

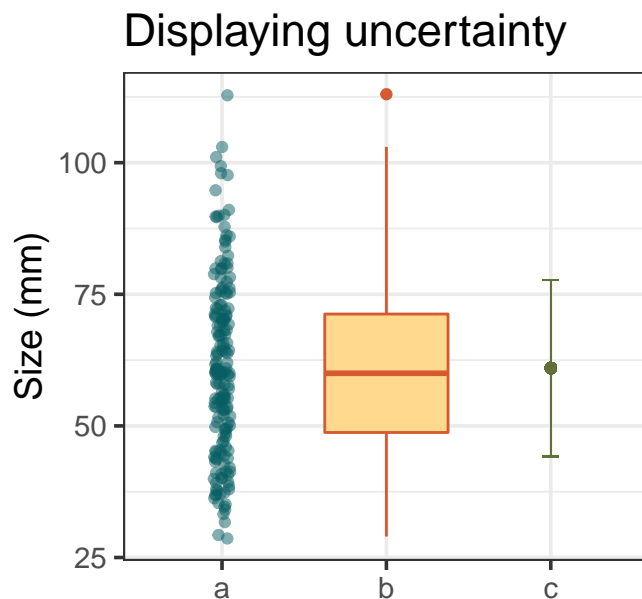
Displaying uncertainty

```
library(tidyverse)
theme_set(theme_bw(base_size = 14))
dat <- read.csv("https://raw.githubusercontent.com/elahi/xdp/master/data/class_data_mussels.csv")

x <- dat$size_mm; xbar <- mean(x); s <- sd(x)
sd_u <- xbar + s; sd_l <- xbar - s
```

Fun color palettes: <https://colorhunt.co/>

```
dat %>%
  ggplot(aes("a", size_mm)) +
  geom_jitter(width = 0.05, alpha = 0.5, color = "#085f63") +
  geom_boxplot(aes("b", size_mm), fill = "#ffd98e", color = "#d65a31") +
  geom_point(aes(x = "c", y = xbar), color = "#616f39") +
  geom_errorbar(aes(x = "c", ymin = sd_l, ymax = sd_u),
               width = 0.1, size = 0.25, color = "#616f39") +
  labs(x = "", y = "Size (mm)") +
  ggtitle("Displaying uncertainty")
```



```
#ggsave(filename = "figs/displaying_uncertainty.png", height = 3.5, width = 5, units = "in")
```

On your own

Expand the above figure to include the following visualizations:

- a: dotplot
- b: boxplot
- c: mean $\pm 1 \times sd$
- d: mean $\pm 2 \times sd$
- e: mean $\pm 1 \times se$
- f: mean $\pm 90\% CI$
- g: mean $\pm 95\% CI$
- h: mean $\pm 99\% CI$

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