

# ggplot2 revisited

## ggplot2

### ggplot2 resources

From the the tidyverse page:

ggplot2:

<https://ggplot2.tidyverse.org/> (<https://ggplot2.tidyverse.org/>)

ggplot extensions:

<http://www.ggplot2-exts.org/gallery/> (<http://www.ggplot2-exts.org/gallery/>)

### ggplot2 books:

- Winston Chang “R Graphics Cookbook”
- Hadley Wickham “ggplot2: Elegant graphics for Data analysis”

## ggplot2 revisited

ggplot graphics are great, but I sometimes struggle with minor modifactions.

## A case: repeated measures latent class of categorical data

<https://doi.org/10.3389/fpsyg.2017.00478> (<https://doi.org/10.3389/fpsyg.2017.00478>)

### The data

NB: Adjust the file location according to where it is on your computer.

```
df<- read.csv("~/Dropbox/ggplot2_041018/dfdominic.csv", sep=";")
```

## Categorical responses across three latent classes across three timepoints.

Based on reponses to a gambling instrument each indiivudal is categorised as Non-gambling, Non-problem gambling, or Risky-and-problem-gambling, on tree waves of measurement. A latent class analysis of the responses on these three measurments was conducted. Three classes of individuals

were detected.

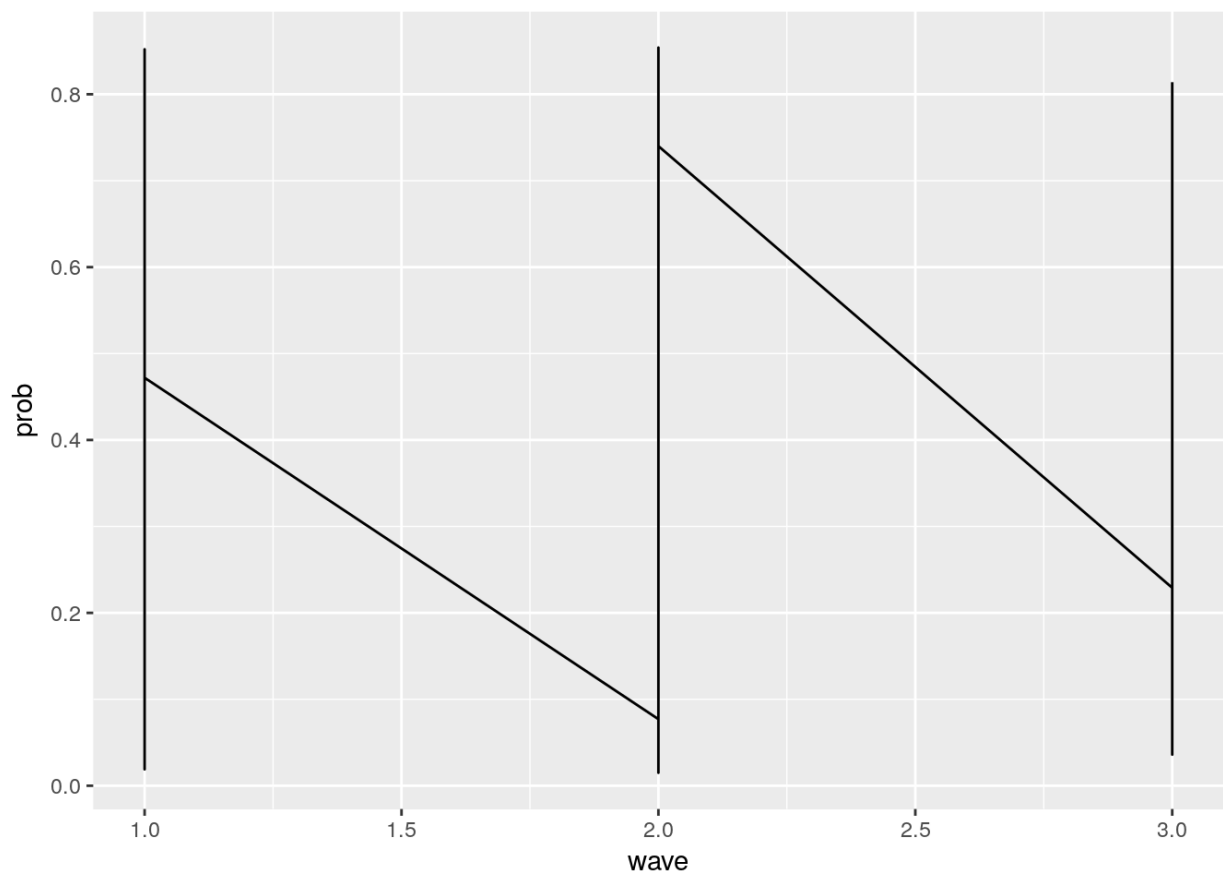
```
df$class[df$class==1]<- "Consistent non-risk gambling (23.8%)"
df$class[df$class==2]<- "Consistent non-gambling (71.1%)"
df$class[df$class==3]<- "Risky-and-problem gambling (5.1%)"
df$cat[df$cat==1]<- "Non-gambling"
df$cat[df$cat==3]<- "Risky-and-problem gambling"
df$cat[df$cat==2]<- "Non-problem gambling"
```

## All the wrong ways..

```
library(ggplot2)
```

```
try1 <- ggplot(df, aes(x=wave, y=prob)) +
  geom_line()
```

```
plot(try1)
```



## Not quite right.

- I don't get a separate line for each response category.
- I don't get a separate graph per latent class.

```
try2 <- ggplot(df, aes(x=factor(wave), y=prob)) +
  geom_line(aes(group=factor(cat), linetype=factor(cat))) +
  scale_linetype_manual(values=c("solid", "longdash", "dotted")) +
  facet_grid(.~class) +
  theme_bw(base_size = 10) +
  labs(linetype="Gambling (PGSI)" +
  labs(x="Age", y="Probability of gambling (PGSI)" +
  scale_x_discrete(labels=c("17 years", "18 years", "19 years"))

plot(try2)
```

