

How can I adjust the line thickness in boxplots using ggplot2?

Authored by
stats writer

June 25, 2024

RECOMMENDED CITATION

stats writer (2024). *How can I adjust the line thickness in boxplots using ggplot2?*. PSYCHOLOGICAL SCALES. Retrieved from <https://scales.arabpsychology.com/?p=152781>

The process of adjusting the line thickness in boxplots using ggplot2 involves modifying the aesthetics or visual properties of the plot. This can be done by using the "geom_boxplot()" function and specifying the "size" argument to adjust the line thickness. The size can be adjusted by either increasing or decreasing the value to achieve the desired thickness. Additionally, the "lwd" argument can also be used to modify the line width of the boxplot. Overall, adjusting the line thickness in boxplots using ggplot2 allows for greater customization and control over the visual representation of data.

Adjust Line Thickness in Boxplots in ggplot2

You can use the following methods to adjust the thickness of the lines in a boxplot in ggplot2:

Method 1: Adjust Thickness of All Lines

```
ggplot(df, aes(x=x, y=y)) +  
geom_boxplot(lwd=2)
```

Method 2: Adjust Thickness of Median Line Only

```
ggplot(df, aes(x=x, y=y)) +  
geom_boxplot(fatten=4)
```

The following examples show how to use each method in practice with the following data frame in R:

```
#make this example reproducible  
set.seed(1)
```

```
#create data frame
```

```
df <- data.frame(team=rep(c('A', 'B', 'C'), each=100),  
points=c(rnorm(100, mean=10),  
rnorm(100, mean=15),  
rnorm(100, mean=20)))
```

```
#view head of data frame
```

```
head(df)
```

```
team points
```

```
1 A 9.373546
```

```
2 A 10.183643
```

```
3 A 9.164371
```

```
4 A 11.595281
```

```
5 A 10.329508
```

```
6 A 9.179532
```

Note: We used the function to ensure that this example is reproducible.

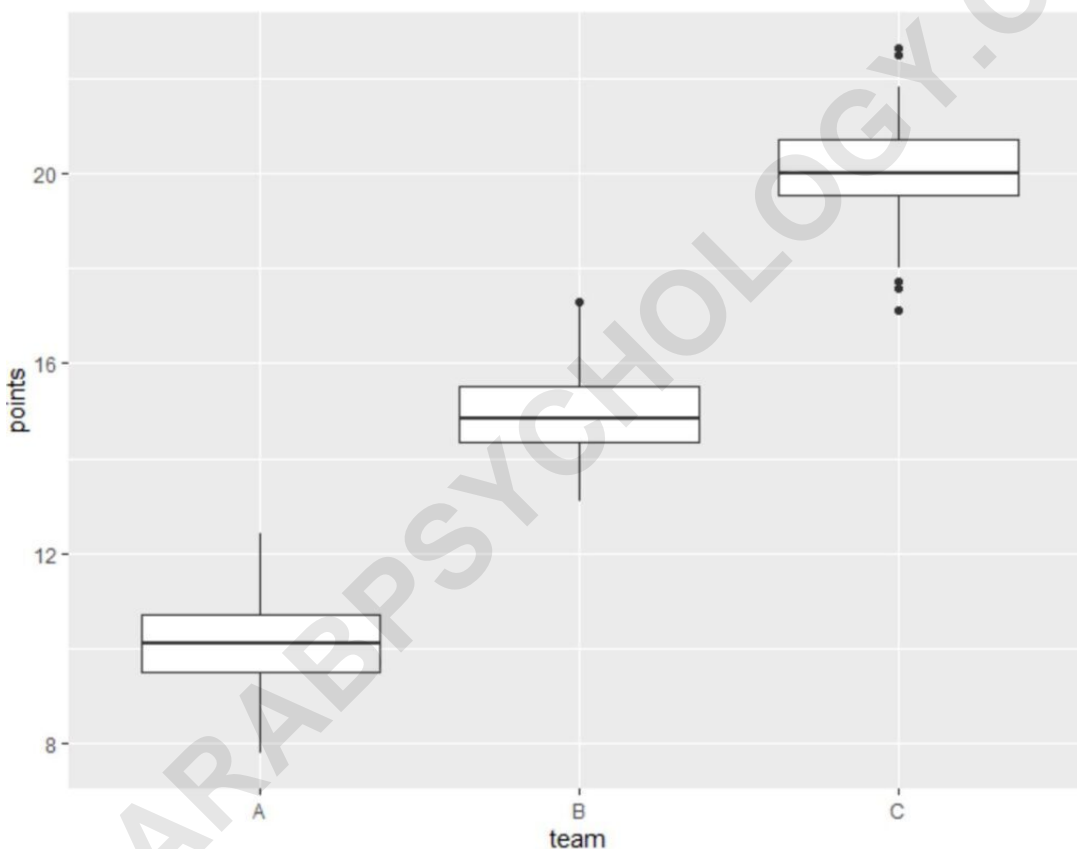
Example 1: Create Boxplot with Default Line Thickness

The following code shows how to create a boxplot to visualize the distribution of points grouped by team, using the default line thickness:

```
library(ggplot2)
```

```
#create box plots to visualize distribution of points by team
```

```
ggplot(df, aes(x=team, y=points)) +  
geom_boxplot()
```



Example 2: Create Boxplot with Increased Line Thickness

The following code shows how to create a boxplot to visualize the distribution of points grouped by team, using the `lwd` argument to increase the thickness of all

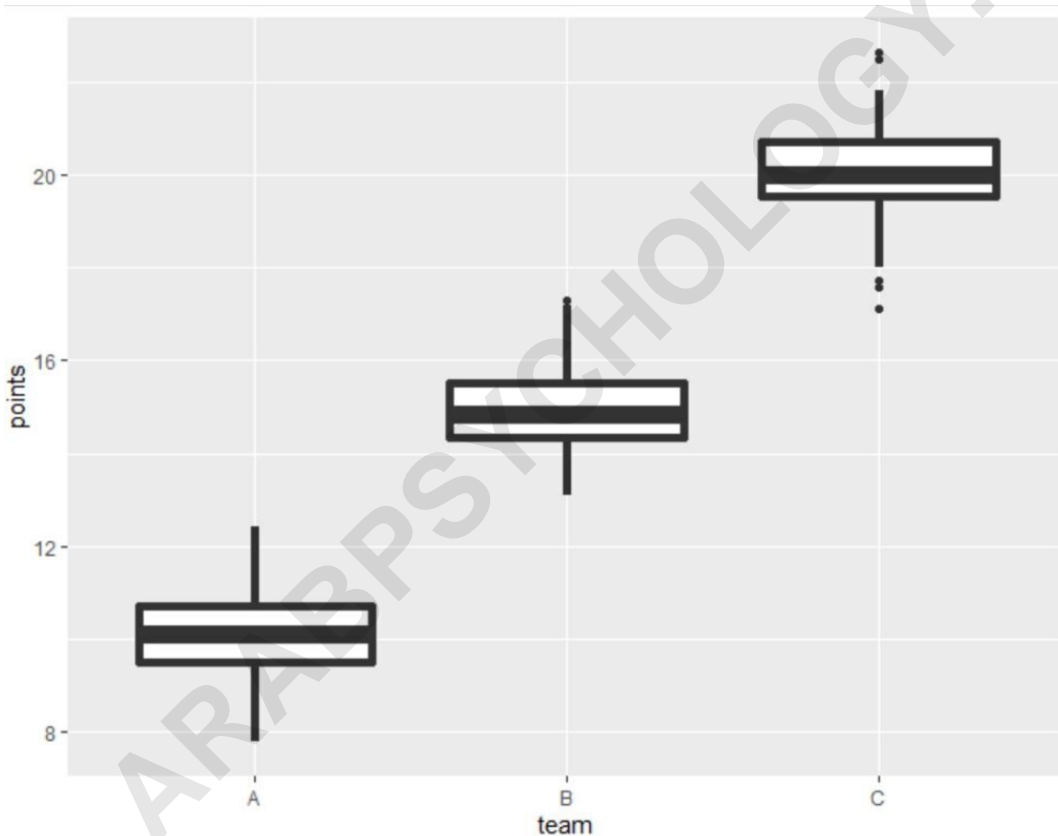
lines in the boxplot:

```
library(ggplot2)
```

```
#create box plots with increased line thickness
```

```
ggplot(df, aes(x=team, y=points)) +
```

```
geom_boxplot(lwd=2)
```



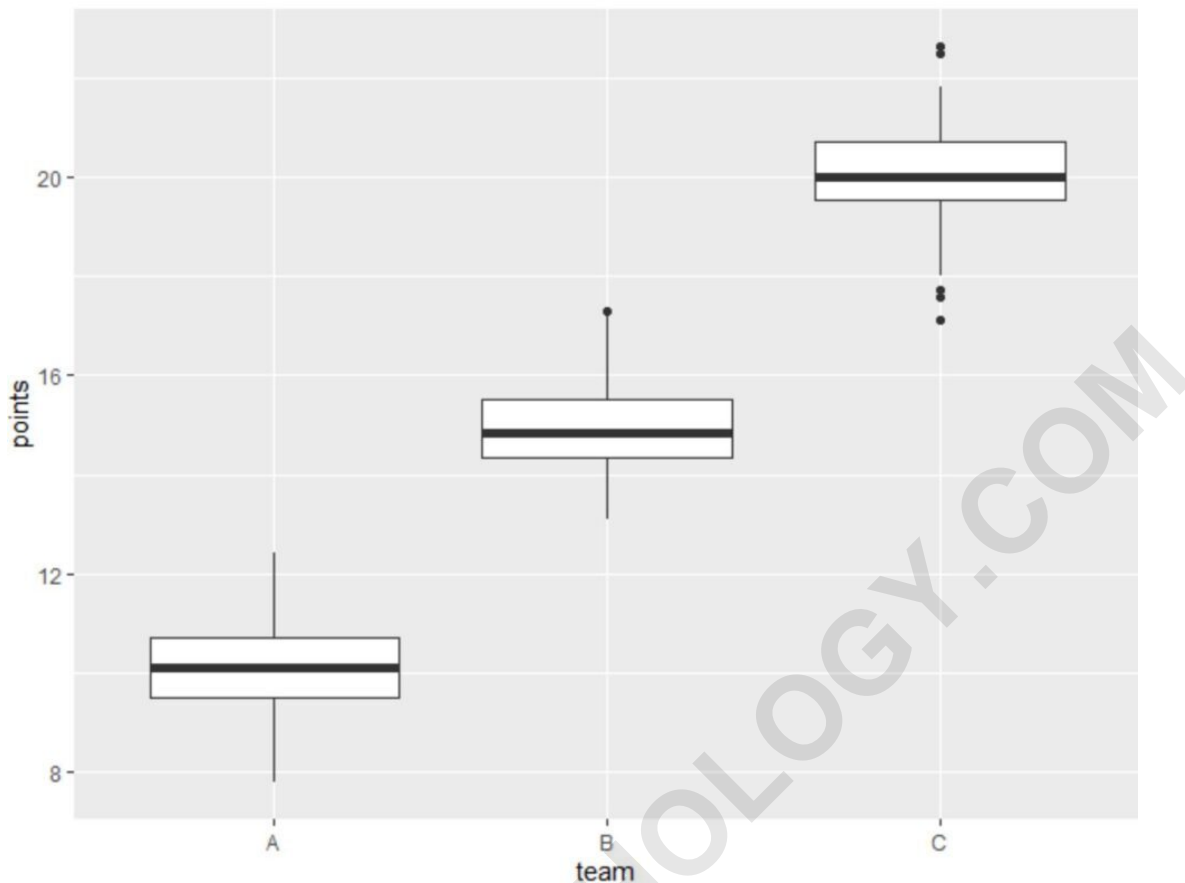
Notice that the thickness of each of the lines in each boxplot has increased.

Example 3: Create Boxplot with Increased Line Thickness of Median Line Only

The following code shows how to create a boxplot to visualize the distribution of points grouped by team, using the `fatten` argument to increase the thickness of the median line in each boxplot:

```
library(ggplot2)
```

```
#create box plots with increased median line thickness  
ggplot(df, aes(x=team, y=points)) +  
geom_boxplot(fatten=4)
```



Notice that only the thickness of the median line in each boxplot has increased.

Feel free to play around with both the `lwd` and `fatten` arguments in `geom_boxplot()` to create boxplots that have the exact line thickness you'd like.