Making Tables with gtsummary

Using the *gtsummary* package to make various types of tables in r markdown.

```
library(dplyr)
library(gtsummary)
library(palmerpenguins)
#data(package = 'palmerpenguins')
```

Summarize descriptive statistics

Throughout the post we will use an example dataset of 200 subjects treated with either Drug A or Drug B, with a mix of categorical, dichotomous, and continuous demographic and response data. The dataset has label attributes (using the labelled package) for column names.

This markdown will use the palmer penguins dataset

```
sm_penguins <- penguins %>% select(species, island, sex, flipper_length_mm, body_mass_g)

head(sm_penguins)
```

```
## # A tibble: 6 x 5
##   species island    sex    flipper_length_mm body_mass_g
##   <fct>   <fct>     <fct>              <int>       <int>
## 1 Adelie  Torgersen male                 181        3750
## 2 Adelie  Torgersen female               186        3800
## 3 Adelie  Torgersen female               195        3250
## 4 Adelie  Torgersen <NA>                  NA          NA
## 5 Adelie  Torgersen female               193        3450
## 6 Adelie  Torgersen male                 190        3650
```

In one line of code we can summarize the overall demographics of the dataset!

Notice some nice default behaviors: Detects variable types of input data and calculates descriptive statistics Variables coded as 0/1, TRUE/FALSE, and Yes/No are presented dichotomously Recognizes NA values as "missing" and lists them as unknown Label attributes automatically printed Variable levels indented and footnotes added

```
tbl_summary(sm_penguins)
```

```
## Table printed with `knitr::kable()`, not {gt}. Learn why at
## http://www.danieldsjoberg.com/gtsummary/articles/rmarkdown.html
## To suppress this message, include `message = FALSE` in code chunk header.
```

Characteristic	**N = 344**
species	
Adelie	152 (44%)
Chinstrap	68 (20%)
Gentoo	124 (36%)
island	
Biscoe	168 (49%)

Characteristic	N = 344
Dream	124 (36%)
Torgersen	52 (15%)
sex	
female	165 (50%)
male	168 (50%)
Unknown	11
flipper_length_mm	197 (190, 213)
Unknown	2
body_mass_g	4,050 (3,550, 4,750)
Unknown	2

Start customizing by adding arguments and functions

Next you can start to customize the table by using arguments of the tbl_summary() function, as well as pipe the table through additional gtsummary functions to add more information, like p-value to compare across groups and overall demographic column.

```
sm_penguins %>%
  tbl_summary(by = island) %>%
  add_p() %>%
  add_overall() %>%
  bold_labels()
```

```
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## http://www.danieldsjoberg.com/gtsummary/articles/rmarkdown.html
## To suppress this message, include `message = FALSE` in code chunk header.
```

Characteristic	**Overall**, N = 344	**Biscoe**, N = 168	**Dream**, N = 124	**Torgersen**, N = 52	**p-value**
species					<0.001
Adelie	152 (44%)	44 (26%)	56 (45%)	52 (100%)	
Chinstrap	68 (20%)	0 (0%)	68 (55%)	0 (0%)	
Gentoo	124 (36%)	124 (74%)	0 (0%)	0 (0%)	
sex					>0.9
female	165 (50%)	80 (49%)	61 (50%)	24 (51%)	
male	168 (50%)	83 (51%)	62 (50%)	23 (49%)	
Unknown	11	5	1	5	
flipper_length_mm	197 (190, 213)	214 (200, 220)	193 (188, 198)	191 (187, 195)	<0.001
Unknown	2	1	0	1	
body_mass_g	4,050 (3,550, 4,750)	4,775 (4,200, 5,325)	3,688 (3,400, 3,956)	3,700 (3,338, 4,000)	<0.001
Unknown	2	1	0	1	