Sandbox

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The data, wrangled and cleaned/tidied

```r
library(tidyverse)
df <- read.csv("data/all.csv", stringsAsFactors = FALSE)
```

Make sure it's clean

```r
# Check for missing values
na_rows <- df[!complete.cases(df), ]
na_rows
```

```
##  [1] Character  Move        onBlock     plnCmd      airmove     followUp
##  [7] projectile moveType    health      stun        vgauge1     vgauge2
## [13] fDash      bDash       fWalk       bWalk       throwHurt   throwRange
## [19] Damage     Stun
## <0 rows> (or 0-length row.names)
```

Validate before we really begin

```r
c(nrow(df), ncol(df))
```

```
## [1] 1809   20
```

```r
dim(df) # same thing
```

```
## [1] 1809   20
```

```r
summary(df)
```

```
##   Character            Move              onBlock           plnCmd
##  Length:1809        Length:1809        Min.   :-95.000   Length:1809
##  Class :character   Class :character   1st Qu.: -8.000   Class :character
##  Mode  :character   Mode  :character   Median : -3.000   Mode  :character
##                                        Mean   : -4.429
##                                        3rd Qu.:  1.000
##                                        Max.   : 48.000
##    airmove             followUp          projectile          moveType
##  Length:1809        Length:1809        Length:1809        Length:1809
##  Class :character   Class :character   Class :character   Class :character
##  Mode  :character   Mode  :character   Mode  :character   Mode  :character
##
##
##
```

```
##      health          stun           vgauge1         vgauge2
## Min.   : 900.0   Min.   : 900.0   Min.   :300.0   Min.   :600.0
## 1st Qu.: 950.0   1st Qu.: 950.0   1st Qu.:600.0   1st Qu.:600.0
## Median :1000.0   Median :1000.0   Median :600.0   Median :600.0
## Mean   : 987.8   Mean   : 997.2   Mean   :713.9   Mean   :663.5
## 3rd Qu.:1025.0   3rd Qu.:1050.0   3rd Qu.:900.0   3rd Qu.:600.0
## Max.   :1100.0   Max.   :1100.0   Max.   :900.0   Max.   :900.0
##      fDash          bDash           fWalk             bWalk
## Min.   :15.0   Min.   :21.00   Min.   :0.02200   Min.   :0.02000
## 1st Qu.:16.0   1st Qu.:21.00   1st Qu.:0.04000   1st Qu.:0.03000
## Median :17.0   Median :23.00   Median :0.04700   Median :0.03200
## Mean   :17.5   Mean   :22.99   Mean   :0.04377   Mean   :0.03214
## 3rd Qu.:18.0   3rd Qu.:24.00   3rd Qu.:0.05000   3rd Qu.:0.03500
## Max.   :25.0   Max.   :26.00   Max.   :0.05500   Max.   :0.04700
##    throwHurt        throwRange        Damage           Stun
## Min.   :0.2500   Min.   :0.8000   Min.   : 10.0   Min.   :  0.0
## 1st Qu.:0.2500   1st Qu.:0.8000   1st Qu.: 60.0   1st Qu.:100.0
## Median :0.2500   Median :0.8500   Median : 80.0   Median :120.0
## Mean   :0.2852   Mean   :0.8358   Mean   : 88.2   Mean   :122.2
## 3rd Qu.:0.3000   3rd Qu.:0.8500   3rd Qu.:100.0   3rd Qu.:150.0
## Max.   :0.4500   Max.   :1.0000   Max.   :400.0   Max.   :400.0
```

```
str(df)
```

```
## 'data.frame':    1809 obs. of  20 variables:
##  $ Character : chr  "Abigail" "Abigail" "Abigail" "Abigail" ...
##  $ Move      : chr  "Stand LP" "Stand MP" "Stand HP" "Stand LK" ...
##  $ onBlock   : int  3 5 -3 3 0 -8 3 -2 -18 2 ...
##  $ plnCmd    : chr  "LP" "MP" "HP" "LK" ...
##  $ airmove   : chr  "False" "False" "False" "False" ...
##  $ followUp  : chr  "False" "False" "False" "False" ...
##  $ projectile: chr  "False" "False" "False" "False" ...
##  $ moveType  : chr  "normal" "normal" "normal" "normal" ...
##  $ health    : int  1100 1100 1100 1100 1100 1100 1100 1100 1100 1100 ...
##  $ stun      : int  1050 1050 1050 1050 1050 1050 1050 1050 1050 1050 ...
##  $ vgauge1   : int  900 900 900 900 900 900 900 900 900 900 ...
##  $ vgauge2   : int  900 900 900 900 900 900 900 900 900 900 ...
##  $ fDash     : int  25 25 25 25 25 25 25 25 25 25 ...
##  $ bDash     : int  25 25 25 25 25 25 25 25 25 25 ...
##  $ fWalk     : num  0.032 0.032 0.032 0.032 0.032 0.032 0.032 0.032 0.032 0.032 ...
##  $ bWalk     : num  0.025 0.025 0.025 0.025 0.025 0.025 0.025 0.025 0.025 0.025 ...
##  $ throwHurt : num  0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 ...
##  $ throwRange: num  0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 ...
##  $ Damage    : int  40 70 90 50 80 90 40 70 90 40 ...
##  $ Stun      : int  70 100 150 70 100 150 70 100 150 70 ...
```

Module 1: Information (description)

Descriptive stats, here mainly seeking to answer the question: how do the distributions look?

Attacks for all characters

```
library(tidyverse)
df <- read.csv("data/all.csv", stringsAsFactors = FALSE)
```

Character numerical features summary (averages)

```
# transpose so we print vertically
t(colMeans(df[9:18]))
```

```
##         health    stun vgauge1  vgauge2    fDash    bDash      fWalk      bWalk
## [1,] 987.8386 997.236 713.9303 663.5158 17.50083 22.99281 0.04376739 0.03213941
##      throwHurt throwRange
## [1,] 0.2851816  0.8358322
```

Attack categorical features summary tables

```
# define the function to create each summary table
summary_tb <- function(feature) {
  df %>%
    group_by({{ feature }}) %>%
    summarise(
      count = n(),
      average_damage = mean(Damage),
      average_stun = mean(Stun)
    ) %>%
    arrange(desc(average_damage))
}
```

```
# call for each feature with its name as argument
summary_tb(plnCmd)
```

```
## # A tibble: 545 x 4
##    plnCmd                   count average_damage average_stun
##    <chr>                    <int>          <dbl>        <dbl>
##  1 Hold & Release PP/KK Max     1            370          400
##  2 qcf,qcf+P (can hold)         3           353.            0
##  3 qcb,qcb+K                    2            345            0
##  4 qcf,qcf+K                    8           339.          44.5
##  5 qcb,qcb+P                    1            330            0
##  6 qcf,qcf+P                   24            330            0
##  7 qcf,qcf+P or qcb,qcb+P       1            330            0
##  8 b,f,b,f+P                    1            320            0
##  9 Hold & Release PP/KK lvl9    1            290          300
## 10 Hold & Release PP/KK lvl8    1            260          300
## # i 535 more rows
```

```
summary_tb(moveType)
```

```
## # A tibble: 11 x 4
##    moveType      count average_damage average_stun
##    <chr>         <int>          <dbl>        <dbl>
##  1 super            40            334          8.9
##  2 command-grab     18           176.         207.
##  3 throw            22           131.         168.
```

```
##  4 vtrigger             38        106.       124.
##  5 special             701        95.8       140.
##  6 movement-special      2        90         100
##  7 vskill              165        81.1       119.
##  8 taunt                 1        70         100
##  9 normal              757        68.1       119.
## 10 vbreak               41        60           0
## 11 alpha                24        55           0
```

```r
summary_tb(airmove)
```

```
## # A tibble: 2 x 4
##   airmove count average_damage average_stun
##   <chr>   <int>          <dbl>        <dbl>
## 1 True      178           90.3         137.
## 2 False    1631           88.0         121.
```

```r
summary_tb(followUp)
```

```
## # A tibble: 2 x 4
##   followUp count average_damage average_stun
##   <chr>    <int>          <dbl>        <dbl>
## 1 True       258           96.6         135.
## 2 False     1551           86.8         120.
```

```r
summary_tb(projectile)
```

```
## # A tibble: 2 x 4
##   projectile count average_damage average_stun
##   <chr>      <int>          <dbl>        <dbl>
## 1 False       1549           88.9         125.
## 2 True         260           83.9         105.
```

Kernel density estimates (KDEs)

```r
desc <- function(variable) {
  sprintf(
    "Median: %.2f  |  Mean: %.2f  |  Standard deviation: %.2f",
    median(variable),
    mean(variable),
    sd(variable)
  )
}

desc(df$onBlock)
```

```
## [1] "Median: -3.00  |  Mean: -4.43  |  Standard deviation: 13.31"
```

```r
# user will be able to adjust bandwidth with slider
ggplot(df, aes(onBlock)) +
  geom_density(adjust = 1, linewidth = 1, lineend = "round")
```
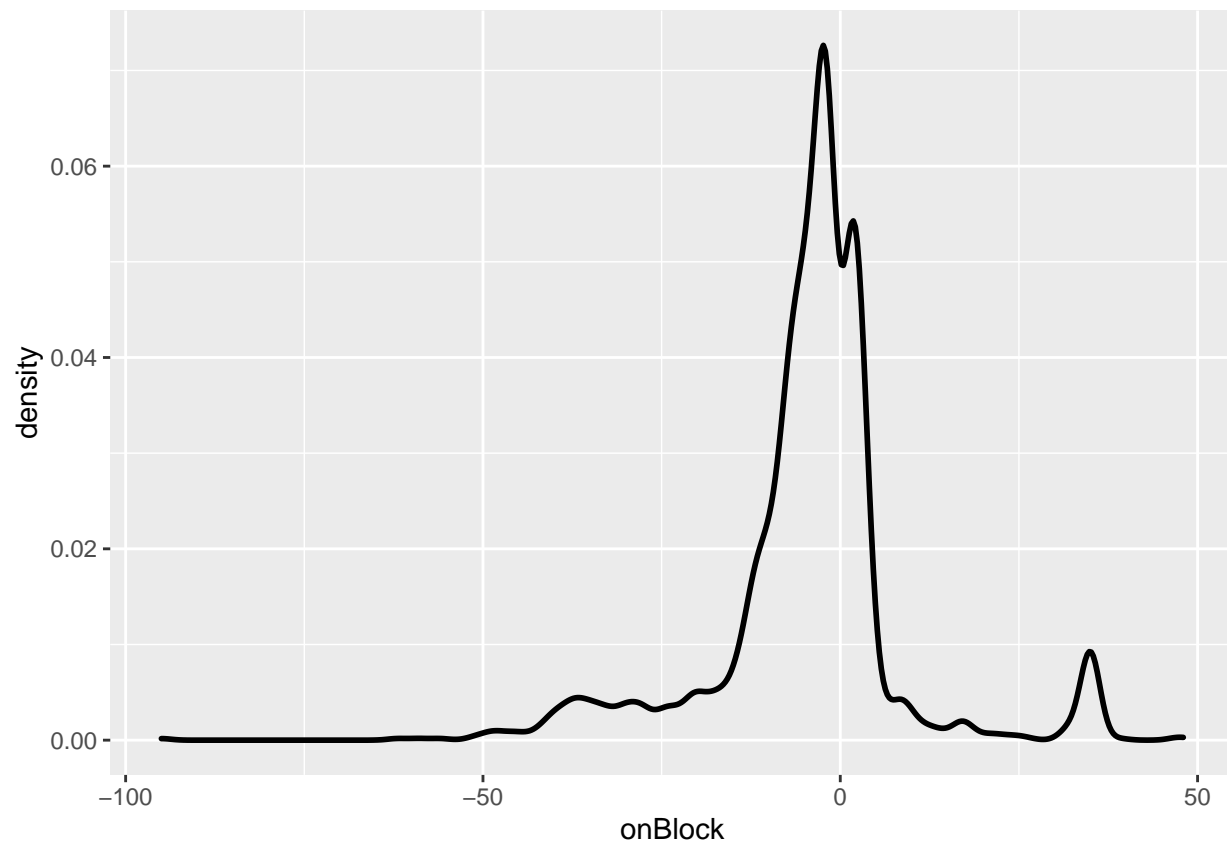
```
desc(df$Damage)
```

```
## [1] "Median: 80.00  |  Mean: 88.20  |  Standard deviation: 51.90"
```

```
ggplot(df, aes(Damage)) +
  geom_density(adjust = 1, linewidth = 1, lineend = "round")
```
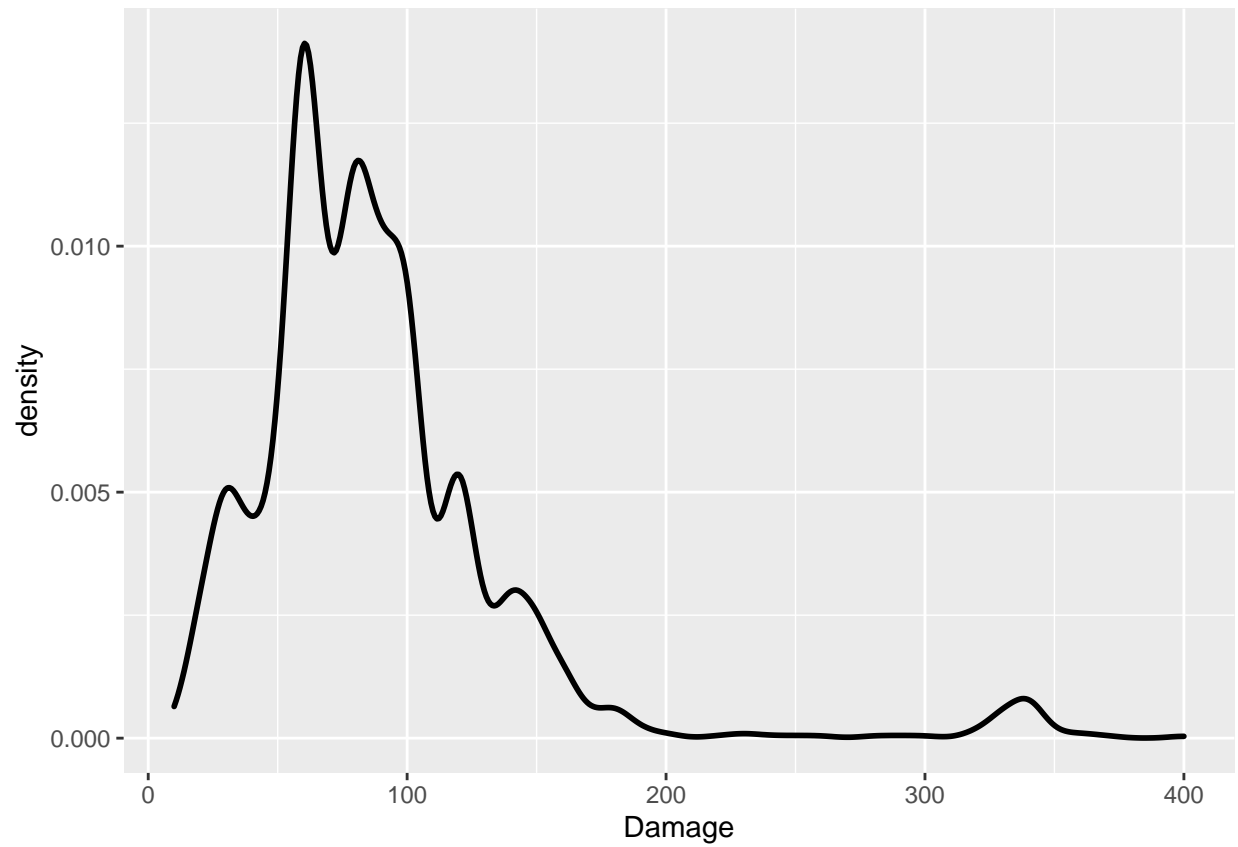
```
desc(df$Stun)
```

```
## [1] "Median: 120.00  |  Mean: 122.21  |  Standard deviation: 55.35"
```

```
ggplot(df, aes(Stun)) +
  geom_density(adjust = 1, linewidth = 1, lineend = "round")
```
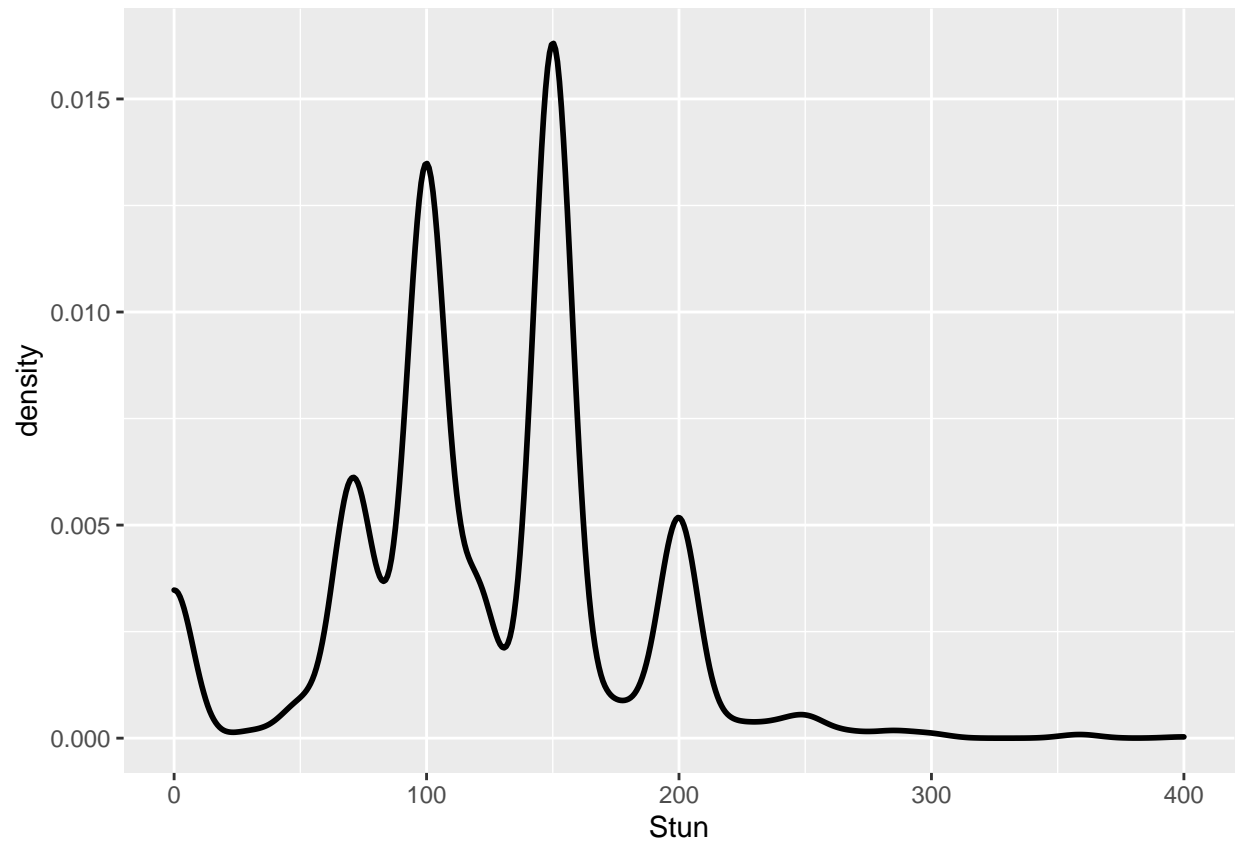
Attacks for each character

```
library(tidyverse)
```

Putting it all together

```
character_info <- function(datafile, char_name, img_path, kde_color) {
  df <- read.csv(datafile, stringsAsFactors = FALSE)

  # h1(char_name)
  # Counterclockwise on grid starting here, top left: display image
  # img(src = img_path)

  # Bottom left: KDEs
  desc <- function(variable) {
    sprintf(
      "Median: %.2f  |  Mean: %.2f  |  Standard deviation: %.2f",
      median(variable),
      mean(variable),
      sd(variable)
    )
  }

  print(desc(df$onBlock))
  # user will be able to adjust bandwidth with slider
```

```
  print(ggplot(df, aes(onBlock)) +
    geom_density(
      alpha = 0.2, adjust = 1, linewidth = 1.6,
      lineend = "round", fill = kde_color, color = kde_color
    ))

  print(desc(df$Damage))
  print(ggplot(df, aes(Damage)) +
    geom_density(
      alpha = 0.2, adjust = 1, linewidth = 1.6,
      lineend = "round", fill = kde_color, color = kde_color
    ))

  print(desc(df$Stun))
  print(ggplot(df, aes(Stun)) +
    geom_density(
      alpha = 0.2, adjust = 1, linewidth = 1.6,
      lineend = "round", fill = kde_color, color = kde_color
    ))

  # Bottom right: all attack attributes (9 columns)
  print(head(df[c(1:7, 18:19)])) # head only temporary to see if working

  # Top right: all character facts (10 columns but printed row-wise)
  print(t(df[1, 8:17])) # same idea as earlier
}
```

Let's test em out

```
# used Pika app to pick colors from images
character_info(
  "data/characters/abigail.csv",
  "Abigail",
  "img/abigail.png",
  "#af33b4"
)
```

```
## [1] "Median: -6.00  |  Mean: -7.92  |  Standard deviation: 16.17"
```
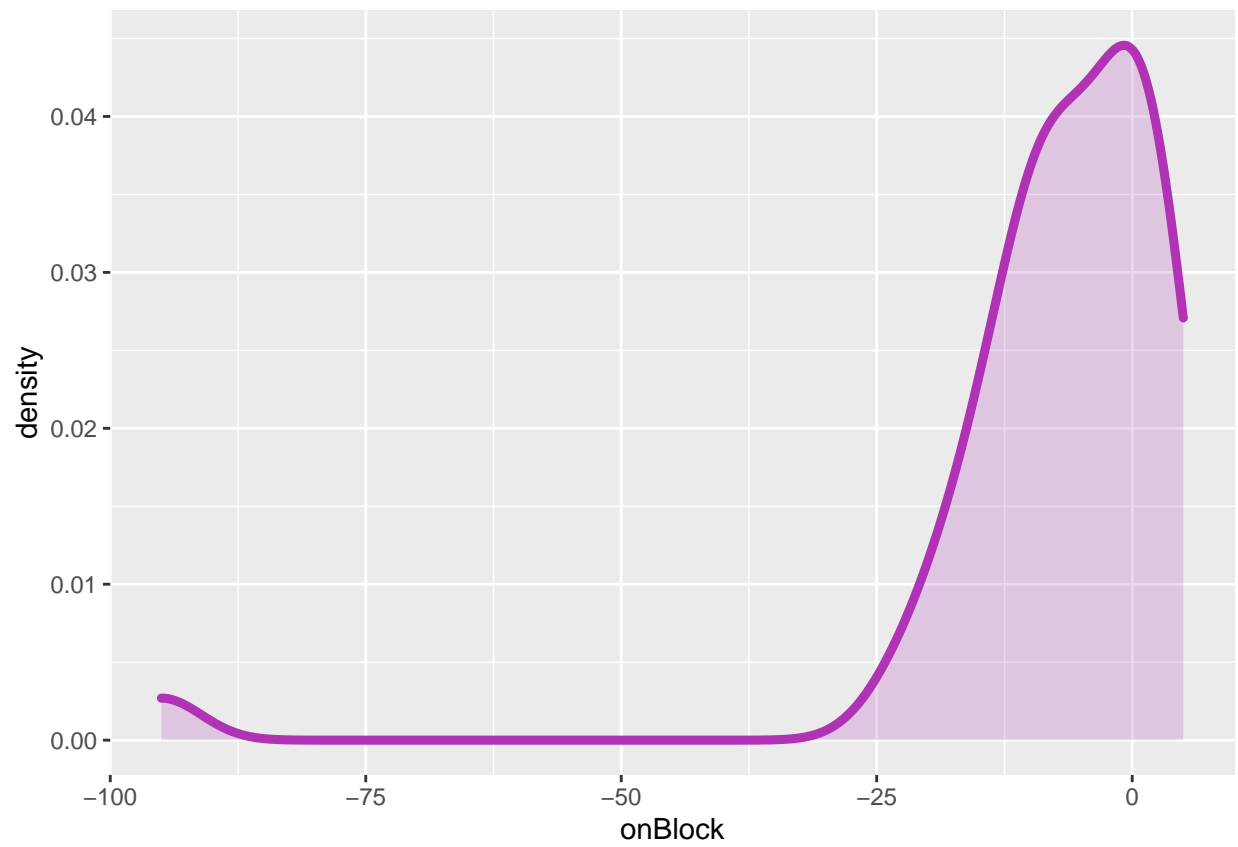
```
## [1] "Median: 85.00  |  Mean: 94.87  |  Standard deviation: 56.00"
```
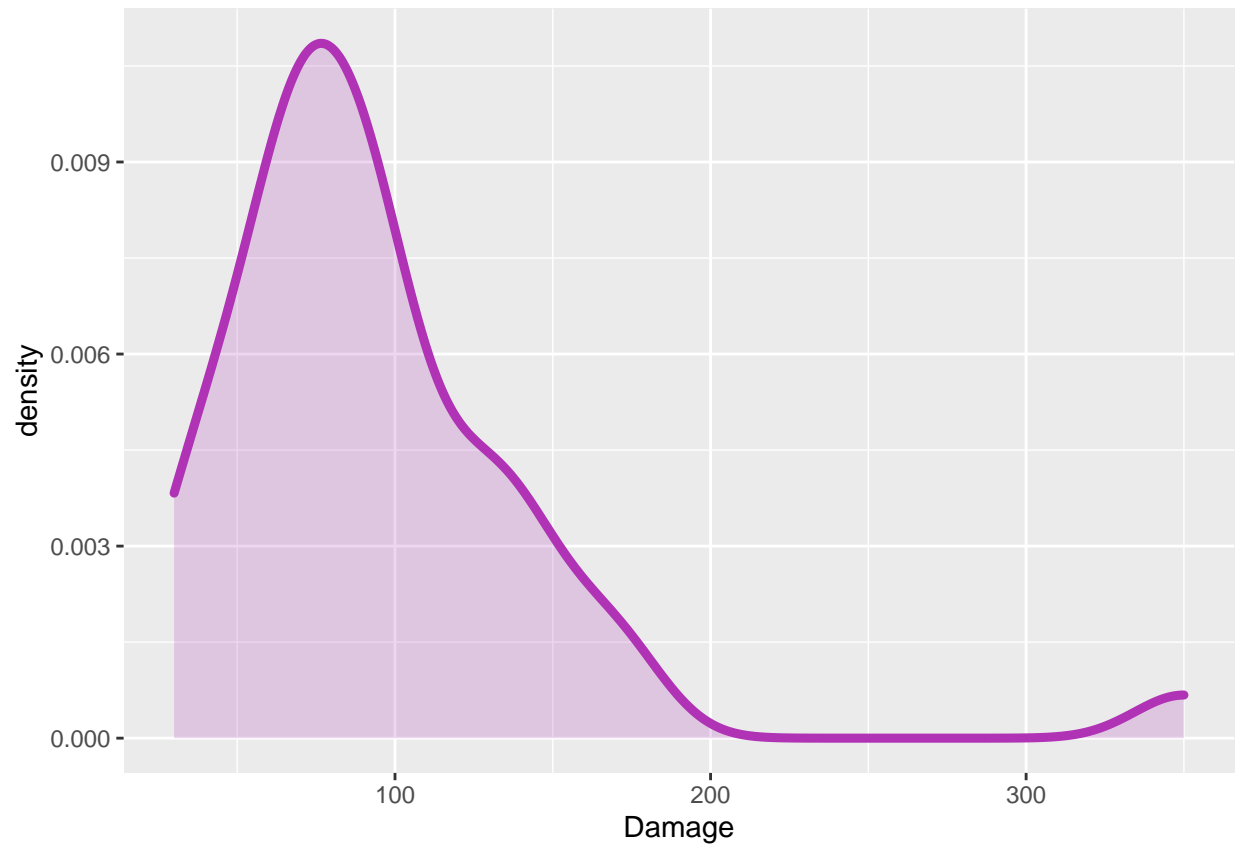
```
## [1] "Median: 141.50  |  Mean: 123.32  |  Standard deviation: 59.13"
```
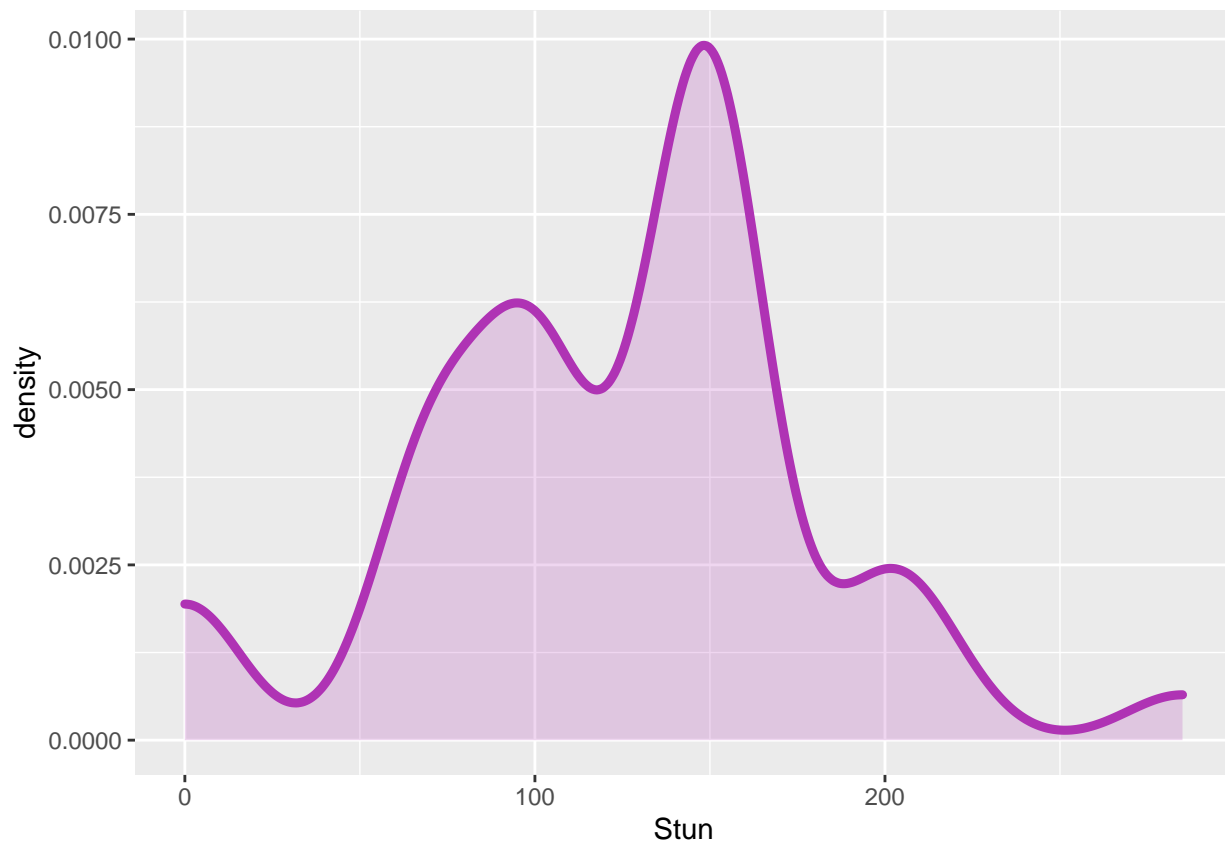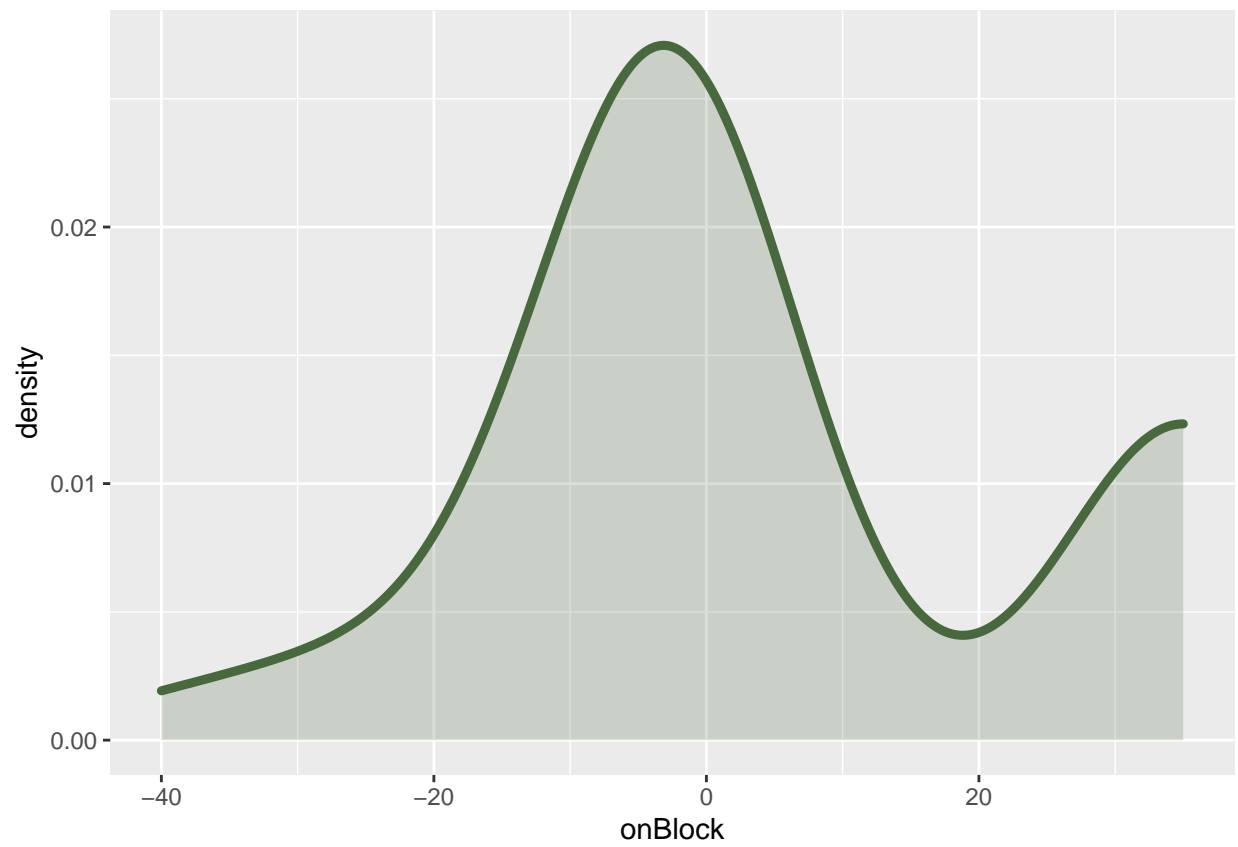
```
##          Move onBlock plnCmd airmove followUp projectile moveType Damage Stun
## 1 Stand LP        3     LP   False    False      False   normal     40   70
## 2 Stand MP        5     MP   False    False      False   normal     70  100
## 3 Stand HP       -3     HP   False    False      False   normal     90  150
## 4 Stand LK        3     LK   False    False      False   normal     50   70
## 5 Stand MK        0     MK   False    False      False   normal     80  100
## 6 Stand HK       -8     HK   False    False      False   normal     90  150
##                     1
## health     1100.000
## stun       1050.000
## vgauge1     900.000
## vgauge2     900.000
## fDash        25.000
## bDash        25.000
## fWalk         0.032
## bWalk         0.025
## throwHurt     0.400
## throwRange    0.900
```

```r
character_info(
  "data/characters/akuma.csv",
  "Akuma",
  "img/akuma.png",
  "#a52e28"
)
```

```
## [1] "Median: -2.00  |  Mean: -2.03  |  Standard deviation: 15.99"
```
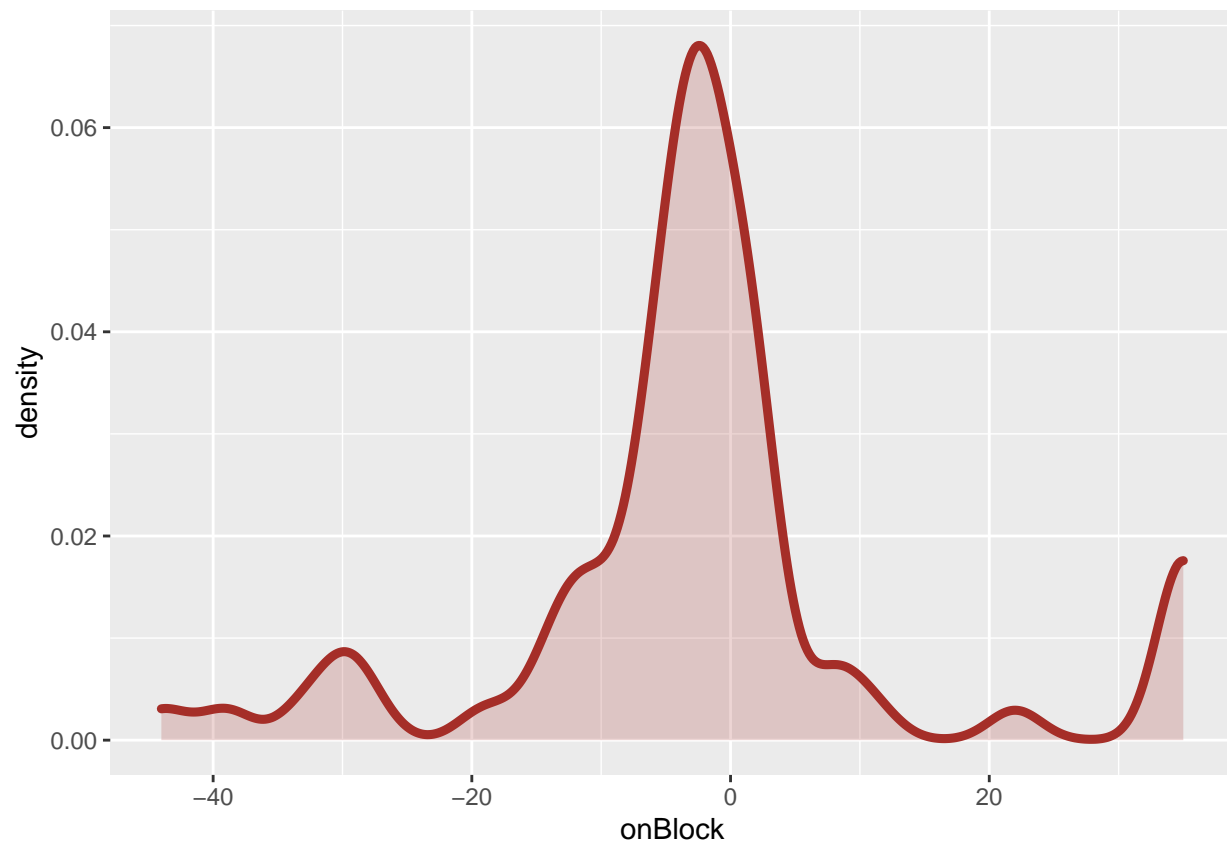
```
## [1] "Median: 80.00  |  Mean: 90.28  |  Standard deviation: 43.72"
```
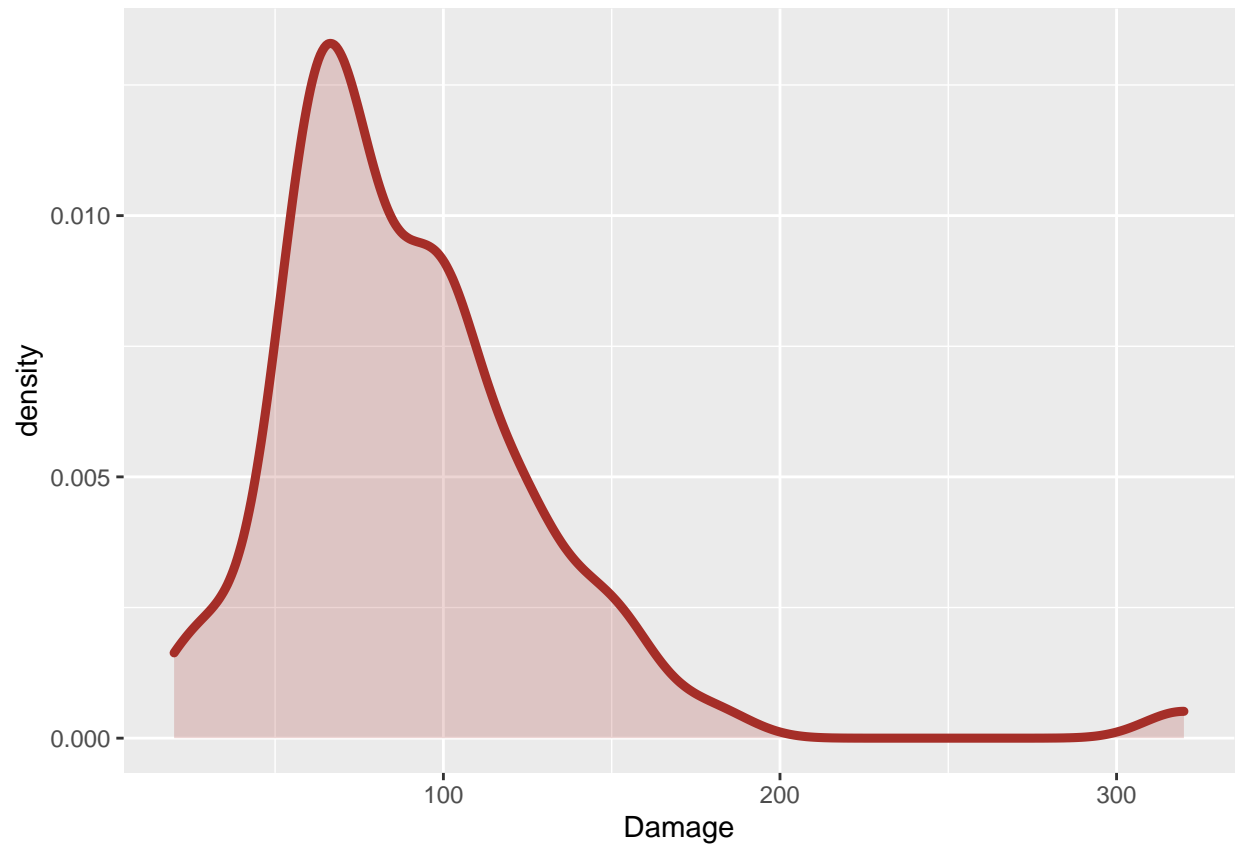
```
## [1] "Median: 120.00  |  Mean: 127.09  |  Standard deviation: 49.38"
```
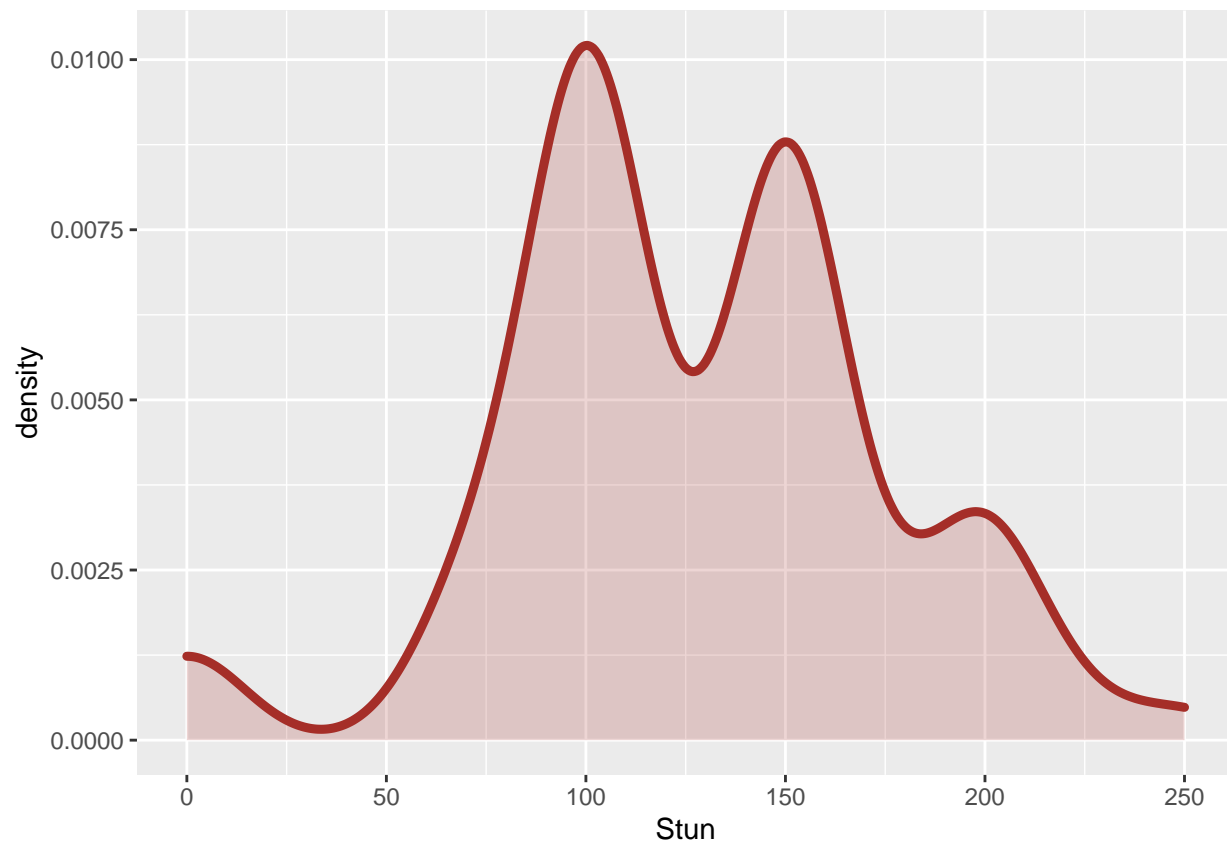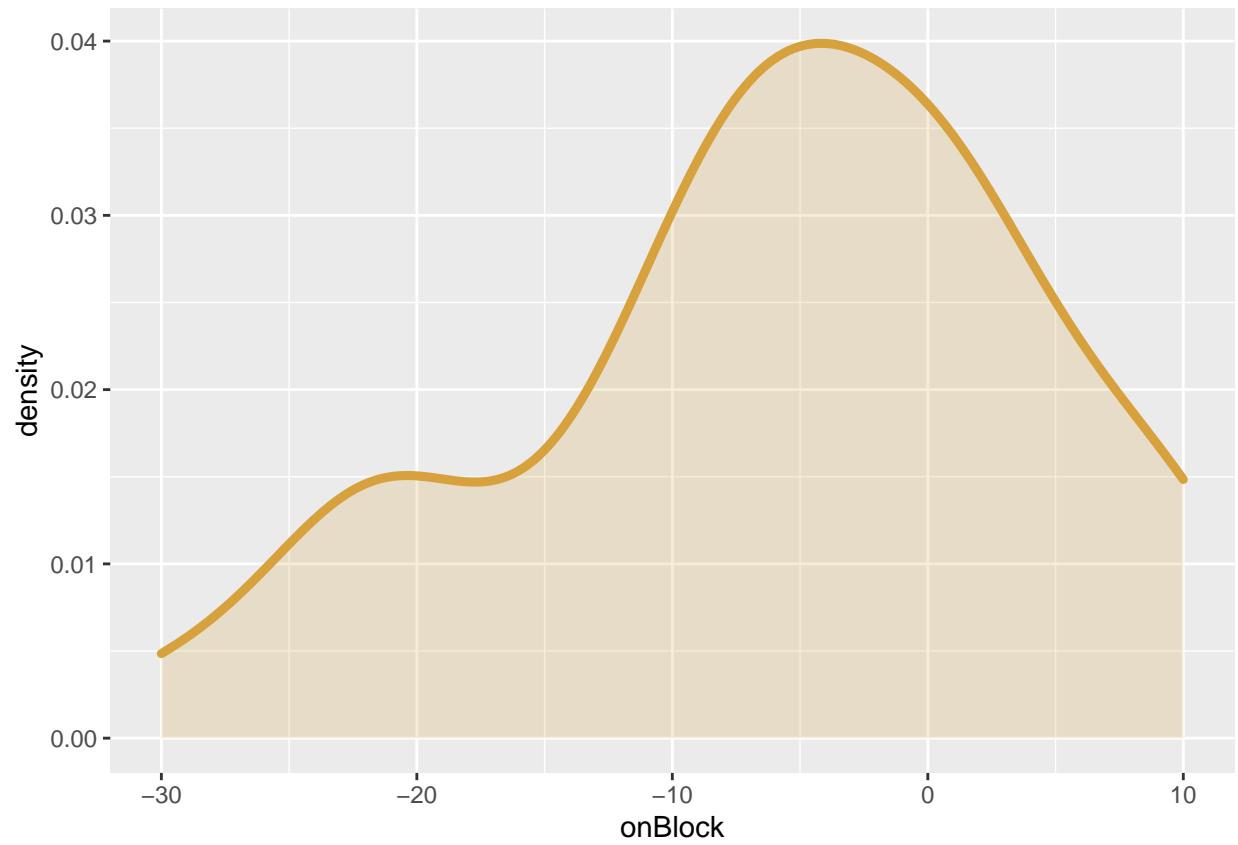
```
##          Move onBlock plnCmd airmove followUp projectile moveType Damage Stun
## 1 Stand LP       2     LP   False    False      False   normal     30   70
## 2 Stand MP       1     MP   False    False      False   normal     60  100
## 3 Stand HP      -5     HP   False    False      False   normal     80  150
## 4 Stand LK       1     LK   False    False      False   normal     30   70
## 5 Stand MK      -4     MK   False    False      False   normal     60  100
## 6 Stand HK      -2     HK   False    False      False   normal     80  120
##                   1
## health     900.000
## stun       900.000
## vgauge1    900.000
## vgauge2    600.000
## fDash       16.000
## bDash       21.000
## fWalk        0.052
## bWalk        0.036
## throwHurt    0.250
## throwRange   0.800
```

```
character_info(
  "data/characters/alex.csv",
  "Alex",
  "img/alex.png",
  "#48683d"
)
```

```
## [1] "Median: -2.00  |  Mean: 4.83  |  Standard deviation: 20.29"
```

```
## [1] "Median: 100.00  |  Mean: 111.46  |  Standard deviation: 59.40"
```
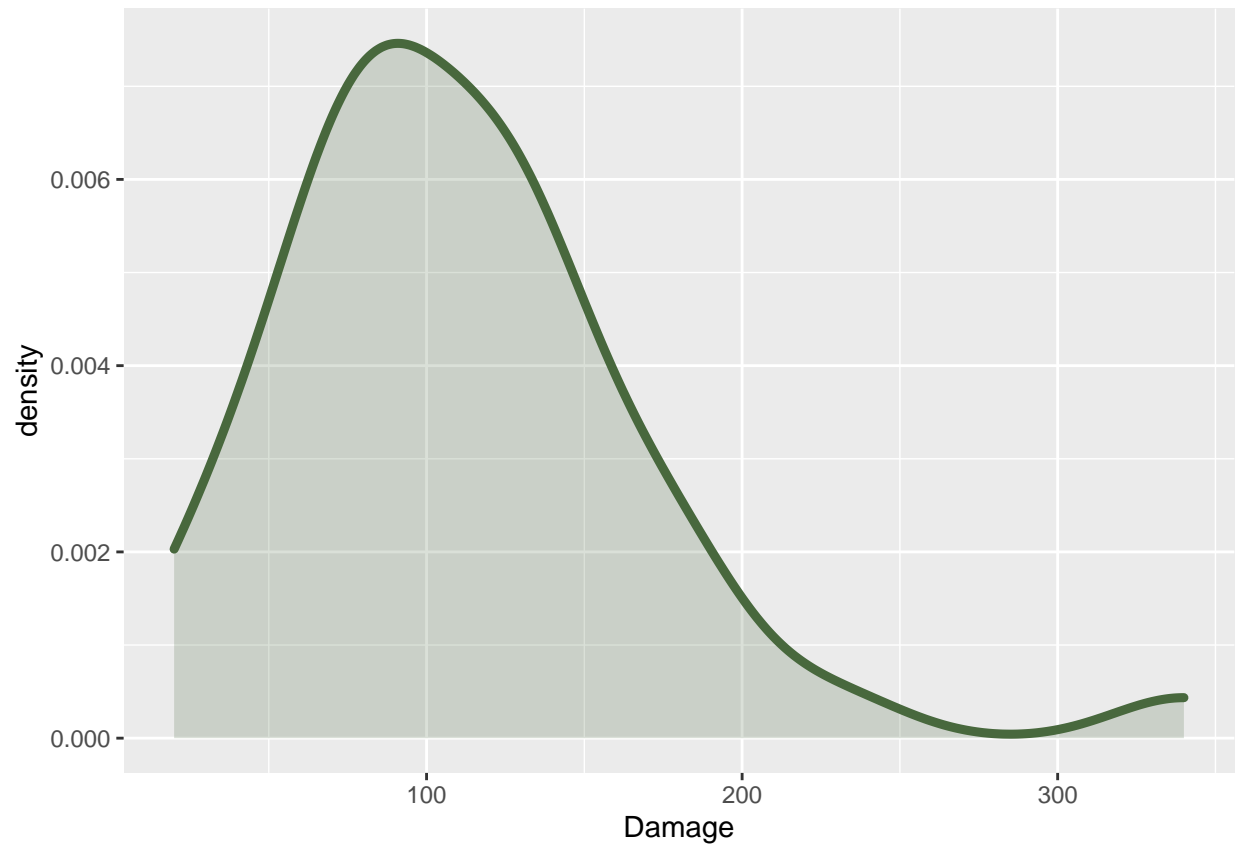
```
## [1] "Median: 150.00  |  Mean: 153.17  |  Standard deviation: 61.74"
```
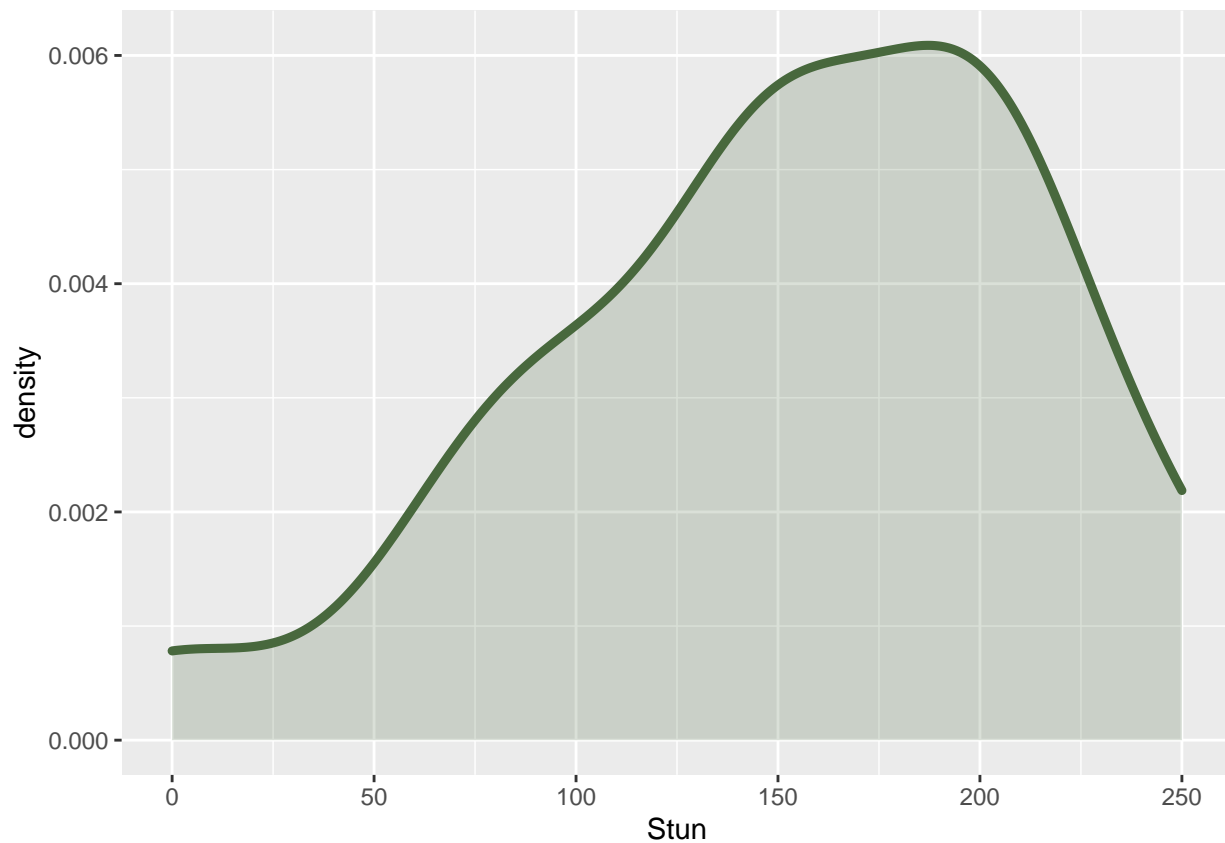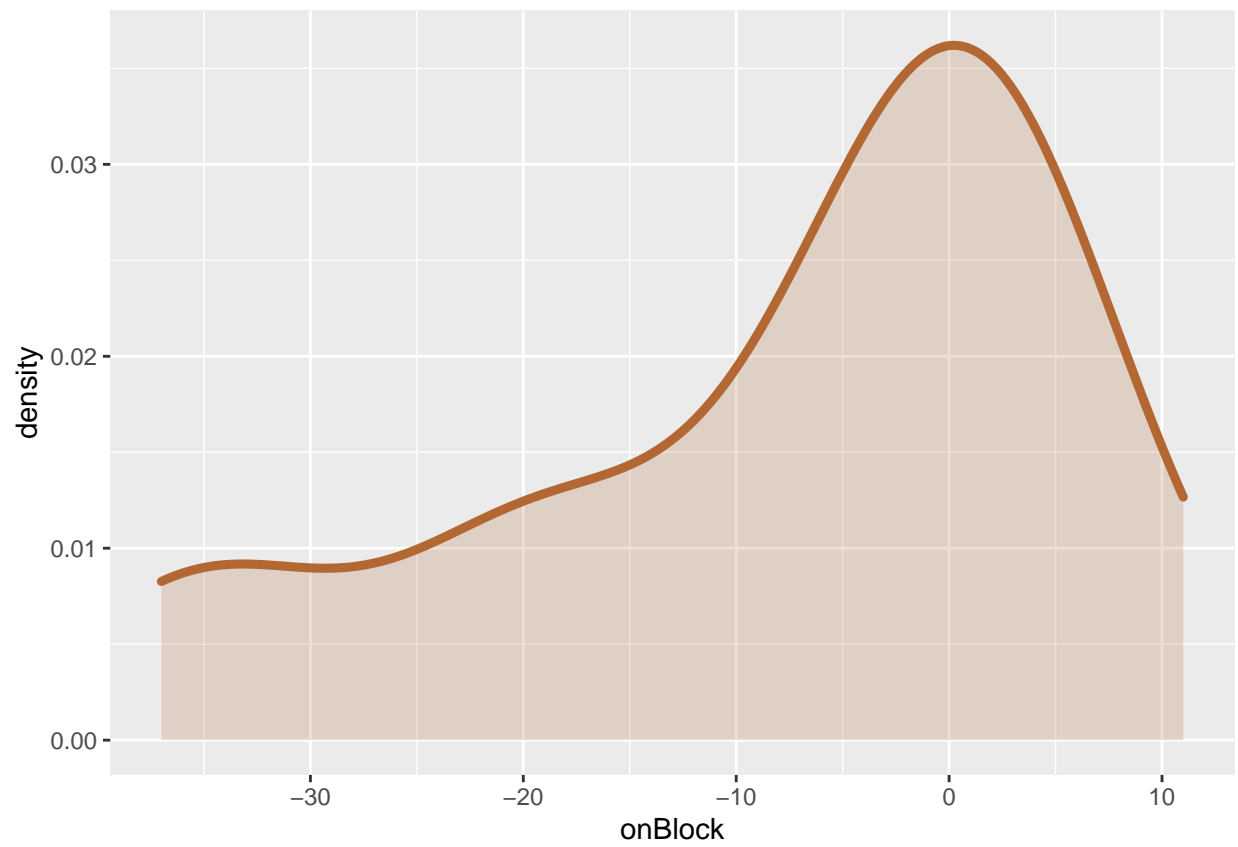
```
##         Move onBlock plnCmd airmove followUp projectile moveType Damage Stun
## 1 Stand LP       2     LP   False    False       False   normal     30   70
## 2 Stand MP       3     MP   False    False       False   normal     60  100
## 3 Stand HP      -3     HP   False    False       False   normal     90  150
## 4 Stand LK       0     LK   False    False       False   normal     40   70
## 5 Stand MK      -2     MK   False    False       False   normal     70  100
## 6 Stand HK      -4     HK   False    False       False   normal    100  150
##                     1
## health      1050.000
## stun        1075.000
## vgauge1      600.000
## vgauge2      600.000
## fDash         19.000
## bDash         24.000
## fWalk          0.040
## bWalk          0.035
## throwHurt      0.450
## throwRange     1.000
```

```
character_info(
  "data/characters/balrog.csv",
  "Balrog",
  "img/balrog.png",
  "#235dbb"
)
```

```
## [1] "Median: -2.00  |  Mean: -4.10  |  Standard deviation: 6.92"
```
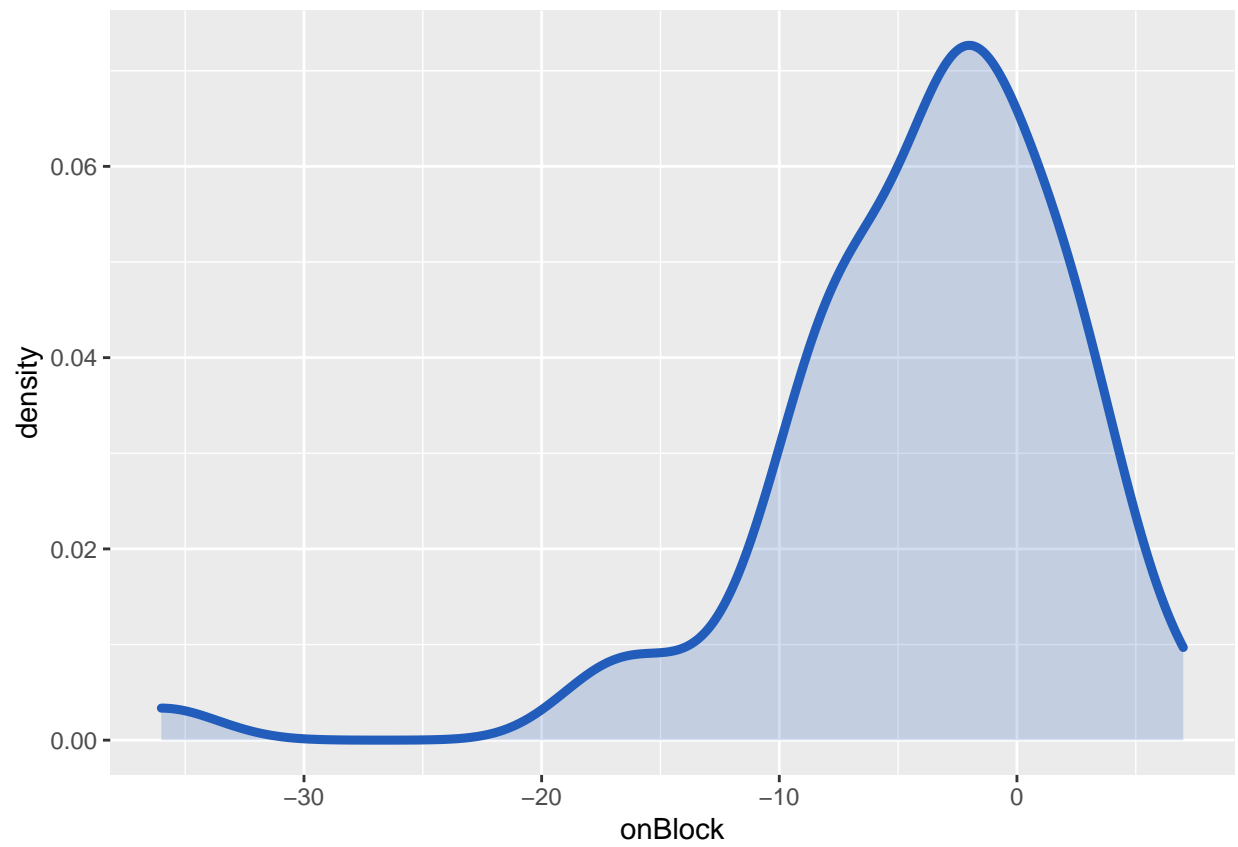
```
## [1] "Median: 100.00  |  Mean: 112.30  |  Standard deviation: 66.97"
```
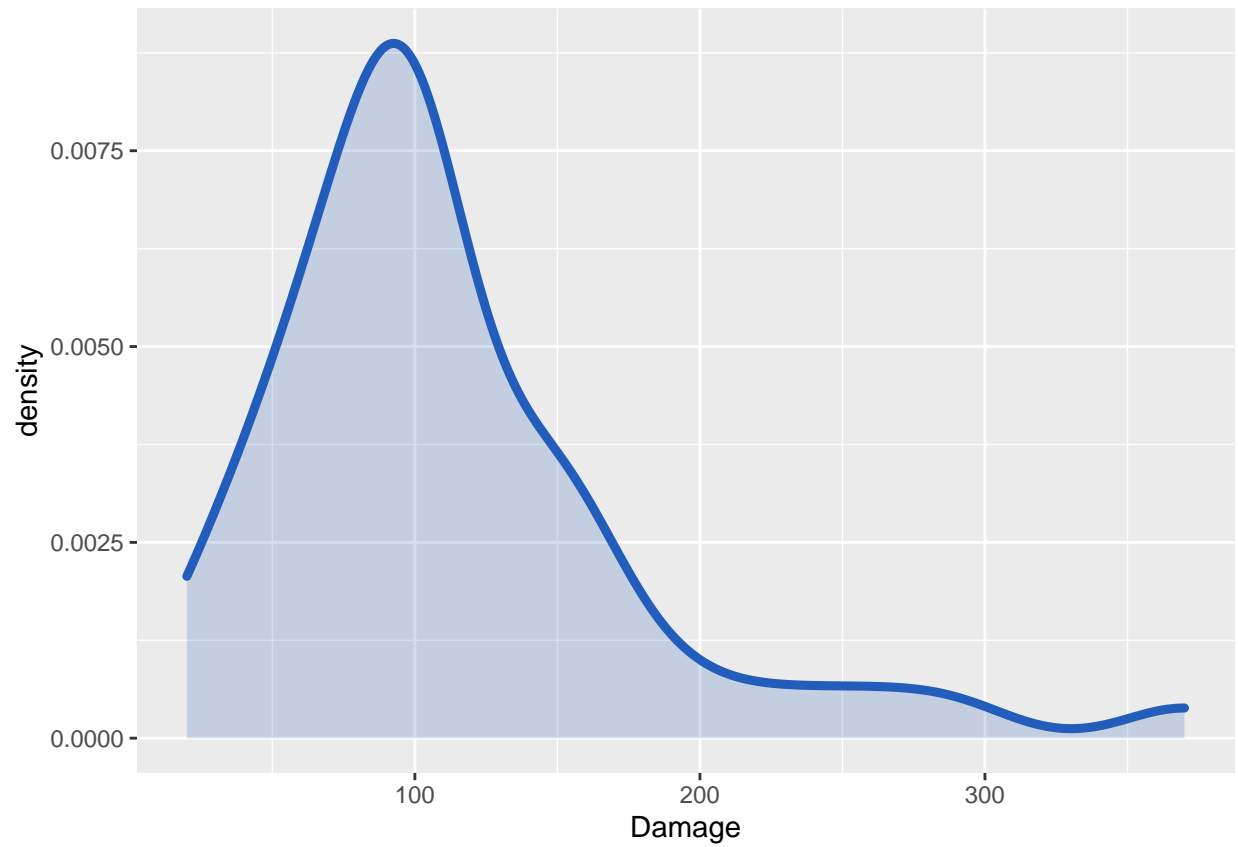
```
## [1] "Median: 150.00  |  Mean: 155.40  |  Standard deviation: 74.45"
```
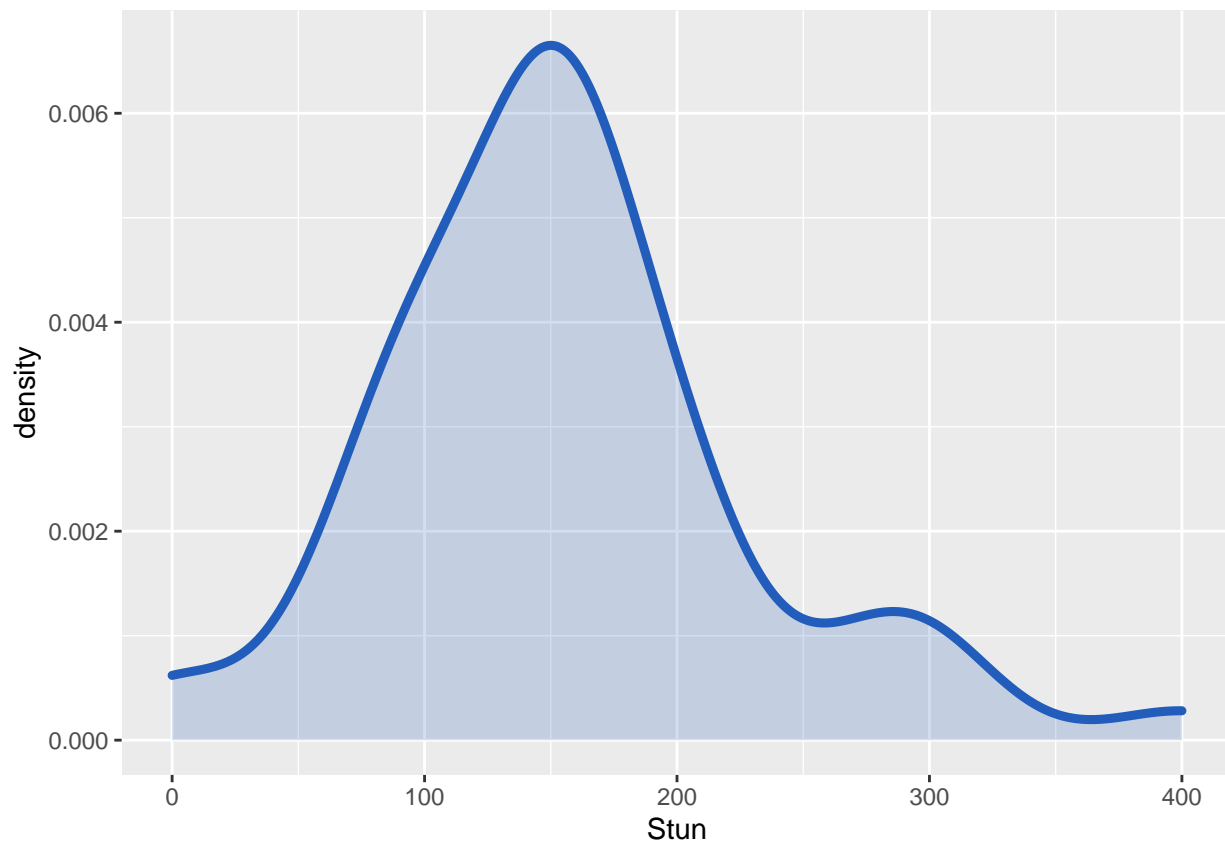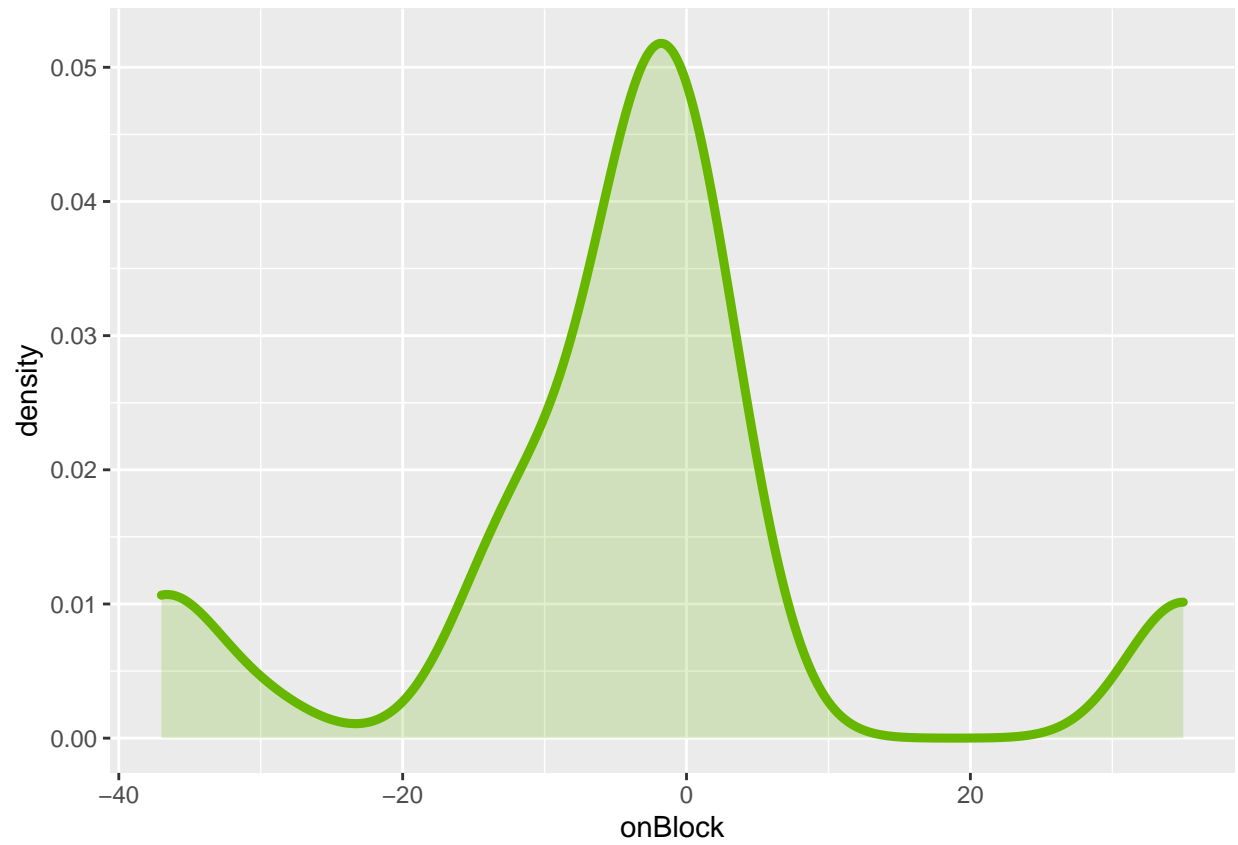
```
##          Move onBlock plnCmd airmove followUp projectile moveType Damage Stun
## 1 Stand LP        3     LP   False    False      False   normal     30   70
## 2 Stand MP        0     MP   False    False      False   normal     70  100
## 3 Stand HP       -3     HP   False    False      False   normal     80  150
## 4 Stand LK        1     LK   False    False      False   normal     30   70
## 5 Stand MK        2     MK   False    False      False   normal     60  100
## 6 Stand HK        3     HK   False    False      False   normal     80  150
##                        1
## health       1025.000
## stun         1050.000
## vgauge1       900.000
## vgauge2       600.000
## fDash          17.000
## bDash          24.000
## fWalk           0.048
## bWalk           0.030
## throwHurt       0.350
## throwRange      0.850
```

```r
character_info(
  "data/characters/birdie.csv",
  "Birdie",
  "img/birdie.png",
  "#d7a23e"
)
```

```
## [1] "Median: -5.00  |  Mean: -5.91  |  Standard deviation: 10.19"
```

```
## [1] "Median: 80.00  |  Mean: 93.36  |  Standard deviation: 62.02"
```
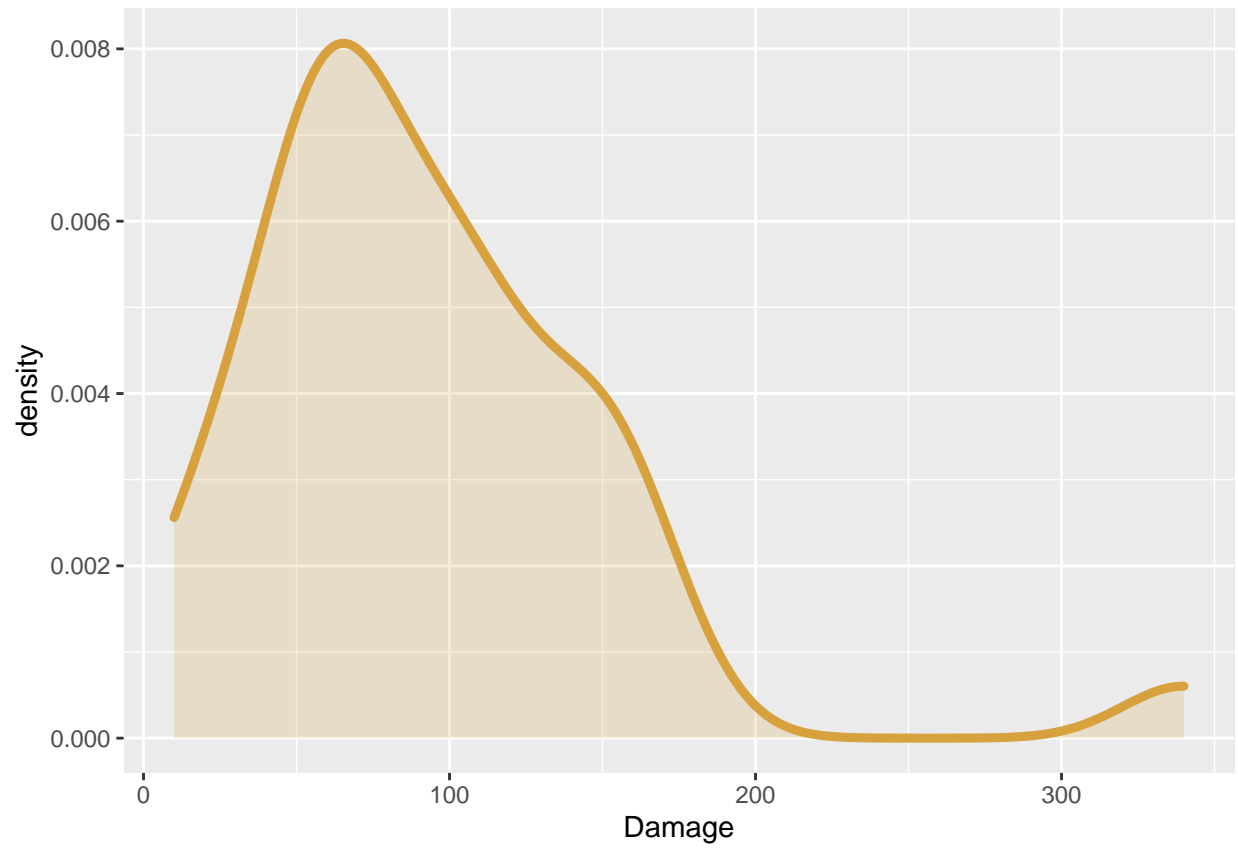
```
## [1] "Median: 120.00  |  Mean: 121.67  |  Standard deviation: 74.59"
```
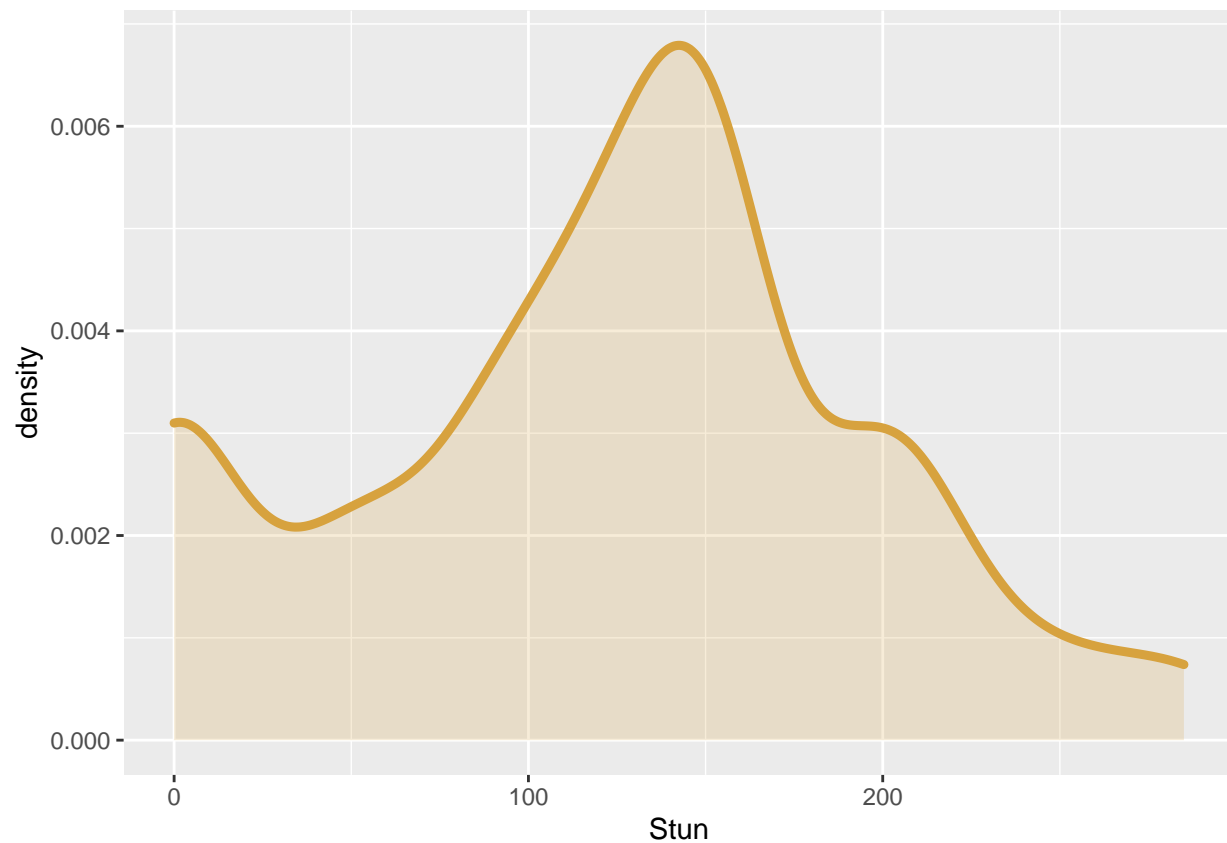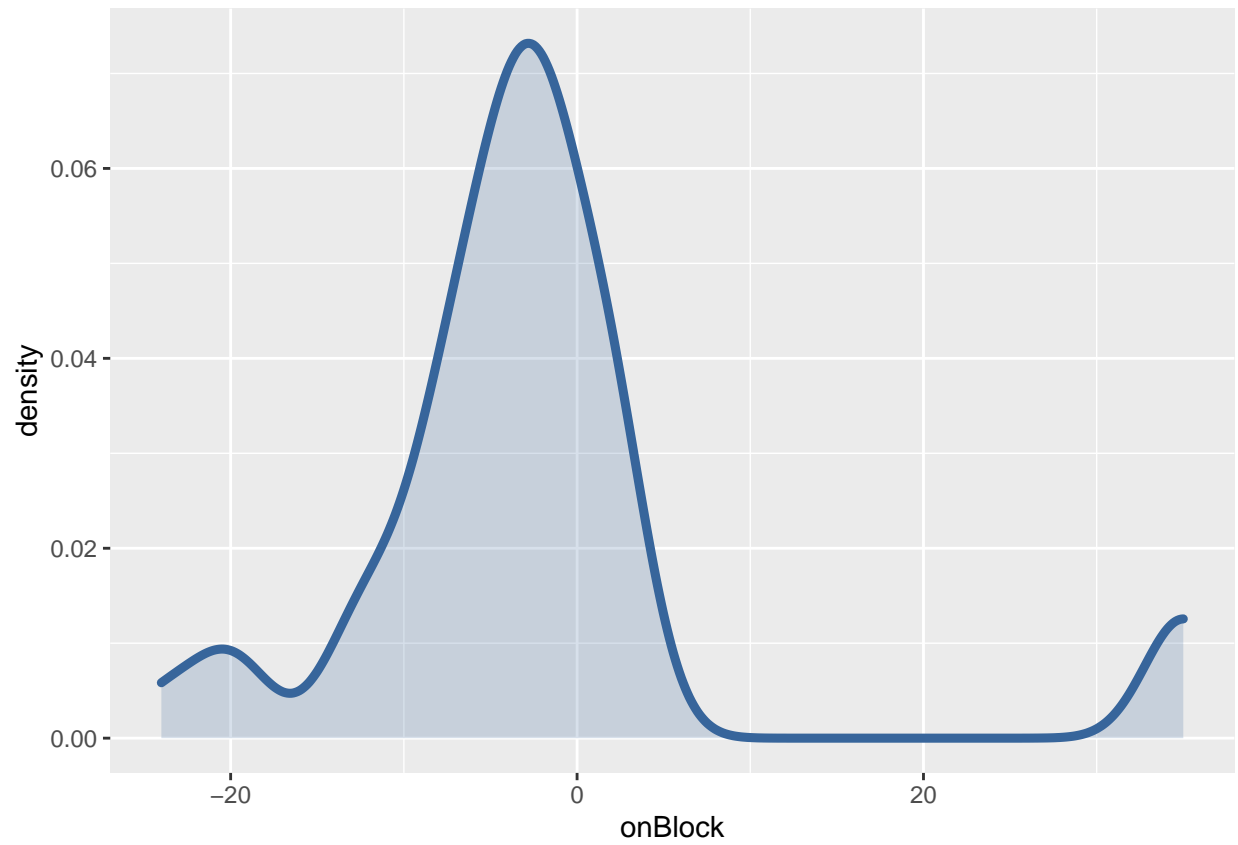
```
##        Move onBlock plnCmd airmove followUp projectile moveType Damage Stun
## 1 Stand LP       3     LP   False    False      False   normal     40   90
## 2 Stand MP       1     MP   False    False      False   normal     60  120
## 3 Stand HP      -6     HP   False    False      False   normal     90  150
## 4 Stand LK       3     LK   False    False      False   normal     30   90
## 5 Stand MK      -2     MK   False    False      False   normal     60  120
## 6 Stand HK       0     HK   False    False      False   normal    100  150
##                    1
## health      1050.000
## stun        1000.000
## vgauge1      900.000
## vgauge2      600.000
## fDash         23.000
## bDash         26.000
## fWalk          0.031
## bWalk          0.024
## throwHurt      0.300
## throwRange     0.900
```

```r
character_info(
  "data/characters/blanka.csv",
  "Blanka",
  "img/blanka.png",
  "#b36732"
)
```

```
## [1] "Median: -3.00  |  Mean: -8.08  |  Standard deviation: 13.60"
```

```
## [1] "Median: 80.00  |  Mean: 90.67  |  Standard deviation: 52.14"
```
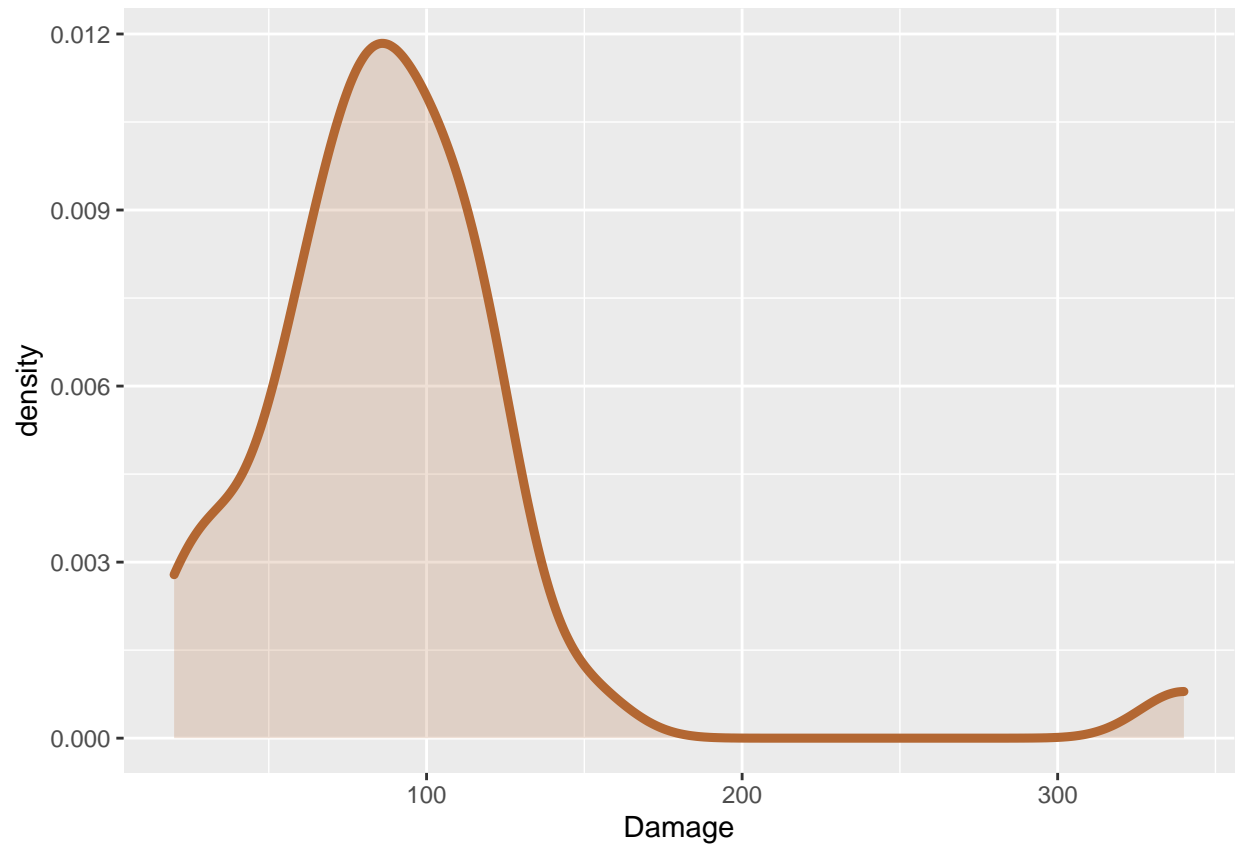
```
## [1] "Median: 150.00  |  Mean: 125.36  |  Standard deviation: 45.45"
```
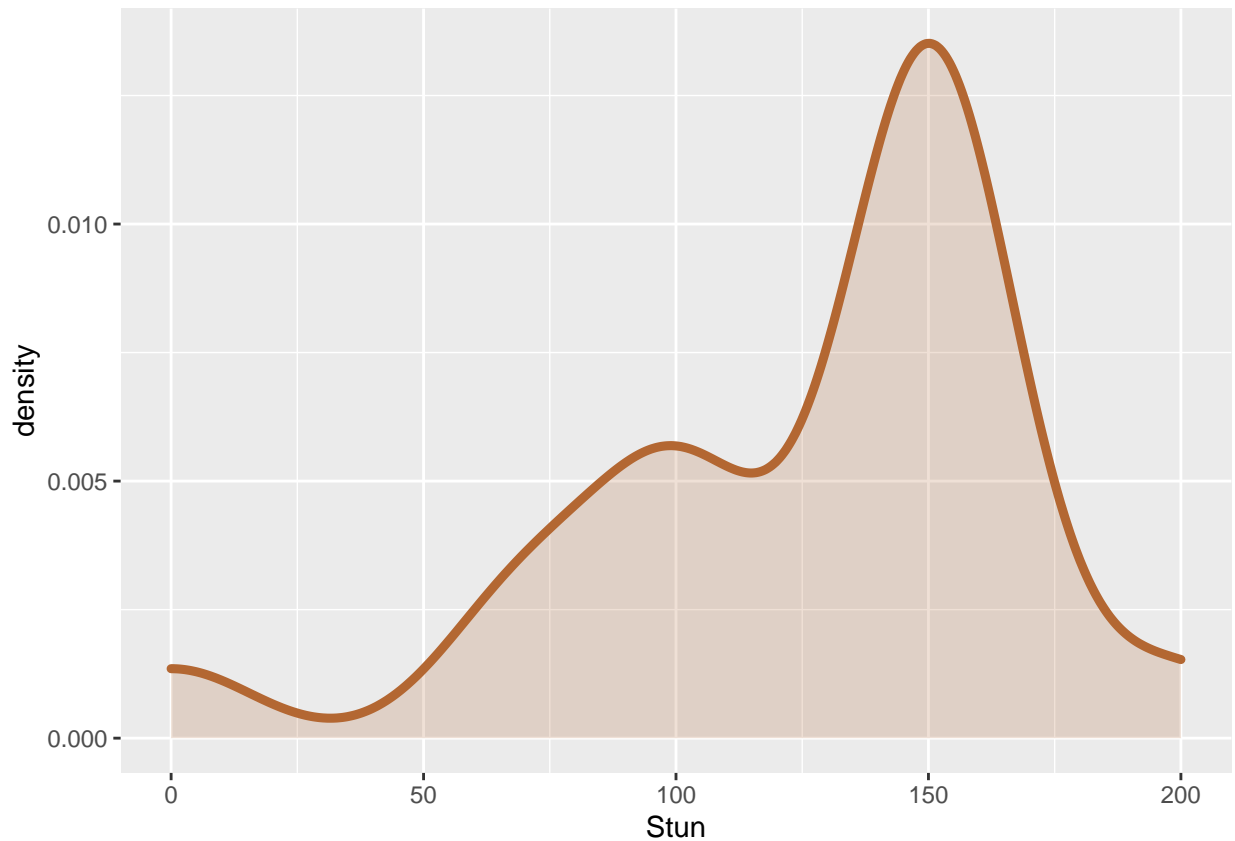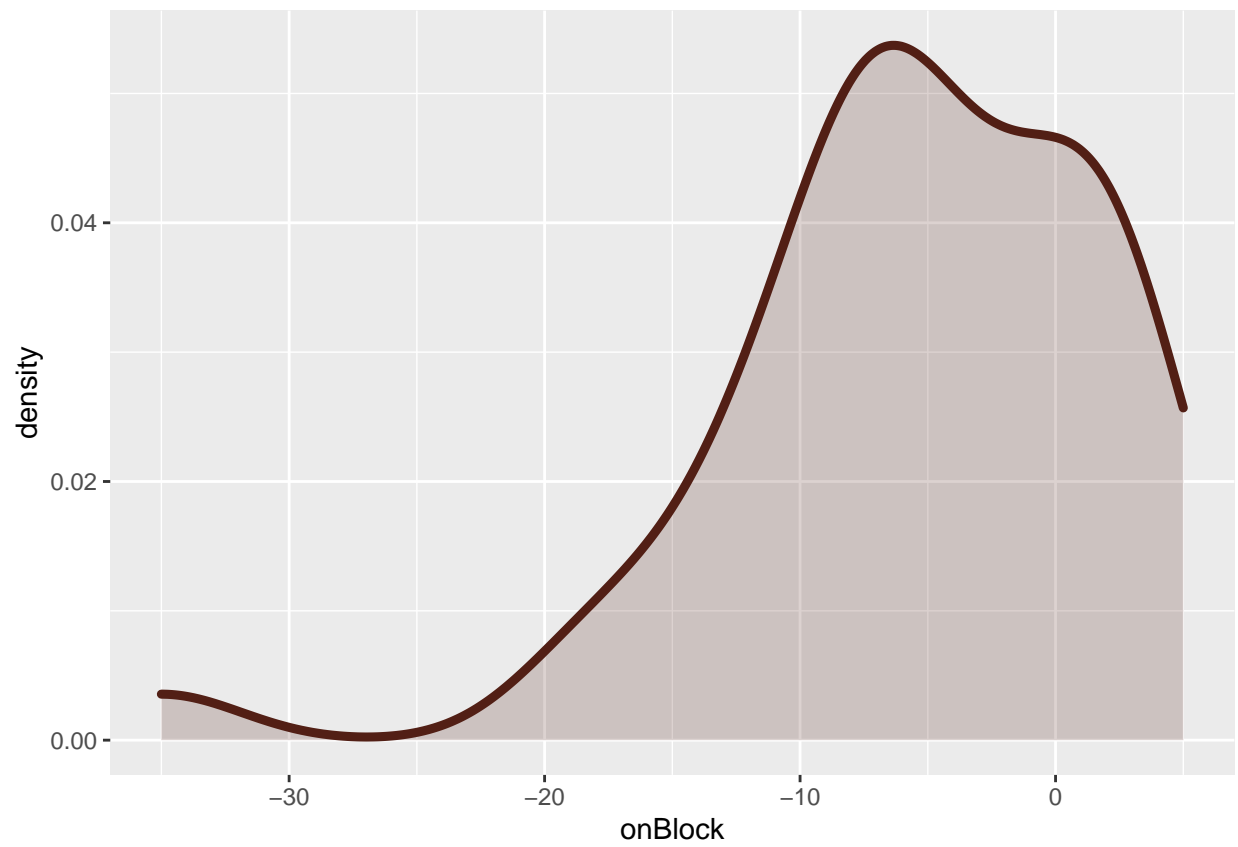
```
##          Move onBlock plnCmd airmove followUp projectile moveType Damage Stun
## 1 Stand LP        2     LP   False    False      False   normal     30   70
## 2 Stand MP        0     MP   False    False      False   normal     60  100
## 3 Stand HP       -6     HP   False    False      False   normal     80  150
## 4 Stand LK        3     LK   False    False      False   normal     30   70
## 5 Stand MK        2     MK   False    False      False   normal     60  100
## 6 Stand HK       -4     HK   False    False      False   normal     80  150
##                      1
## health       1025.000
## stun         1050.000
## vgauge1       600.000
## vgauge2       900.000
## fDash          16.000
## bDash          24.000
## fWalk           0.043
## bWalk           0.032
## throwHurt       0.250
## throwRange      0.800
```

```
character_info(
  "data/characters/cammy.csv",
  "Cammy",
  "img/cammy.png",
  "#67b600"
)
```

```
## [1] "Median: -2.00  |  Mean: -3.80  |  Standard deviation: 17.44"
```

```
## [1] "Median: 80.00  |  Mean: 89.55  |  Standard deviation: 54.01"
```
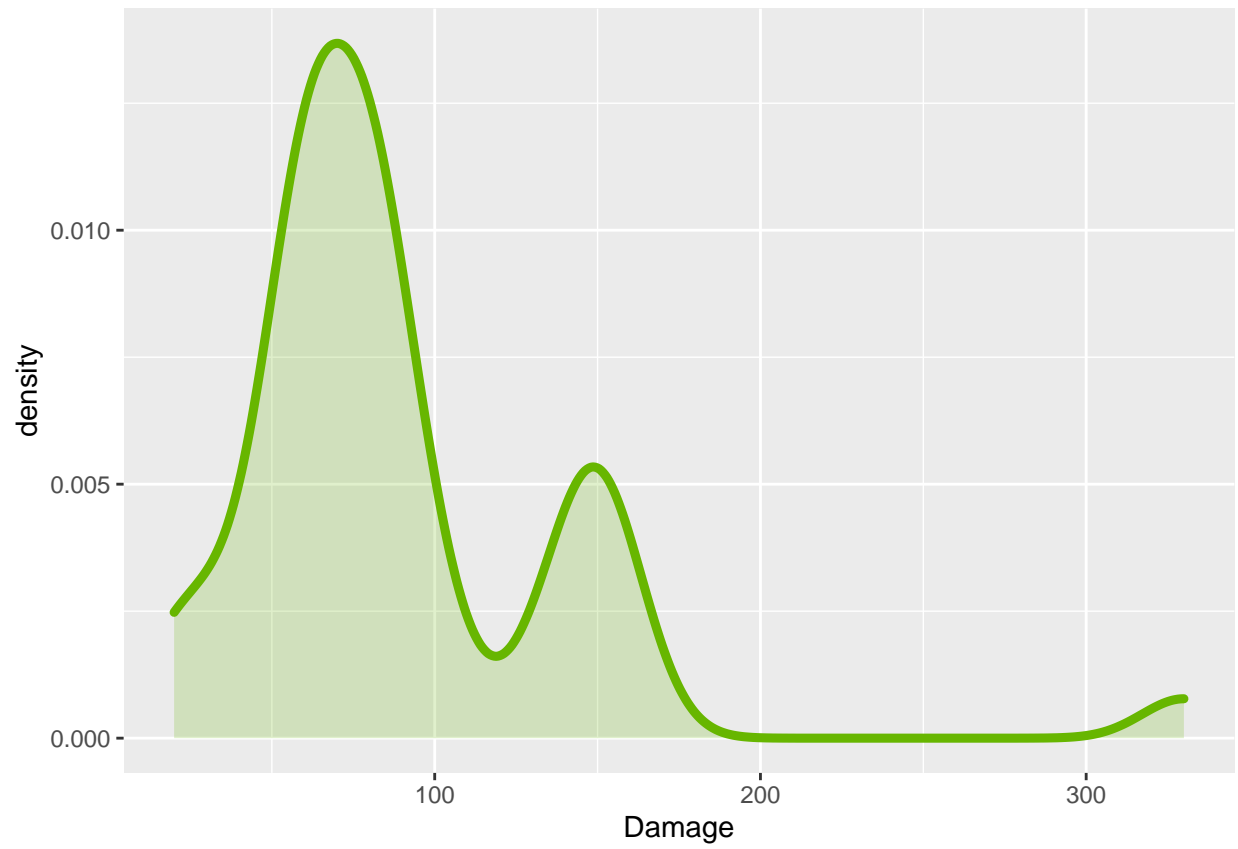
```
## [1] "Median: 120.00  |  Mean: 126.25  |  Standard deviation: 62.17"
```
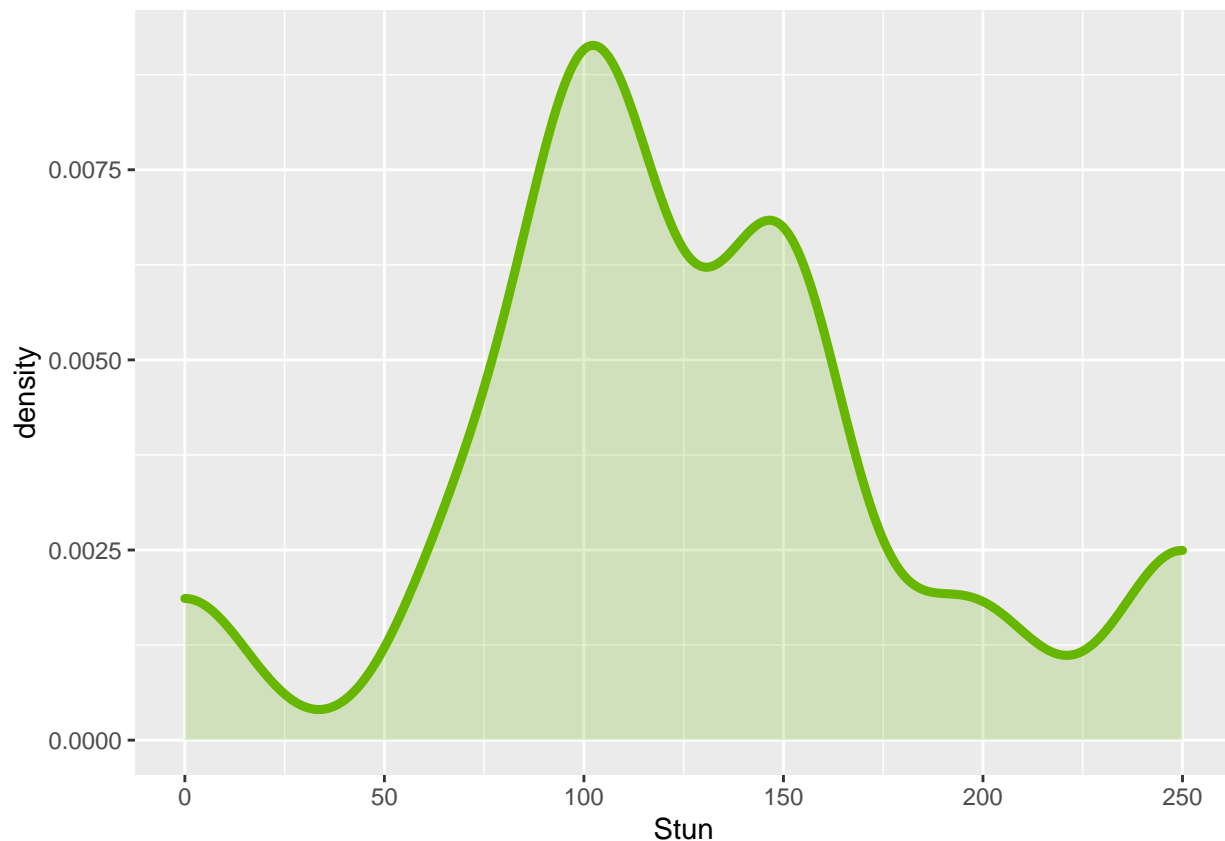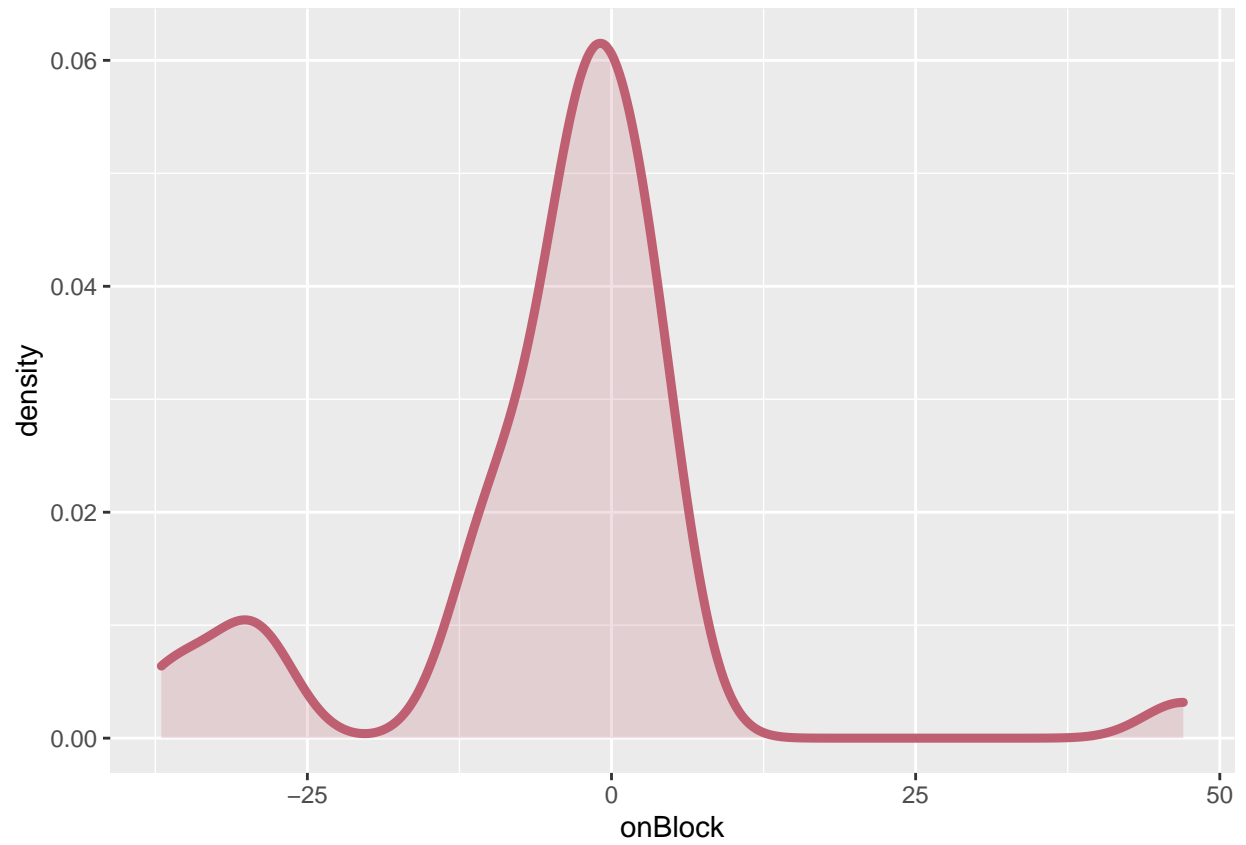
```
##        Move onBlock plnCmd airmove followUp projectile moveType Damage Stun
## 1 Stand LP       2     LP   False    False      False   normal     30   70
## 2 Stand MP       3     MP   False    False      False   normal     60  100
## 3 Stand HP      -3     HP   False    False      False   normal     80  150
## 4 Stand LK       1     LK   False    False      False   normal     40   70
## 5 Stand MK      -2     MK   False    False      False   normal     60  100
## 6 Stand HK      -2     HK   False    False      False   normal     90  150
##                  1
## health      925.00
## stun        925.00
## vgauge1     600.00
## vgauge2     600.00
## fDash        16.00
## bDash        21.00
## fWalk         0.05
## bWalk         0.04
## throwHurt     0.25
## throwRange    0.80
```

```
character_info(
  "data/characters/chun-li.csv",
  "Chun-Li",
  "img/chun-li.png",
  "#37659b"
)
```

```
## [1] "Median: -3.00  |  Mean: -2.14  |  Standard deviation: 11.92"
```

```
## [1] "Median: 80.00  |  Mean: 89.65  |  Standard deviation: 51.25"
```
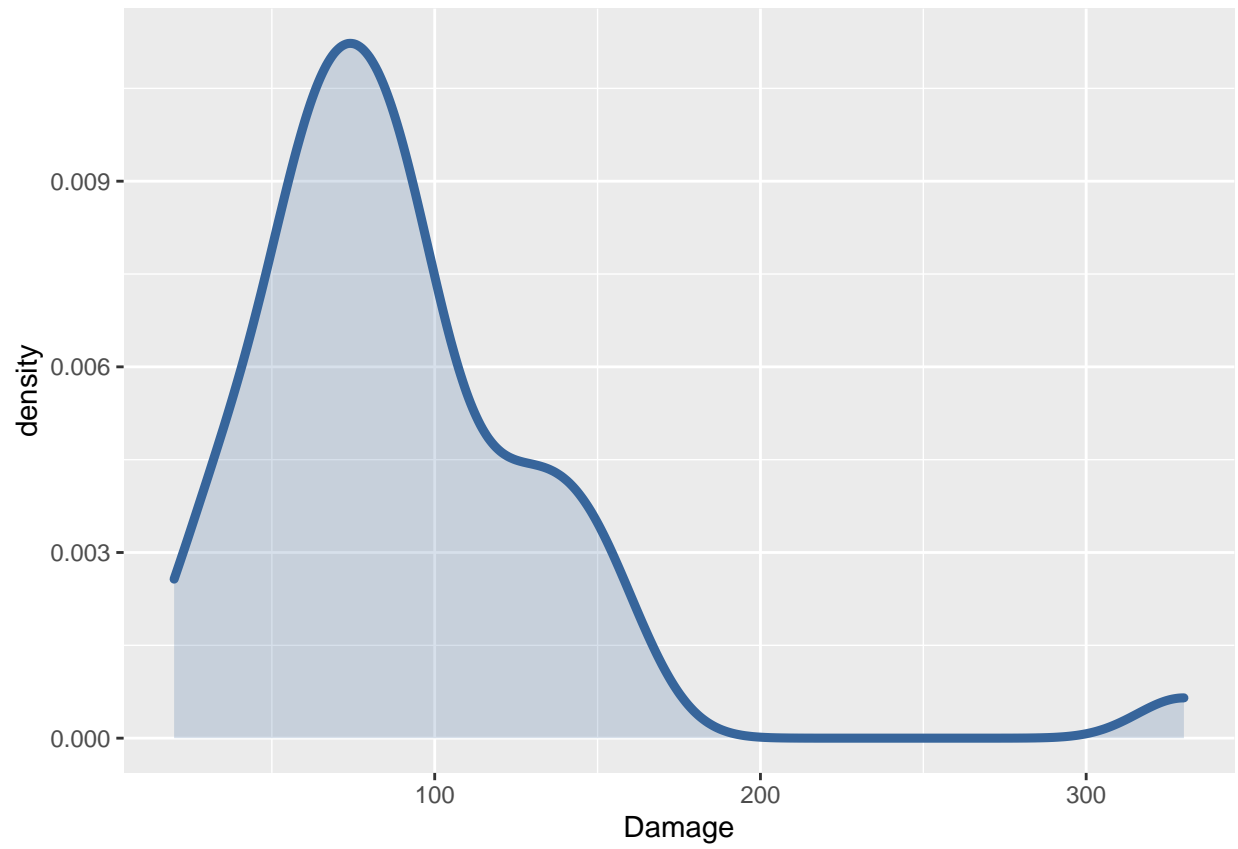
```
## [1] "Median: 120.00  |  Mean: 120.47  |  Standard deviation: 55.12"
```
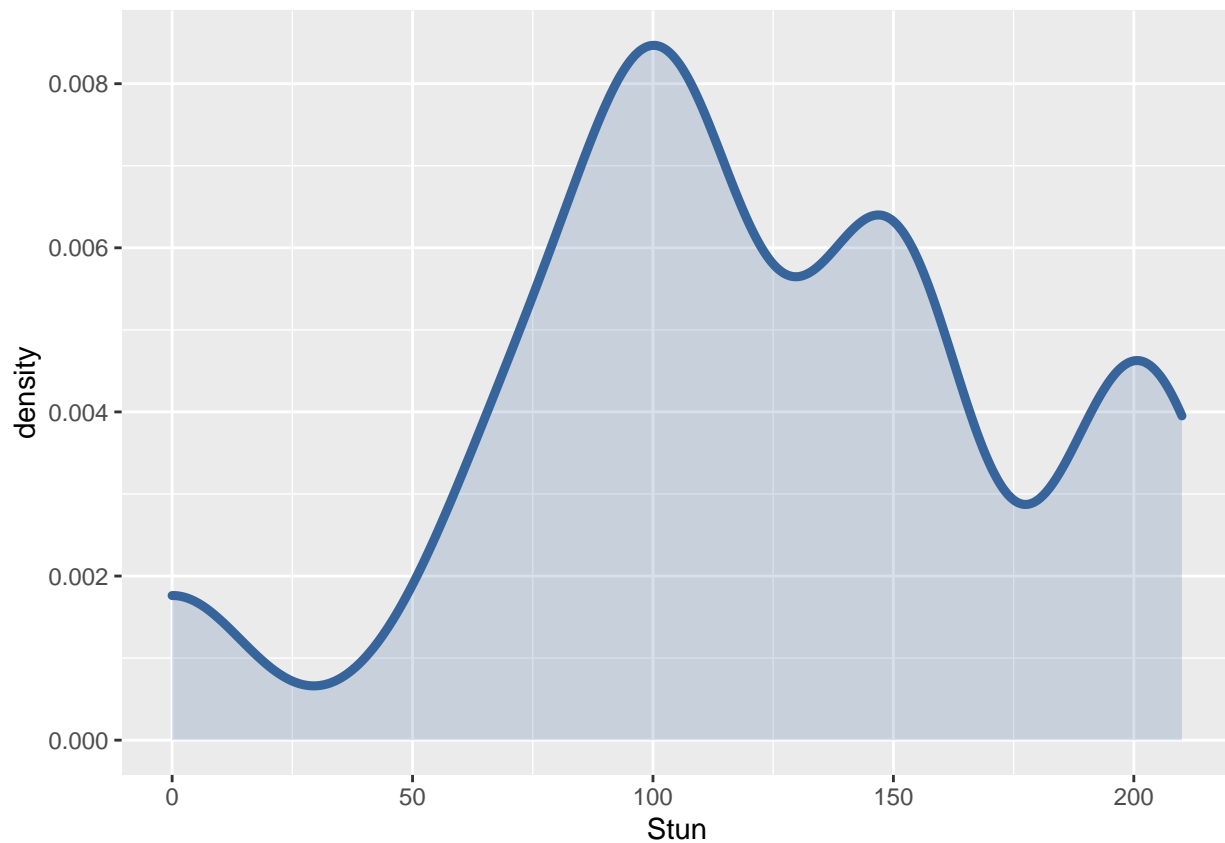
```
##        Move onBlock plnCmd airmove followUp projectile moveType Damage Stun
## 1 Stand LP       2     LP   False    False      False   normal     30   70
## 2 Stand MP       3     MP   False    False      False   normal     60  100
## 3 Stand HP      -4     HP   False    False      False   normal     80  150
## 4 Stand LK      -3     LK   False    False      False   normal     40   70
## 5 Stand MK      -2     MK   False    False      False   normal     70  100
## 6 Stand HK      -2     HK   False    False      False   normal     90  150
##                      1
## health      975.0000
## stun       1000.0000
## vgauge1     600.0000
## vgauge2     900.0000
## fDash        15.0000
## bDash        21.0000
## fWalk         0.0535
## bWalk         0.0340
## throwHurt     0.3511
## throwRange    0.8461
```

```
character_info(
  "data/characters/cody.csv",
  "Cody",
  "img/cody.png",
  "#521f15"
)
```

```
## [1] "Median: -6.00  |  Mean: -5.72  |  Standard deviation: 7.83"
```

```
## [1] "Median: 80.00  |  Mean: 90.94  |  Standard deviation: 55.26"
```
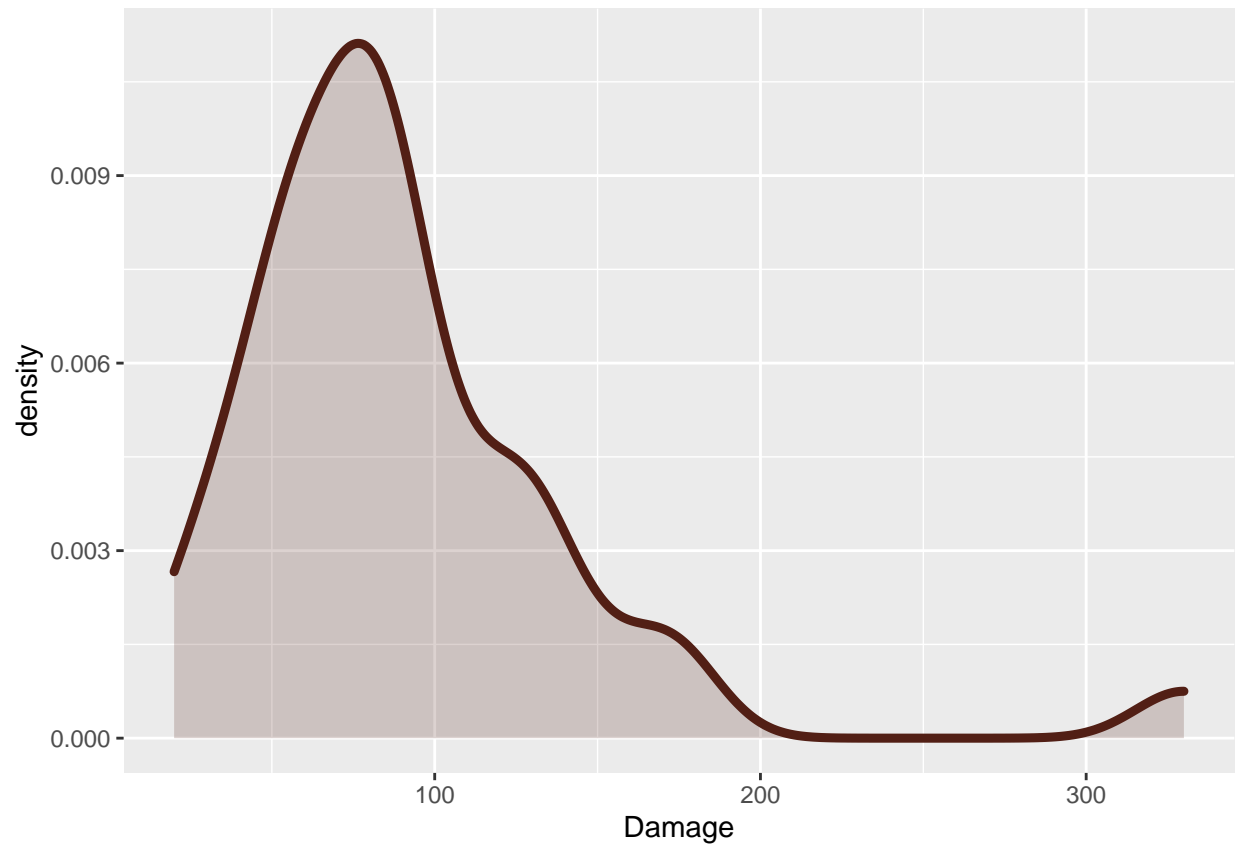
```
## [1] "Median: 150.00  |  Mean: 131.81  |  Standard deviation: 59.98"
```
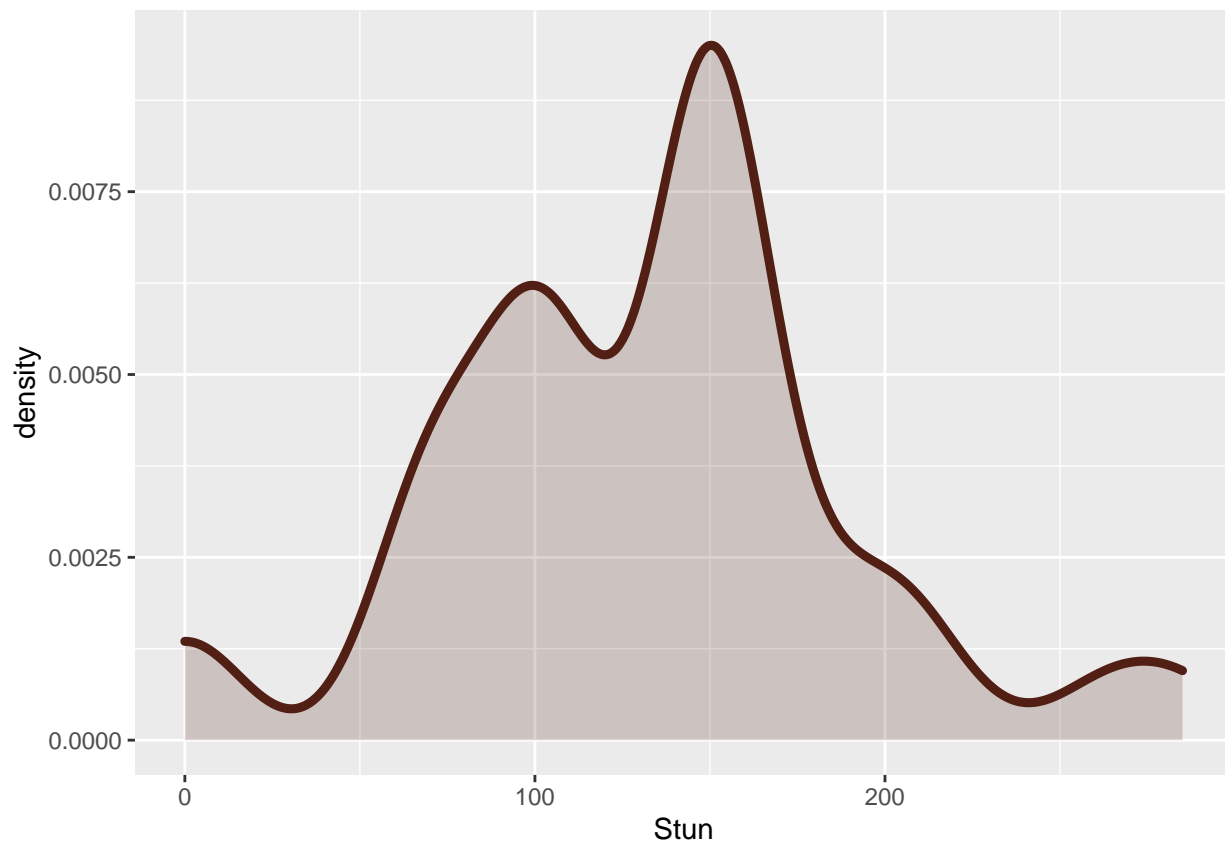
```
##          Move onBlock plnCmd airmove followUp projectile moveType Damage Stun
## 1 Stand LP        1     LP  False    False      False   normal     30   70
## 2 Stand MP        0     MP  False    False      False   normal     60  100
## 3 Stand HP      -10     HP  False    False      False   normal    120  170
## 4 Stand LK        3     LK  False    False      False   normal     40   70
## 5 Stand MK        3     MK  False    False      False   normal     60  100
## 6 Stand HK       -4     HK  False    False      False   normal     80  150
##                   1
## health     1025.0000
## stun       1050.0000
## vgauge1     600.0000
## vgauge2     600.0000
## fDash        17.0000
## bDash        23.0000
## fWalk         0.0470
## bWalk         0.0289
## throwHurt     0.2500
## throwRange    0.8000
```

```
character_info(
  "data/characters/dan.csv",
  "Dan",
  "img/dan.png",
  "#bf6072"
)
```

```
## [1] "Median: -2.00  |  Mean: -4.74  |  Standard deviation: 13.89"
```

```
## [1] "Median: 80.00  |  Mean: 81.28  |  Standard deviation: 57.09"
```
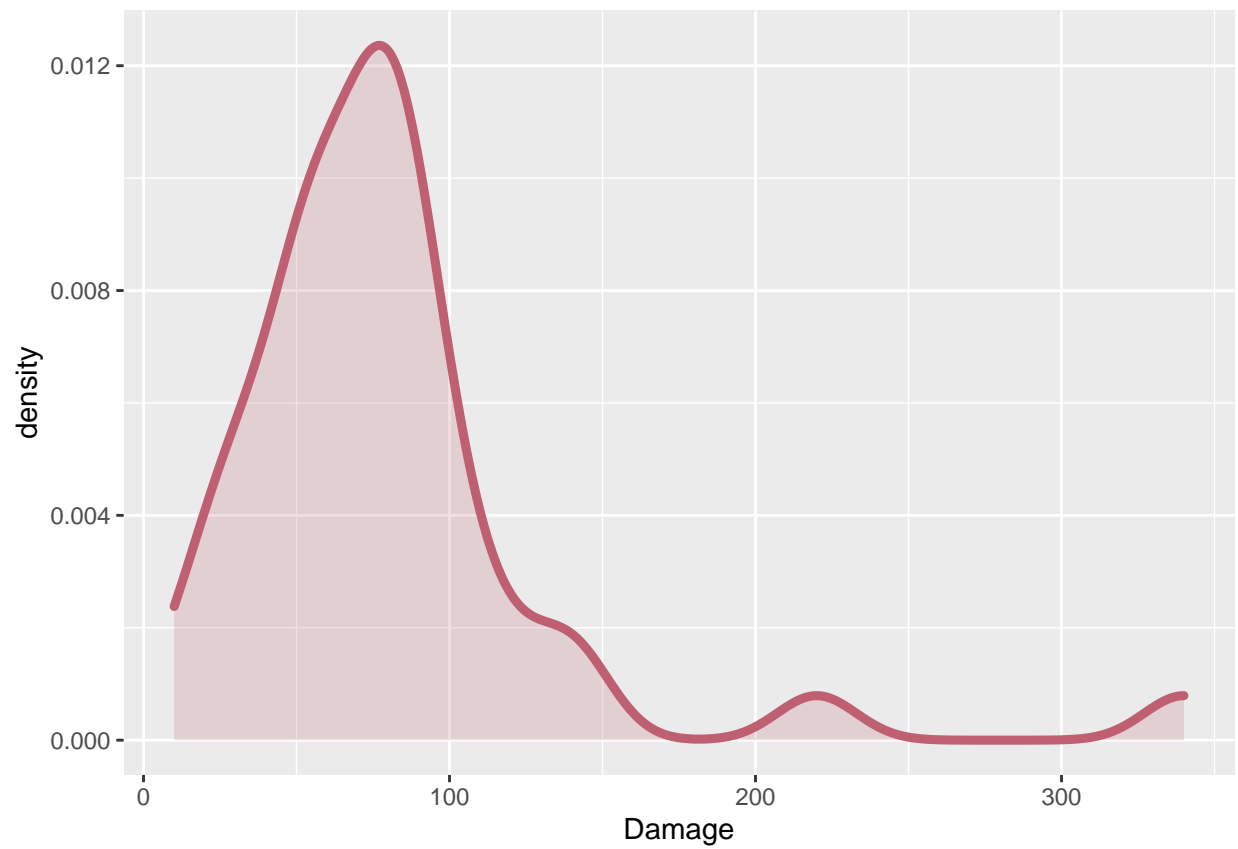
```
## [1] "Median: 100.00  |  Mean: 92.56  |  Standard deviation: 39.38"
```
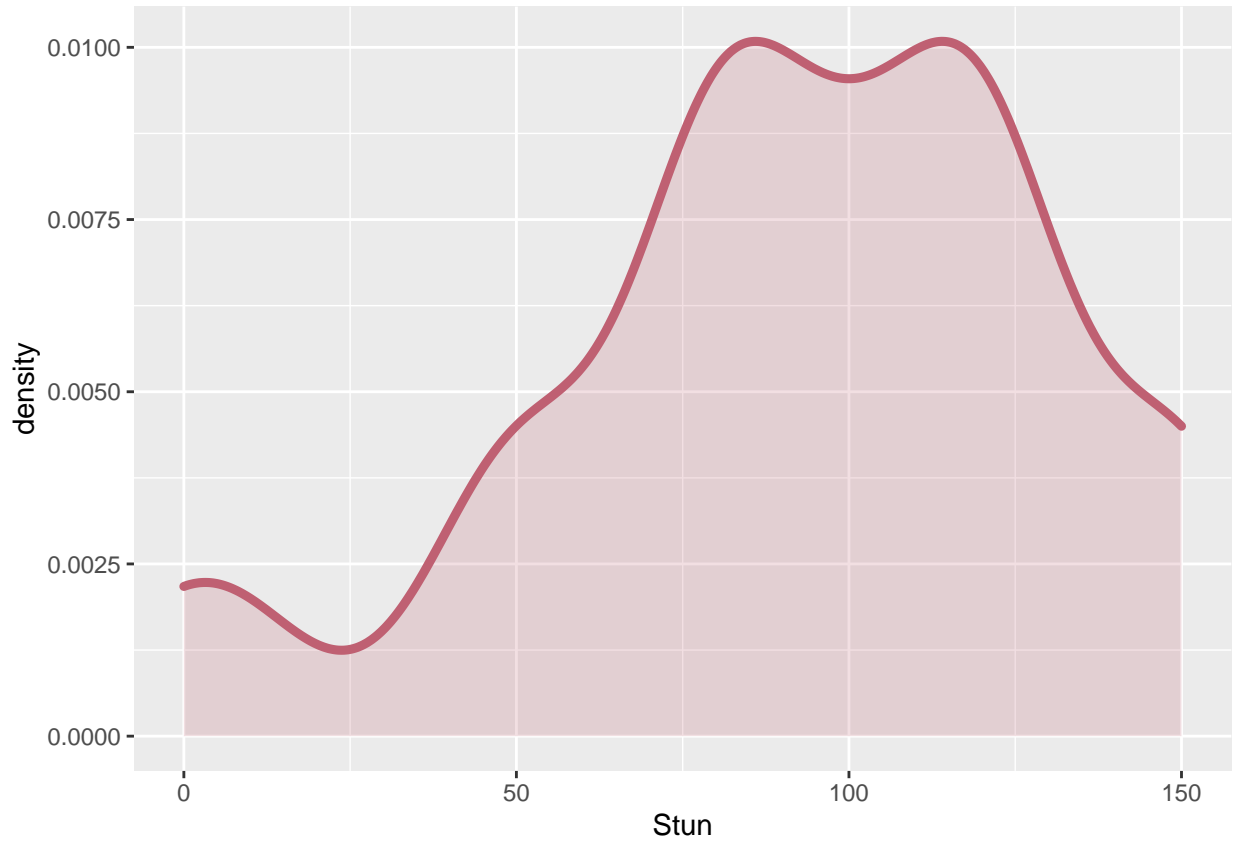
```
##         Move onBlock plnCmd airmove followUp projectile moveType Damage Stun
## 1 Stand LP        3     LP   False    False      False   normal     30   50
## 2 Stand MP        3     MP   False    False      False   normal     60   80
## 3 Stand HP       -2     HP   False    False      False   normal     70  120
## 4 Stand LK        0     LK   False    False      False   normal     30   50
## 5 Stand MK       -2     MK   False    False      False   normal     60   80
## 6 Stand HK       -4     HK   False    False      False   normal     90  120
##                    1
## health      1025.000
## stun         950.000
## vgauge1      300.000
## vgauge2      600.000
## fDash         16.000
## bDash         21.000
## fWalk          0.047
## bWalk          0.032
## throwHurt      0.250
## throwRange     0.800
```

```
character_info(
  "data/characters/dhalsim.csv",
  "Dhalsim",
  "img/dhalsim.png",
  "#e0602b"
)
```

```
## [1] "Median: 0.00  |  Mean: 0.61  |  Standard deviation: 9.35"
```
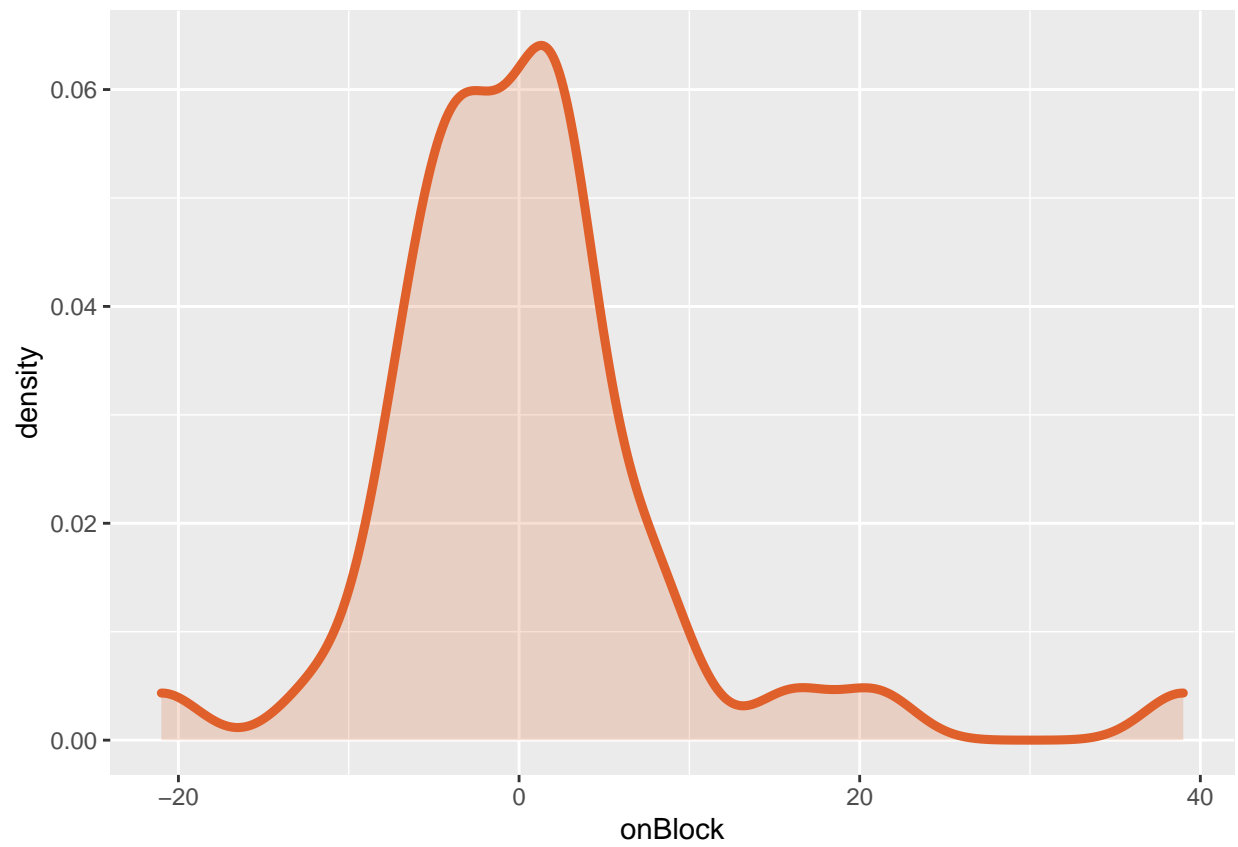
```
## [1] "Median: 70.00  |  Mean: 92.93  |  Standard deviation: 79.32"
```
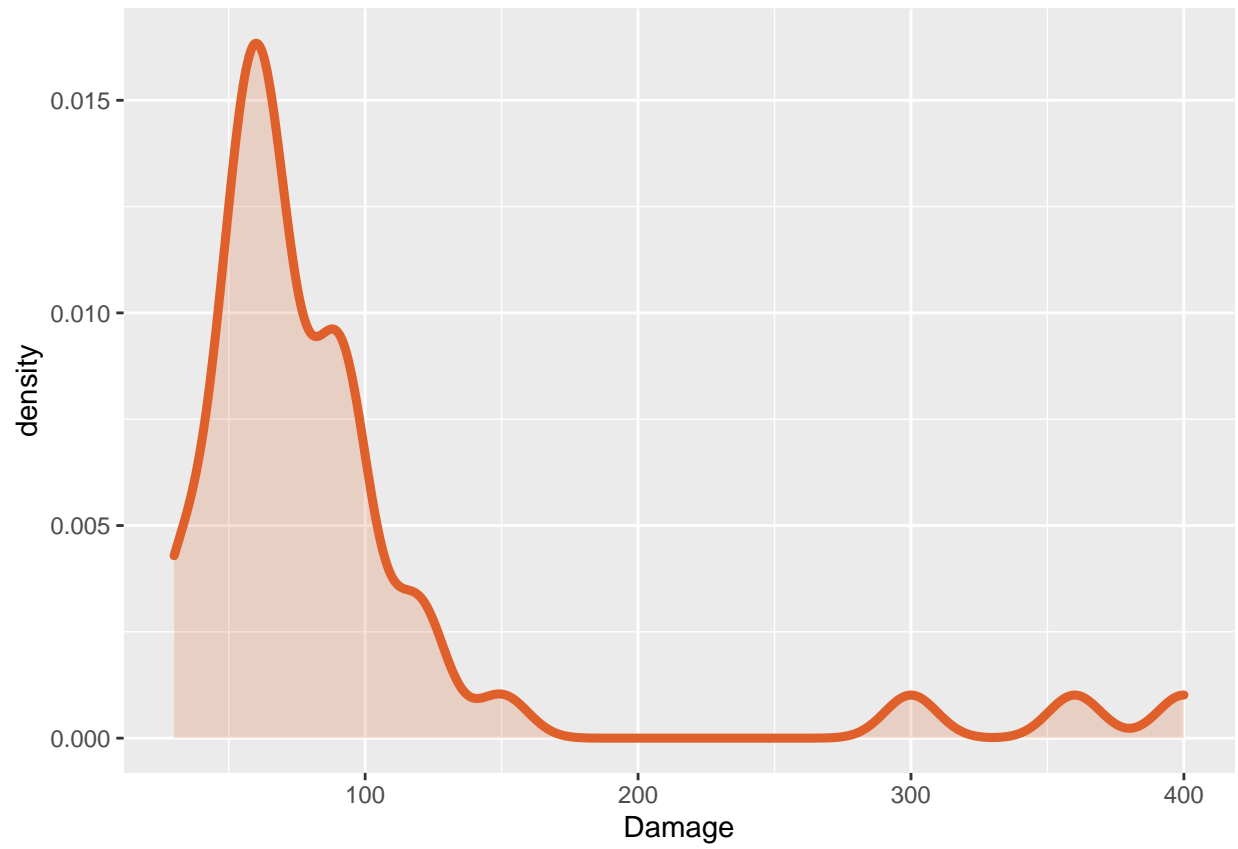
```
## [1] "Median: 100.00  |  Mean: 107.80  |  Standard deviation: 56.55"
```
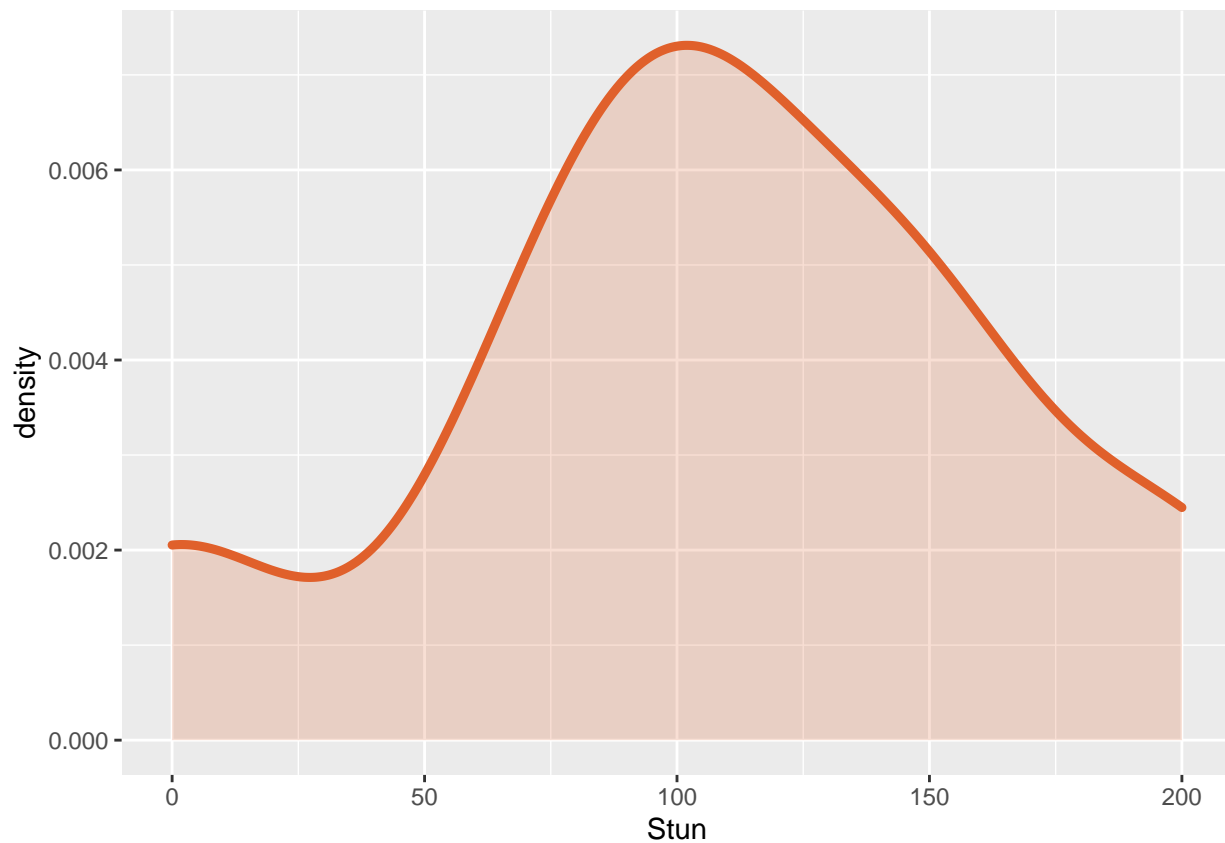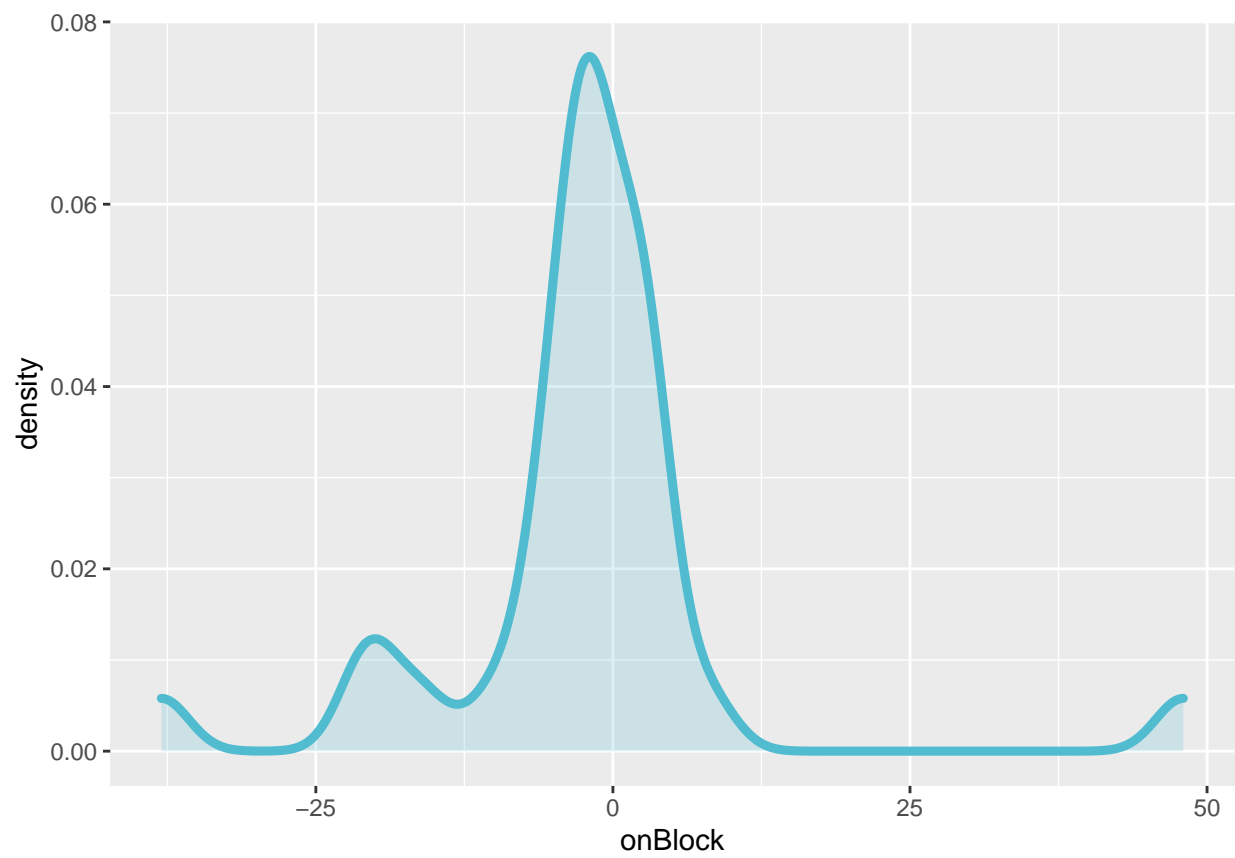
```
##          Move onBlock plnCmd airmove followUp projectile moveType Damage Stun
## 1 Stand LP        3     LP   False    False       False   normal     30   70
## 2 Stand MP       -4     MP   False    False       False   normal     60  100
## 3 Stand HP       -6     HP   False    False       False   normal     90  150
## 4 Stand LK        2     LK   False    False       False   normal     40   70
## 5 Stand MK       -4     MK   False    False       False   normal     50  100
## 6 Stand HK       -4     HK   False    False       False   normal     90  150
##                   1
## health      950.000
## stun        950.000
## vgauge1     600.000
## vgauge2     600.000
## fDash        21.000
## bDash        25.000
## fWalk         0.022
## bWalk         0.020
## throwHurt     0.250
## throwRange    0.850
```

```
character_info(
  "data/characters/e_honda.csv",
  "E. Honda",
  "img/e_honda.png",
  "#5197a3"
)
```

```
## [1] "Median: -2.00  |  Mean: -3.06  |  Standard deviation: 6.85"
```
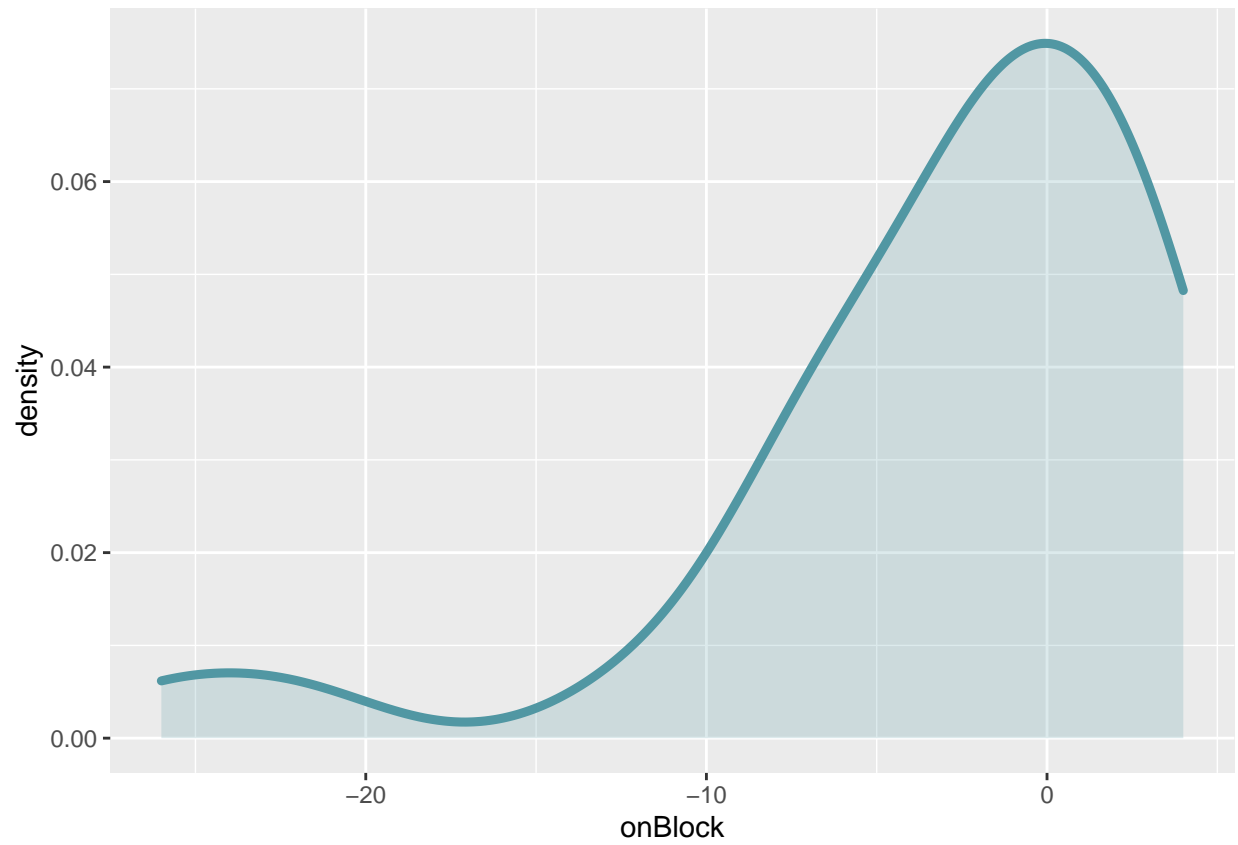
```
## [1] "Median: 95.00  |  Mean: 95.25  |  Standard deviation: 53.83"
```
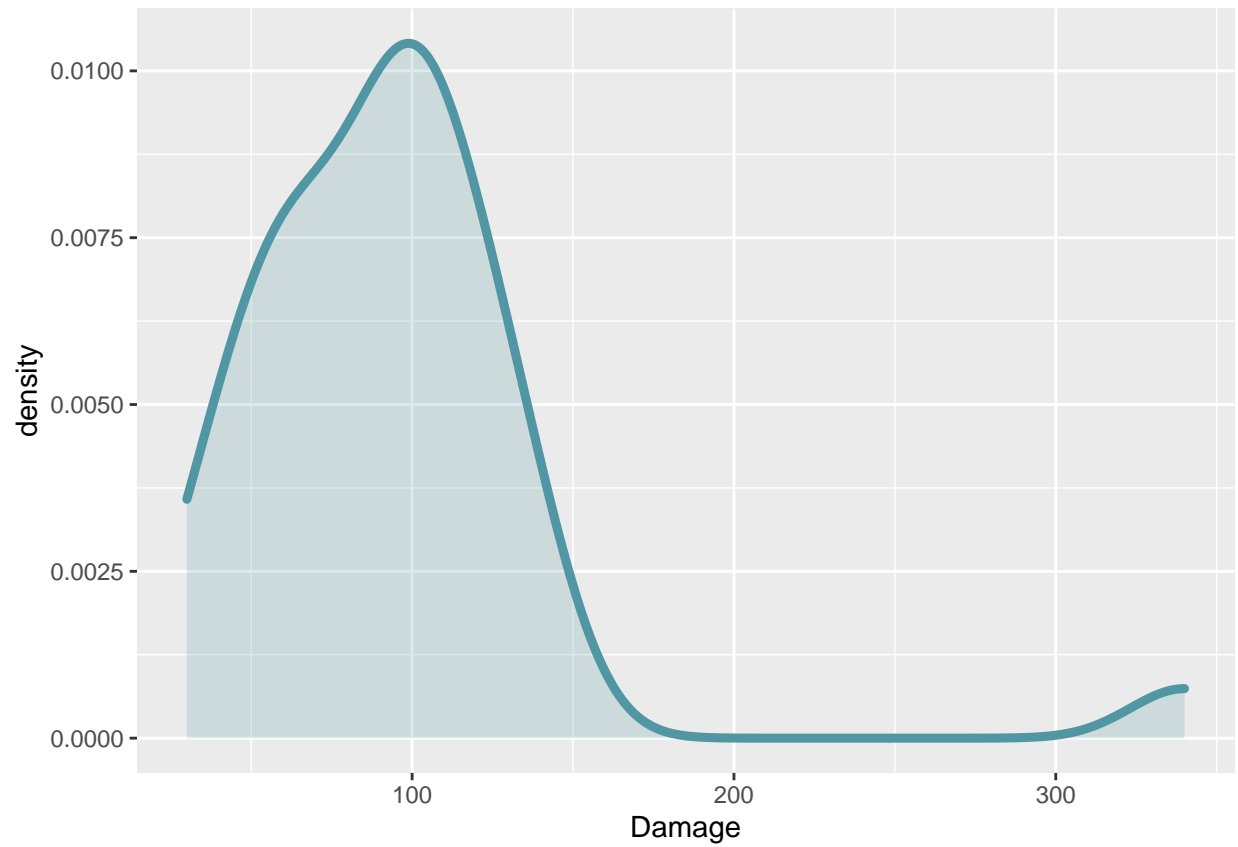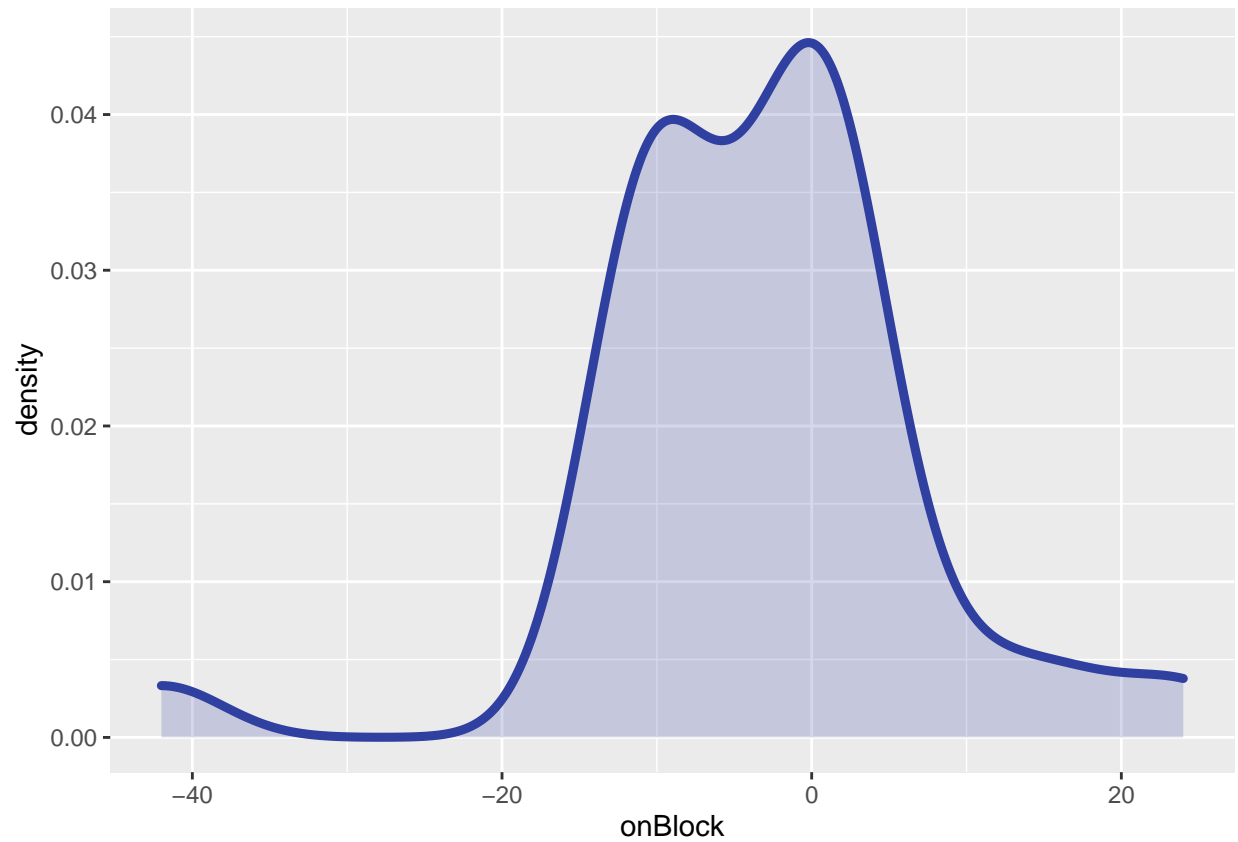
```
## [1] "Median: 150.00  |  Mean: 131.56  |  Standard deviation: 52.68"
```
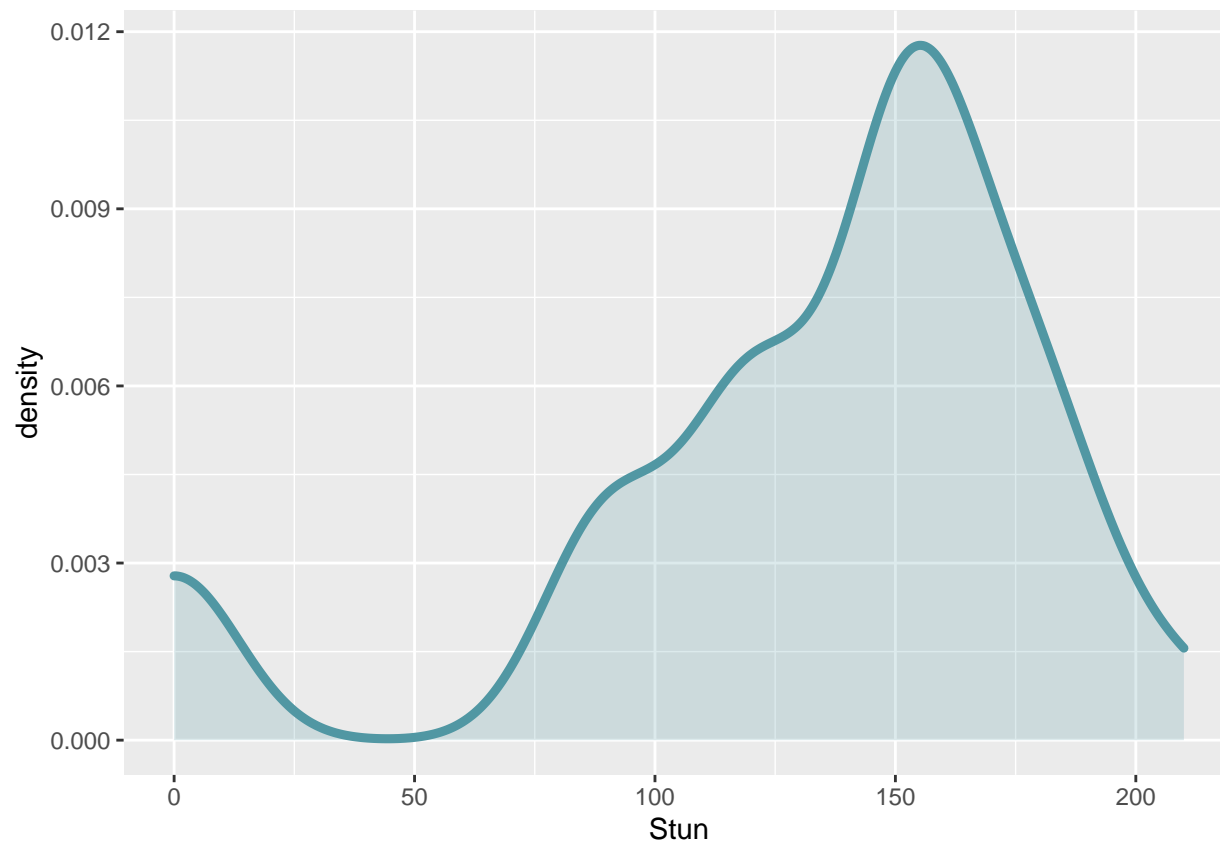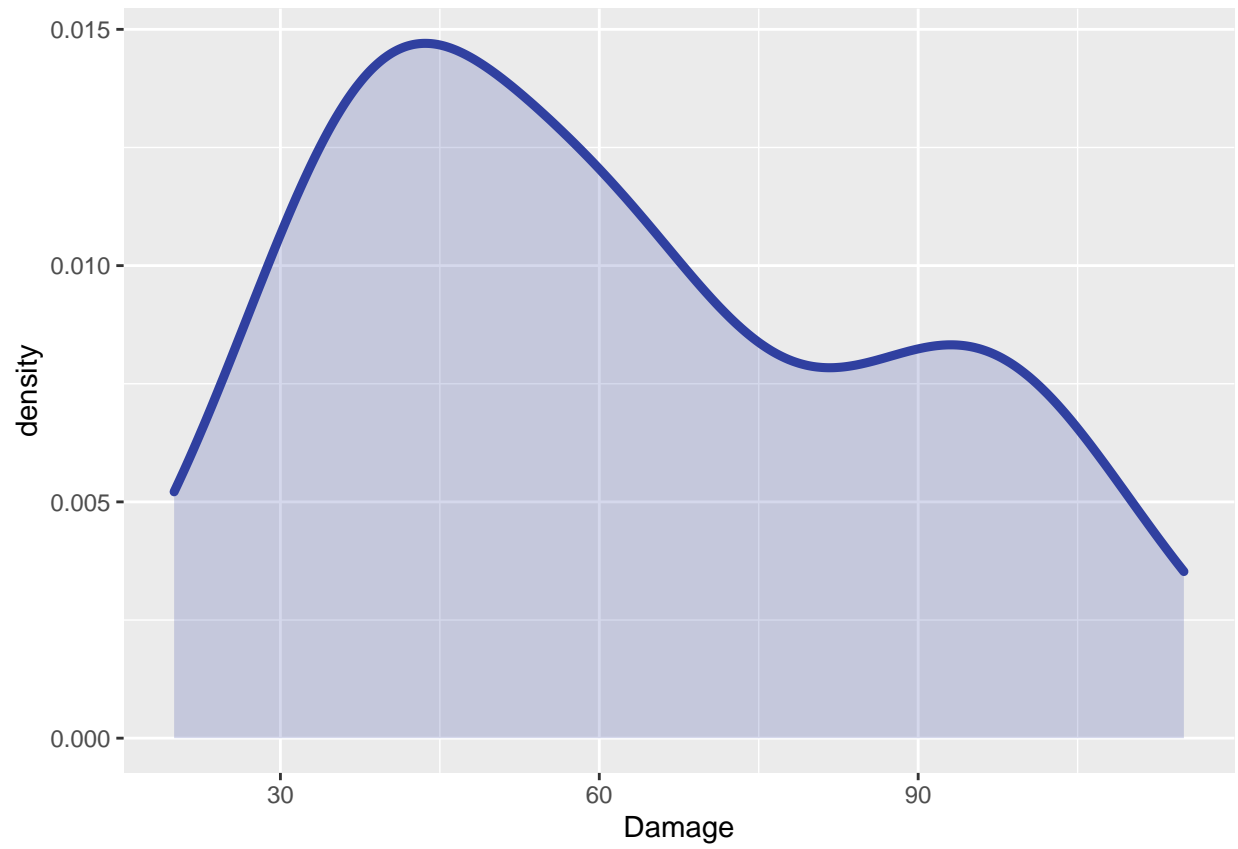
```
##         Move onBlock plnCmd airmove followUp projectile moveType Damage Stun
## 1 Stand LP        3     LP   False    False      False   normal     40   90
## 2 Stand MP        2     MP   False    False      False   normal     70  120
## 3 Stand HP       -7     HP   False    False      False   normal     85  150
## 4 Stand LK        2     LK   False    False      False   normal     40   90
## 5 Stand MK        4     MK   False    False      False   normal     60  120
## 6 Stand HK       -1     HK   False    False      False   normal     85  150
##                    1
## health     1050.000
## stun       1075.000
## vgauge1     900.000
## vgauge2     600.000
## fDash        20.000
## bDash        24.000
## fWalk         0.044
## bWalk         0.027
## throwHurt     0.250
## throwRange    0.900
```

```
character_info(
  "data/characters/ed.csv",
  "Ed",
  "img/ed.png",
  "#51bcd0"
)
```

```
## [1] "Median: -2.00  |  Mean: -2.43  |  Standard deviation: 13.20"
```

```
## [1] "Median: 80.00  |  Mean: 84.00  |  Standard deviation: 57.21"
```
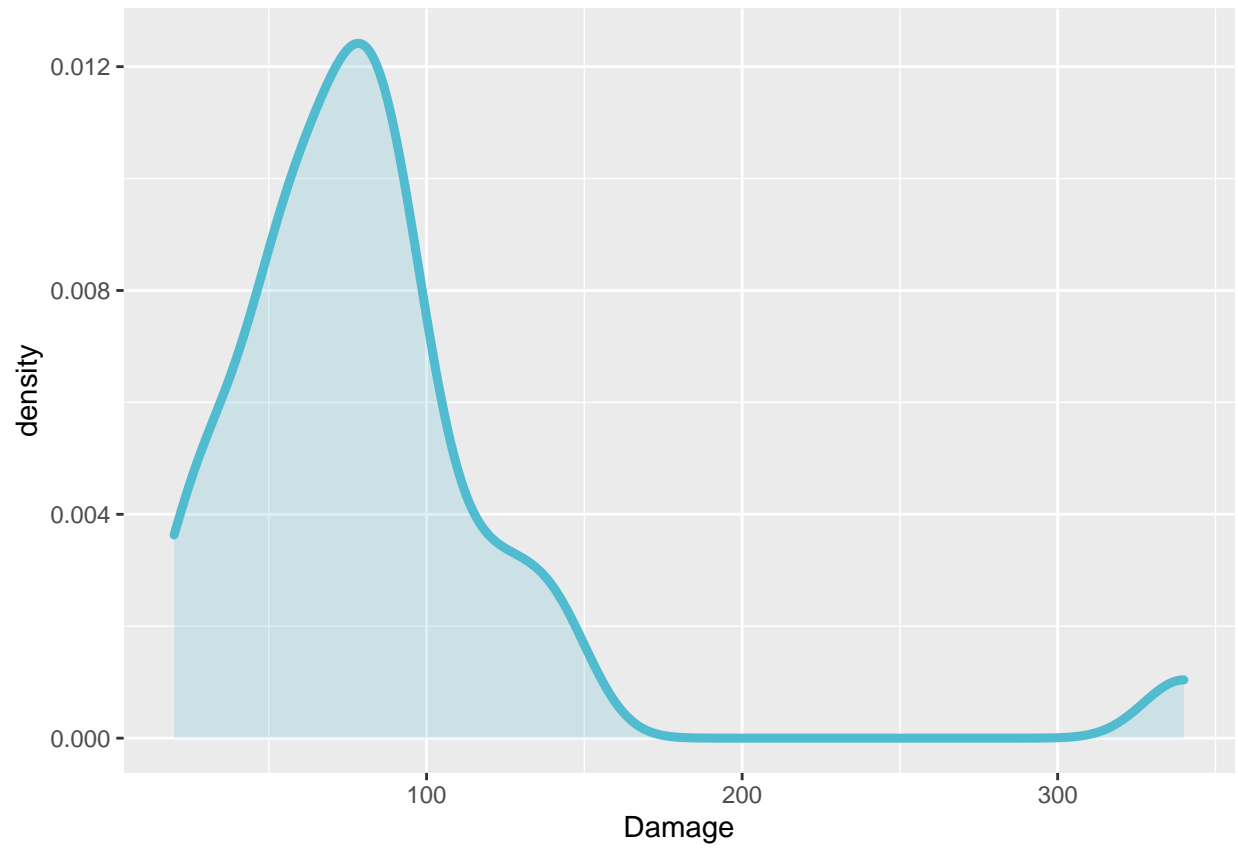
```
## [1] "Median: 100.00  |  Mean: 109.83  |  Standard deviation: 52.83"
```
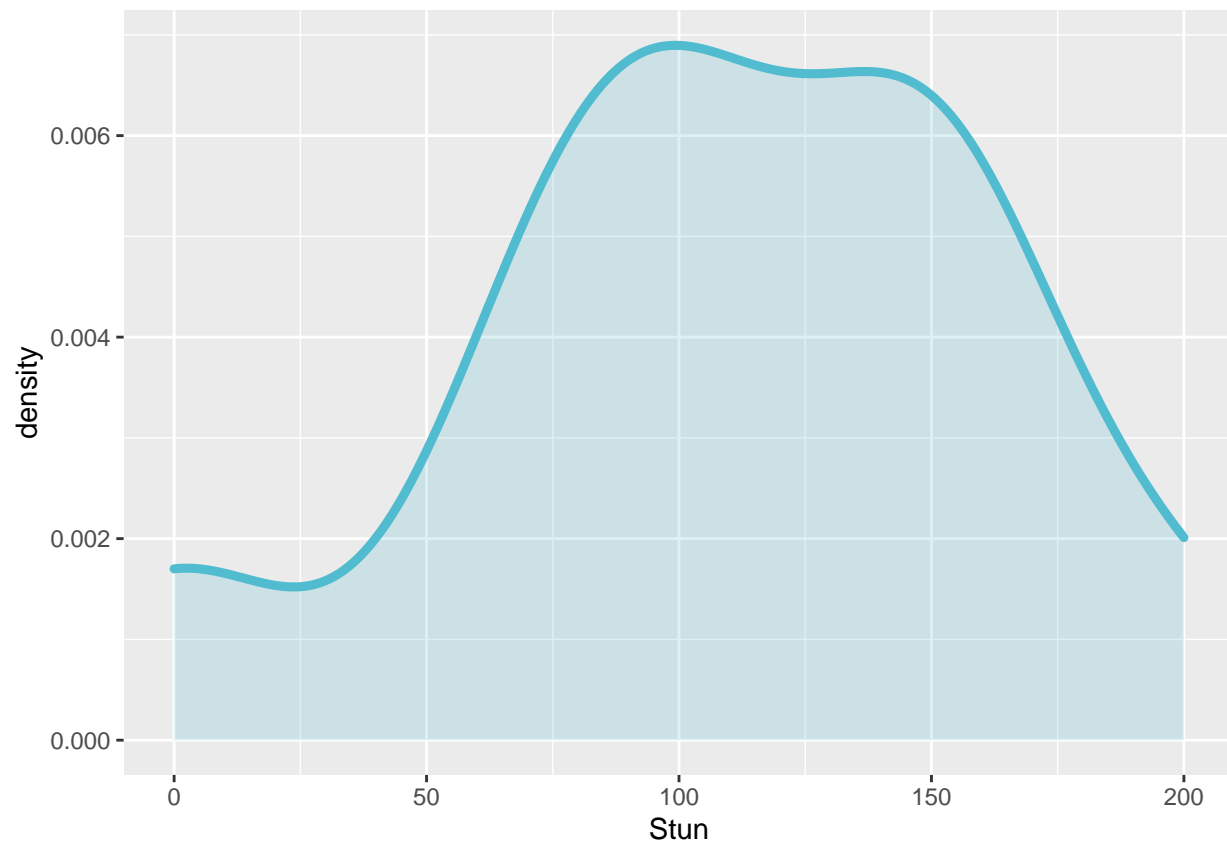
```
##                    Move onBlock    plnCmd airmove followUp projectile moveType
## 1            Stand LP      3          LP   False    False      False   normal
## 2            Stand MP      3          MP   False    False      False   normal
## 3            Stand HP     -2          HP   False    False      False   normal
## 4 Stand HP (release)     -2 HP (release)  False    False      False   normal
## 5            Stand LK      1          LK   False    False      False   normal
## 6            Stand MK      2          MK   False    False      False   normal
##   Damage Stun
## 1     30   70
## 2     60  100
## 3     90  150
## 4     90  150
## 5     30   70
## 6     70  100
##                  1
## health    1025.000
## stun      1050.000
## vgauge1    600.000
## vgauge2    900.000
## fDash       16.000
## bDash       23.000
## fWalk        0.047
## bWalk        0.034
## throwHurt    0.250
## throwRange   0.800
```

```
character_info(
  "data/characters/f_a_n_g.csv",
  "F.A.N.G",
  "img/f_a_n_g.png",
  "#3040a0"
)
```

[1] "Median: -2.00 | Mean: -3.50 | Standard deviation: 11.15"

[1] "Median: 60.00 | Mean: 61.83 | Standard deviation: 26.08"

```
## [1] "Median: 100.00   |   Mean: 123.63   |   Standard deviation: 48.46"
```
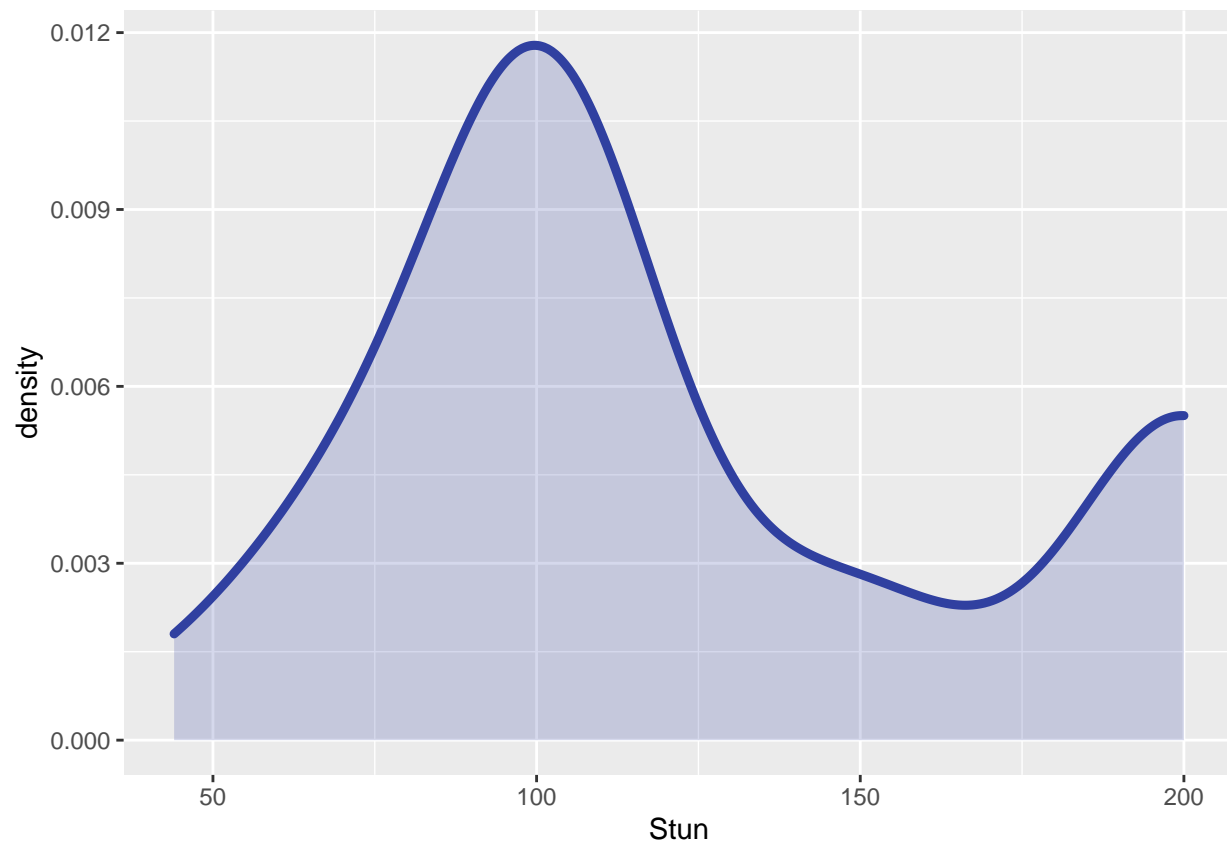
```
##        Move onBlock plnCmd airmove followUp projectile moveType Damage Stun
## 1 Stand LP       2     LP   False    False      False   normal     30   70
## 2 Stand MP      -3     MP   False    False      False   normal     60  100
## 3 Stand HP      -2     HP   False    False      False   normal     90  150
## 4 Stand LK       3     LK   False    False      False   normal     40   70
## 5 Stand MK       1     MK   False    False      False   normal     60  100
## 6 Stand HK       1     HK   False    False      False   normal    115  115
##                   1
## health      975.000
## stun       1000.000
## vgauge1     600.000
## vgauge2     900.000
## fDash        20.000
## bDash        24.000
## fWalk         0.032
## bWalk         0.028
## throwHurt     0.250
## throwRange    0.850
```

```
character_info(
  "data/characters/falke.csv",
  "Falke",
  "img/falke.png",
  "#191b44"
)
```

```
## [1] "Median: -3.00  |  Mean: -6.71  |  Standard deviation: 14.28"
```
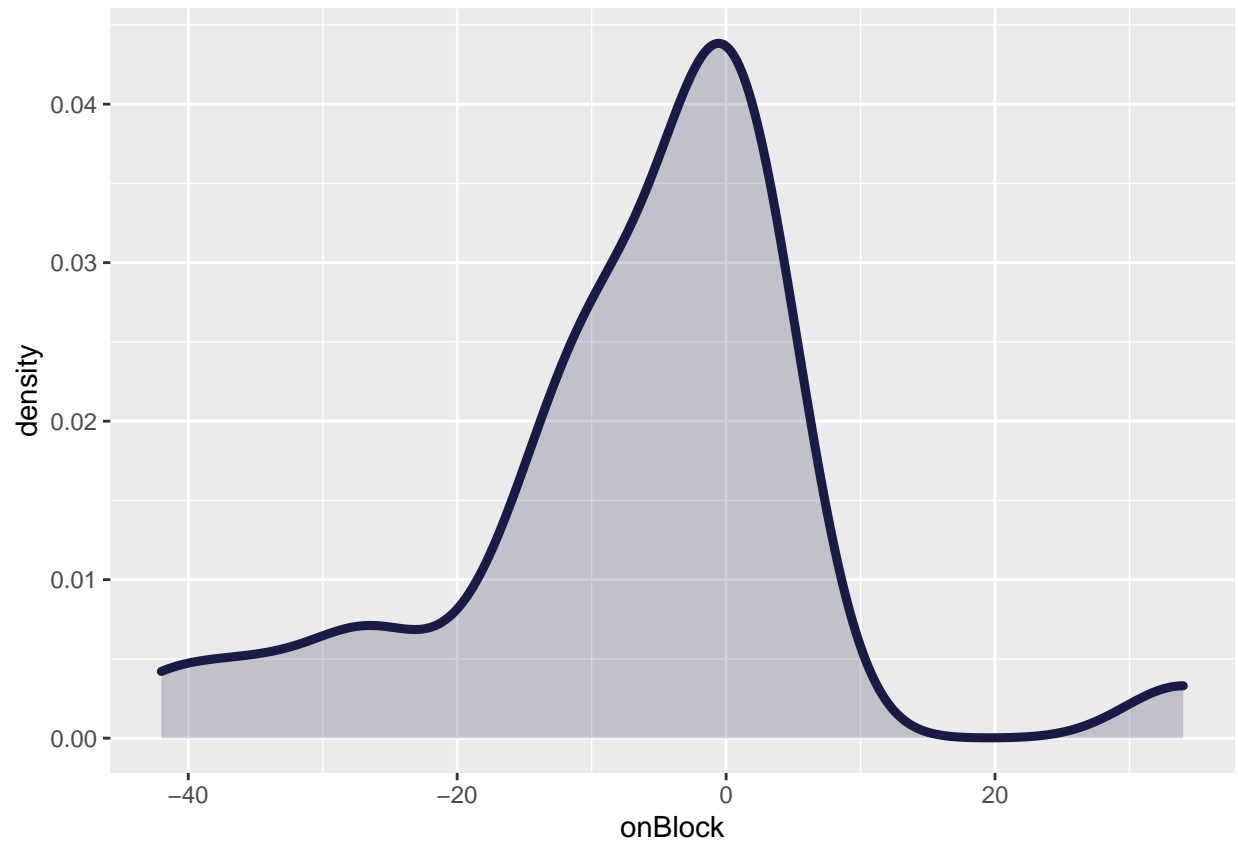
```
## [1] "Median: 70.00  |  Mean: 84.14  |  Standard deviation: 59.35"
```
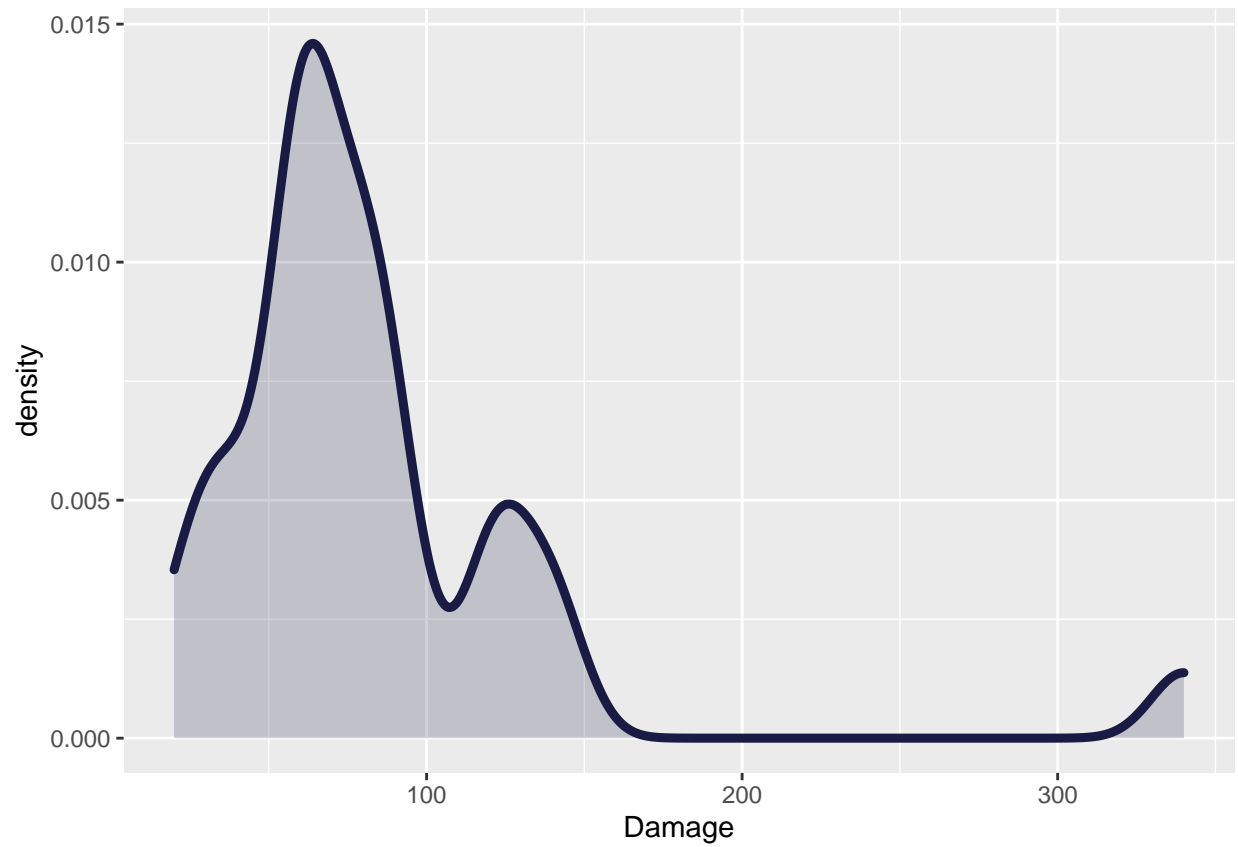
```
## [1] "Median: 110.00  |  Mean: 118.93  |  Standard deviation: 51.88"
```
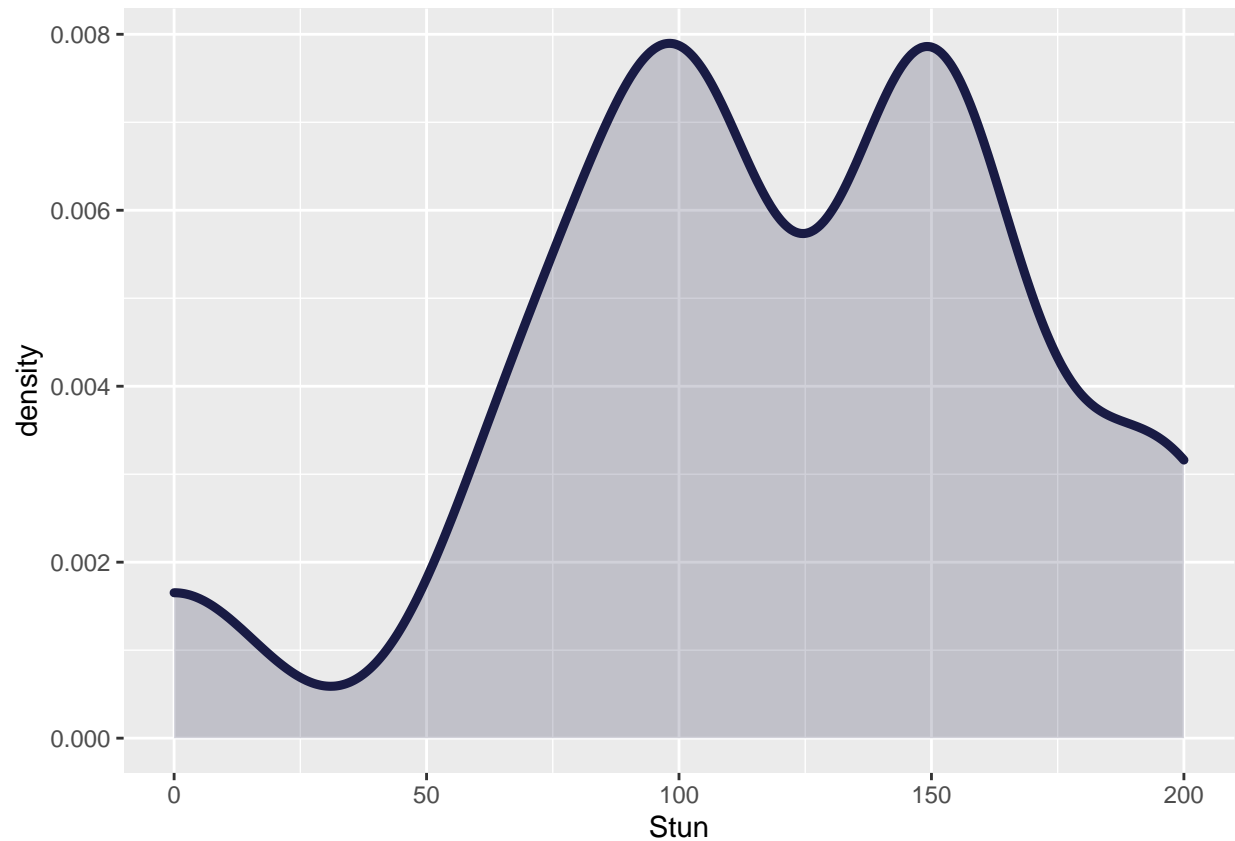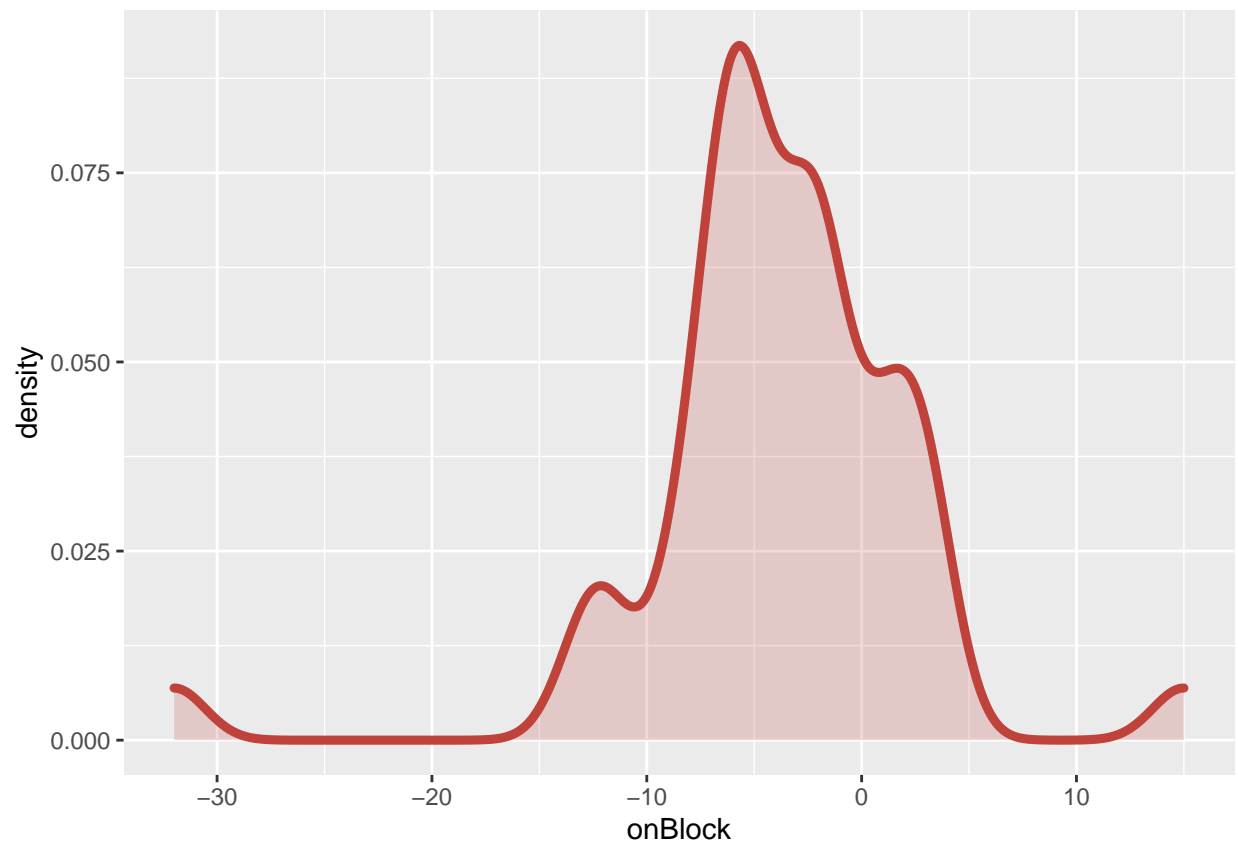
```
##        Move onBlock plnCmd airmove followUp projectile moveType Damage Stun
## 1 Stand LP       2     LP   False    False      False   normal     30   70
## 2 Stand MP       3     MP   False    False      False   normal     60  100
## 3 Stand HP      -3     HP   False    False      False   normal     80  150
## 4 Stand LK       3     LK   False    False      False   normal     40   70
## 5 Stand MK      -2     MK   False    False      False   normal     60  100
## 6 Stand HK      -4     HK   False    False      False   normal     80  150
##                  1
## health     975.00
## stun      1000.00
## vgauge1    600.00
## vgauge2    600.00
## fDash       20.00
## bDash       25.00
## fWalk        0.04
## bWalk        0.03
## throwHurt    0.25
## throwRange   0.85
```

```r
character_info(
  "data/characters/g.csv",
  "G",
  "img/g.png",
  "#3d453a"
)
```

```
## [1] "Median: -4.50  |  Mean: -4.86  |  Standard deviation: 4.72"
```
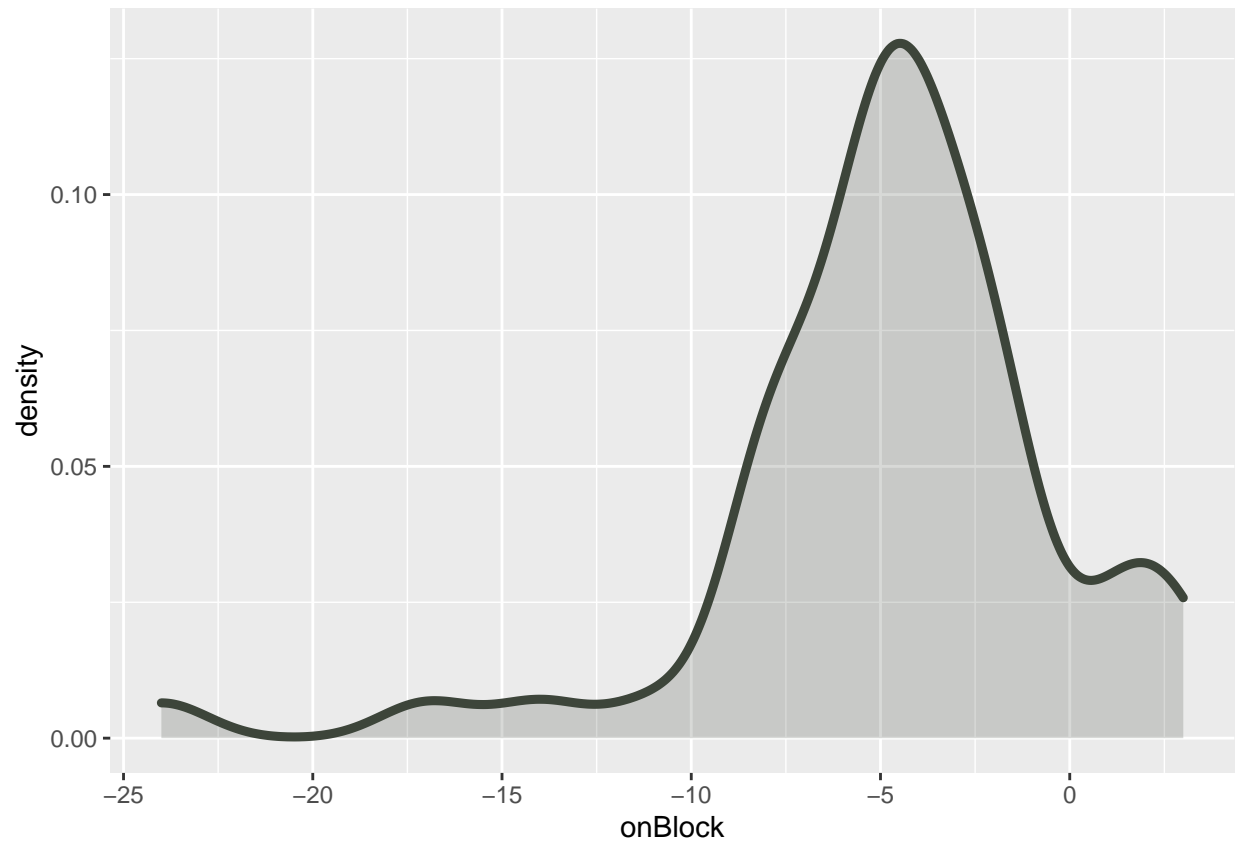
```
## [1] "Median: 80.00  |  Mean: 83.80  |  Standard deviation: 43.70"
```
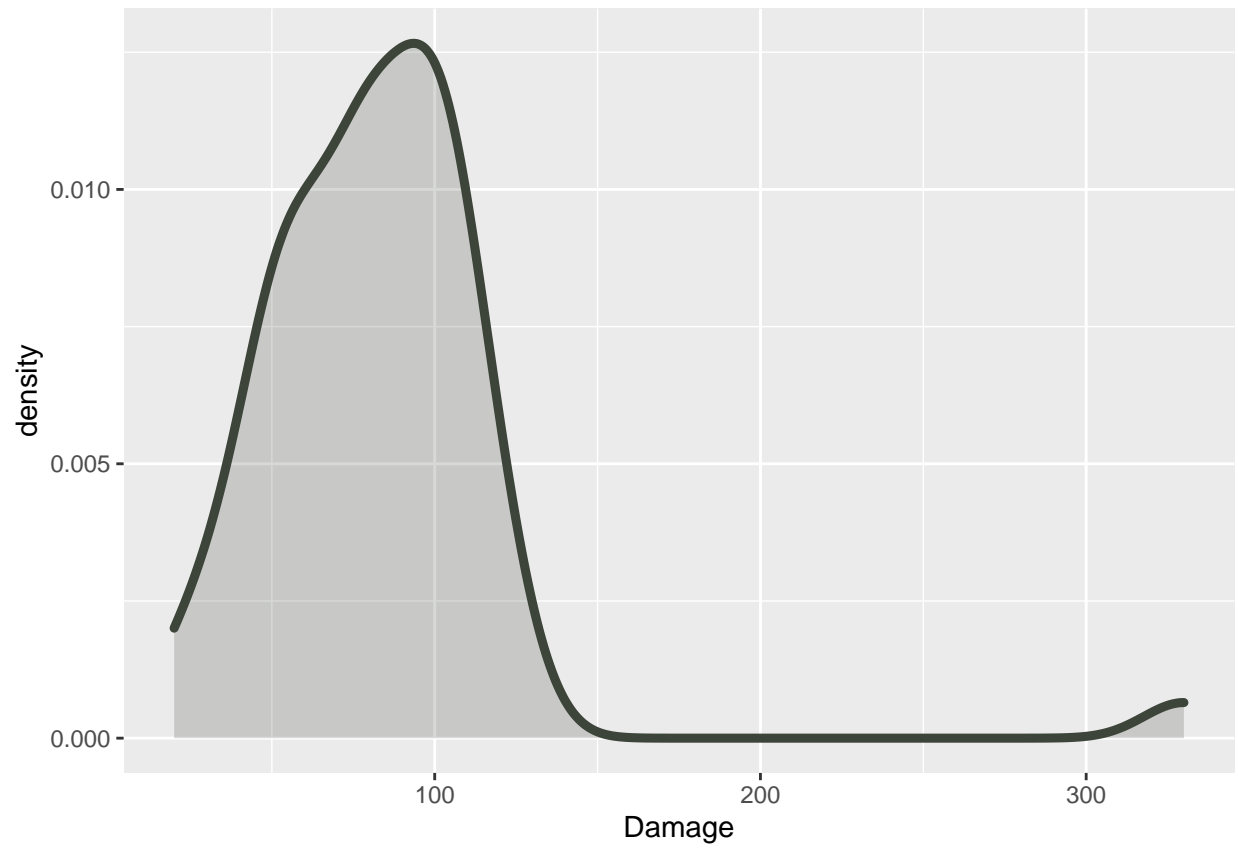
[1] "Median: 100.00 | Mean: 114.60 | Standard deviation: 35.70"
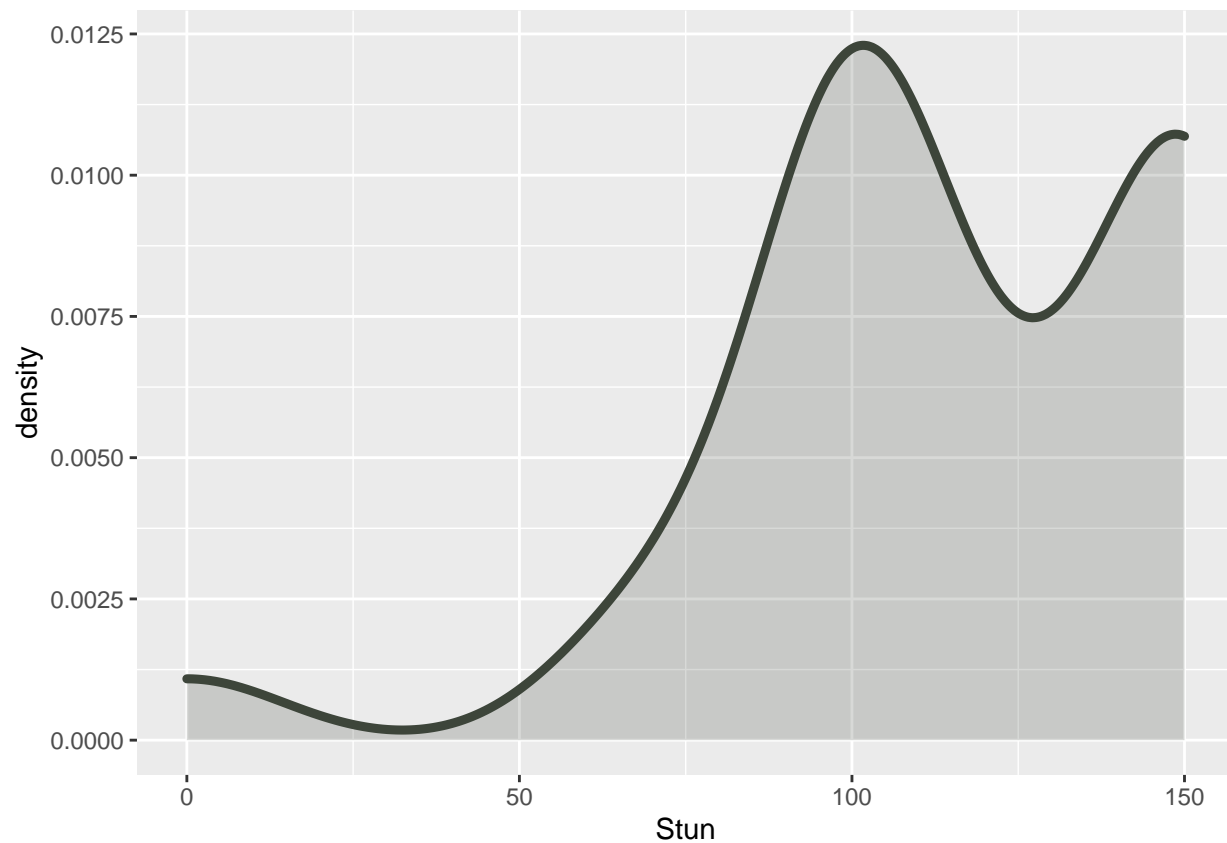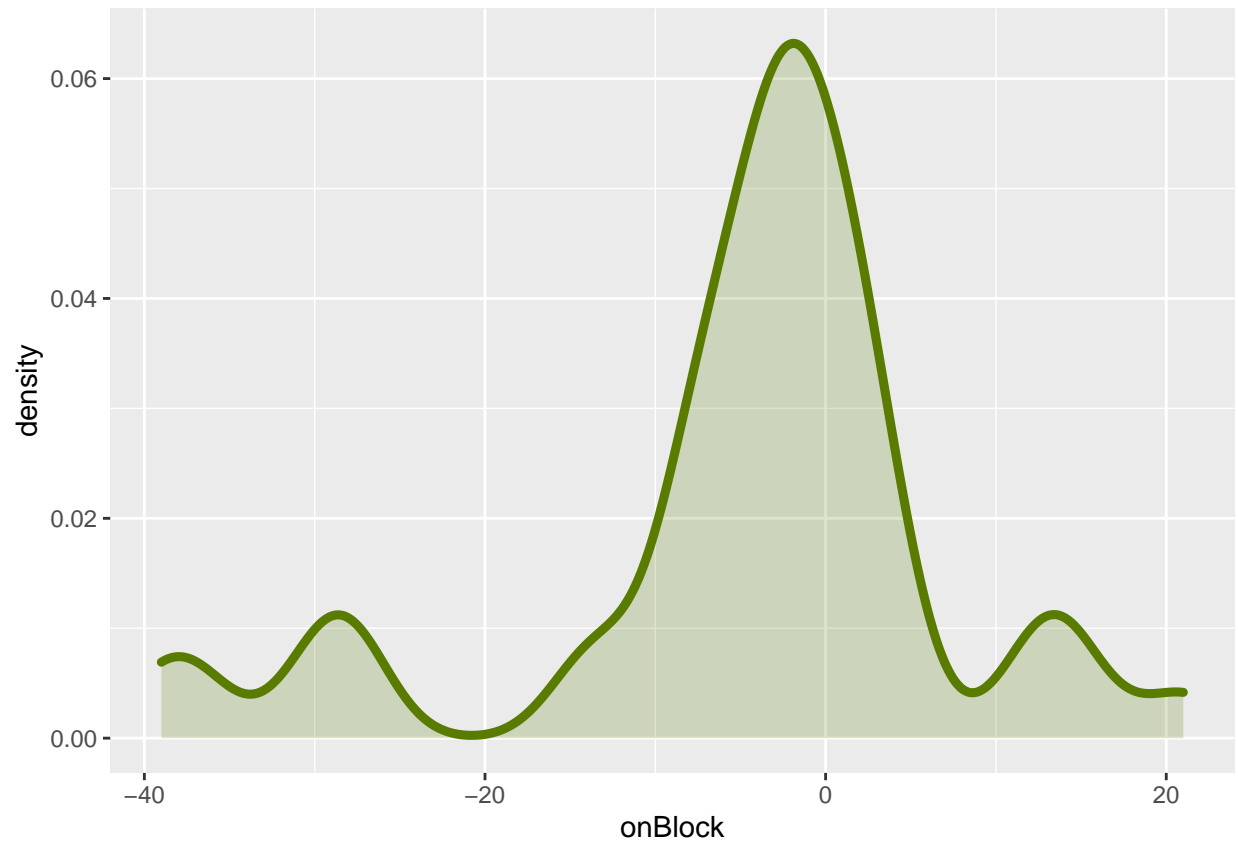
```
##         Move onBlock plnCmd airmove followUp projectile moveType Damage Stun
## 1 Stand LP       3     LP   False    False       False   normal     30   70
## 2 Stand MP       3     MP   False    False       False   normal     60  100
## 3 Stand HP      -3     HP   False    False       False   normal     80  150
## 4 Stand LK       1     LK   False    False       False   normal     40   70
## 5 Stand MK      -2     MK   False    False       False   normal     60  100
## 6 Stand HK      -5     HK   False    False       False   normal     80  100
##                  1
## health    1025.0000
## stun      1050.0000
## vgauge1    900.0000
## vgauge2    600.0000
## fDash       19.0000
## bDash       25.0000
## fWalk        0.0377
## bWalk        0.0300
## throwHurt    0.2500
## throwRange   0.8500
```

```r
character_info(
  "data/characters/gill.csv",
  "Gill",
  "img/gill.png",
  "#bf423b"
)
```

```
## [1] "Median: -4.00  |  Mean: -4.00  |  Standard deviation: 6.82"
```

```
## [1] "Median: 70.00  |  Mean: 78.47  |  Standard deviation: 48.58"
```
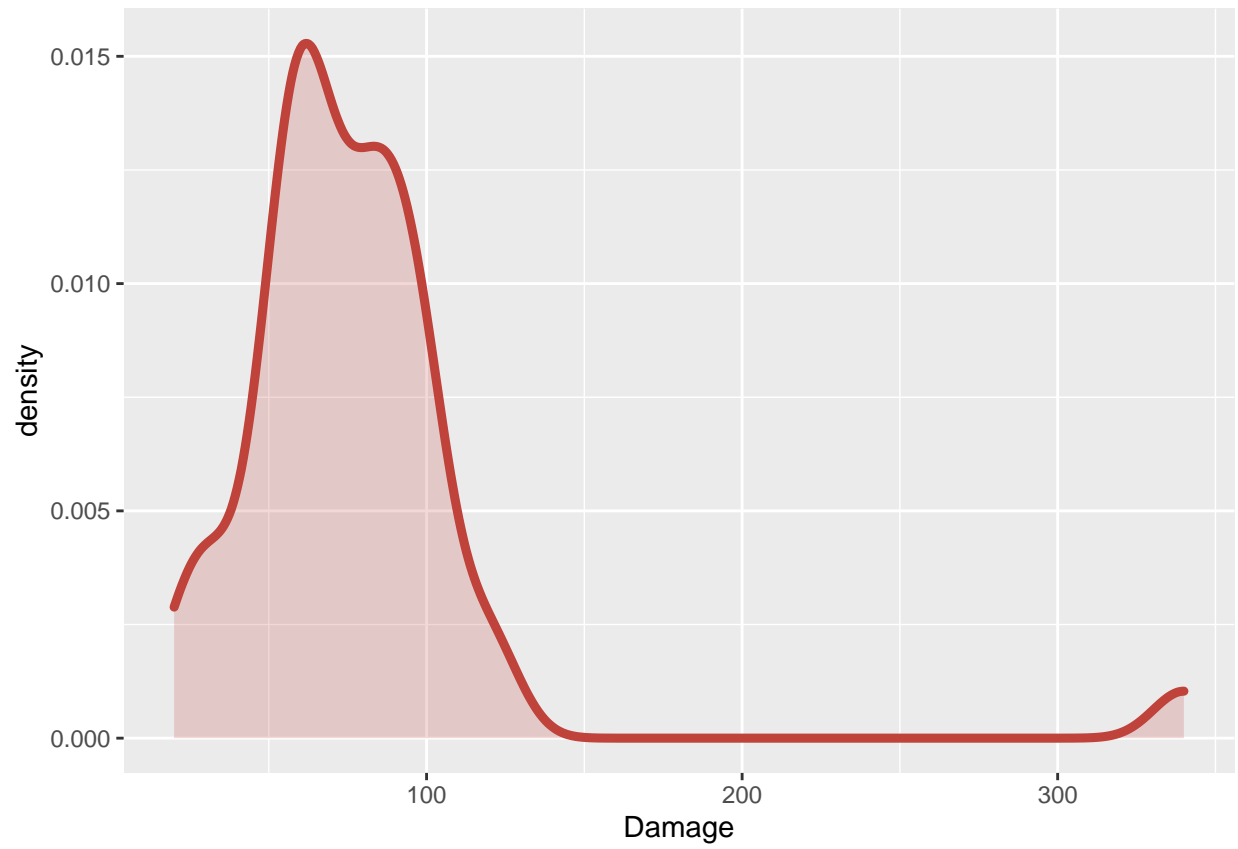
```
## [1] "Median: 120.00  |  Mean: 108.00  |  Standard deviation: 38.91"
```
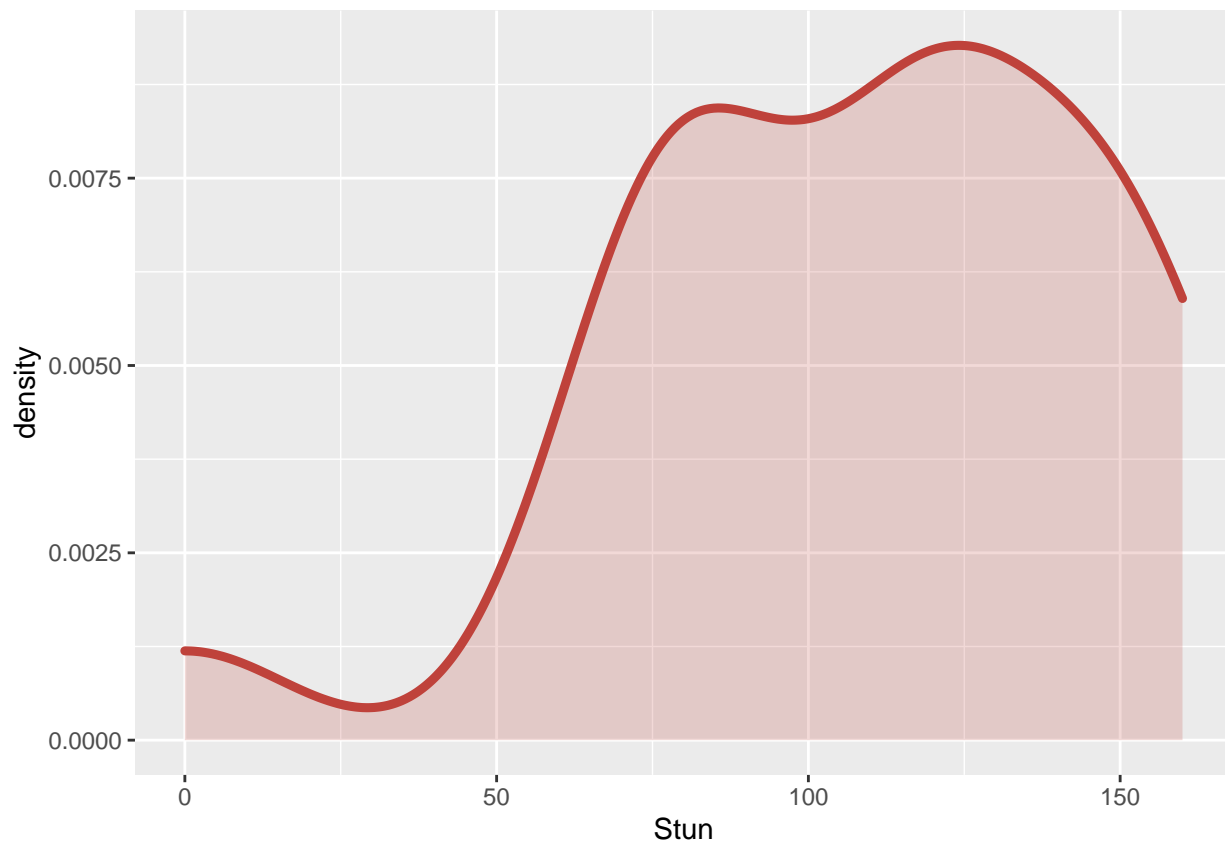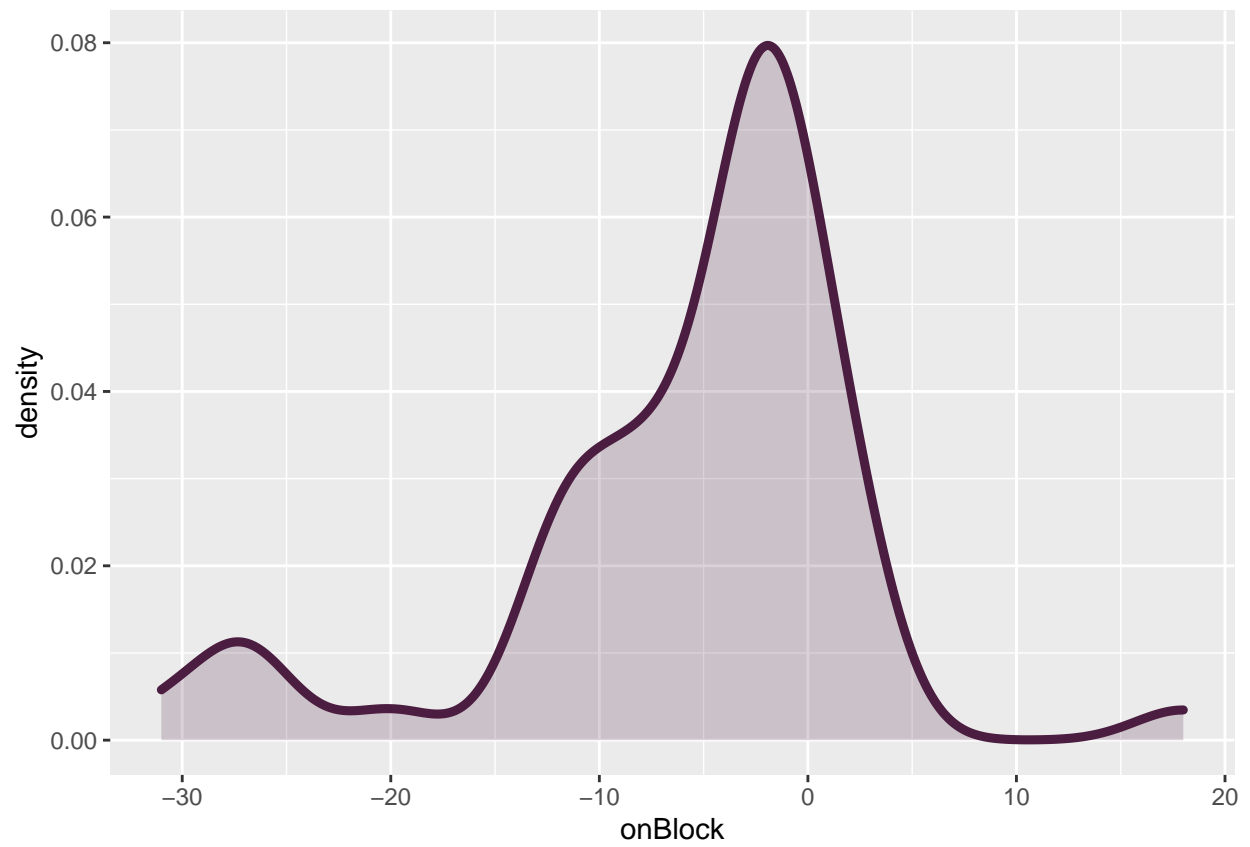
```
##         Move onBlock plnCmd airmove followUp projectile moveType Damage Stun
## 1 Stand LP       2     LP   False    False      False   normal     30   70
## 2 Stand MP       3     MP   False    False      False   normal     60  100
## 3 Stand HP      -2     HP   False    False      False   normal     90  120
## 4 Stand LK       3     LK   False    False      False   normal     30   70
## 5 Stand MK      -4     MK   False    False      False   normal     70  100
## 6 Stand HK      -4     HK   False    False      False   normal     80  150
##                    1
## health    1025.0000
## stun      1050.0000
## vgauge1    600.0000
## vgauge2    600.0000
## fDash       16.0000
## bDash       25.0000
## fWalk        0.0412
## bWalk        0.0273
## throwHurt    0.2500
## throwRange   0.8500
```

```
character_info(
  "data/characters/guile.csv",
  "Guile",
  "img/guile.png",
  "#597c00"
)
```
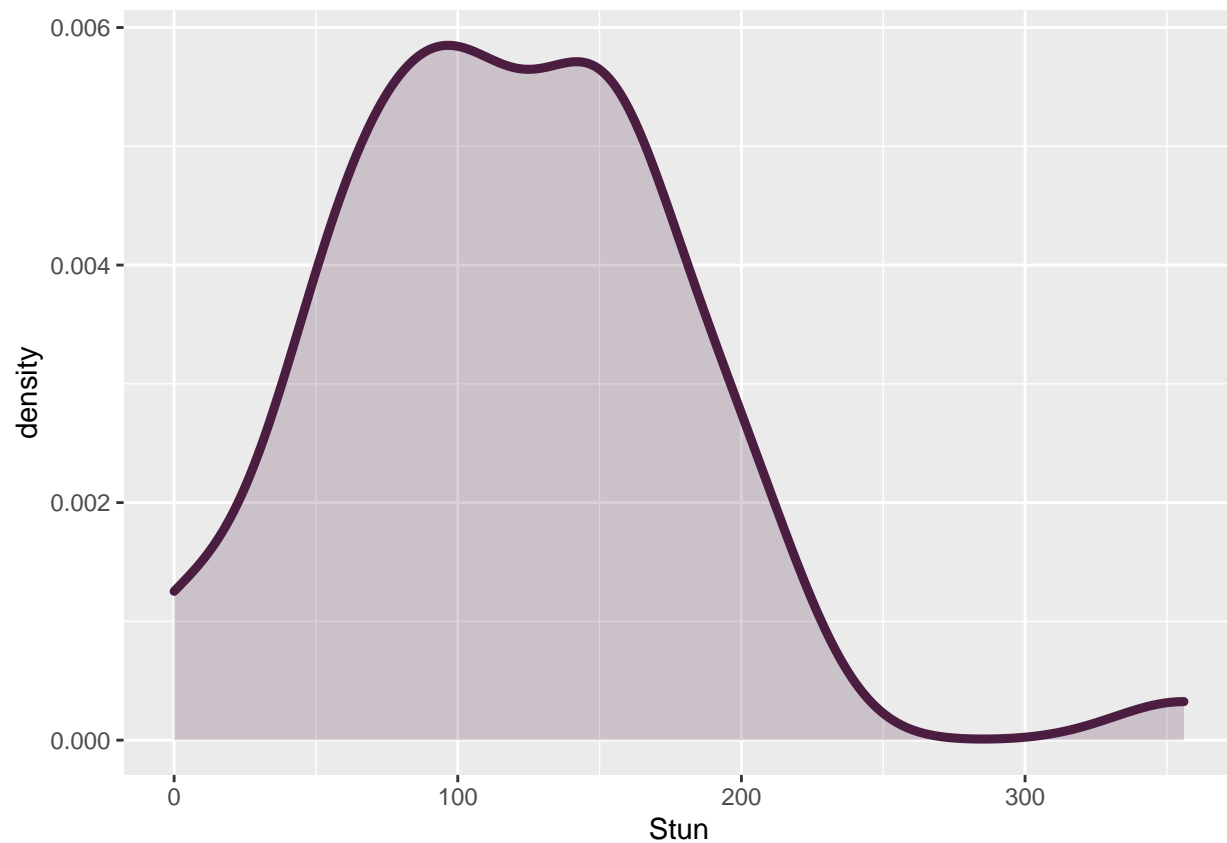
```
## [1] "Median: -3.00  |  Mean: -4.83  |  Standard deviation: 12.68"
```

```
## [1] "Median: 77.50  |  Mean: 80.80  |  Standard deviation: 48.49"
```
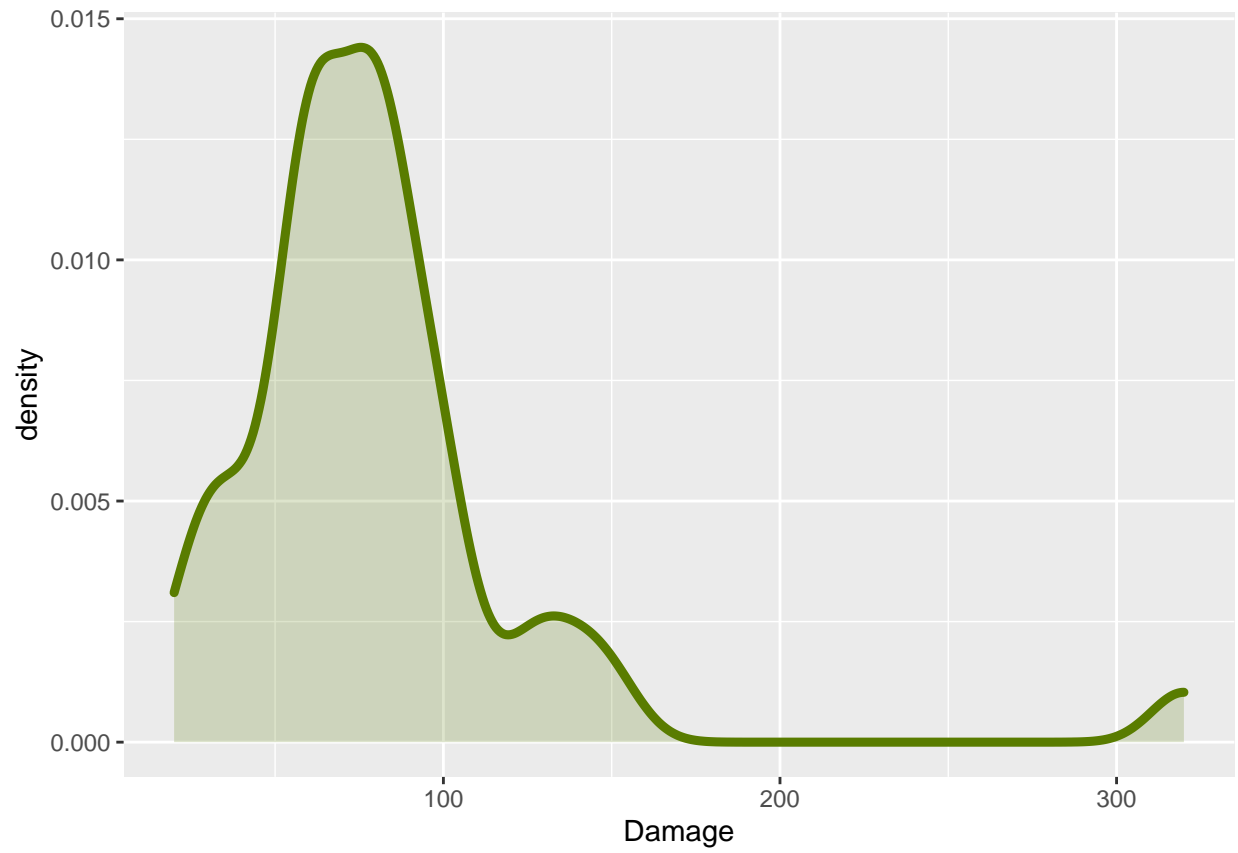
```
## [1] "Median: 100.00  |  Mean: 116.80  |  Standard deviation: 60.22"
```
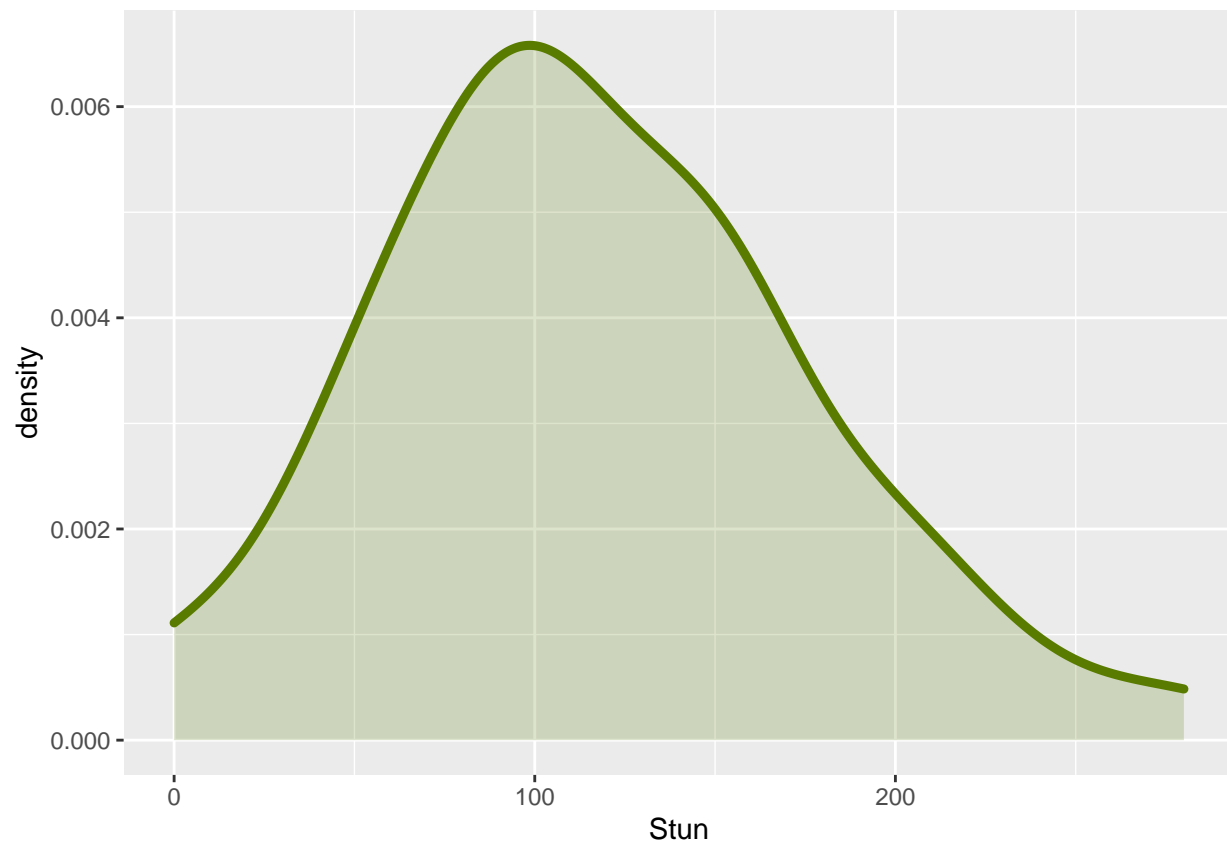
```
##          Move onBlock plnCmd airmove followUp projectile moveType Damage Stun
## 1 Stand LP        3     LP   False    False      False   normal     30   70
## 2 Stand MP        3     MP   False    False      False   normal     60  100
## 3 Stand HP       -4     HP   False    False      False   normal     80  150
## 4 Stand LK        2     LK   False    False      False   normal     30   70
## 5 Stand MK       -1     MK   False    False      False   normal     70  100
## 6 Stand HK       -3     HK   False    False      False   normal     80  150
##                  1
## health     975.000
## stun       975.000
## vgauge1    900.000
## vgauge2    600.000
## fDash       18.000
## bDash       25.000
## fWalk        0.052
## bWalk        0.033
## throwHurt    0.250
## throwRange   0.800
```

```
character_info(
  "data/characters/ibuki.csv",
  "Ibuki",
  "img/ibuki.png",
  "#4b1d40"
)
```

```
## [1] "Median: -3.00  |  Mean: -5.80  |  Standard deviation: 8.71"
```

```
## [1] "Median: 80.00  |  Mean: 85.78  |  Standard deviation: 52.49"
```
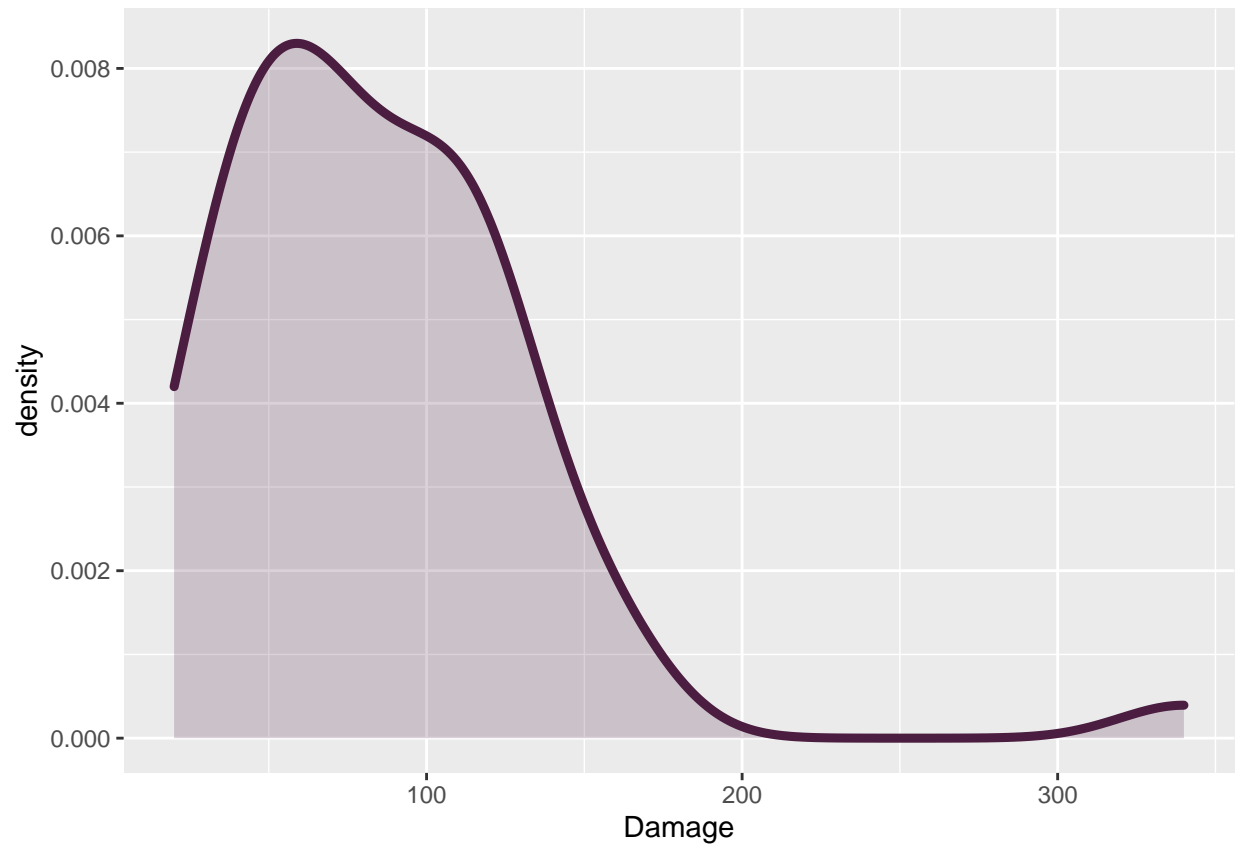
```
## [1] "Median: 107.50  |  Mean: 117.62  |  Standard deviation: 63.97"
```

```
##        Move onBlock plnCmd airmove followUp projectile moveType Damage Stun
## 1 Stand LP       1     LP   False    False      False   normal     30   70
## 2 Stand MP       2     MP   False    False      False   normal     60  100
## 3 Stand HP      -5     HP   False    False      False   normal     80  150
## 4 Stand LK      -2     LK   False    False      False   normal     30   70
## 5 Stand MK       2     MK   False    False      False   normal     60  100
## 6 Stand HK      -2     HK   False    False      False   normal     90  150
##                  1
## health     925.000
## stun       950.000
## vgauge1    900.000
## vgauge2    600.000
## fDash       16.000
## bDash       21.000
## fWalk        0.052
## bWalk        0.034
## throwHurt    0.250
## throwRange   0.800
```

```
character_info(
  "data/characters/juri.csv",
  "Juri",
  "img/juri.png",
  "#983190"
)
```

```
## [1] "Median: -5.00  |  Mean: -7.41  |  Standard deviation: 9.18"
```
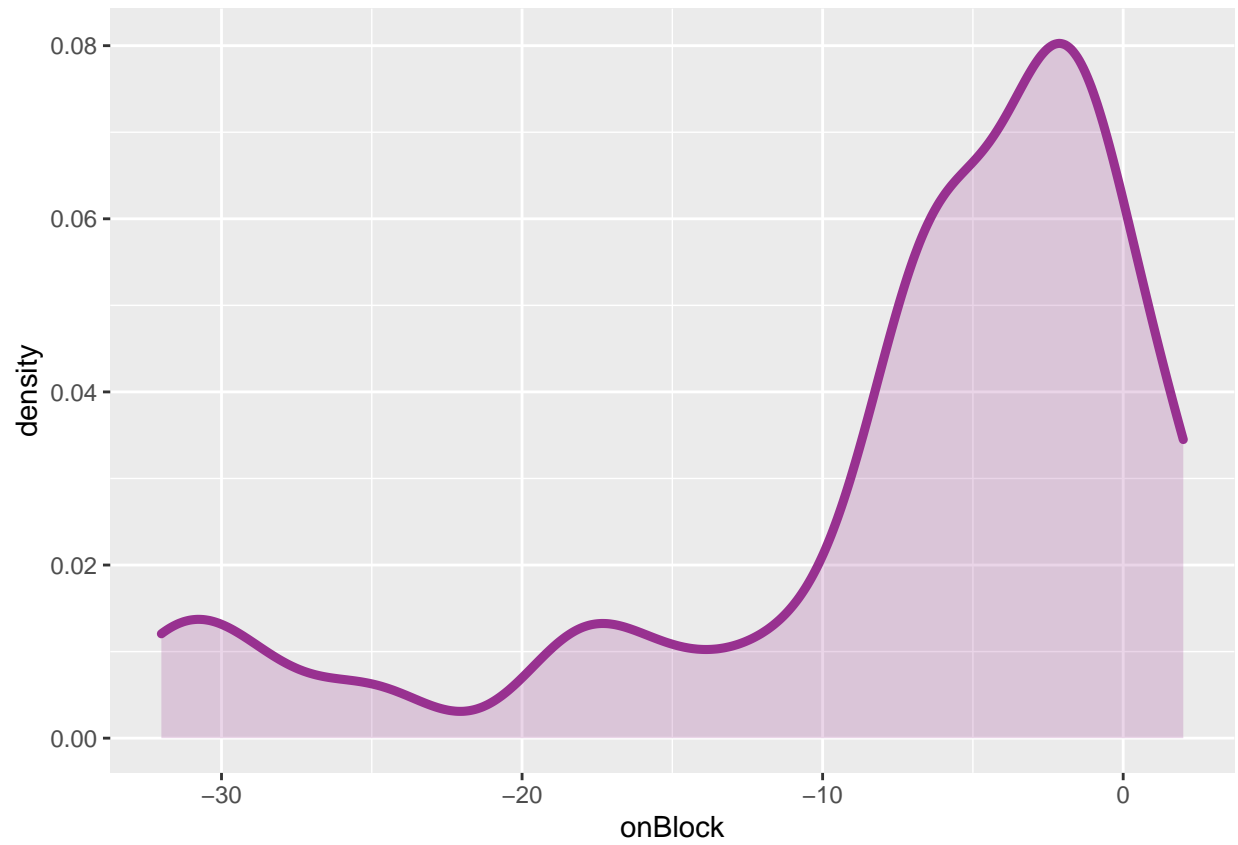
```
## [1] "Median: 80.00  |  Mean: 80.16  |  Standard deviation: 52.33"
```
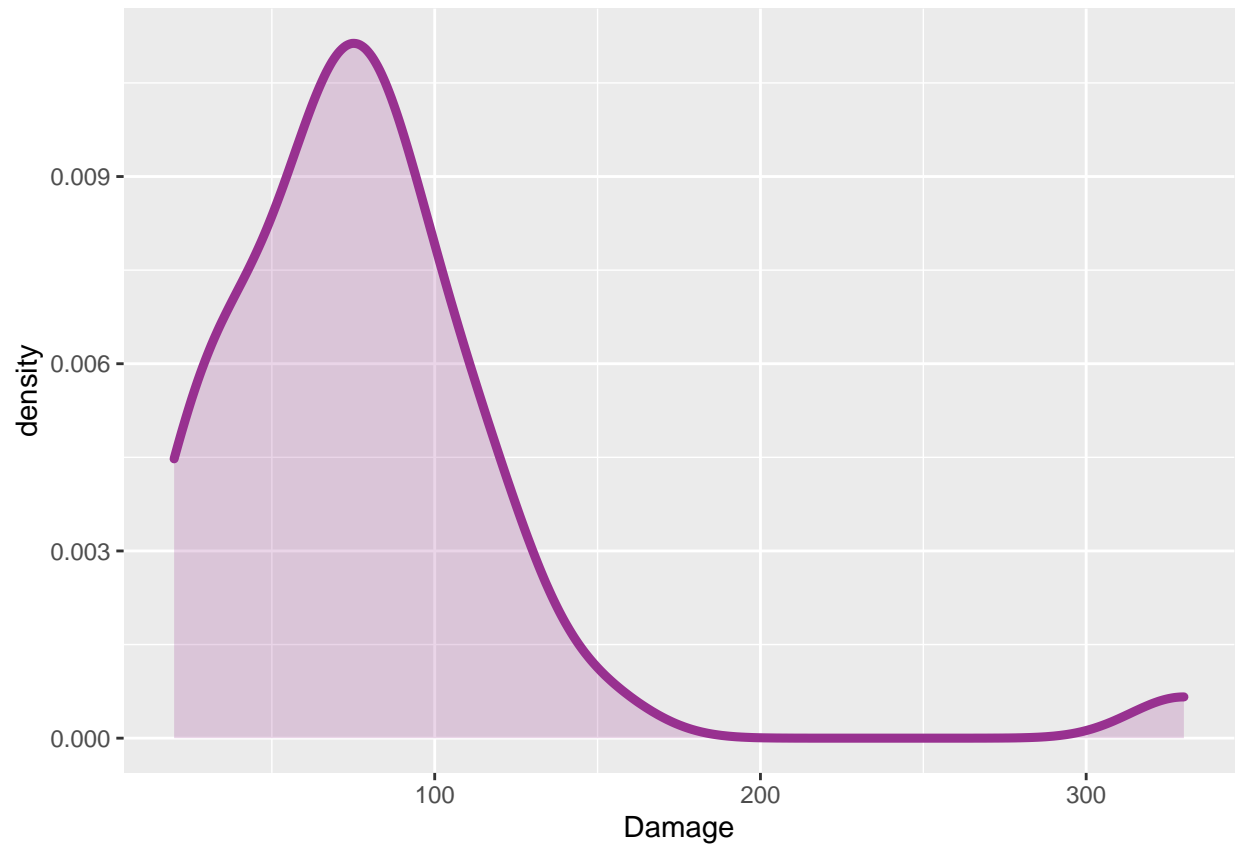
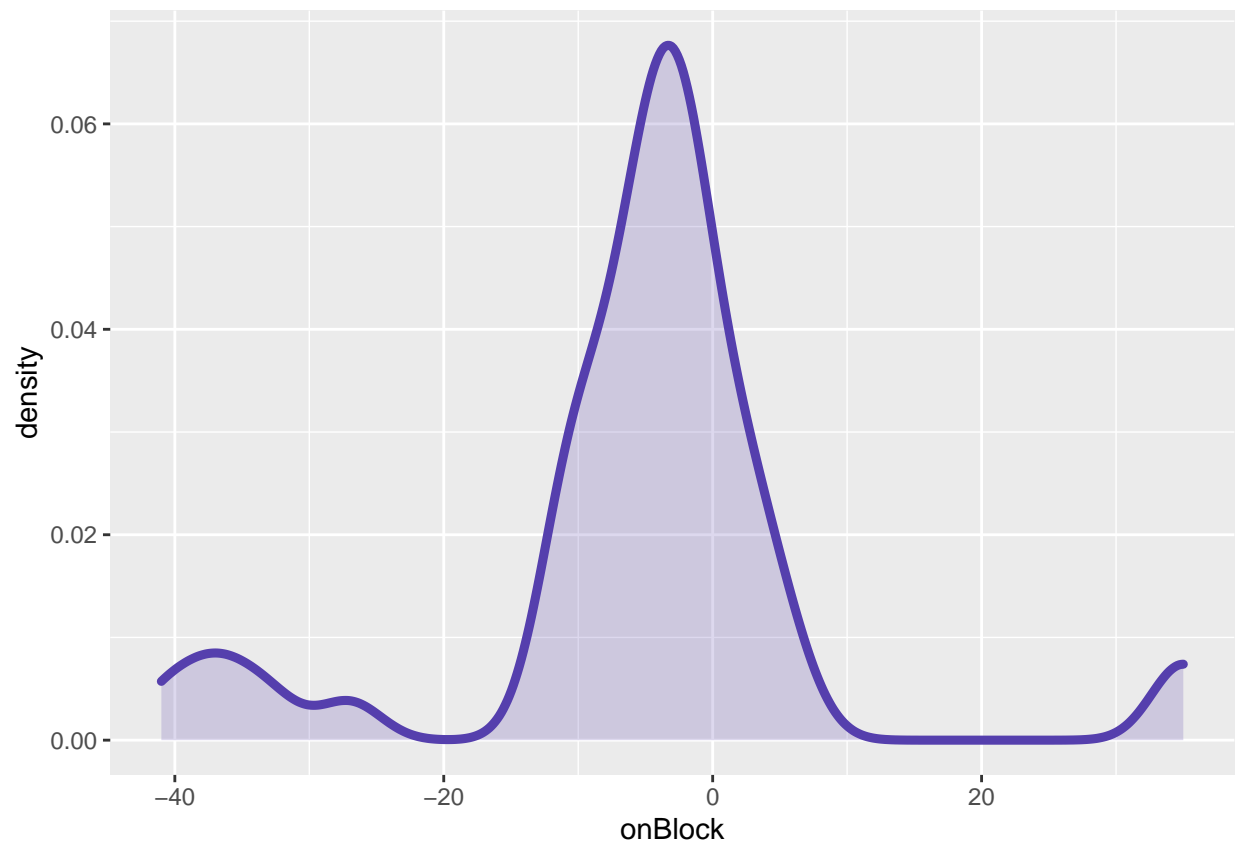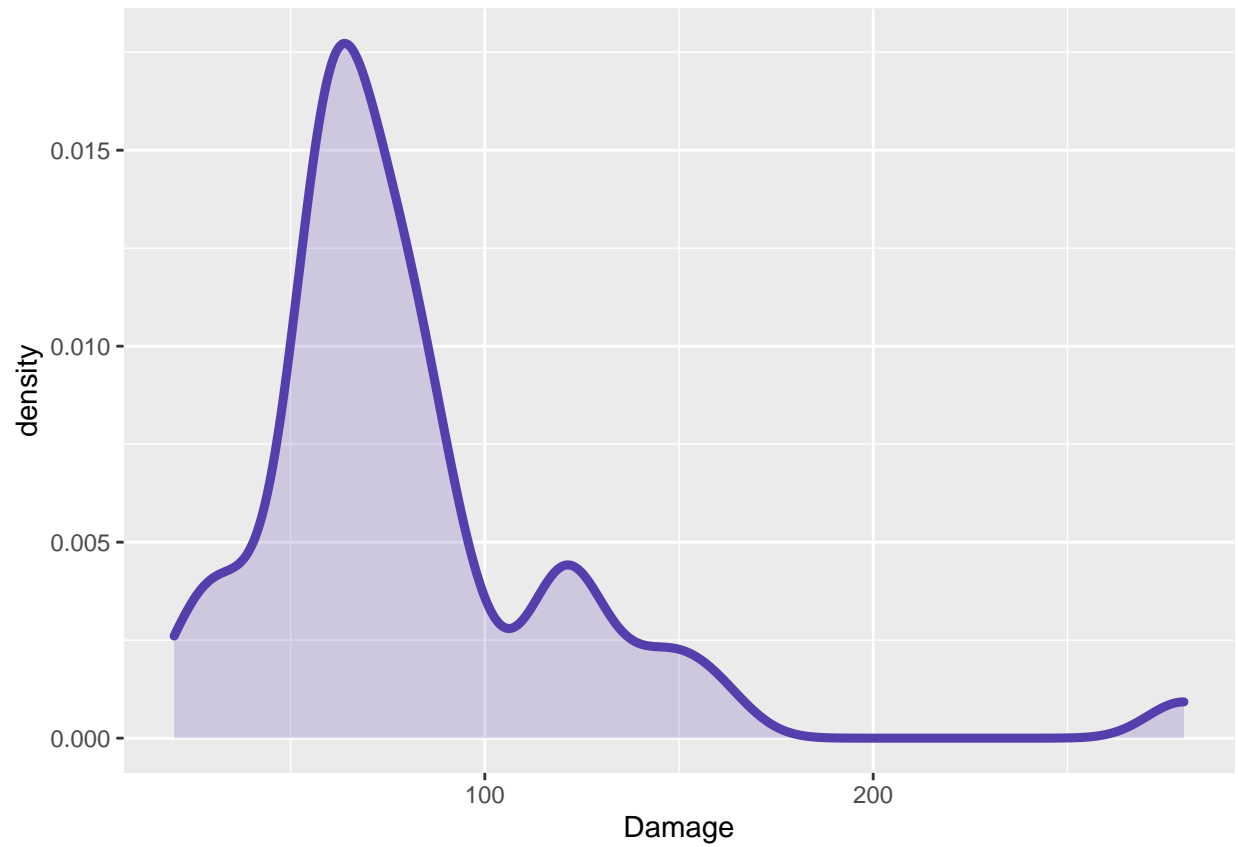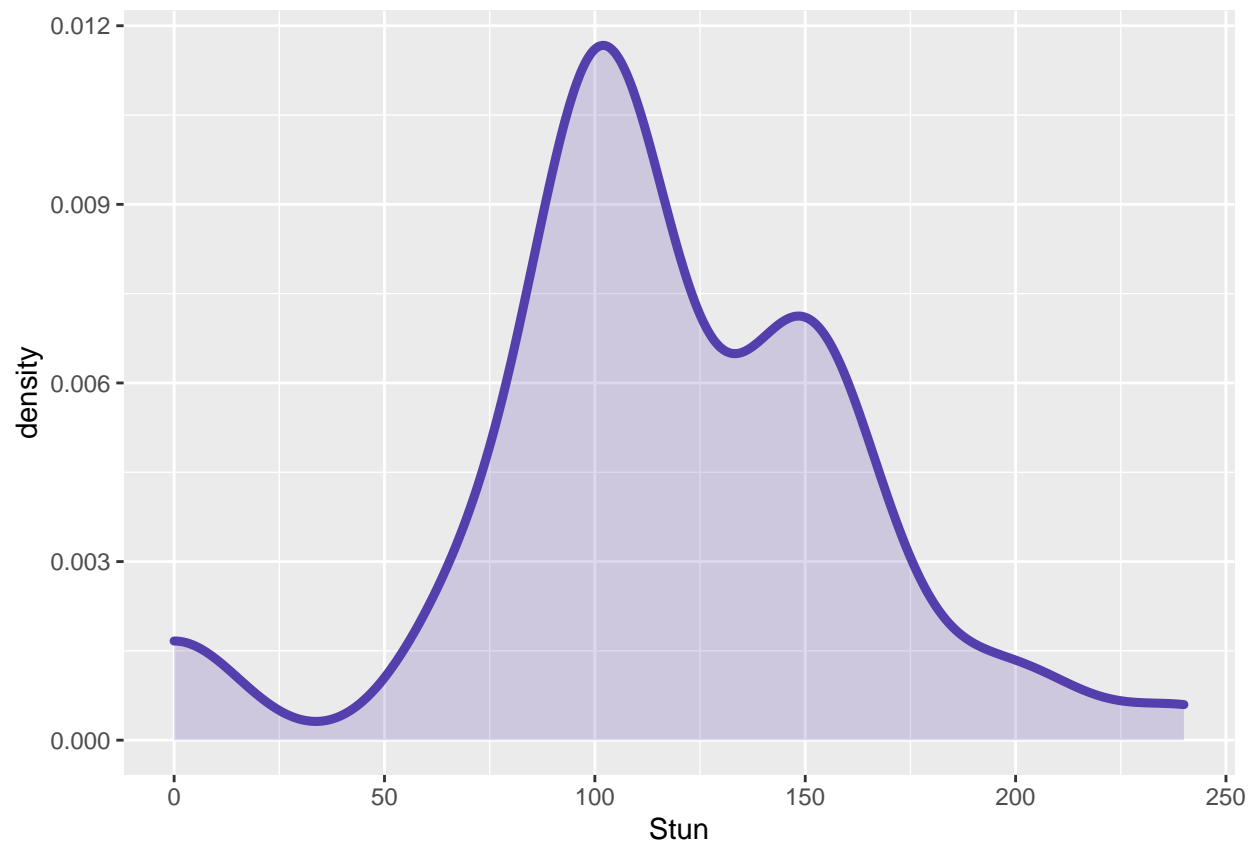## [1] "Median: 150.00 | Mean: 117.57 | Standard deviation: 56.19"
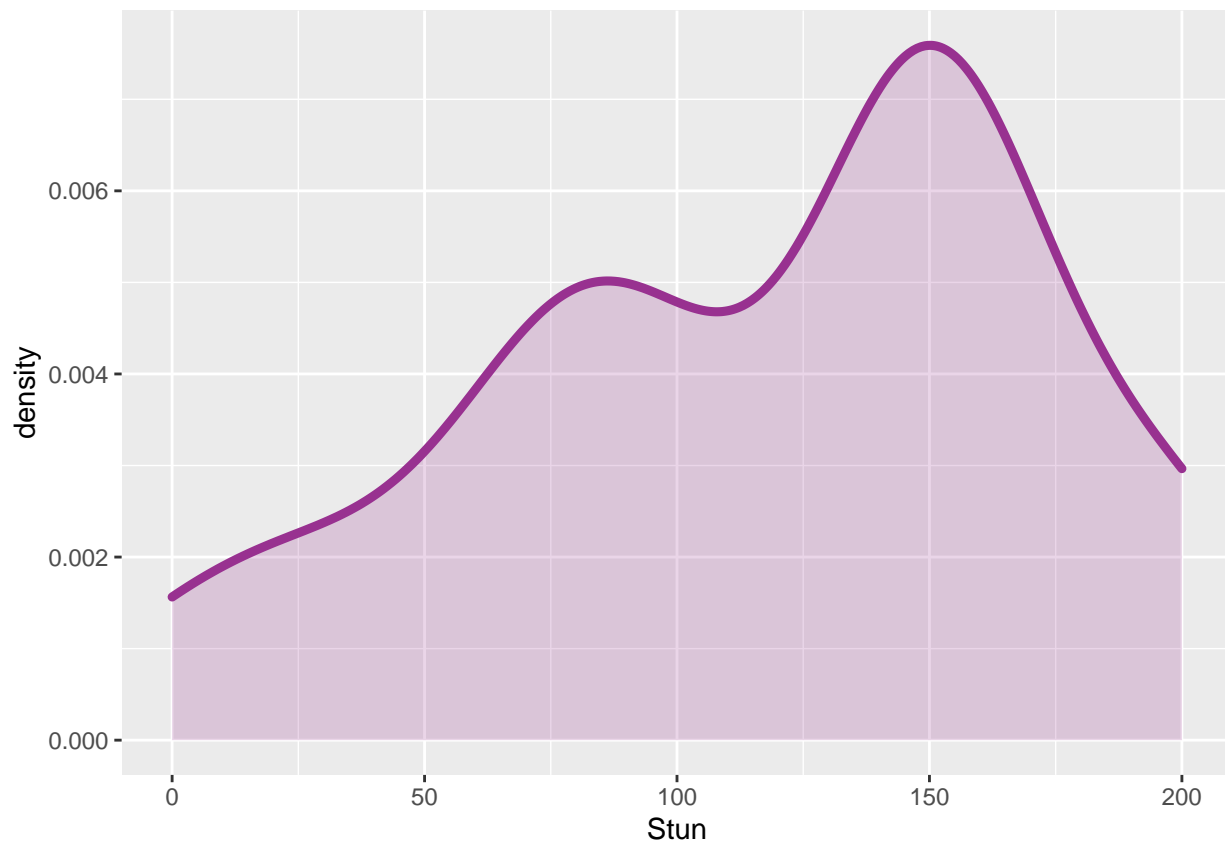
```
##          Move onBlock plnCmd airmove followUp projectile moveType Damage Stun
## 1 Stand LP        2     LP   False    False       False   normal     30   70
## 2 Stand MP       -1     MP   False    False       False   normal     60  100
## 3 Stand HP       -6     HP   False    False       False   normal     80  150
## 4 Stand LK        1     LK   False    False       False   normal     30   70
## 5 Stand MK       -7     MK   False    False       False   normal     70  100
## 6 Stand HK       -7     HK   False    False       False   normal     80  150
##                       1
## health      975.000
## stun       1000.000
## vgauge1     600.000
## vgauge2     600.000
## fDash        16.000
## bDash        24.000
## fWalk         0.050
## bWalk         0.033
## throwHurt     0.250
## throwRange    0.800
```

```r
character_info(
  "data/characters/kage.csv",
  "Kage",
  "img/kage.png",
  "#553fad"
)
```

```
## [1] "Median: -4.00  |  Mean: -5.35  |  Standard deviation: 13.89"
```

```
## [1] "Median: 70.00  |  Mean: 80.93  |  Standard deviation: 43.49"
```

```
## [1] "Median: 100.00  |  Mean: 115.43  |  Standard deviation: 47.50"
```
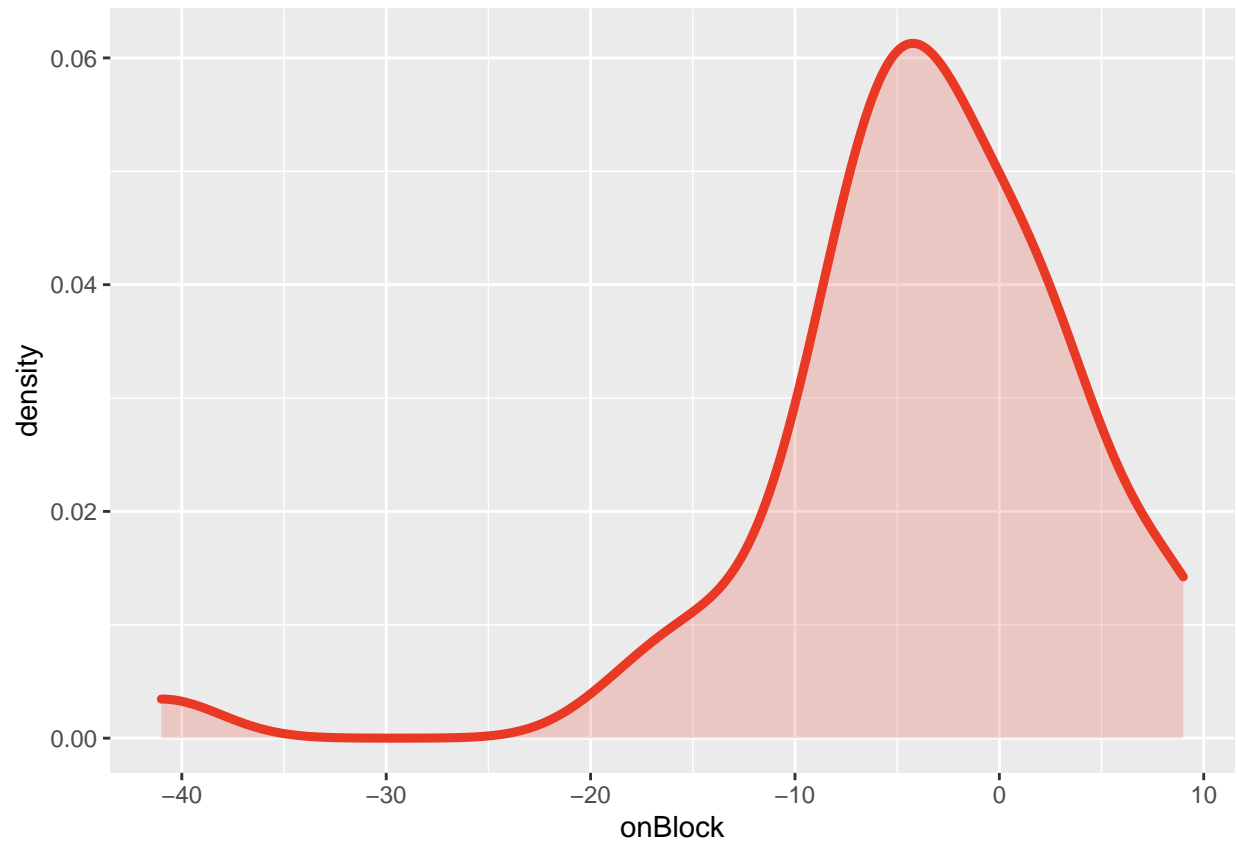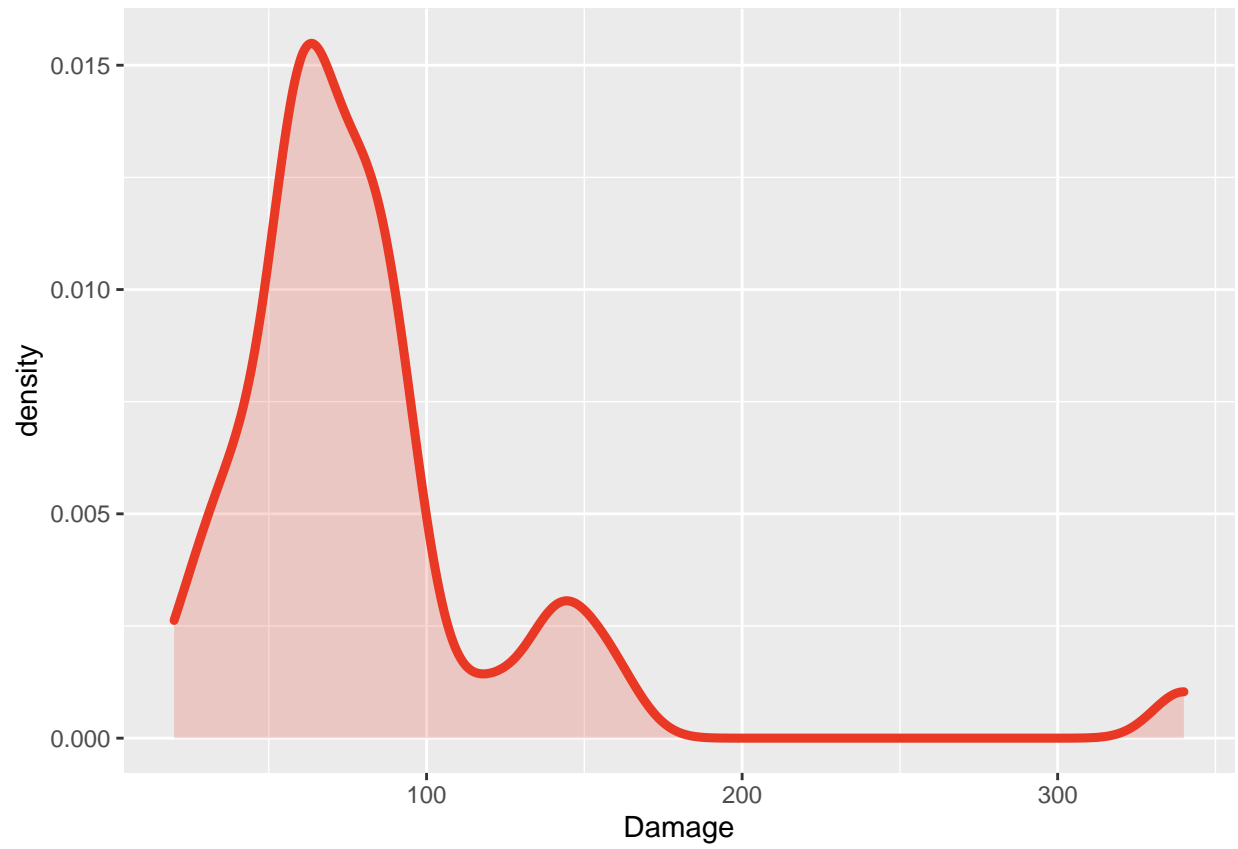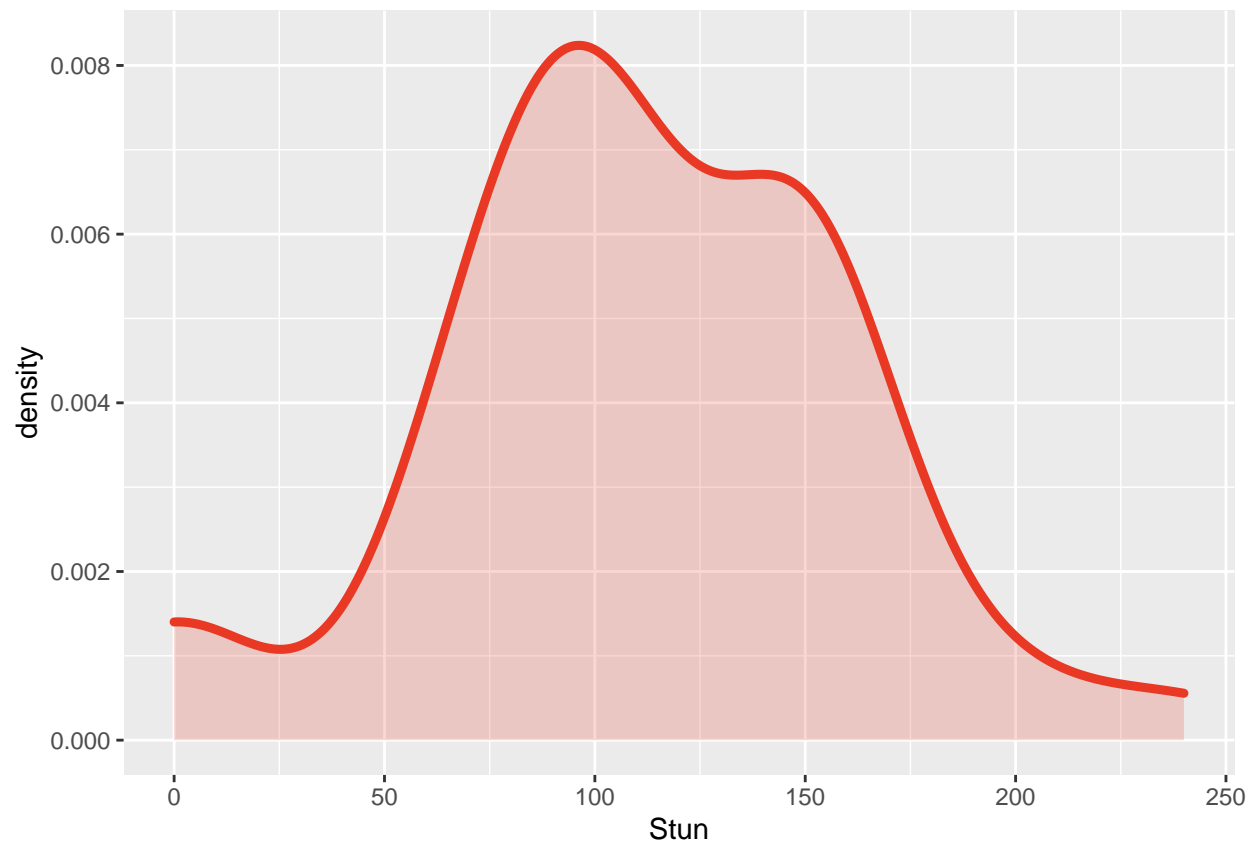
```
##         Move onBlock plnCmd airmove followUp projectile moveType Damage Stun
## 1 Stand LP       3     LP   False    False      False   normal     30   70
## 2 Stand MP      -1     MP   False    False      False   normal     60  100
## 3 Stand HP      -5     HP   False    False      False   normal     80  120
## 4 Stand LK       1     LK   False    False      False   normal     30   70
## 5 Stand MK      -3     MK   False    False      False   normal     70  100
## 6 Stand HK      -2     HK   False    False      False   normal     80  150
##                  1
## health      925.000
## stun        950.000
## vgauge1     600.000
## vgauge2     900.000
## fDash        16.000
## bDash        21.000
## fWalk         0.052
## bWalk         0.035
## throwHurt     0.250
## throwRange    0.800
```

```r
character_info(
  "data/characters/karin.csv",
  "Karin",
  "img/karin.png",
  "#e93824"
)
```

```
## [1] "Median: -4.00  |  Mean: -3.92  |  Standard deviation: 8.59"
```

```
## [1] "Median: 70.00  |  Mean: 81.50  |  Standard deviation: 52.65"
```

```
## [1] "Median: 100.00  |  Mean: 111.00  |  Standard deviation: 50.17"
```
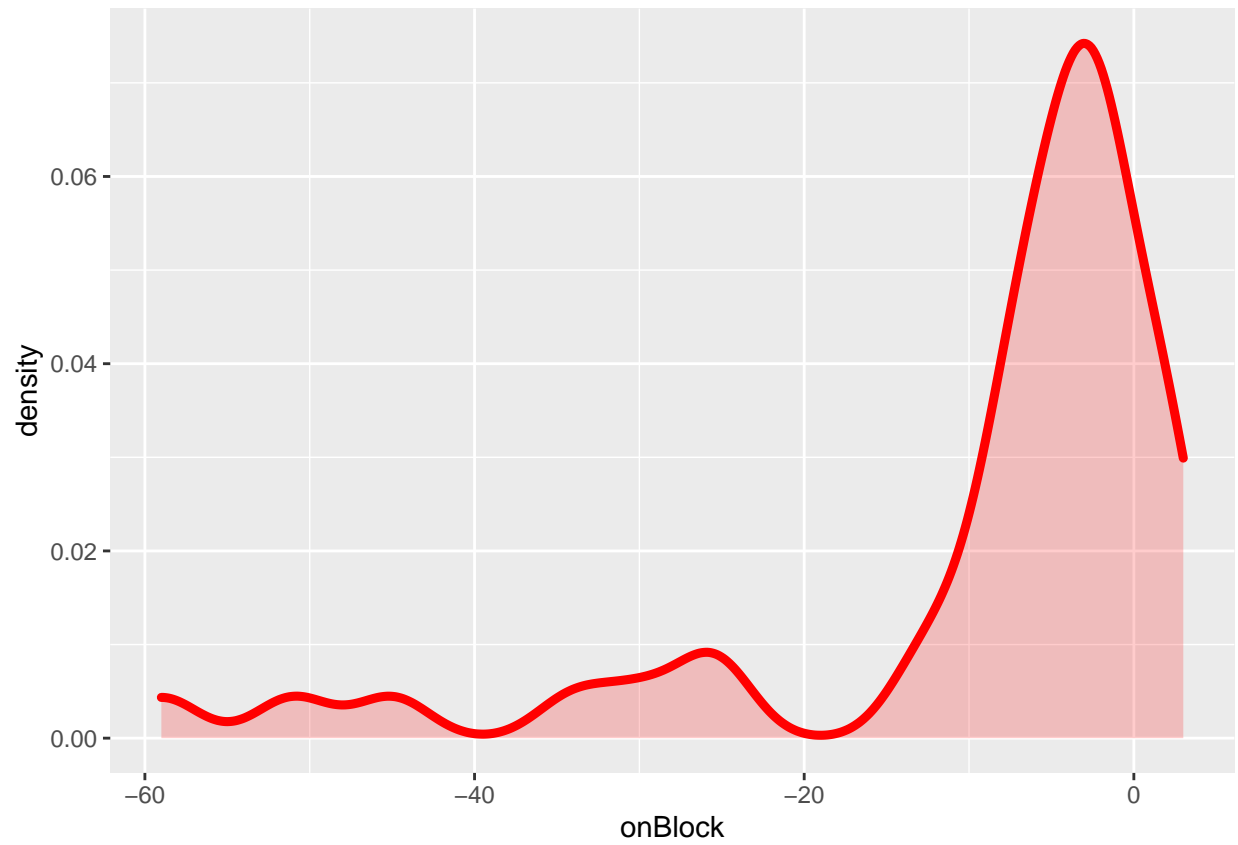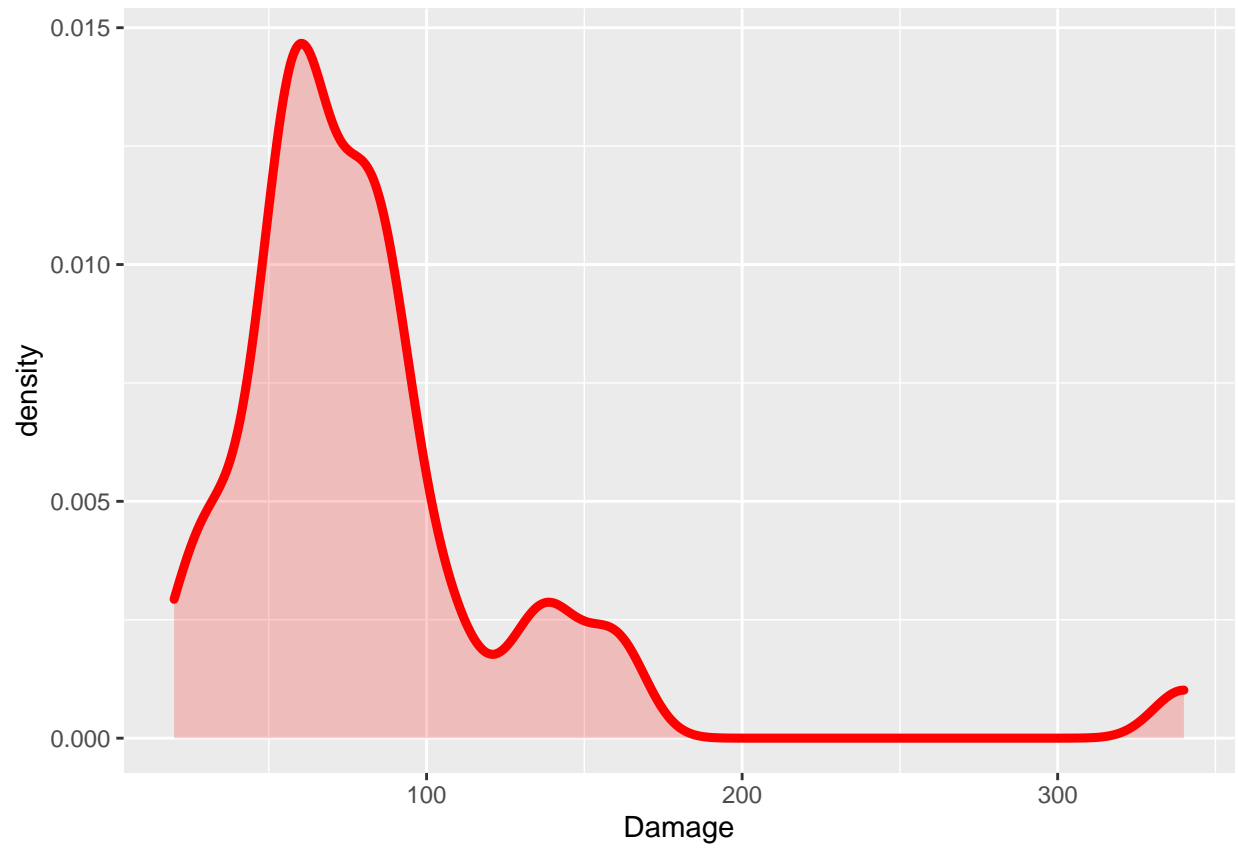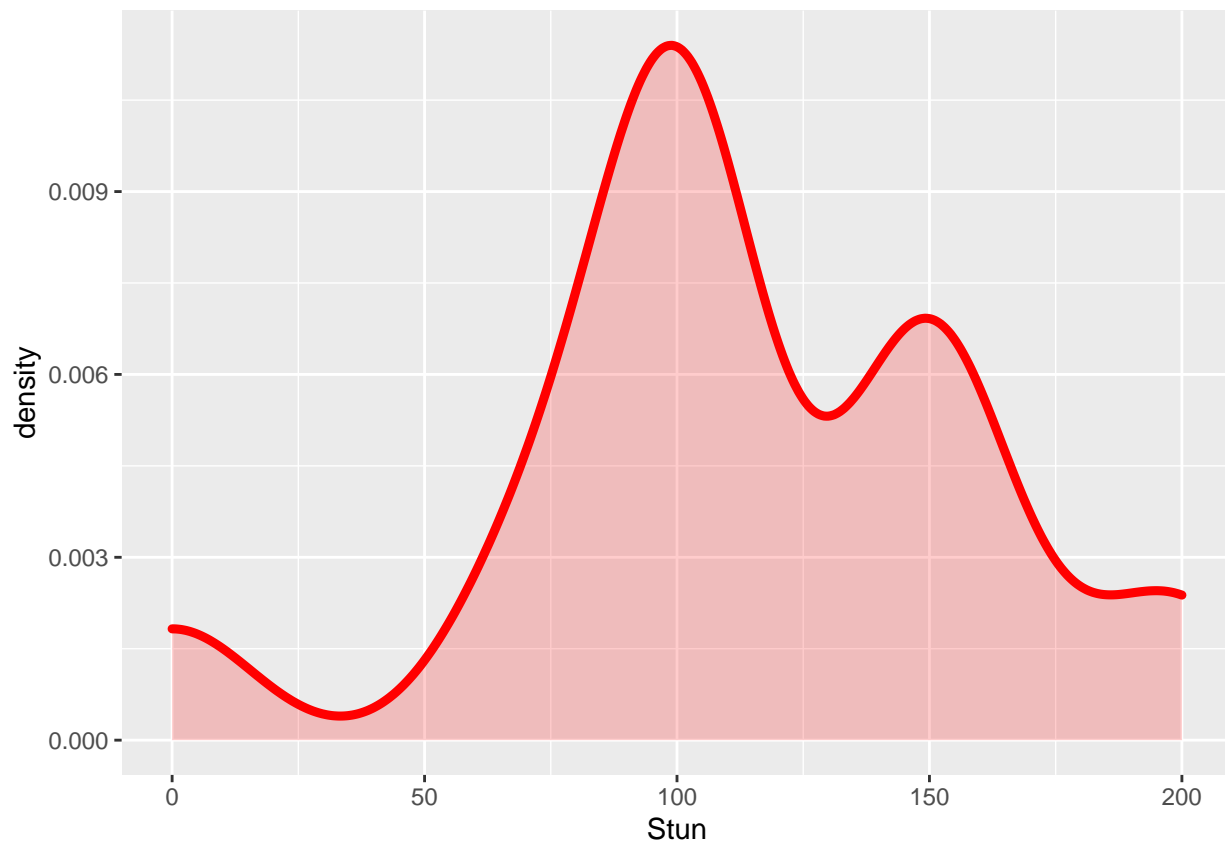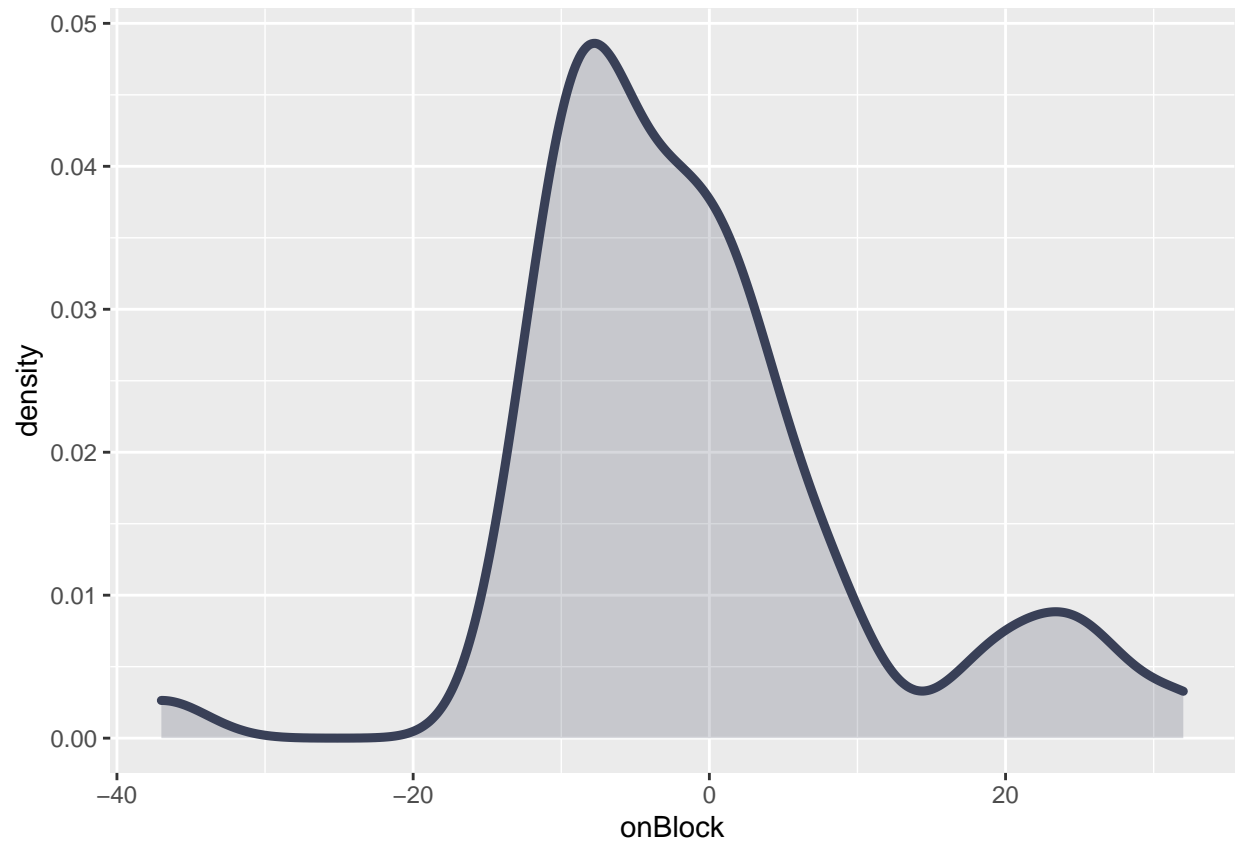
```
##         Move onBlock plnCmd airmove followUp projectile moveType Damage Stun
## 1 Stand LP       2     LP   False    False       False   normal     30   70
## 2 Stand MP       1     MP   False    False       False   normal     60  100
## 3 Stand HP      -5     HP   False    False       False   normal     80  150
## 4 Stand LK       2     LK   False    False       False   normal     40   70
## 5 Stand MK      -4     MK   False    False       False   normal     60  100
## 6 Stand HK      -4     HK   False    False       False   normal     80  150
##                  1
## health     925.000
## stun       950.000
## vgauge1    600.000
## vgauge2    600.000
## fDash       16.000
## bDash       21.000
## fWalk        0.049
## bWalk        0.036
## throwHurt    0.250
## throwRange   0.850
```

```
character_info(
  "data/characters/ken.csv",
  "Ken",
  "img/ken.png",
  "#ff0000"
)
```

```
## [1] "Median: -4.00  |  Mean: -9.54  |  Standard deviation: 14.74"
```

[1] "Median: 70.00 | Mean: 82.68 | Standard deviation: 53.02"

```
## [1] "Median: 100.00  |  Mean: 112.73  |  Standard deviation: 48.36"
```

```
##        Move onBlock plnCmd airmove followUp projectile moveType Damage Stun
## 1 Stand LP       2     LP   False    False      False   normal     30   70
## 2 Stand MP       2     MP   False    False      False   normal     60  100
## 3 Stand HP      -3     HP   False    False      False   normal     80  150
## 4 Stand LK      -1     LK   False    False      False   normal     30   70
## 5 Stand MK      -2     MK   False    False      False   normal     60  100
## 6 Stand HK      -4     HK   False    False      False   normal     80  150
##                       1
## health      1025.000
## stun        1050.000
## vgauge1      900.000
## vgauge2      600.000
## fDash         15.000
## bDash         24.000
## fWalk          0.050
## bWalk          0.035
## throwHurt      0.250
## throwRange     0.800
```

```
character_info(
  "data/characters/kolin.csv",
  "Kolin",
  "img/kolin.png",
  "#394057"
)
```
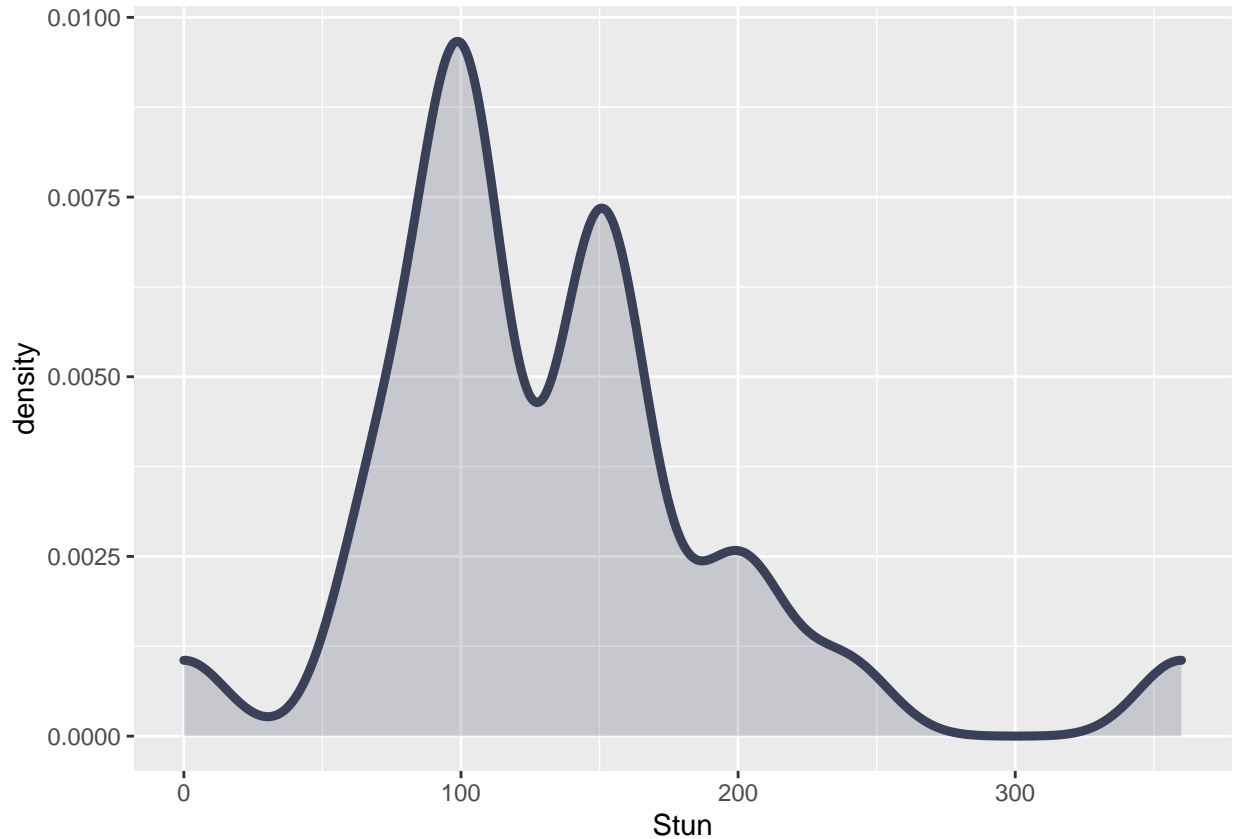
```
## [1] "Median: -2.00  |  Mean: -0.94  |  Standard deviation: 12.04"
```

```
## [1] "Median: 70.00  |  Mean: 80.06  |  Standard deviation: 48.53"
```
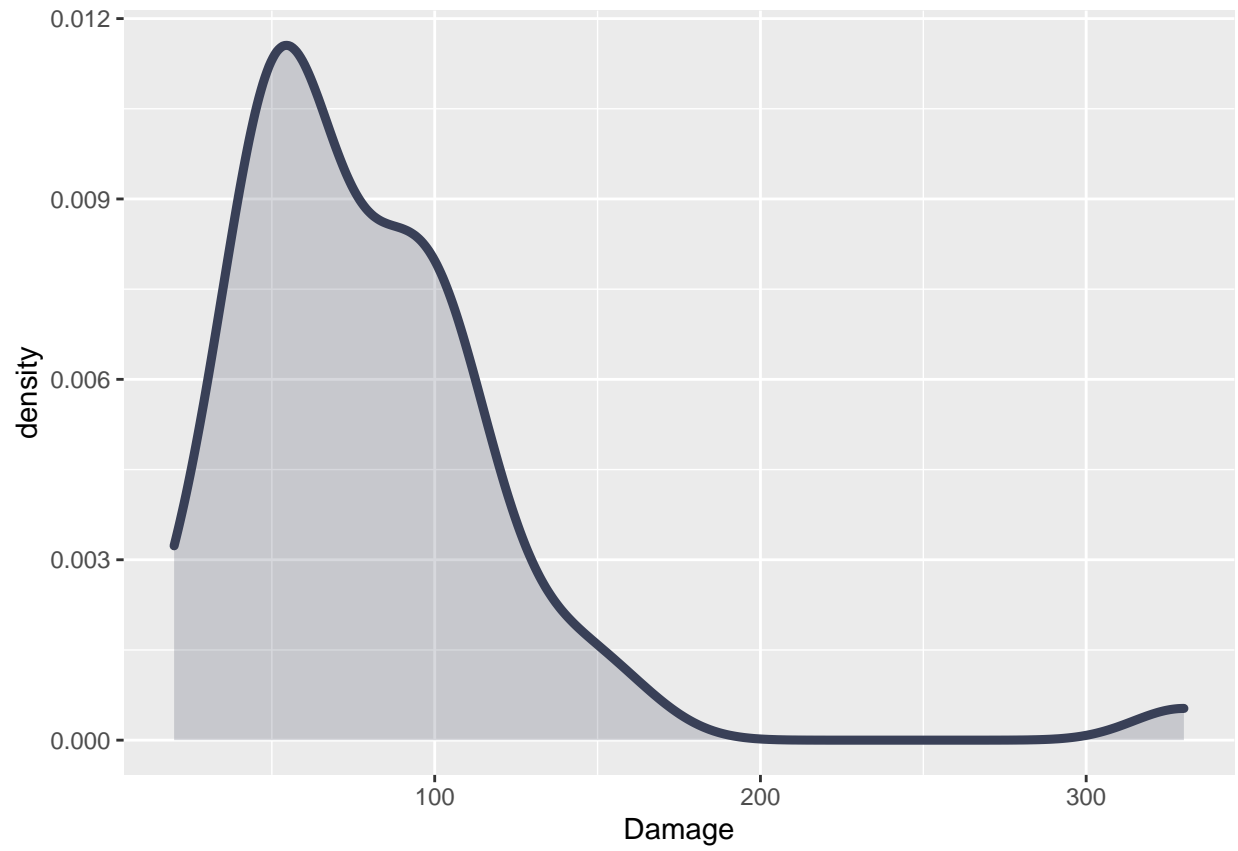
[1] "Median: 100.00 | Mean: 133.94 | Standard deviation: 69.34"

```
##         Move onBlock plnCmd airmove followUp projectile moveType Damage Stun
## 1 Stand LP       2     LP   False    False      False   normal     30   70
## 2 Stand MP       2     MP   False    False      False   normal     60  100
## 3 Stand HP      -4     HP   False    False      False   normal     80  150
## 4 Stand LK      -2     LK   False    False      False   normal     40   70
## 5 Stand MK      -2     MK   False    False      False   normal     50  100
## 6 Stand HK      -2     HK   False    False      False   normal     80  150
##                 1
## health      1.00e+03
## stun        1.00e+03
## vgauge1     6.00e+02
## vgauge2     6.00e+02
## fDash       1.70e+01
## bDash       2.10e+01
## fWalk       4.13e-02
## bWalk       3.25e-02
## throwHurt   3.50e-01
## throwRange  8.50e-01
```

```
character_info(
  "data/characters/laura.csv",
  "Laura",
  "img/laura.png",
  "#80dc00"
)
```
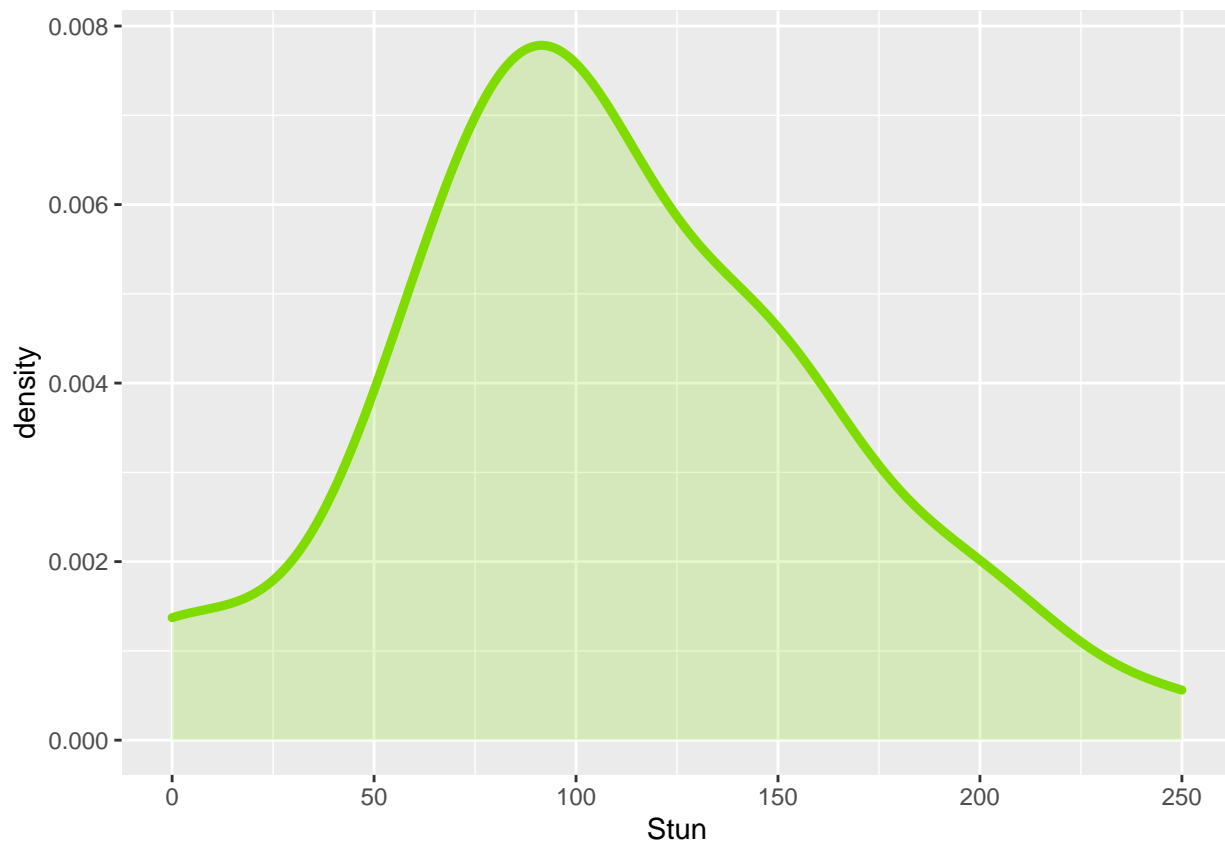
```
## [1] "Median: 2.00  |  Mean: 5.78  |  Standard deviation: 14.67"
```
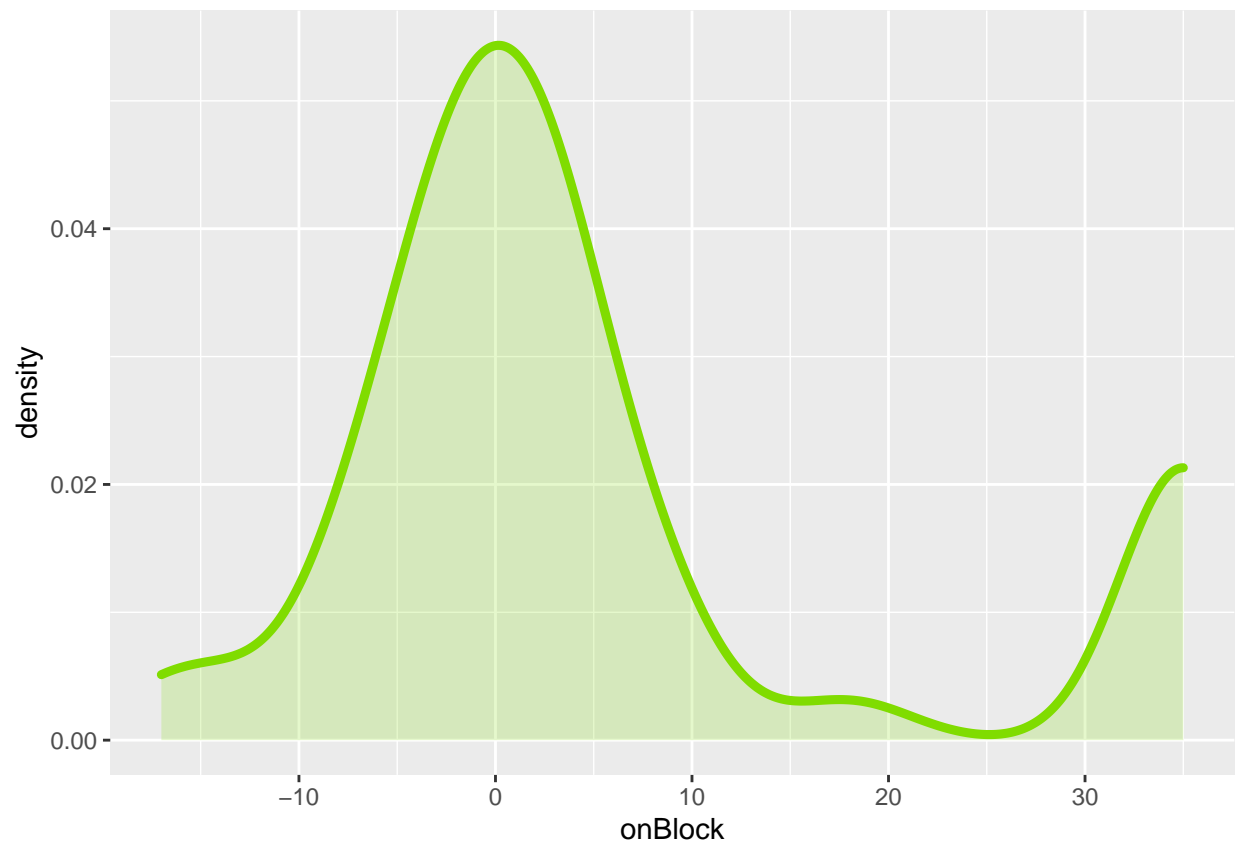
```
## [1] "Median: 80.00  |  Mean: 88.24  |  Standard deviation: 58.21"
```
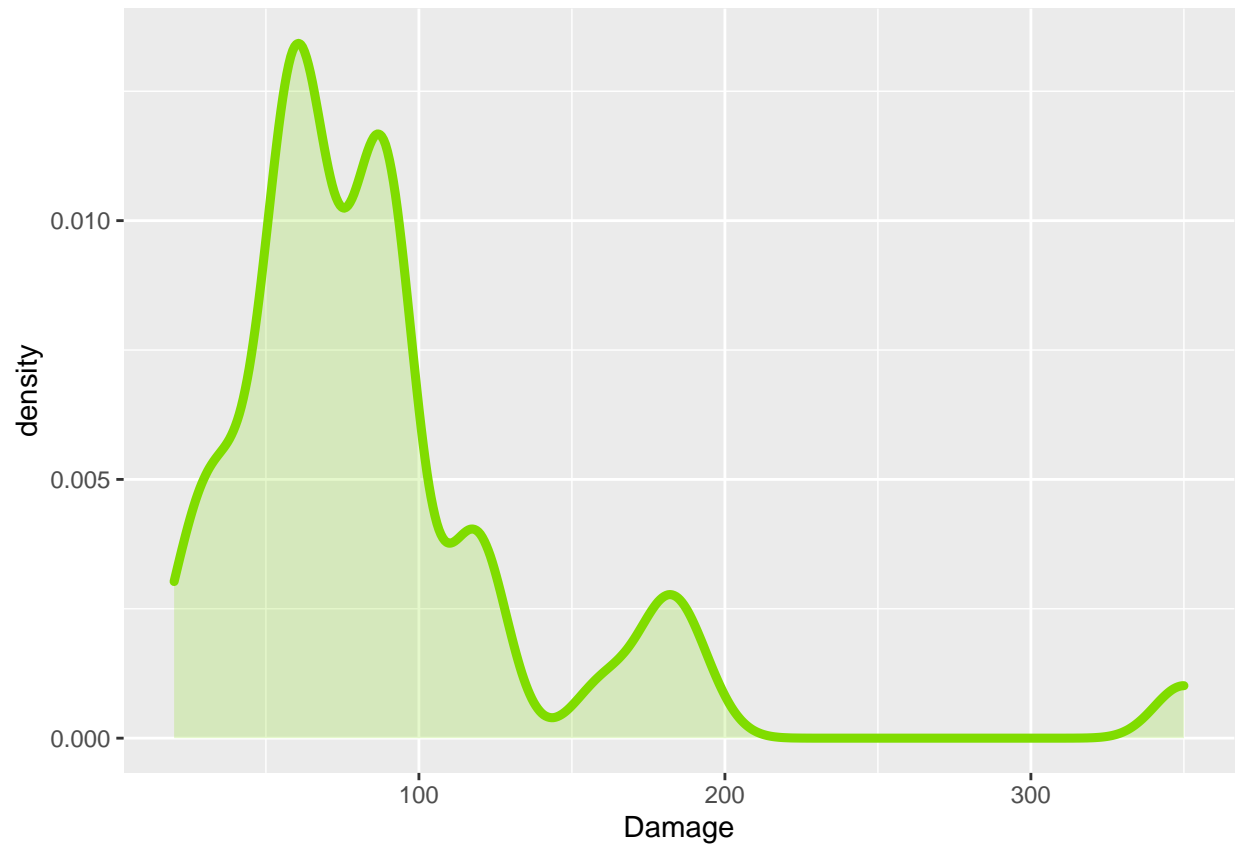
```
## [1] "Median: 100.00  |  Mean: 108.29  |  Standard deviation: 55.22"
```
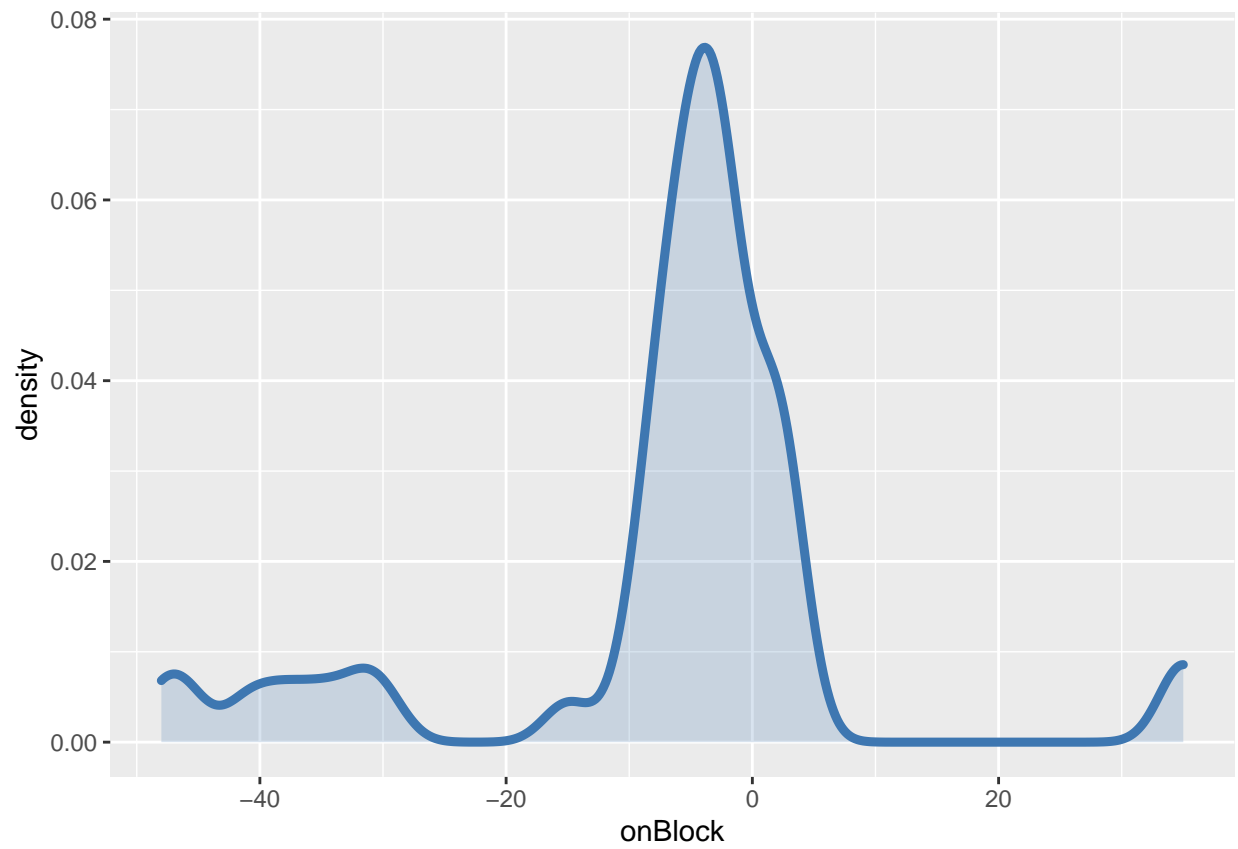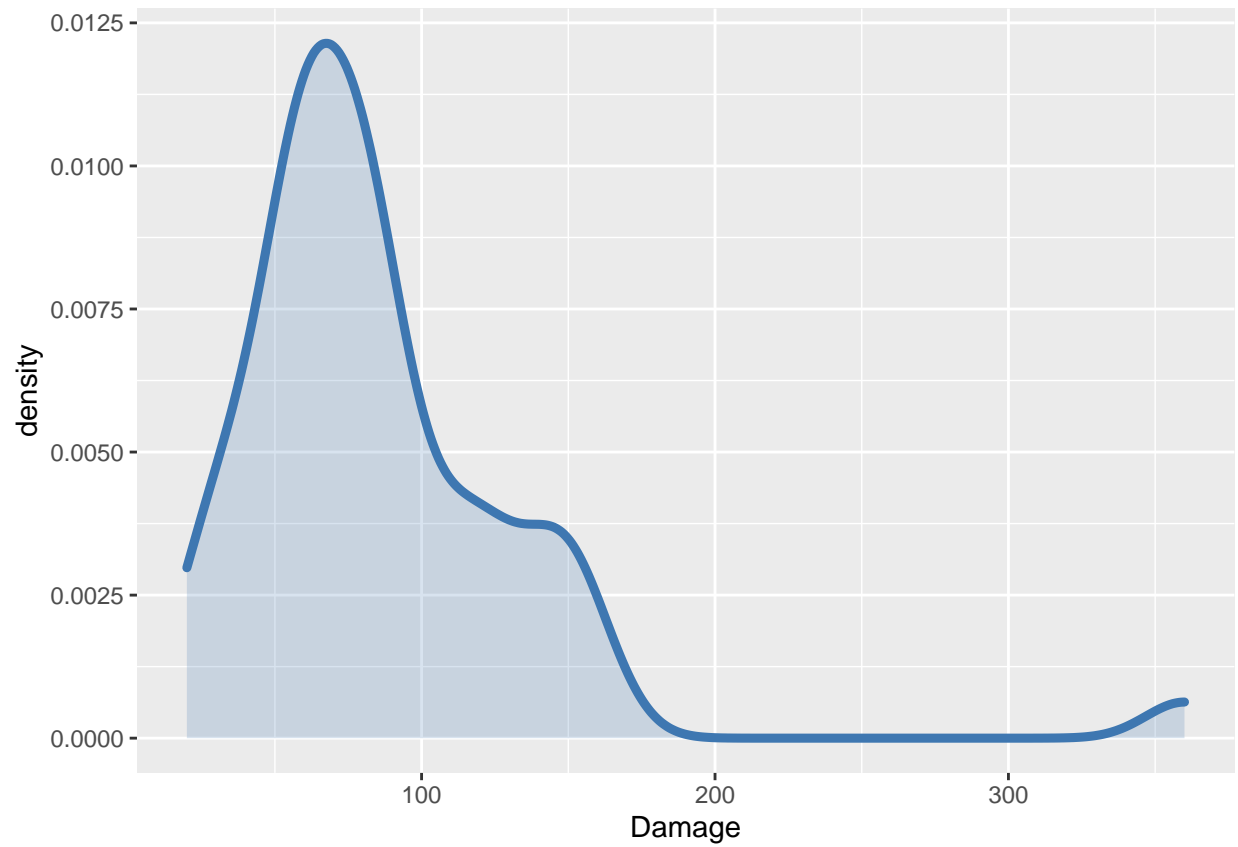
```
##          Move onBlock plnCmd airmove followUp projectile moveType Damage Stun
## 1 Stand LP        1     LP   False    False      False   normal     30   70
## 2 Stand MP        3     MP   False    False      False   normal     60  100
## 3 Stand HP       -2     HP   False    False      False   normal     80  150
## 4 Stand LK        3     LK   False    False      False   normal     30   70
## 5 Stand MK       -2     MK   False    False      False   normal     60  100
## 6 Stand HK       -4     HK   False    False      False   normal     90  150
##                    1
## health      1025.000
## stun        1000.000
## vgauge1      900.000
## vgauge2      600.000
## fDash         17.000
## bDash         21.000
## fWalk          0.040
## bWalk          0.032
## throwHurt      0.410
## throwRange     0.850
```

```r
character_info(
  "data/characters/lucia.csv",
  "Lucia",
  "img/lucia.png",
  "#3e77b1"
)
```
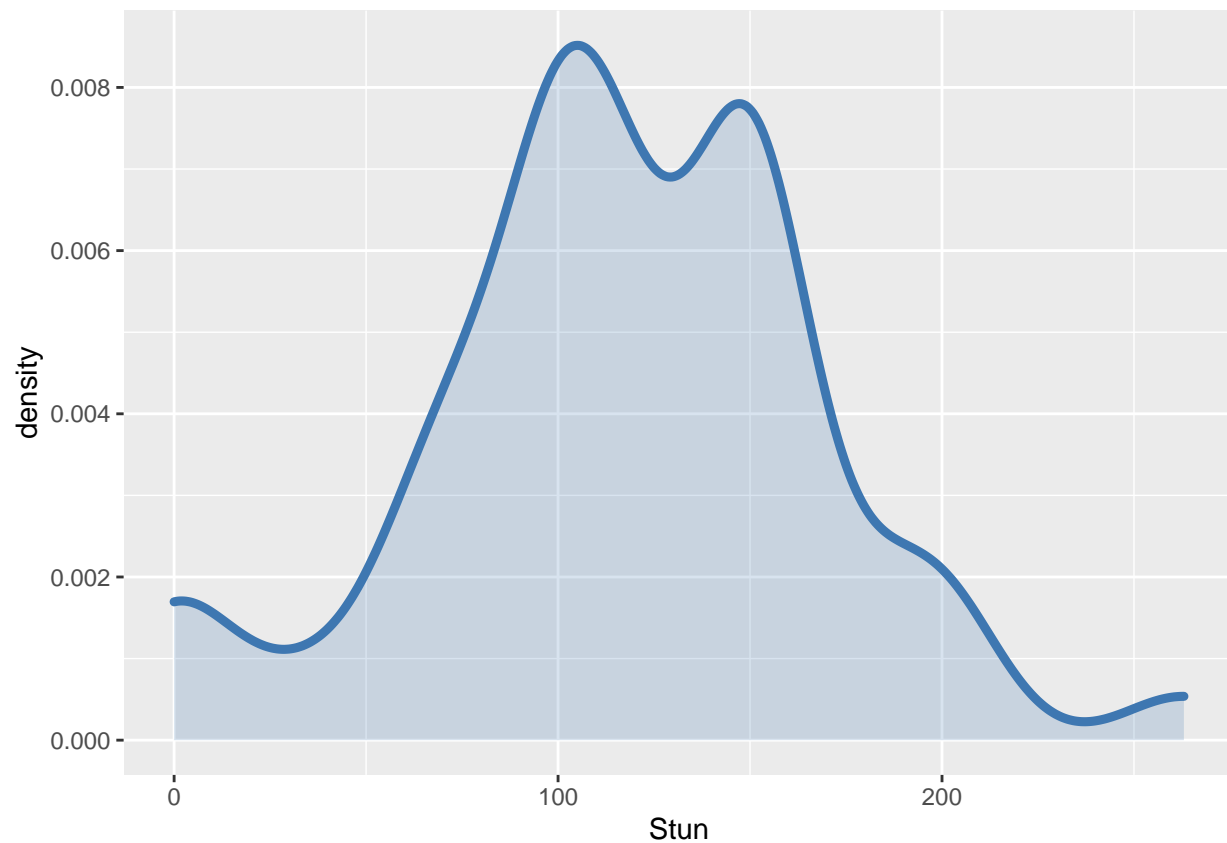
```
## [1] "Median: -4.00  |  Mean: -6.94  |  Standard deviation: 15.91"
```

```
## [1] "Median: 80.00  |  Mean: 86.31  |  Standard deviation: 53.77"
```

```
## [1] "Median: 120.00  |  Mean: 117.02  |  Standard deviation: 53.14"
```
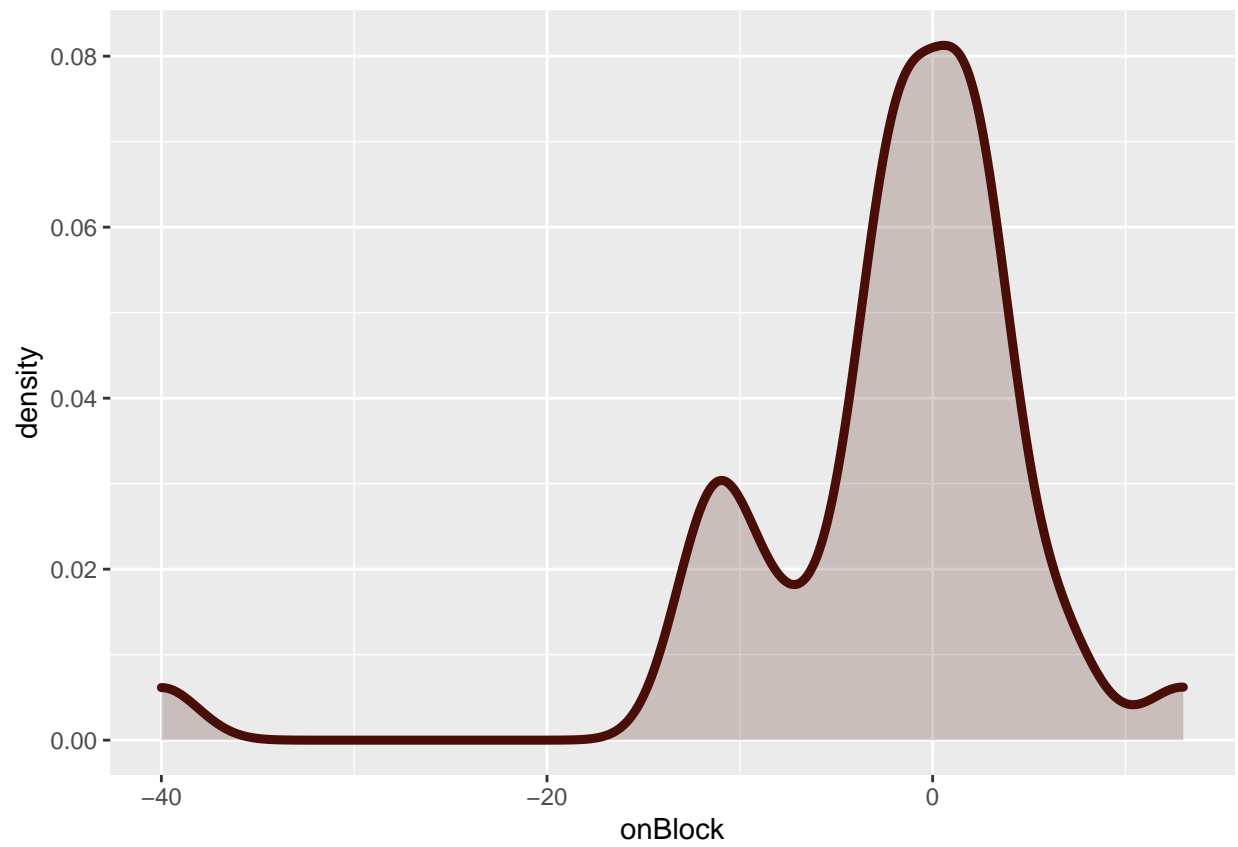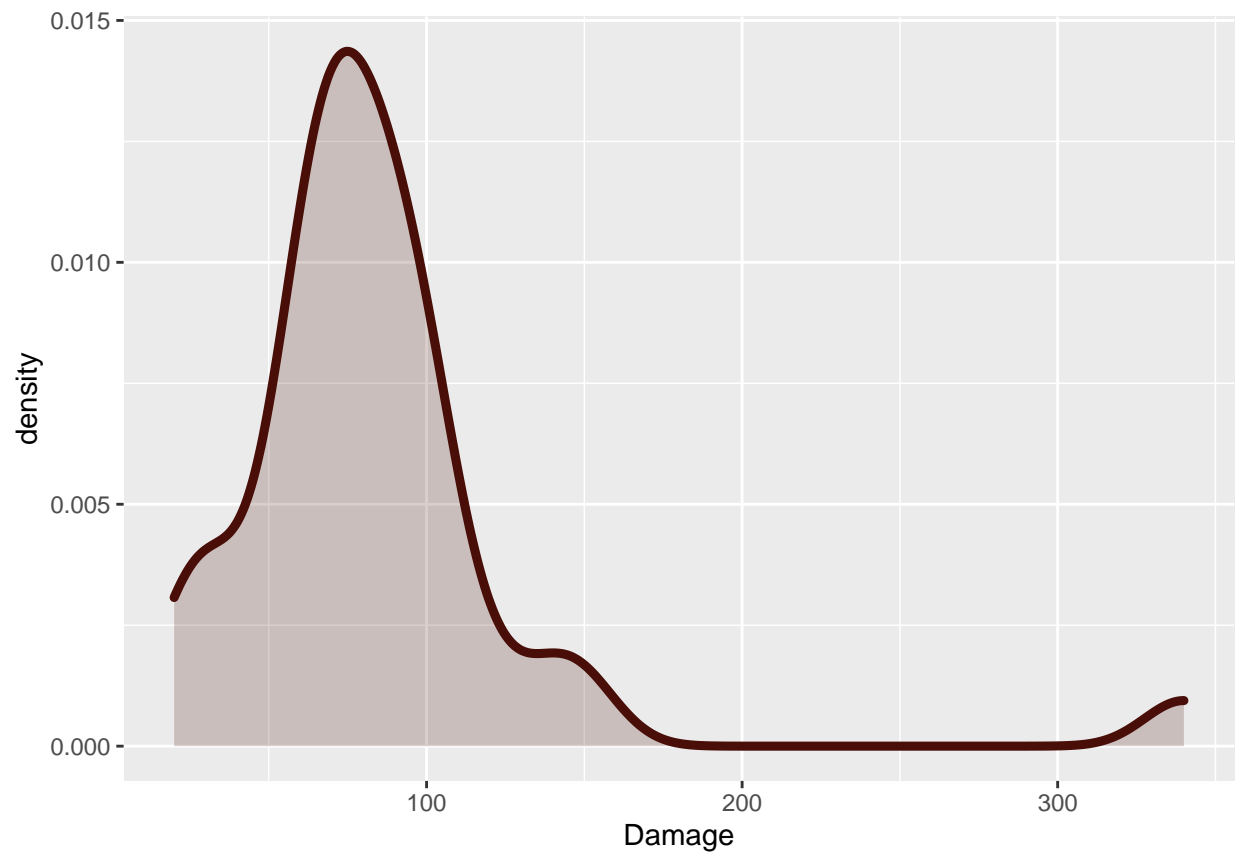
```
##         Move onBlock plnCmd airmove followUp projectile moveType Damage Stun
## 1 Stand LP       2     LP   False    False      False   normal     30   70
## 2 Stand MP       3     MP   False    False      False   normal     50  100
## 3 Stand HP      -2     HP   False    False      False   normal     80  150
## 4 Stand LK       1     LK   False    False      False   normal     40   70
## 5 Stand MK      -2     MK   False    False      False   normal     60  100
## 6 Stand HK      -4     HK   False    False      False   normal     90  150
##                  1
## health      975.00
## stun       1000.00
## vgauge1     900.00
## vgauge2     600.00
## fDash        16.00
## bDash        21.00
## fWalk         0.05
## bWalk         0.04
## throwHurt     0.25
## throwRange    0.80
```

```r
character_info(
  "data/characters/m_bison.csv",
  "M. Bison",
  "img/m_bison.png",
  "#480e07"
)
```
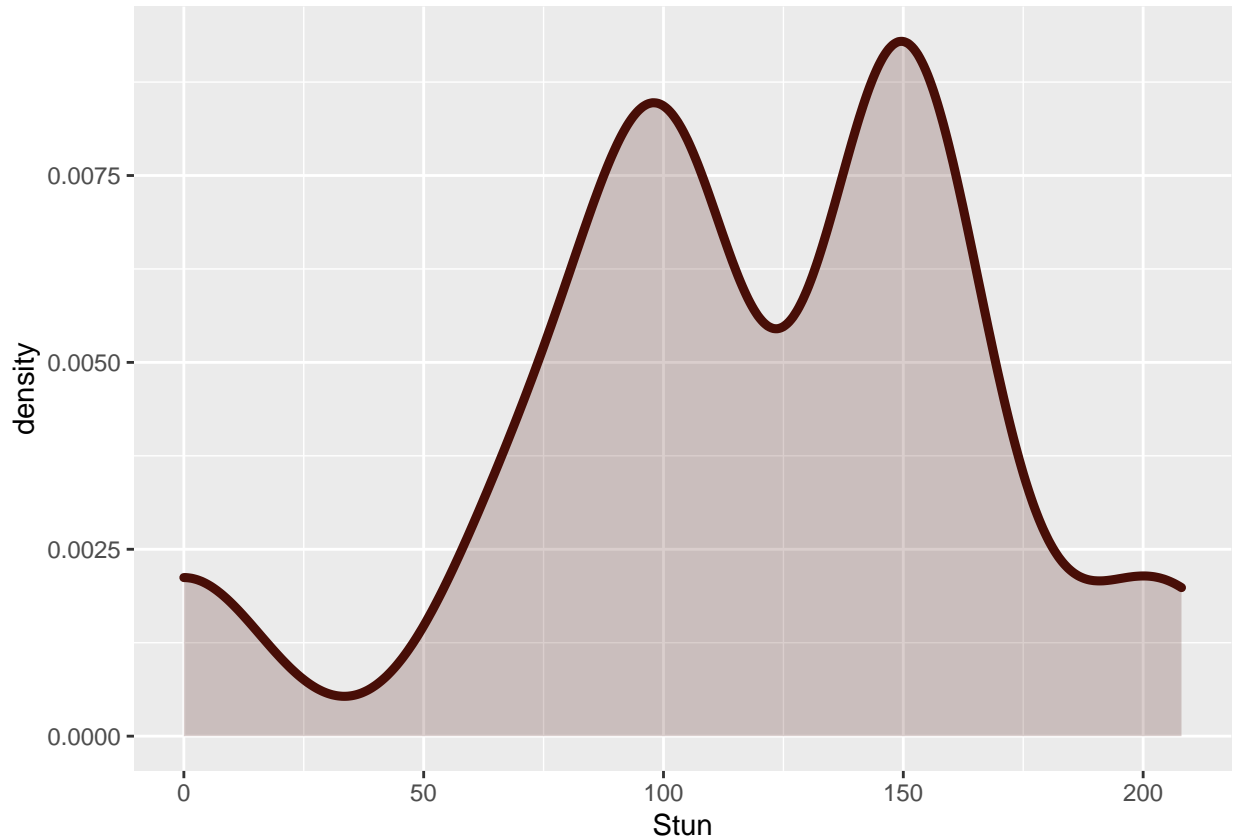
```
## [1] "Median: -1.50  |  Mean: -2.44  |  Standard deviation: 8.69"
```

```
## [1] "Median: 80.00  |  Mean: 85.15  |  Standard deviation: 53.38"
```

[1] "Median: 100.00 | Mean: 115.82 | Standard deviation: 52.01"

```
##          Move onBlock plnCmd airmove followUp projectile moveType Damage Stun
## 1 Stand LP        3     LP   False    False      False   normal     30   70
## 2 Stand MP        2     MP   False    False      False   normal     60  100
## 3 Stand HP       -6     HP   False    False      False   normal     90  150
## 4 Stand LK       -2     LK   False    False      False   normal     30   70
## 5 Stand MK       -2     MK   False    False      False   normal     60  100
## 6 Stand HK        3     HK   False    False      False   normal     80  150
##                    1
## health     1.00e+03
## stun       1.00e+03
## vgauge1    9.00e+02
## vgauge2    6.00e+02
## fDash      2.20e+01
## bDash      2.20e+01
## fWalk      2.62e-02
## bWalk      2.30e-02
## throwHurt  2.50e-01
## throwRange 9.00e-01
```
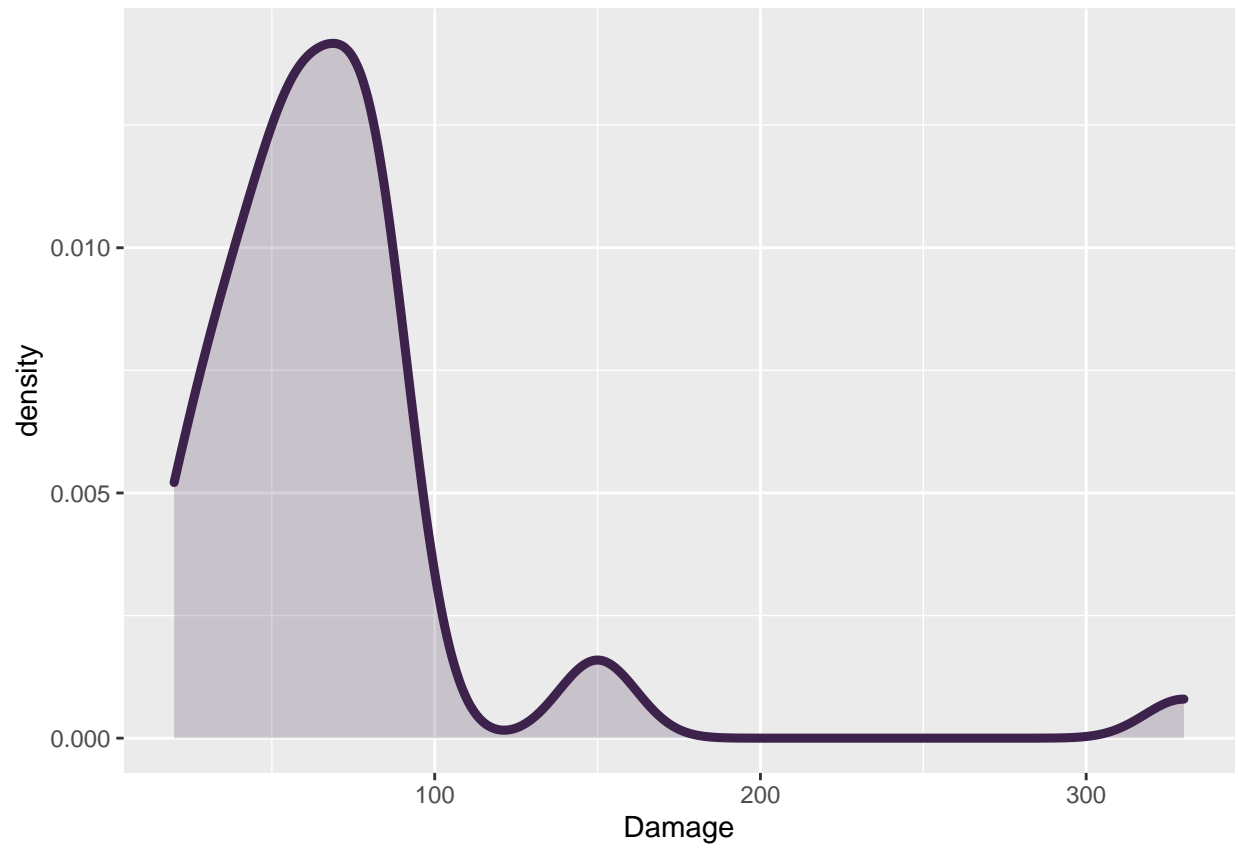
```
character_info(
  "data/characters/menat.csv",
  "Menat",
  "img/menat.png",
  "#3d224b"
)
```
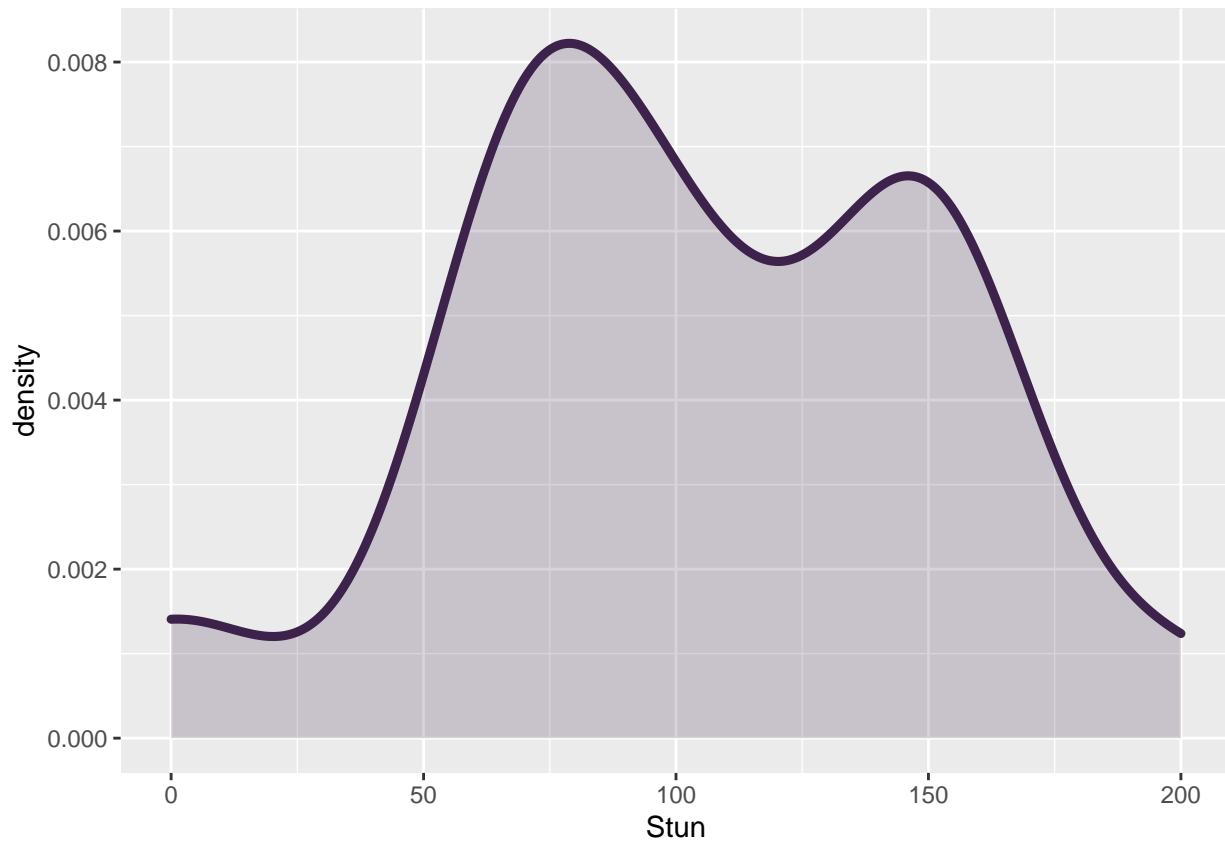
```
## [1] "Median: -3.50  |  Mean: -6.05  |  Standard deviation: 9.24"
```
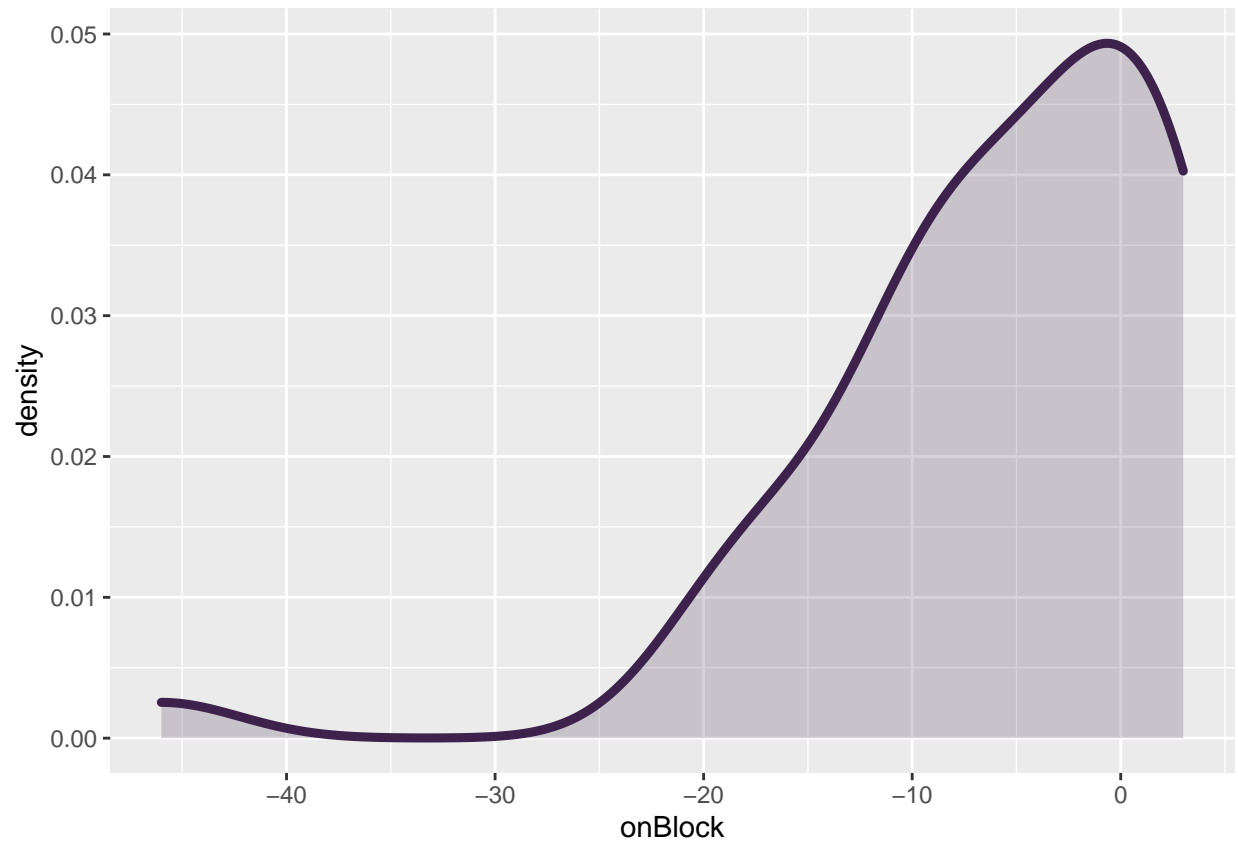
```
## [1] "Median: 60.00  |  Mean: 69.52  |  Standard deviation: 49.78"
```

```
## [1] "Median: 100.00  |  Mean: 104.05  |  Standard deviation: 48.19"
```
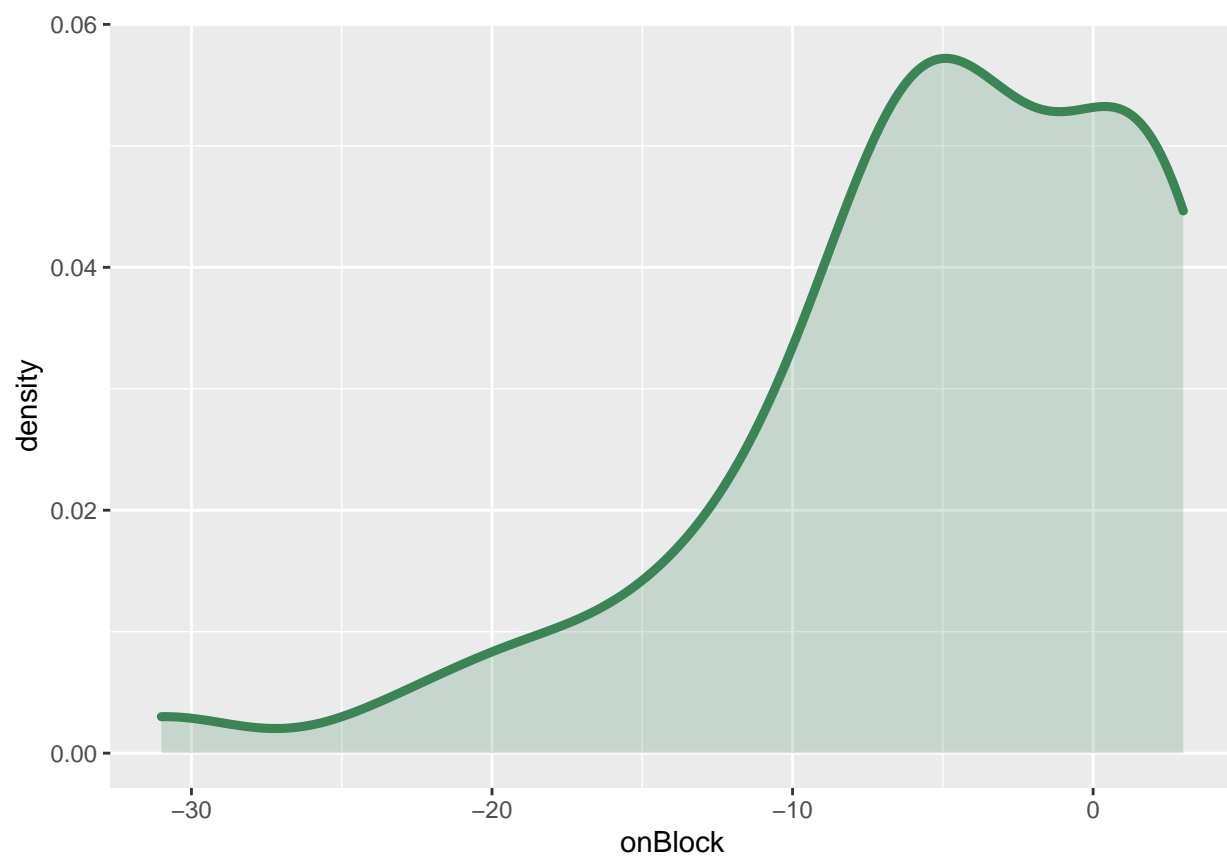
```
##           Move onBlock plnCmd airmove followUp projectile moveType Damage Stun
## 1     Stand LP        3     LP   False    False      False   normal     20   70
## 2 Stand LP orb        3 LP orb   False    False      False   normal     30   70
## 3     Stand MP        2     MP   False    False      False   normal     50  100
## 4 Stand MP orb       -8 MP orb   False    False      False   normal     60  100
## 5     Stand HP       -2     HP   False    False      False   normal     80  150
## 6 Stand HP orb      -10 HP orb   False    False      False   normal     80  150
##                  1
## health     950.000
## stun       950.000
## vgauge1    900.000
## vgauge2    600.000
## fDash       20.000
## bDash       24.000
## fWalk        0.040
## bWalk        0.032
## throwHurt    0.250
## throwRange   0.850
```
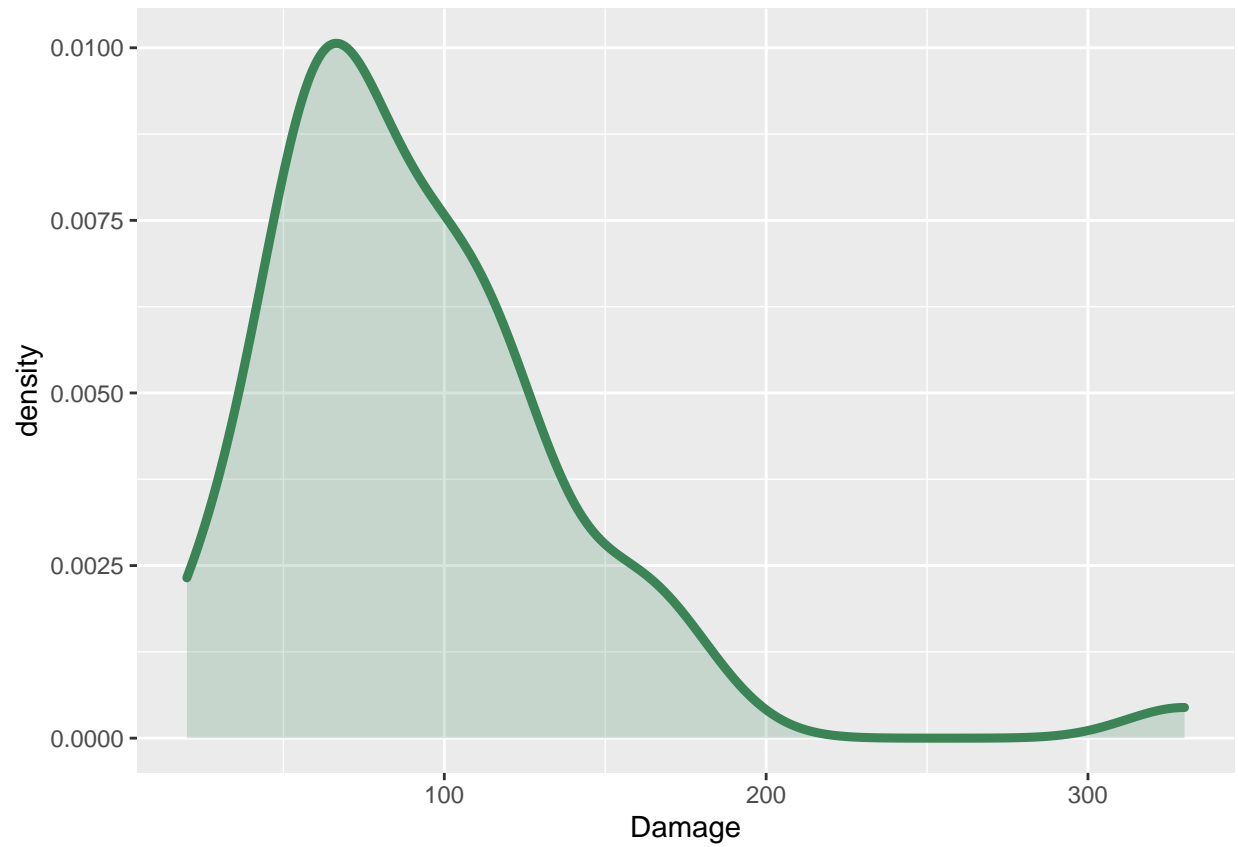
```
character_info(
  "data/characters/nash.csv",
  "Nash",
  "img/nash.png",
  "#3a8455"
)
```
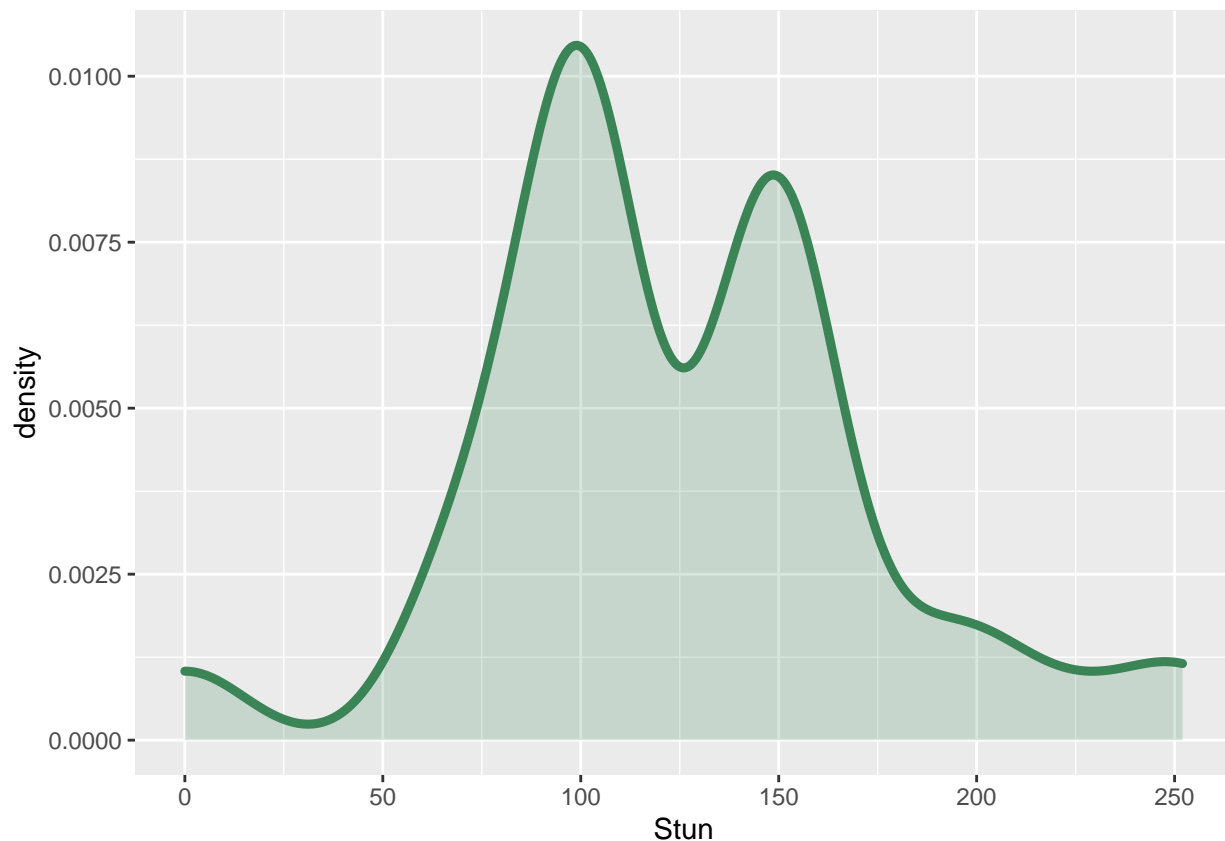
```
## [1] "Median: -5.00  |  Mean: -5.28  |  Standard deviation: 7.38"
```

```
## [1] "Median: 82.00  |  Mean: 92.26  |  Standard deviation: 50.95"
```

```
## [1] "Median: 100.00  |  Mean: 124.60  |  Standard deviation: 51.09"
```
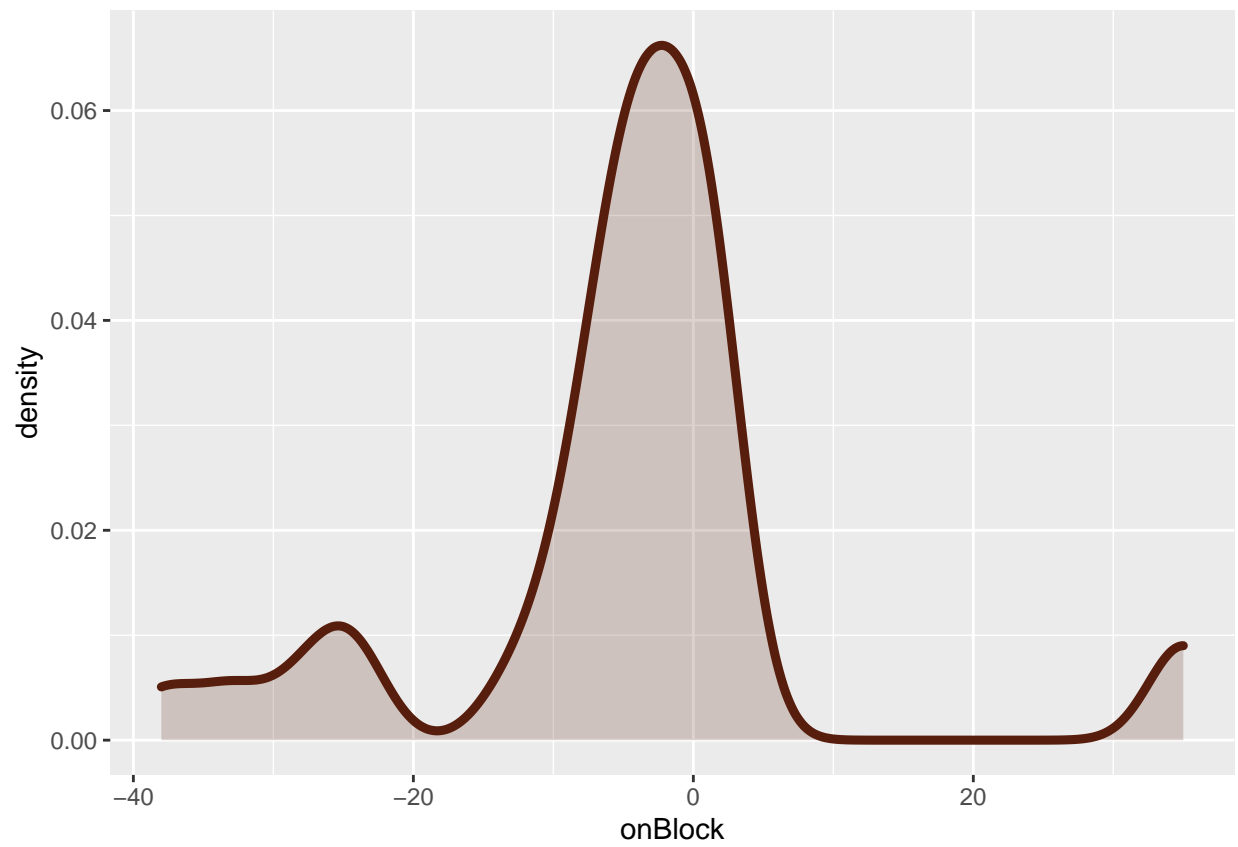
```
##         Move onBlock plnCmd airmove followUp projectile moveType Damage Stun
## 1 Stand LP       3     LP   False    False      False   normal     30   70
## 2 Stand MP       0     MP   False    False      False   normal     60  100
## 3 Stand HP      -5     HP   False    False      False   normal     90  150
## 4 Stand LK       1     LK   False    False      False   normal     30   70
## 5 Stand MK       0     MK   False    False      False   normal     70  100
## 6 Stand HK      -2     HK   False    False      False   normal     80  150
##                     1
## health     975.000
## stun      1000.000
## vgauge1    600.000
## vgauge2    900.000
## fDash       18.000
## bDash       24.000
## fWalk        0.027
## bWalk        0.027
## throwHurt    0.250
## throwRange   0.850
```
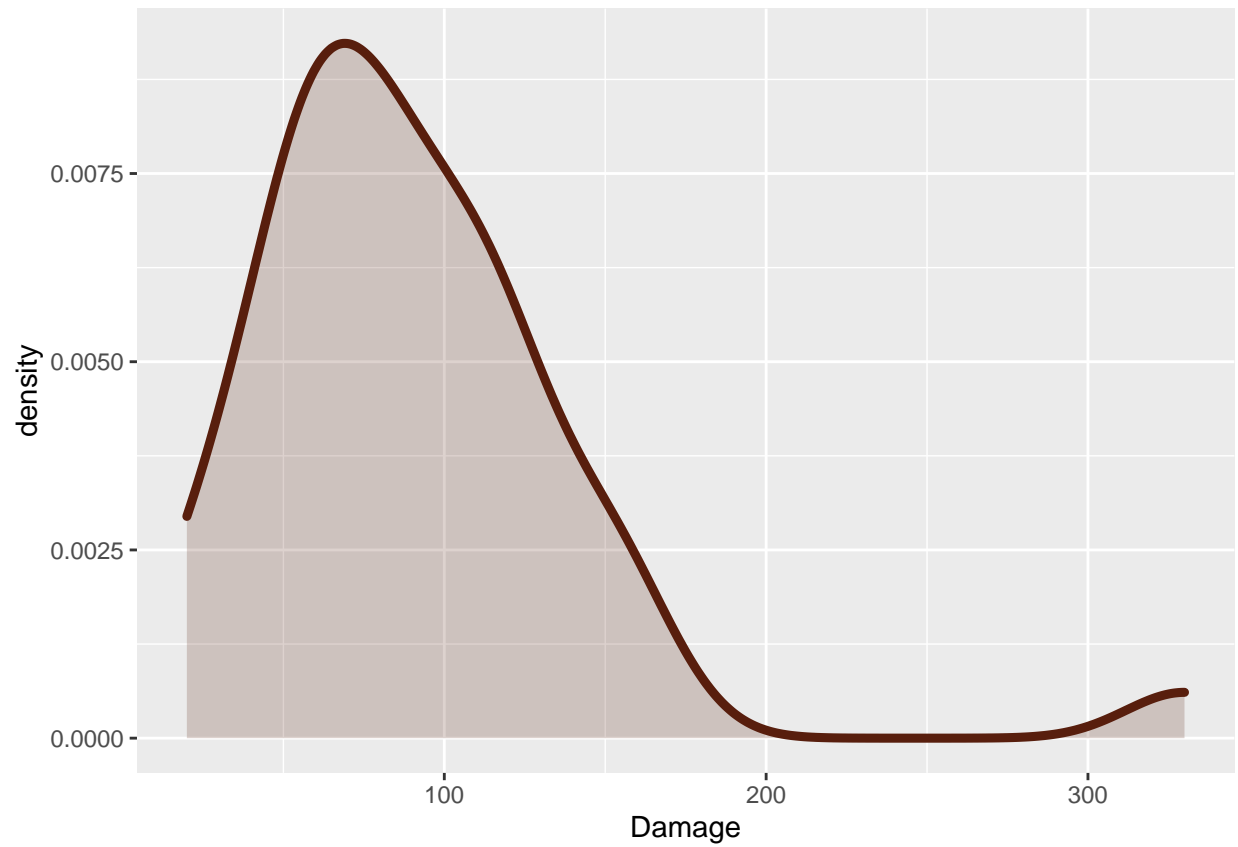
```r
character_info(
  "data/characters/necalli.csv",
  "Necalli",
  "img/necalli.png",
  "#581e0d"
)
```
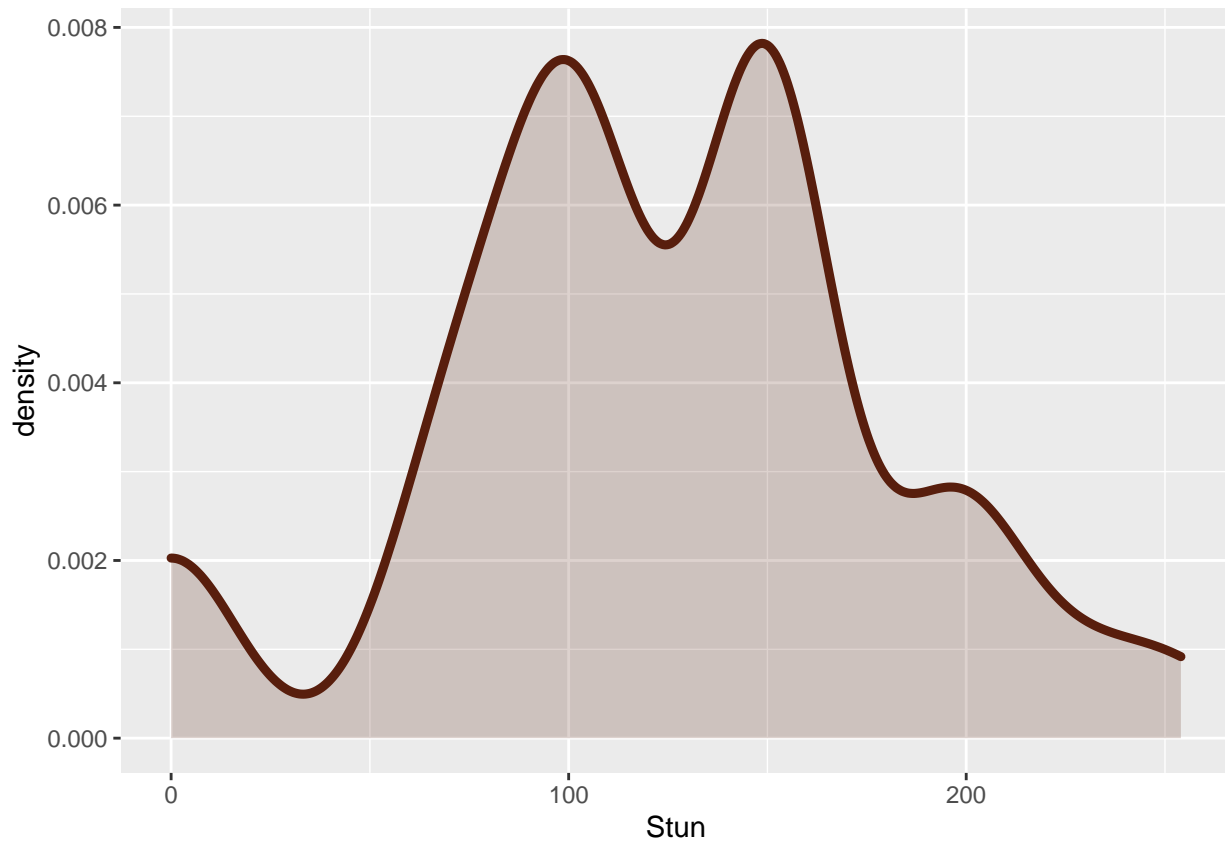
```
## [1] "Median: -4.00  |  Mean: -4.69  |  Standard deviation: 14.04"
```

```
## [1] "Median: 80.00  |  Mean: 91.44  |  Standard deviation: 54.99"
```

```
## [1] "Median: 120.00  |  Mean: 122.89  |  Standard deviation: 59.08"
```
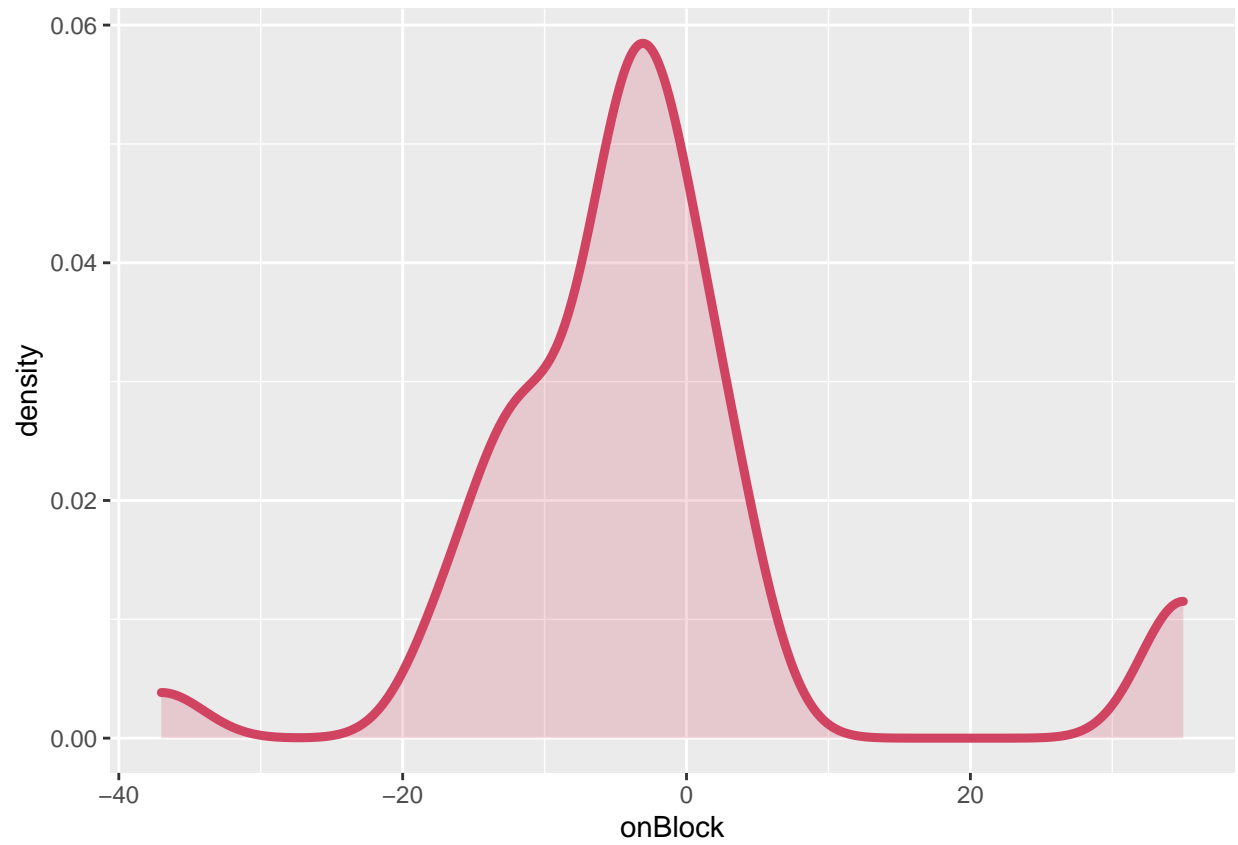
```
##         Move onBlock plnCmd airmove followUp projectile moveType Damage Stun
## 1 Stand LP       1     LP   False    False       False   normal     30   70
## 2 Stand MP       0     MP   False    False       False   normal     60  100
## 3 Stand HP      -2     HP   False    False       False   normal     80  150
## 4 Stand LK       2     LK   False    False       False   normal     40   70
## 5 Stand MK       2     MK   False    False       False   normal     60  100
## 6 Stand HK      -4     HK   False    False       False   normal     90  150
##                    1
## health      1025.000
## stun        1050.000
## vgauge1      900.000
## vgauge2      900.000
## fDash         17.000
## bDash         22.000
## fWalk          0.047
## bWalk          0.032
## throwHurt      0.324
## throwRange     0.814
```
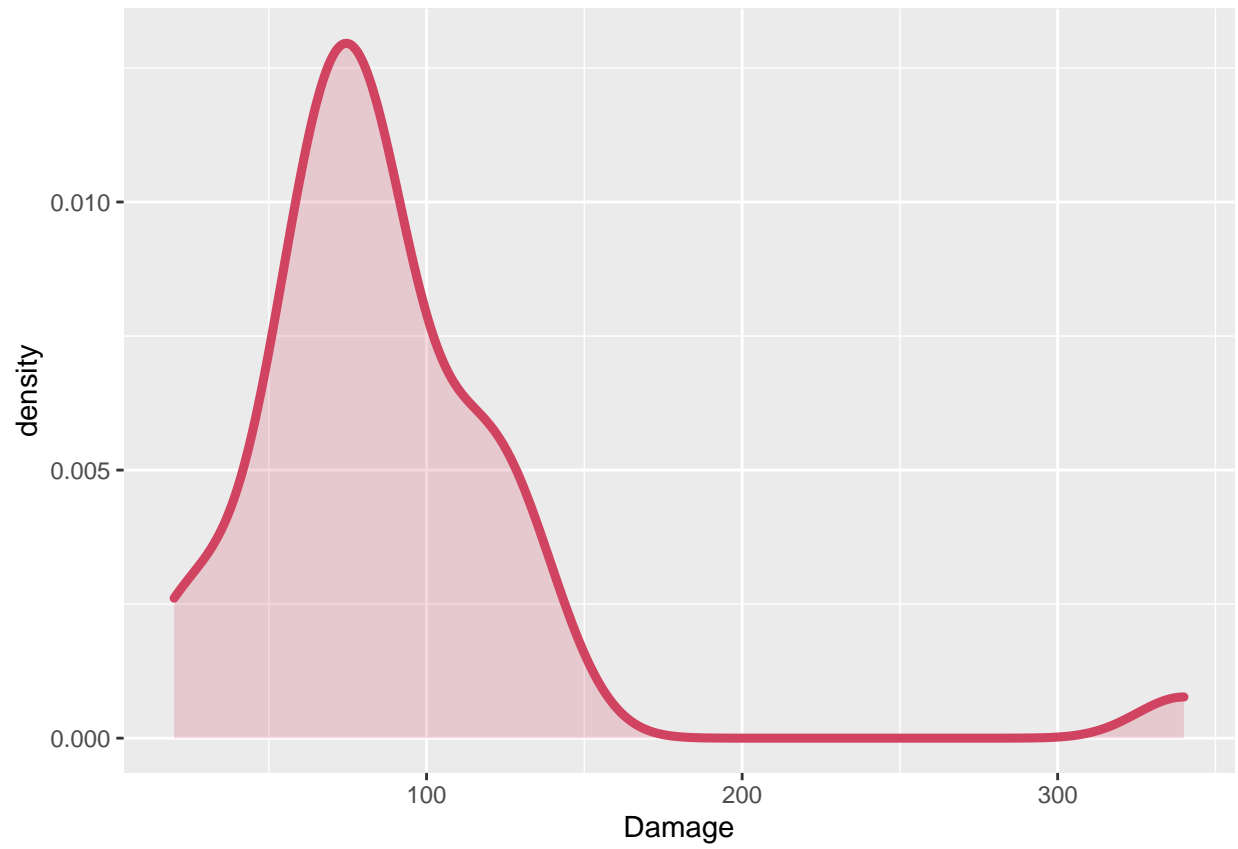
```
character_info(
  "data/characters/poison.csv",
  "Poison",
  "img/poison.png",
  "#d14461"
)
```
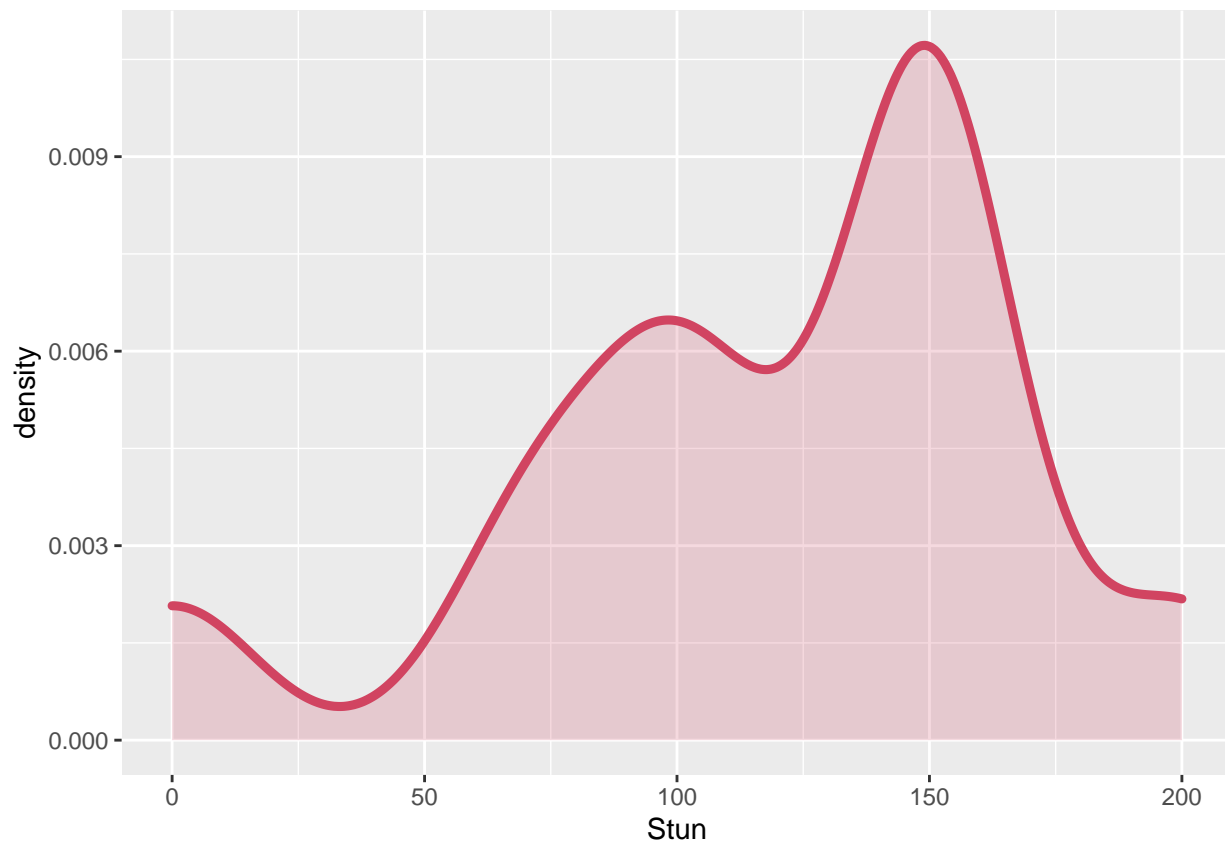
```
## [1] "Median: -4.00  |  Mean: -2.63  |  Standard deviation: 13.98"
```

```
## [1] "Median: 80.00  |  Mean: 87.71  |  Standard deviation: 53.09"
```

```
## [1] "Median: 150.00  |  Mean: 118.57  |  Standard deviation: 51.51"
```
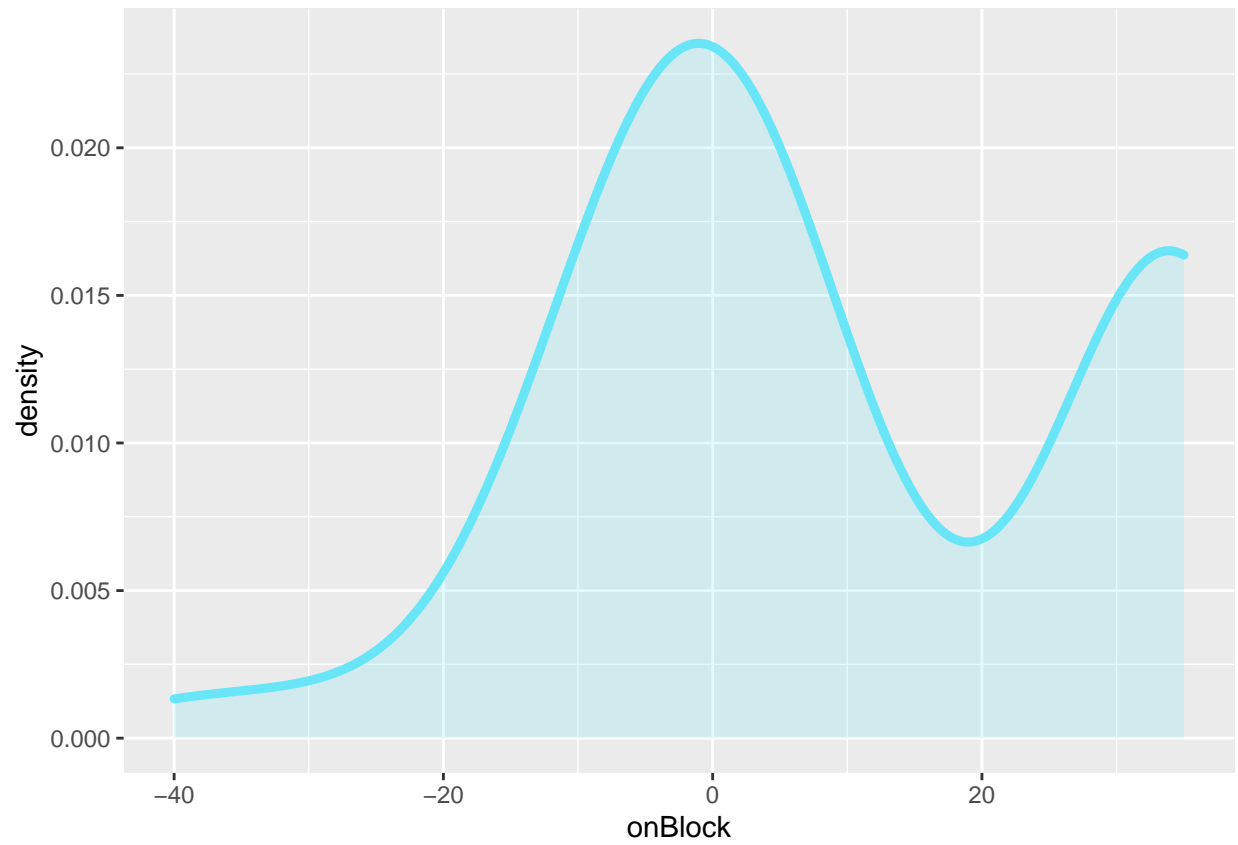
```
##          Move onBlock plnCmd airmove followUp projectile moveType Damage Stun
## 1 Stand LP       2     LP   False    False      False   normal     20   70
## 2 Stand MP       3     MP   False    False      False   normal     60  100
## 3 Stand HP      -6     HP   False    False      False   normal     80  150
## 4 Stand LK       1     LK   False    False      False   normal     40   70
## 5 Stand MK      -4     MK   False    False      False   normal     70  100
## 6 Stand HK      -4     HK   False    False      False   normal     80  150
##                  1
## health     975.000
## stun       975.000
## vgauge1    600.000
## vgauge2    600.000
## fDash       18.000
## bDash       23.000
## fWalk        0.041
## bWalk        0.032
## throwHurt    0.250
## throwRange   0.850
```
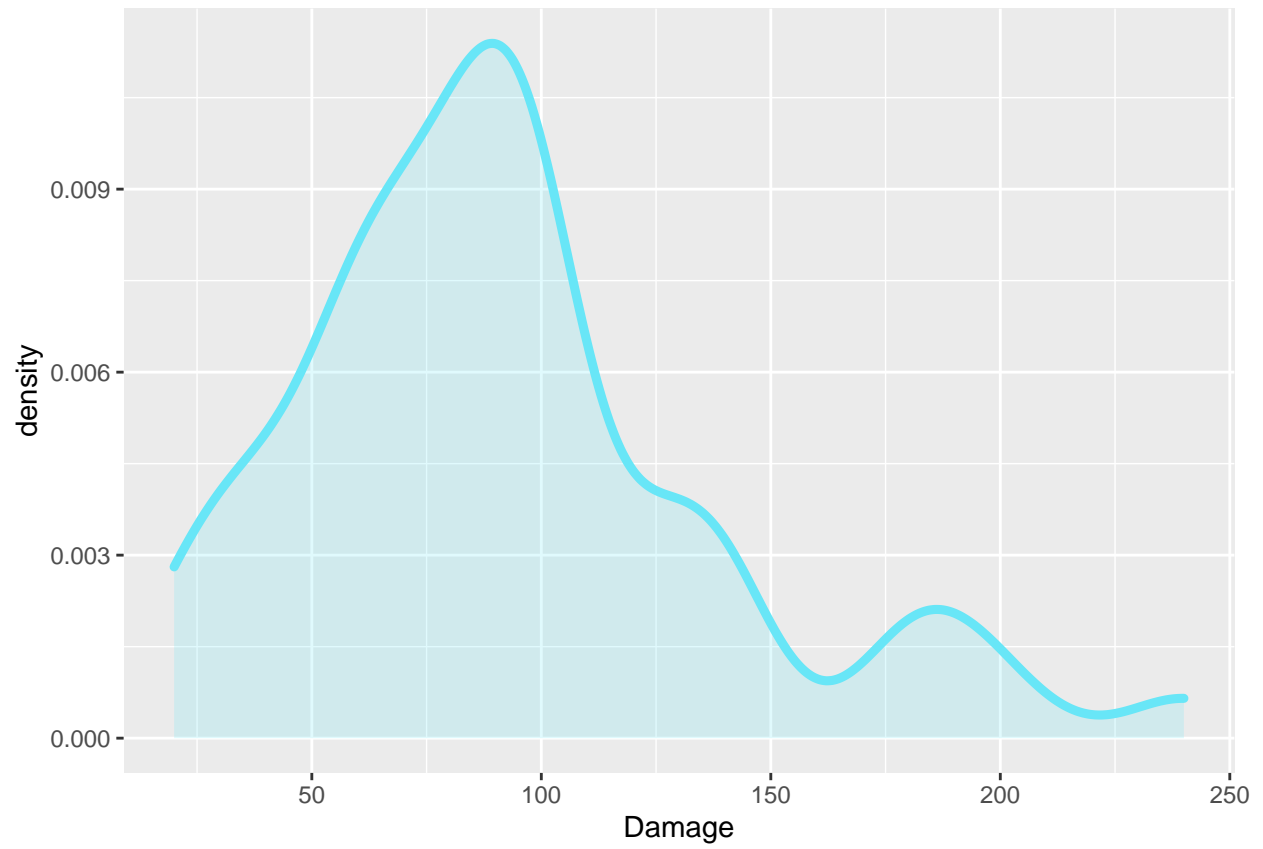
```
character_info(
  "data/characters/r_mika.csv",
  "R. Mika",
  "img/r_mika.png",
  "#68e6f7"
)
```
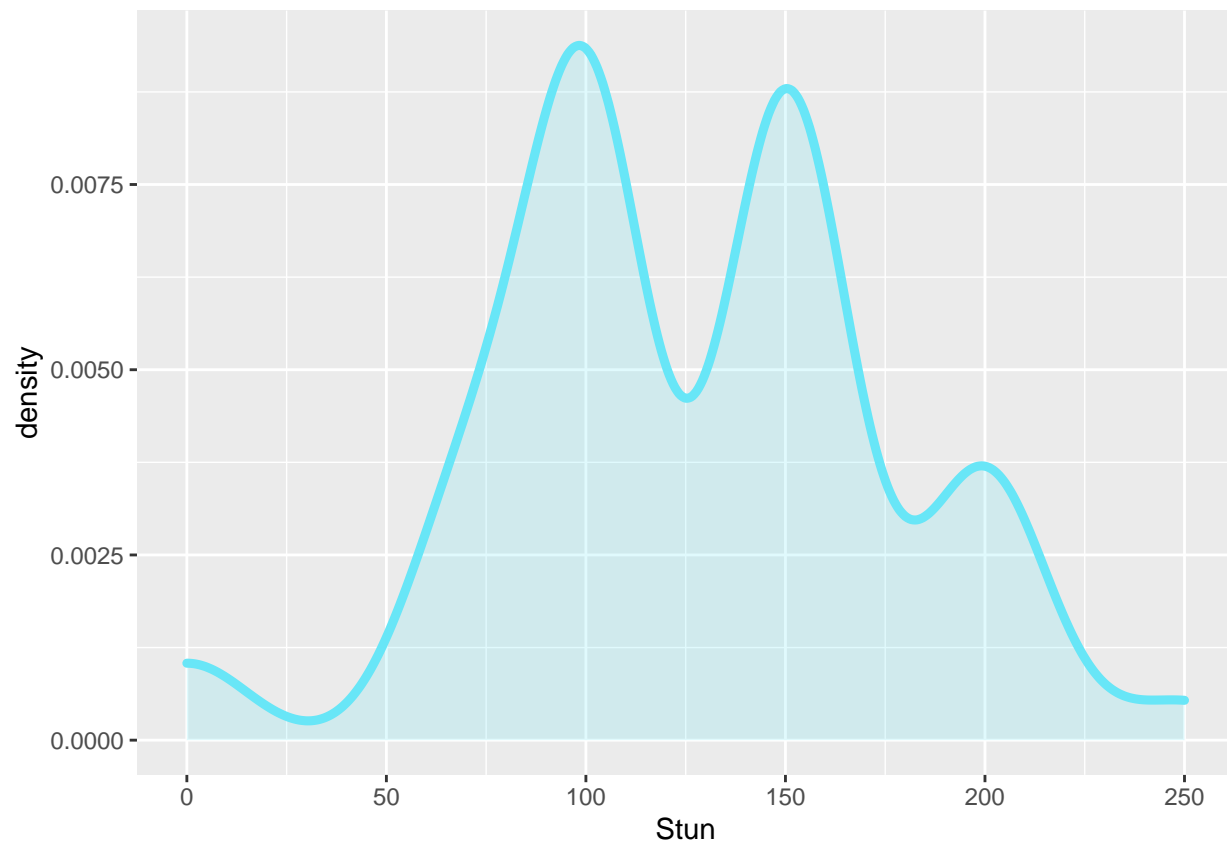
```
## [1] "Median: 3.50  |  Mean: 9.32  |  Standard deviation: 19.70"
```

```
## [1] "Median: 90.00  |  Mean: 92.78  |  Standard deviation: 46.90"
```

[1] "Median: 125.00 | Mean: 126.60 | Standard deviation: 50.73"
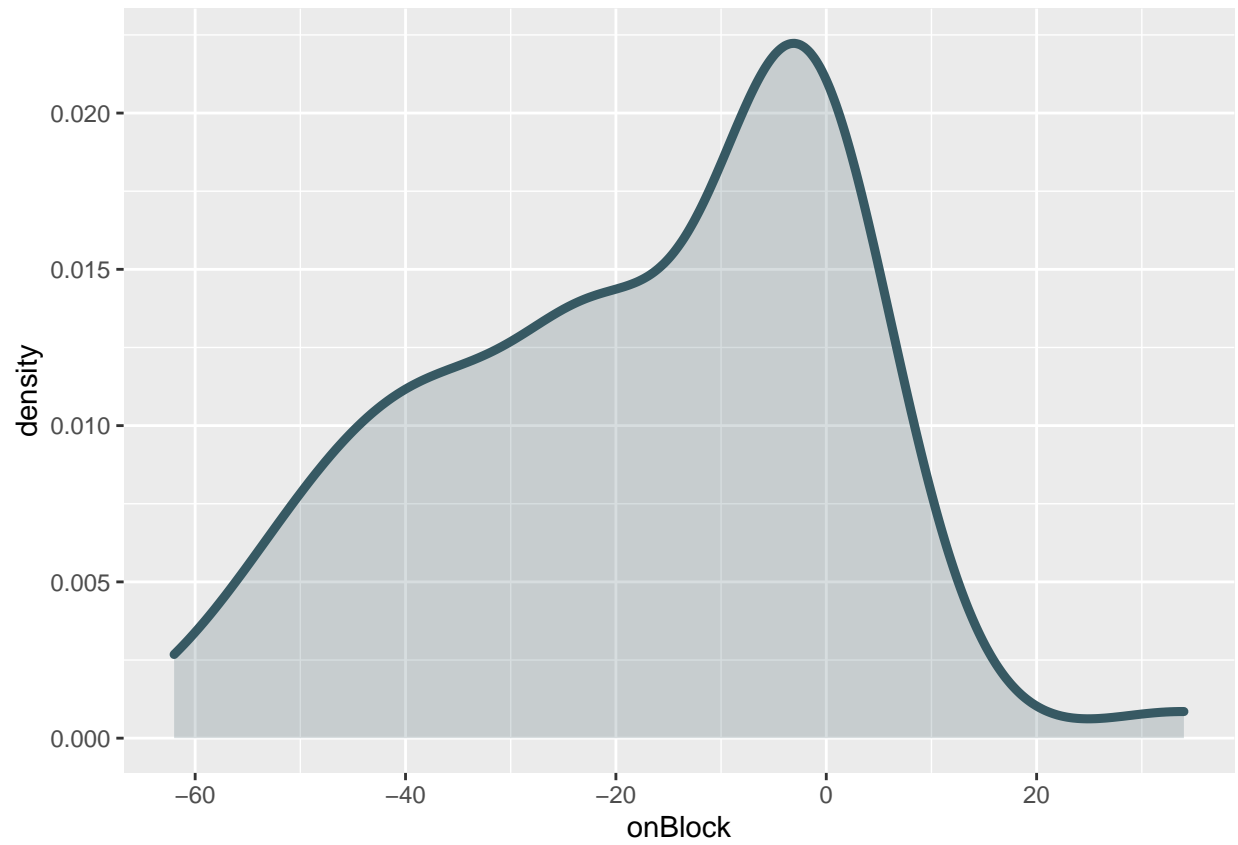
```
##         Move onBlock plnCmd airmove followUp projectile moveType Damage Stun
## 1 Stand LP       2     LP   False    False      False   normal     30   70
## 2 Stand MP      -2     MP   False    False      False   normal     60  100
## 3 Stand HP      -6     HP   False    False      False   normal     90  150
## 4 Stand LK       1     LK   False    False      False   normal     30   70
## 5 Stand MK      -2     MK   False    False      False   normal     60  100
## 6 Stand HK      -4     HK   False    False      False   normal     90  150
##                   1
## health     9.5e+02
## stun       1.0e+03
## vgauge1    6.0e+02
## vgauge2    9.0e+02
## fDash      1.8e+01
## bDash      2.4e+01
## fWalk      4.2e-02
## bWalk      3.0e-02
## throwHurt  2.5e-01
## throwRange 8.5e-01
```
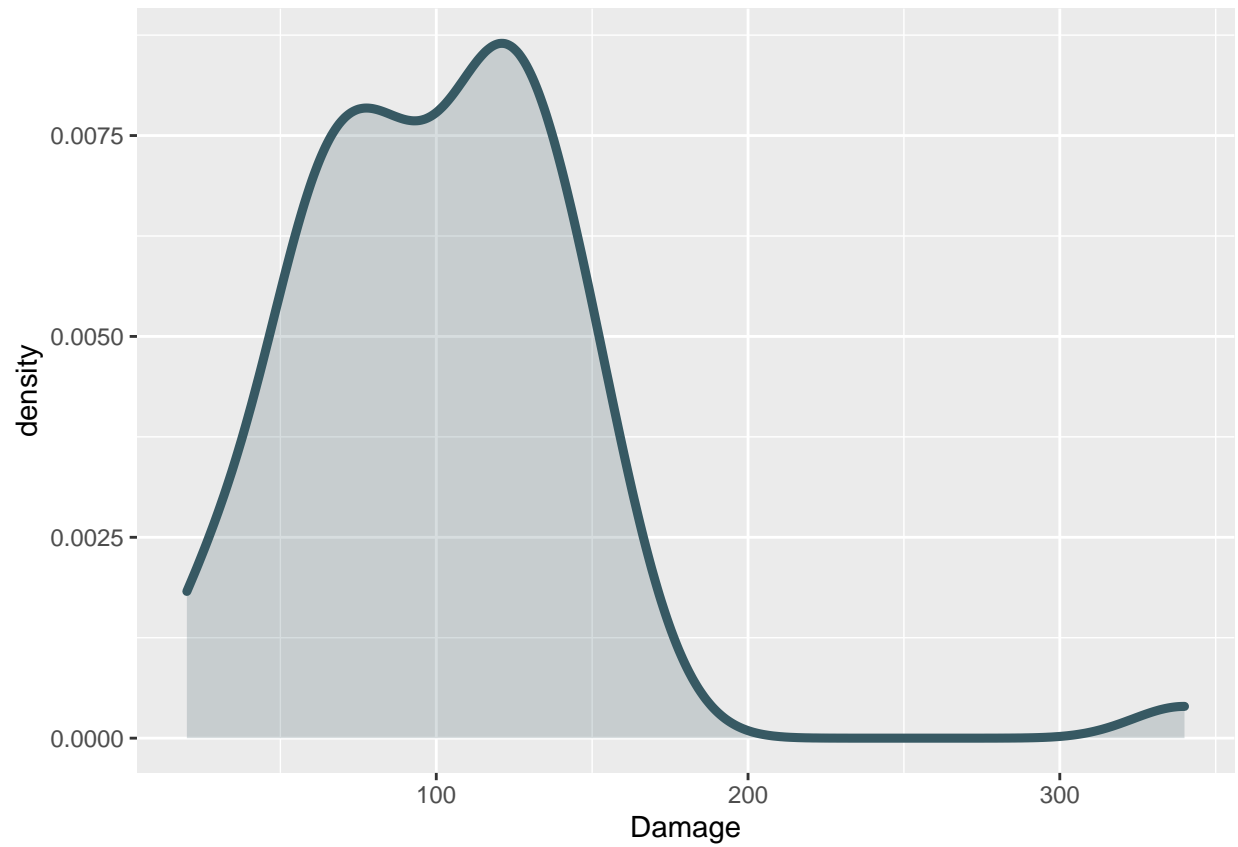
```r
character_info(
  "data/characters/rashid.csv",
  "Rashid",
  "img/rashid.png",
  "#375963"
)
```
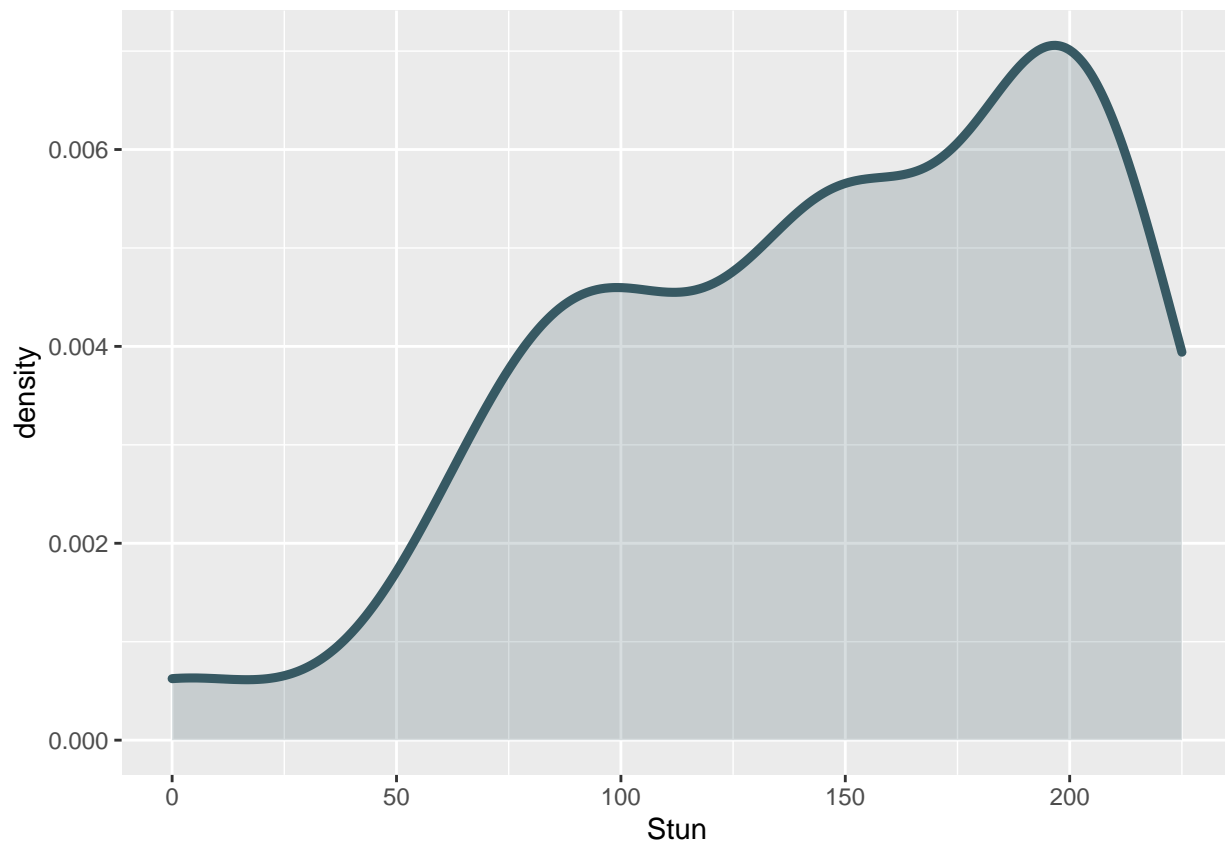
```
## [1] "Median: -20.00  |  Mean: -18.00  |  Standard deviation: 19.56"
```

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```
## [1] "Median: 100.00  |  Mean: 101.59  |  Standard deviation: 48.02"
```

```
## [1] "Median: 150.00  |  Mean: 146.15  |  Standard deviation: 55.51"
```
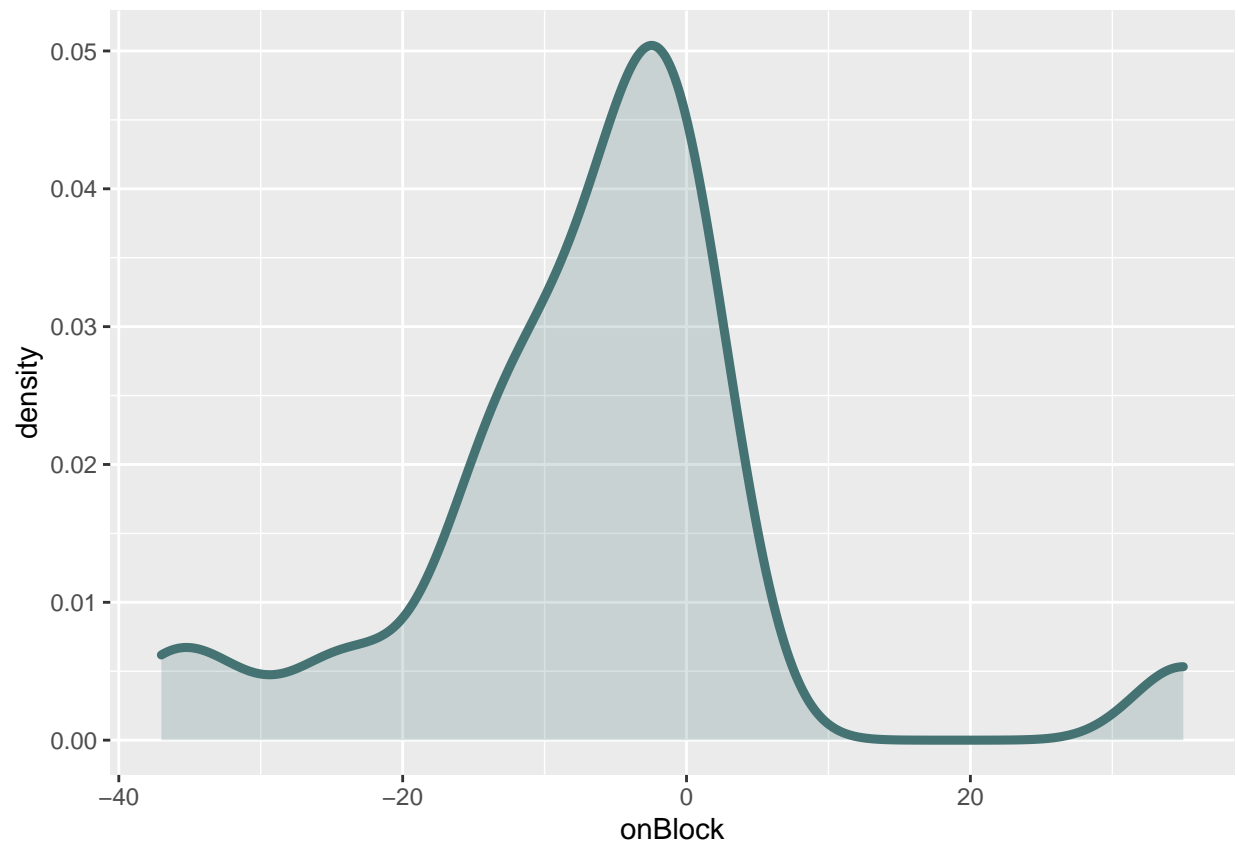
```
##          Move onBlock plnCmd airmove followUp projectile moveType Damage Stun
## 1 Stand LP        3     LP   False    False      False   normal     30   70
## 2 Stand MP        3     MP   False    False      False   normal     60  100
## 3 Stand HP       -3     HP   False    False      False   normal     80  150
## 4 Stand LK        1     LK   False    False      False   normal     30   70
## 5 Stand MK       -4     MK   False    False      False   normal     60  100
## 6 Stand HK       -4     HK   False    False      False   normal     90  150
##                   1
## health      950.000
## stun        950.000
## vgauge1     600.000
## vgauge2     600.000
## fDash        15.000
## bDash        24.000
## fWalk         0.040
## bWalk         0.036
## throwHurt     0.402
## throwRange    0.852
```
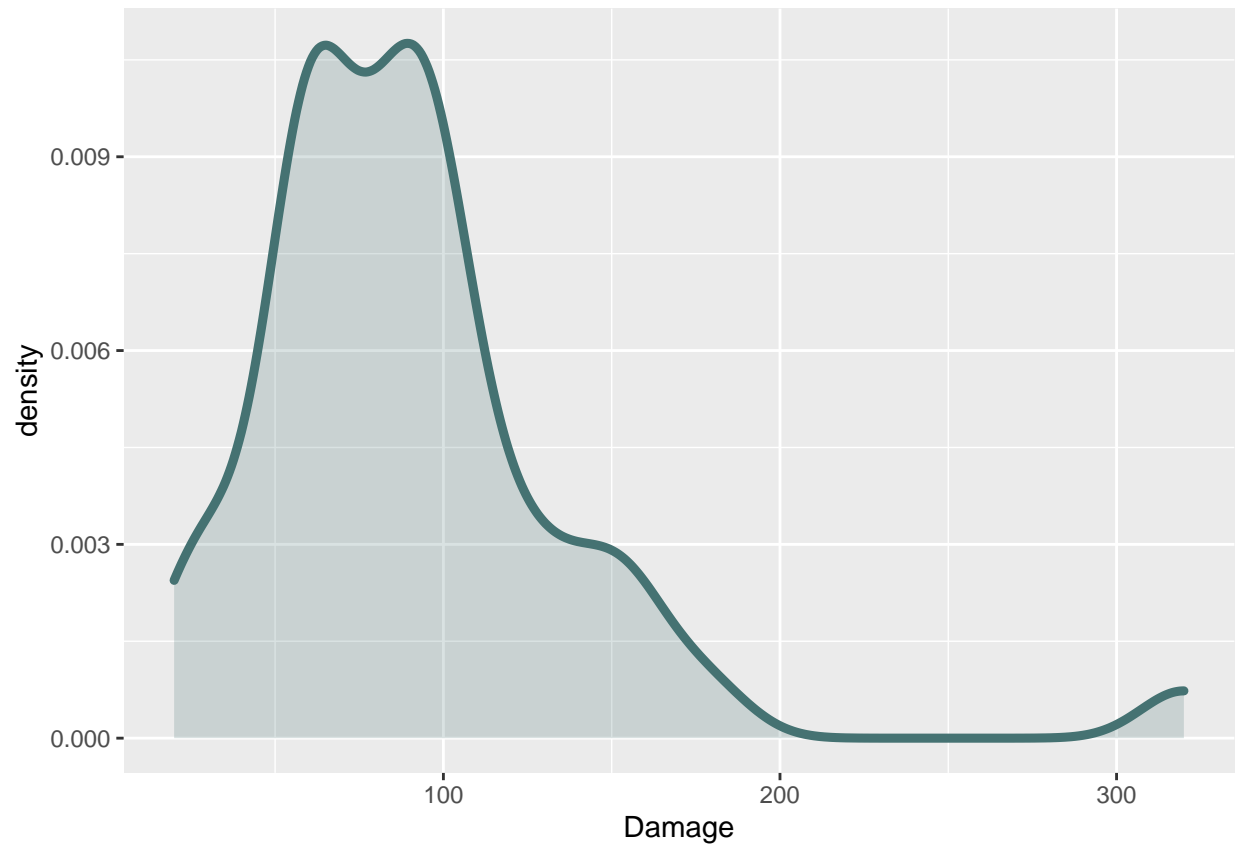
```r
character_info(
  "data/characters/ryu.csv",
  "Ryu",
  "img/ryu.png",
  "#457272"
)
```
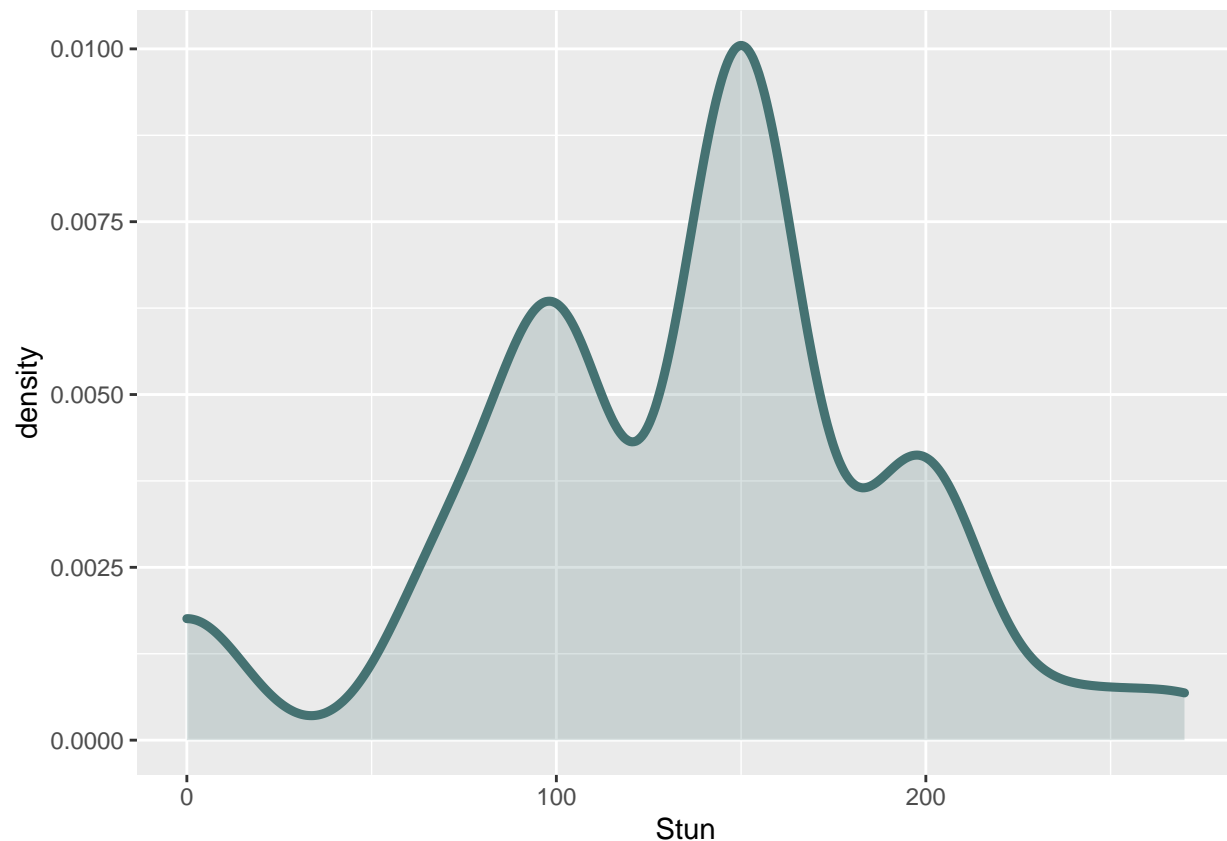
```
## [1] "Median: -6.00  |  Mean: -6.56  |  Standard deviation: 13.59"
```

[1] "Median: 90.00 | Mean: 91.51 | Standard deviation: 50.78"

```
## [1] "Median: 150.00   |   Mean: 133.26   |   Standard deviation: 58.79"
```
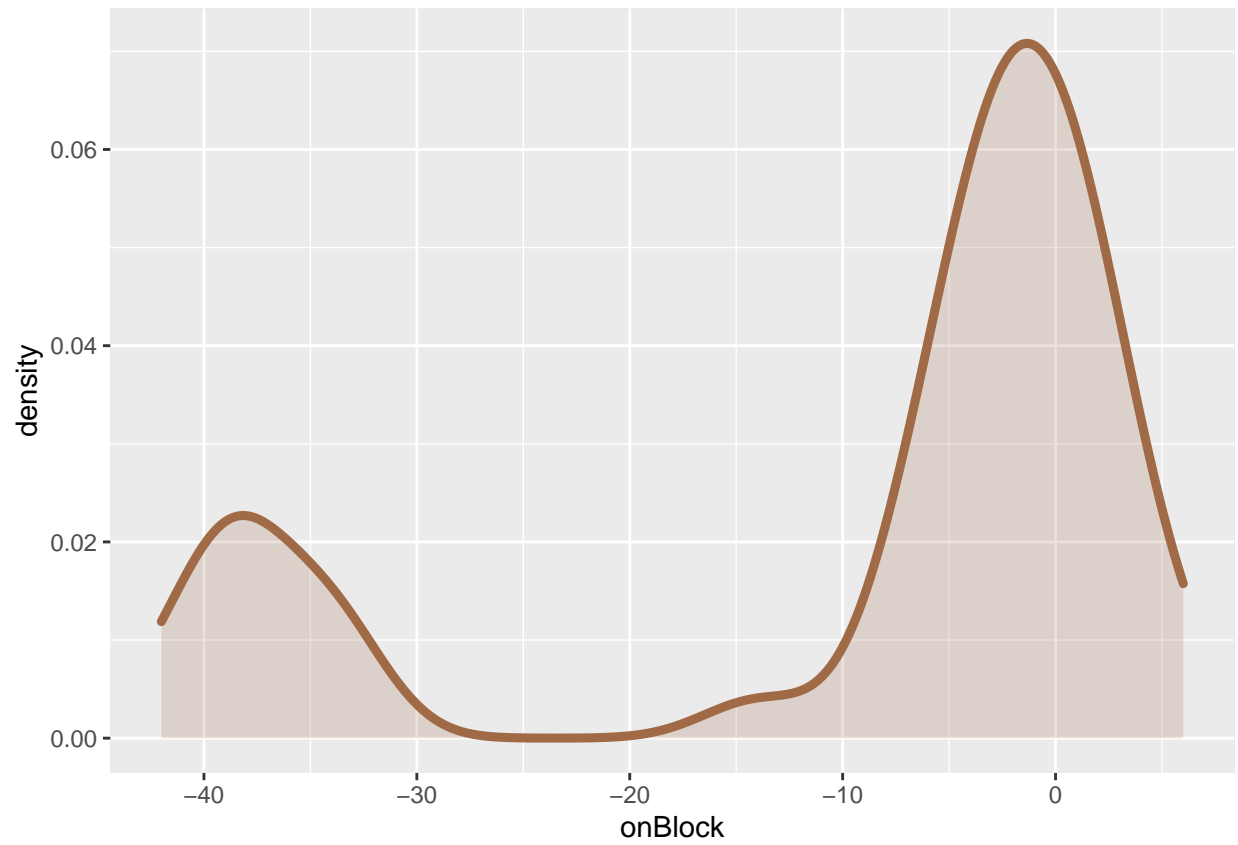
```
##         Move onBlock plnCmd airmove followUp projectile moveType Damage Stun
## 1 Stand LP       2     LP   False    False      False   normal     30   70
## 2 Stand MP       2     MP   False    False      False   normal     60  100
## 3 Stand HP      -1     HP   False    False      False   normal     90  150
## 4 Stand LK      -2     LK   False    False      False   normal     30   70
## 5 Stand MK      -2     MK   False    False      False   normal     70  100
## 6 Stand HK      -1     HK   False    False      False   normal     90  150
##                  1
## health    1025.000
## stun      1050.000
## vgauge1    600.000
## vgauge2    600.000
## fDash       16.000
## bDash       21.000
## fWalk        0.047
## bWalk        0.032
## throwHurt    0.250
## throwRange   0.800
```
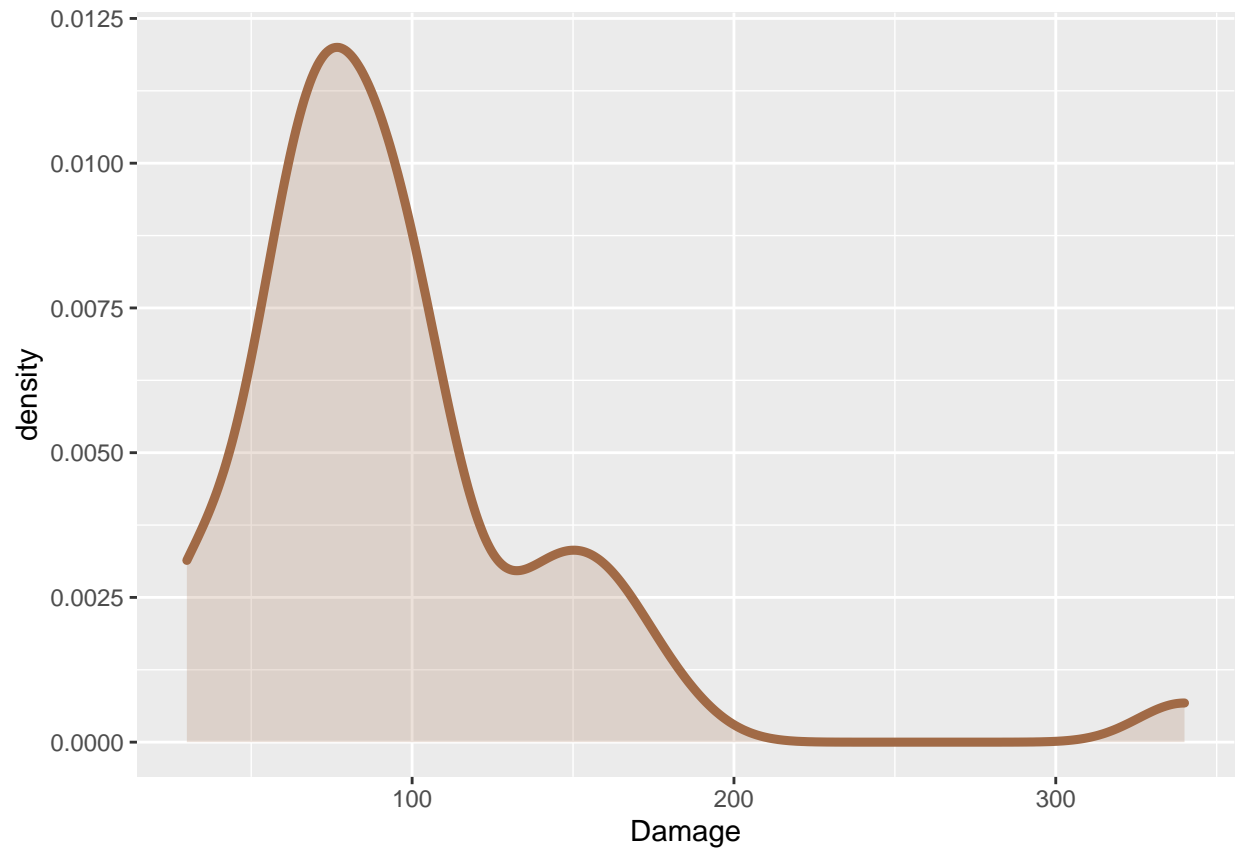
```r
character_info(
  "data/characters/sagat.csv",
  "Sagat",
  "img/sagat.png",
  "#a16a46"
)
```
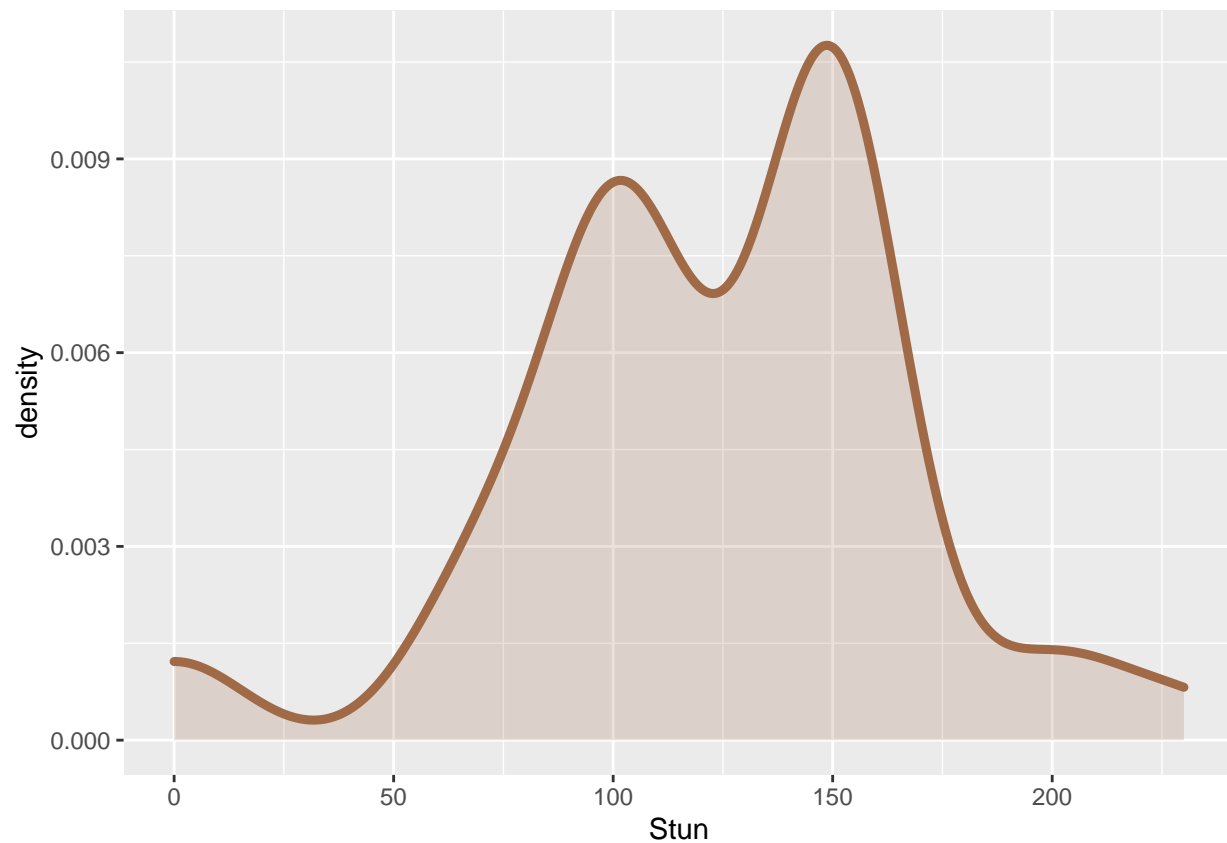
```
## [1] "Median: -2.00  |  Mean: -9.56  |  Standard deviation: 15.42"
```

```
## [1] "Median: 80.00  |  Mean: 95.24  |  Standard deviation: 53.64"
```

```
## [1] "Median: 120.00  |  Mean: 122.46  |  Standard deviation: 45.69"
```
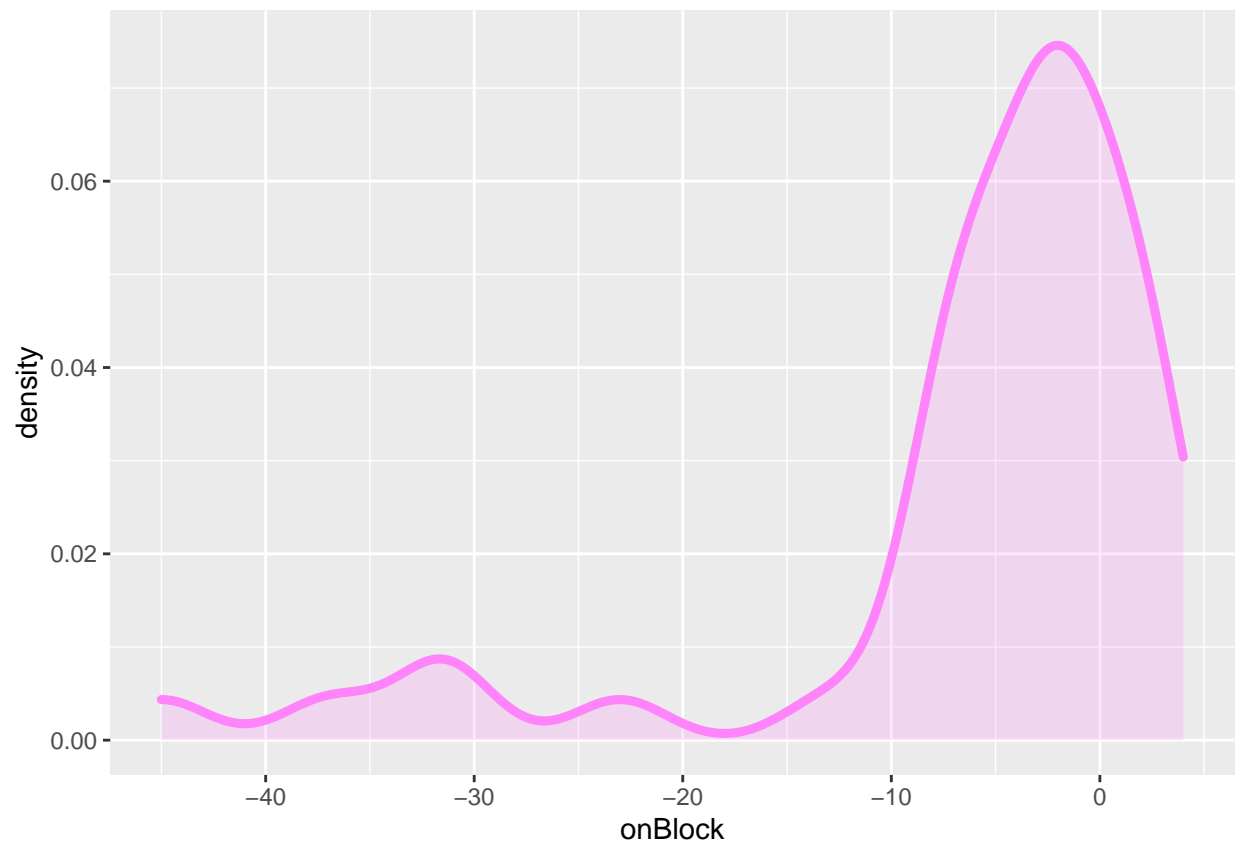
```
##          Move onBlock plnCmd airmove followUp projectile moveType Damage Stun
## 1 Stand LP        4     LP    False    False      False   normal     30   70
## 2 Stand MP        3     MP    False    False      False   normal     60  100
## 3 Stand HP       -2     HP    False    False      False   normal     90  150
## 4 Stand LK        1     LK    False    False      False   normal     40   70
## 5 Stand MK       -2     MK    False    False      False   normal     70  100
## 6 Stand HK       -3     HK    False    False      False   normal     80  150
##                      1
## health      1025.0000
## stun        1050.0000
## vgauge1      900.0000
## vgauge2      600.0000
## fDash         20.0000
## bDash         24.0000
## fWalk          0.0365
## bWalk          0.0277
## throwHurt      0.2500
## throwRange     0.8500
```
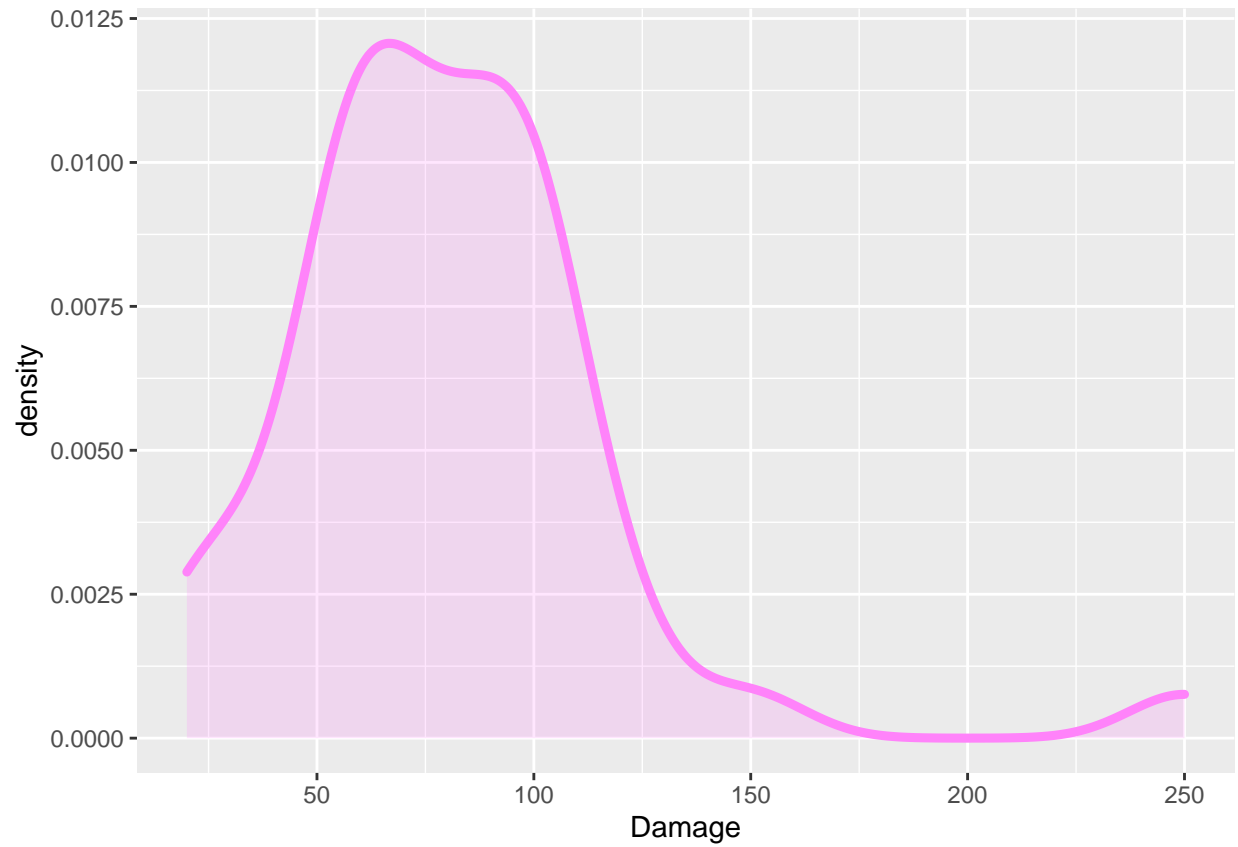
```r
character_info(
  "data/characters/sakura.csv",
  "Sakura",
  "img/sakura.png",
  "#ff83fa"
)
```
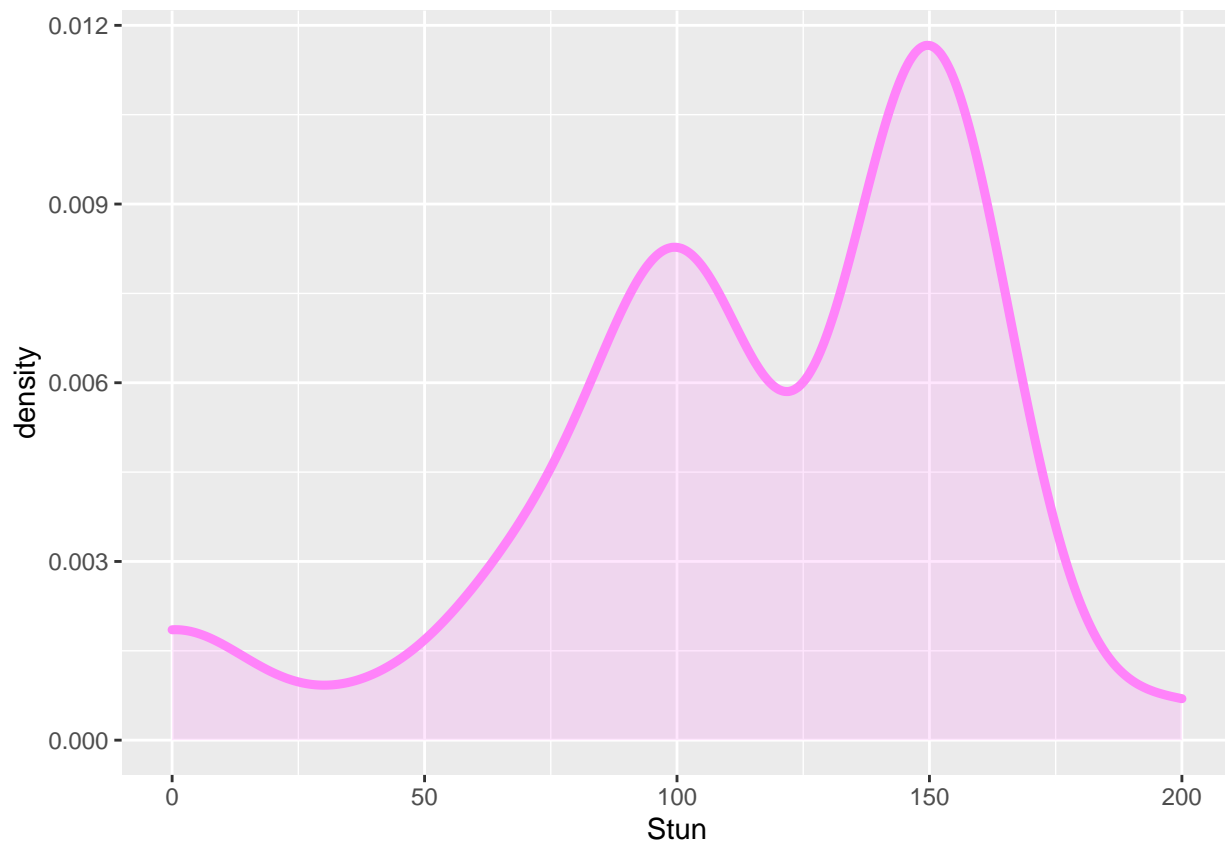
```
## [1] "Median: -3.00  |  Mean: -6.44  |  Standard deviation: 11.18"
```

```
## [1] "Median: 80.00  |  Mean: 80.37  |  Standard deviation: 38.99"
```

```
## [1] "Median: 112.00  |  Mean: 114.20  |  Standard deviation: 46.52"
```

```
##         Move onBlock plnCmd airmove followUp projectile moveType Damage Stun
## 1 Stand LP       2     LP   False    False      False   normal     30   70
## 2 Stand MP       3     MP   False    False      False   normal     60  100
## 3 Stand HP      -2     HP   False    False      False   normal     80  150
## 4 Stand LK      -2     LK   False    False      False   normal     30   70
## 5 Stand MK       1     MK   False    False      False   normal     60  100
## 6 Stand HK      -4     HK   False    False      False   normal     80  150
##                   1
## health     9.75e+02
## stun       1.00e+03
## vgauge1    6.00e+02
## vgauge2    6.00e+02
## fDash      1.60e+01
## bDash      2.30e+01
## fWalk      5.27e-02
## bWalk      4.70e-02
## throwHurt  2.50e-01
## throwRange 8.00e-01
```
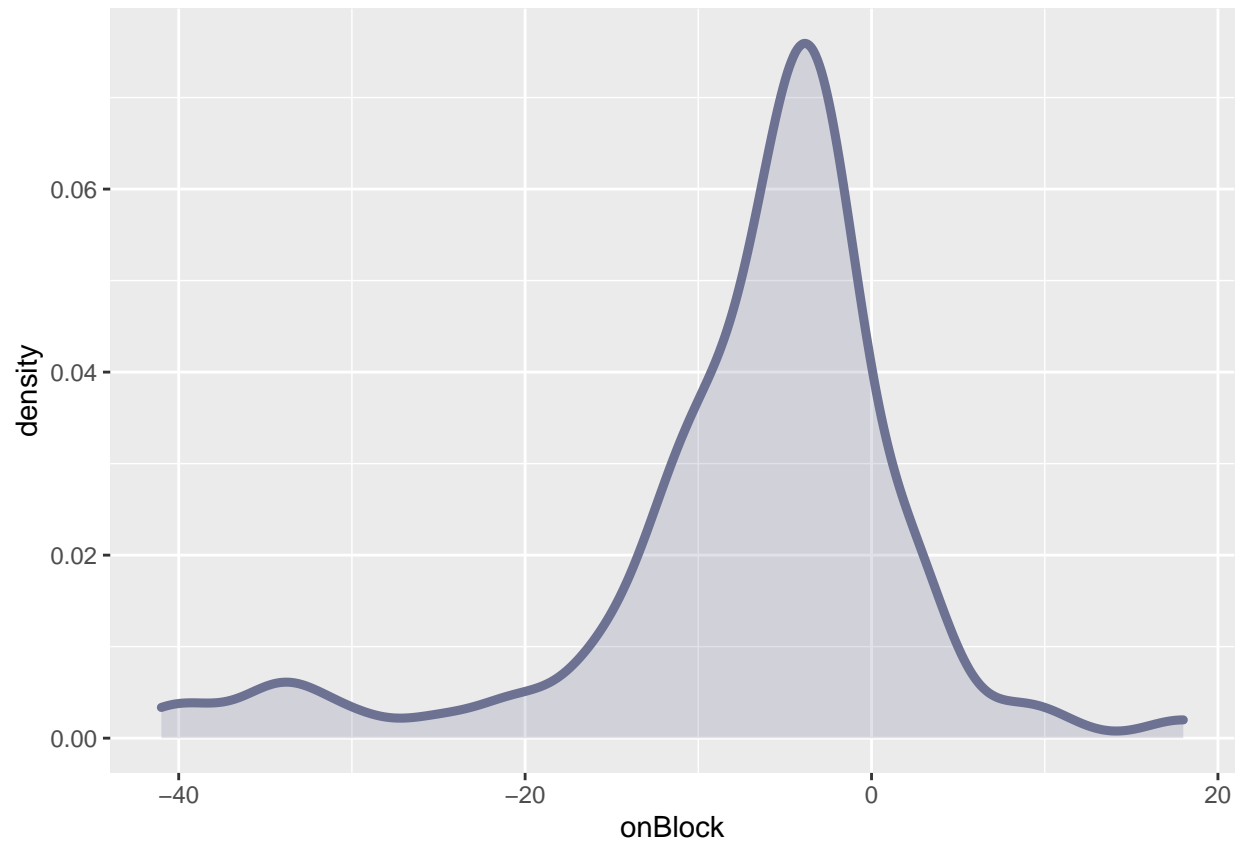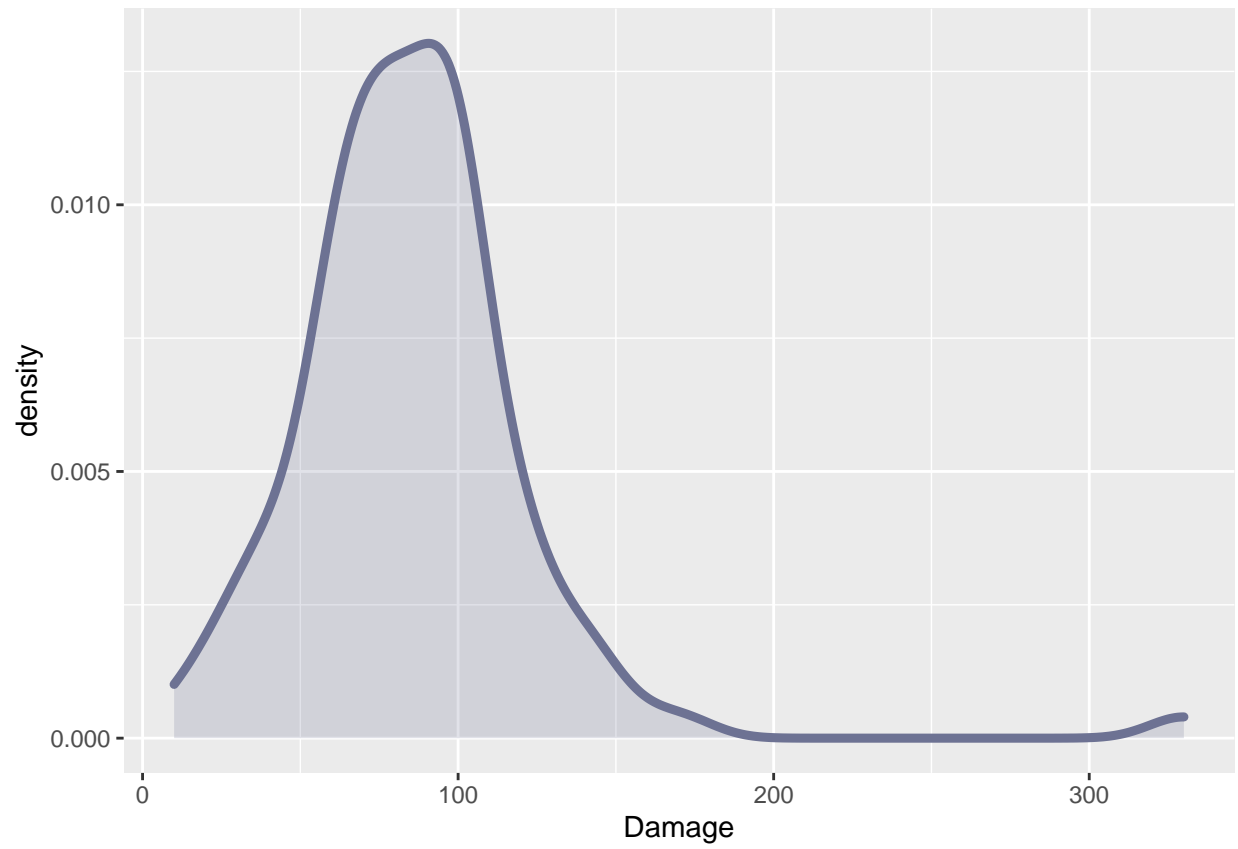
```
character_info(
  "data/characters/seth.csv",
  "Seth",
  "img/seth.png",
  "#6d7293"
)
```
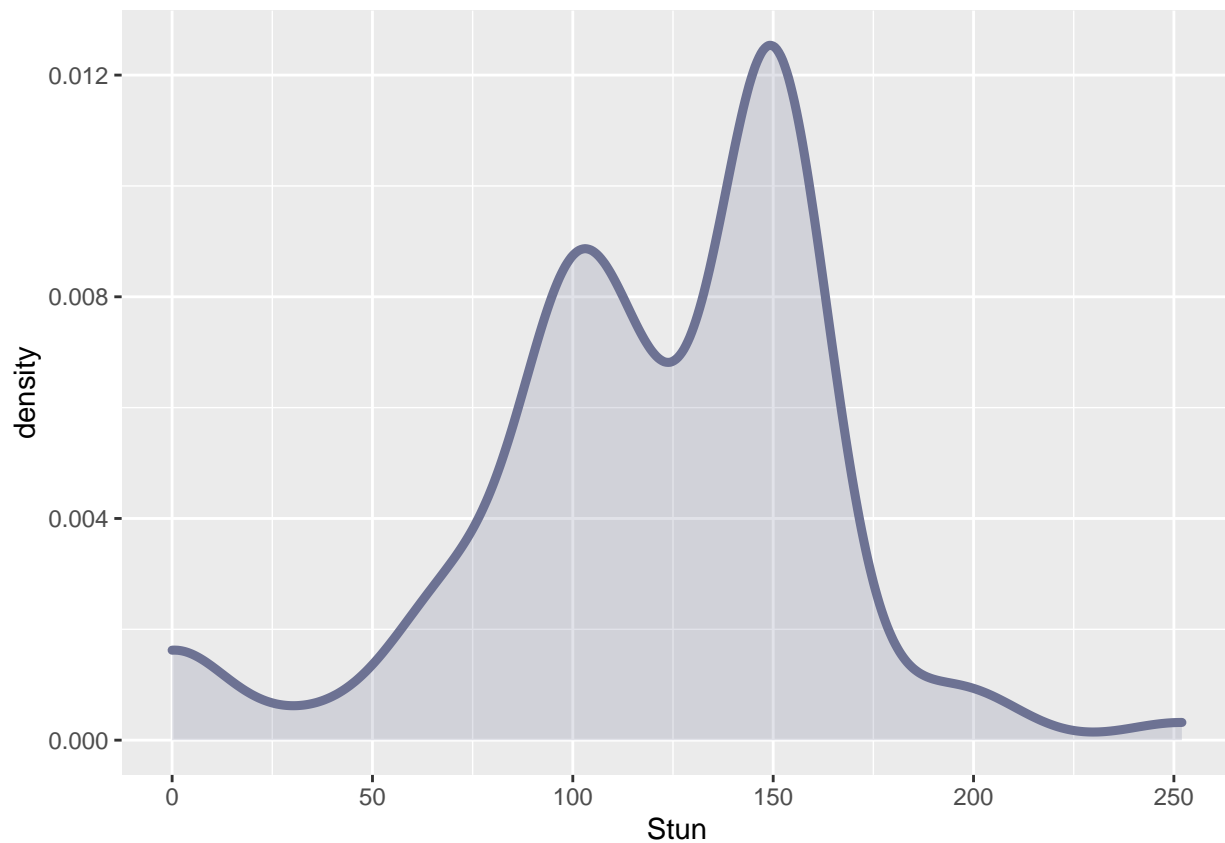
```
## [1] "Median: -5.00  |  Mean: -7.16  |  Standard deviation: 9.76"
```

```
## [1] "Median: 80.00  |  Mean: 85.73  |  Standard deviation: 39.05"
```

```
## [1] "Median: 120.00  |  Mean: 119.17  |  Standard deviation: 45.32"
```
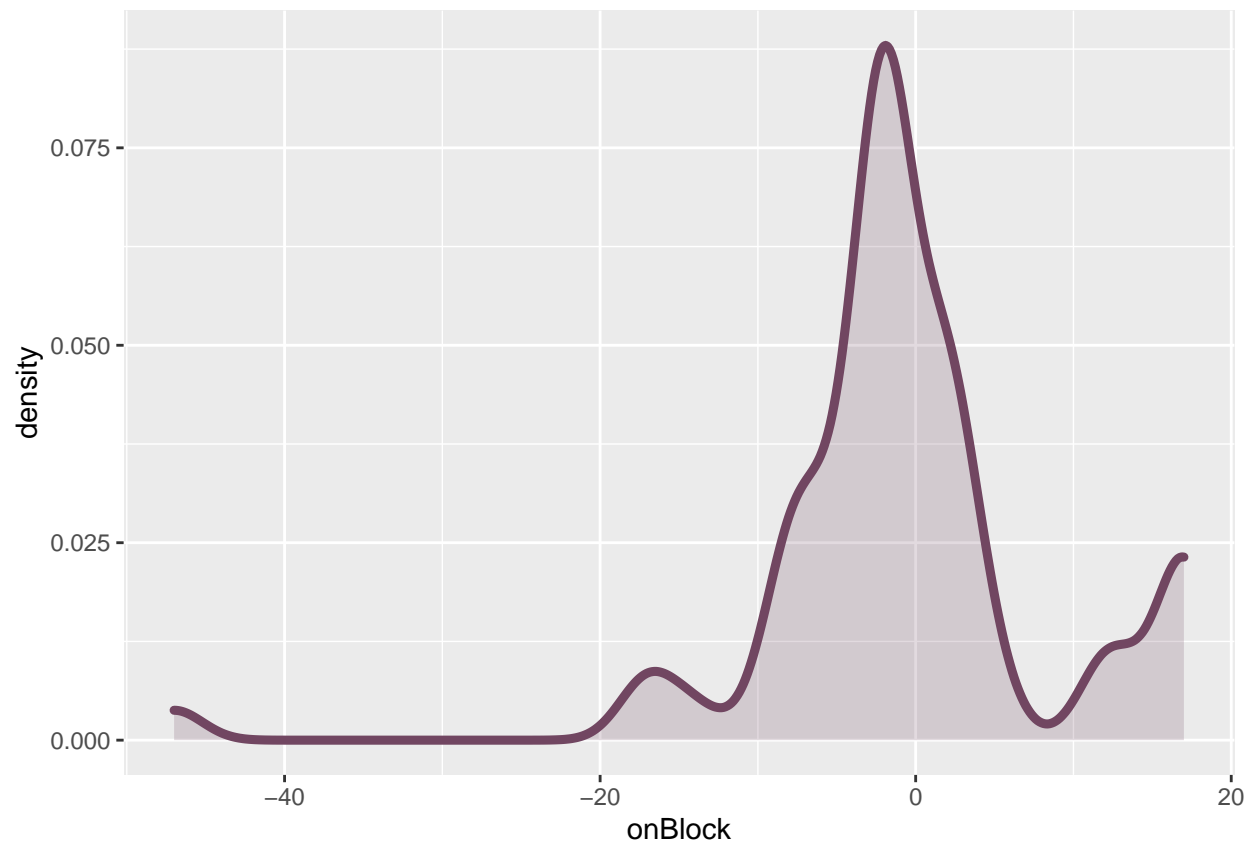
```
##         Move onBlock plnCmd airmove followUp projectile moveType Damage Stun
## 1 Stand LP       3     LP   False    False      False   normal     30   70
## 2 Stand MP      -2     MP   False    False      False   normal     50  100
## 3 Stand HP      -4     HP   False    False      False   normal     80  150
## 4 Stand LK       3     LK   False    False      False   normal     40   70
## 5 Stand MK      -2     MK   False    False      False   normal     70  100
## 6 Stand HK     -10     HK   False    False      False   normal     80  150
##                  1
## health     900.000
## stun       900.000
## vgauge1    600.000
## vgauge2    600.000
## fDash       16.000
## bDash       23.000
## fWalk        0.047
## bWalk        0.032
## throwHurt    0.250
## throwRange   0.800
```
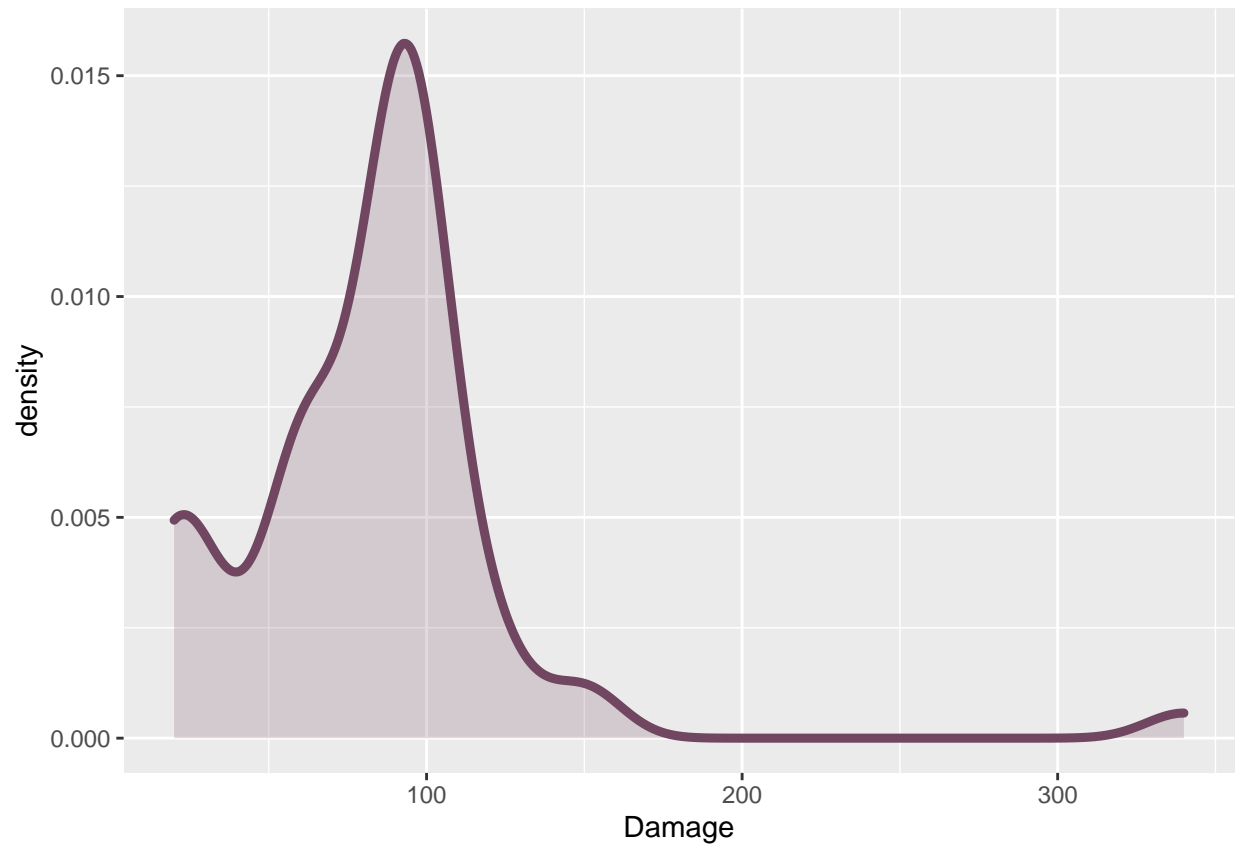
```r
character_info(
  "data/characters/urien.csv",
  "Urien",
  "img/urien.png",
  "#714661"
)
```
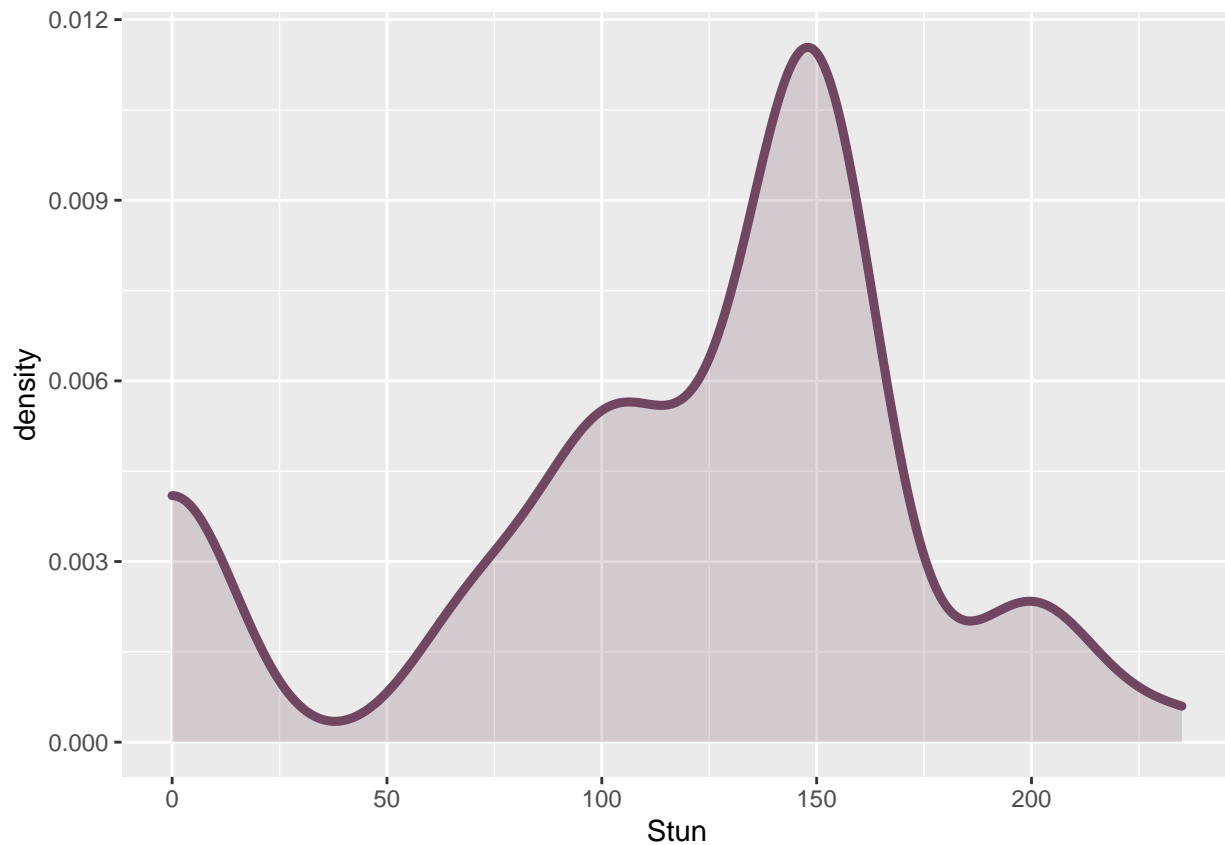
```
## [1] "Median: -2.00  |  Mean: -0.69  |  Standard deviation: 10.04"
```

```
## [1] "Median: 90.00  |  Mean: 82.86  |  Standard deviation: 46.45"
```
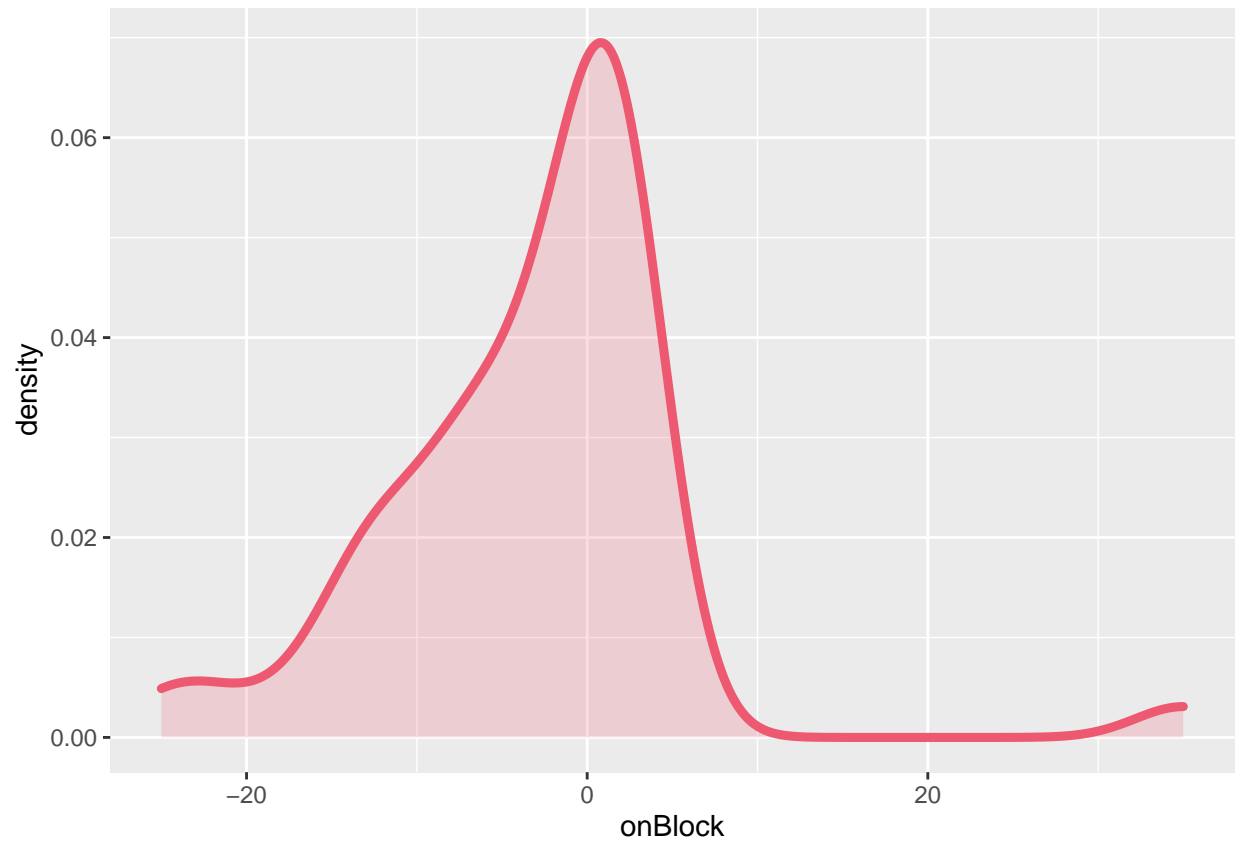
```
## [1] "Median: 140.00  |  Mean: 115.54  |  Standard deviation: 60.16"
```

```
##                  Move onBlock       plnCmd airmove followUp projectile moveType
## 1            Stand LP      2           LP   False    False      False   normal
## 2            Stand MP      3           MP   False    False      False   normal
## 3            Stand HP     -2           HP   False    False      False   normal
## 4     Stand HP (hold)      5  HP (hold)    False    False      False   normal
## 5 Stand HP (release)     -2 HP (release)   False    False      False   normal
## 6            Stand LK      3           LK   False    False      False   normal
##   Damage Stun
## 1     30   70
## 2     60  100
## 3     90  150
## 4    100  150
## 5     90  150
## 6     40   70
##                   1
## health    1025.0000
## stun      1050.0000
## vgauge1    900.0000
## vgauge2    600.0000
## fDash       16.0000
## bDash       25.0000
## fWalk        0.0435
## bWalk        0.0300
## throwHurt    0.2500
## throwRange   0.8500
```
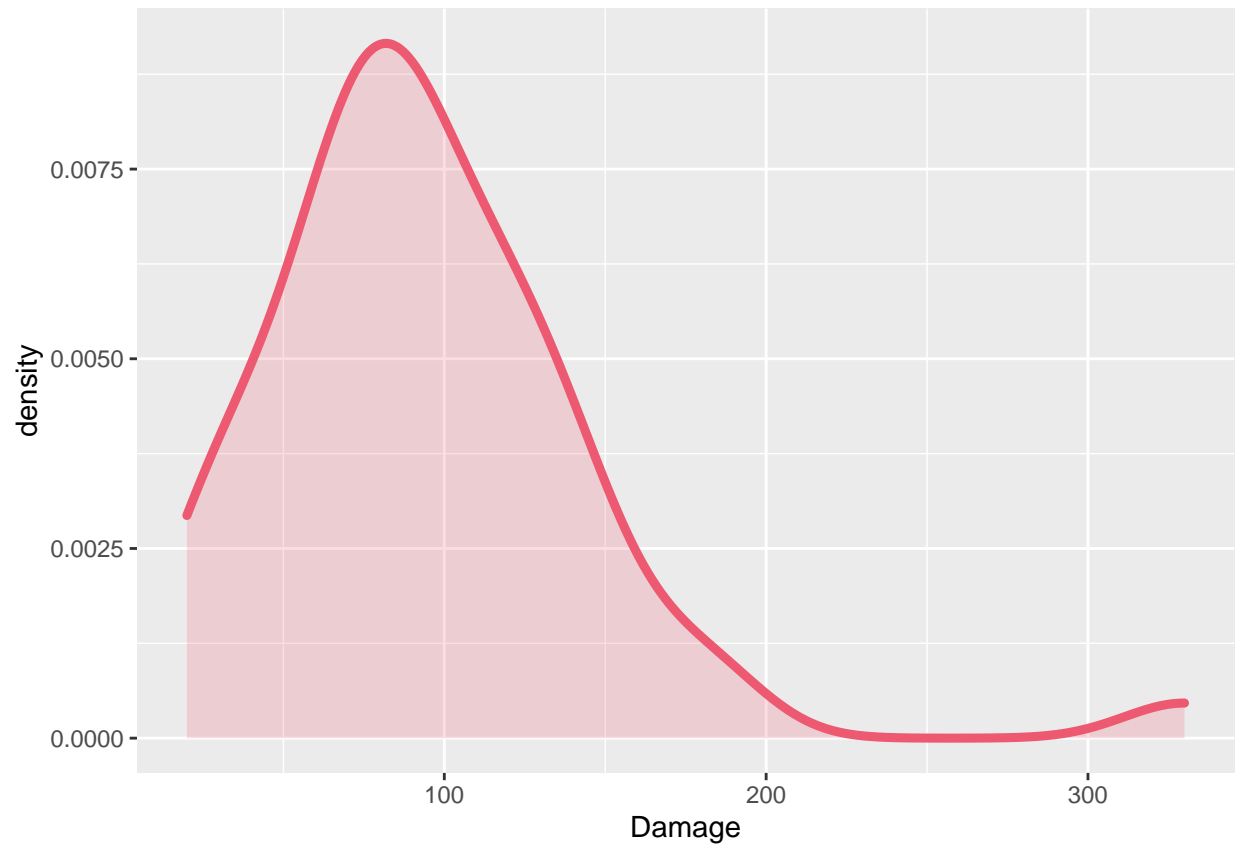
```
character_info(
  "data/characters/vega.csv",
  "Vega",
  "img/vega.png",
  "#ed5971"
)
```
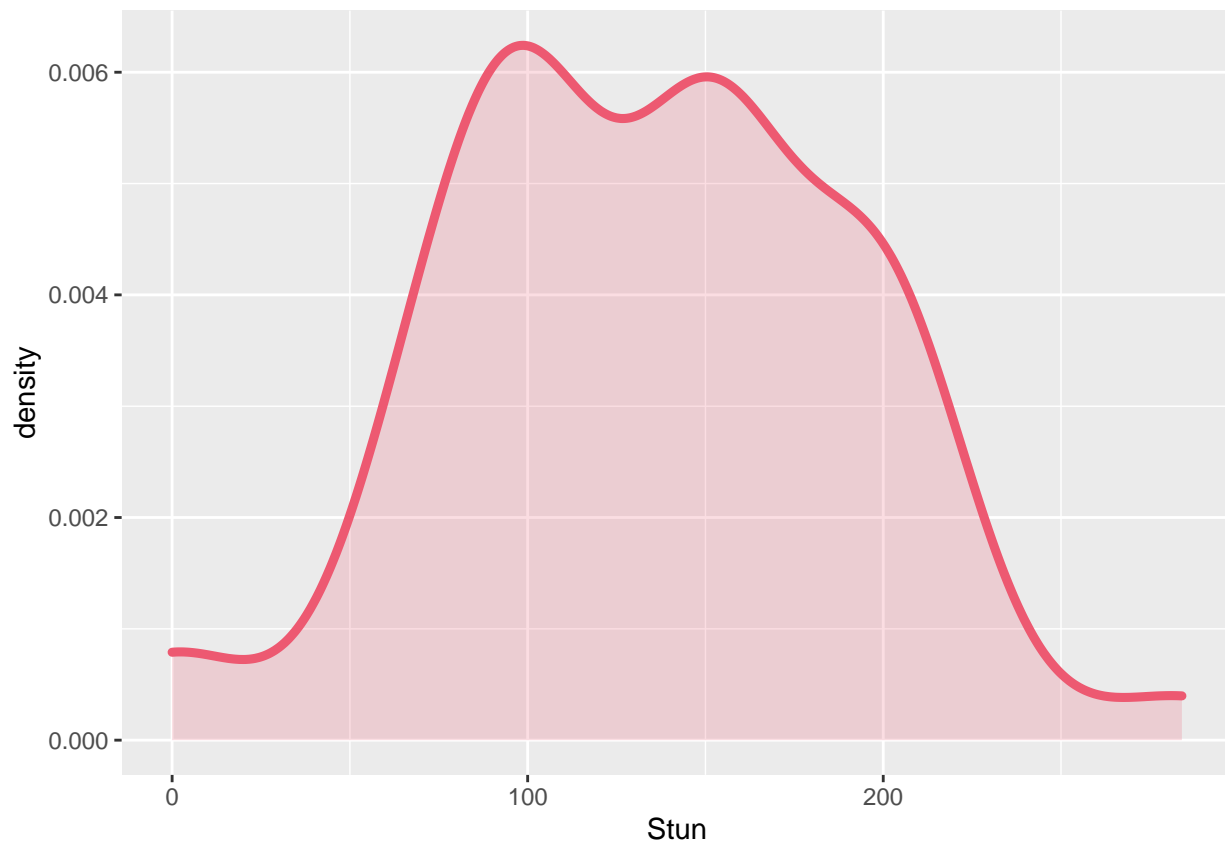
[1] "Median: -2.00 | Mean: -3.17 | Standard deviation: 8.98"

[1] "Median: 85.00 | Mean: 95.26 | Standard deviation: 52.89"
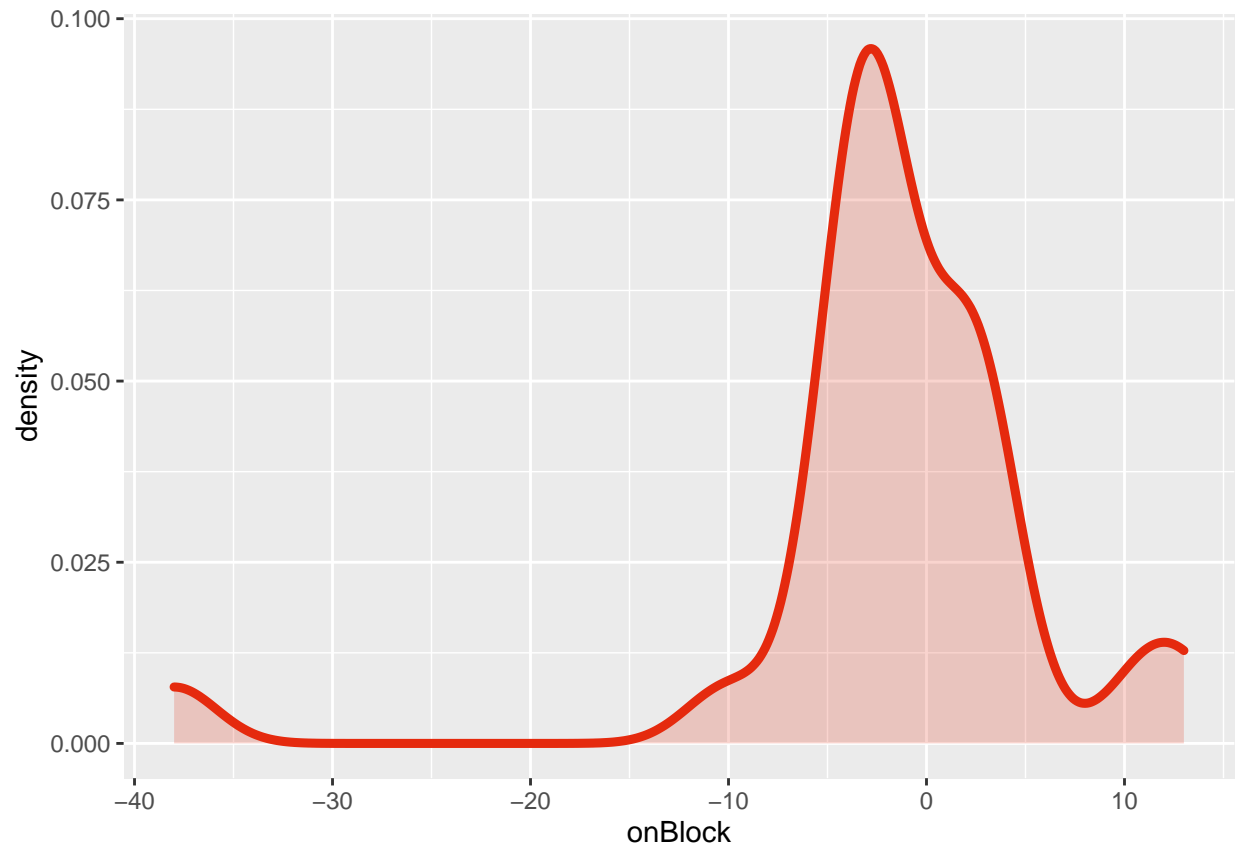
```
## [1] "Median: 150.00  |  Mean: 134.57  |  Standard deviation: 57.73"
```
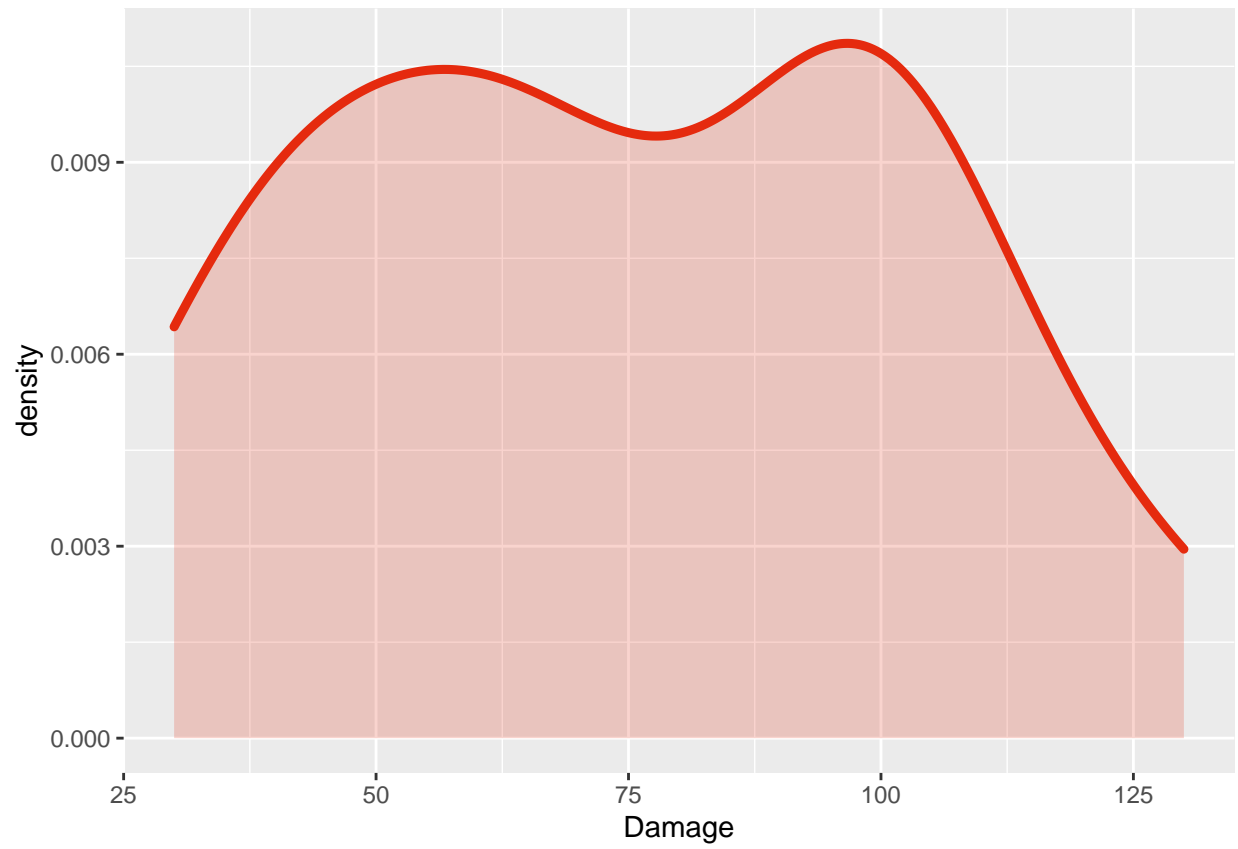
```
##                 Move onBlock     plnCmd airmove followUp projectile moveType
## 1 Stand LP (no claw)      3 LP (no claw)   False    False      False   normal
## 2 Stand MP (no claw)      1 MP (no claw)   False    False      False   normal
## 3 Stand HP (no claw)     -1 HP (no claw)   False    False      False   normal
## 4      Stand LP (claw)     1    LP (claw)   False    False      False   normal
## 5      Stand MP (claw)     2    MP (claw)   False    False      False   normal
## 6      Stand HP (claw)    -2    HP (claw)   False    False      False   normal
##    Damage Stun
## 1      30   70
## 2      60  100
## 3      90  150
## 4      30   70
## 5      70  100
## 6      80  150
##                   1
## health    1025.0000
## stun       975.0000
## vgauge1    600.0000
## vgauge2    600.0000
## fDash       17.0000
## bDash       21.0000
## fWalk        0.0550
## bWalk        0.0450
## throwHurt    0.4087
## throwRange   0.8557
```

```
character_info(
  "data/characters/zangief.csv",
  "Zangief",
  "img/zangief.png",
  "#e52a0e"
)
```
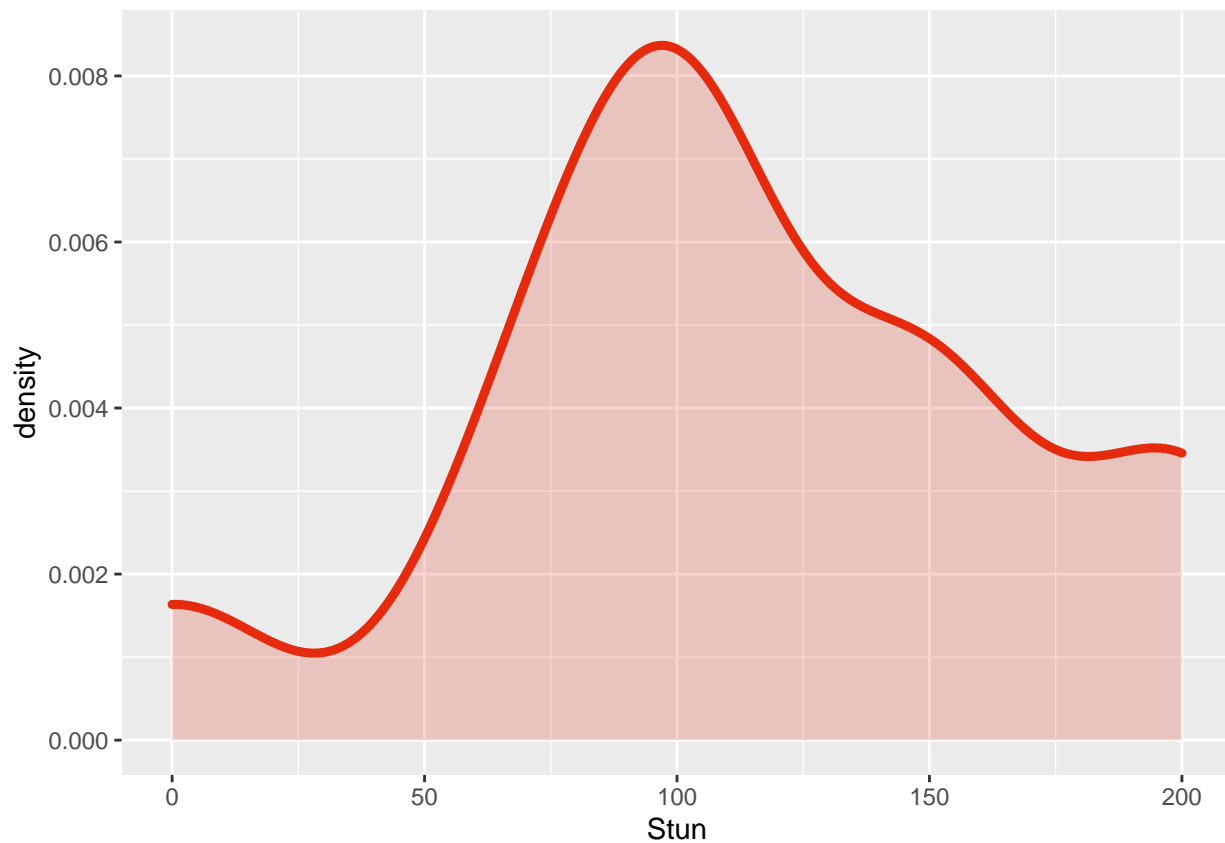
[1] "Median: -2.00 | Mean: -1.92 | Standard deviation: 9.13"

[1] "Median: 70.00 | Mean: 74.58 | Standard deviation: 29.04"

```
## [1] "Median: 100.00  |  Mean: 114.58  |  Standard deviation: 55.72"
```

```
##                   Move onBlock       plnCmd airmove followUp projectile moveType
## 1            Stand LP      3           LP   False    False      False   normal
## 2            Stand MP      2           MP   False    False      False   normal
## 3            Stand HP     -4           HP   False    False      False   normal
## 4       Stand HP (hold)   2   HP (hold)    False    False      False   normal
## 5 Stand HP (release)    -4 HP (release)    False    False      False   normal
## 6            Stand LK     -3           LK   False    False      False   normal
##    Damage Stun
## 1      40   70
## 2      70  100
## 3     100  150
## 4     130  200
## 5     100  150
## 6      30   70
##                     1
## health      1075.0000
## stun        1100.0000
## vgauge1      900.0000
## vgauge2      900.0000
## fDash         25.0000
## bDash         25.0000
## fWalk          0.0305
## bWalk          0.0235
## throwHurt      0.4000
## throwRange     0.9000
```
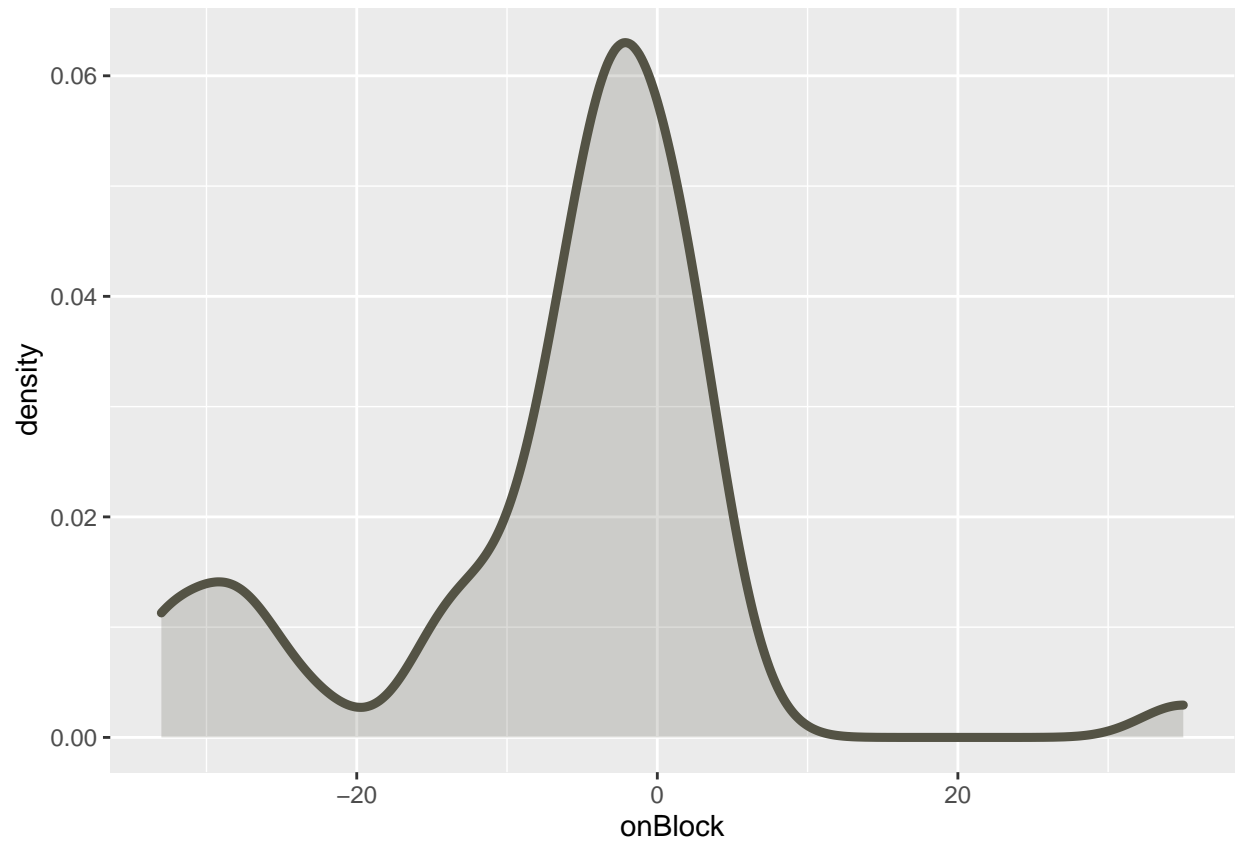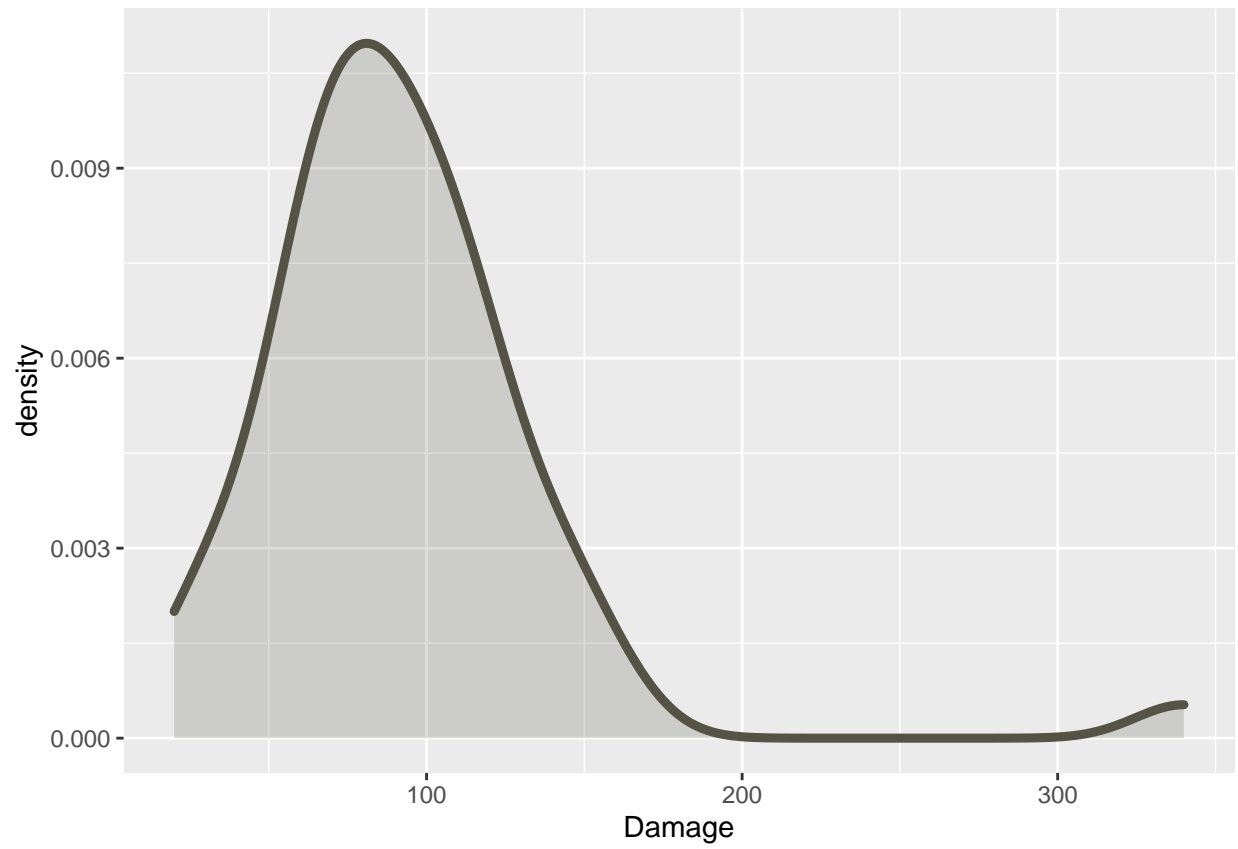
```
character_info(
  "data/characters/zeku_old.csv",
  "Zeku (Old)",
  "img/zeku_old.png",
  "#545345"
)
```
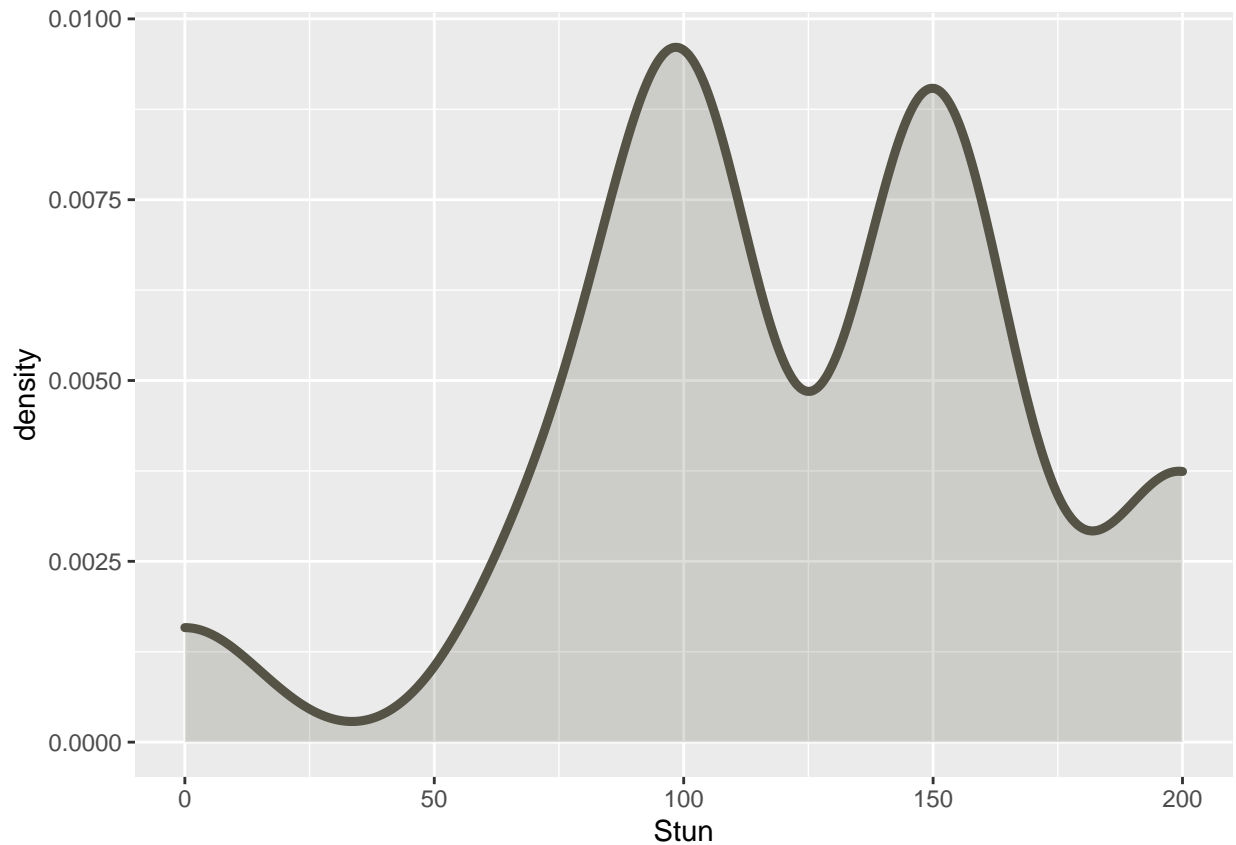
[1] "Median: -4.00 | Mean: -6.67 | Standard deviation: 12.32"

[1] "Median: 90.00 | Mean: 92.65 | Standard deviation: 48.17"

```
## [1] "Median: 100.00  |  Mean: 122.65  |  Standard deviation: 50.28"
```
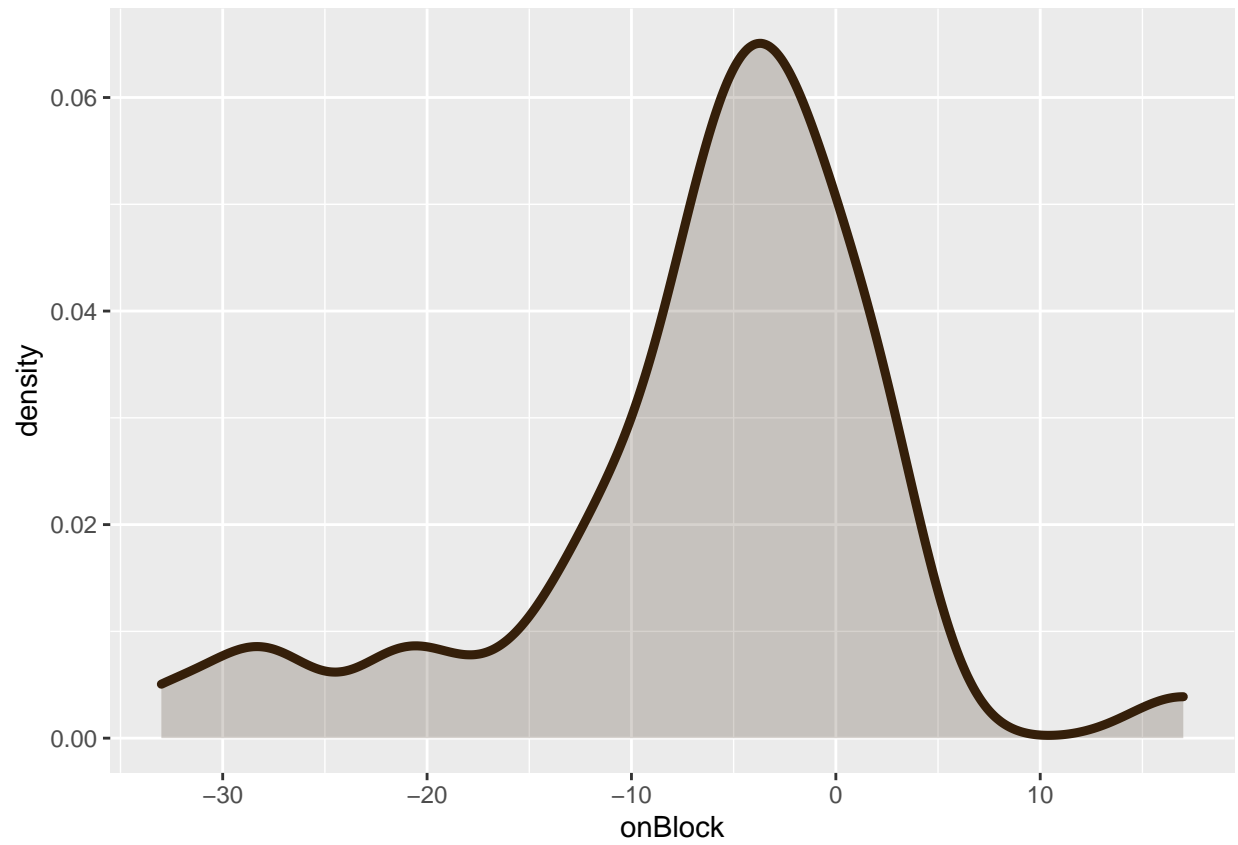
```
##        Move onBlock plnCmd airmove followUp projectile moveType Damage Stun
## 1 Stand LP       2     LP   False    False      False   normal     30   70
## 2 Stand MP       3     MP   False    False      False   normal     60  100
## 3 Stand HP      -5     HP   False    False      False   normal     80  150
## 4 Stand LK       2     LK   False    False      False   normal     40   70
## 5 Stand MK       2     MK   False    False      False   normal     60  100
## 6 Stand HK      -2     HK   False    False      False   normal     90  150
##                     1
## health     1.00e+03
## stun       1.00e+03
## vgauge1    6.00e+02
## vgauge2    6.00e+02
## fDash      1.70e+01
## bDash      2.20e+01
## fWalk      4.35e-02
## bWalk      2.84e-02
## throwHurt  3.00e-01
## throwRange 8.00e-01
```
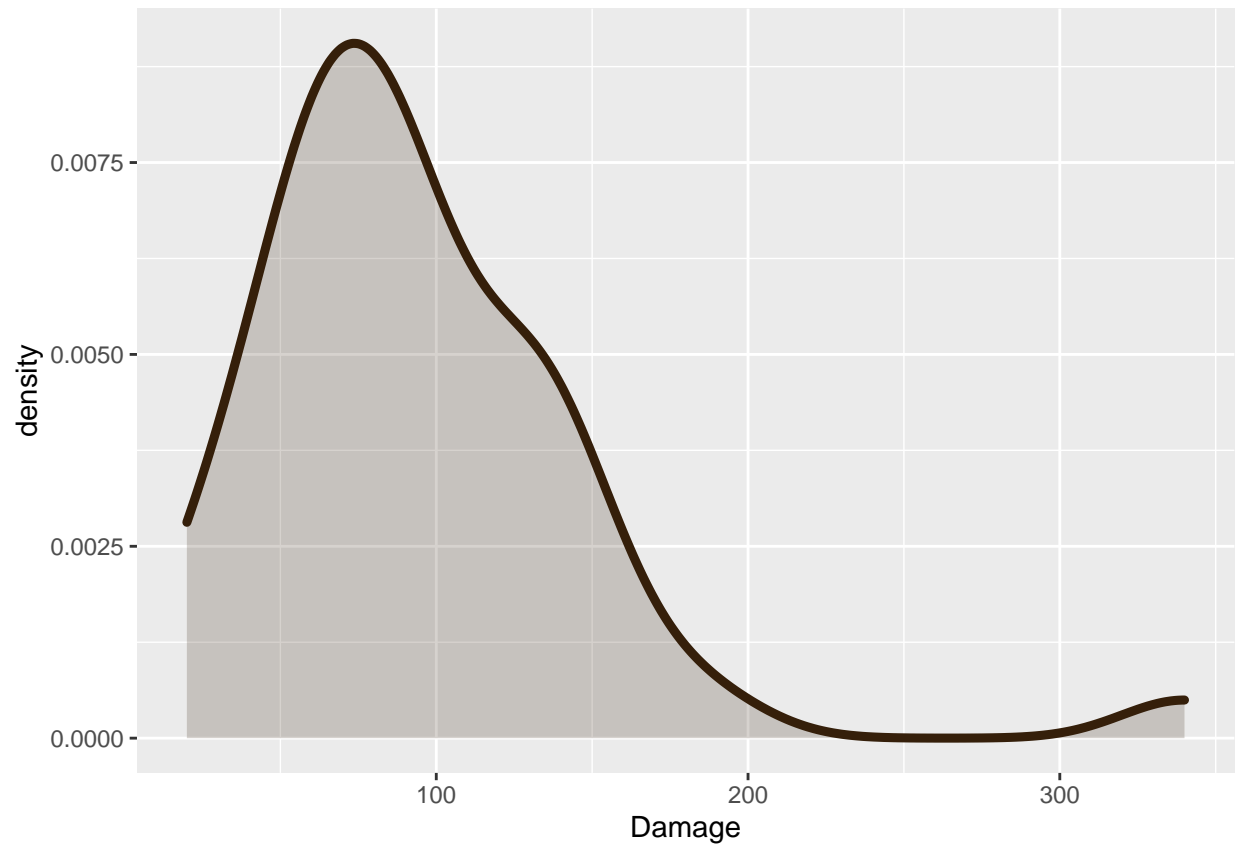
```
character_info(
  "data/characters/zeku_young.csv",
  "Zeku (Young)",
  "img/zeku_young.png",
  "#351f0a"
)
```
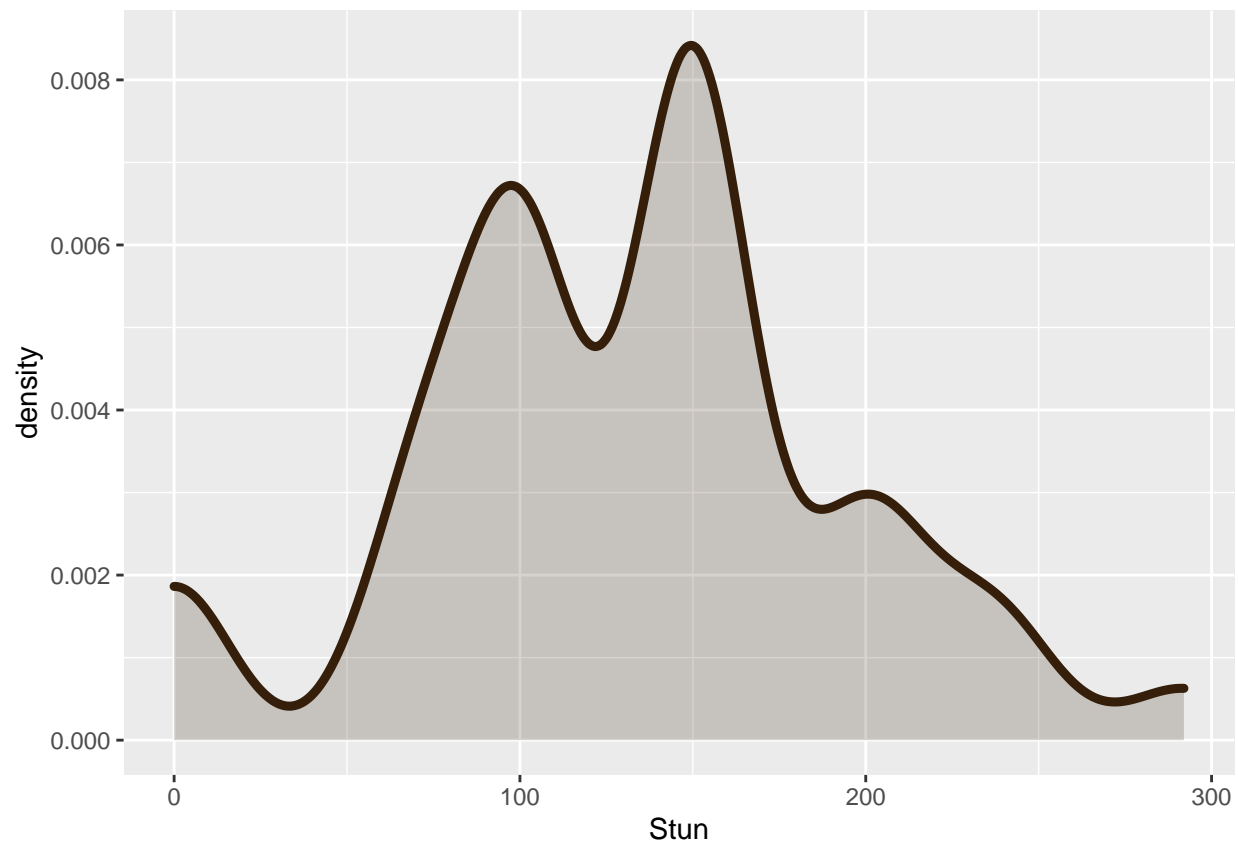
```
## [1] "Median: -5.00  |  Mean: -6.53  |  Standard deviation: 9.46"
```

```
## [1] "Median: 85.00  |  Mean: 94.65  |  Standard deviation: 55.96"
```

```
## [1] "Median: 150.00  |  Mean: 132.20  |  Standard deviation: 64.22"
```

```
##         Move onBlock plnCmd airmove followUp projectile moveType Damage Stun
## 1 Stand LP       2    LP   False    False      False   normal     30   70
## 2 Stand MP       2    MP   False    False      False   normal     60  100
## 3 Stand HP      -3    HP   False    False      False   normal     80  150
## 4 Stand LK      -2    LK   False    False      False   normal     40   70
## 5 Stand MK      -3    MK   False    False      False   normal     60  100
## 6 Stand HK      -2    HK   False    False      False   normal     90  150
##                   1
## health    1.0e+03
## stun      1.0e+03
## vgauge1   6.0e+02
## vgauge2   6.0e+02
## fDash     1.7e+01
## bDash     2.2e+01
## fWalk     5.4e-02
## bWalk     3.5e-02
## throwHurt 3.0e-01
## throwRange 8.0e-01
```

Module 2: Visualization