A boring (academic) title or a clever title?
A secondary title

YOUR NAME HERE *Washington State University*

Here is a second paragraph of the abstract (if necessary), and with the pipe notation it doesn't break. Notice it still needs to be indented. In this article we compare the *empirical characteristic function* (Tukey 1977;

Becker et al. 1988) to a *moment-generating-functional form* to compute the proportion of hypotheses m that are rejected under the null hypothesis. Generally, we write this abstract last. Often it is called the executive

summary. It should succinctly summarize the entire document. You can include references such as this one to the Appendices section **??** if necessary.

Keywords: multiple comparisons to control; multivariate chi-square distribution; nonlinear growth curves; Richard's curve; simulated critical points

November 08, 2020

```
library(devtools);       # required for source_url

path.humanVerseWSU = "https://raw.githubusercontent.com/MonteShaffer/humanVerseWSU/"
source_url( paste0(path.humanVerseWSU,"master/misc/functions-project-measure.R") );
```

```
## Warning: package 'Hmisc' was built under R version 4.0.3
```

```
path.project = "C:/Users/Nathan/Documents/GitHub/WSU_STATS419_FALL2020/PROJECT-01/";
path.tables = paste0(path.project,"tables/");
  createDirRecursive(path.tables);
```

```
# file.correlation = paste0(path.tables,"tree-correlation-table.tex");
#
#
# myData = as.matrix(trees);  # numeric values only, only what will appear in table
#
# # https://www.overleaf.com/read/srzhrcryjpwm
# # keepaspectratio of include graphics
# # could scale \input if still too big ...
# # https://tex.stackexchange.com/questions/13460/scalebox-knowing-how-much-it-scales#13487
# buildLatexCorrelationTable(myData,
#   rotateTable = TRUE,
#   width.table = 0.60, # best for given data ... 0.95 when rotateTable = FALSE
#                       # 0.60 when rotateTable = TRUE
#   myFile = file.correlation,
#   myNames = c("Diameter (in)", "Height (ft)", "Volume (ft$^3$)") );
#
#
# Sys.sleep(2); # in case Knit-PDF doesn't like that I just created the file...
```

```
# # build a second table, with more data ...
#
# file.correlation = paste0(path.tables,"tree-correlation-table2.tex");
#
#
# myData = as.matrix(trees);  # numeric values only, only what will appear in table
#
# myData = cbind(myData,myData);
# # https://www.overleaf.com/read/srzhrcryjpwm
# # keepaspectratio of include graphics
# # could scale \input if still too big ...
# # https://tex.stackexchange.com/questions/13460/scalebox-knowing-how-much-it-scales#13487
# buildLatexCorrelationTable(myData,
#   rotateTable = TRUE,
#   width.table = 0.95,
#   myFile = file.correlation,
#   myNames = c("Diameter (in)", "Height (ft)", "Volume (ft$^3$)", "Diameter (in)", "Height (ft)", "Vol
#
#
# Sys.sleep(2); # in case Knit-PDF doesn't like that I just created the file...
#
```

Table 1: Descriptive Statistics and Correlation Analysis

	M	SD	1	2
1 Diameter (in)	13.2	3.14	1	
2 Height (ft)	76.0	6.37	.52**	1
3 Volume (ft^3)	30.2	16.44	.97***	.60***

Notes: Pearson pairwise correlations are reported;
a two-side test was performed to report correlation significance.

$^{\dagger}p < .10$ $^{*}p < .05$ $^{**}p < .01$ $^{***}p < .001$

```
local.path = 'C:/Users/Nathan/Documents/GitHub/WSU_STATS419_FALL2020/';
source(paste0(local.path, 'functions/functions-project-measure.R'))

data.location = 'C:/Users/Nathan/Desktop/Stat419/measure-students.txt'
measure = utils::read.csv('C:/Users/Nathan/Desktop/Stat419/measure-students.txt', header=TRUE, quote=""
measure.df = prepareMeasureData(measure)
```

```
## Warning: package 'measurements' was built under R version 4.0.3
```

```
## Warning in `[<-.factor`(`*tmp*`, iseq, value = "nb"): invalid factor level, NA
## generated
```

```
measure.males.df = grabGenderRows(measure.df,'m')
measure.females.df = grabGenderRows(measure.df,'f')

proportions.male = measure.males.df/measure.males.df$height
proportions.female = measure.females.df/measure.females.df$height
```

```
file.correlation = paste0(path.tables,"male-correlation-table.tex");

myData = as.matrix(proportions.male);  # numeric values only, only what will appear in table
# myData = myData[,is.nan()] = NA
# myData[is.nan(myData)] = NA
set.seed(456)
myData = myData[,c(2,4,6,11,12,15)]
# myData = myData[sample(1:nrow(myData),50),]
# https://www.overleaf.com/read/srzhrcryjpwn
# myData = myData[,c(2)]
# https://www.overleaf.com/read/srzhrcryjpwn
# keepaspectratio of include graphics
# could scale \input if still too big ...
# https://tex.stackexchange.com/questions/13460/scalebox-knowing-how-much-it-scales#13487
buildLatexCorrelationTable(myData,
  rotateTable = FALSE,
  width.table = 1, # best for given data ... 0.95 when rotateTable = FALSE
                   # 0.60 when rotateTable = TRUE
  width.names = "30mm", # width of variable names
  space.M.SD = "1mm",
                                    space.SD.corr = "5mm",
                                    space.between = "2mm",
  myFile = file.correlation,
  round.digits = c(2,3,2),  # M, SD, corr
  # myNames = c("Diameter (in)", "Height (ft)", "Volume (ft$^3$)")
  myLabel = "table:correlation-male",
  myCaption = "Descriptive Statistics and Correlation Analysis (MALE)"

  );

Sys.sleep(2); # in case Knit-PDF doesn't like that I just created the file...
```

```
file.correlation = paste0(path.tables,"female-correlation-table.tex");

myData = as.matrix(proportions.female);  # numeric values only, only what will appear in table
```

Table 2: Descriptive Statistics and Correlation Analysis

	M	SD	1	2	3	4	5
1 Diameter (in)	13.2	3.14	1				
2 Height (ft)	76.0	6.37	.52**	1			
3 Volume (ft^3)	30.2	16.44	.97***	.60***	1		
4 Diameter (in)	13.2	3.14	1.00***	.52**	.97***	1	
5 Height (ft)	76.0	6.37	.52**	1.00***	.60***	.52**	1
6 Volume (ft^3)	30.2	16.44	.97***	.60***	1.00***	.97***	.60***

Notes: Pearson pairwise correlations are reported;
a two-side test was performed to report correlation significance.

$^{\dagger}p < .10$ $^{*}p < .05$ $^{**}p < .01$ $^{***}p < .001$

```r
# myData = myData[,is.nan()] = NA
# myData[is.nan(myData)] = NA
set.seed(456)
myData = myData[,c(2,4,6,11,12,15)]
# myData = myData[sample(1:nrow(myData),50),]
# https://www.overleaf.com/read/srzhrcryjpwn
# myData = myData[,c(2)]
# https://www.overleaf.com/read/srzhrcryjpwn
# keepaspectratio of include graphics
# could scale \input if still too big ...
# https://tex.stackexchange.com/questions/13460/scalebox-knowing-how-much-it-scales#13487
buildLatexCorrelationTable(myData,
  rotateTable = FALSE,
  width.table = 1, # best for given data ... 0.95 when rotateTable = FALSE
                       # 0.60 when rotateTable = TRUE
  width.names = "30mm",
  myFile = file.correlation,
  round.digits = c(2,3,2),
  # myNames = c("Diameter (in)", "Height (ft)", "Volume (ft$^3$)")
  myLabel = "table:correlation-female",
  myCaption = "Descriptive Statistics and Correlation Analysis (FEMALE)"

  );

Sys.sleep(2); # in case Knit-PDF doesn't like that I just created the file...
```

Table 3: Descriptive Statistics and Correlation Analysis (FEMALE)

		M	SD	1	2	3	4	5
1	**head.height**	.13	.017	1				
2	**arm.span**	1.01	.050	-.04	1			
3	**hand.length**	.11	.007	.30**	.03	1		
4	**foot.length**	.15	.010	.22*	.18†	.48***	1	
5	**floor.kneepit**	.27	.019	.12	.06	.29**	.30**	1
6	**shoulder.width**	.19	.065	.01	.55***	-.06	-.04	-.10

Notes: Pearson pairwise correlations are reported;
a two-side test was performed to report correlation significance.

†$p < .10$ *$p < .05$ **$p < .01$ ***$p < .001$

Table 4: Descriptive Statistics and Correlation Analysis (MALE)

		M	SD	1	2	3	4	5
1	**head.height**	.13	.013	1				
2	**arm.span**	1.01	.062	-.28**	1			
3	**hand.length**	.11	.008	.36***	-.09	1		
4	**foot.length**	.15	.009	.14	-.07	.52***	1	
5	**floor.kneepit**	.27	.018	.26**	-.20*	.05	.16†	1
6	**shoulder.width**	.20	.092	-.14	.55***	-.16	-.15	-.08

Notes: Pearson pairwise correlations are reported;
a two-side test was performed to report correlation significance.

†$p < .10$ *$p < .05$ **$p < .01$ ***$p < .001$

ENDNOTES

REFERENCES

Becker, Richard A, John M Chambers, Allan R Wilks. 1988. *The New S Language*. Wadsworth & Brooks.

Tukey, John W. 1977. *Exploratory Data Analysis*. 1st ed. Reading, MA.

TABLE OF CONTENTS