26"
## [2,] "22.8±1.82" "72.6±2.99" "241±3.26"

## [1] "p-values."

##
##      1      2      3
## 1 2.706736e-30 4.753353e-10 1.467638e-33
## 2 2.706736e-30 4.753353e-10 1.467638e-33

## [1] "Permutations: 0 / 1e+05 => pvalue < 1e-05"
```

Session Information

```
sessionInfo()
```

```
## R version 3.5.1 (2018-07-02)
## Platform: x86_64-w64-mingw32/x64 (64-bit)
## Running under: Windows 10 x64 (build 17134)
##
## Matrix products: default
##
## locale:
## [1] LC_COLLATE=English_United Kingdom.1252
## [2] LC_CTYPE=English_United Kingdom.1252
## [3] LC_MONETARY=English_United Kingdom.1252
## [4] LC_NUMERIC=C
## [5] LC_TIME=English_United Kingdom.1252
##
## attached base packages:
## [1] stats      graphics  grDevices  utils      datasets  methods   base
##
## other attached packages:
## [1] randomizr_0.16.1 irr_0.84.1      lpSolve_5.6.13
##
## loaded via a namespace (and not attached):
## [1] compiler_3.5.1  backports_1.1.2 magrittr_1.5    rprojroot_1.3-2
## [5] tools_3.5.1     htmltools_0.3.6 yaml_2.2.0      Rcpp_1.0.1
## [9] stringi_1.1.7   rmarkdown_1.10 knitr_1.20      stringr_1.3.1
## [13] digest_0.6.18   evaluate_0.12
```