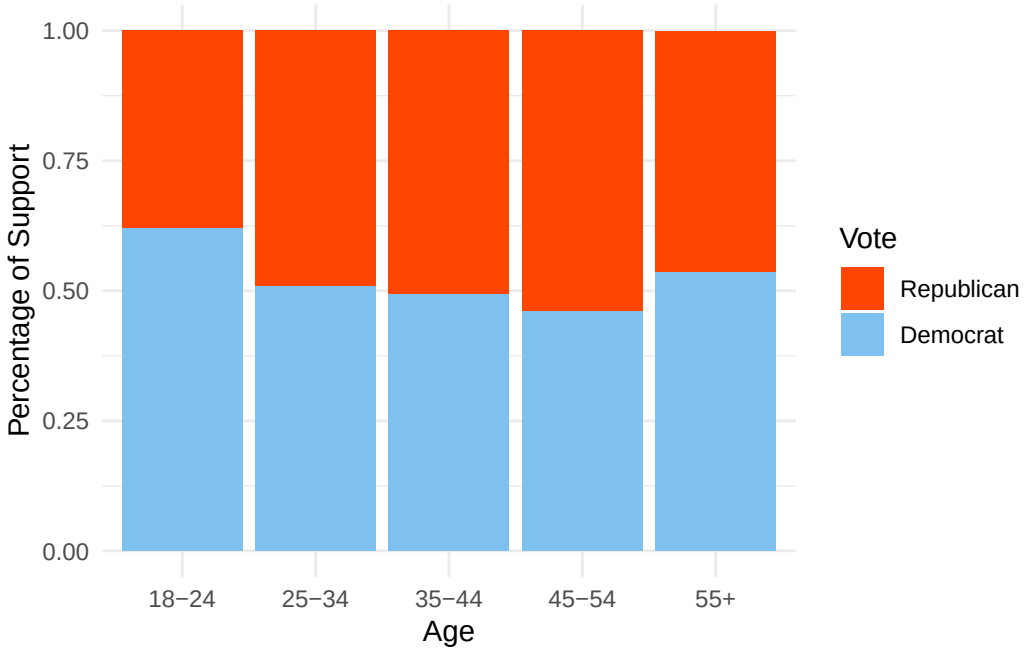
```r
#Question 2

set.seed(301)
generate_data <- function(i = 1000) {
  data <- tibble( party = sample(0:1, i, replace = TRUE),
      age = sample(c('18-24', '25-34', '35-44', '45-54', '55+'), i, replace = TRUE),
      gender = sample(c('Male', 'Female'), i, replace = TRUE),
      income = sample(c('Low', 'Medium', 'High'), i, replace = TRUE),
      education = sample(c('High School', 'Bachelor', 'Master', 'Doctorate'),
                         i, replace = TRUE)
      )
return(data)
}

sim_data <- generate_data(1000)



# Example for Age Group
ggplot(sim_data, aes(x = age, fill = factor(party))) +
  geom_bar(position = "fill") +
  scale_fill_manual(values = c("0" = "orangered", "1" = "skyblue2"),
                    labels = c("0" = "Republican", "1" = "Democrat")) +
  labs(x = "Age", y = "Percentage of Support", fill = "Vote") +
  theme_minimal()
```




```
political_preferences <-
  readRDS(file = "political_preferences.rds")

modelsummary(
  list(
    "Support Biden" = political_preferences
  ),
  statistic = "mad"
  )
```

```
Warning:
`modelsummary` uses the `performance` package to extract goodness-of-fit
statistics from models of this class. You can specify the statistics you wish
to compute by supplying a `metrics` argument to `modelsummary`, which will then
push it forward to `performance`. Acceptable values are: "all", "common",
"none", or a character vector of metrics names. For example: `modelsummary(mod,
metrics = c("RMSE", "R2")` Note that some metrics are computationally
expensive. See `?performance::performance` for details.
 This warning appears once per session.
```

	Support Biden
(Intercept)	0.693
	(0.203)
age25-34	−0.476
	(0.204)
age35-44	−0.536
	(0.209)
age45-54	−0.665
	(0.211)
age55+	−0.357
	(0.215)
genderMale	−0.138
	(0.127)
educationDoctorate	−0.073
	(0.179)
educationHigh School	−0.110
	(0.172)
educationMaster	−0.313
	(0.175)
Num.Obs.	1000
R2	0.022
Log.Lik.	−684.606
ELPD	−693.7
ELPD s.e.	4.1
LOOIC	1387.4
LOOIC s.e.	8.3
WAIC	1387.4
RMSE	0.50