# Tally Covariates Overall

df %>% group\_by(origin,alcohol) %>% summarize(n())

## # A tibble: 12 x 3  
## # Groups: origin [?]  
## origin alcohol `n()`  
## <fct> <fct> <int>  
## 1 Germany 1 11  
## 2 Germany 2 7  
## 3 Germany 9999 3  
## 4 Iran 1 124  
## 5 Japan 1 25  
## 6 Japan 2 5  
## 7 Korea (KMCC) 1 65  
## 8 Korea (KMCC) 2 17  
## 9 Korea (KMCC) 9999 1  
## 10 Korea (SNU) 1 202  
## 11 Korea (SNU) 2 78  
## 12 Korea (SNU) 9999 3

df %>% group\_by(origin,smoking) %>% summarize(n())

## # A tibble: 11 x 3  
## # Groups: origin [?]  
## origin smoking `n()`  
## <fct> <fct> <int>  
## 1 Germany 1 19  
## 2 Germany 2 2  
## 3 Iran 1 119  
## 4 Iran 2 5  
## 5 Japan 1 27  
## 6 Japan 2 3  
## 7 Korea (KMCC) 1 76  
## 8 Korea (KMCC) 2 7  
## 9 Korea (SNU) 1 265  
## 10 Korea (SNU) 2 14  
## 11 Korea (SNU) 9999 4

df %>% group\_by(origin,relativegc) %>% summarize(n())

## # A tibble: 12 x 3  
## # Groups: origin [?]  
## origin relativegc `n()`  
## <fct> <fct> <int>  
## 1 Germany 1 19  
## 2 Germany 2 1  
## 3 Germany 9999 1  
## 4 Iran 1 122  
## 5 Iran 2 2  
## 6 Japan 1 23  
## 7 Japan 2 6  
## 8 Japan 9999 1  
## 9 Korea (KMCC) 9999 83  
## 10 Korea (SNU) 1 228  
## 11 Korea (SNU) 2 43  
## 12 Korea (SNU) 9999 12

df %>% group\_by(origin,education) %>% summarize(n())

## # A tibble: 13 x 3  
## # Groups: origin [?]  
## origin education `n()`  
## <fct> <fct> <int>  
## 1 Germany 1 1  
## 2 Germany 2 20  
## 3 Iran 1 113  
## 4 Iran 2 10  
## 5 Iran 3 1  
## 6 Japan 9999 30  
## 7 Korea (KMCC) 1 31  
## 8 Korea (KMCC) 2 51  
## 9 Korea (KMCC) 3 1  
## 10 Korea (SNU) 1 27  
## 11 Korea (SNU) 2 220  
## 12 Korea (SNU) 3 33  
## 13 Korea (SNU) 9999 3

# Tally Covariates by case status

as.data.frame(df %>% group\_by(origin,case,alcohol) %>% summarize(n()))

## origin case alcohol n()  
## 1 Germany 0 1 4  
## 2 Germany 0 2 5  
## 3 Germany 0 9999 2  
## 4 Germany 1 1 7  
## 5 Germany 1 2 2  
## 6 Germany 1 9999 1  
## 7 Iran 0 1 81  
## 8 Iran 1 1 43  
## 9 Japan 0 1 12  
## 10 Japan 0 2 3  
## 11 Japan 1 1 13  
## 12 Japan 1 2 2  
## 13 Korea (KMCC) 0 1 43  
## 14 Korea (KMCC) 0 2 11  
## 15 Korea (KMCC) 1 1 22  
## 16 Korea (KMCC) 1 2 6  
## 17 Korea (KMCC) 1 9999 1  
## 18 Korea (SNU) 0 1 86  
## 19 Korea (SNU) 0 2 48  
## 20 Korea (SNU) 0 9999 3  
## 21 Korea (SNU) 1 1 116  
## 22 Korea (SNU) 1 2 30

as.data.frame(df %>% group\_by(origin,case,smoking) %>% summarize(n()))

## origin case smoking n()  
## 1 Germany 0 1 9  
## 2 Germany 0 2 2  
## 3 Germany 1 1 10  
## 4 Iran 0 1 79  
## 5 Iran 0 2 2  
## 6 Iran 1 1 40  
## 7 Iran 1 2 3  
## 8 Japan 0 1 14  
## 9 Japan 0 2 1  
## 10 Japan 1 1 13  
## 11 Japan 1 2 2  
## 12 Korea (KMCC) 0 1 50  
## 13 Korea (KMCC) 0 2 4  
## 14 Korea (KMCC) 1 1 26  
## 15 Korea (KMCC) 1 2 3  
## 16 Korea (SNU) 0 1 128  
## 17 Korea (SNU) 0 2 6  
## 18 Korea (SNU) 0 9999 3  
## 19 Korea (SNU) 1 1 137  
## 20 Korea (SNU) 1 2 8  
## 21 Korea (SNU) 1 9999 1

as.data.frame(df %>% group\_by(origin,case,relativegc) %>% summarize(n()))

## origin case relativegc n()  
## 1 Germany 0 1 9  
## 2 Germany 0 2 1  
## 3 Germany 0 9999 1  
## 4 Germany 1 1 10  
## 5 Iran 0 1 80  
## 6 Iran 0 2 1  
## 7 Iran 1 1 42  
## 8 Iran 1 2 1  
## 9 Japan 0 1 10  
## 10 Japan 0 2 5  
## 11 Japan 1 1 13  
## 12 Japan 1 2 1  
## 13 Japan 1 9999 1  
## 14 Korea (KMCC) 0 9999 54  
## 15 Korea (KMCC) 1 9999 29  
## 16 Korea (SNU) 0 1 114  
## 17 Korea (SNU) 0 2 15  
## 18 Korea (SNU) 0 9999 8  
## 19 Korea (SNU) 1 1 114  
## 20 Korea (SNU) 1 2 28  
## 21 Korea (SNU) 1 9999 4

as.data.frame(df %>% group\_by(origin,case,education) %>% summarize(n()))

## origin case education n()  
## 1 Germany 0 1 1  
## 2 Germany 0 2 10  
## 3 Germany 1 2 10  
## 4 Iran 0 1 71  
## 5 Iran 0 2 10  
## 6 Iran 1 1 42  
## 7 Iran 1 3 1  
## 8 Japan 0 9999 15  
## 9 Japan 1 9999 15  
## 10 Korea (KMCC) 0 1 21  
## 11 Korea (KMCC) 0 2 33  
## 12 Korea (KMCC) 1 1 10  
## 13 Korea (KMCC) 1 2 18  
## 14 Korea (KMCC) 1 3 1  
## 15 Korea (SNU) 0 1 11  
## 16 Korea (SNU) 0 2 105  
## 17 Korea (SNU) 0 3 18  
## 18 Korea (SNU) 0 9999 3  
## 19 Korea (SNU) 1 1 16  
## 20 Korea (SNU) 1 2 115  
## 21 Korea (SNU) 1 3 15