

Bar Charts in ggplot With Multiple Outcomes

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1 Setup

```
library(ggplot2) # beautiful graphs
```

```
library(tidyr) # tidy data
```

2 Simulated Data

```
x <- c(1,2,3) # independent variable
```

```
y <- c(4,5,6) # first outcome
```

```
z <- c(7,8,3) # second outcome
```

```
mydata <- tibble(x,y,z)
```

```
mydata # replay mydata
```

```
## # A tibble: 3 x 3
##       x     y     z
##   <dbl> <dbl> <dbl>
## 1     1     4     7
## 2     2     5     8
## 3     3     6     3
```

3 Reshape Data With `pivot_longer`

```
myReshapedData <- mydata %>% pivot_longer(2:3, # values to pivot or reshape
                                         names_to = "newnames", # names will be
                                         values_to = "newvalues") # values will be
```

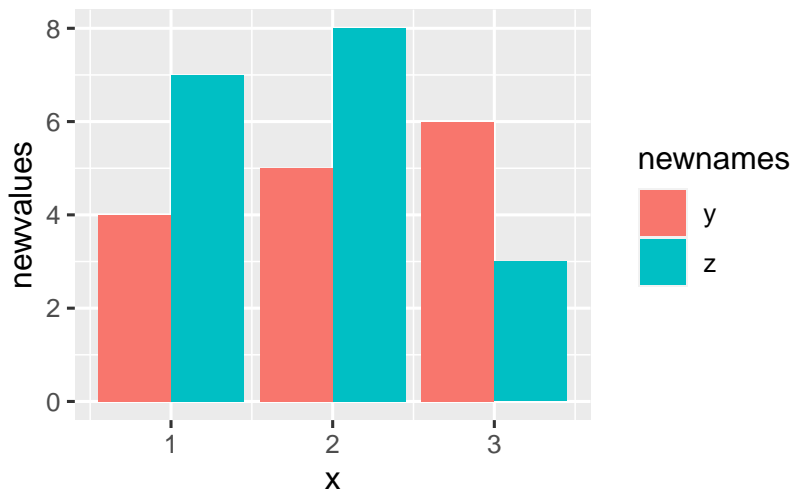
```
myReshapedData # replay myReshapedData
```

```
## # A tibble: 6 x 3
##       x newnames newvalues
##   <dbl> <chr>      <dbl>
## 1     1 y         4
## 2     1 z         7
## 3     2 y         5
## 4     2 z         8
## 5     3 y         6
## 6     3 z         3
```

4 Graphs

4.1 Bar Chart With Unstacked Bars

```
ggplot(myReshapedData, # data I am using
       aes(x = x, # x is newnames
           y = newvalues, # y is newvalues
           fill = newnames)) + # fill is newnames
  geom_bar(stat = "identity", # y is actual bar height
          position = position_dodge()) # unstack bars
```



4.2 Line Chart

```
ggplot(myReshapedData, # data I am using
  aes(x = x, # x is x
    y = newvalues, # y is value
    color = newnames, # color is key
    group = newnames)) + # line needs a group aesthetic
  geom_line()
```

