

How can I display percentages on a histogram in ggplot2?

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RECOMMENDED CITATION

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PSYCHOLOGICAL SCALES. Retrieved from <https://scales.arabpsychology.com/?p=142708>

The process of displaying percentages on a histogram in ggplot2 involves using the "stat_bin" function to calculate the percentage of each category and then using the "geom_histogram" function to create the histogram. This can be achieved by setting the "aes" attribute to the "y" axis and using the "scale_y_continuous" function to format the labels as percentages. This allows for a more precise representation of the data and enhances the visual display of the histogram.

Display Percentages on Histogram in ggplot2

You can use the following basic syntax to display percentages on the y-axis of a histogram in ggplot2:

```
library(ggplot2)
```

```
library(scales)
```

```
#create histogram with percentages
```

```
ggplot(data, aes(x = factor(team))) +
```

```
geom_bar(aes(y = (..count..)/sum(..count..))) +
```

```
scale_y_continuous(labels=percent)
```

The following examples show how to use this syntax in practice.

Example 1: Basic Histogram with Percentages

The following code shows how to create a histogram for categorical variables with percentages displayed on the y-axis:

```
library(ggplot2)
```

```
library(scales)
```

```
#define data frame
```

```
data <- data.frame(team = c('A', 'A', 'A', 'A', 'B', 'B', 'B',  
'C', 'C', 'C', 'C'),
```

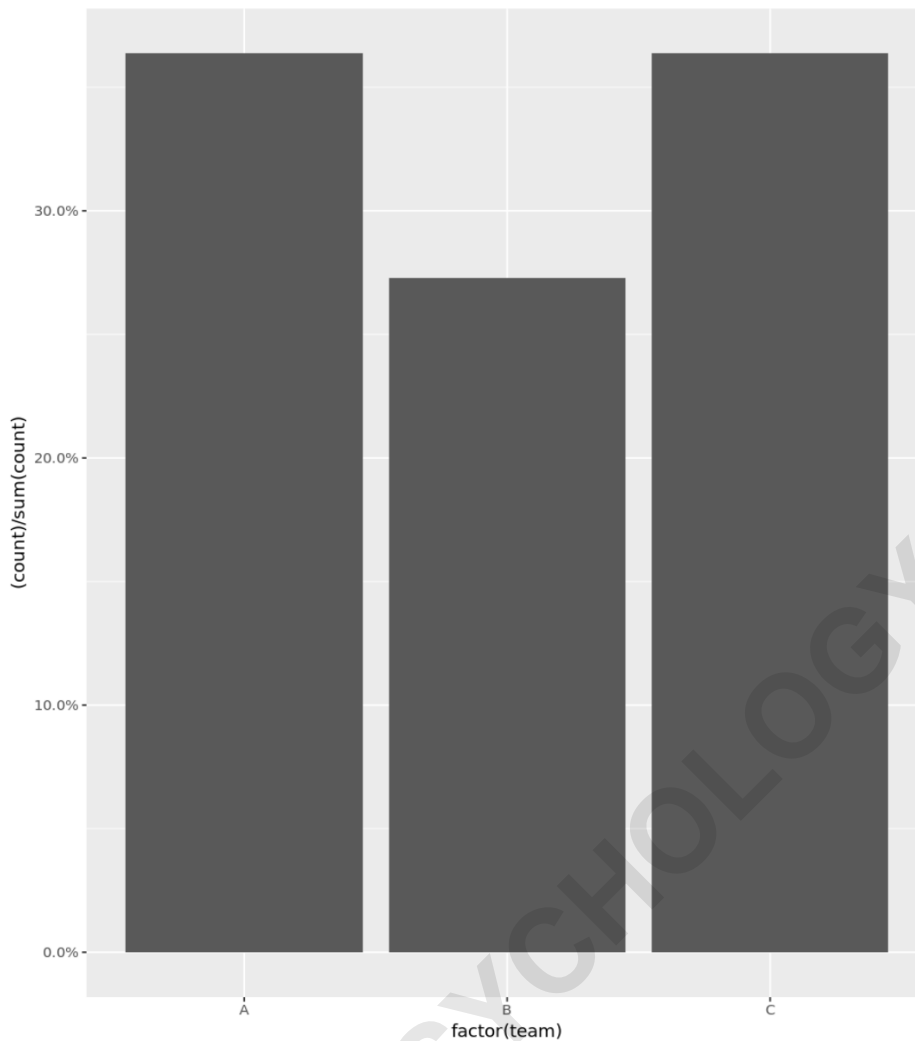
```
points = c(77, 79, 93, 85, 89, 99, 90, 80, 68, 91, 92))
```

```
#create histogram with percentages
```

```
ggplot(data, aes(x = factor(team))) +
```

```
geom_bar(aes(y = (..count..)/sum(..count..))) +
```

```
scale_y_continuous(labels=percent)
```



Example 2: Histogram with Percentages (Remove Decimal Places)

You can use the `accuracy` argument to only display whole numbers as percentages on the y-axis as well:

```
library(ggplot2)
```

```
library(scales)
```

```
#define data frame
```

```
data <- data.frame(team = c('A', 'A', 'A', 'A', 'B', 'B', 'B',
```

```
'C', 'C', 'C', 'C'),
```

```
points = c(77, 79, 93, 85, 89, 99, 90, 80, 68, 91, 92))
```

```
#create histogram with percentages
```

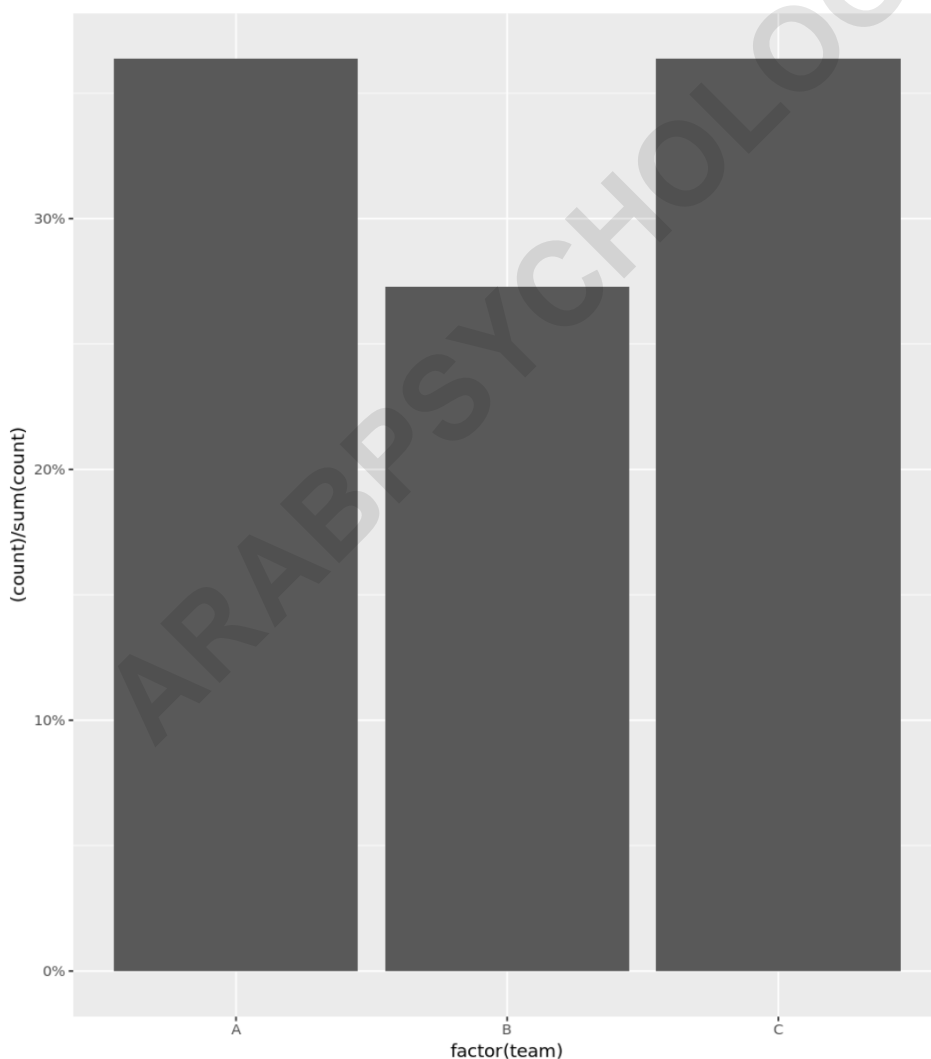
```
ggplot(data, aes(x = factor(team))) +
```

```
geom_bar(aes(y = (..count..)/sum(..count..))) +
```

```
scale_y_continuous(labels
```

```
scales::percent_format(accuracy = 1L))
```

```
=
```



Example 3: Custom Histogram with Percentages

The following code shows how to create a histogram with percentages shown on the y-axis and a custom title, axis labels, and colors:

```
library(ggplot2)
library(scales)

#define data frame
data <- data.frame(team = c('A', 'A', 'A', 'A', 'B', 'B', 'B',
'C', 'C', 'C', 'C'),
points = c(77, 79, 93, 85, 89, 99, 90, 80, 68, 91, 92))

#create histogram with percentages and custom
aesthetics
ggplot(data, aes(x = factor(team))) +
geom_bar(aes(y = (..count..)/sum(..count..)), fill =
'lightblue') +
scale_y_continuous(labels=percent) +
labs(title = 'Breakdown by Team', x = 'Team', y =
'Percent of Total') +
theme_minimal()
```

