

# task\_8

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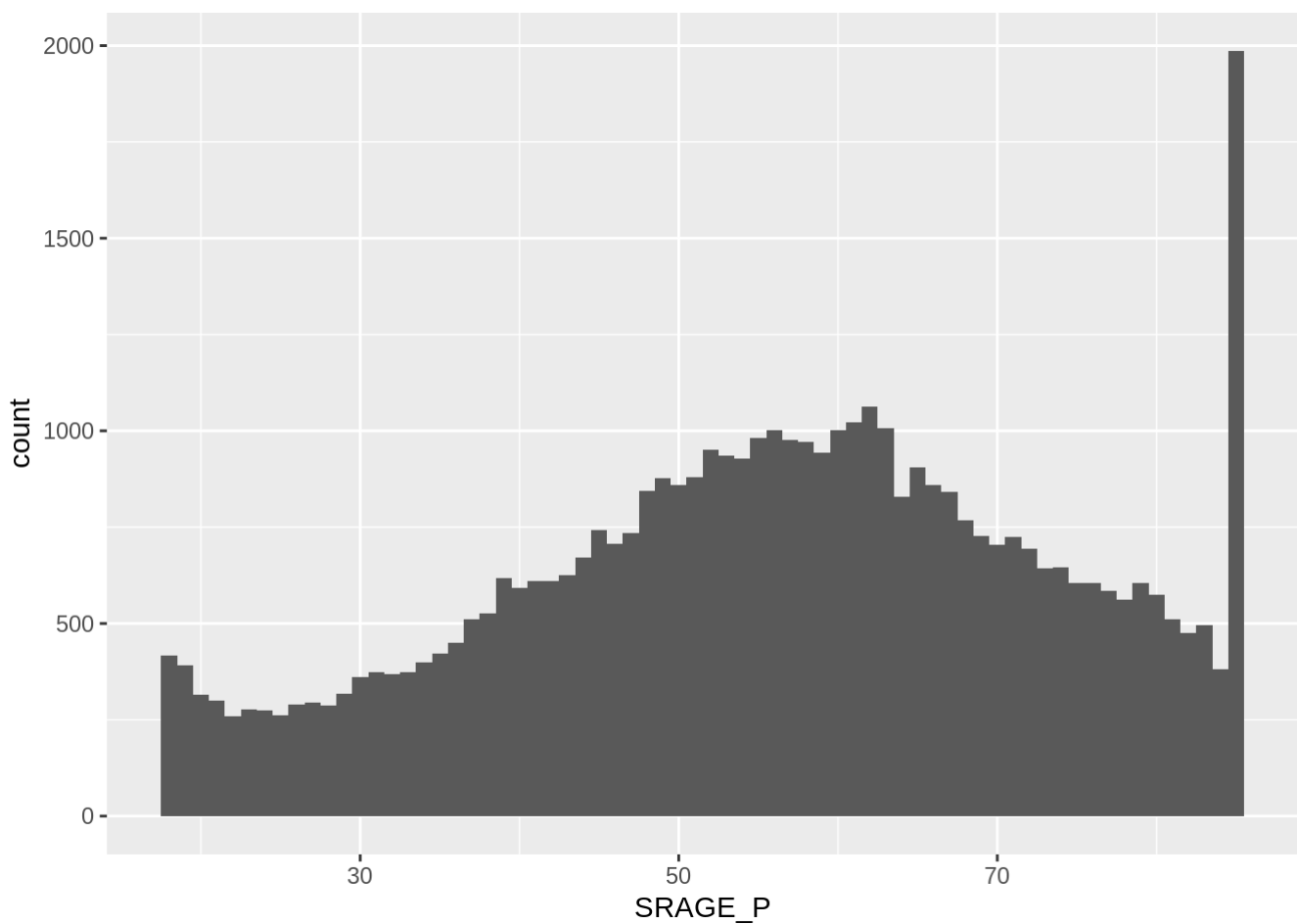
5/10/2019

```
load('/home/manu/Downloads/CHIS2009_reduced_2.Rdata')
```

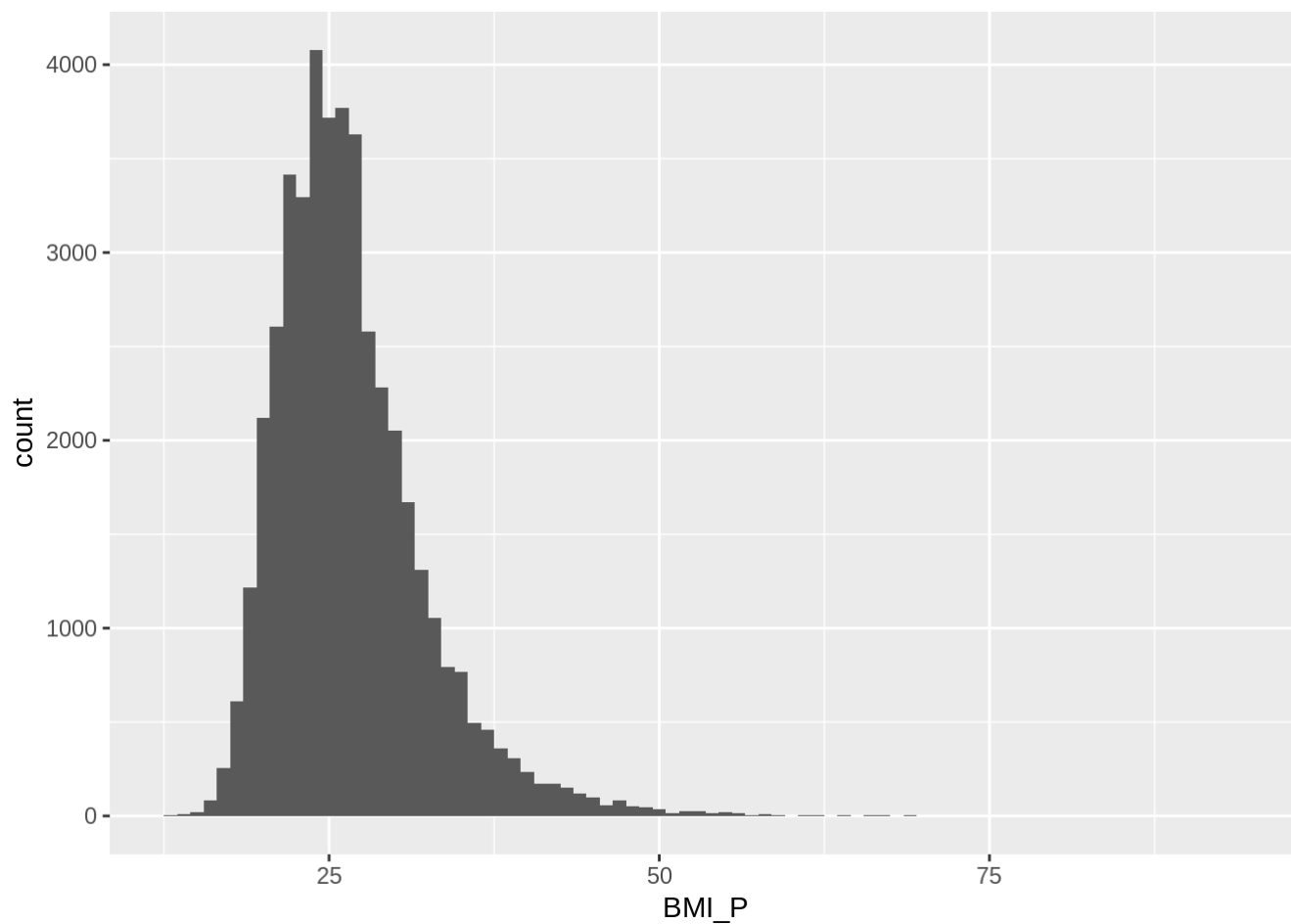
```
library(ggplot2)
```

```
## Registered S3 methods overwritten by 'ggplot2':  
##   method      from  
## [.quosures   rlang  
## c.quosures   rlang  
## print.quosures rlang
```

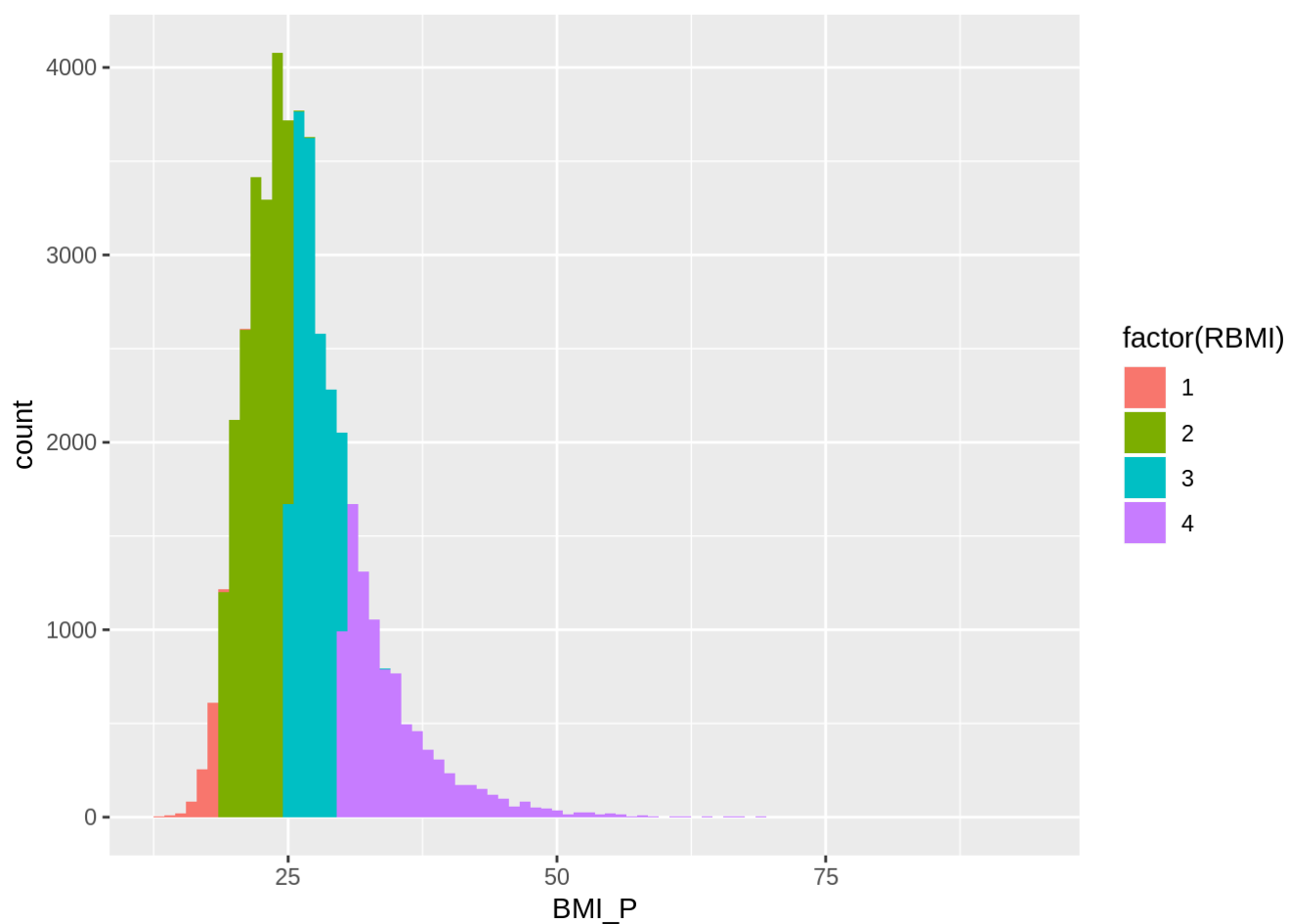
```
# width <- length(unique(adult$RACEHPR2))  
ggplot(adult, aes(x=SRAGE_P)) +  
  geom_histogram(binwidth = 1)
```



```
ggplot(adult, aes(x=BMI_P)) +  
  geom_histogram(binwidth = 1)
```

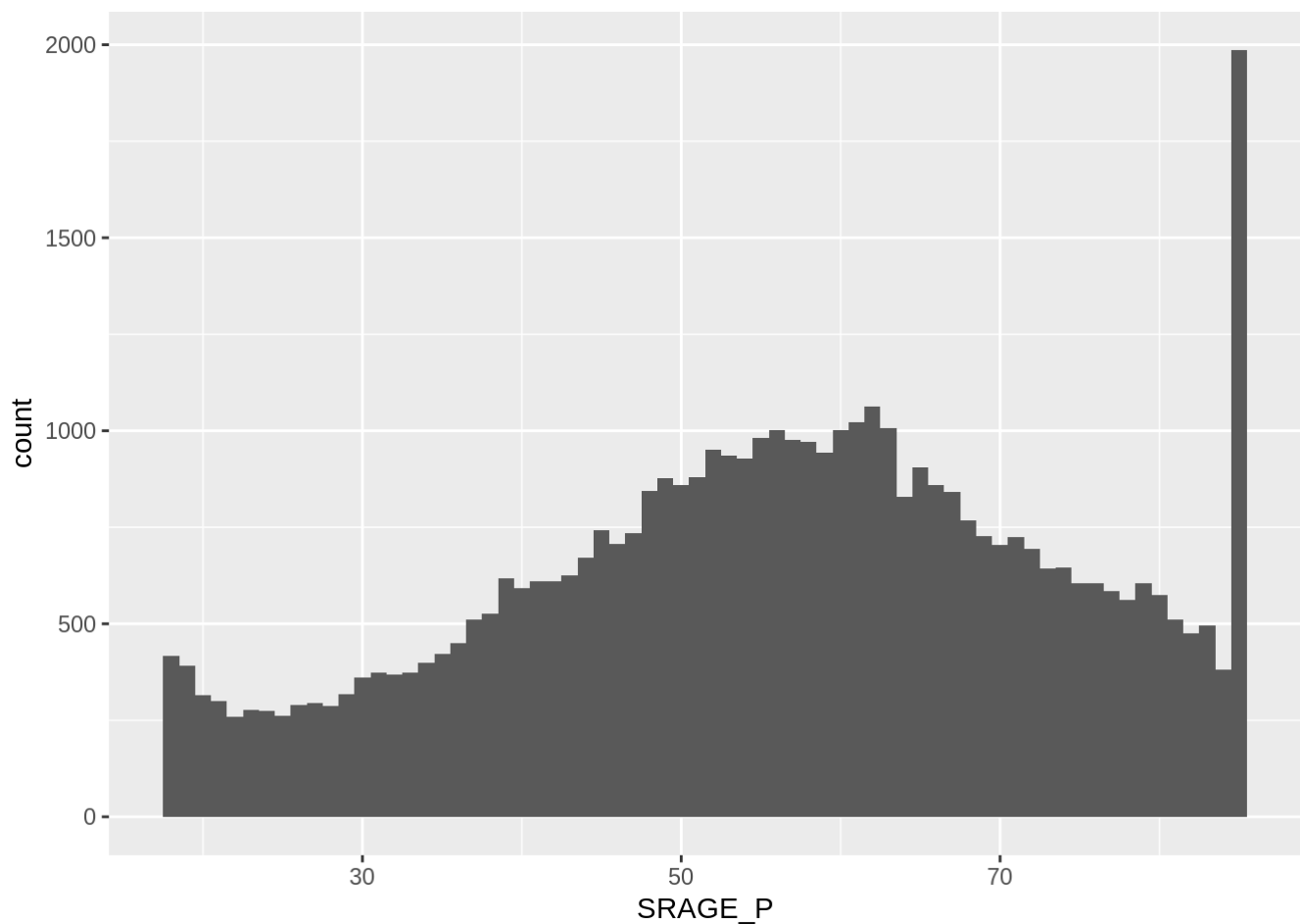


```
ggplot(adult, aes(x = BMI_P, fill = factor(RBMI))) +  
  geom_histogram(binwidth = 1)
```



```
# histogram of age coloured by bmi groups
```

```
ggplot(adult, aes(x=SRAGE_P, fill = RBMI)) +  
  geom_histogram(binwidth = 1)
```



```
adult$RACEHPR2 <- factor(adult$RACEHPR2, labels = c("Latino", "Asian", "African American", "White"))
```

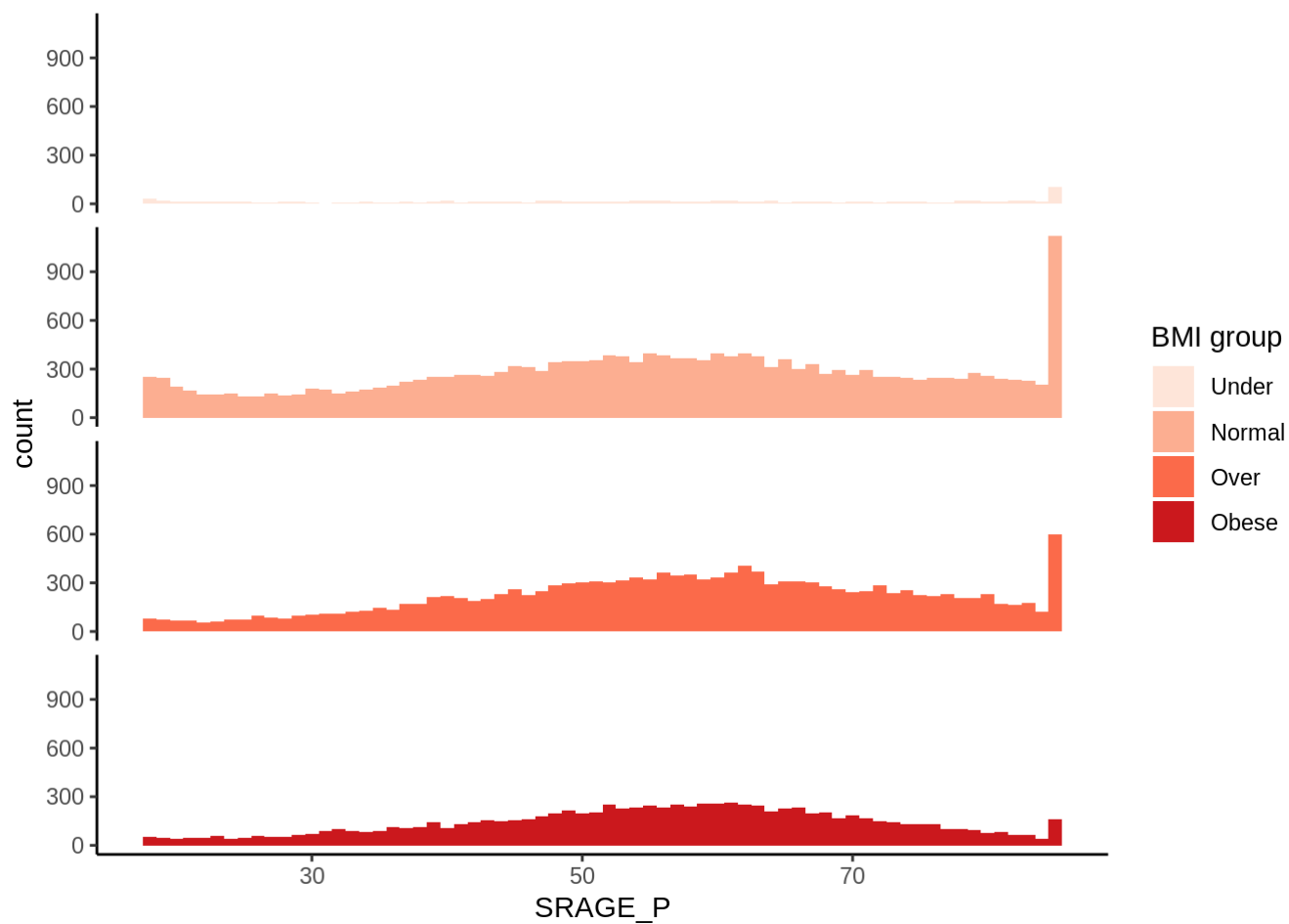
```
adult$RBMI <- factor(adult$RBMI, labels = c("Under", "Normal", "Over", "Obese"))
```

```
p <- ggplot(adult, aes(x=SRAGE_P, fill = RBMI)) +  
  geom_histogram(binwidth = 1)
```

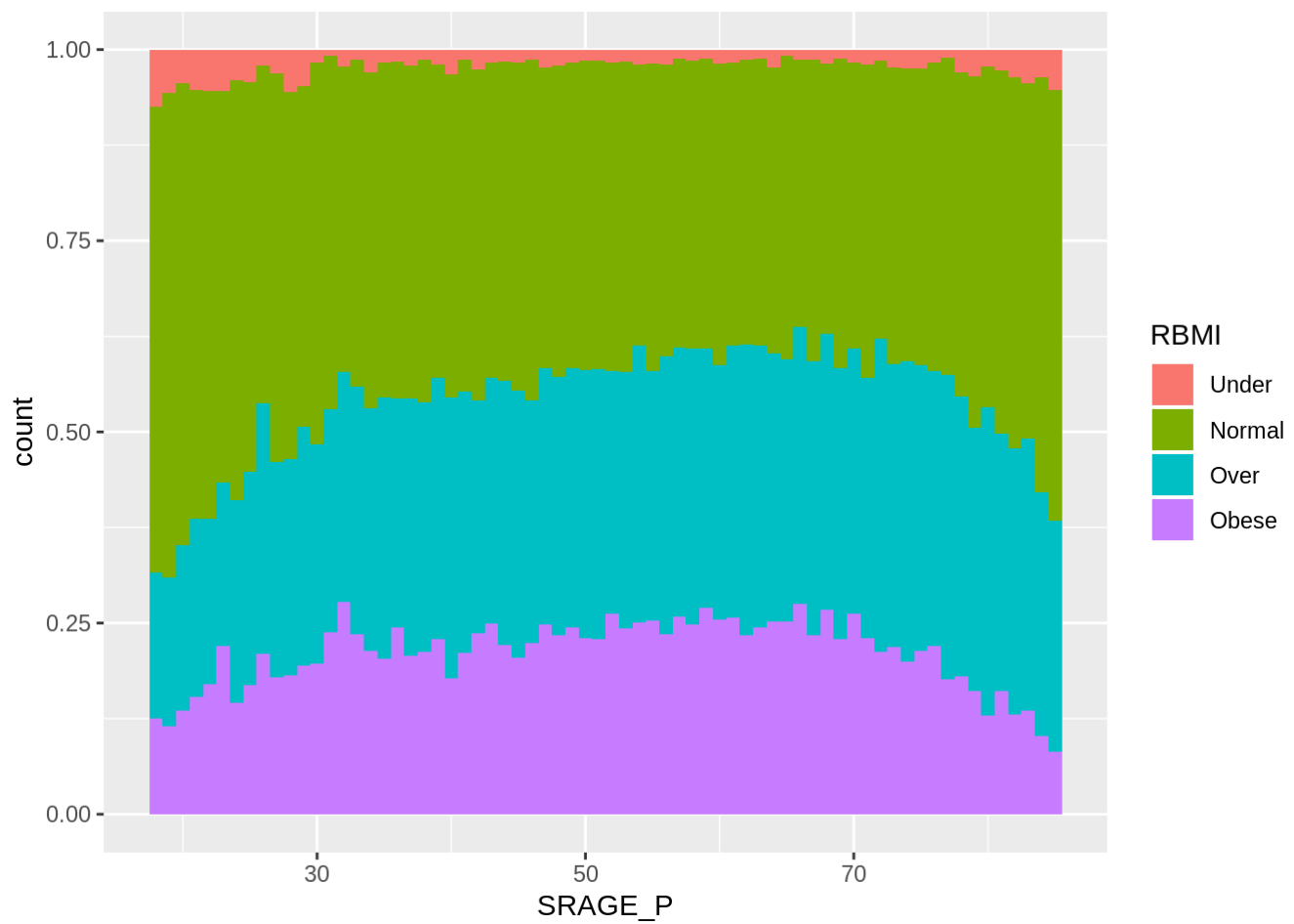
```
k <- p + facet_grid(RBMI~.)
```

```
g <- k + scale_fill_brewer("BMI group", palette = "Reds")
```

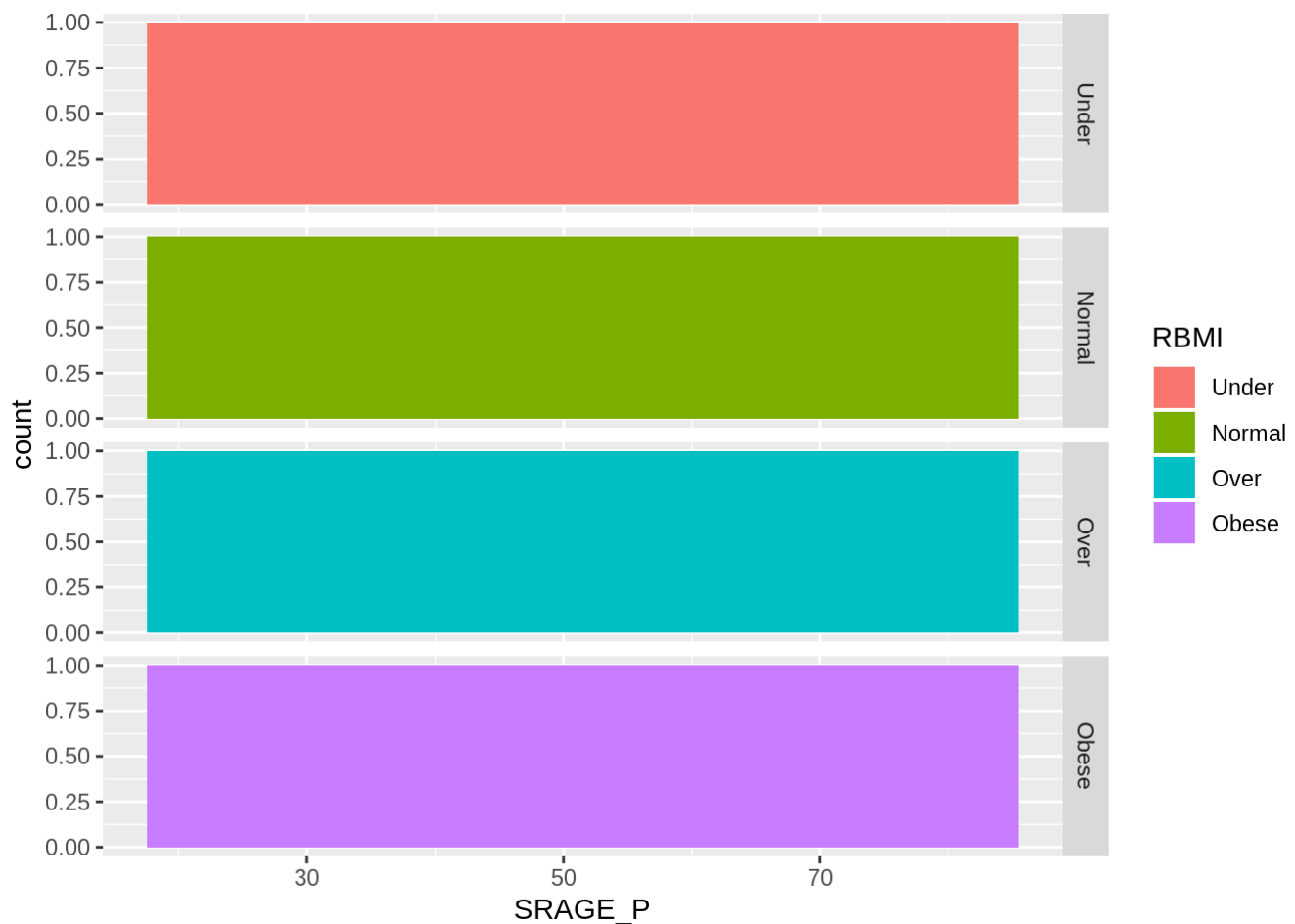
```
g + theme_classic() + theme(strip.text.y = element_blank())
```



```
p <- ggplot(adult, aes(x=SRAGE_P, fill = RBMI)) +  
  geom_histogram(binwidth = 1, position = 'fill')  
p
```



```
p <- ggplot(adult, aes(x=SRAGE_P, fill = RBMI)) +  
  geom_histogram(binwidth = 1, position = 'fill')  
p +facet_grid(RBMI~.)
```



*# Each one of them took proportion of 100 % we need to make a separate table and store the values of proportions in order to visualise this data as a proportional facet grid.*

```
# frequency table thus columns should be ages,
# rows should contain proportions of each BMI group relative to each age
library(pheatmap)
library(tidyr)
View(adult)
x <- table(adult$SRAGE_P, adult$RBMI, adult$BMI_P)
prop_df <- prop.table(x)

# melting this new_df_prop (new matrix of proportions)

new_melted <- data.frame(reshape2::melt(prop_df))

# Build a histogram of ages colored by BMI groups
# Add facet by BMI group
# Color with another palette: scale_fill_brewer("BMI group", palette = "Reds")
# Use theme_classic() and theme(strip.text.y = element_blank())

p <- ggplot(new_melted, aes(x=Var1, y = value, fill = Var2)) +
  geom_histogram(stat = 'identity')
```

## Warning: Ignoring unknown parameters: binwidth, bins, pad

```
k <- p + facet_grid(Var2~.)  
g <- k + scale_fill_brewer("BMI group", palette = "Reds")  
g + theme_classic() + theme(strip.text.y = element_blank())
```

