How to plot plot pairwise comparisons in ggplot2 (only sample statistics)

Asked 6 years, 2 months ago Modified 6 years, 2 months ago Viewed 5k times

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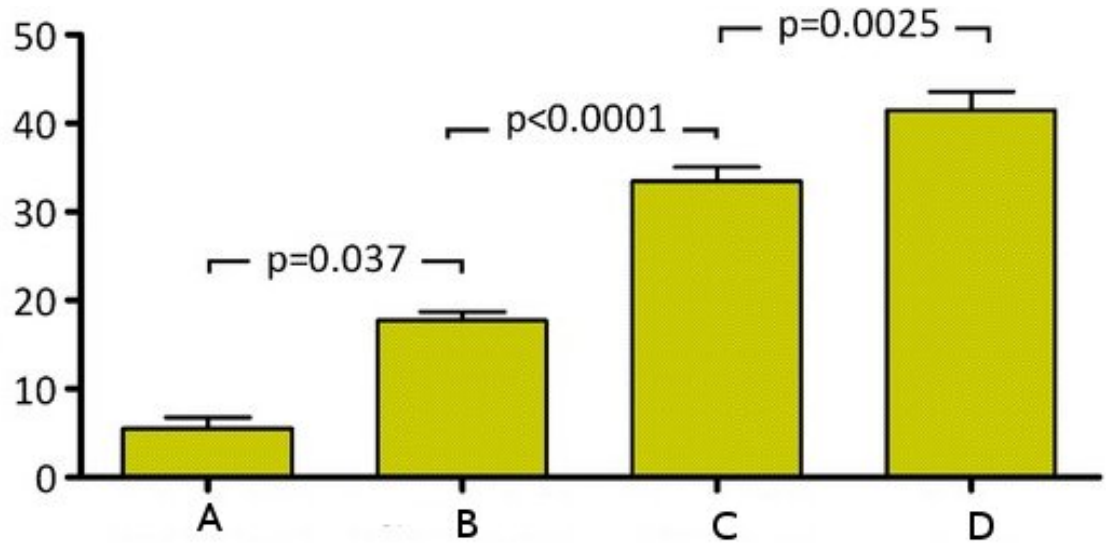
-1

I would like to make a bar graph that shows the means, the standard error of the means, and significant pairwise comparisons.

Something similar to this:



The data I have are only the means and standard error of the means.

group	x	mean	se of mean
a	1	3.650	0.092
a	2	4.232	0.081
a	3	3.653	0.068
a	4	3.871	0.13
b	1	3.984	0.07
b	2	4.150	0.073
b	3	4.058	0.054
b	4	4.010	0.132
c	1	2.915	0.1
c	2	3.475	0.1
c	3	3.246	0.086
c	4	3.069	0.16

Any ideas?

R r ggplot2

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asked Oct 6, 2018 at 2:14

s_suzuki
1 ● 1 ● 1

2 Answers

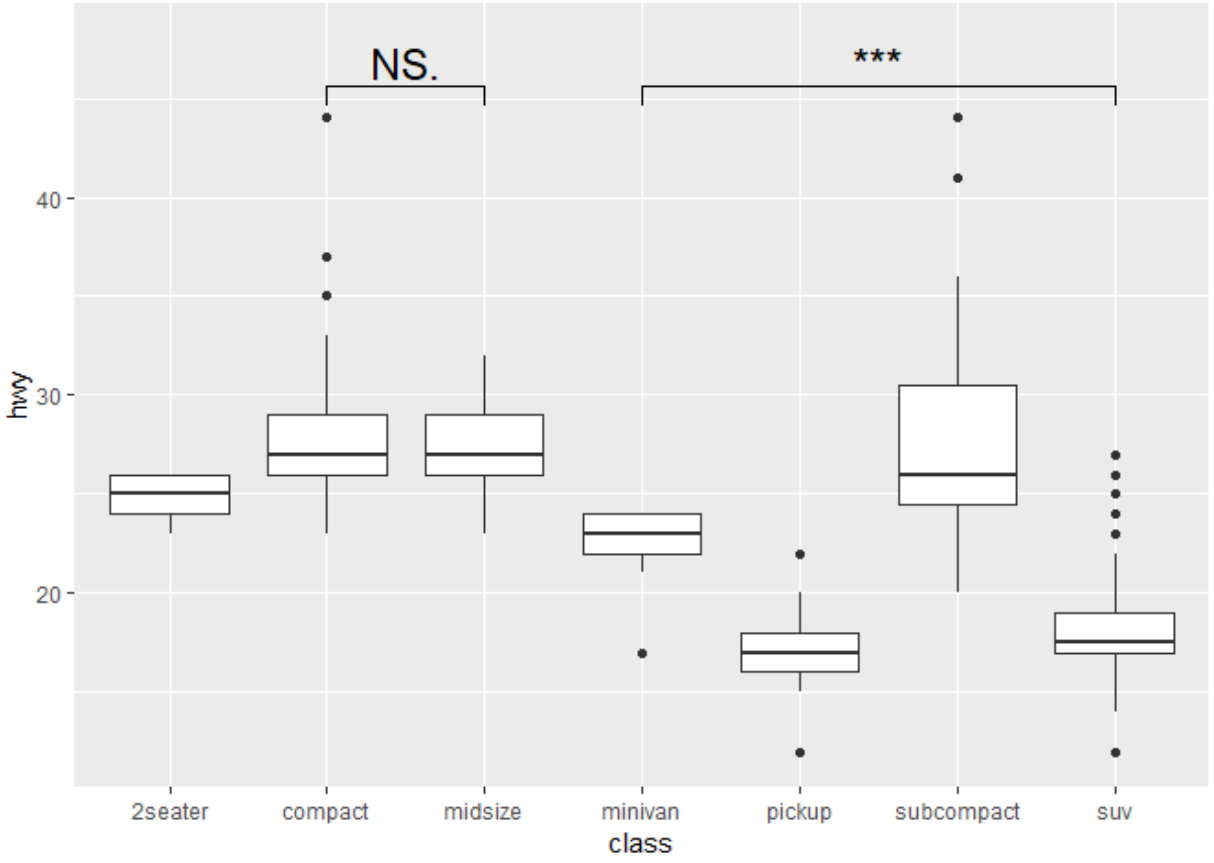
Sorted by: Highest score (default)

1

You can use the package `ggsignif` (https://cran.r-project.org/web/packages/ggsignif/README.html) to plot the significance for pairwise comparisons:

```
library(ggplot2)
library(ggsignif)

# plot
ggplot(mpg, aes(class, hwy)) +
  geom_boxplot() +
  geom_signif(
    comparisons = list(c("compact", "midsize"), c("minivan", "suv")),
    map_signif_level = TRUE,
    textsize = 6
  ) +
  ylim(NA, 48)
#> Warning in wilcox.test.default(c(29, 29, 31, 30, 26, 26, 27, 26, 25, 28, :
#> cannot compute exact p-value with ties
```



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answered Oct 6, 2018 at 3:15
Indrajeet Patil
4,859 ● 2 ● 24 ● 63

Thank you! I'm almost able to create the graph that I want, except that for the section: comparisons = list(c("compact", "midsize"), c("minivan", "suv")). I'm unable to refer to the specific contrasts I want, since I have groups within my x-axis. So for example, how would I refer to a contrast between group a, x=1 vs. group b, x=3? – s_suzuki Oct 6, 2018 at 3:59

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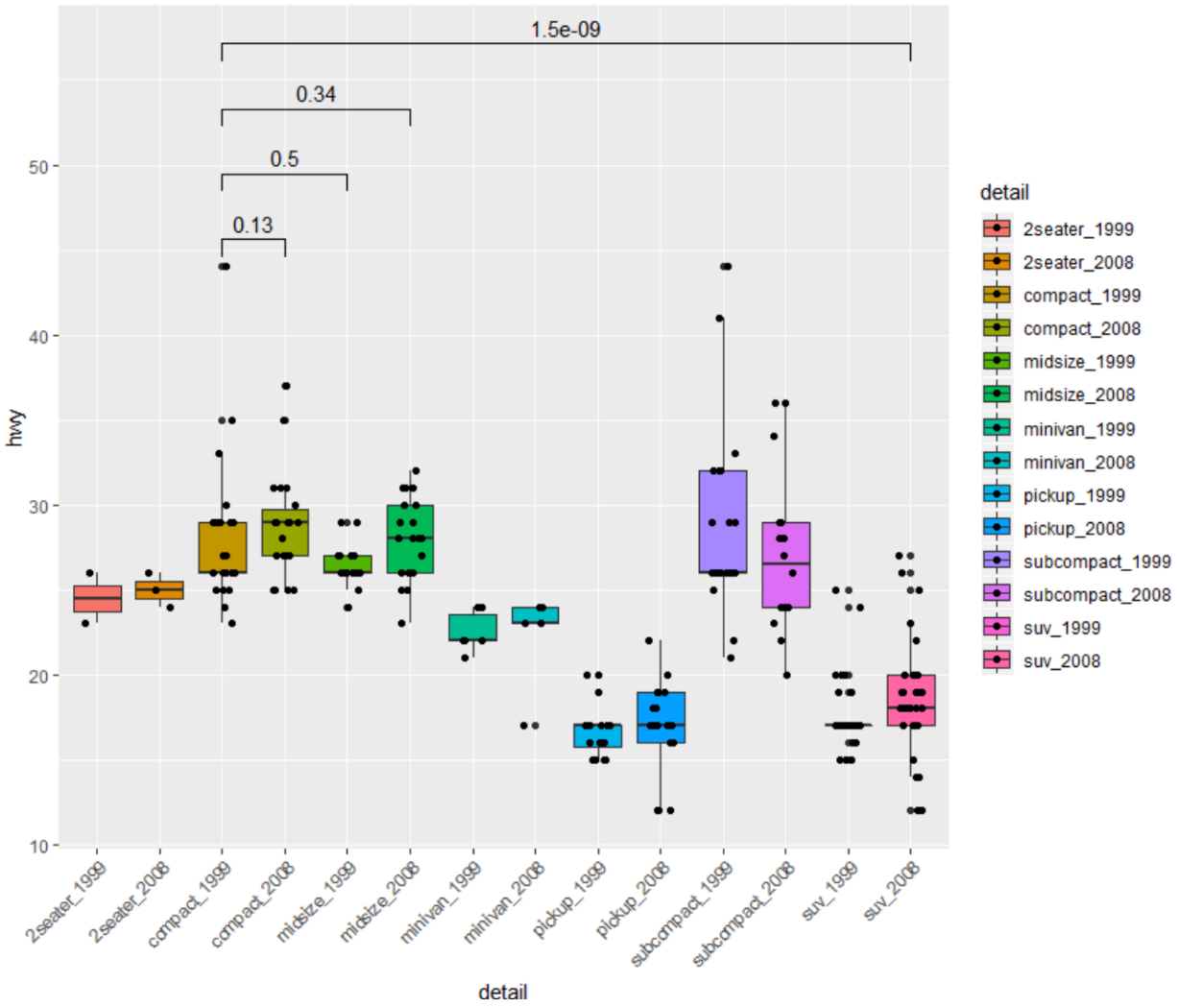
Using mpg data, I suppose you want to compare the **hwy** between class= minivan in year 1999 and class = suv in year 2008, which is similar to what you need.

You can add a new column to paste the two variable together, create something like minivan_1999, suv_2008. Using `ggpubr::stat_compare_means`, I demonstrate part of pairs for you:

```
mpg$detail <- paste(mpg$class, mpg$year, sep = "_")
my_comparison <- combn(unique(mpg$detail),2)
pairs <- list() # creating compairisons :list of pairs
for (i in 1:ncol(my_comparison)) {
  pairs[[i]] <- c(my_comparison[1,i], my_comparison[2,i])
}

ggplot(data = mpg, aes(x = detail, y = hwy, fill = detail)) +
  geom_boxplot(position = position_dodge(0.8)) +
  geom_point(position = position_jitterdodge()) +
  stat_compare_means(comparisons = pairs[1:4]) +
  theme(axis.text.x = element_text(angle = 45, vjust = 1, hjust = 1))
```



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answered Oct 6, 2018 at 8:36

Xi wa

154 ● 4