Simulate Distribution of CAASPP

2023-08-14

California Assessment of Student Performance and Progress and SBAC

The California Assessment of Student Performance and Progress (CAASPP) uses the Smarter Balanced Assessment Consortium (SBAC) tests for the English Language Arts (ELA) and Mathematics portion of the test. The SBAC is a standardized test consortium that created Common Core aligned tests to be used in several states and California is one of them. The SBAC uses a vertical scale that connects the scores in each of the grades so that the same scale is used in each of the English tests (Grades 3-8 and 11) and Math testes (Grades 3-8 and 11).

Often, the raw scores from an exam are transformed into a scale score which is normally distributed. The entire scale score distribution is released by the CAASPP for each exam (from released technical reports). https://www.cde.ca.gov/ta/tg/ca/caaspprptstudies.asp I copy and pasted each score distribution from a word document into an Excel spreadsheet in order to later analyze the data.

The mean and SD for subgroups are also available from cross-tabulations. https://www.cde.ca.gov/ta/tg/ca/caaspp2022datasummary.asp

I examine how close to a normal distribution the score distribution by simulating the scores. I simulate by separating simulating a normal distribution for each "race and gender" combination and also each "race and economic status" combination. That is why there are two analyses that look mostly identical to one another. Economic status is determined by whether a student is eligible for reduced or free lunch.

Most of the scores below actually do follow close enough to a normal distribution. But there are always deviations from the actual vs modeled distribution of the data for all of the exams. There are instances of a large hump where the maximum obtainable scale score and lowest obtainable scale score are. CAASPP has actually done something to reduce the humps at the ends by increasing the maximum obtainable scale score for 2021 and beyond. The humps at the upper end used to be larger as a large percent of the students used to obtain the maximum possible score. It is clear the Science test (which is not from the SBAC) does not a follow a normal distribution in its scores. The Grade 11 English test also has large deviations from normality in its scale score distribution.

With the simulated data, an estimate of scale scores divided by race, gender, or economic status can be obtained. Note that the data at the tails is likely quite inaccurate, because the data in reality does not follow a perfect normal distribution as can be seen by the deviations from the actual vs modeled distribution. Also, the modeled data at the tails goes beyond the actual maximum obtainable score or lowest obtain score, where the data no longer is valid. The relative error will be larger at the tails, because there is less data at the tails

```
set.seed(1)
library(dplyr)
```

```
## Warning: package 'dplyr' was built under R version 4.2.3
```

```
##
## Attaching package: 'dplyr'
```

```
## The following objects are masked from 'package:stats':
##
##     filter, lag

## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

```
library(ggplot2)
```

```
## Warning: package 'ggplot2' was built under R version 4.2.3
```

```
mean_sd = readxl::read_excel("G:/My Drive/More Statistics/CAASP2021-2022/MeanAndSDbyGender.xlsx")
mean_sd_status = readxl::read_excel("G:/My Drive/More Statistics/CAASP2021-2022/MeanAndSDbyEconomicStatu
mean_sd_by_all = readxl::read_excel("G:/My Drive/More Statistics/CAASP2021-2022/MeanAndSDAll.xlsx")

get_distribution = function(mean_sd, replicate = 1){
  all = list()
  for(i in 1:16){
    all[[i]] =  rnorm(n = mean_sd$Count[i] * replicate, mean = mean_sd$Mean[i], sd = mean_sd$SD[i])
    all[[i]] = data.frame(Ethnicity = mean_sd$Ethnicity[i], Gender = mean_sd$Gender[i], Score = all[[i]]
  }

  all = all %>% bind_rows()
  all$Type = mean_sd$Type[1]
  all$Grade = mean_sd$Grade[1]
  all
}

get_distribution_status = function(mean_sd, replicate = 1){
  all = list()
  for(i in 1:16){
    all[[i]] =  rnorm(n = mean_sd$Count[i] * replicate, mean = mean_sd$Mean[i], sd = mean_sd$SD[i])
    all[[i]] = data.frame(Ethnicity = mean_sd$Ethnicity[i], Status = mean_sd$Status[i], Score = all[[i]]
  }

  all = all %>% bind_rows()
  all$Type = mean_sd$Type[1]
  all$Grade = mean_sd$Grade[1]
  all
}


get_distribution_percentiles = function(mean_sd, replicate = 10){
  all = list()
  for(i in 1:16){
    all[[i]] =  rnorm(n = mean_sd$Count[i] * replicate, mean = mean_sd$Mean[i], sd = mean_sd$SD[i])
    if (mean_sd$Ethnicity[i] == "Filipino"){
      all[[i]] = data.frame(Ethnicity = "Asian", Score = all[[i]])
    }
    else{
      all[[i]] = data.frame(Ethnicity = mean_sd$Ethnicity[i], Score = all[[i]])
    }
```

```
  }

  all = all %>% bind_rows()
  all$Type = mean_sd$Type[1]
  all$Grade = mean_sd$Grade[1]
  quant = c(0.05,0.1,0.2,0.3,0.4,0.5,0.6,0.7,0.8,0.9,0.95)
  all %>%
    group_by(Ethnicity, Type, Grade) %>%
    reframe(Score = quantile(Score, quant),
            Quant = quant) %>%
    bind_rows(all %>%
                mutate(Ethnicity ="All") %>%
                group_by(Ethnicity, Type, Grade) %>%
                reframe(Score = quantile(Score, quant),
                        Quant = quant))
}
```

Do Only Once to Simulate the Quantiles

```
try_by_gender = lapply(mean_sd %>%
                         filter(Type != "Science") %>%
                         group_split(Type, Grade), get_distribution_percentiles) %>% bind_rows()
try_by_gender$Method = "Gender"
try_by_status = lapply(mean_sd_status %>%
                         group_split(Type, Grade), get_distribution_percentiles) %>% bind_rows()
try_by_status$Method = "Status"
complete = bind_rows(try_by_gender, try_by_status) %>%
  left_join(mean_sd_by_all, by = c("Grade", "Type")) %>%
  mutate(StandardScore = (Score - MeanScore)/SDScore)

write.csv(complete, "SimulatedQuantilesbyRace_FilipinoCombined.csv")


complete_wide = complete %>%
  select(Ethnicity, Type, Method, Grade, Quant, StandardScore) %>%
  tidyr::pivot_wider(names_from = "Quant", values_from = "StandardScore")
write.csv(complete_wide, "SimulatedQuantilesbyRace_Wide_FilipinoCombined.csv")
```

Do Everything With Simulating by "Race and Gender"

```
mean_sd_all = lapply(mean_sd %>%
                       group_split(Type, Grade), get_distribution)
actual_score_all = readxl::read_excel("G:/My Drive/More Statistics/CAASP2021-2022/ActualEntireScoreDist
  tidyr::uncount(N) %>%
  group_split(Type, Grade)

list_data = list()
```

```r
for(i in seq_along(mean_sd_all)){
  frame = rbind(data.frame(Type = "Modeled", Score = mean_sd_all[[i]]$Score),
                data.frame(Type = "Actual", Score = actual_score_all[[i]]$Score))
  if(mean_sd_all[[i]]$Type[i] == "Science"){
    if(mean_sd_all[[i]]$Grade[i] == 8){
      break_this = seq(320, 480, 20)
    }
    else{
      break_this = seq(520, 680, 20)
    }
    bin_this = 2
  }
  else{
    left = plyr::round_any(quantile(mean_sd_all[[i]]$Score, 0.001), 200)
    right = plyr::round_any(quantile(mean_sd_all[[i]]$Score, 0.999), 200)
    break_this = seq(left, right, 200)
    bin_this = 10
  }
  list_data[[i]] = frame %>%
    ggplot(aes(x = Score, fill = Type)) +
    geom_histogram(alpha = 0.4, binwidth = bin_this, position = "identity") +
    theme_bw() + scale_x_continuous(breaks = break_this) +
     xlab("Score") + ggtitle(paste("Actual vs Modeled Distribution of Scores \n (California Assessment,
                                   mean_sd_all[[i]]$Grade[1], mean_sd_all[[i]]$Type[1]))
}


race_data = list()


for(i in seq_along(mean_sd_all)){
  if(mean_sd_all[[i]]$Type[i] == "Science"){
    if(mean_sd_all[[i]]$Grade[i] == 8){
      break_this = seq(320, 480, 20)
    }
    else{
      break_this = seq(520, 680, 20)
    }
    bin_this = 2
  }
  else{
    left = plyr::round_any(quantile(mean_sd_all[[i]]$Score, 0.001), 200)
    right = plyr::round_any(quantile(mean_sd_all[[i]]$Score, 0.999), 200)
    break_this = seq(left, right, 200)
    bin_this = 10
  }
  race_data[[i]] = mean_sd_all[[i]]  %>%
    filter(Ethnicity != "American Indian" &
             Ethnicity != "Pacific Islander") %>%
    ggplot(aes(x = Score, y = after_stat(count), fill = Ethnicity)) +
    geom_density(alpha = 0.3) + ylab("Count") +
    theme_bw() + scale_x_continuous(breaks = break_this) +
     xlab("Score") + ggtitle(paste("Modeled Distribution of Scores by Race \n (California Assessment, Us
```

```
                                    mean_sd_all[[i]]$Grade[1], mean_sd_all[[i]]$Type[1]))
}

every_nth = function(n) {
  return(function(x) {x[c(TRUE, rep(FALSE, n - 1))]})
}



dist_data = list()
cumulative_data = list()

for(i in seq_along(mean_sd_all)){
  if(mean_sd_all[[i]]$Type[i] == "Science"){
    if(mean_sd_all[[i]]$Grade[i] == 8){
      mean_sd_all[[i]]$Group = cut(mean_sd_all[[i]]$Score, breaks = seq(340, 460, 4))
    }
    else{
      mean_sd_all[[i]]$Group = cut(mean_sd_all[[i]]$Score, breaks = seq(540, 660, 4), dig.lab = 10)
    }
  }
  else{
    left = plyr::round_any(quantile(mean_sd_all[[i]]$Score, 0.001), 40)
    right = plyr::round_any(quantile(mean_sd_all[[i]]$Score, 0.999), 40)
    mean_sd_all[[i]]$Group = cut(mean_sd_all[[i]]$Score, breaks = seq(left, right, 40), dig.lab = 10)
  }
  temp = mean_sd_all[[i]] %>%
    group_by(Ethnicity, Group) %>%
    summarize(Count = n()) %>%
    ungroup() %>%
    group_by(Group) %>%
    mutate(Percent = Count/sum(Count)) %>%
    ungroup() %>%
    group_by(Ethnicity) %>%
    arrange(desc(Group)) %>%
    mutate(CountSum = cumsum(Count)) %>%
    ungroup() %>%
    group_by(Group) %>%
    mutate(PercentLess = CountSum/sum(CountSum))
  labels = temp %>% group_by(Group) %>% summarize(nice = sum(Count))
  if(mean_sd_all[[i]]$Type[i] == "Science"){
    levels(temp$Group) = paste0(as.numeric(stringr::str_sub(labels$Group, 2, 4)) + 2,
                                " n=", labels$nice)
  }
  else{
    levels(temp$Group) = paste0(as.numeric(stringr::str_sub(labels$Group, 2, 5)) + 20,
                                " n=", labels$nice)
  }
  dist_data[[i]] = temp %>%
    filter(!is.na(Group)) %>%
    ggplot(aes(x = Group, y = Percent, fill = Ethnicity)) +
    geom_bar(width = 0.75, position = "stack", stat = "identity") +
    scale_x_discrete(guide = guide_axis(angle = 90)) +
```

```
    scale_y_continuous(breaks = seq(0, 1, 0.2)) +
    theme_bw() + ylab("Proportion of Score Bin") +
    xlab("Score Bin") +
    ggtitle(paste("Modeled Distribution of Scores by Race \n (California Assessment, Using Race/Gender)
                                  mean_sd_all[[i]]$Grade[1], mean_sd_all[[i]]$Type[1]))
  labels = temp %>% group_by(Group) %>% summarize(nice = sum(Count)) %>%
    arrange(desc(Group)) %>%
    mutate(nice_cum = cumsum(nice)) %>%
    arrange(Group)
  if(mean_sd_all[[i]]$Type[i] == "Science"){
    total = max(labels$nice_cum)
    levels(temp$Group) = paste0(as.numeric(stringr::str_sub(labels$Group, 1, 3)),
                                " (", sprintf("%0.1f%%", 100 * labels$nice_cum/total), ")")
  }
  else{
    total = max(labels$nice_cum)
    levels(temp$Group) = paste0(as.numeric(stringr::str_sub(labels$Group, 1, 4)),
                                " (", sprintf("%0.1f%%", 100 * labels$nice_cum/total), ")")
  }
  cumulative_data[[i]] = temp %>%
    filter(!is.na(Group)) %>%
    ggplot(aes(x = Group, y = PercentLess, color = Ethnicity, group = Ethnicity)) +
    geom_line(size = 1) + geom_point(size = 1.5) +
    scale_x_discrete(guide = guide_axis(angle = 90), limits = rev) +
    scale_y_continuous(breaks = seq(0, 1, 0.2)) +
    theme_bw() + ylab("Cumulative Proportion") +
    xlab("Score (Top % of Scores)") +
    ggtitle(paste("Cumulative Distribution (Score of At least) of Scores by Race \n (California Assessm
                                  mean_sd_all[[i]]$Grade[1], mean_sd_all[[i]]$Type[1]))
}
```

```
## `summarise()` has grouped output by 'Ethnicity'. You can override using the
## `.groups` argument.
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## `.groups` argument.
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## `.groups` argument.
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## `.groups` argument.
```

```
gender_data = list()


for(i in seq_along(mean_sd_all)){
  if(mean_sd_all[[i]]$Type[i] == "Science"){
    if(mean_sd_all[[i]]$Grade[i] == 8){
      mean_sd_all[[i]]$Group = cut(mean_sd_all[[i]]$Score, breaks = seq(340, 460, 4))
    }
    else{
      mean_sd_all[[i]]$Group = cut(mean_sd_all[[i]]$Score, breaks = seq(540, 660, 4), dig.lab = 10)
    }
  }
  else{
    left = plyr::round_any(quantile(mean_sd_all[[i]]$Score, 0.001), 40)
    right = plyr::round_any(quantile(mean_sd_all[[i]]$Score, 0.999), 40)
    mean_sd_all[[i]]$Group = cut(mean_sd_all[[i]]$Score, breaks = seq(left, right, 40), dig.lab = 10)
  }
  temp = mean_sd_all[[i]] %>%
    group_by(Gender, Group) %>%
    summarize(Count = n()) %>%
    ungroup() %>%
    group_by(Group) %>%
    mutate(Percent = Count/sum(Count))
  labels = temp %>% group_by(Group) %>% summarize(nice = sum(Count))
  if(mean_sd_all[[i]]$Type[i] == "Science"){
    levels(temp$Group) = paste0(as.numeric(stringr::str_sub(labels$Group, 2, 4)) + 2, " n=", labels$nic
    title = "Modeled Distribution of Scores by Economic Status (California Assessment) \n for Grade"
  }
  else{
    levels(temp$Group) = paste0(as.numeric(stringr::str_sub(labels$Group, 2, 5)) + 20, " n=", labels$ni
    title = "Modeled Distribution of Scores by Gender (California Assessment) \n for Grade"
  }
  gender_data[[i]] = temp %>%
    filter(!is.na(Group)) %>%
    ggplot(aes(x = Group, y = Percent, fill = Gender)) +
    geom_bar(width = 0.75, position = "stack", stat = "identity") +
    scale_x_discrete(guide = guide_axis(angle = 90)) +
    scale_y_continuous(breaks = seq(0, 1, 0.2)) +
    theme_bw() + ylab("Proportion of Score Bin") +
    xlab("Score Bin") +
    ggtitle(paste(title, mean_sd_all[[i]]$Grade[1], mean_sd_all[[i]]$Type[1]))
}
```

```
## `summarise()` has grouped output by 'Gender'. You can override using the
## `.groups` argument.
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## `.groups` argument.
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## `.groups` argument.
## `summarise()` has grouped output by 'Gender'. You can override using the
## `.groups` argument.
```
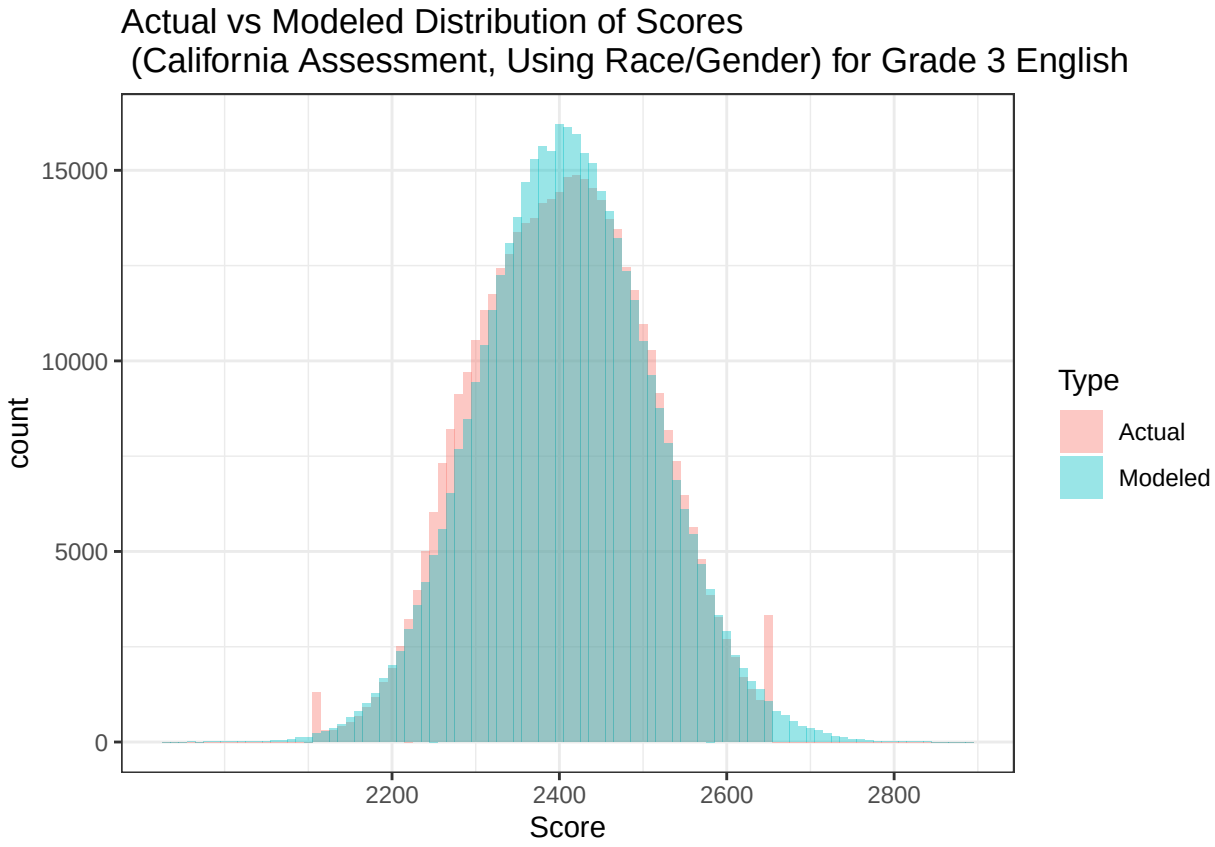
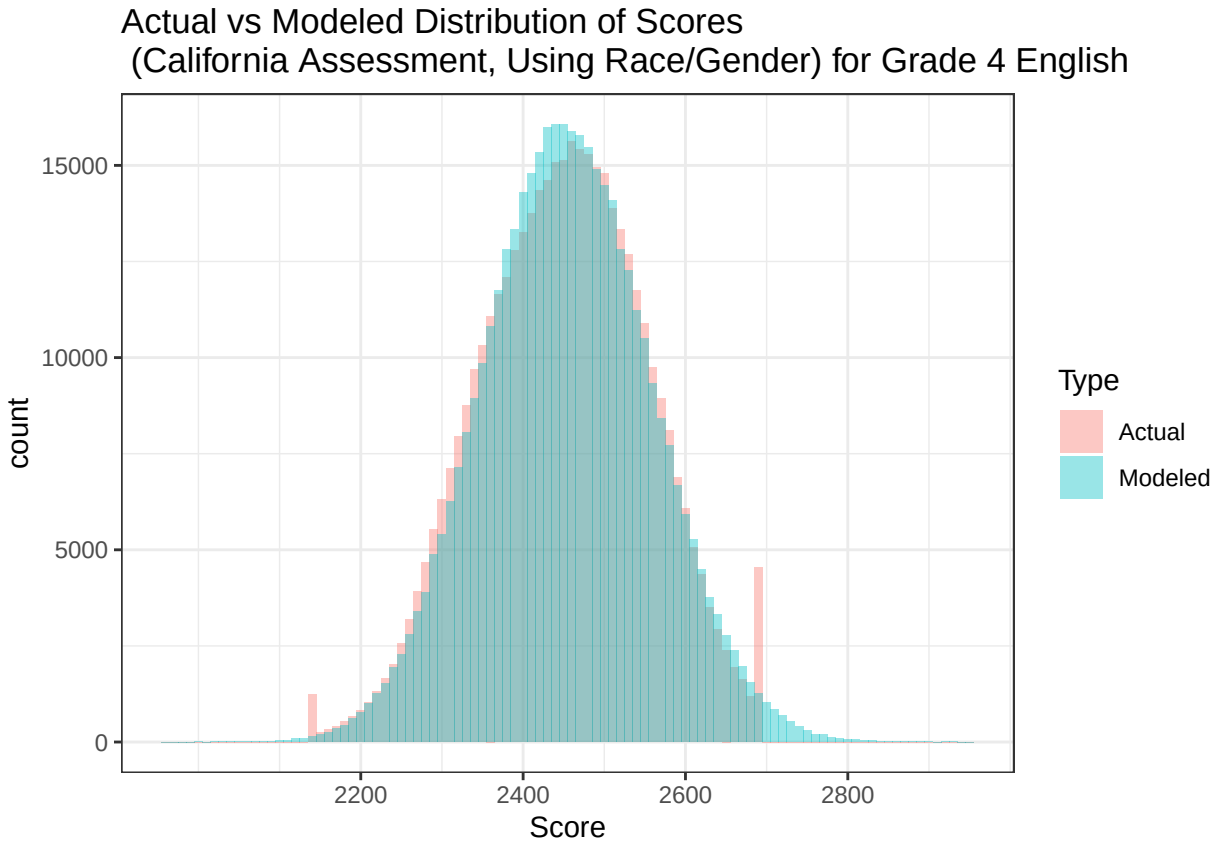

```
list_data
```

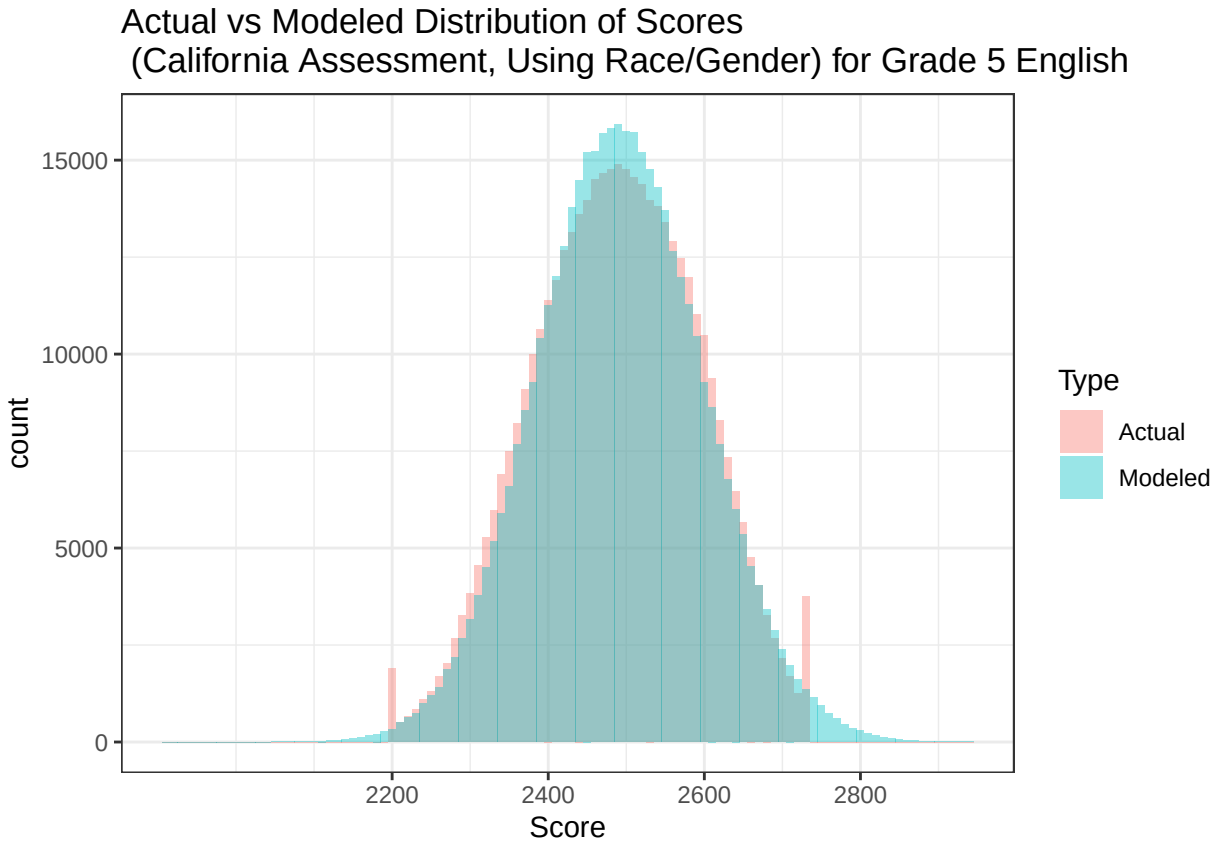
```
## [[1]]
```


Actual vs Modeled Distribution of Scores
(California Assessment, Using Race/Gender) for Grade 3 English
count
15000
10000
5000
0
2200
2400
2600
2800
Score
Type
Actual
Modeled

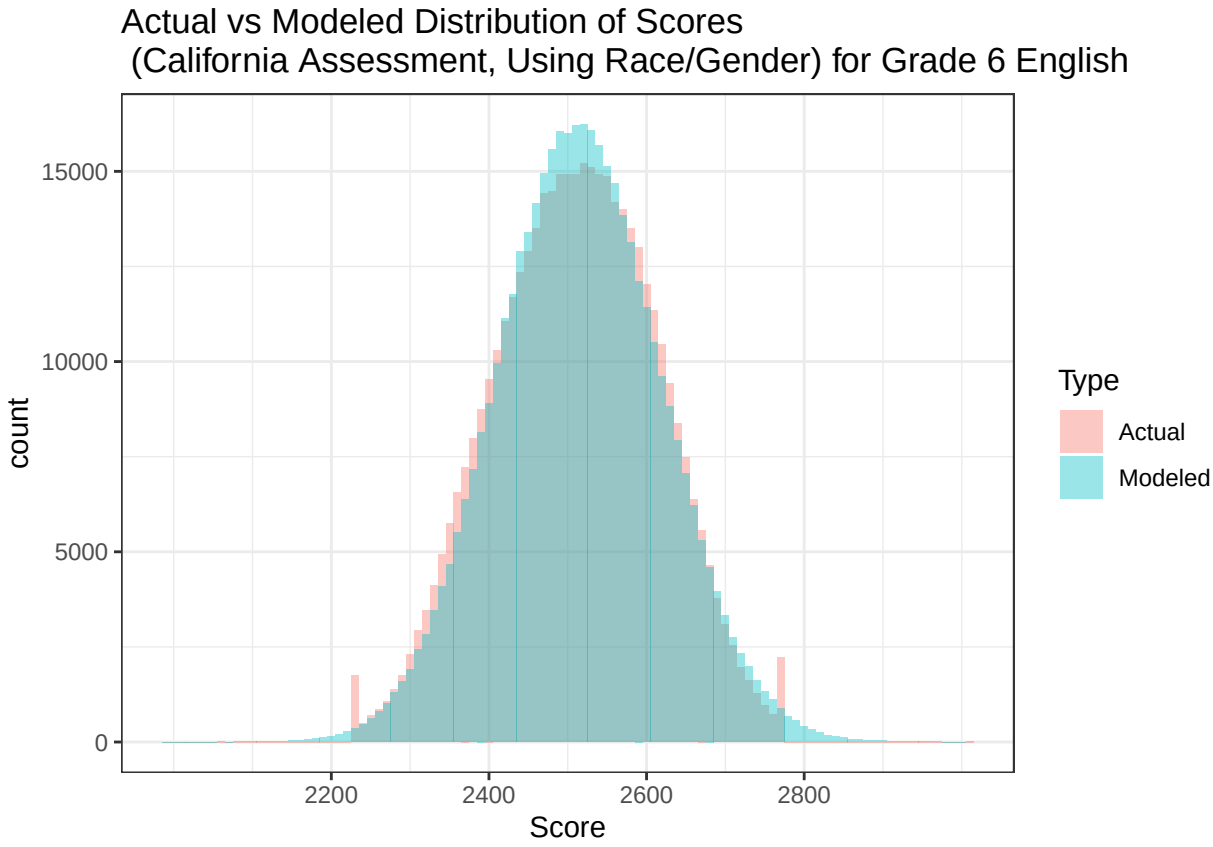
```
##
## [[2]]
```


Actual vs Modeled Distribution of Scores
(California Assessment, Using Race/Gender) for Grade 4 English
count
15000
10000
5000
0
2200
2400
2600
2800
Score
Type
Actual
Modeled

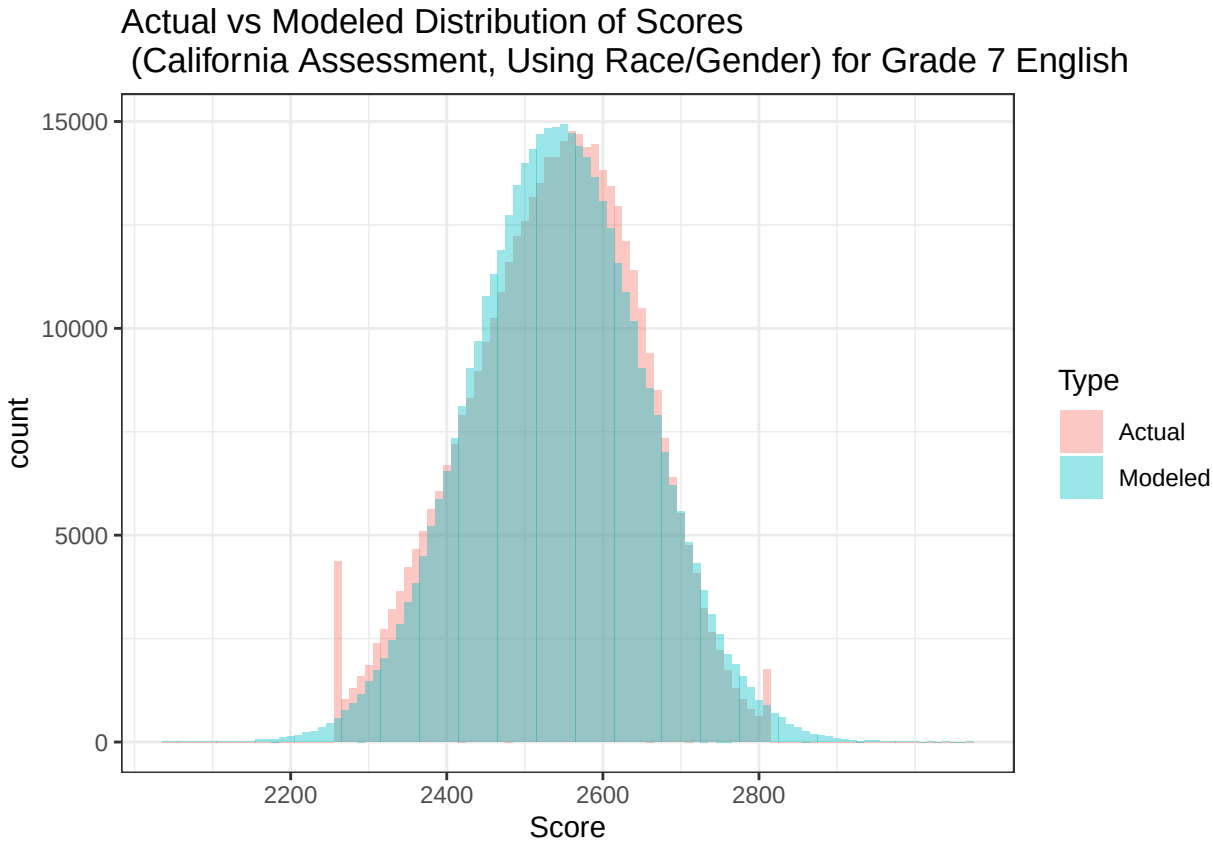
```
##
## [[3]]
```


Actual vs Modeled Distribution of Scores
(California Assessment, Using Race/Gender) for Grade 5 English
15000
10000
5000
0
count
2200
2400
2600
2800
Score
Type
Actual
Modeled

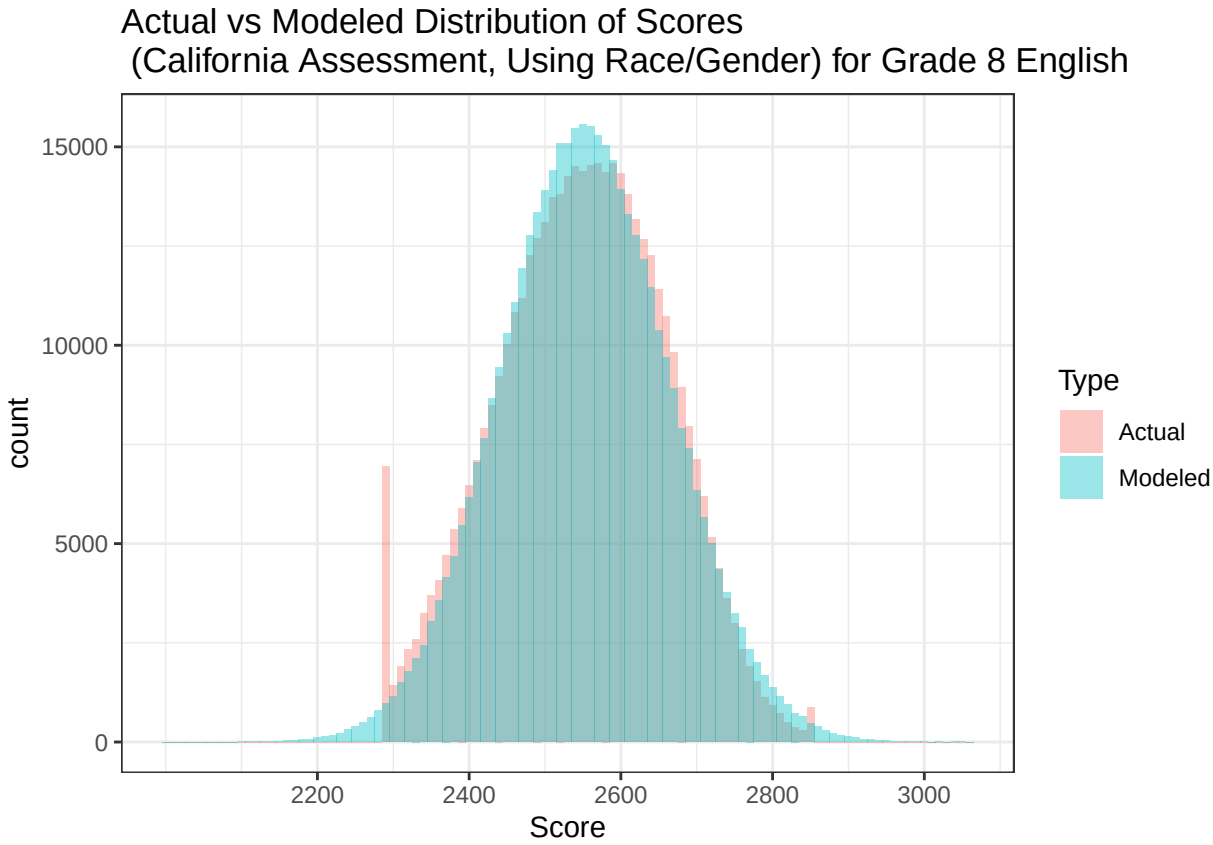
```
##
## [[4]]
```


Actual vs Modeled Distribution of Scores
(California Assessment, Using Race/Gender) for Grade 6 English
15000
10000
5000
0
count
2200
2400
2600
2800
Score
Type
Actual
Modeled

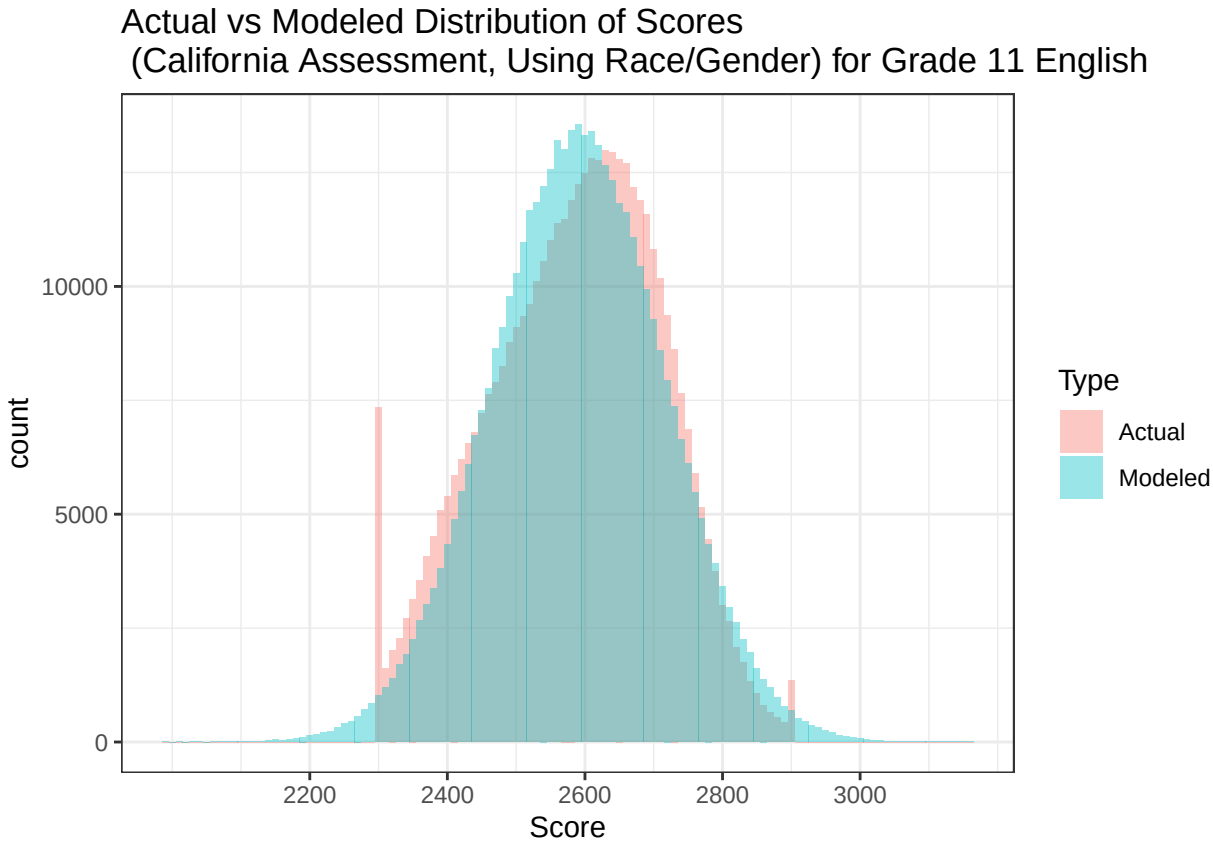
```
##
## [[5]]
```


Actual vs Modeled Distribution of Scores
(California Assessment, Using Race/Gender) for Grade 7 English
15000
10000
5000
0
count
2200
2400
2600
2800
Score
Type
Actual
Modeled

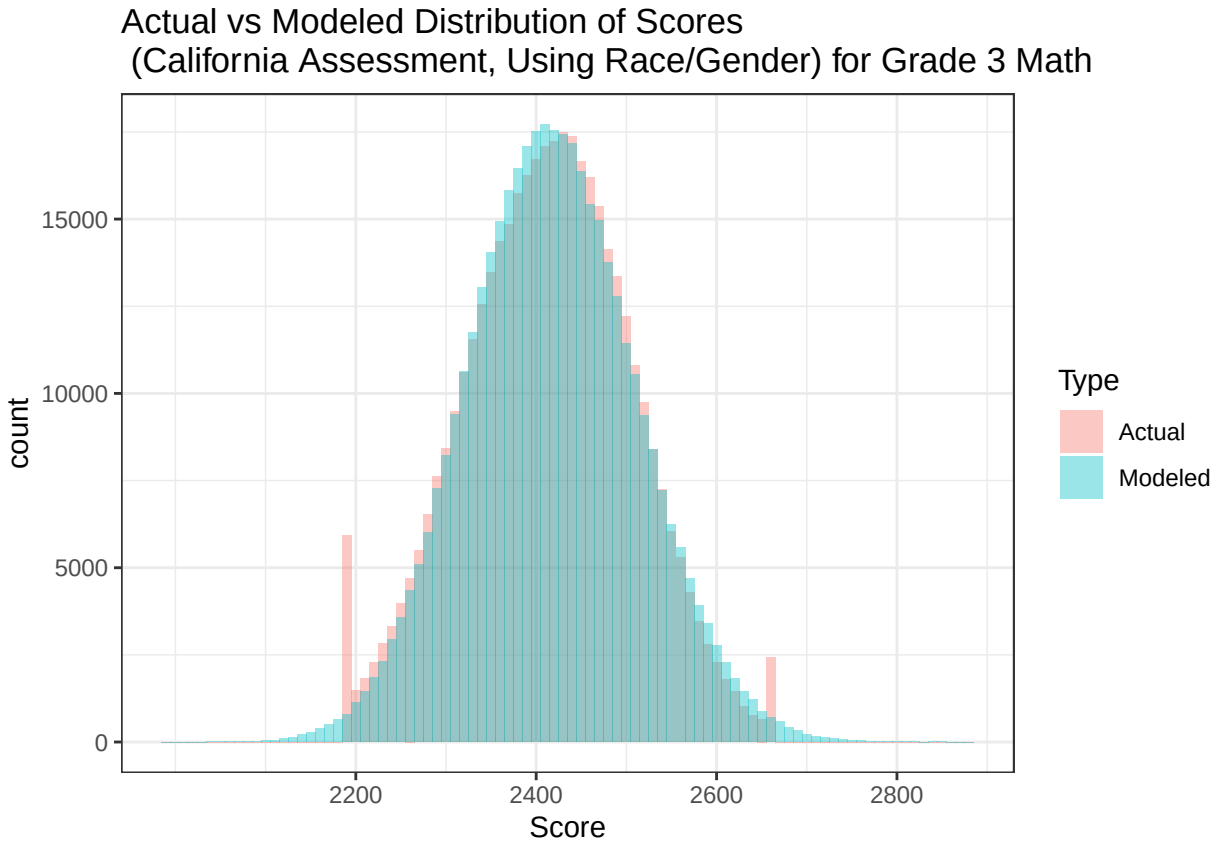
```
##
## [[6]]
```


Actual vs Modeled Distribution of Scores
(California Assessment, Using Race/Gender) for Grade 8 English
15000
10000
5000
0
count
2200
2400
2600
2800
3000
Score
Type
Actual
Modeled

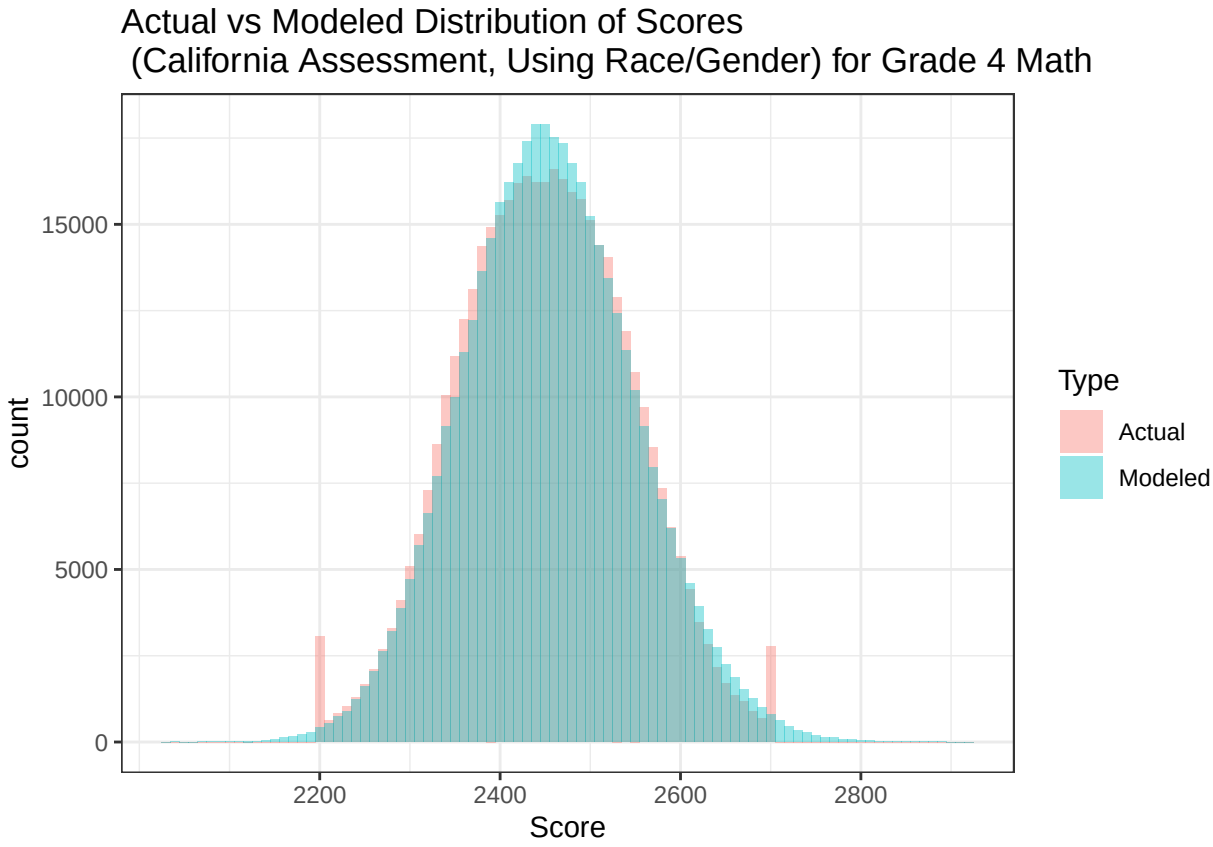
```
##
## [[7]]
```


Actual vs Modeled Distribution of Scores
(California Assessment, Using Race/Gender) for Grade 11 English
count
10000
5000
0
2200
2400
2600
2800
3000
Score
Type
Actual
Modeled

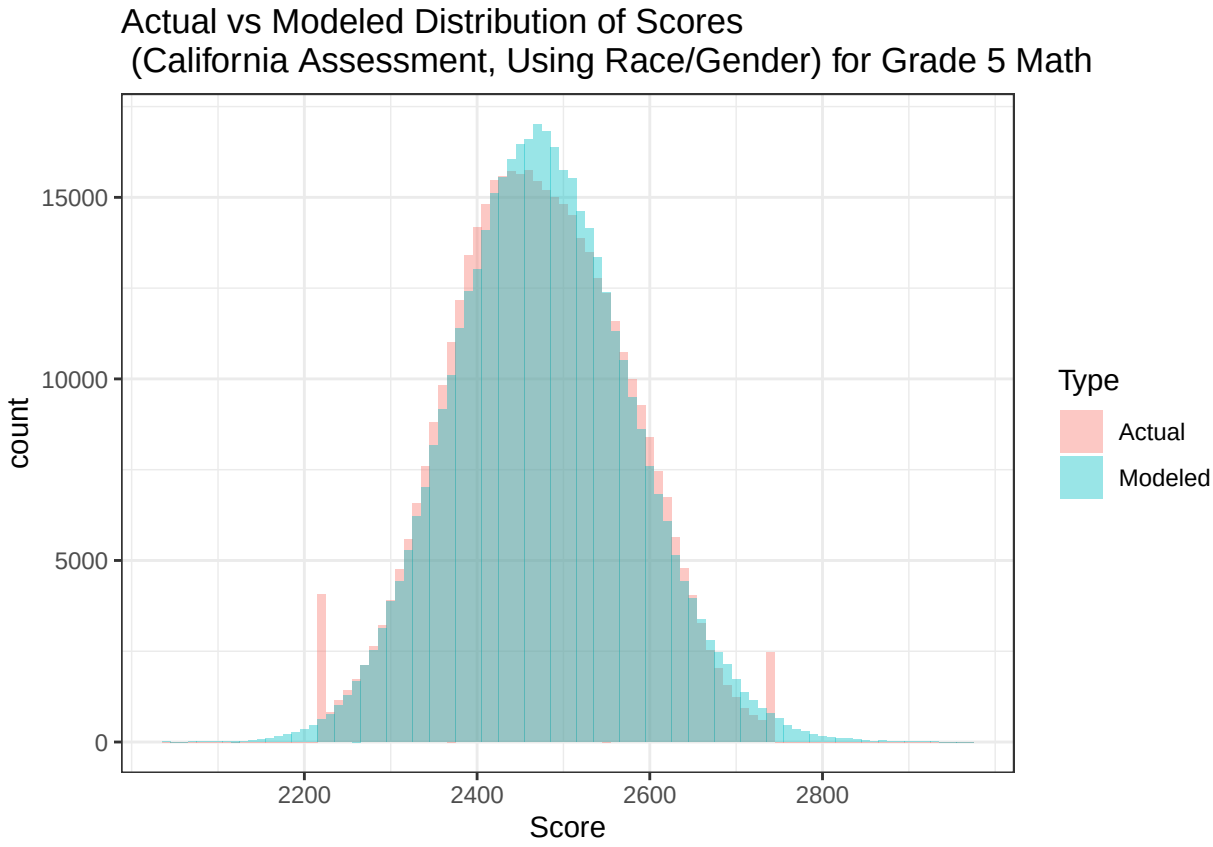
```
##
## [[8]]
```


Actual vs Modeled Distribution of Scores
(California Assessment, Using Race/Gender) for Grade 3 Math
count
15000
10000
5000
0
2200
2400
2600
2800
Score
Type
Actual
Modeled

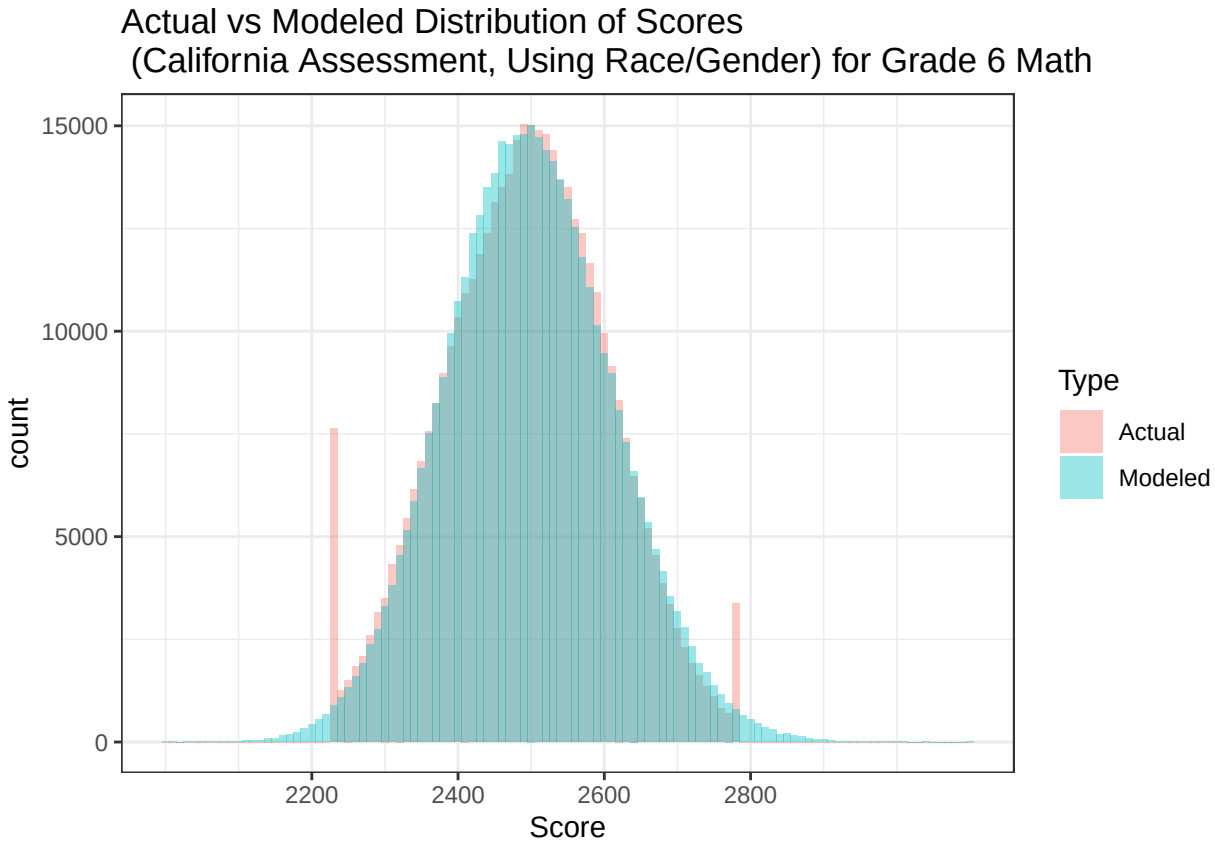
```
##
## [[9]]
```


Actual vs Modeled Distribution of Scores
(California Assessment, Using Race/Gender) for Grade 4 Math
count
15000
10000
5000
0
2200
2400
2600
2800
Score
Type
Actual
Modeled

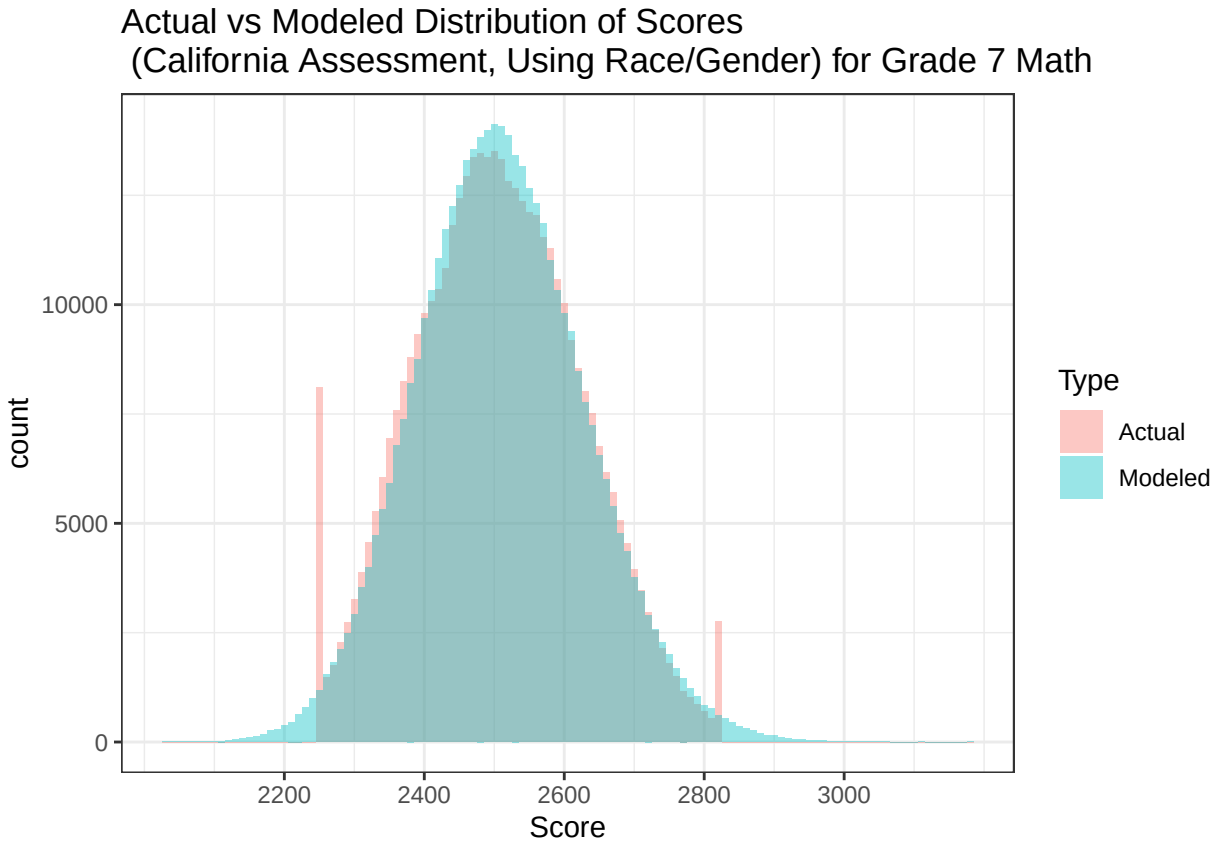
```
##
## [[10]]
```


Actual vs Modeled Distribution of Scores
(California Assessment, Using Race/Gender) for Grade 5 Math
count
15000
10000
5000
0
2200
2400
2600
2800
Score
Type
Actual
Modeled

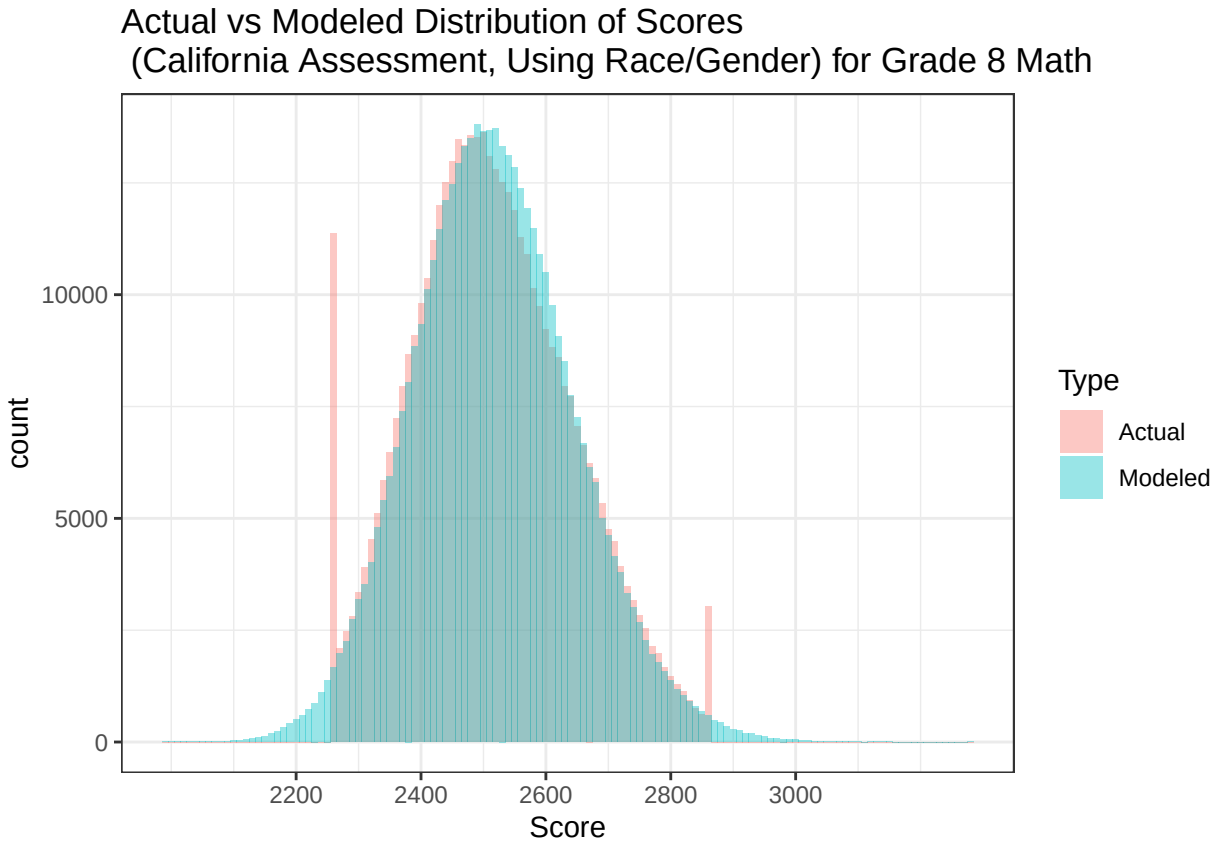
```
##
## [[11]]
```


Actual vs Modeled Distribution of Scores
(California Assessment, Using Race/Gender) for Grade 6 Math
15000
10000
5000
0
count
2200
2400
2600
2800
Score
Type
Actual
Modeled

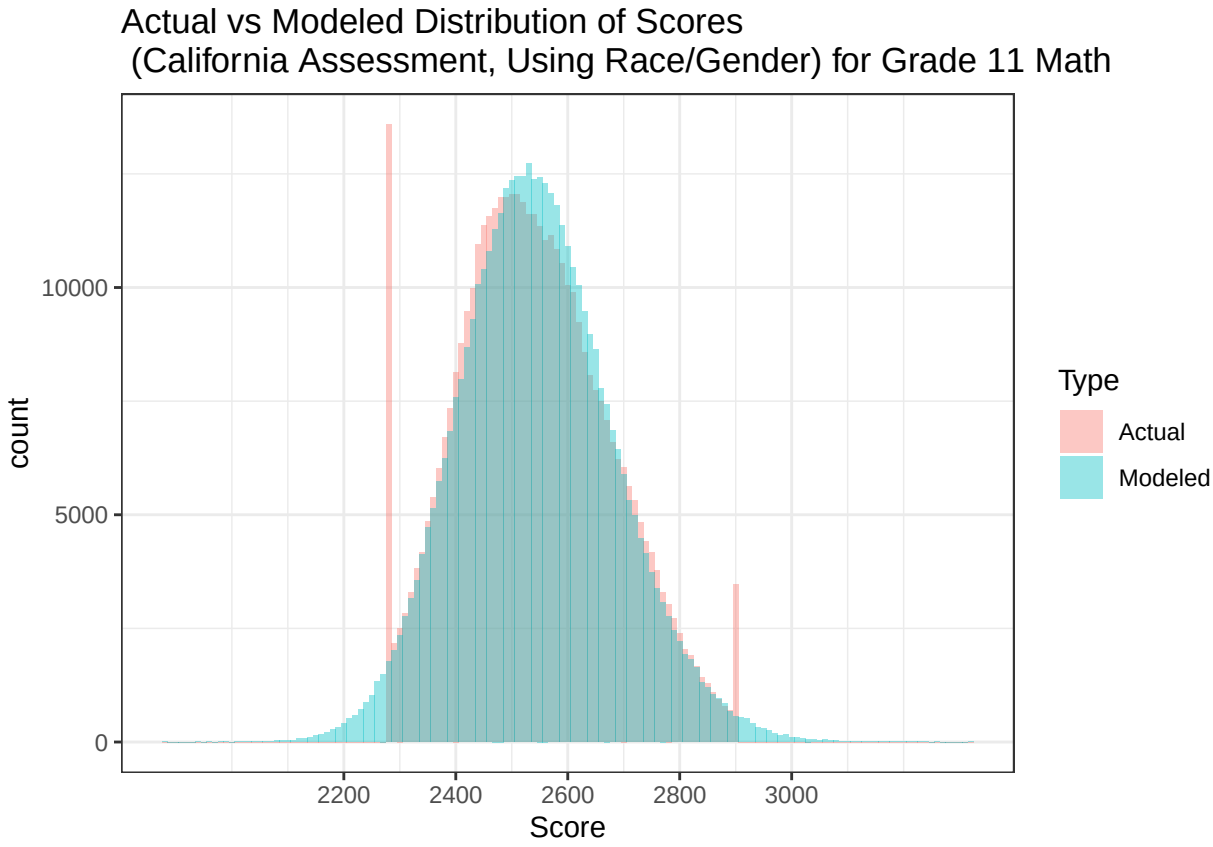
```
##
## [[12]]
```


Actual vs Modeled Distribution of Scores
(California Assessment, Using Race/Gender) for Grade 7 Math
count
10000
5000
0
2200
2400
2600
2800
3000
Score
Type
Actual
Modeled

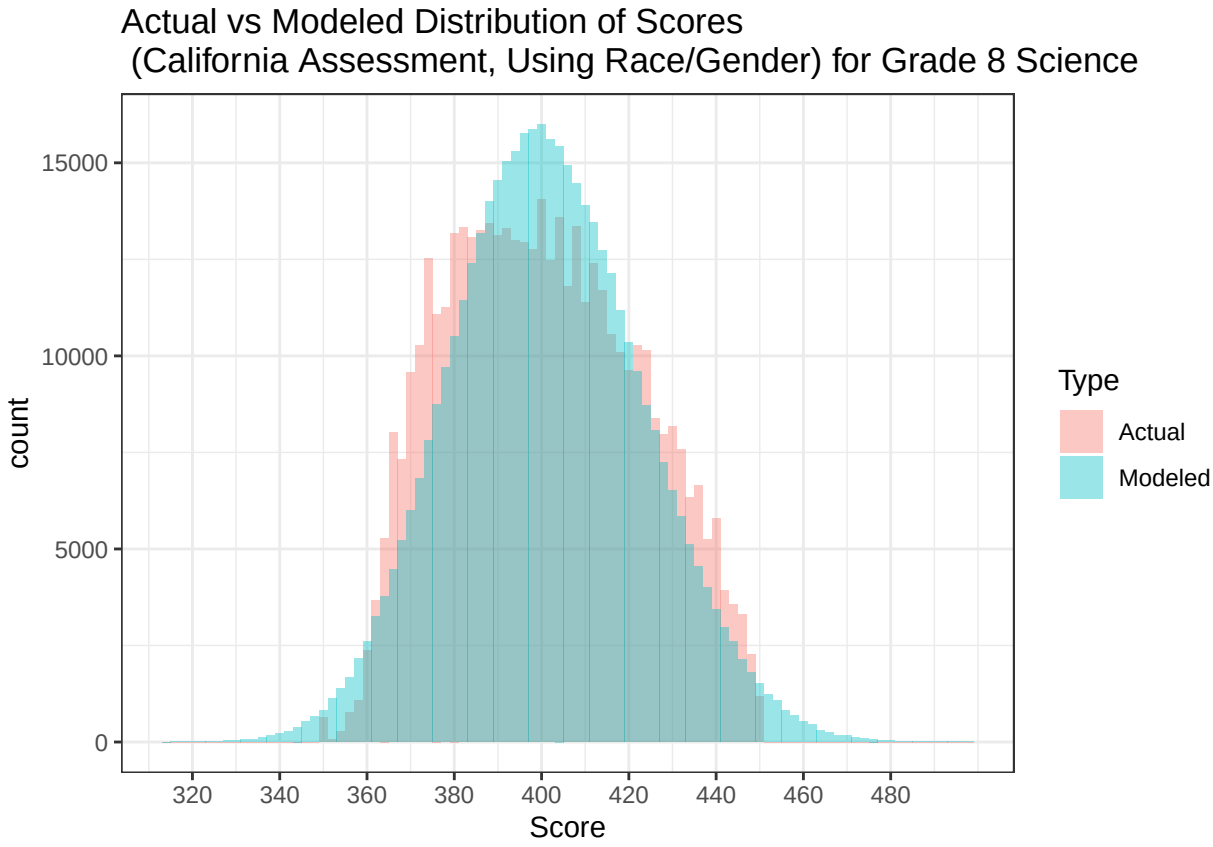
```
##
## [[13]]
```


Actual vs Modeled Distribution of Scores
(California Assessment, Using Race/Gender) for Grade 8 Math
count
10000
5000
0
2200
2400
2600
2800
3000
Score
Type
Actual
Modeled

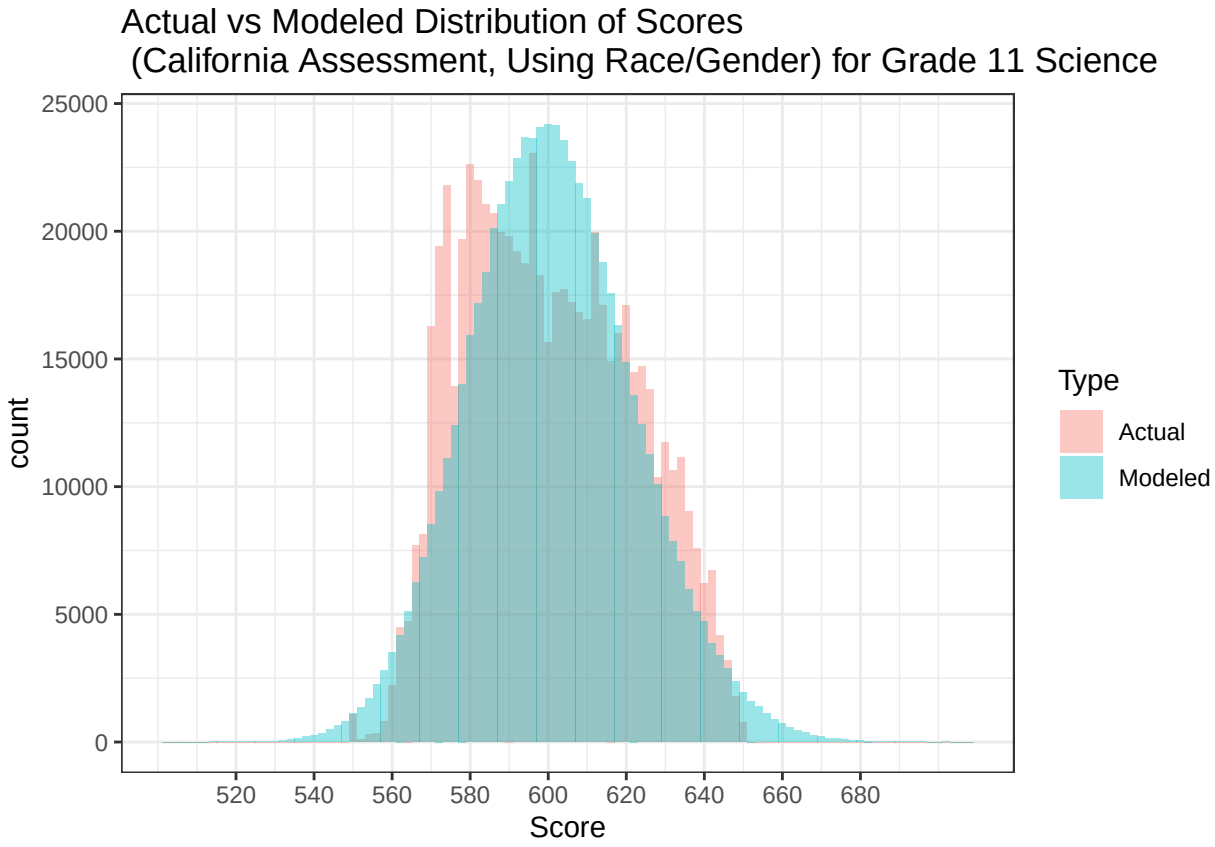
```
##
## [[14]]
```


Actual vs Modeled Distribution of Scores
(California Assessment, Using Race/Gender) for Grade 11 Math
count
10000
5000
0
2200
2400
2600
2800
3000
Score
Type
Actual
Modeled

```
##
## [[15]]
```

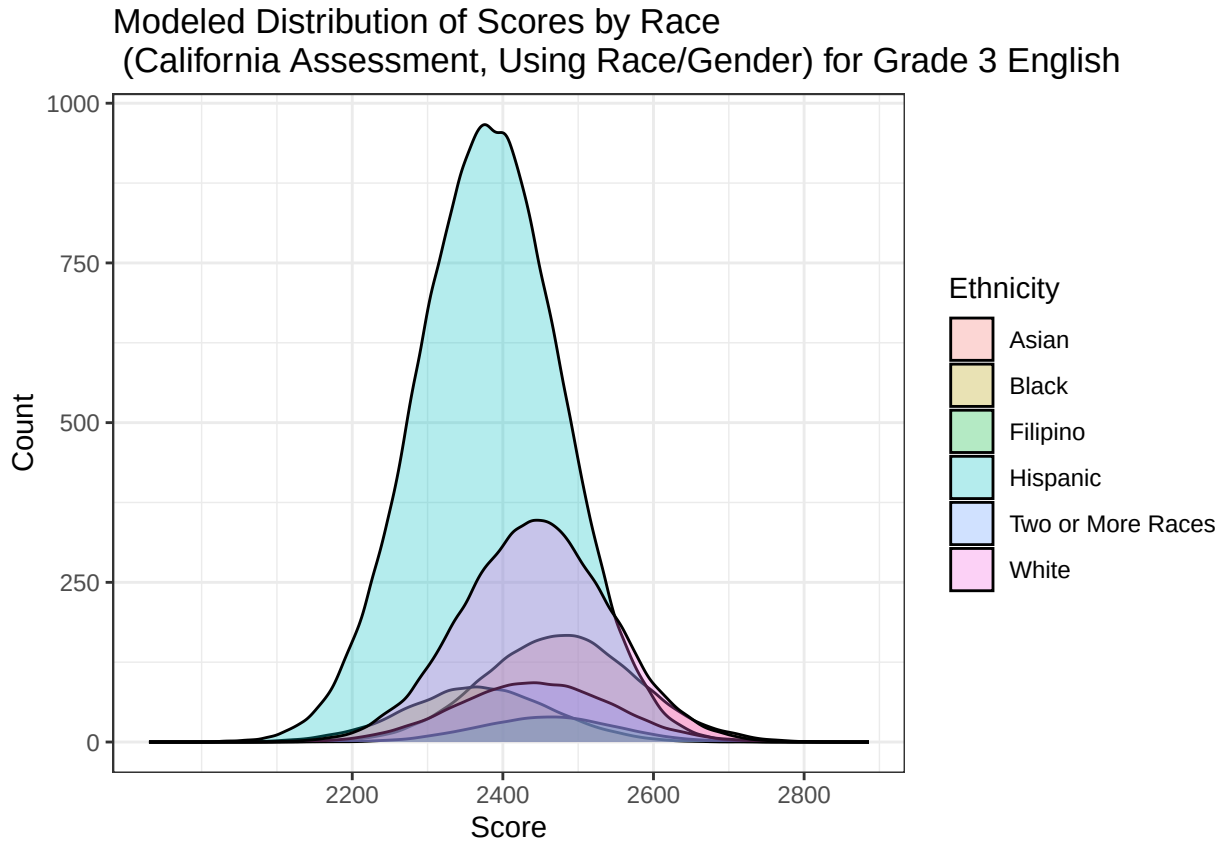

Actual vs Modeled Distribution of Scores
(California Assessment, Using Race/Gender) for Grade 8 Science
count
15000
10000
5000
0
320
340
360
380
400
420
440
460
480
Score
Type
Actual
Modeled

```
##
## [[16]]
```

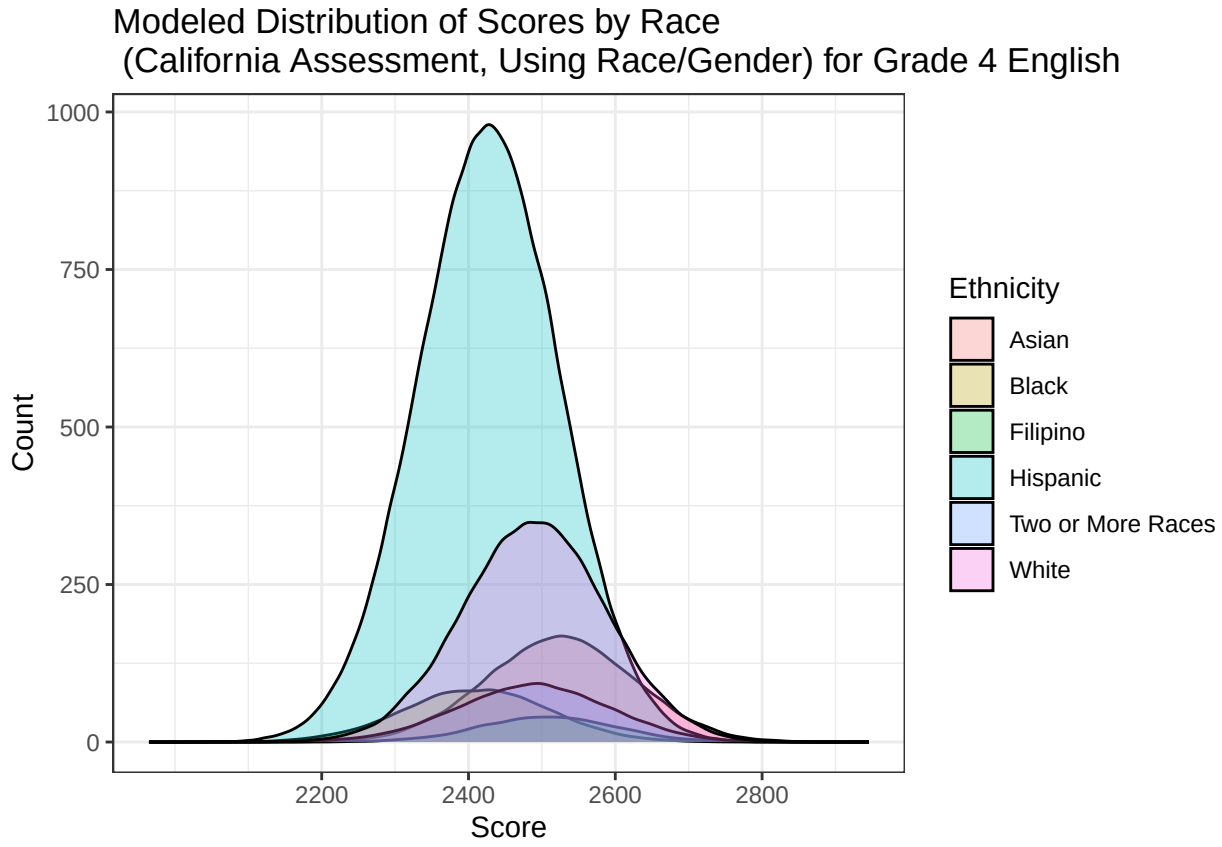

Actual vs Modeled Distribution of Scores
(California Assessment, Using Race/Gender) for Grade 11 Science
25000
20000
15000
10000
5000
0
count
520
540
560
580
600
620
640
660
680
Score
Type
Actual
Modeled

```
race_data
```

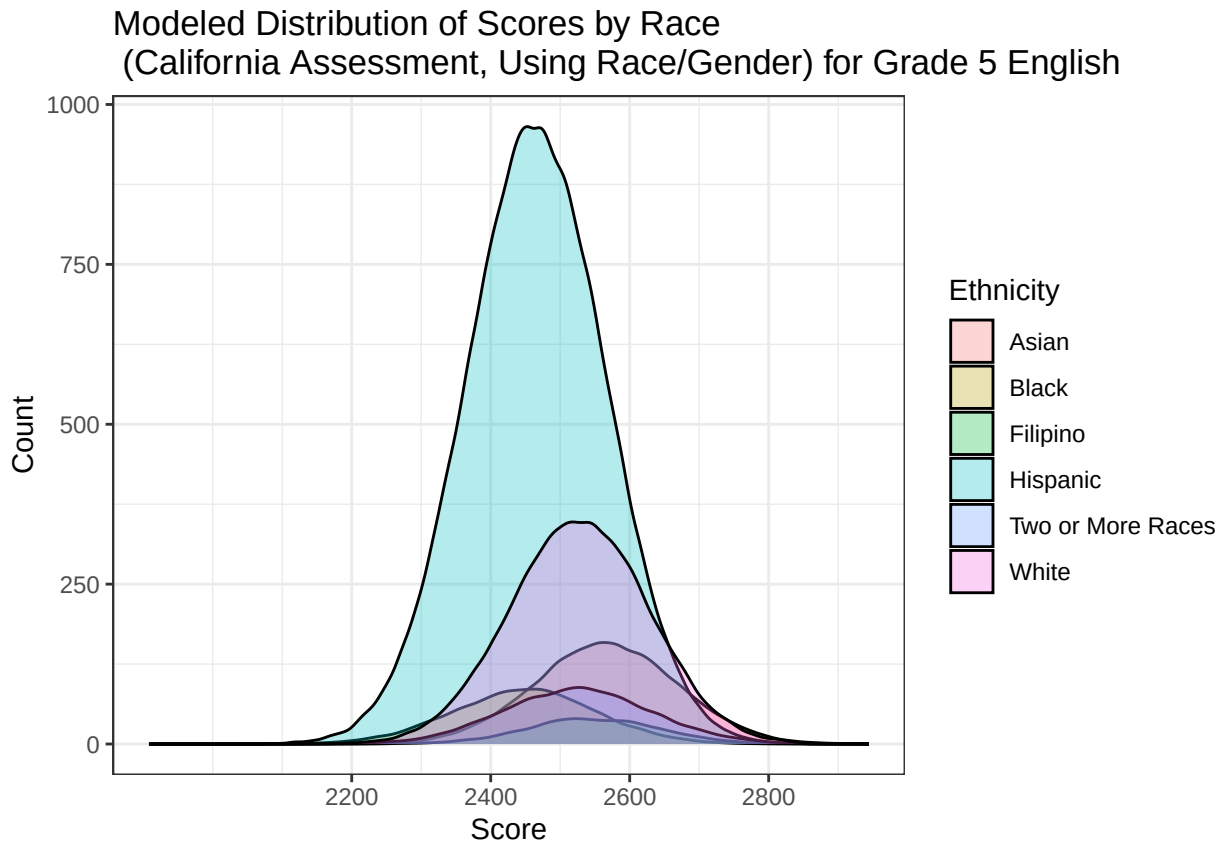
```
## [[1]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Gender) for Grade 3 English
Count
1000
750
500
250
0
2200
2400
2600
2800
Score
Ethnicity
Asian
Black
Filipino
Hispanic
Two or More Races
White

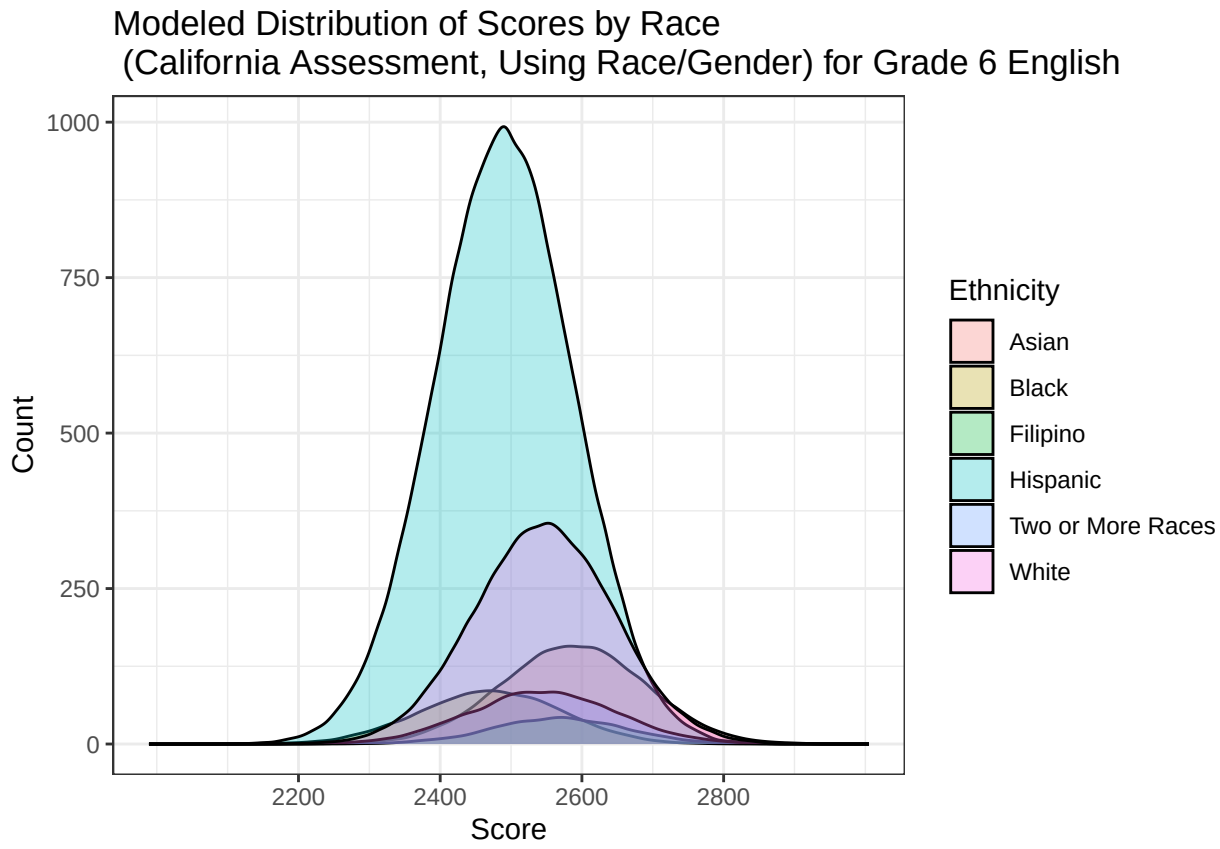
```
##
## [[2]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Gender) for Grade 4 English
Count
1000
750
500
250
0
2200
2400
2600
2800
Score
Ethnicity
Asian
Black
Filipino
Hispanic
Two or More Races
White

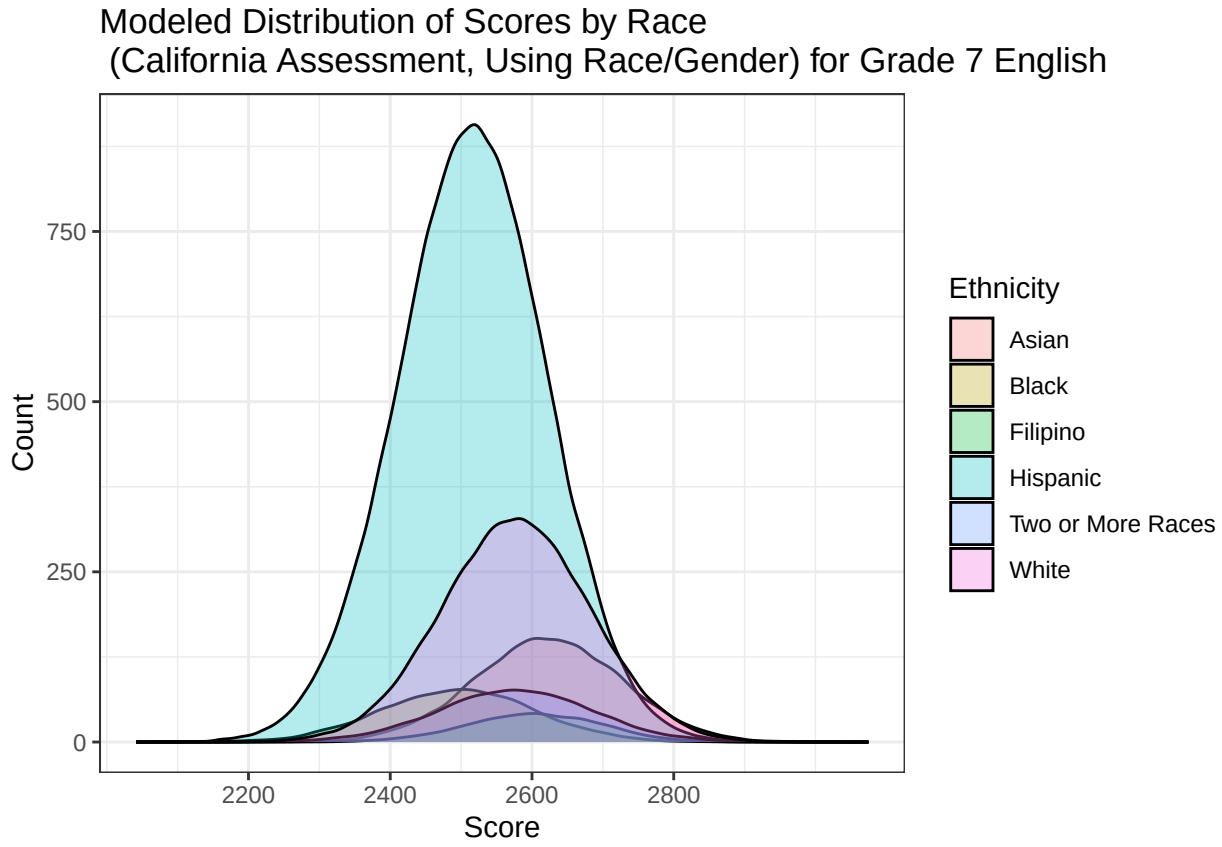
```
##
## [[3]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Gender) for Grade 5 English
Count
1000
750
500
250
0
2200
2400
2600
2800
Score
Ethnicity
Asian
Black
Filipino
Hispanic
Two or More Races
White

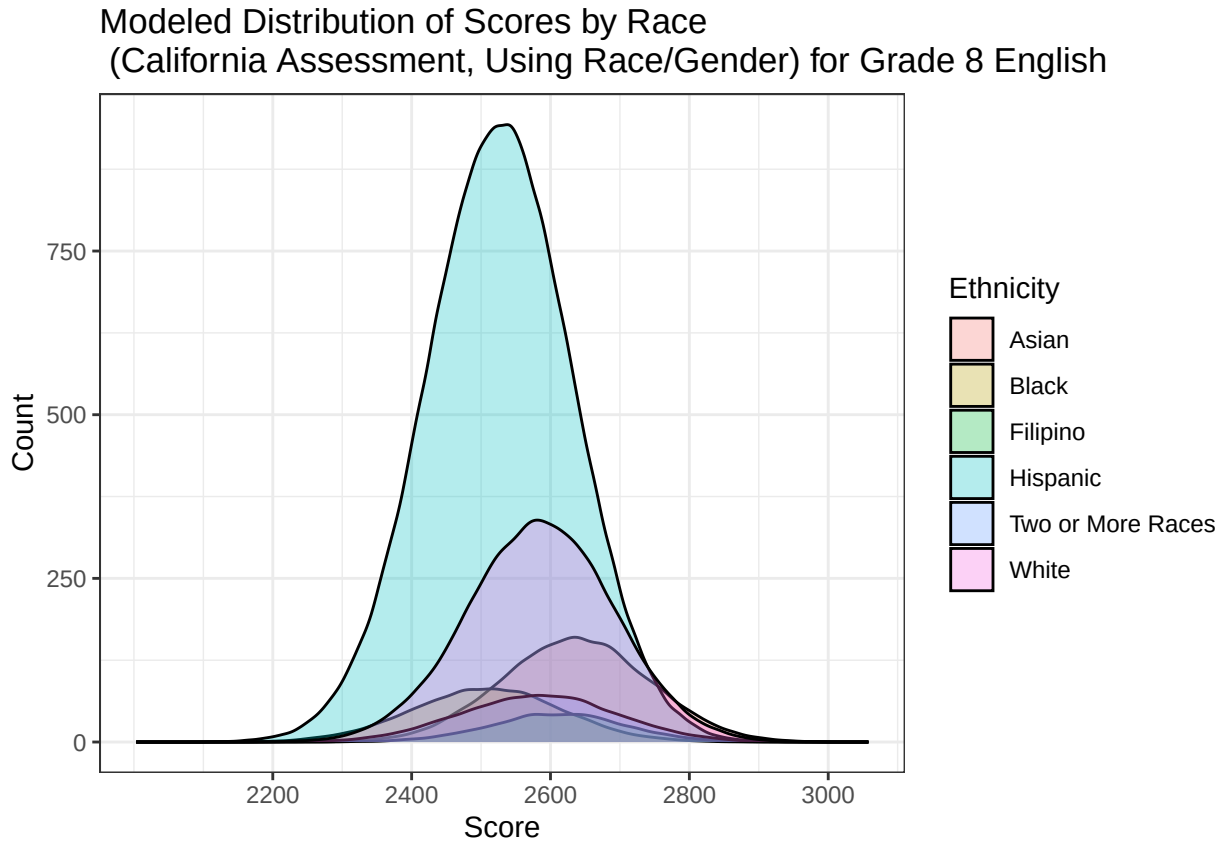
```
##
## [[4]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Gender) for Grade 6 English
Count
1000
750
500
250
0
2200
2400
2600
2800
Score
Ethnicity
Asian
Black
Filipino
Hispanic
Two or More Races
White

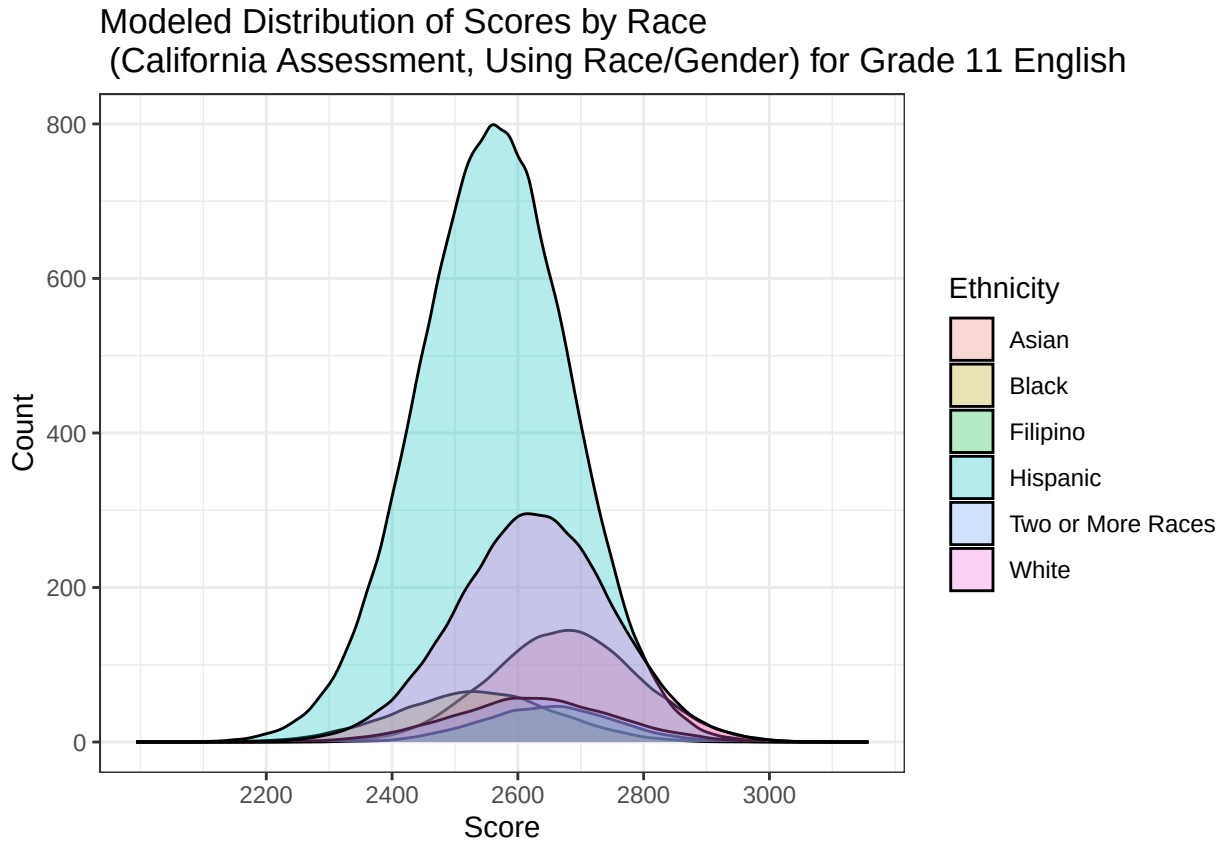
```
##
## [[5]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Gender) for Grade 7 English
Count
750
500
250
0
2200
2400
2600
2800
Score
Ethnicity
Asian
Black
Filipino
Hispanic
Two or More Races
White

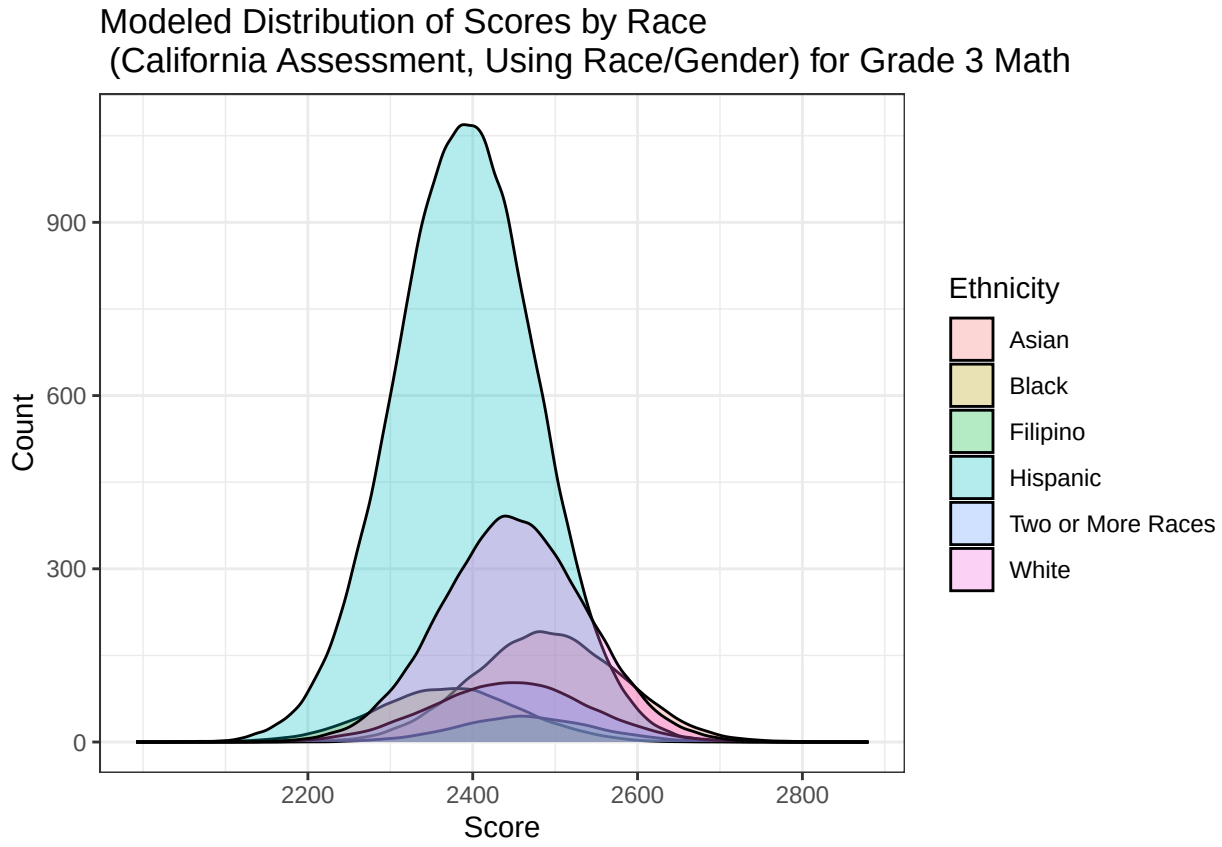
```
##
## [[6]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Gender) for Grade 8 English
Count
750
500
250
0
2200
2400
2600
2800
3000
Score
Ethnicity
Asian
Black
Filipino
Hispanic
Two or More Races
White

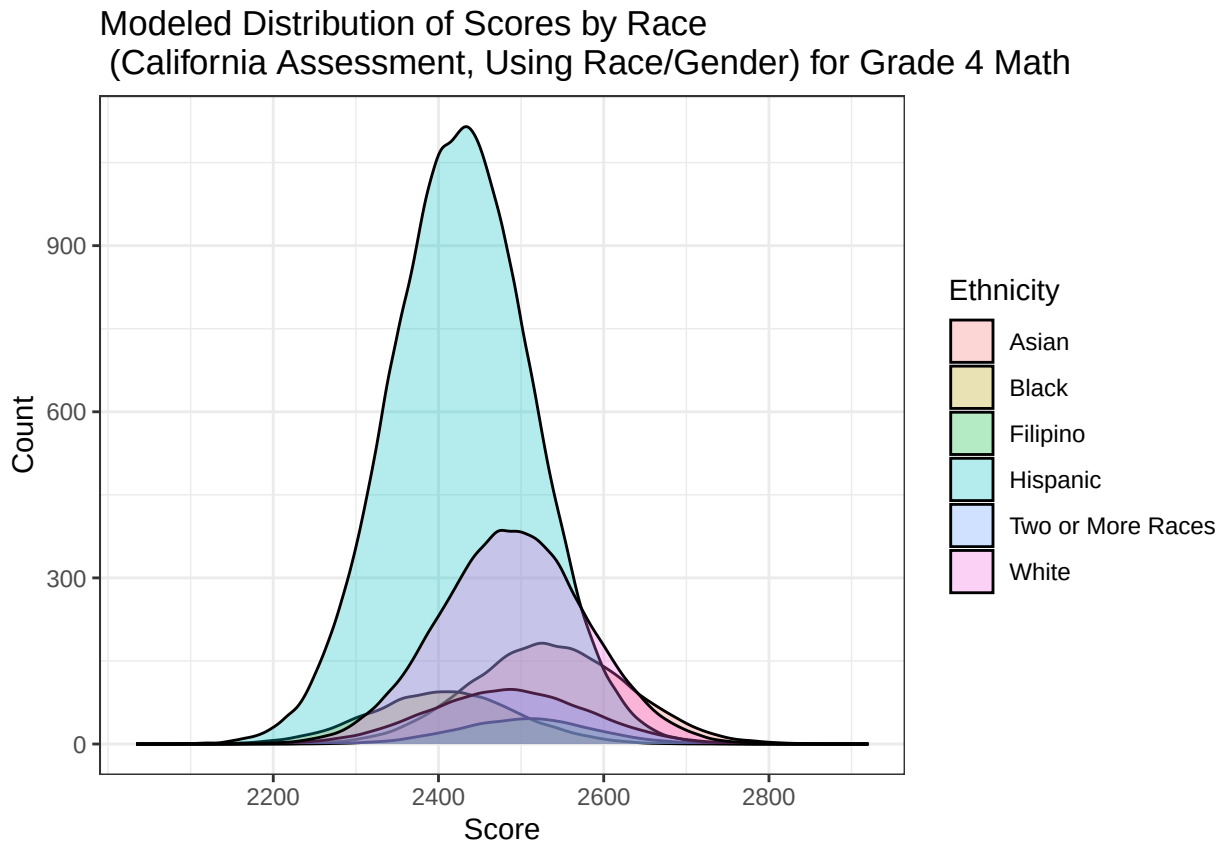
```
##
## [[7]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Gender) for Grade 11 English
Count
800
600
400
200
0
2200
2400
2600
2800
3000
Score
Ethnicity
Asian
Black
Filipino
Hispanic
Two or More Races
White

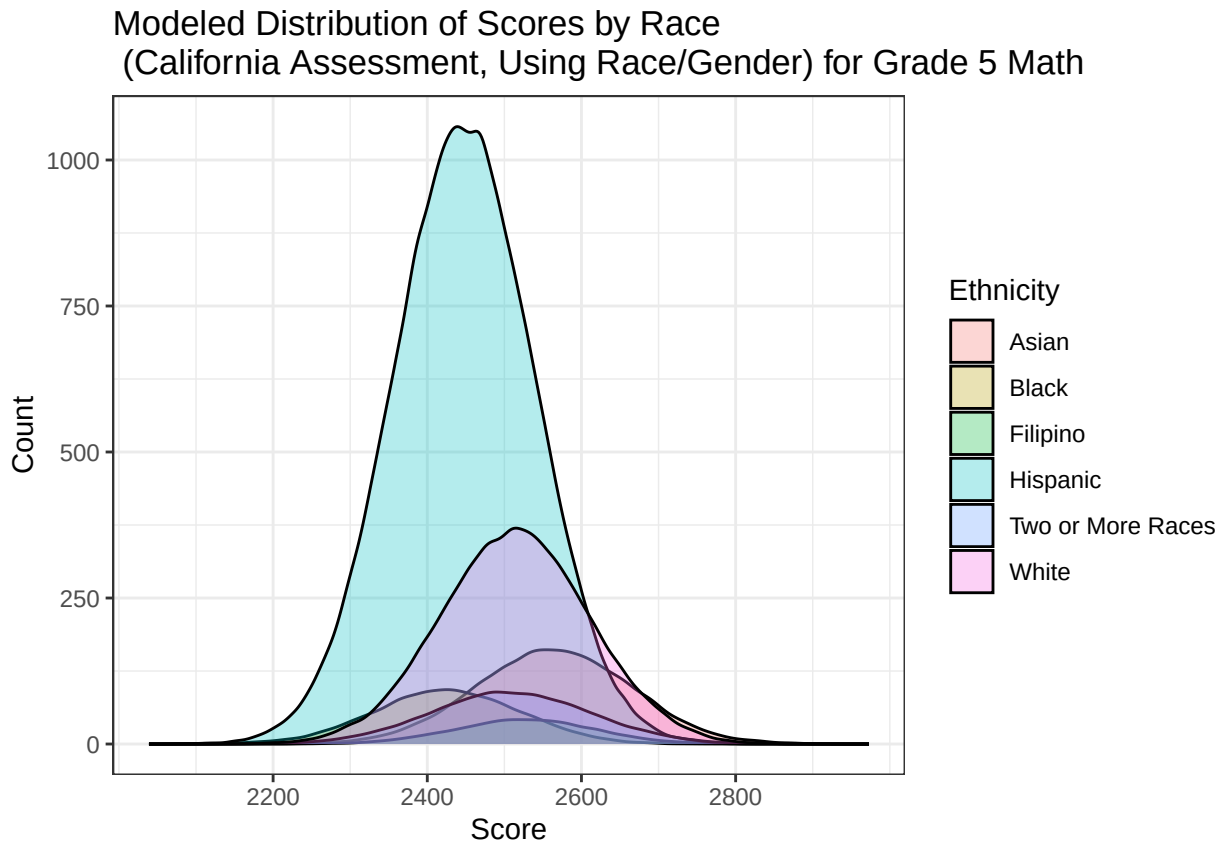
```
##
## [[8]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Gender) for Grade 3 Math
Count
900
600
300
0
2200
2400
2600
2800
Score
Ethnicity
Asian
Black
Filipino
Hispanic
Two or More Races
White

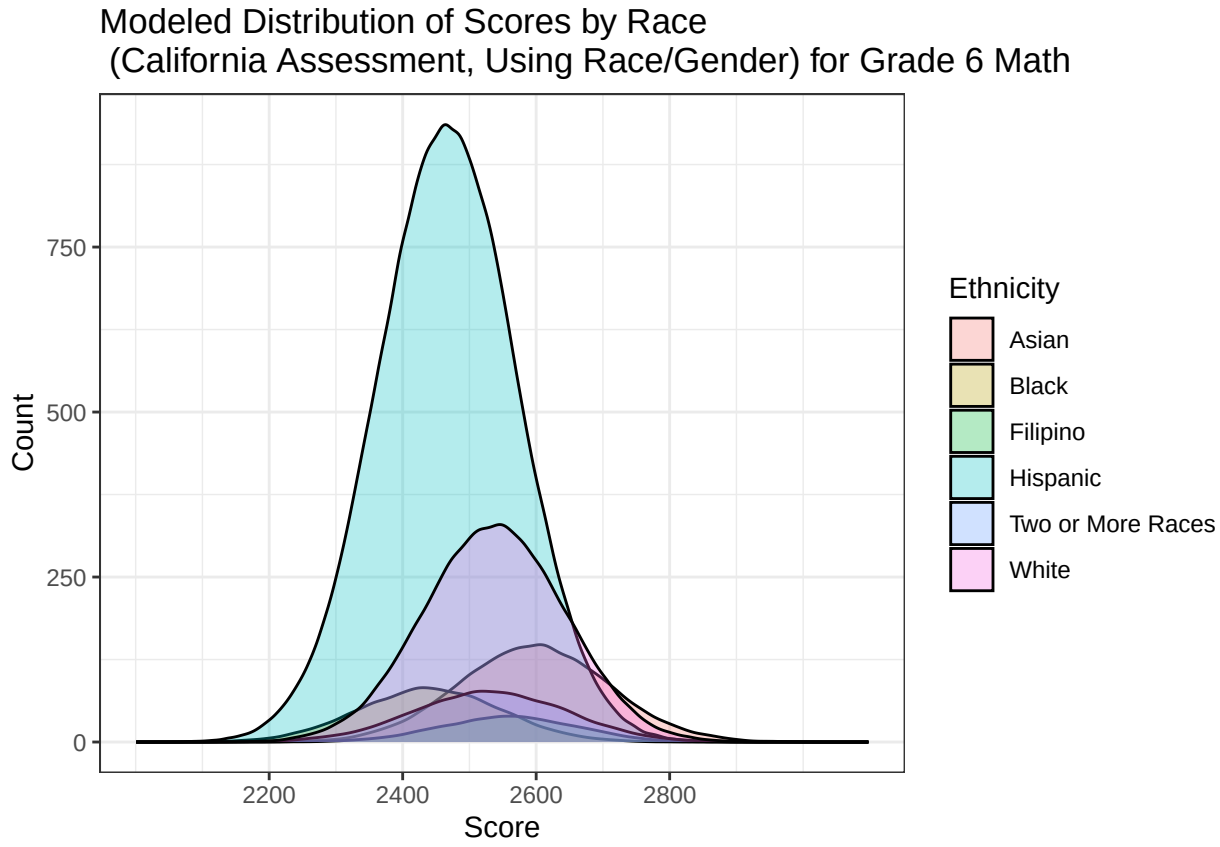
```
##
## [[9]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Gender) for Grade 4 Math
Count
900
600
300
0
2200
2400
2600
2800
Score
Ethnicity
Asian
Black
Filipino
Hispanic
Two or More Races
White

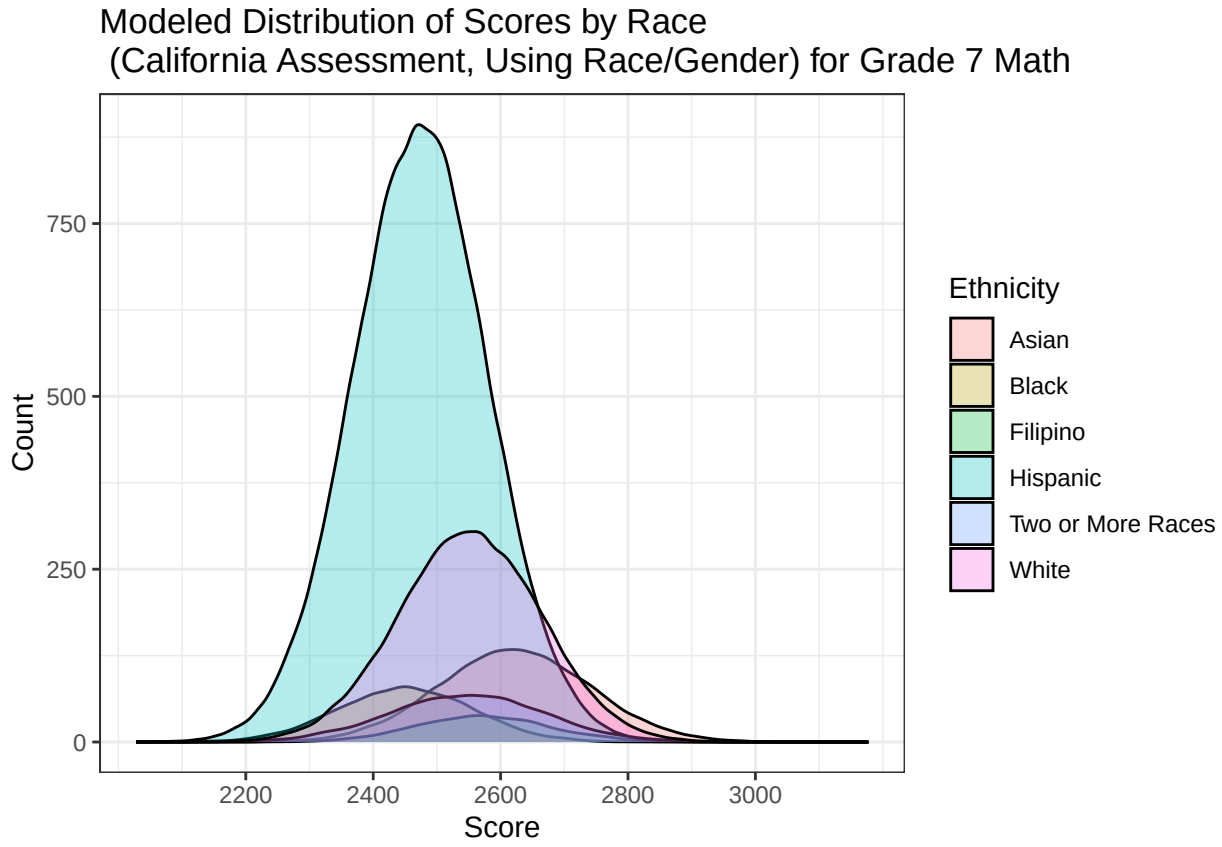
```
##
## [[10]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Gender) for Grade 5 Math
Count
1000
750
500
250
0
2200
2400
2600
2800
Score
Ethnicity
Asian
Black
Filipino
Hispanic
Two or More Races
White

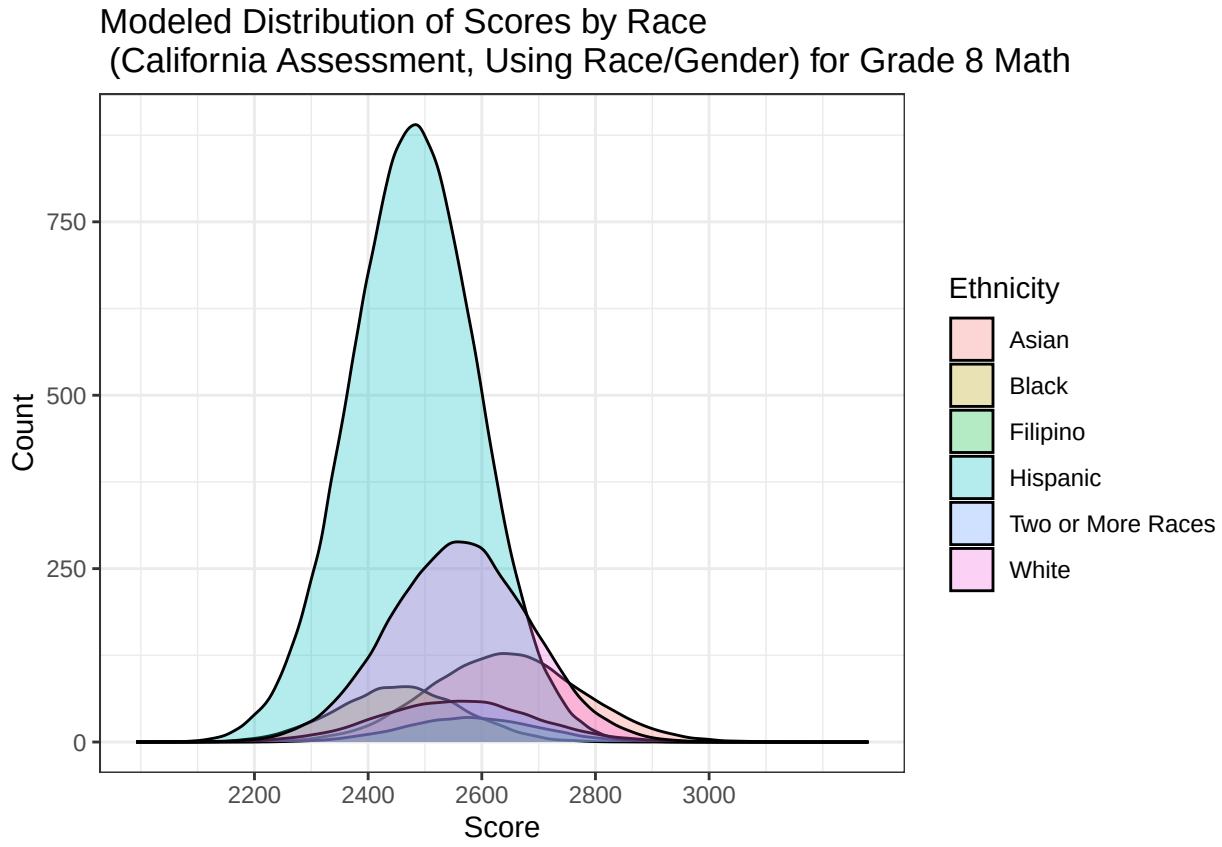
```
##
## [[11]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Gender) for Grade 6 Math
Count
750
500
250
0
2200
2400
2600
2800
Score
Ethnicity
Asian
Black
Filipino
Hispanic
Two or More Races
White

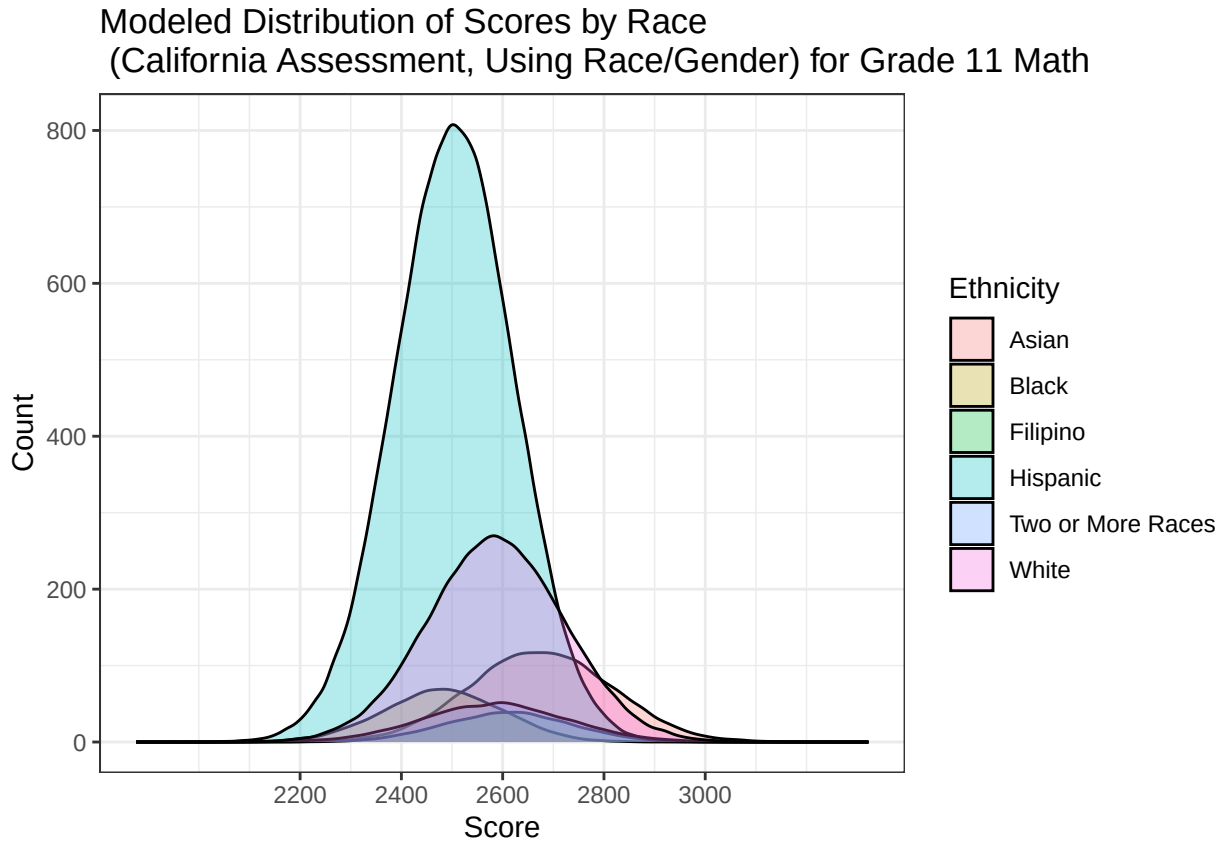
```
##
## [[12]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Gender) for Grade 7 Math
Count
750
500
250
0
2200
2400
2600
2800
3000
Score
Ethnicity
Asian
Black
Filipino
Hispanic
Two or More Races
White

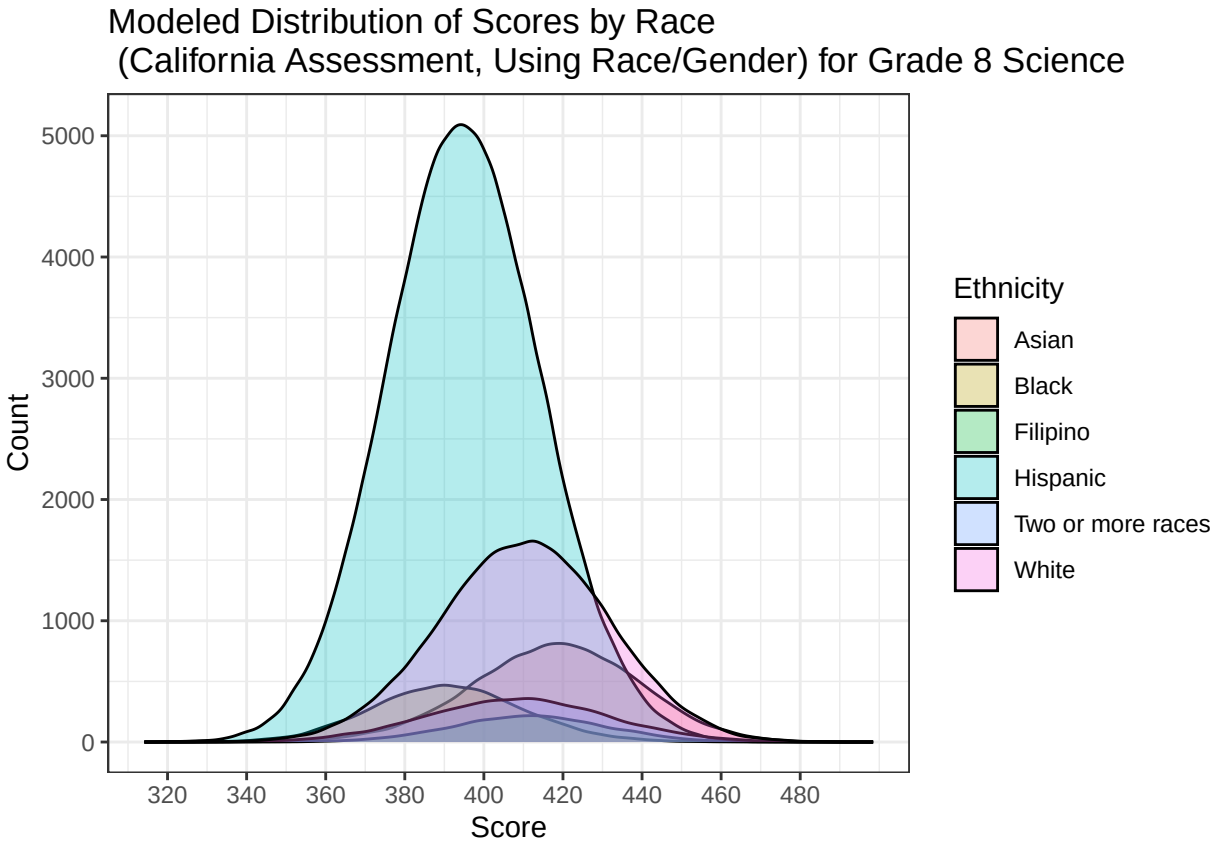
```
##
## [[13]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Gender) for Grade 8 Math
Count
750
500
250
0
2200
2400
2600
2800
3000
Score
Ethnicity
Asian
Black
Filipino
Hispanic
Two or More Races
White

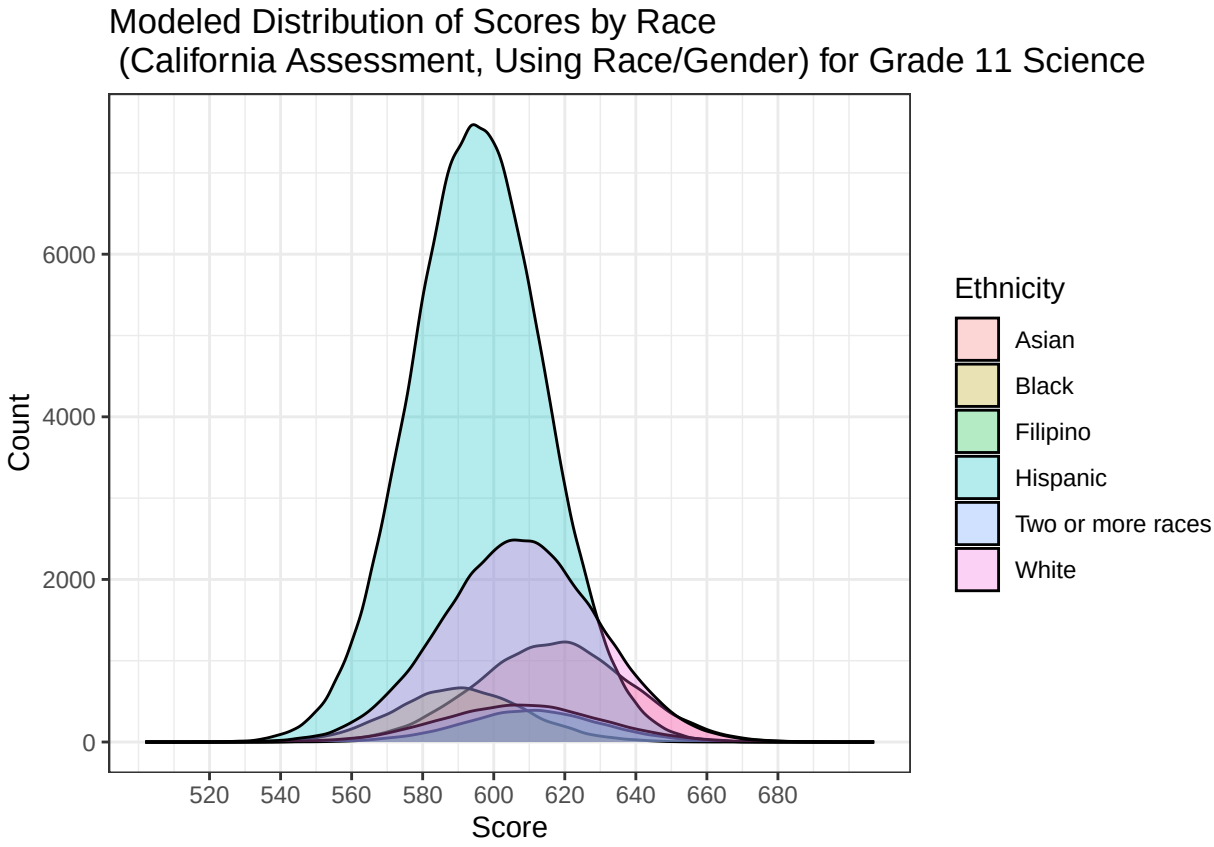
```
##
## [[14]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Gender) for Grade 11 Math
Count
800
600
400
200
0
2200
2400
2600
2800
3000
Score
Ethnicity
Asian
Black
Filipino
Hispanic
Two or More Races
White

```
##
## [[15]]
```

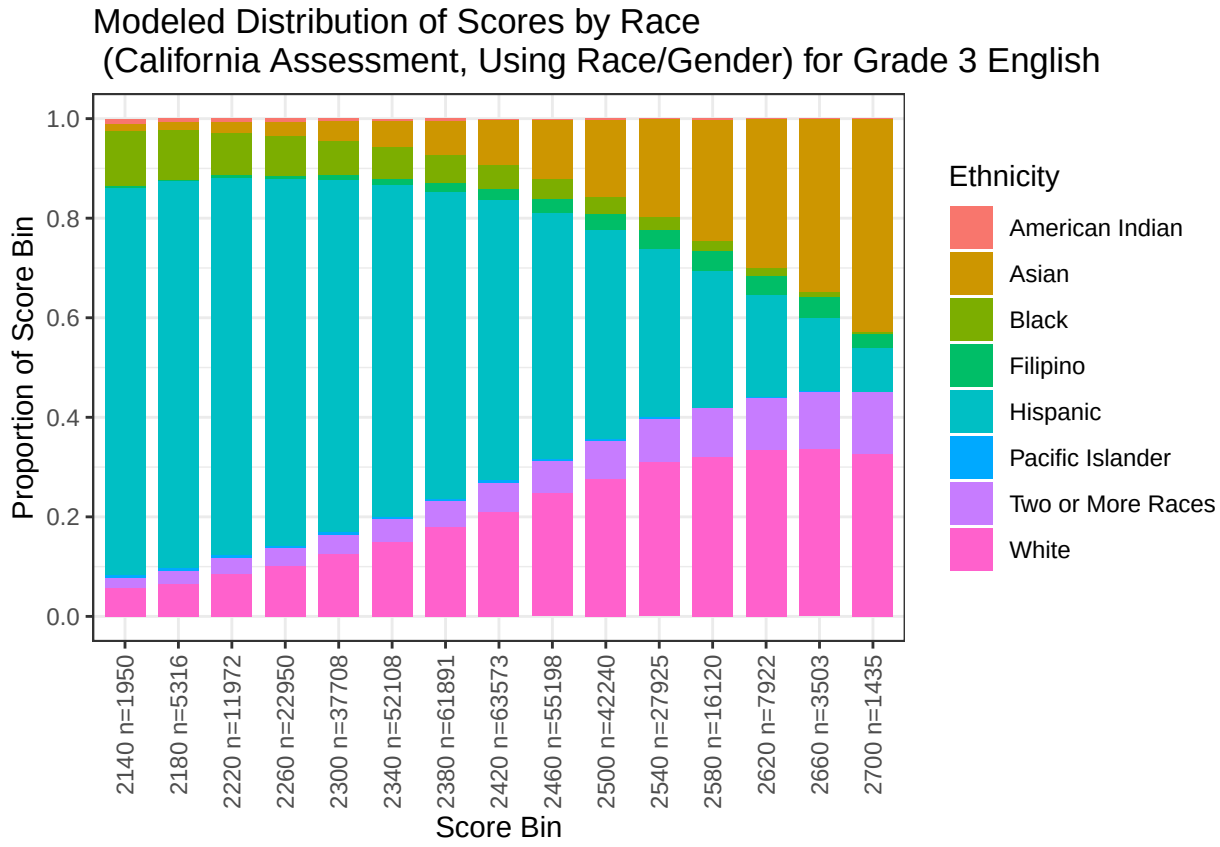

Modeled Distribution of Scores by Race
(California Assessment, Using Race/Gender) for Grade 8 Science
Count
5000
4000
3000
2000
1000
0
320
340
360
380
400
420
440
460
480
Score
Ethnicity
Asian
Black
Filipino
Hispanic
Two or more races
White

```
##
## [[16]]
```

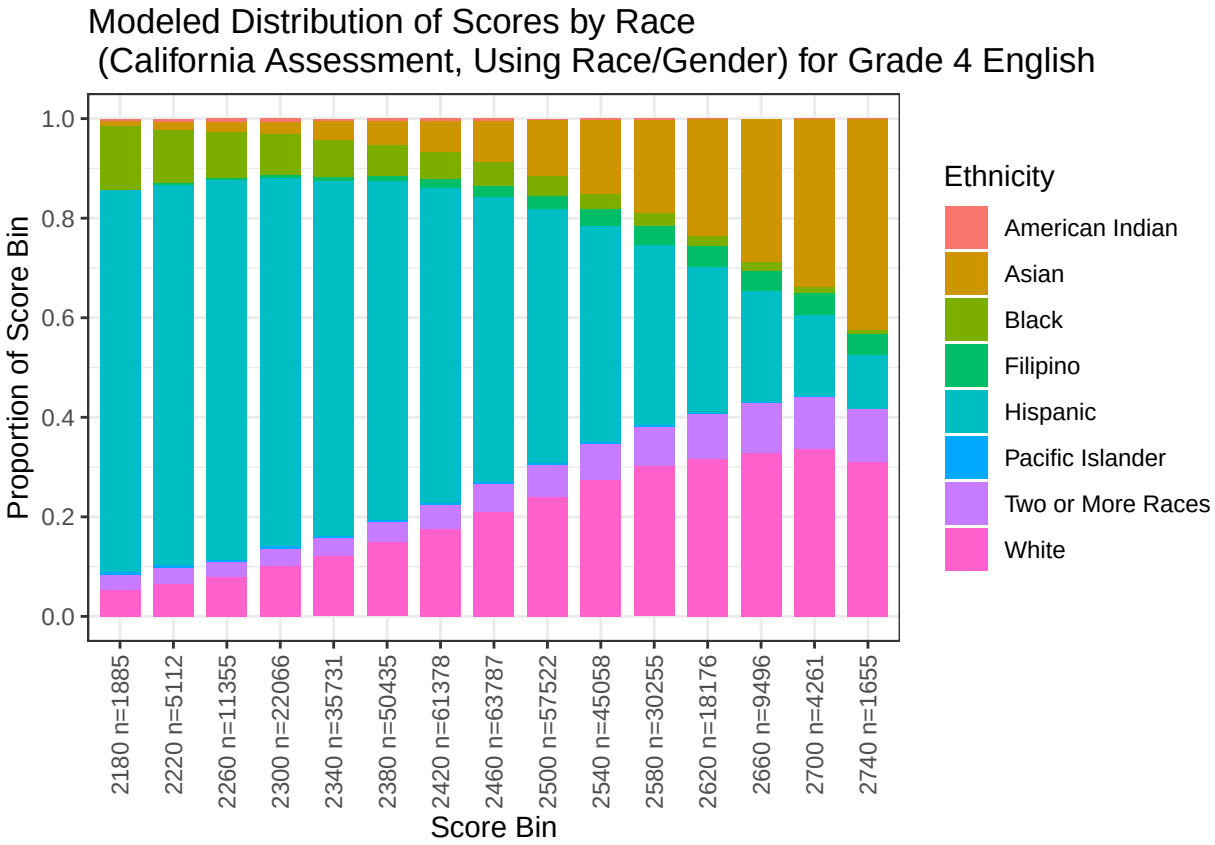

Modeled Distribution of Scores by Race
(California Assessment, Using Race/Gender) for Grade 11 Science
Count
6000
4000
2000
0
520
540
560
580
600
620
640
660
680
Score
Ethnicity
Asian
Black
Filipino
Hispanic
Two or more races
White

```
dist_data
```

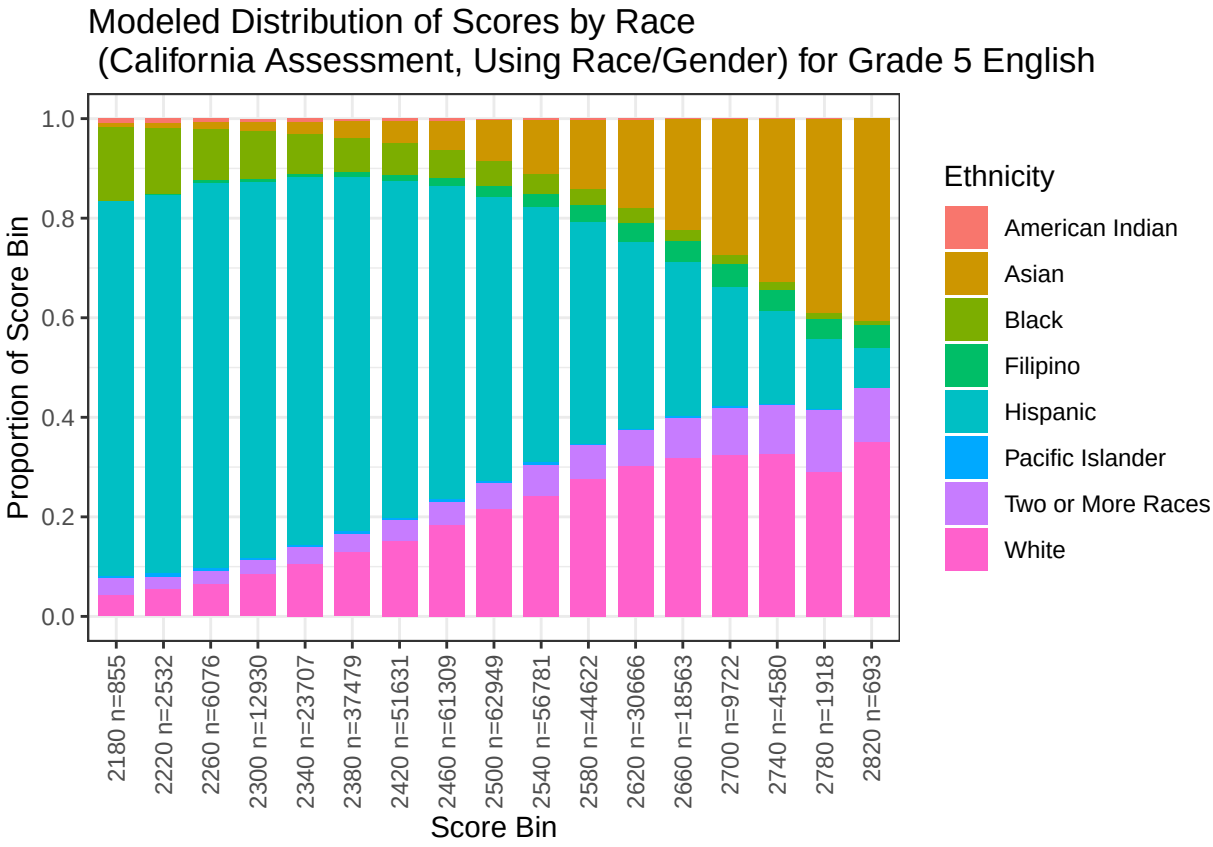
```
## [[1]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Gender) for Grade 3 English
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2140 n=1950
2180 n=5316
2220 n=11972
2260 n=22950
2300 n=37708
2340 n=52108
2380 n=61891
2420 n=63573
2460 n=55198
2500 n=42240
2540 n=27925
2580 n=16120
2620 n=7922
2660 n=3503
2700 n=1435
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

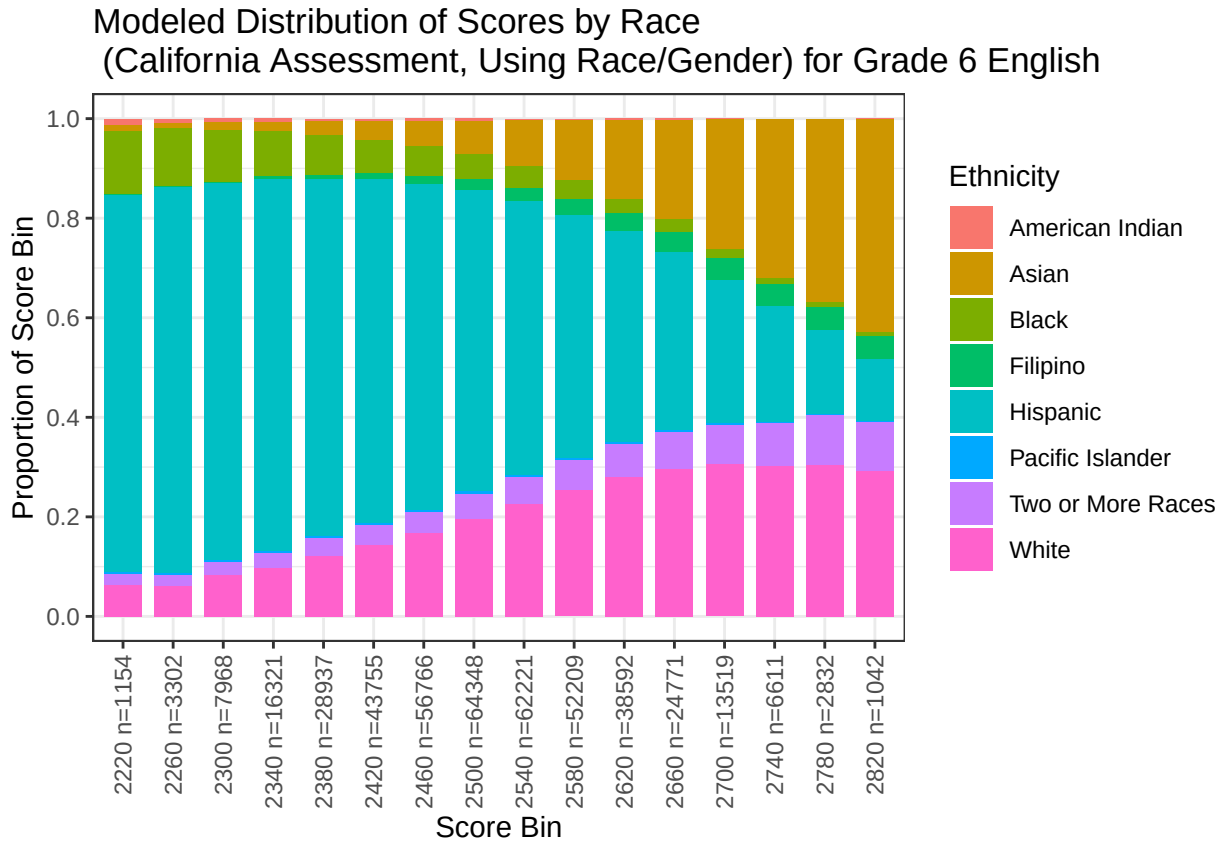
```
##
## [[2]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Gender) for Grade 4 English
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2180 n=1885
2220 n=5112
2260 n=11355
2300 n=22066
2340 n=35731
2380 n=50435
2420 n=61378
2460 n=63787
2500 n=57522
2540 n=45058
2580 n=30255
2620 n=18176
2660 n=9496
2700 n=4261
2740 n=1655
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

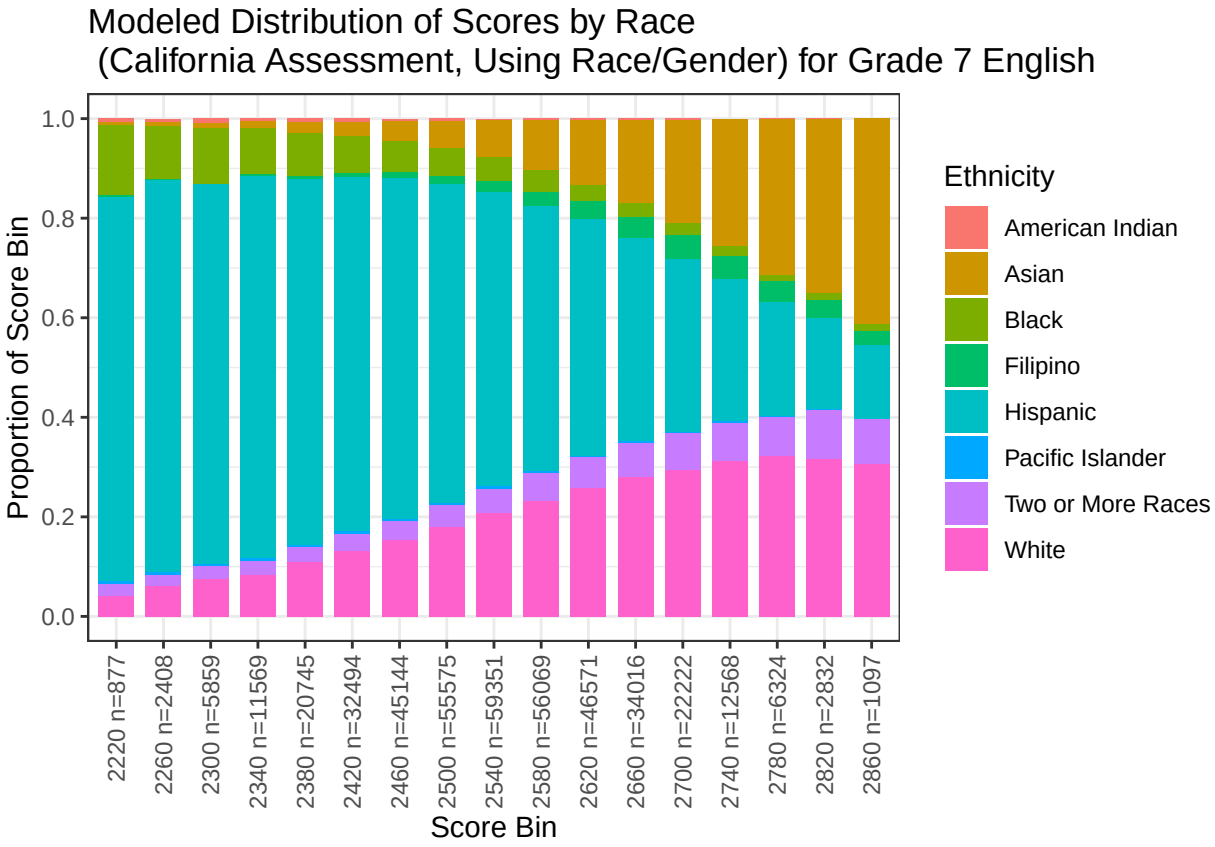
```
##
## [[3]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Gender) for Grade 5 English
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2180 n=855
2220 n=2532
2260 n=6076
2300 n=12930
2340 n=23707
2380 n=37479
2420 n=51631
2460 n=61309
2500 n=62949
2540 n=56781
2580 n=44622
2620 n=30666
2660 n=18563
2700 n=9722
2740 n=4580
2780 n=1918
2820 n=693
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

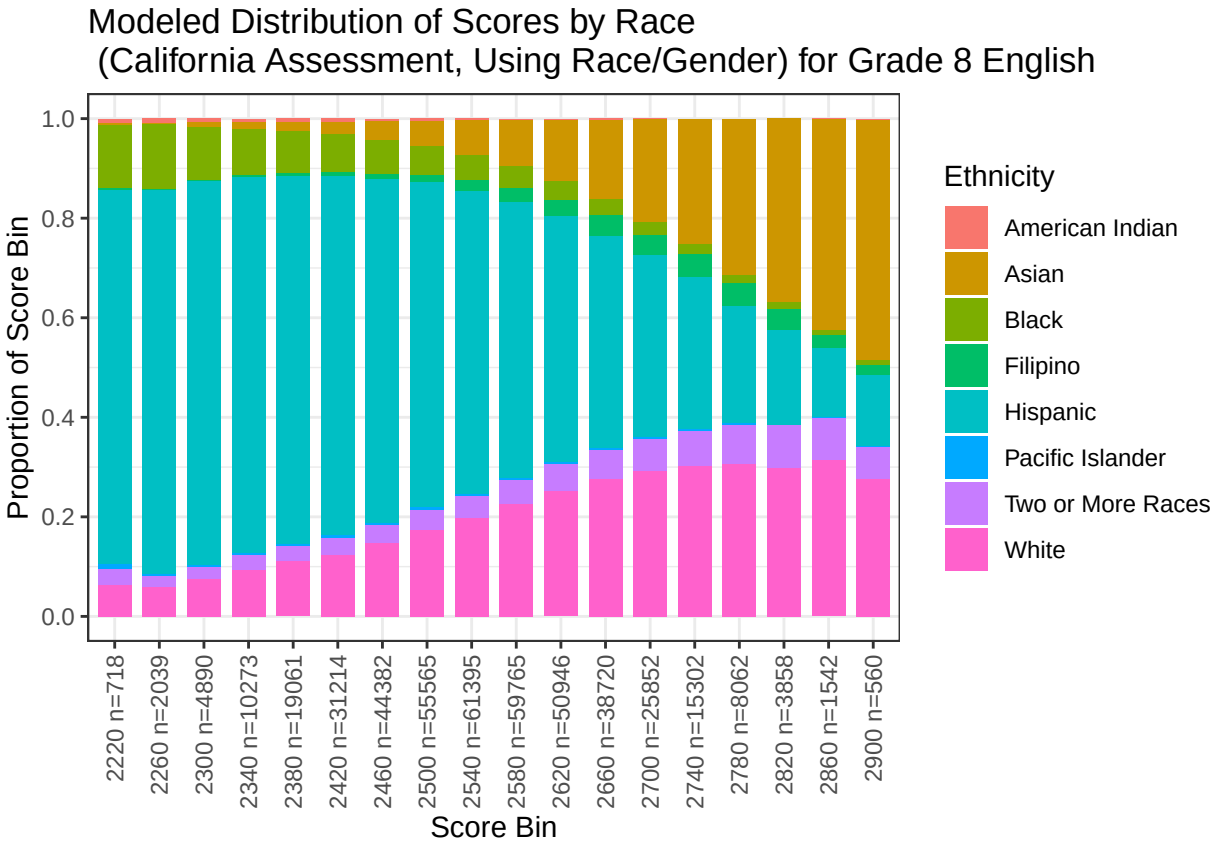
```
##
## [[4]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Gender) for Grade 6 English
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2220 n=1154
2260 n=3302
2300 n=7968
2340 n=16321
2380 n=28937
2420 n=43755
2460 n=56766
2500 n=64348
2540 n=62221
2580 n=52209
2620 n=38592
2660 n=24771
2700 n=13519
2740 n=6611
2780 n=2832
2820 n=1042
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

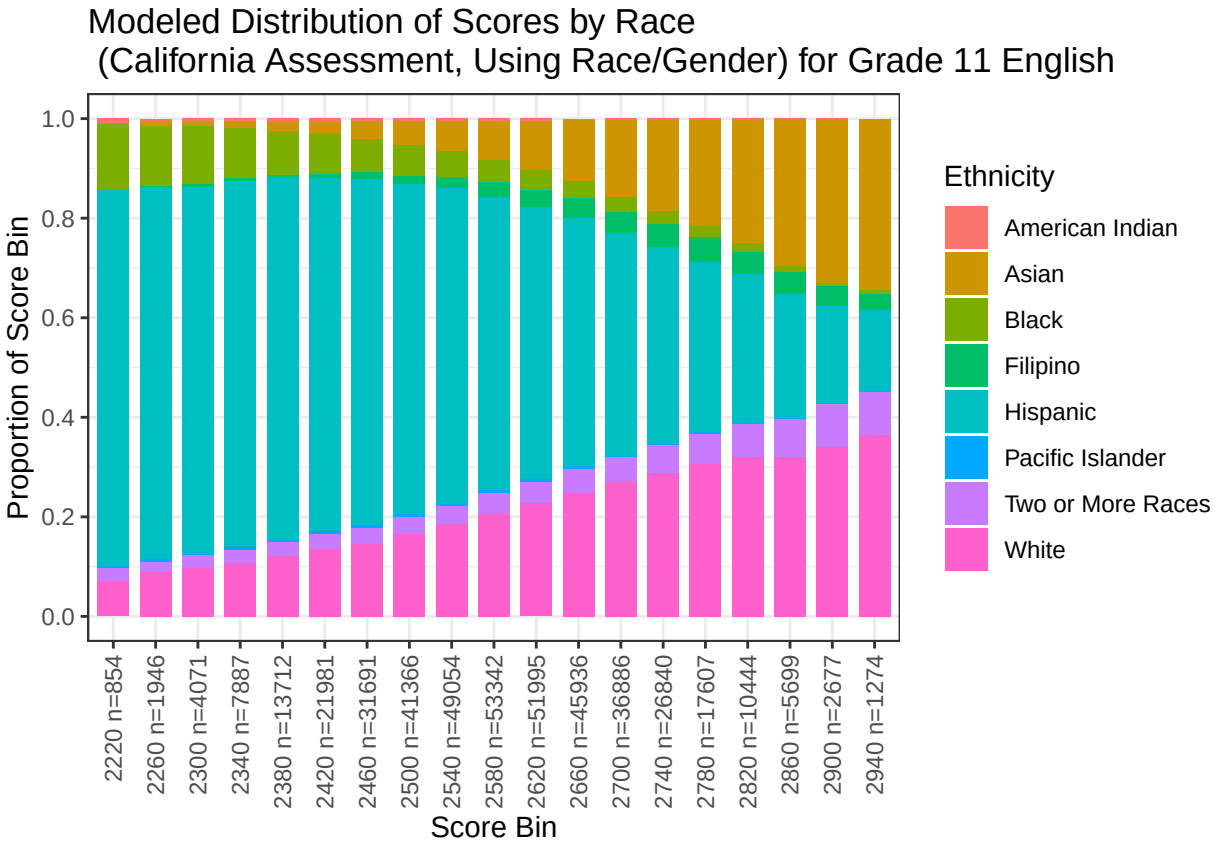
```
##
## [[5]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Gender) for Grade 7 English
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2220 n=877
2260 n=2408
2300 n=5859
2340 n=11569
2380 n=20745
2420 n=32494
2460 n=45144
2500 n=55575
2540 n=59351
2580 n=56069
2620 n=46571
2660 n=34016
2700 n=22222
2740 n=12568
2780 n=6324
2820 n=2832
2860 n=1097
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

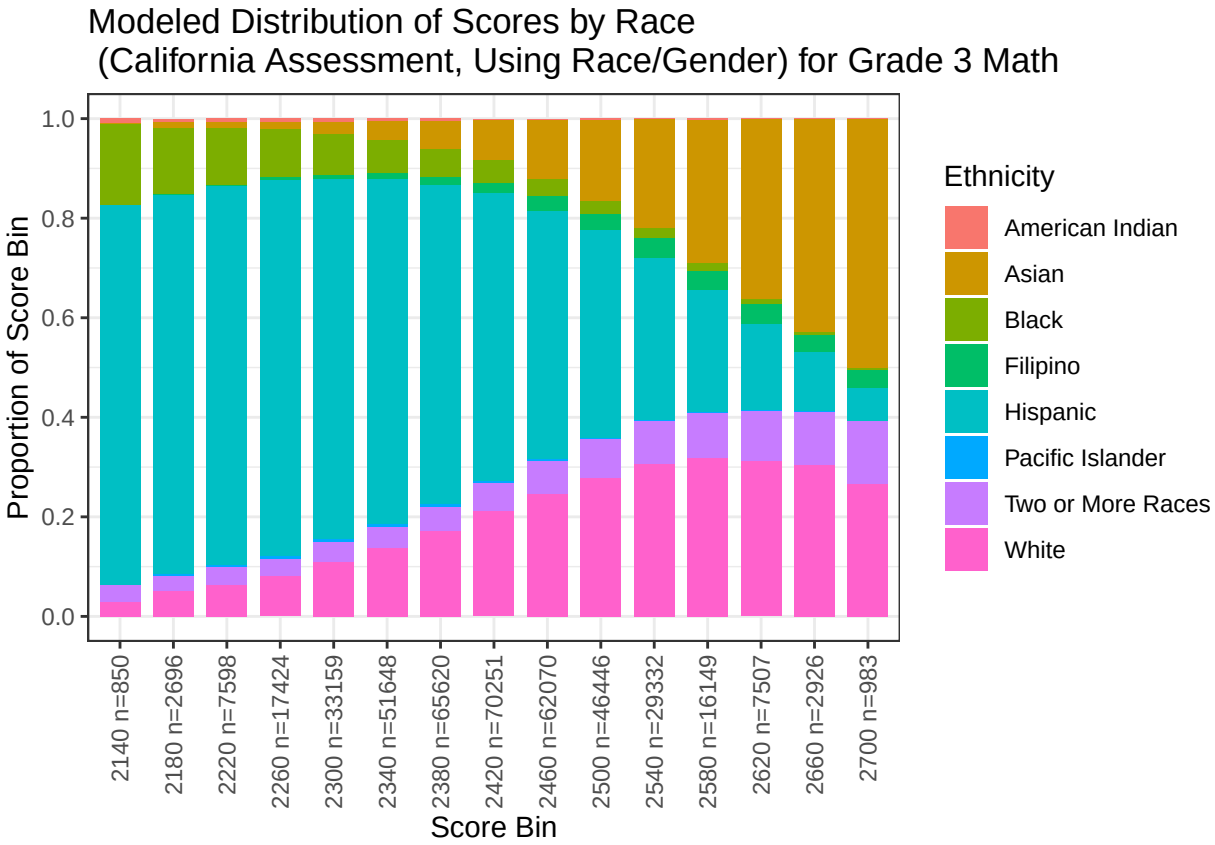
```
##
## [[6]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Gender) for Grade 8 English
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2220 n=718
2260 n=2039
2300 n=4890
2340 n=10273
2380 n=19061
2420 n=31214
2460 n=44382
2500 n=55565
2540 n=61395
2580 n=59765
2620 n=50946
2660 n=38720
2700 n=25852
2740 n=15302
2780 n=8062
2820 n=3858
2860 n=1542
2900 n=560
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

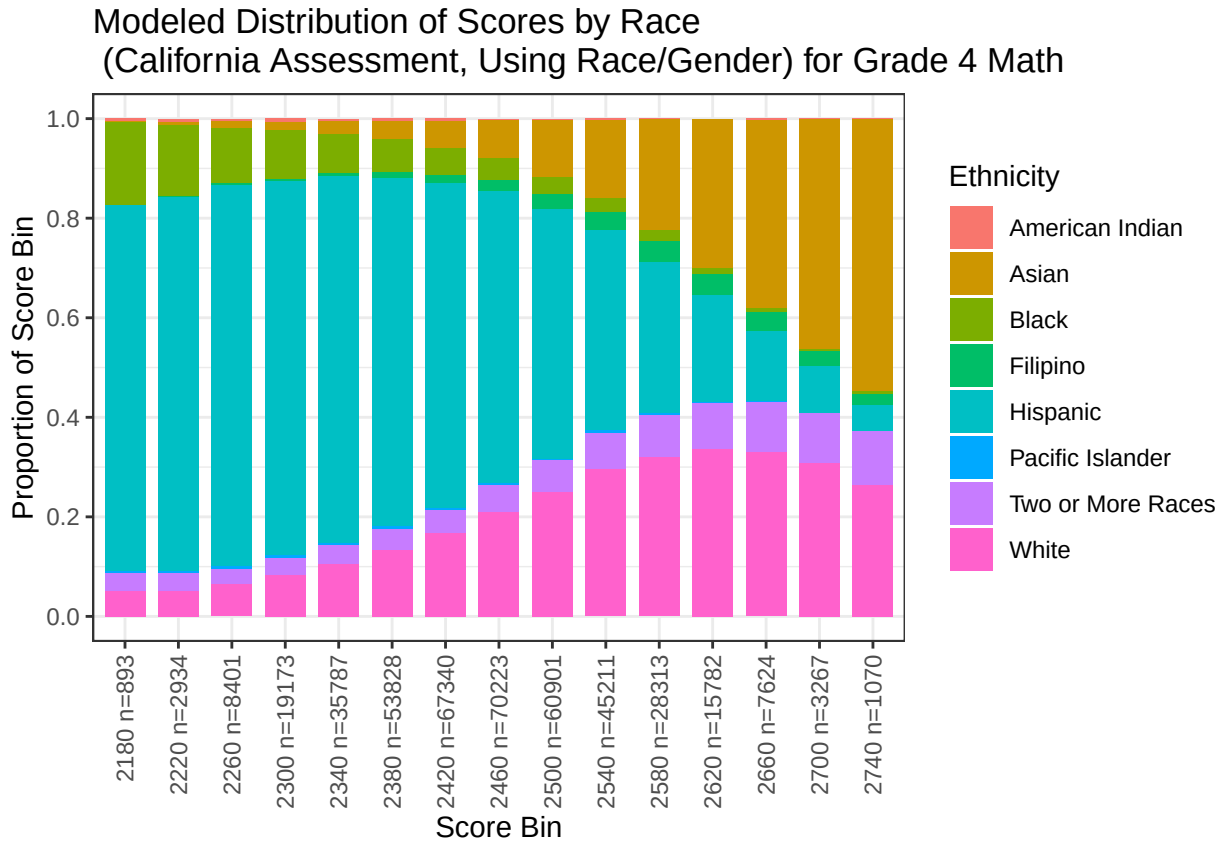
```
##
## [[7]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Gender) for Grade 11 English
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2220 n=854
2260 n=1946
2300 n=4071
2340 n=7887
2380 n=13712
2420 n=21981
2460 n=31691
2500 n=41366
2540 n=49054
2580 n=53342
2620 n=51995
2660 n=45936
2700 n=36886
2740 n=26840
2780 n=17607
2820 n=10444
2860 n=5699
2900 n=2677
2940 n=1274
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

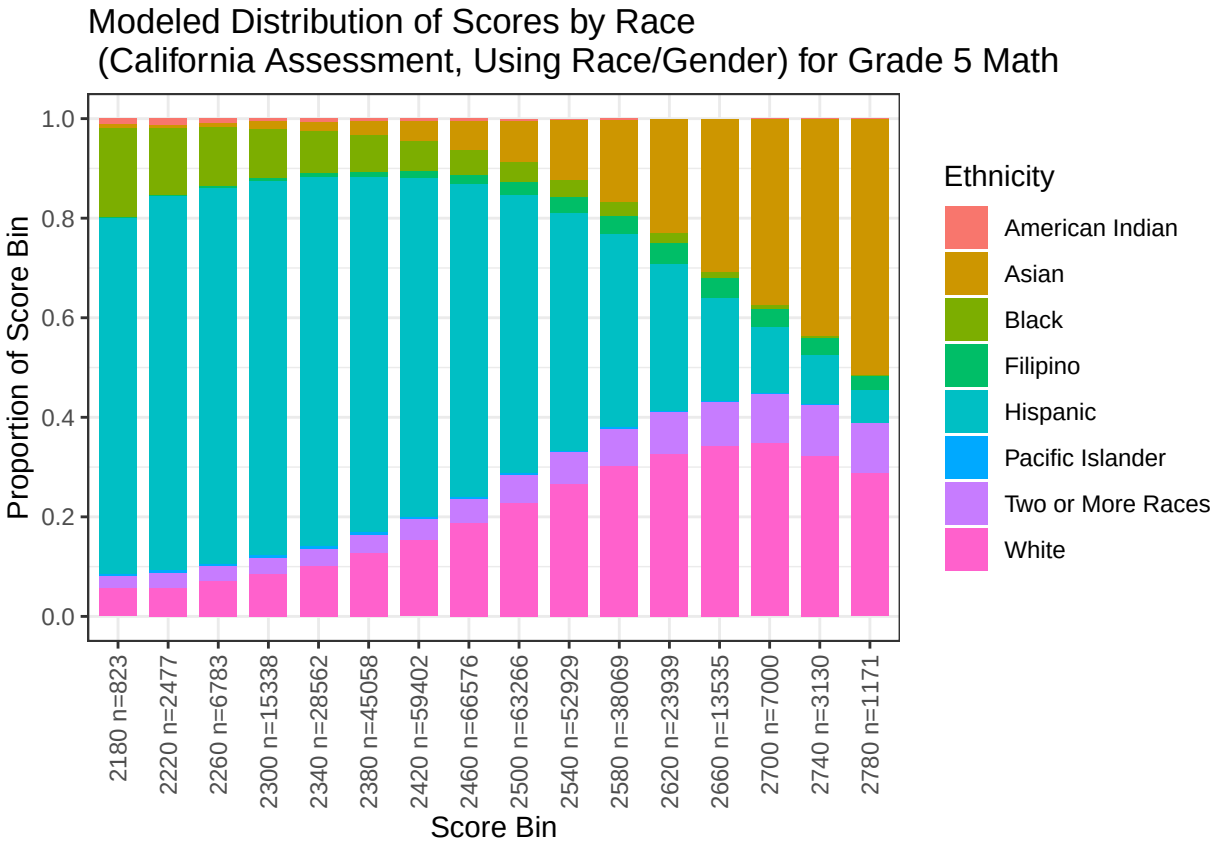
```
##
## [[8]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Gender) for Grade 3 Math
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2140 n=850
2180 n=2696
2220 n=7598
2260 n=17424
2300 n=33159
2340 n=51648
2380 n=65620
2420 n=70251
2460 n=62070
2500 n=46446
2540 n=29332
2580 n=16149
2620 n=7507
2660 n=2926
2700 n=983
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

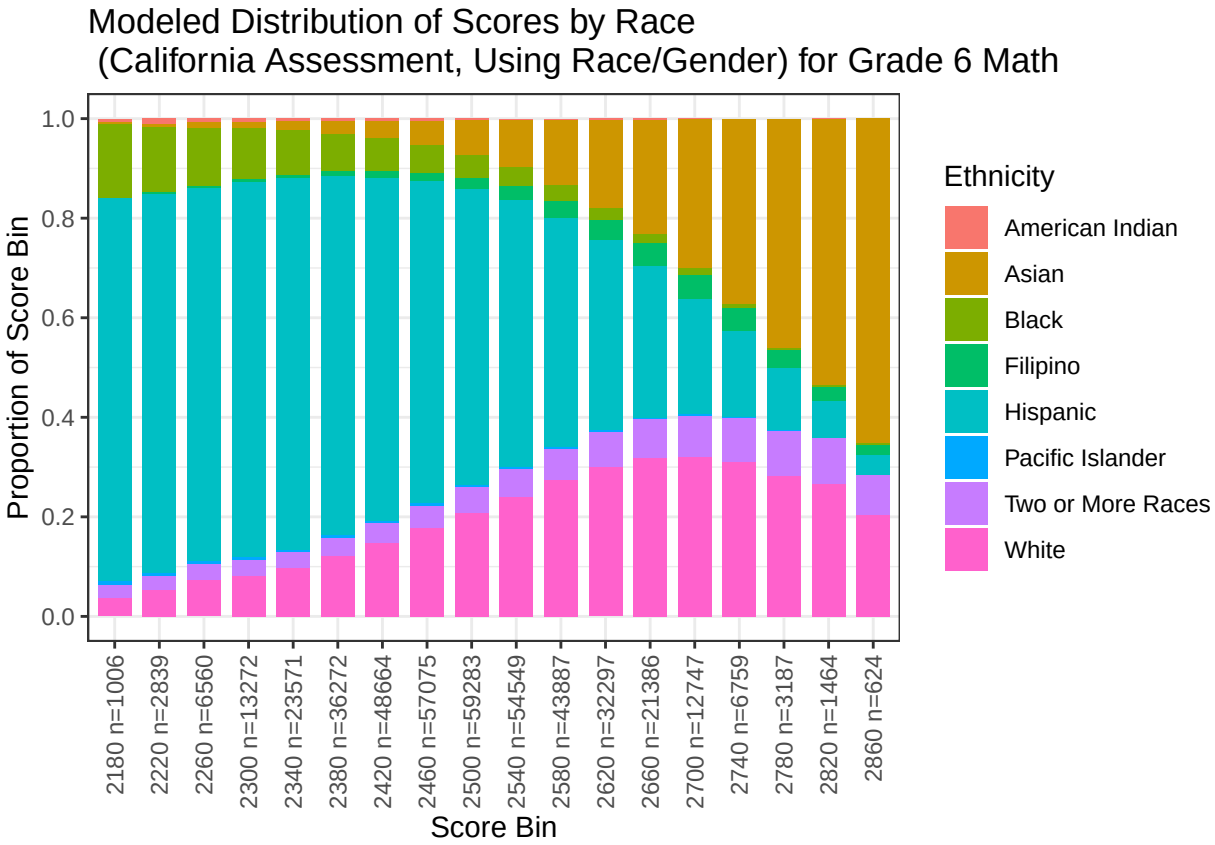
```
##
## [[9]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Gender) for Grade 4 Math
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2180 n=893
2220 n=2934
2260 n=8401
2300 n=19173
2340 n=35787
2380 n=53828
2420 n=67340
2460 n=70223
2500 n=60901
2540 n=45211
2580 n=28313
2620 n=15782
2660 n=7624
2700 n=3267
2740 n=1070
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

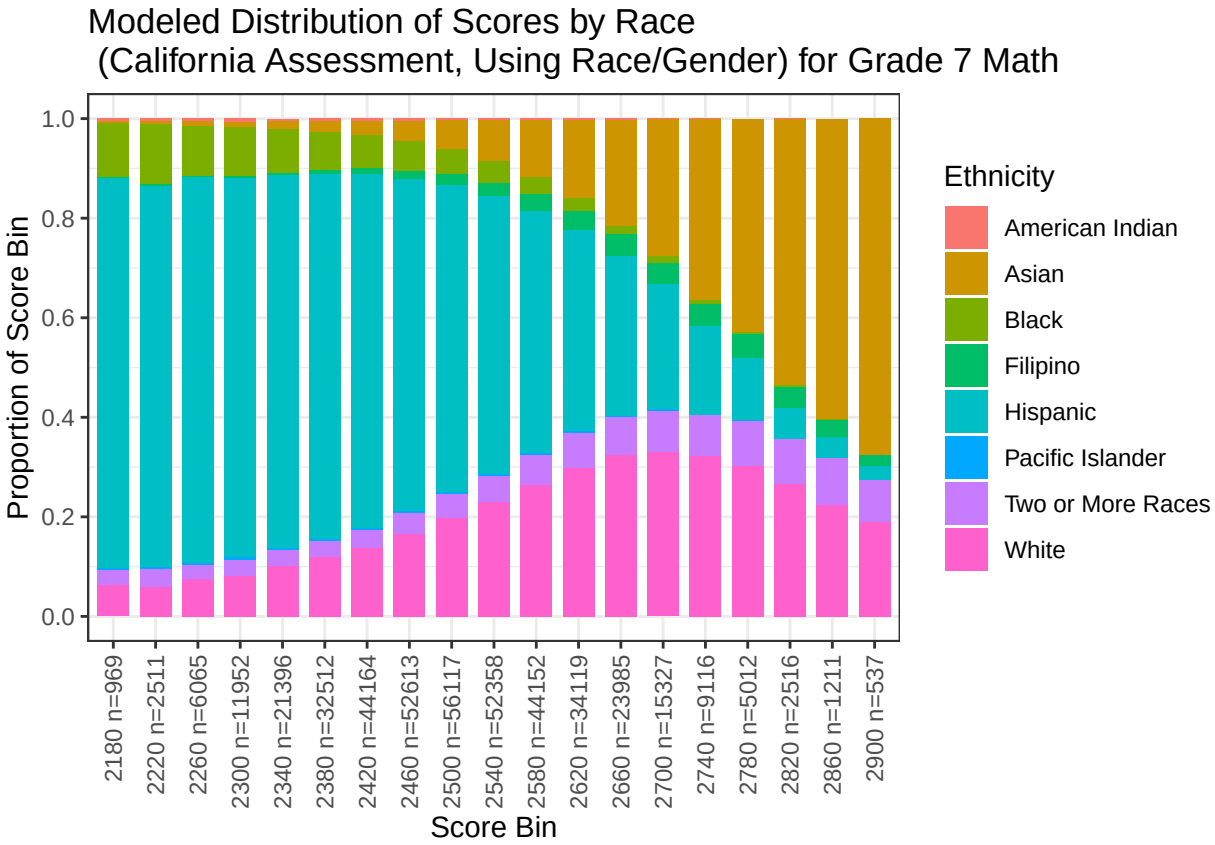
```
##
## [[10]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Gender) for Grade 5 Math
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2180 n=823
2220 n=2477
2260 n=6783
2300 n=15338
2340 n=28562
2380 n=45058
2420 n=59402
2460 n=66576
2500 n=63266
2540 n=52929
2580 n=38069
2620 n=23939
2660 n=13535
2700 n=7000
2740 n=3130
2780 n=1171
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

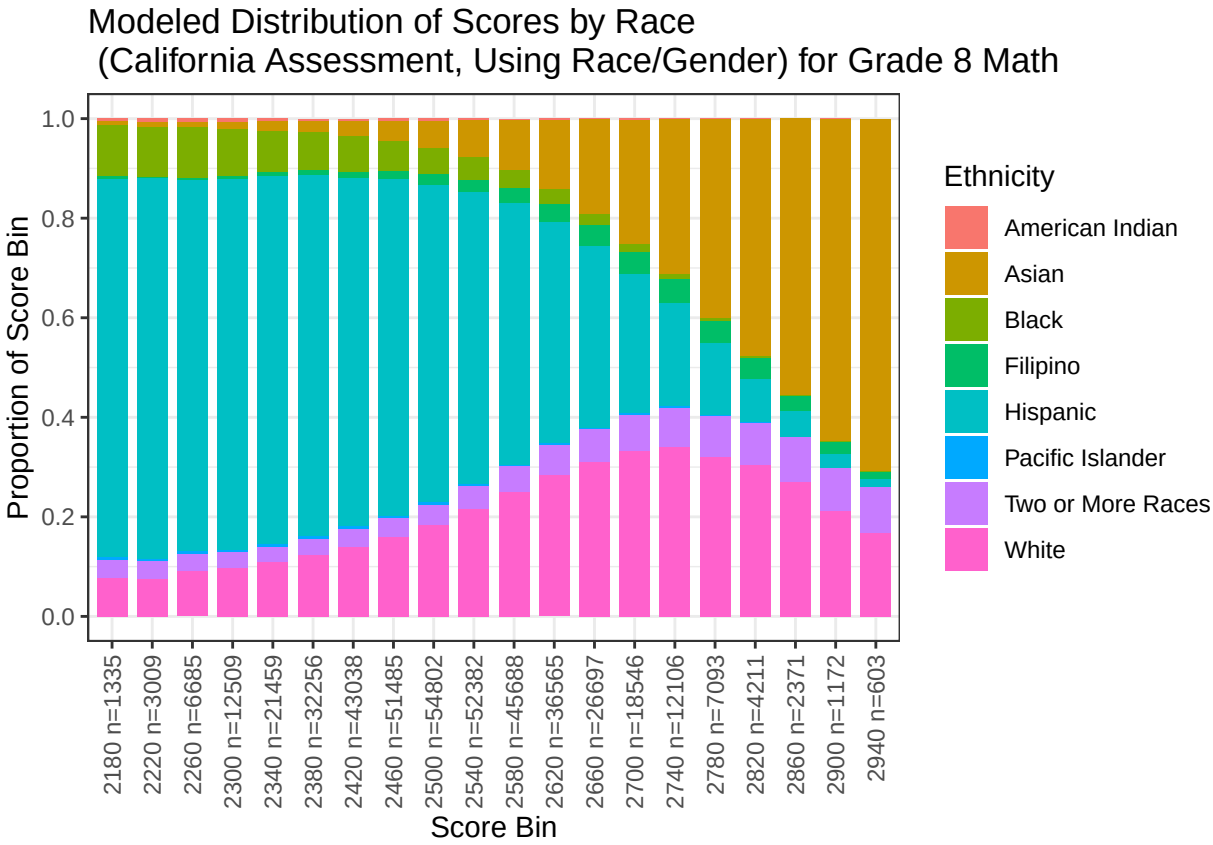
```
##
## [[11]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Gender) for Grade 6 Math
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2180 n=1006
2220 n=2839
2260 n=6560
2300 n=13272
2340 n=23571
2380 n=36272
2420 n=48664
2460 n=57075
2500 n=59283
2540 n=54549
2580 n=43887
2620 n=32297
2660 n=21386
2700 n=12747
2740 n=6759
2780 n=3187
2820 n=1464
2860 n=624
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

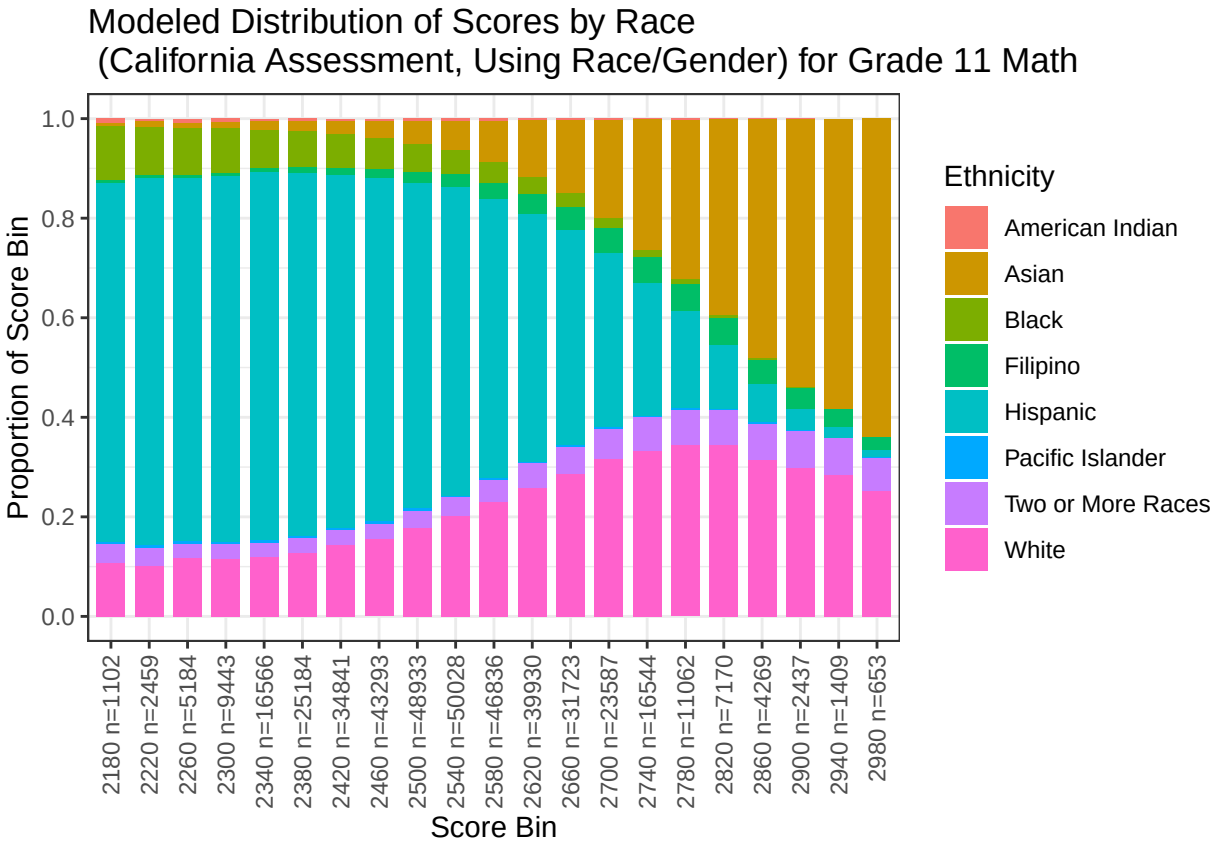
```
##
## [[12]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Gender) for Grade 7 Math
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2180 n=969
2220 n=2511
2260 n=6065
2300 n=11952
2340 n=21396
2380 n=32512
2420 n=44164
2460 n=52613
2500 n=56117
2540 n=52358
2580 n=44152
2620 n=34119
2660 n=23985
2700 n=15327
2740 n=9116
2780 n=5012
2820 n=2516
2860 n=1211
2900 n=537
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

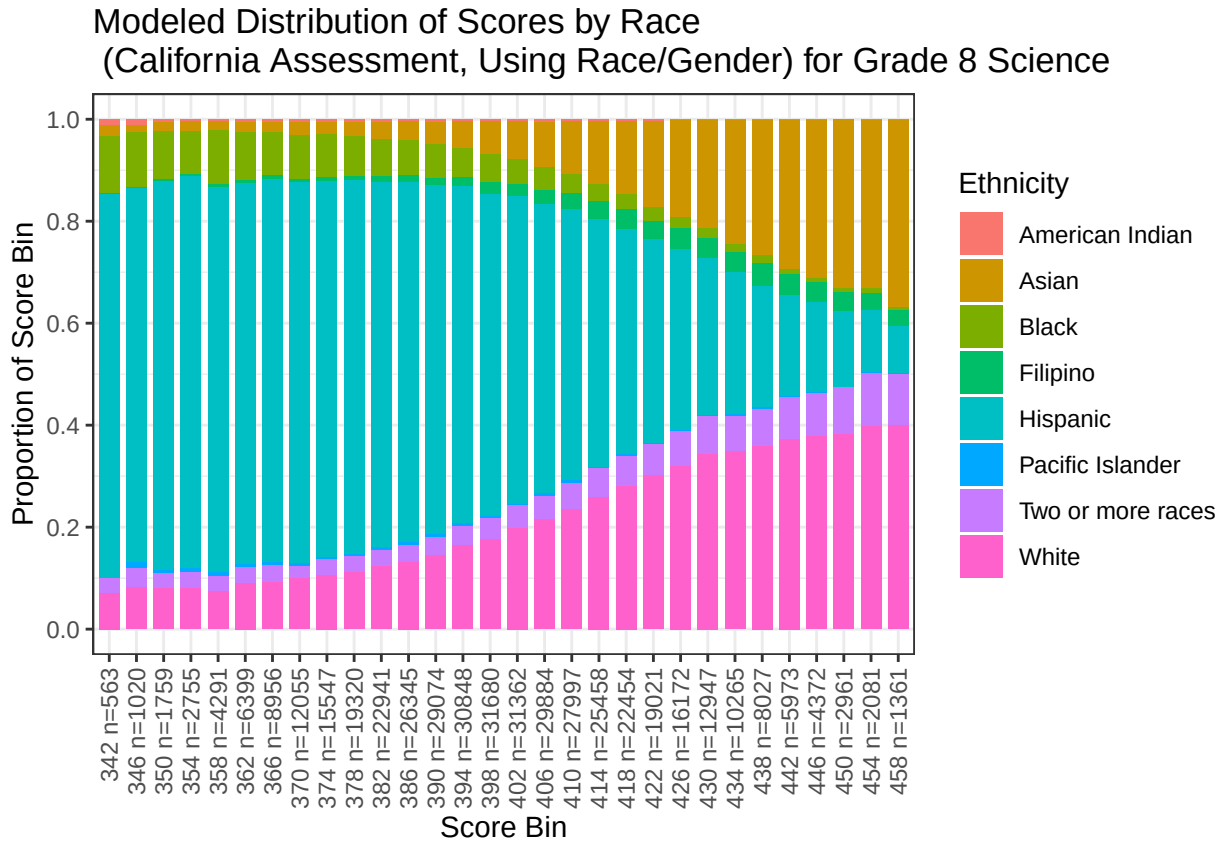
```
##
## [[13]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Gender) for Grade 8 Math
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2180 n=1335
2220 n=3009
2260 n=6685
2300 n=12509
2340 n=21459
2380 n=32256
2420 n=43038
2460 n=51485
2500 n=54802
2540 n=52382
2580 n=45688
2620 n=36565
2660 n=26697
2700 n=18546
2740 n=12106
2780 n=7093
2820 n=4211
2860 n=2371
2900 n=1172
2940 n=603
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

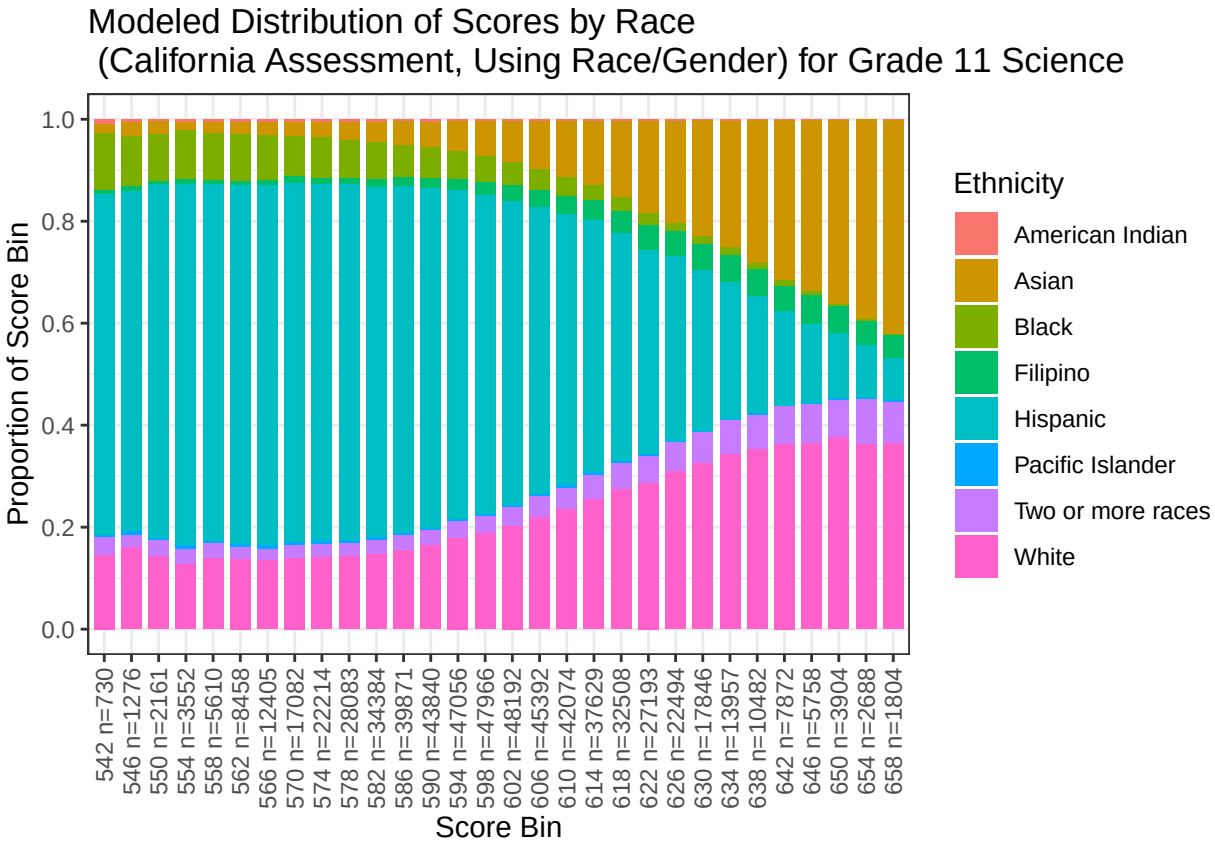
```
##
## [[14]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Gender) for Grade 11 Math
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2180 n=1102
2220 n=2459
2260 n=5184
2300 n=9443
2340 n=16566
2380 n=25184
2420 n=34841
2460 n=43293
2500 n=48933
2540 n=50028
2580 n=46836
2620 n=39930
2660 n=31723
2700 n=23587
2740 n=16544
2780 n=11062
2820 n=7170
2860 n=4269
2900 n=2437
2940 n=1409
2980 n=653
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

```
##
## [[15]]
```

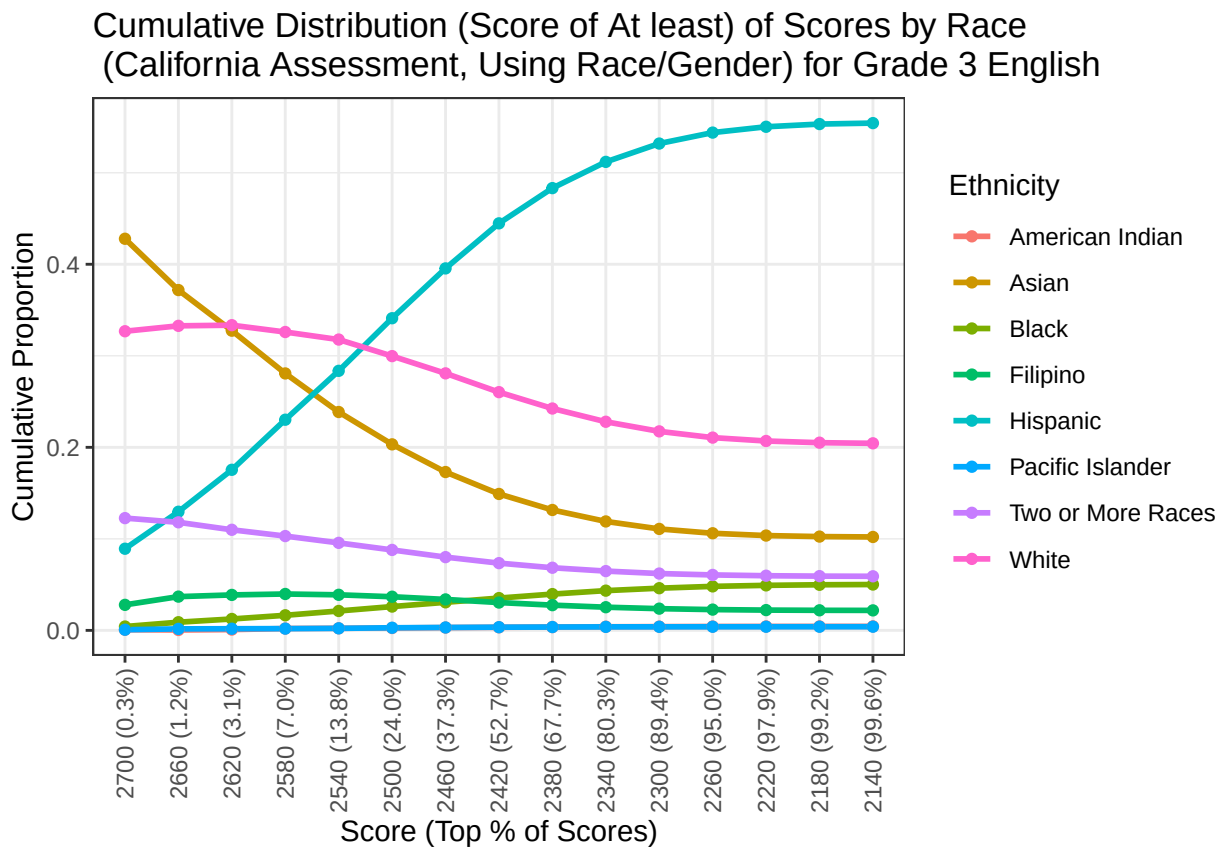

Modeled Distribution of Scores by Race
(California Assessment, Using Race/Gender) for Grade 8 Science
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
342 n=563
346 n=1020
350 n=1759
354 n=2755
358 n=4291
362 n=6399
366 n=8956
370 n=12055
374 n=15547
378 n=19320
382 n=22941
386 n=26345
390 n=29074
394 n=30848
398 n=31680
402 n=31362
406 n=29884
410 n=27997
414 n=25458
418 n=22454
422 n=19021
426 n=16172
430 n=12947
434 n=10265
438 n=8027
442 n=5973
446 n=4372
450 n=2961
454 n=2081
458 n=1361
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or more races
White

```
##
## [[16]]
```

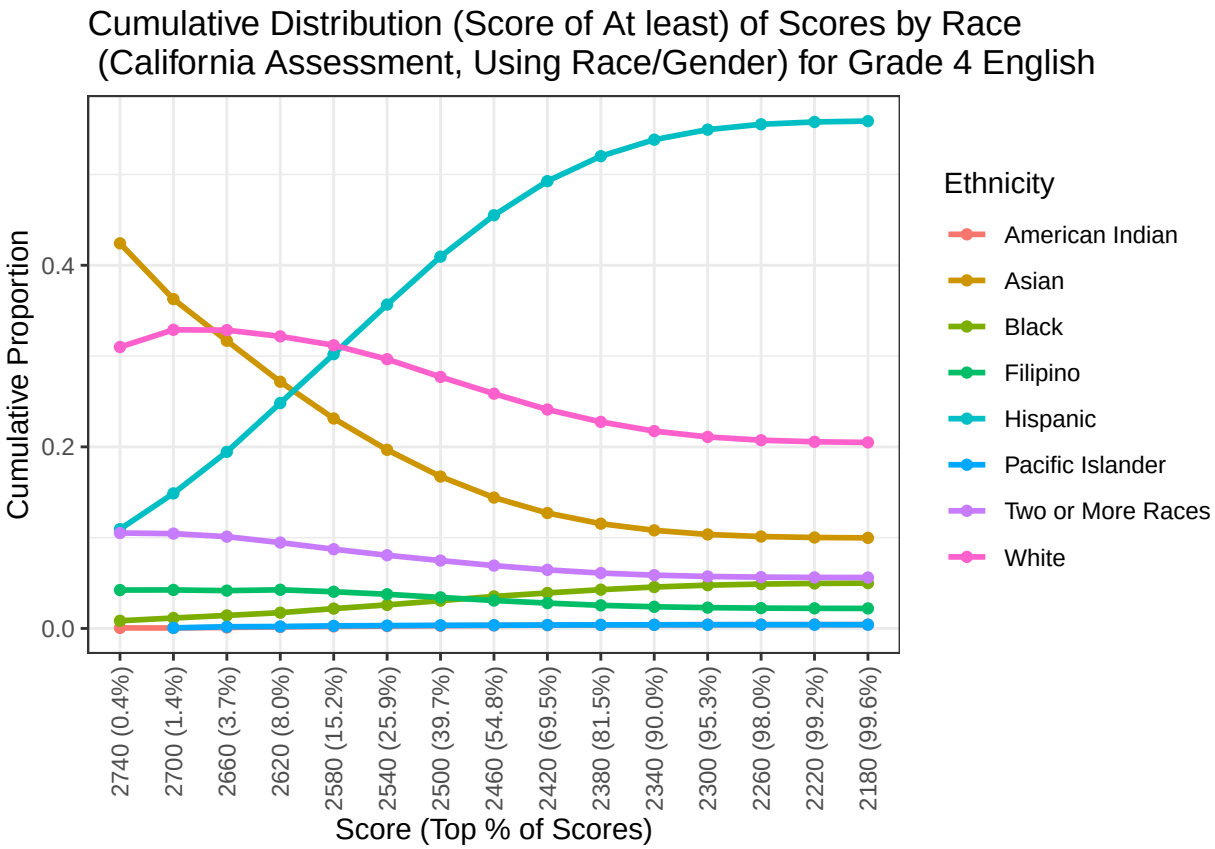



```
cumulative_data
```

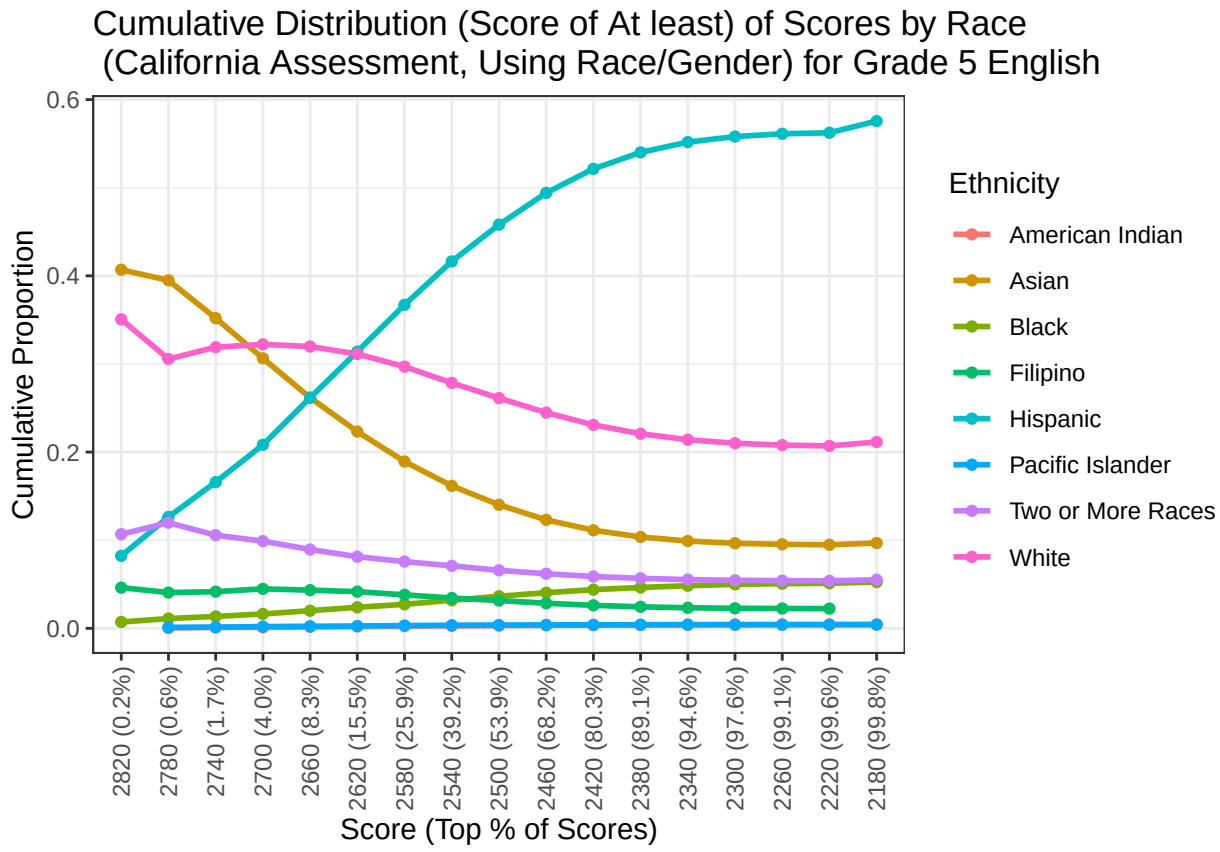
```
## [[1]]
```


Cumulative Distribution (Score of At least) of Scores by Race
(California Assessment, Using Race/Gender) for Grade 3 English
Cumulative Proportion
0.0
0.2
0.4
2700 (0.3%)
2660 (1.2%)
2620 (3.1%)
2580 (7.0%)
2540 (13.8%)
2500 (24.0%)
2460 (37.3%)
2420 (52.7%)
2380 (67.7%)
2340 (80.3%)
2300 (89.4%)
2260 (95.0%)
2220 (97.9%)
2180 (99.2%)
2140 (99.6%)
Score (Top % of Scores)
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

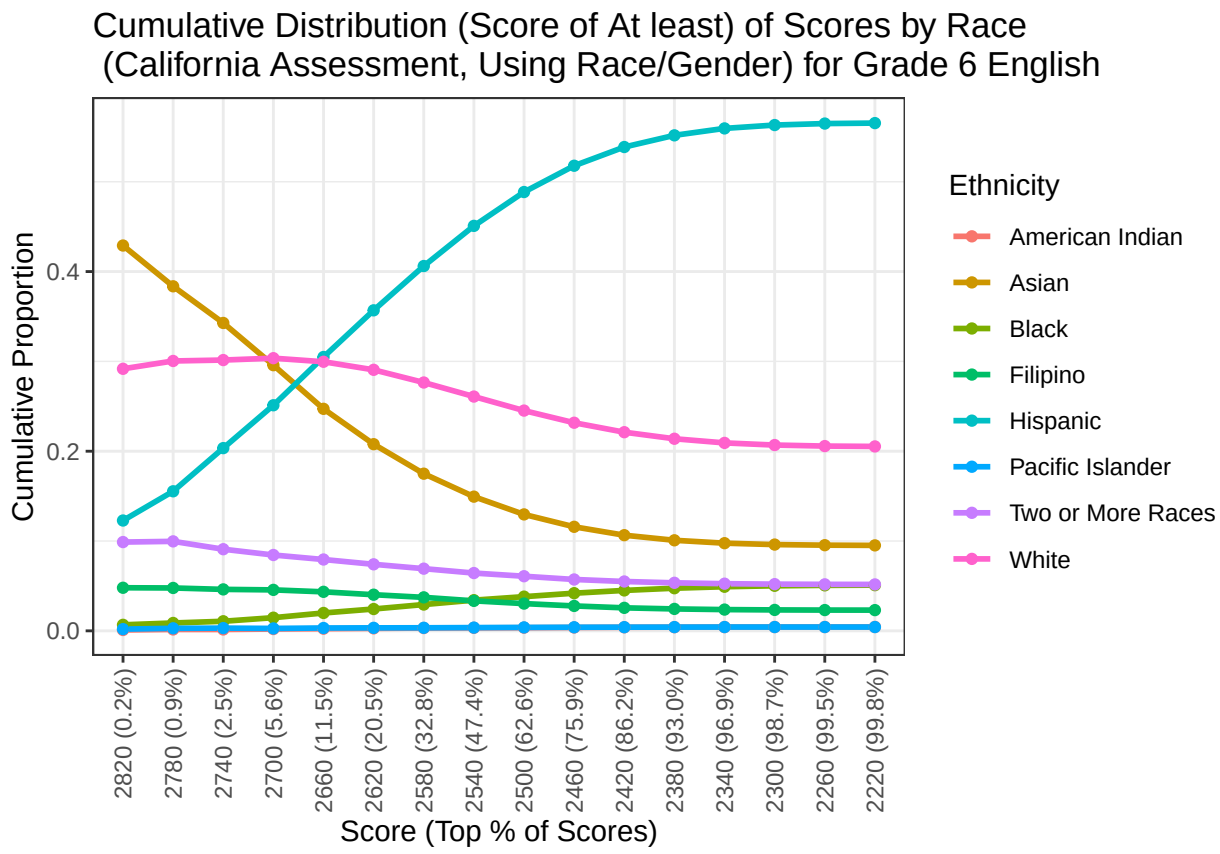
```
##
## [[2]]
```


Cumulative Distribution (Score of At least) of Scores by Race
(California Assessment, Using Race/Gender) for Grade 4 English
Cumulative Proportion
0.0
0.2
0.4
2740 (0.4%)
2700 (1.4%)
2660 (3.7%)
2620 (8.0%)
2580 (15.2%)
2540 (25.9%)
2500 (39.7%)
2460 (54.8%)
2420 (69.5%)
2380 (81.5%)
2340 (90.0%)
2300 (95.3%)
2260 (98.0%)
2220 (99.2%)
2180 (99.6%)
Score (Top % of Scores)
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

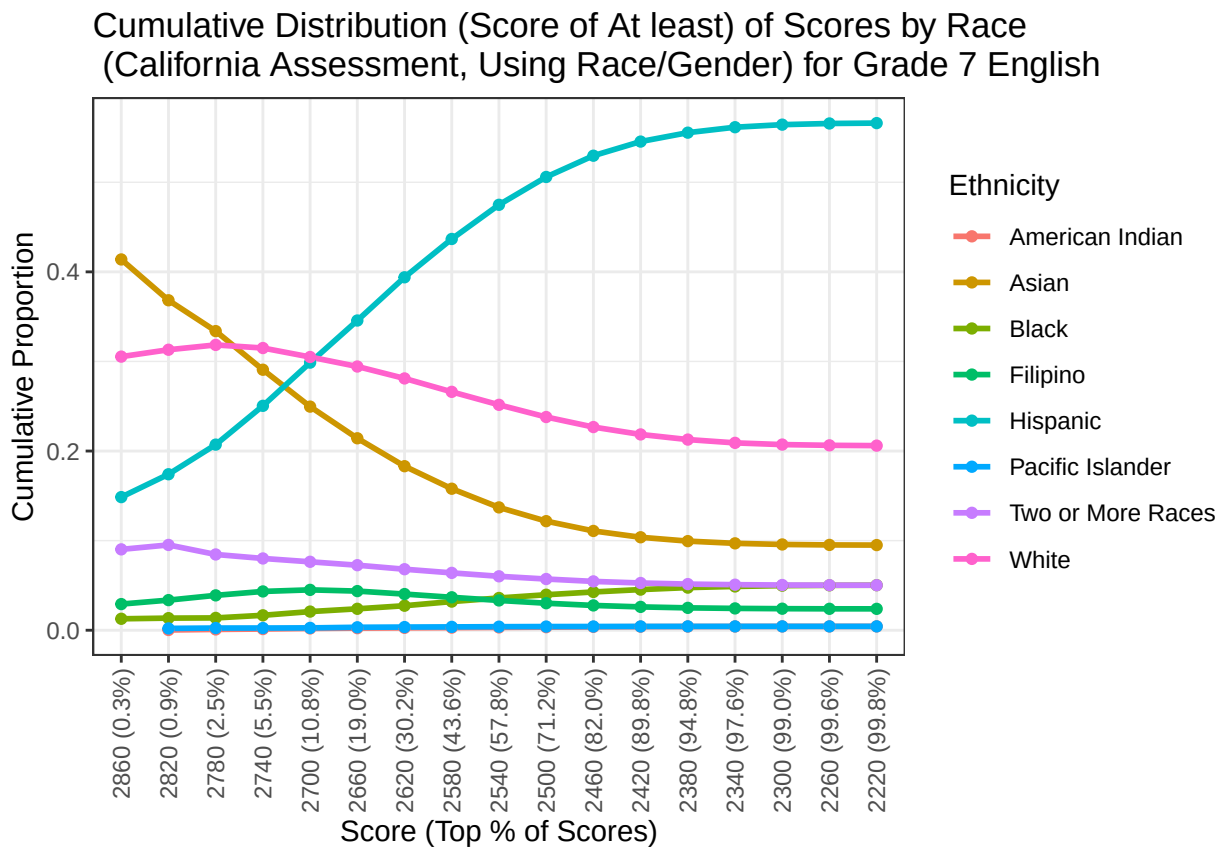
```
##
## [[3]]
```


Cumulative Distribution (Score of At least) of Scores by Race
(California Assessment, Using Race/Gender) for Grade 5 English
Cumulative Proportion
0.6
0.4
0.2
0.0
2820 (0.2%)
2780 (0.6%)
2740 (1.7%)
2700 (4.0%)
2660 (8.3%)
2620 (15.5%)
2580 (25.9%)
2540 (39.2%)
2500 (53.9%)
2460 (68.2%)
2420 (80.3%)
2380 (89.1%)
2340 (94.6%)
2300 (97.6%)
2260 (99.1%)
2220 (99.6%)
2180 (99.8%)
Score (Top % of Scores)
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

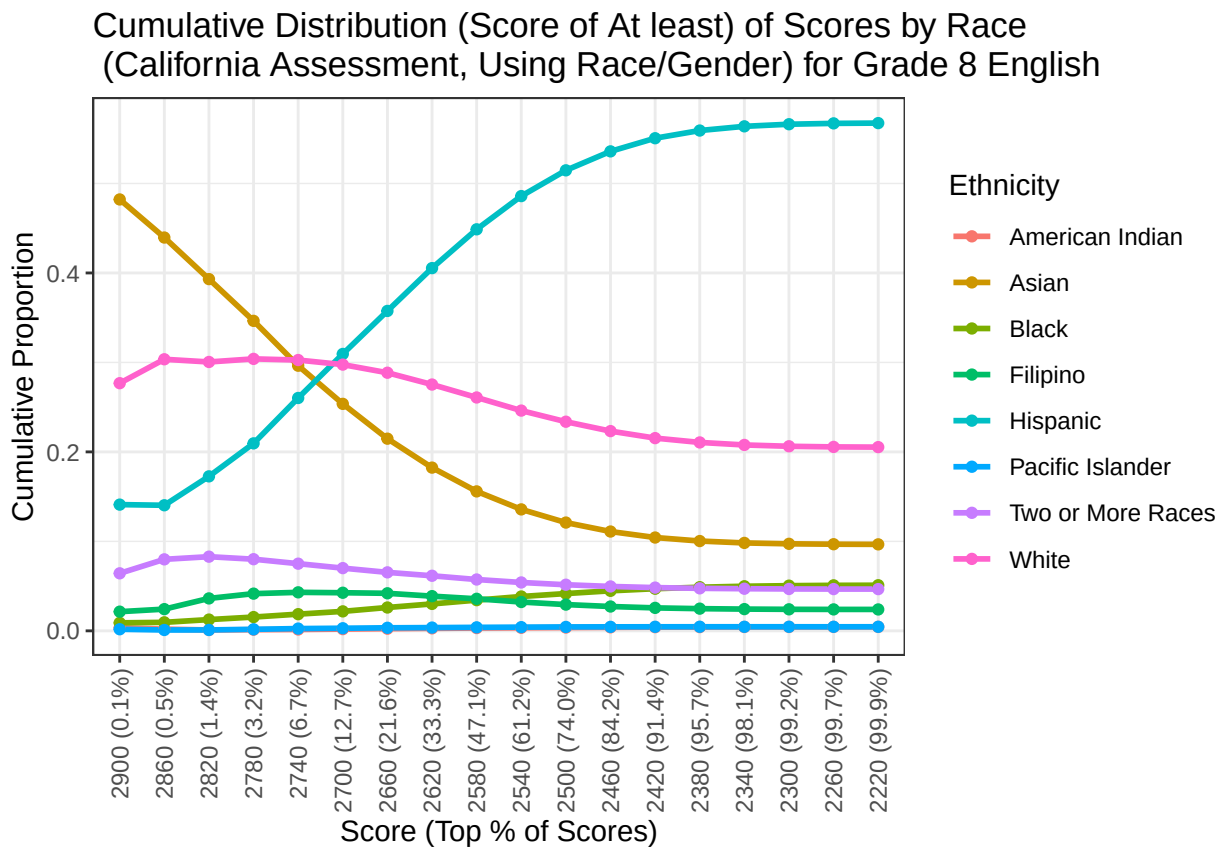
```
##
## [[4]]
```


Cumulative Distribution (Score of At least) of Scores by Race
(California Assessment, Using Race/Gender) for Grade 6 English
Cumulative Proportion
0.0
0.2
0.4
2820 (0.2%)
2780 (0.9%)
2740 (2.5%)
2700 (5.6%)
2660 (11.5%)
2620 (20.5%)
2580 (32.8%)
2540 (47.4%)
2500 (62.6%)
2460 (75.9%)
2420 (86.2%)
2380 (93.0%)
2340 (96.9%)
2300 (98.7%)
2260 (99.5%)
2220 (99.8%)
Score (Top % of Scores)
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

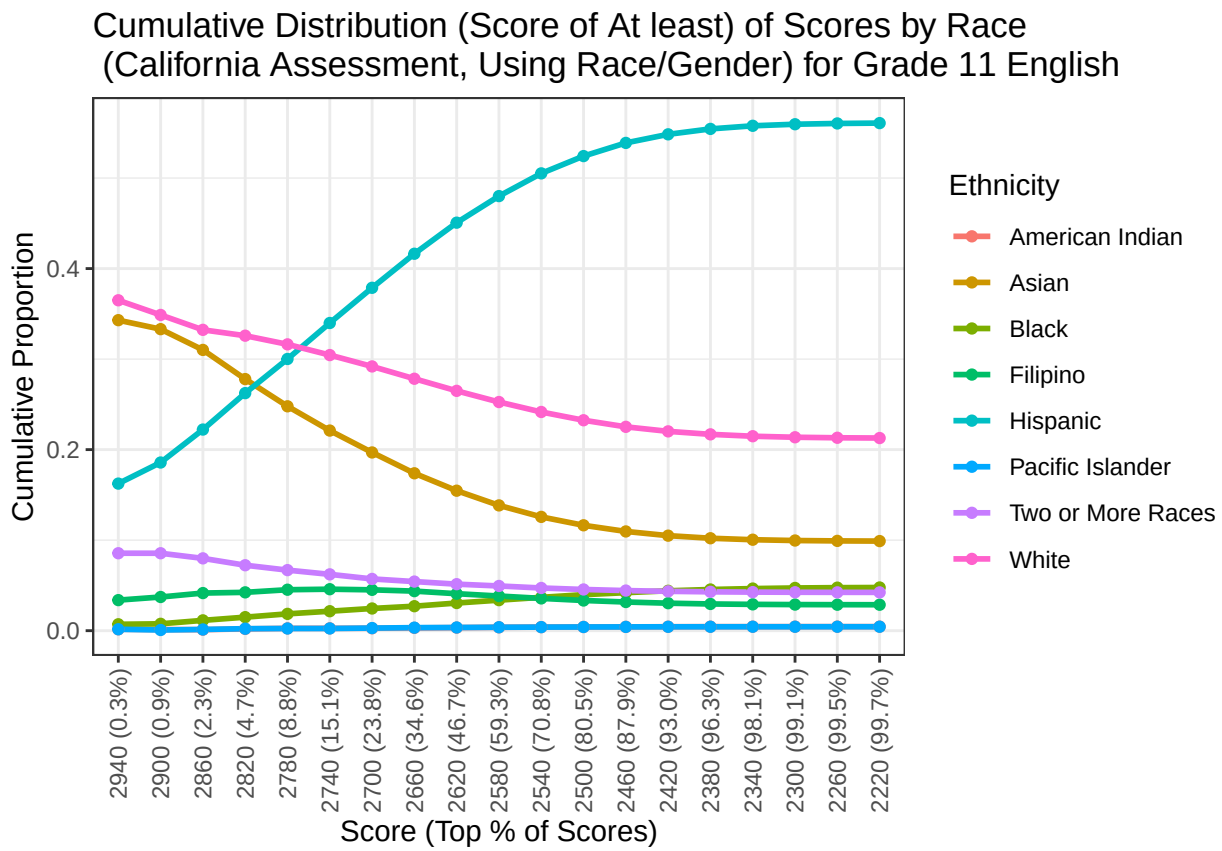
```
##
## [[5]]
```


Cumulative Distribution (Score of At least) of Scores by Race
(California Assessment, Using Race/Gender) for Grade 7 English
Cumulative Proportion
0.0
0.2
0.4
2860 (0.3%)
2820 (0.9%)
2780 (2.5%)
2740 (5.5%)
2700 (10.8%)
2660 (19.0%)
2620 (30.2%)
2580 (43.6%)
2540 (57.8%)
2500 (71.2%)
2460 (82.0%)
2420 (89.8%)
2380 (94.8%)
2340 (97.6%)
2300 (99.0%)
2260 (99.6%)
2220 (99.8%)
Score (Top % of Scores)
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

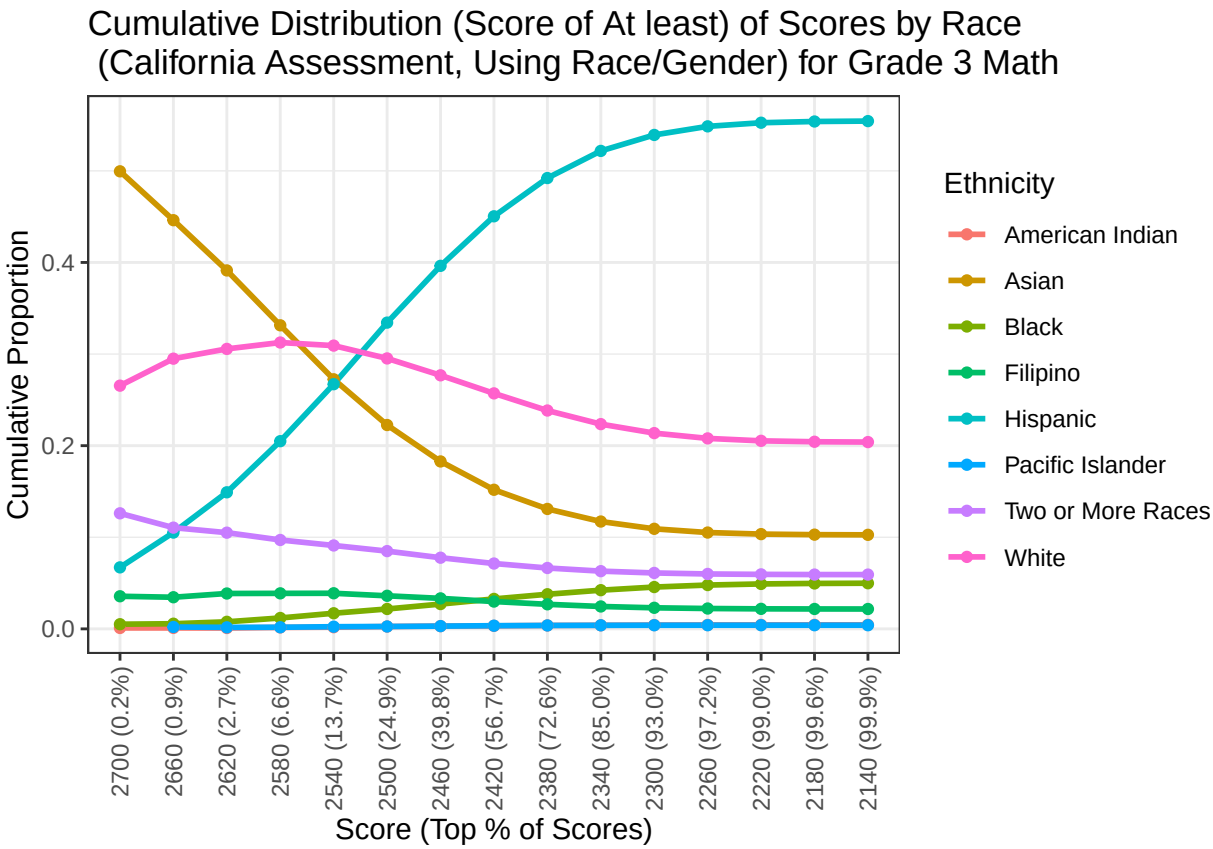
```
##
## [[6]]
```


Cumulative Distribution (Score of At least) of Scores by Race
(California Assessment, Using Race/Gender) for Grade 8 English
Cumulative Proportion
0.0
0.2
0.4
2900 (0.1%)
2860 (0.5%)
2820 (1.4%)
2780 (3.2%)
2740 (6.7%)
2700 (12.7%)
2660 (21.6%)
2620 (33.3%)
2580 (47.1%)
2540 (61.2%)
2500 (74.0%)
2460 (84.2%)
2420 (91.4%)
2380 (95.7%)
2340 (98.1%)
2300 (99.2%)
2260 (99.7%)
2220 (99.9%)
Score (Top % of Scores)
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

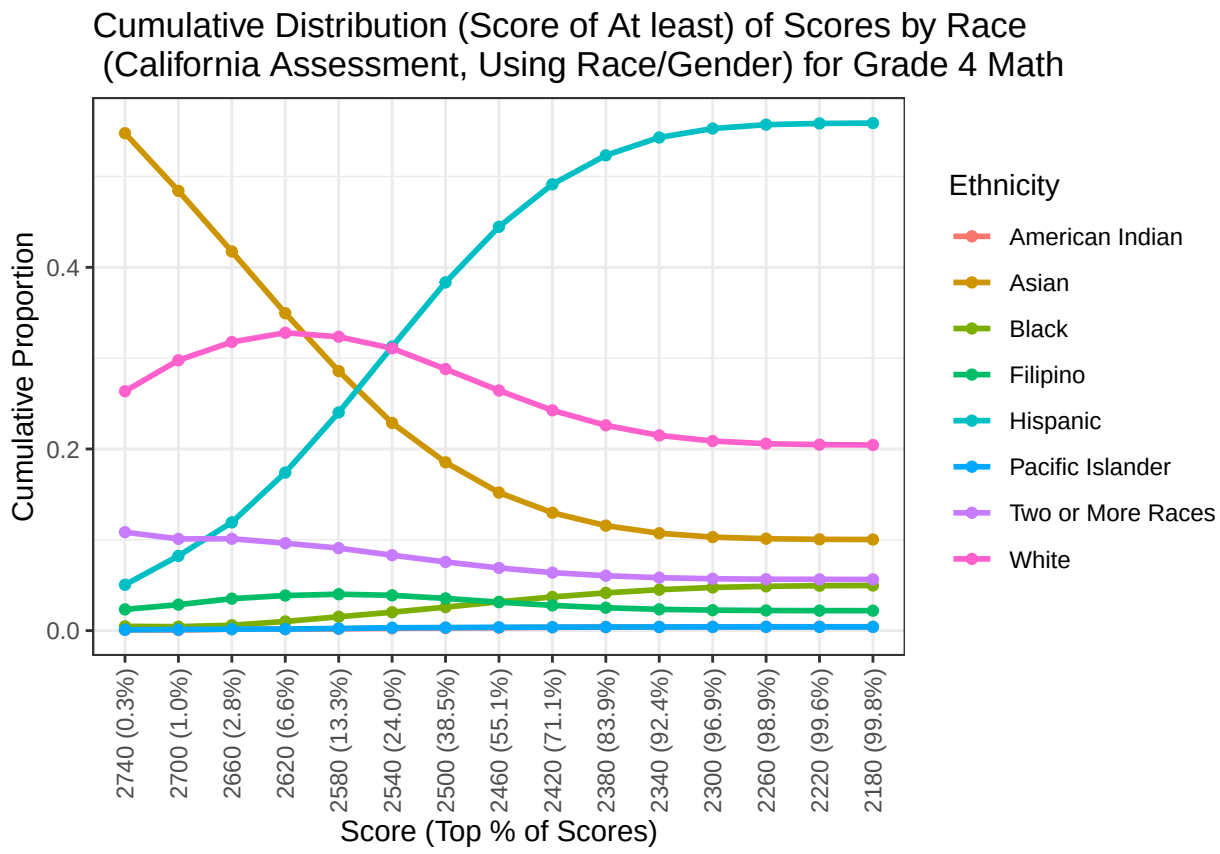
```
##
## [[7]]
```


Cumulative Distribution (Score of At least) of Scores by Race
(California Assessment, Using Race/Gender) for Grade 11 English
Cumulative Proportion
0.0
0.2
0.4
2940 (0.3%)
2900 (0.9%)
2860 (2.3%)
2820 (4.7%)
2780 (8.8%)
2740 (15.1%)
2700 (23.8%)
2660 (34.6%)
2620 (46.7%)
2580 (59.3%)
2540 (70.8%)
2500 (80.5%)
2460 (87.9%)
2420 (93.0%)
2380 (96.3%)
2340 (98.1%)
2300 (99.1%)
2260 (99.5%)
2220 (99.7%)
Score (Top % of Scores)
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

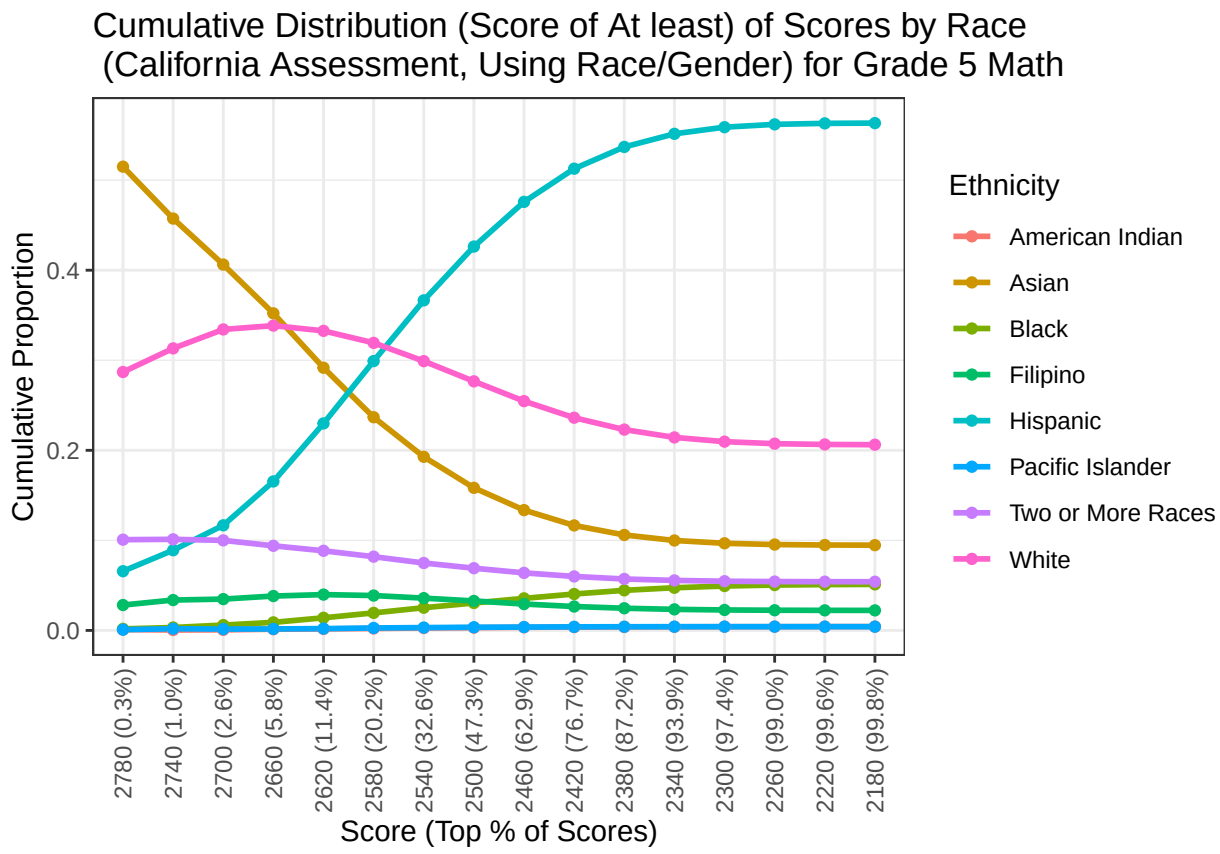
```
##
## [[8]]
```


Cumulative Distribution (Score of At least) of Scores by Race
(California Assessment, Using Race/Gender) for Grade 3 Math
Cumulative Proportion
0.0
0.2
0.4
2700 (0.2%)
2660 (0.9%)
2620 (2.7%)
2580 (6.6%)
2540 (13.7%)
2500 (24.9%)
2460 (39.8%)
2420 (56.7%)
2380 (72.6%)
2340 (85.0%)
2300 (93.0%)
2260 (97.2%)
2220 (99.0%)
2180 (99.6%)
2140 (99.9%)
Score (Top % of Scores)
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

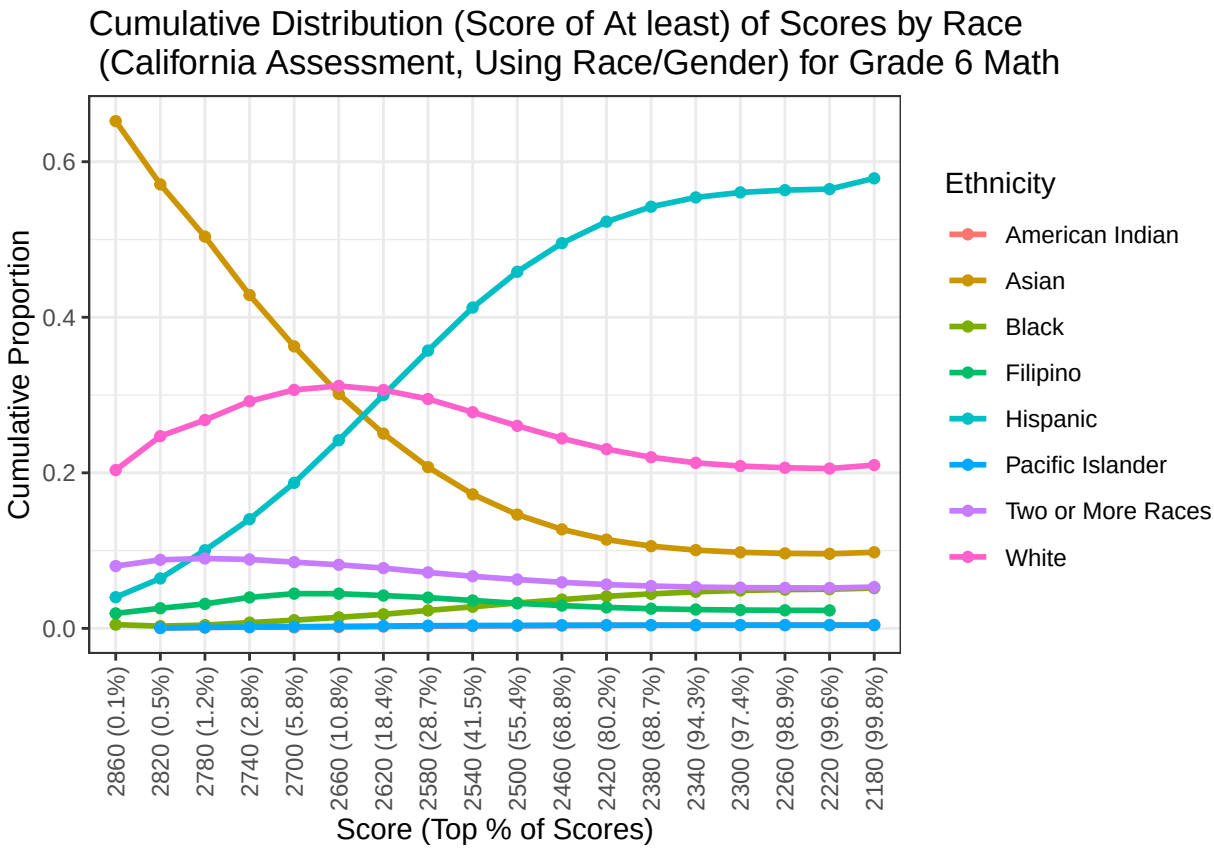
```
##
## [[9]]
```


Cumulative Distribution (Score of At least) of Scores by Race
(California Assessment, Using Race/Gender) for Grade 4 Math
Cumulative Proportion
0.0
0.2
0.4
2740 (0.3%)
2700 (1.0%)
2660 (2.8%)
2620 (6.6%)
2580 (13.3%)
2540 (24.0%)
2500 (38.5%)
2460 (55.1%)
2420 (71.1%)
2380 (83.9%)
2340 (92.4%)
2300 (96.9%)
2260 (98.9%)
2220 (99.6%)
2180 (99.8%)
Score (Top % of Scores)
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

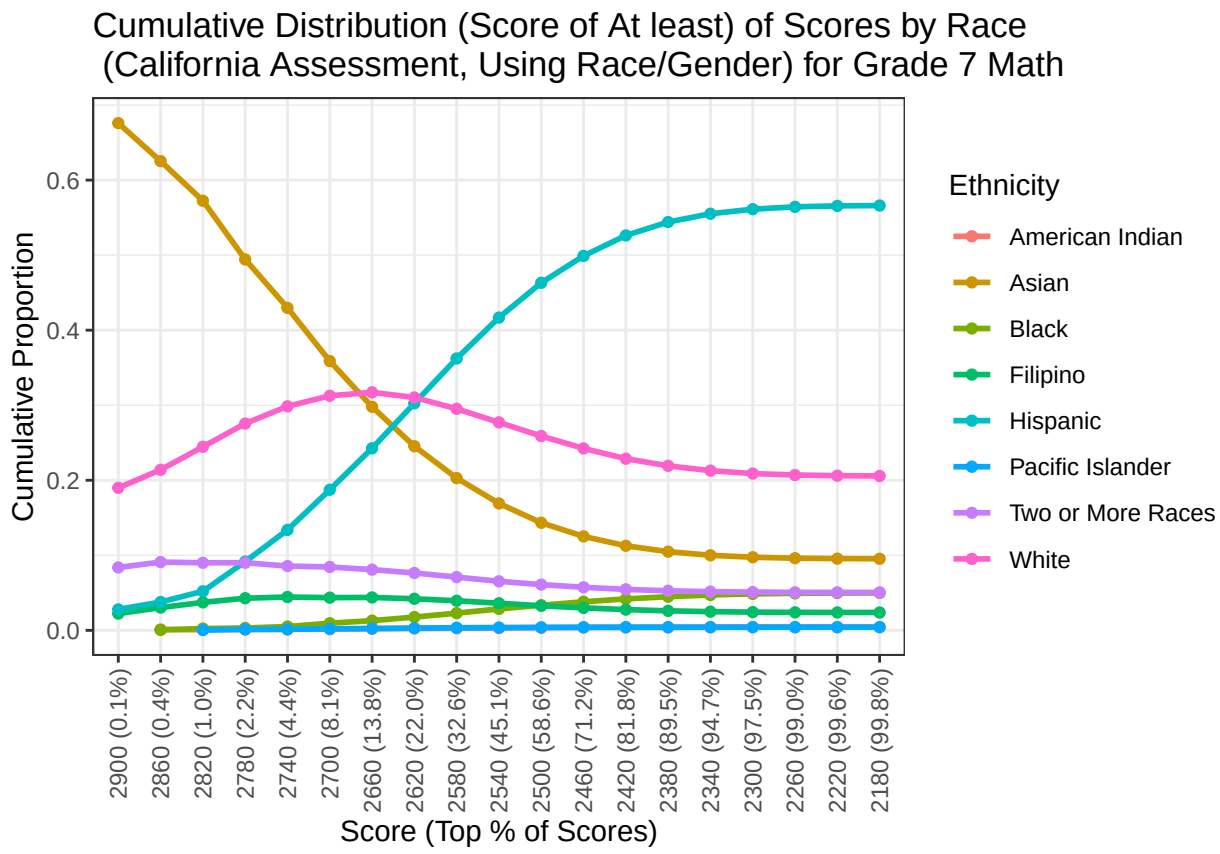
```
##
## [[10]]
```


Cumulative Distribution (Score of At least) of Scores by Race
(California Assessment, Using Race/Gender) for Grade 5 Math
Cumulative Proportion
0.0
0.2
0.4
2780 (0.3%)
2740 (1.0%)
2700 (2.6%)
2660 (5.8%)
2620 (11.4%)
2580 (20.2%)
2540 (32.6%)
2500 (47.3%)
2460 (62.9%)
2420 (76.7%)
2380 (87.2%)
2340 (93.9%)
2300 (97.4%)
2260 (99.0%)
2220 (99.6%)
2180 (99.8%)
Score (Top % of Scores)
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

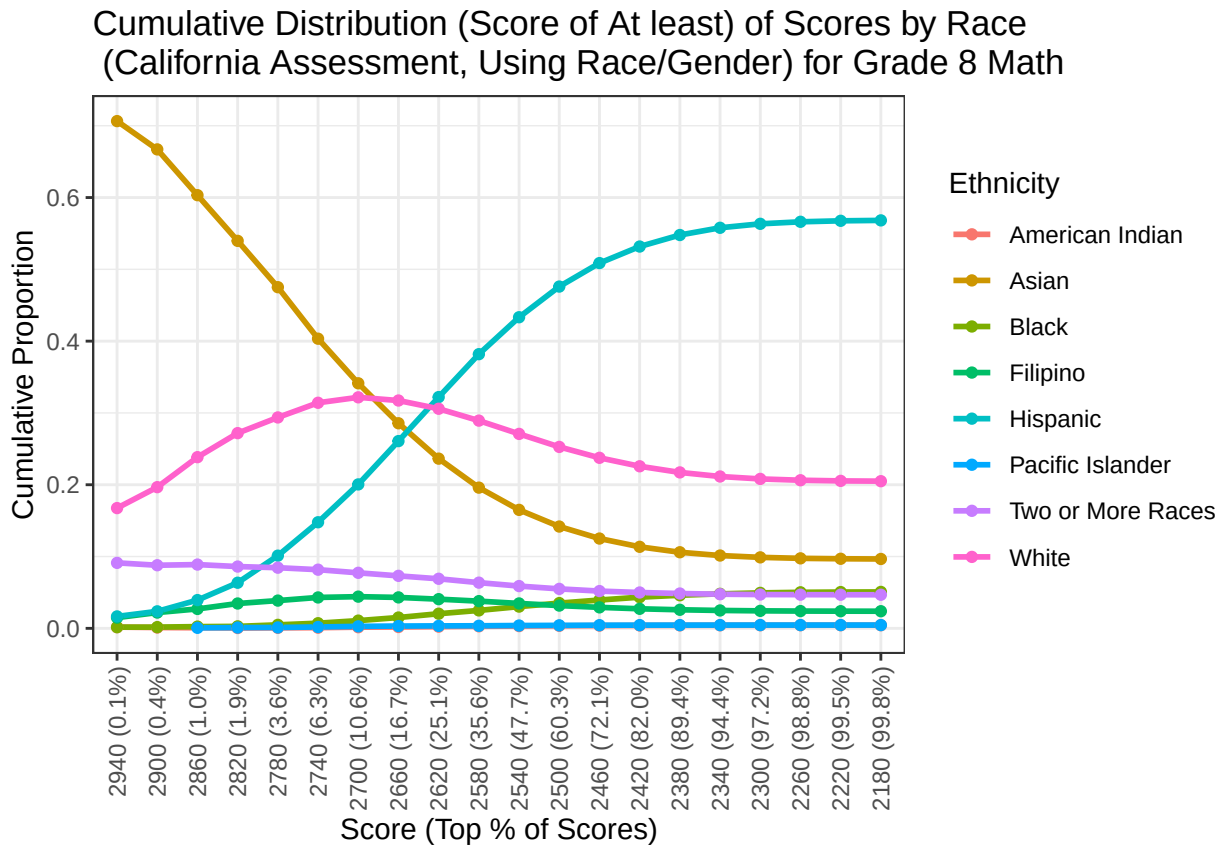
```
##
## [[11]]
```


Cumulative Distribution (Score of At least) of Scores by Race
(California Assessment, Using Race/Gender) for Grade 6 Math
Cumulative Proportion
0.0
0.2
0.4
0.6
2860 (0.1%)
2820 (0.5%)
2780 (1.2%)
2740 (2.8%)
2700 (5.8%)
2660 (10.8%)
2620 (18.4%)
2580 (28.7%)
2540 (41.5%)
2500 (55.4%)
2460 (68.8%)
2420 (80.2%)
2380 (88.7%)
2340 (94.3%)
2300 (97.4%)
2260 (98.9%)
2220 (99.6%)
2180 (99.8%)
Score (Top % of Scores)
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

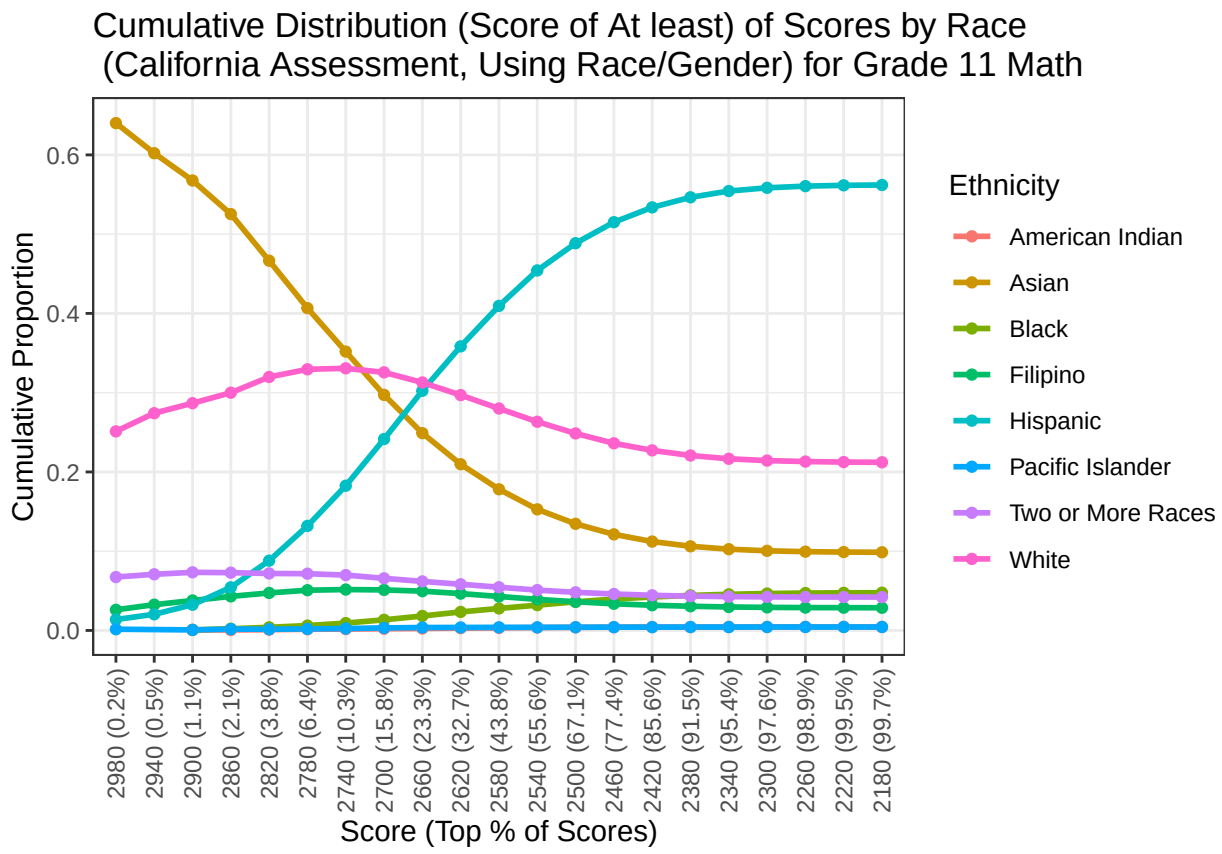
```
##
## [[12]]
```


Cumulative Distribution (Score of At least) of Scores by Race
(California Assessment, Using Race/Gender) for Grade 7 Math
Cumulative Proportion
0.0
0.2
0.4
0.6
2900 (0.1%)
2860 (0.4%)
2820 (1.0%)
2780 (2.2%)
2740 (4.4%)
2700 (8.1%)
2660 (13.8%)
2620 (22.0%)
2580 (32.6%)
2540 (45.1%)
2500 (58.6%)
2460 (71.2%)
2420 (81.8%)
2380 (89.5%)
2340 (94.7%)
2300 (97.5%)
2260 (99.0%)
2220 (99.6%)
2180 (99.8%)
Score (Top % of Scores)
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

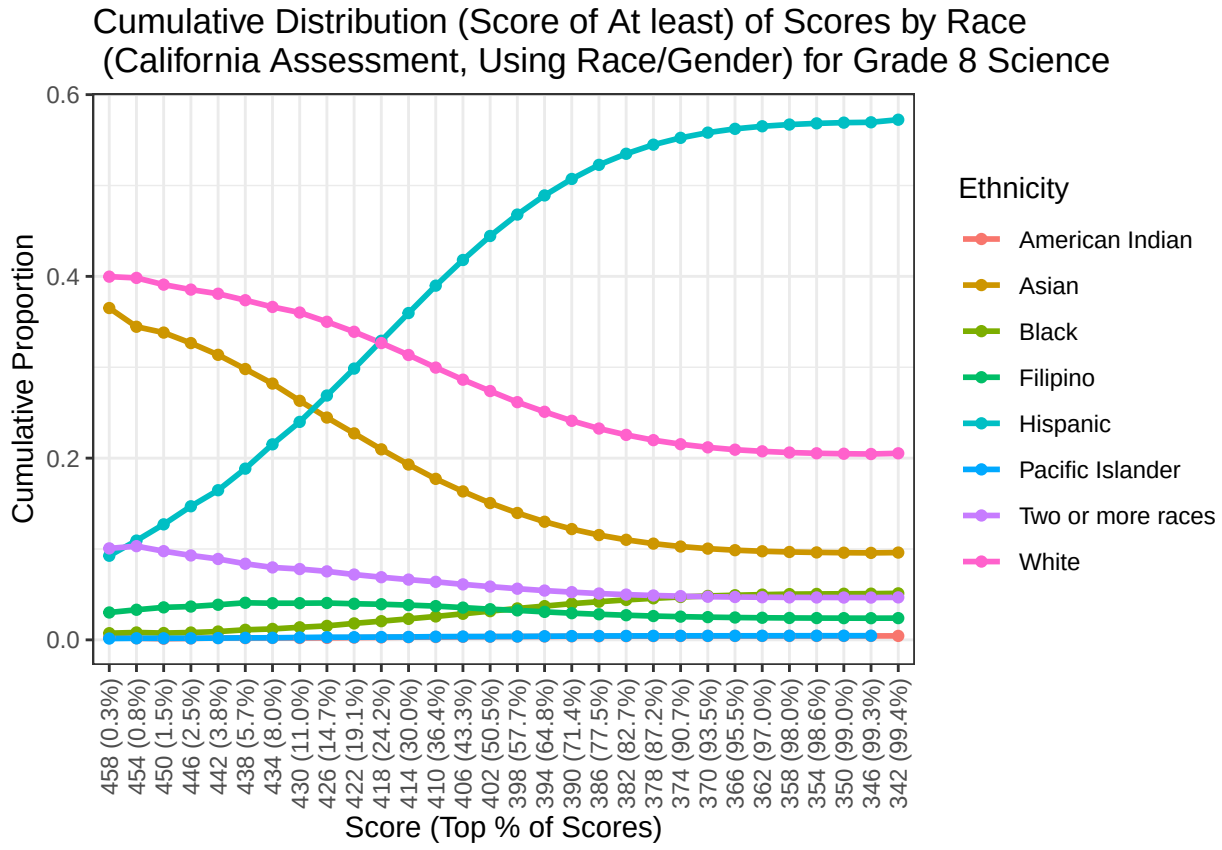
```
##
## [[13]]
```


Cumulative Distribution (Score of At least) of Scores by Race
(California Assessment, Using Race/Gender) for Grade 8 Math
Cumulative Proportion
0.0
0.2
0.4
0.6
2940 (0.1%)
2900 (0.4%)
2860 (1.0%)
2820 (1.9%)
2780 (3.6%)
2740 (6.3%)
2700 (10.6%)
2660 (16.7%)
2620 (25.1%)
2580 (35.6%)
2540 (47.7%)
2500 (60.3%)
2460 (72.1%)
2420 (82.0%)
2380 (89.4%)
2340 (94.4%)
2300 (97.2%)
2260 (98.8%)
2220 (99.5%)
2180 (99.8%)
Score (Top % of Scores)
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

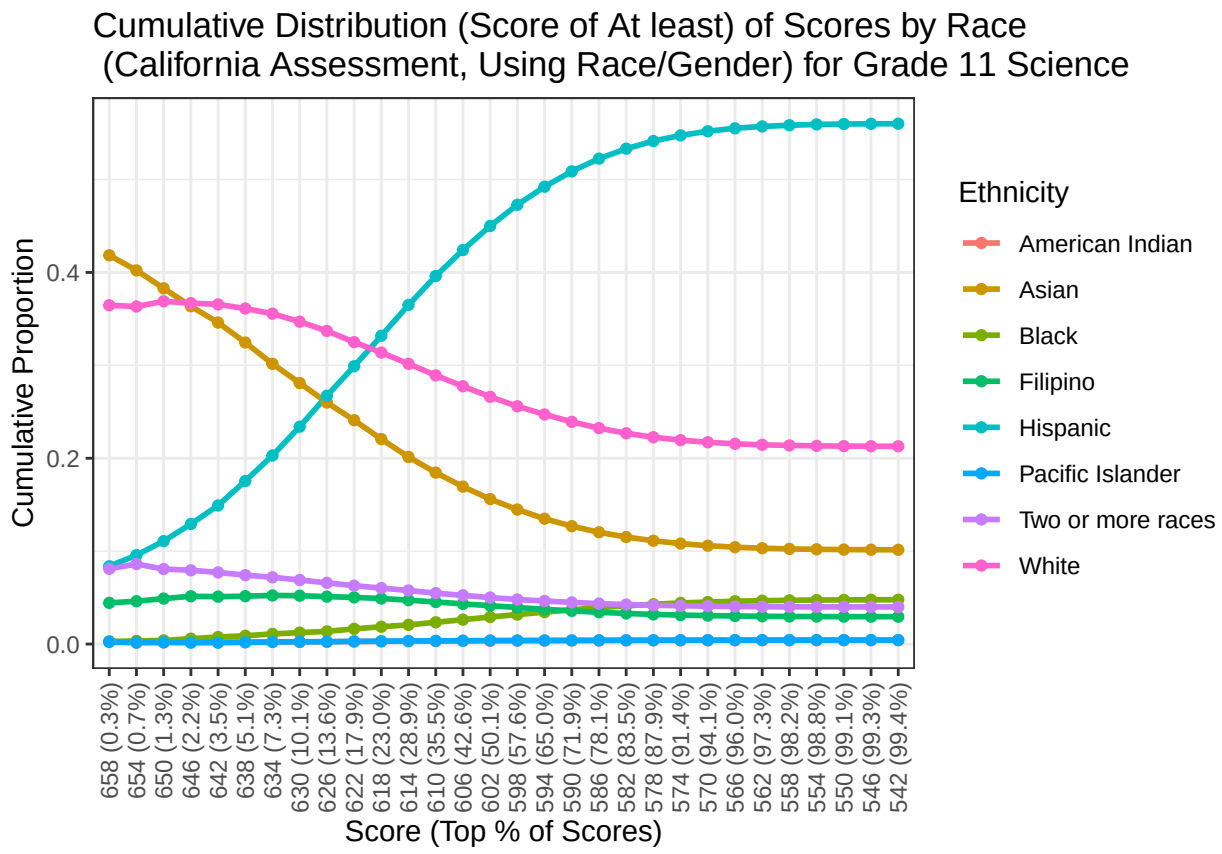
```
##
## [[14]]
```


Cumulative Distribution (Score of At least) of Scores by Race
(California Assessment, Using Race/Gender) for Grade 11 Math
Cumulative Proportion
0.0
0.2
0.4
0.6
2980 (0.2%)
2940 (0.5%)
2900 (1.1%)
2860 (2.1%)
2820 (3.8%)
2780 (6.4%)
2740 (10.3%)
2700 (15.8%)
2660 (23.3%)
2620 (32.7%)
2580 (43.8%)
2540 (55.6%)
2500 (67.1%)
2460 (77.4%)
2420 (85.6%)
2380 (91.5%)
2340 (95.4%)
2300 (97.6%)
2260 (98.9%)
2220 (99.5%)
2180 (99.7%)
Score (Top % of Scores)
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

```
##
## [[15]]
```

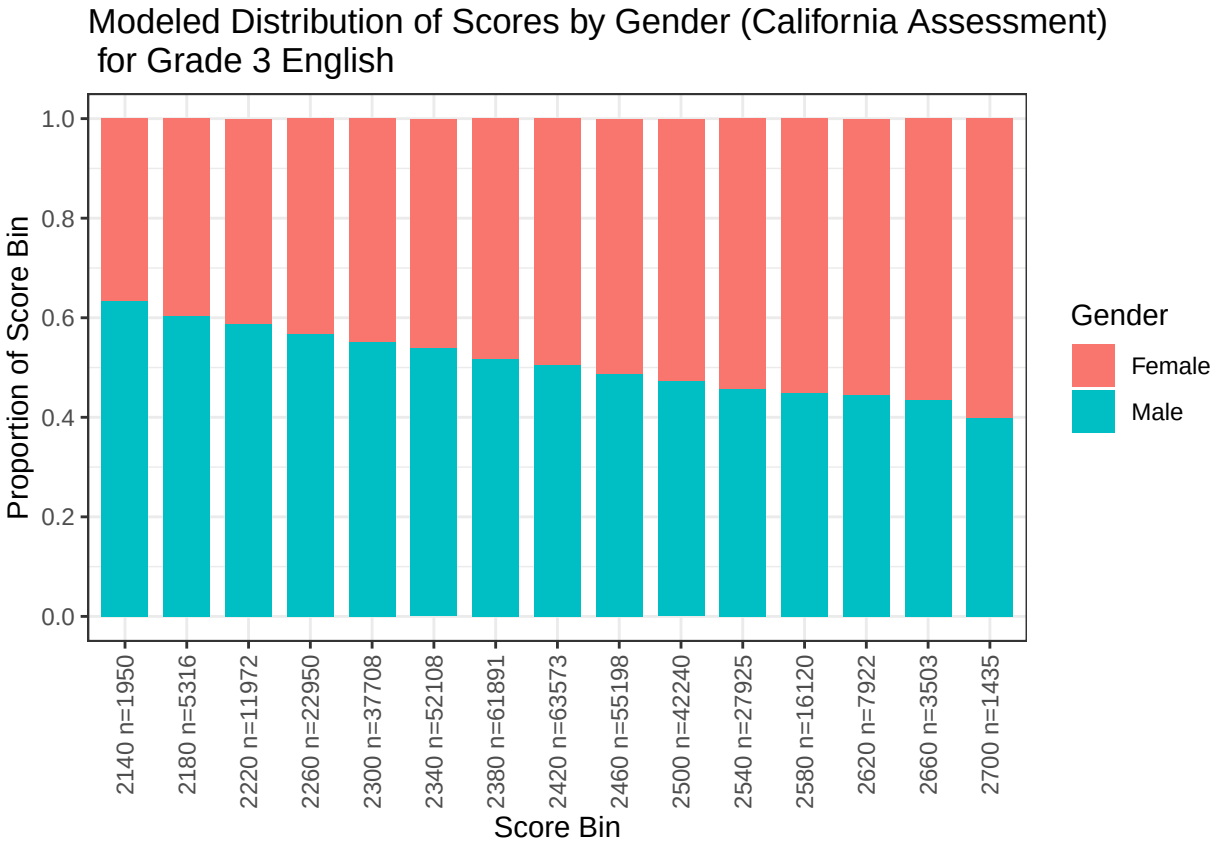

Cumulative Distribution (Score of At least) of Scores by Race
(California Assessment, Using Race/Gender) for Grade 8 Science
Cumulative Proportion
0.6
0.4
0.2
0.0
458 (0.3%)
454 (0.8%)
450 (1.5%)
446 (2.5%)
442 (3.8%)
438 (5.7%)
434 (8.0%)
430 (11.0%)
426 (14.7%)
422 (19.1%)
418 (24.2%)
414 (30.0%)
410 (36.4%)
406 (43.3%)
402 (50.5%)
398 (57.7%)
394 (64.8%)
390 (71.4%)
386 (77.5%)
382 (82.7%)
378 (87.2%)
374 (90.7%)
370 (93.5%)
366 (95.5%)
362 (97.0%)
358 (98.0%)
354 (98.6%)
350 (99.0%)
346 (99.3%)
342 (99.4%)
Score (Top % of Scores)
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or more races
White

```
##
## [[16]]
```

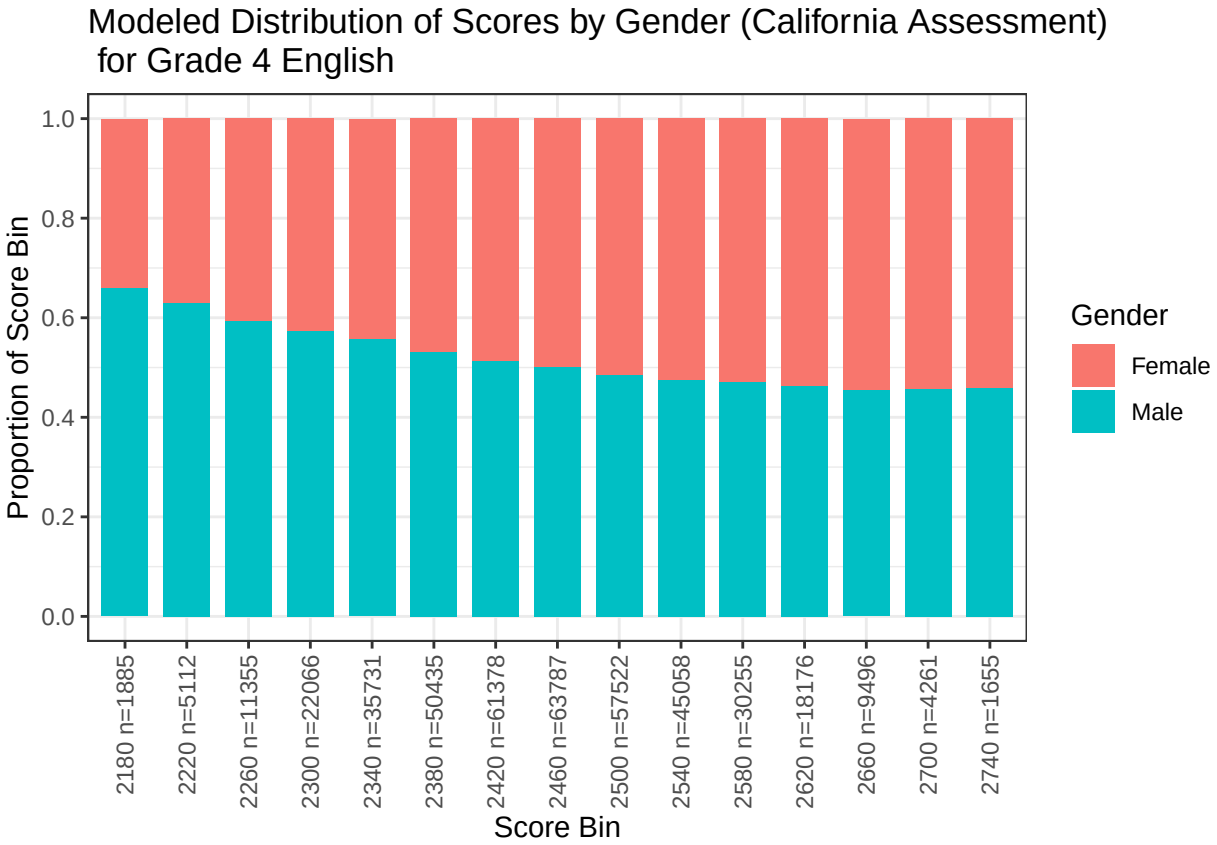



```
gender_data
```

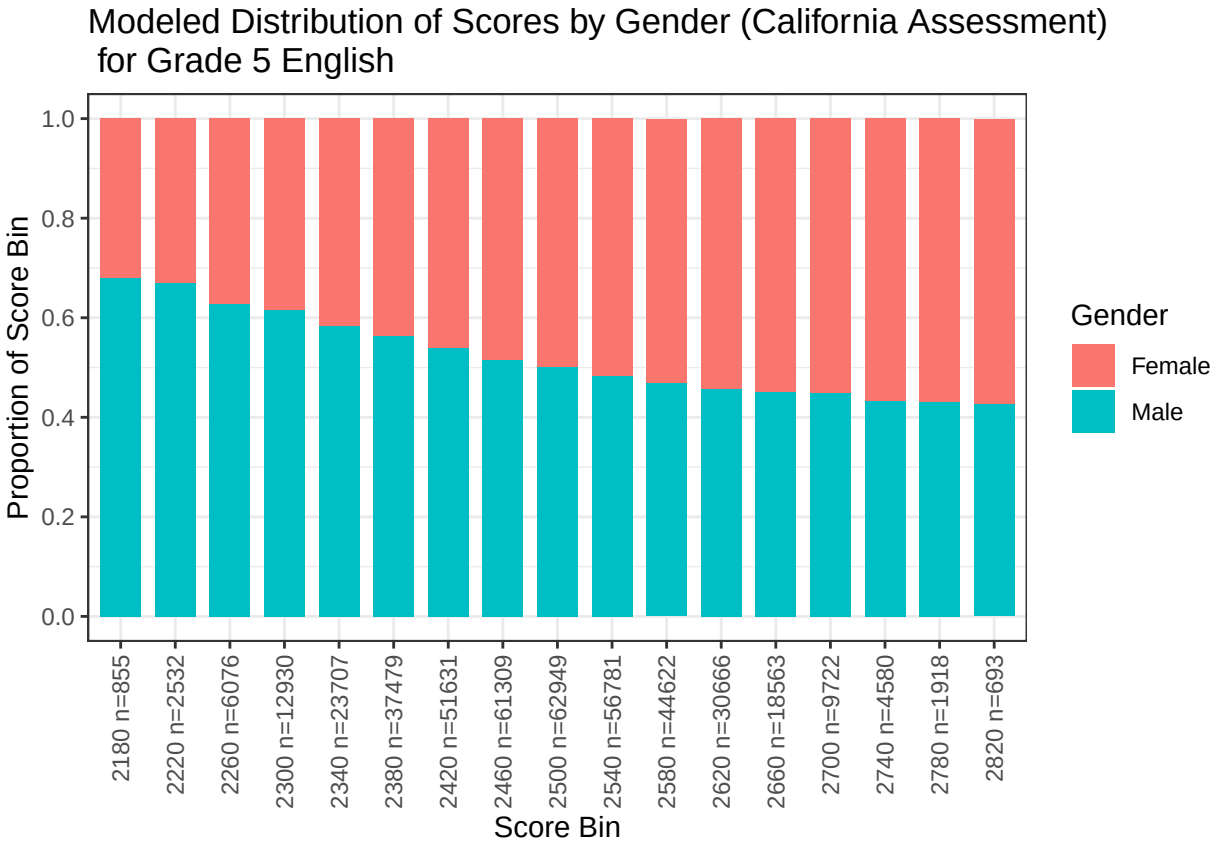
```
## [[1]]
```


Modeled Distribution of Scores by Gender (California Assessment)
for Grade 3 English
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2140 n=1950
2180 n=5316
2220 n=11972
2260 n=22950
2300 n=37708
2340 n=52108
2380 n=61891
2420 n=63573
2460 n=55198
2500 n=42240
2540 n=27925
2580 n=16120
2620 n=7922
2660 n=3503
2700 n=1435
Score Bin
Gender
Female
Male

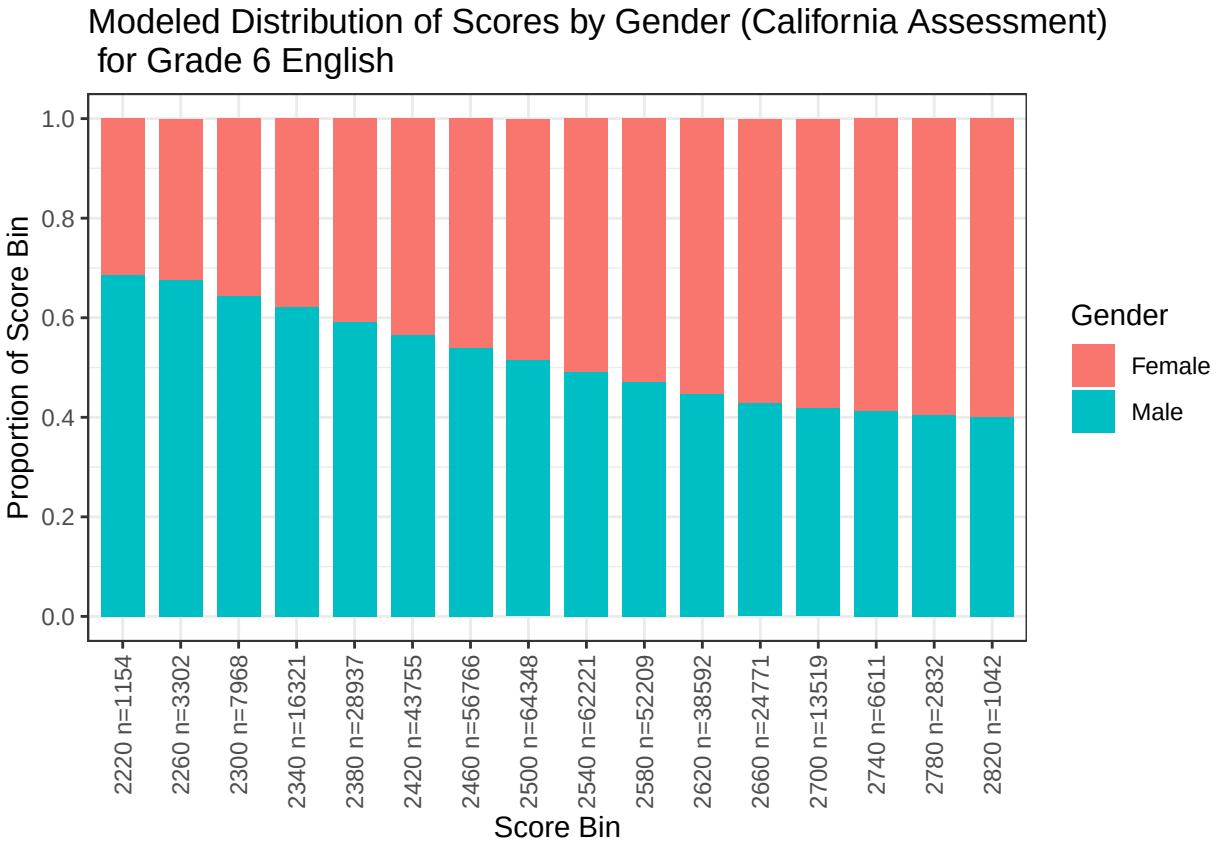
```
##
## [[2]]
```


Modeled Distribution of Scores by Gender (California Assessment)
for Grade 4 English
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2180 n=1885
2220 n=5112
2260 n=11355
2300 n=22066
2340 n=35731
2380 n=50435
2420 n=61378
2460 n=63787
2500 n=57522
2540 n=45058
2580 n=30255
2620 n=18176
2660 n=9496
2700 n=4261
2740 n=1655
Score Bin
Gender
Female
Male

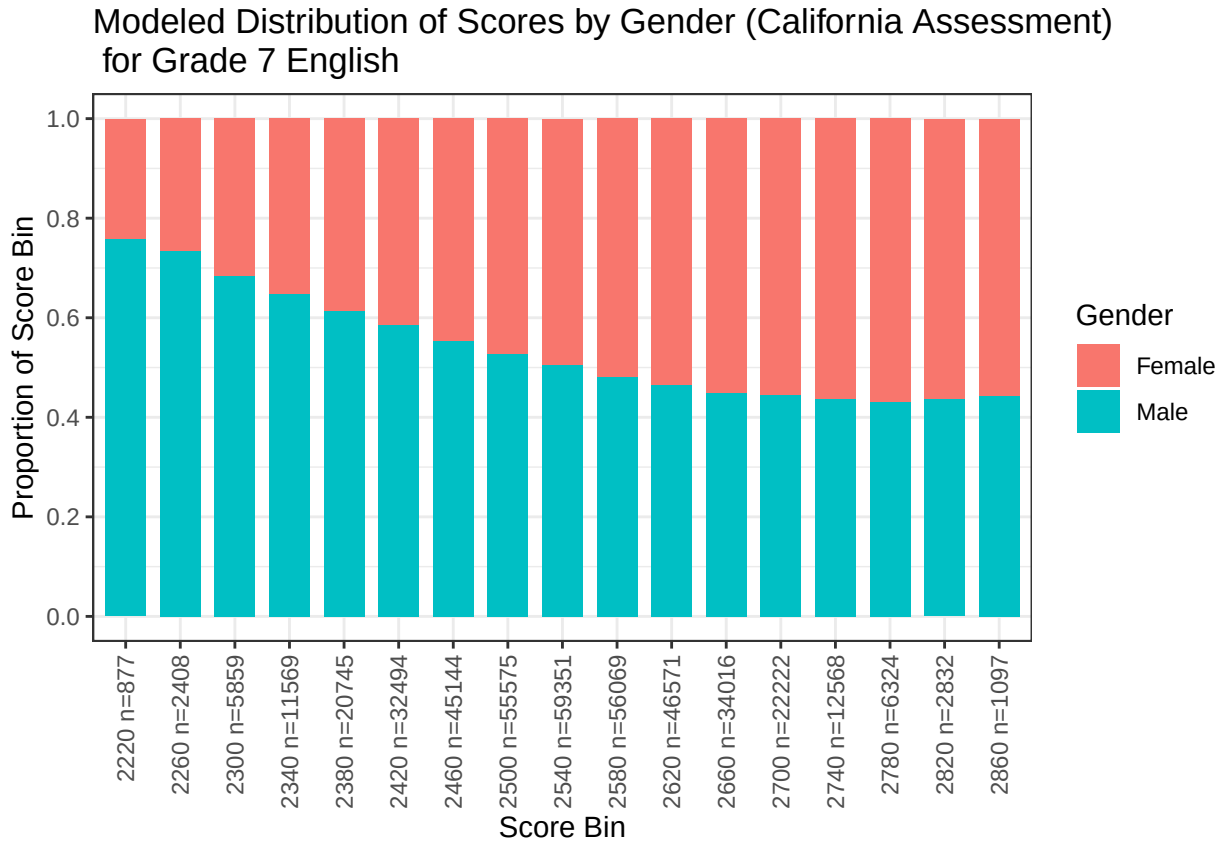
```
##
## [[3]]
```


Modeled Distribution of Scores by Gender (California Assessment)
for Grade 5 English
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2180 n=855
2220 n=2532
2260 n=6076
2300 n=12930
2340 n=23707
2380 n=37479
2420 n=51631
2460 n=61309
2500 n=62949
2540 n=56781
2580 n=44622
2620 n=30666
2660 n=18563
2700 n=9722
2740 n=4580
2780 n=1918
2820 n=693
Score Bin
Gender
Female
Male

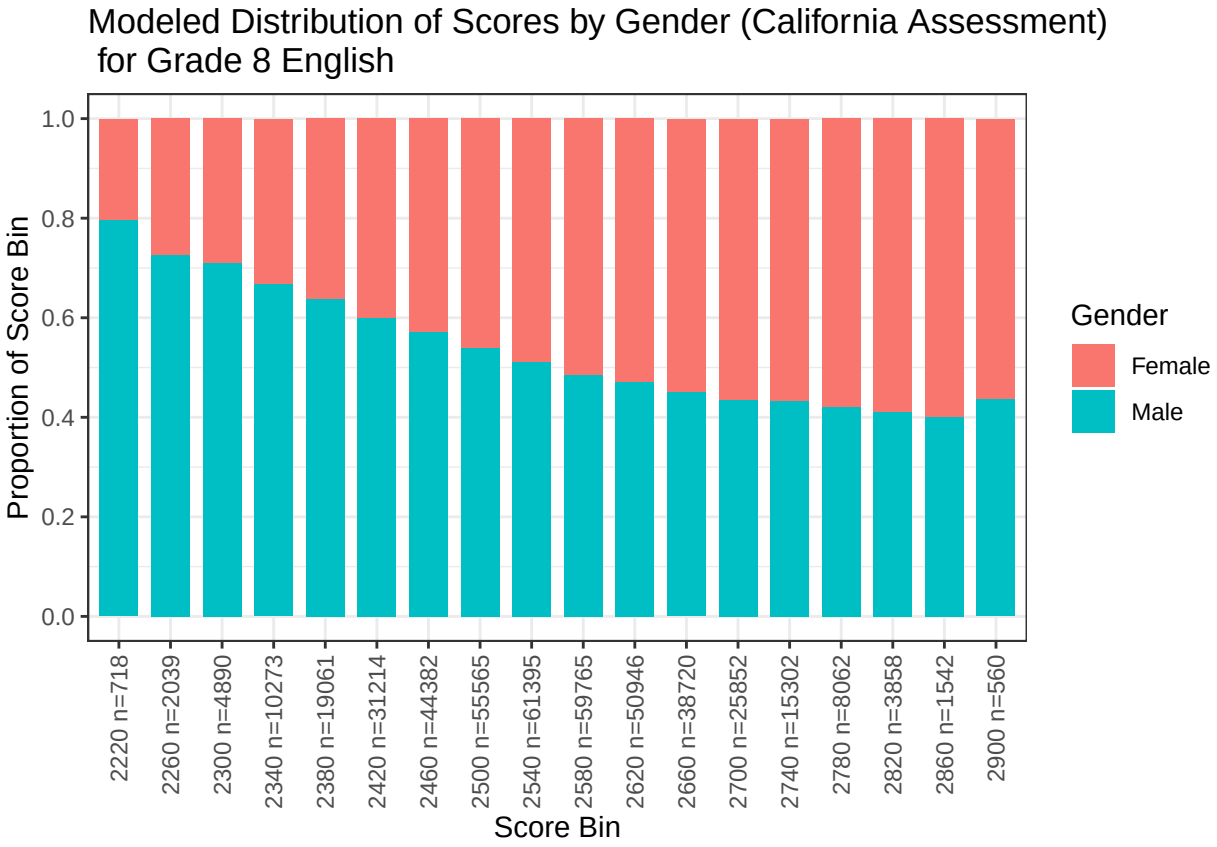
```
##
## [[4]]
```


Modeled Distribution of Scores by Gender (California Assessment)
for Grade 6 English
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2220 n=1154
2260 n=3302
2300 n=7968
2340 n=16321
2380 n=28937
2420 n=43755
2460 n=56766
2500 n=64348
2540 n=62221
2580 n=52209
2620 n=38592
2660 n=24771
2700 n=13519
2740 n=6611
2780 n=2832
2820 n=1042
Score Bin
Gender
Female
Male

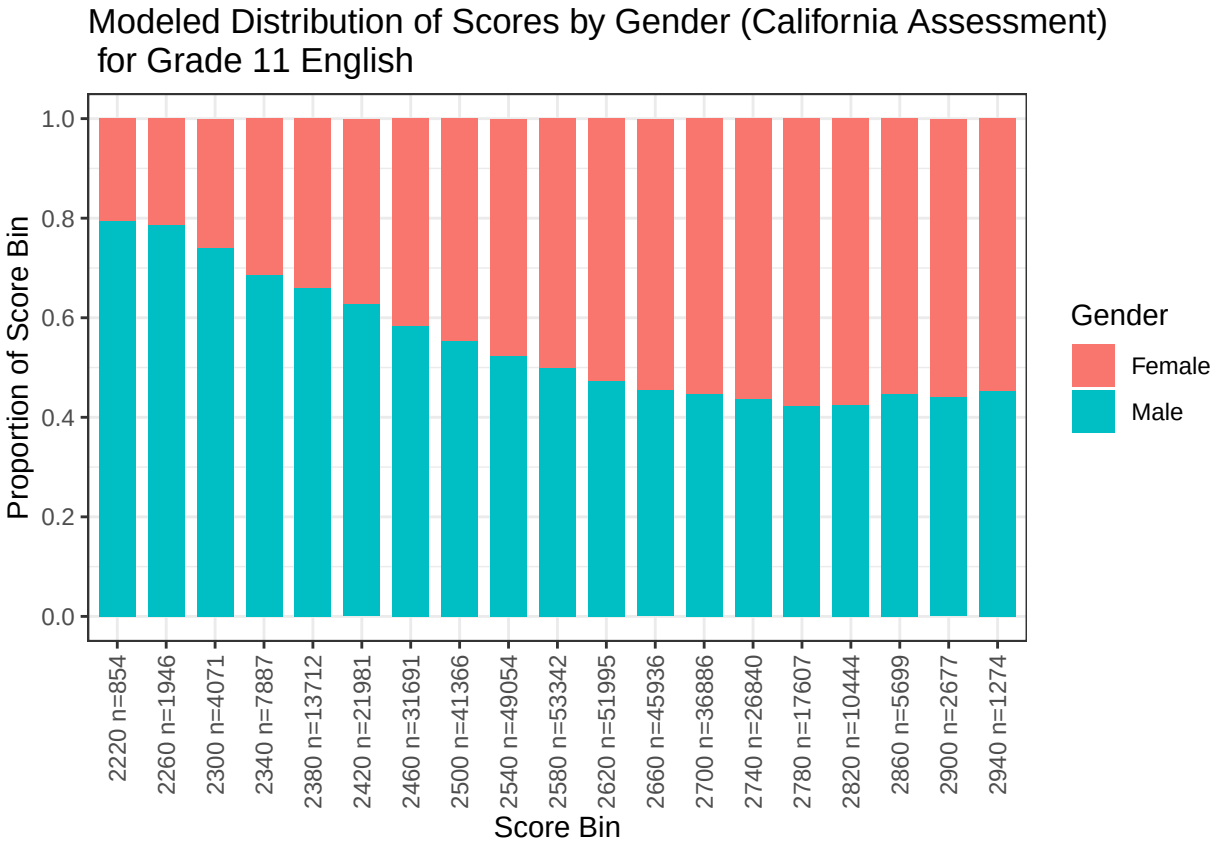
```
##
## [[5]]
```


Modeled Distribution of Scores by Gender (California Assessment)
for Grade 7 English
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2220 n=877
2260 n=2408
2300 n=5859
2340 n=11569
2380 n=20745
2420 n=32494
2460 n=45144
2500 n=55575
2540 n=59351
2580 n=56069
2620 n=46571
2660 n=34016
2700 n=22222
2740 n=12568
2780 n=6324
2820 n=2832
2860 n=1097
Score Bin
Gender
Female
Male

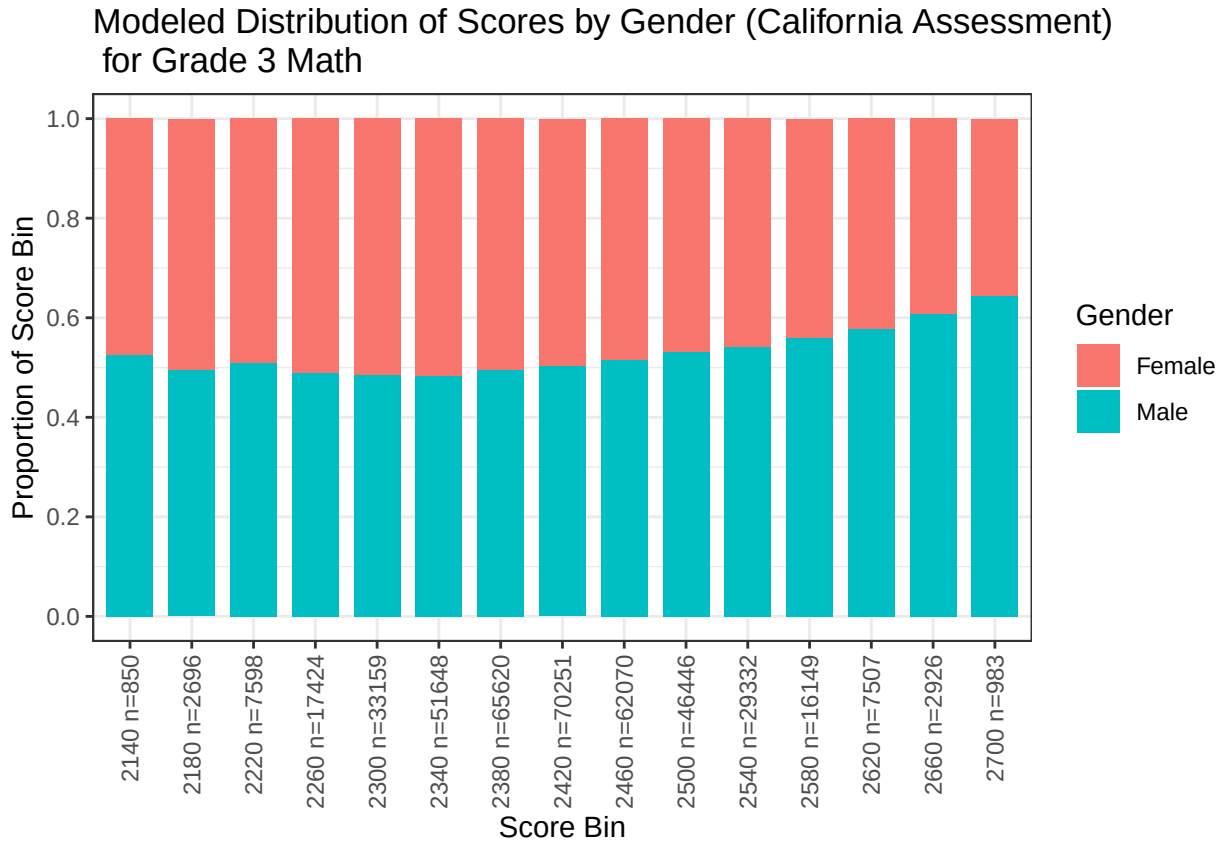
```
##
## [[6]]
```


Modeled Distribution of Scores by Gender (California Assessment)
for Grade 8 English
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2220 n=718
2260 n=2039
2300 n=4890
2340 n=10273
2380 n=19061
2420 n=31214
2460 n=44382
2500 n=55565
2540 n=61395
2580 n=59765
2620 n=50946
2660 n=38720
2700 n=25852
2740 n=15302
2780 n=8062
2820 n=3858
2860 n=1542
2900 n=560
Score Bin
Gender
Female
Male

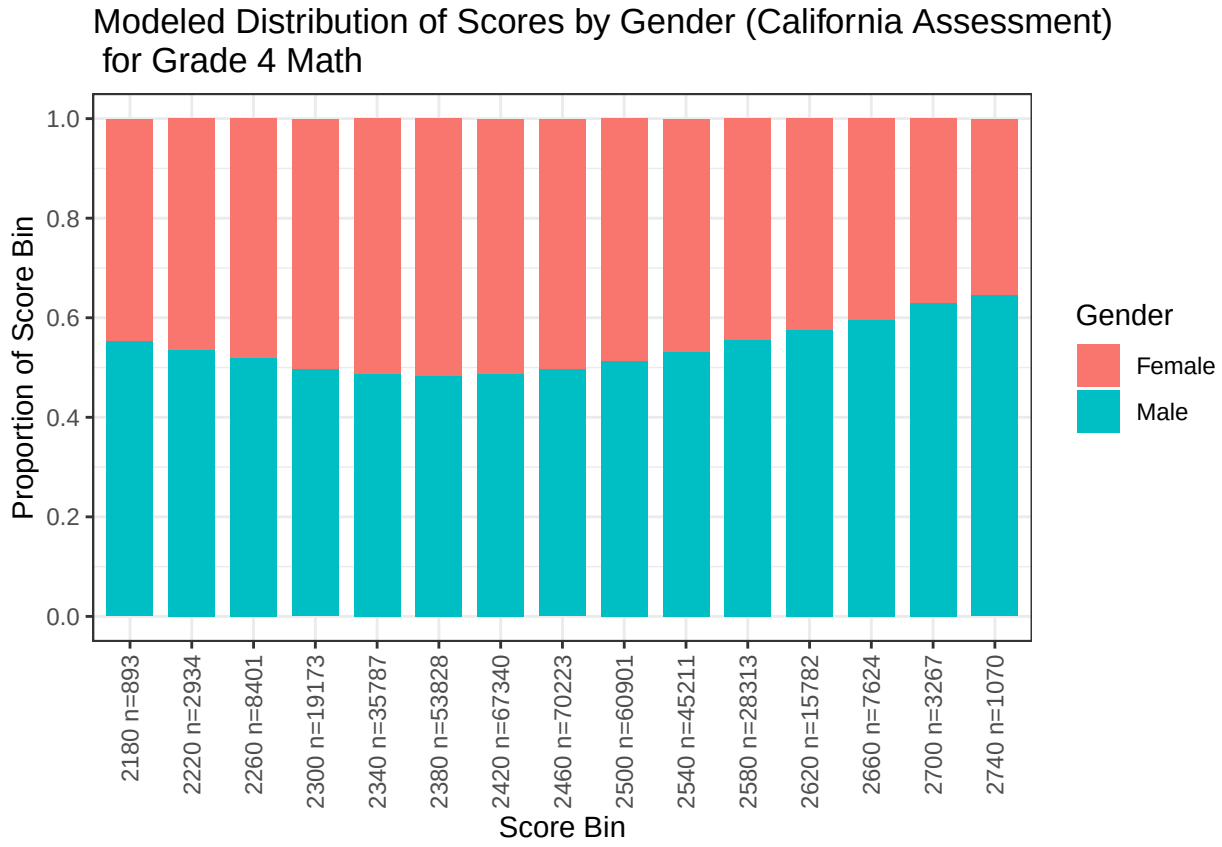
```
##
## [[7]]
```


Modeled Distribution of Scores by Gender (California Assessment)
for Grade 11 English
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2220 n=854
2260 n=1946
2300 n=4071
2340 n=7887
2380 n=13712
2420 n=21981
2460 n=31691
2500 n=41366
2540 n=49054
2580 n=53342
2620 n=51995
2660 n=45936
2700 n=36886
2740 n=26840
2780 n=17607
2820 n=10444
2860 n=5699
2900 n=2677
2940 n=1274
Score Bin
Gender
Female
Male

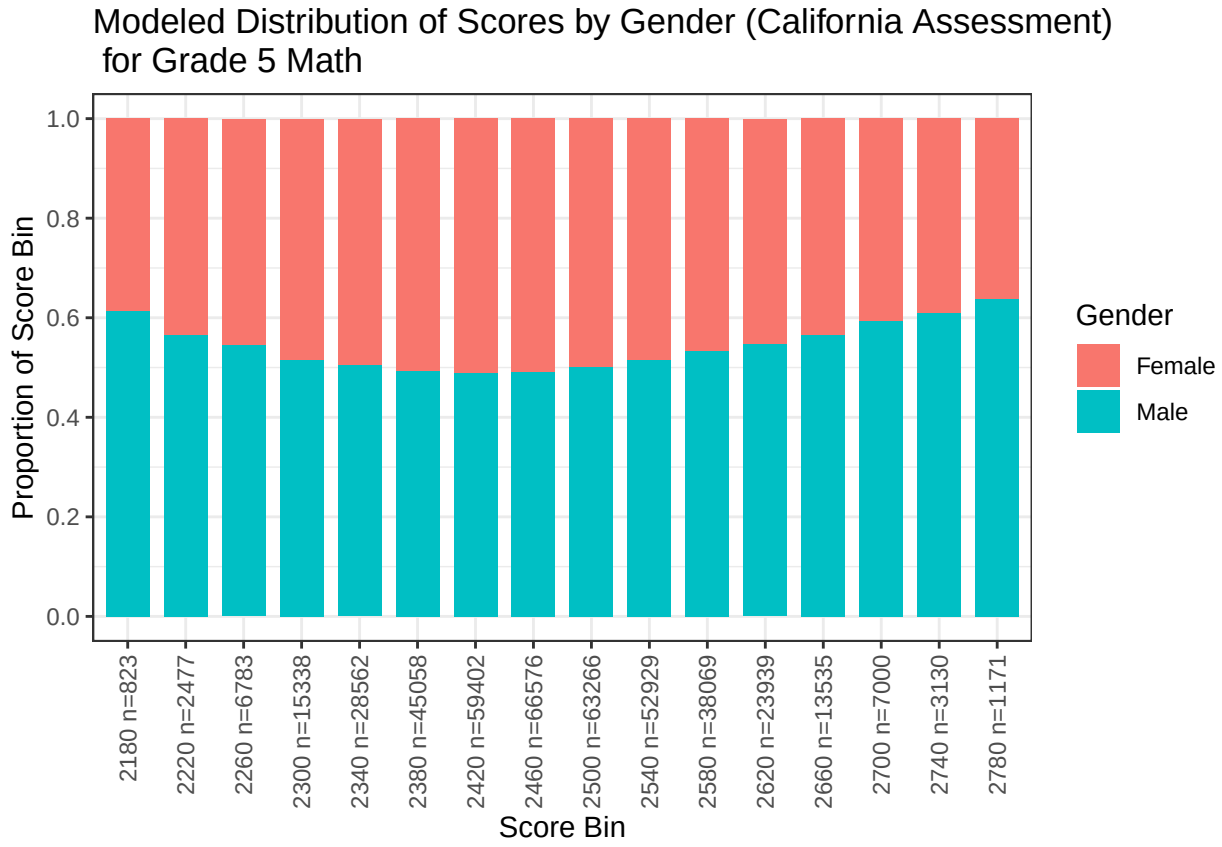
```
##
## [[8]]
```


Modeled Distribution of Scores by Gender (California Assessment)
for Grade 3 Math
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2140 n=850
2180 n=2696
2220 n=7598
2260 n=17424
2300 n=33159
2340 n=51648
2380 n=65620
2420 n=70251
2460 n=62070
2500 n=46446
2540 n=29332
2580 n=16149
2620 n=7507
2660 n=2926
2700 n=983
Score Bin
Gender
Female
Male

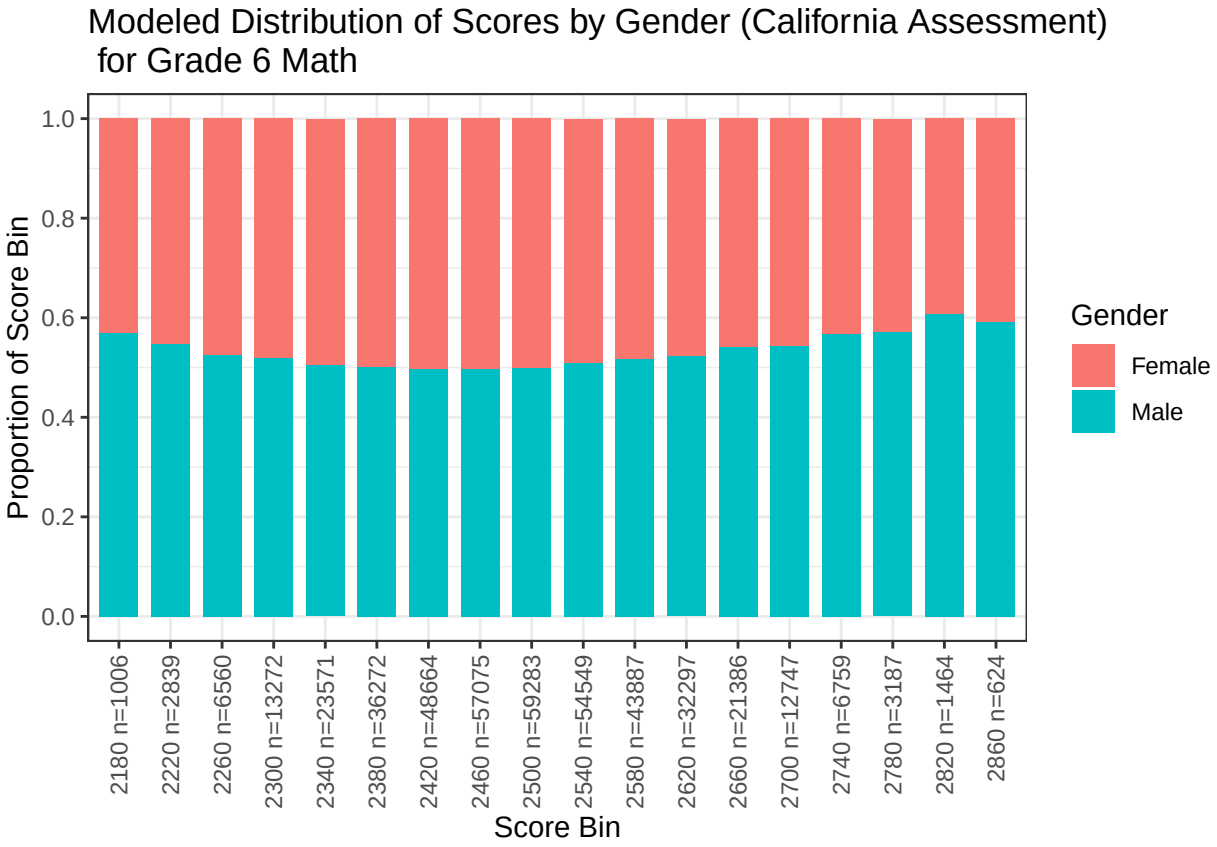
```
##
## [[9]]
```


Modeled Distribution of Scores by Gender (California Assessment)
for Grade 4 Math
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2180 n=893
2220 n=2934
2260 n=8401
2300 n=19173
2340 n=35787
2380 n=53828
2420 n=67340
2460 n=70223
2500 n=60901
2540 n=45211
2580 n=28313
2620 n=15782
2660 n=7624
2700 n=3267
2740 n=1070
Score Bin
Gender
Female
Male

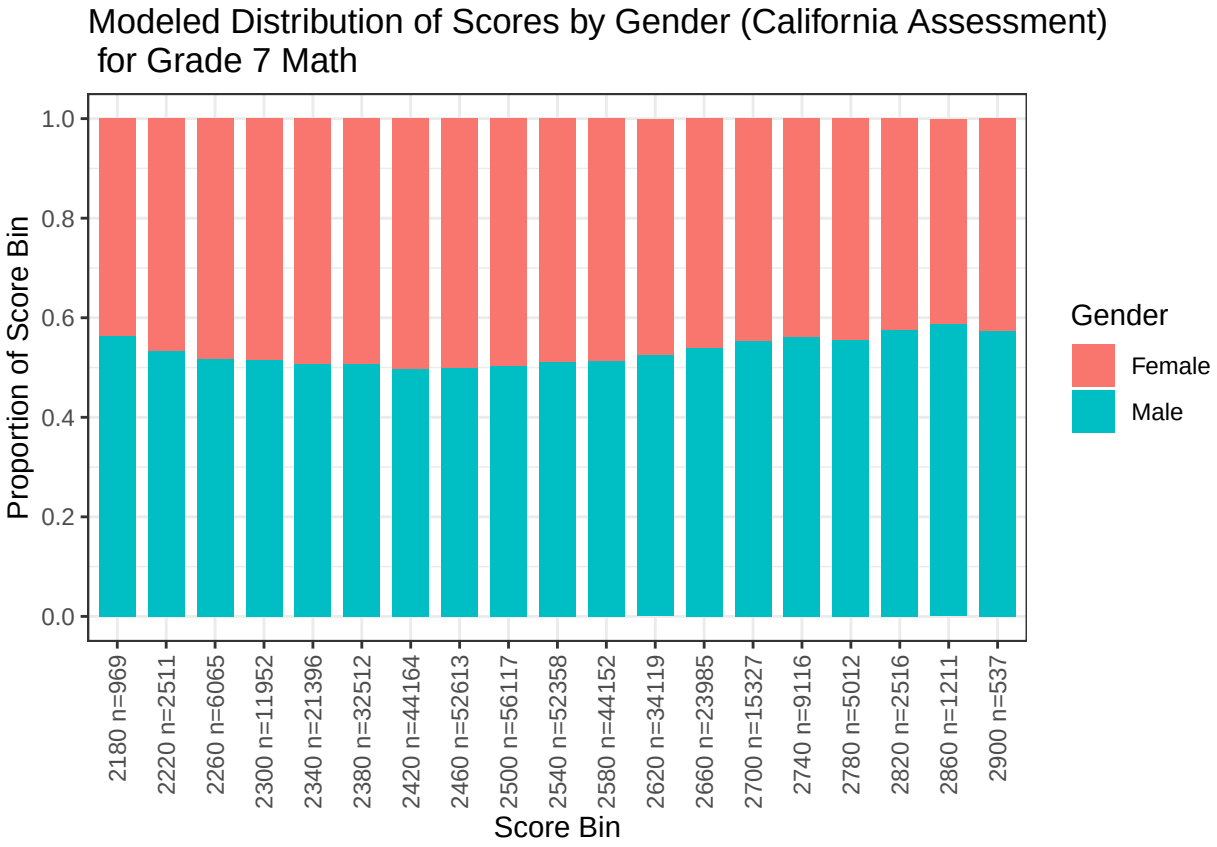
```
##
## [[10]]
```


Modeled Distribution of Scores by Gender (California Assessment)
for Grade 5 Math
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2180 n=823
2220 n=2477
2260 n=6783
2300 n=15338
2340 n=28562
2380 n=45058
2420 n=59402
2460 n=66576
2500 n=63266
2540 n=52929
2580 n=38069
2620 n=23939
2660 n=13535
2700 n=7000
2740 n=3130
2780 n=1171
Score Bin
Gender
Female
Male

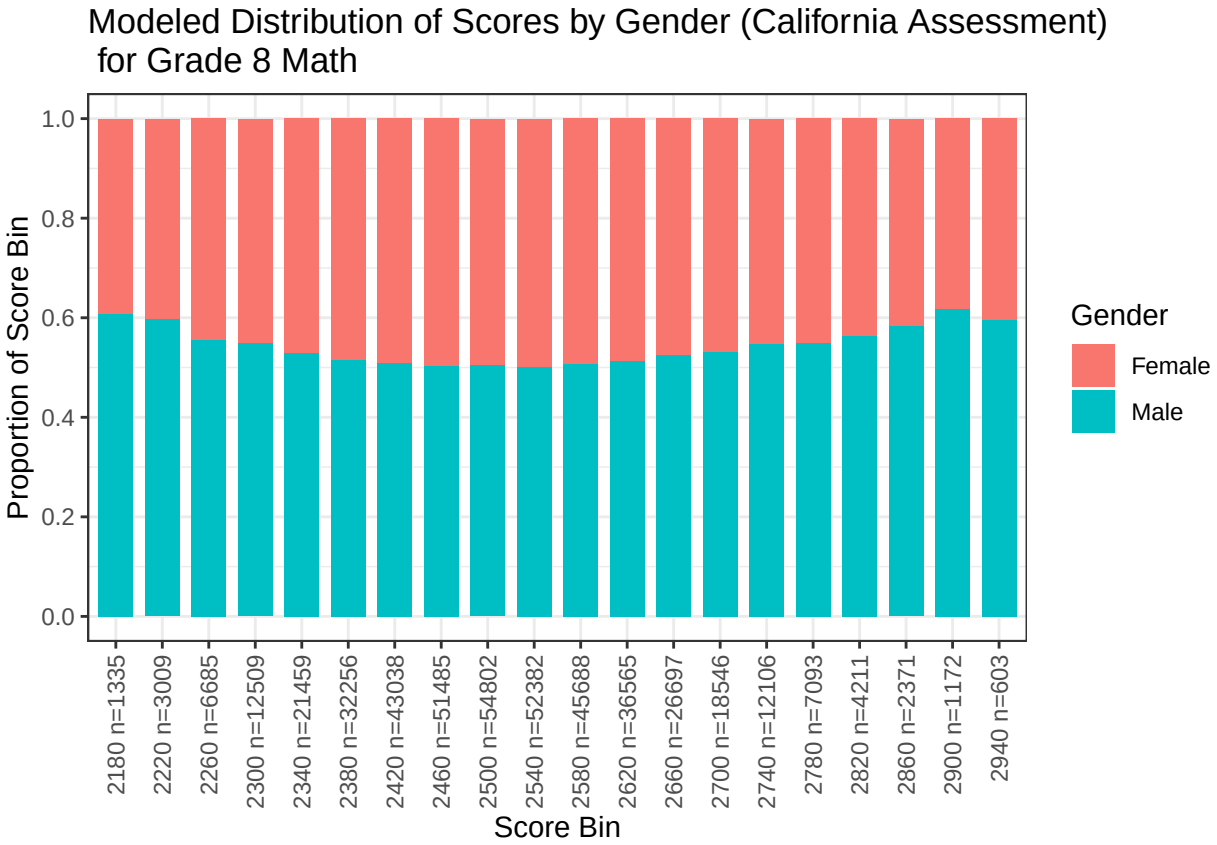
```
##
## [[11]]
```


Modeled Distribution of Scores by Gender (California Assessment)
for Grade 6 Math
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2180 n=1006
2220 n=2839
2260 n=6560
2300 n=13272
2340 n=23571
2380 n=36272
2420 n=48664
2460 n=57075
2500 n=59283
2540 n=54549
2580 n=43887
2620 n=32297
2660 n=21386
2700 n=12747
2740 n=6759
2780 n=3187
2820 n=1464
2860 n=624
Score Bin
Gender
Female
Male

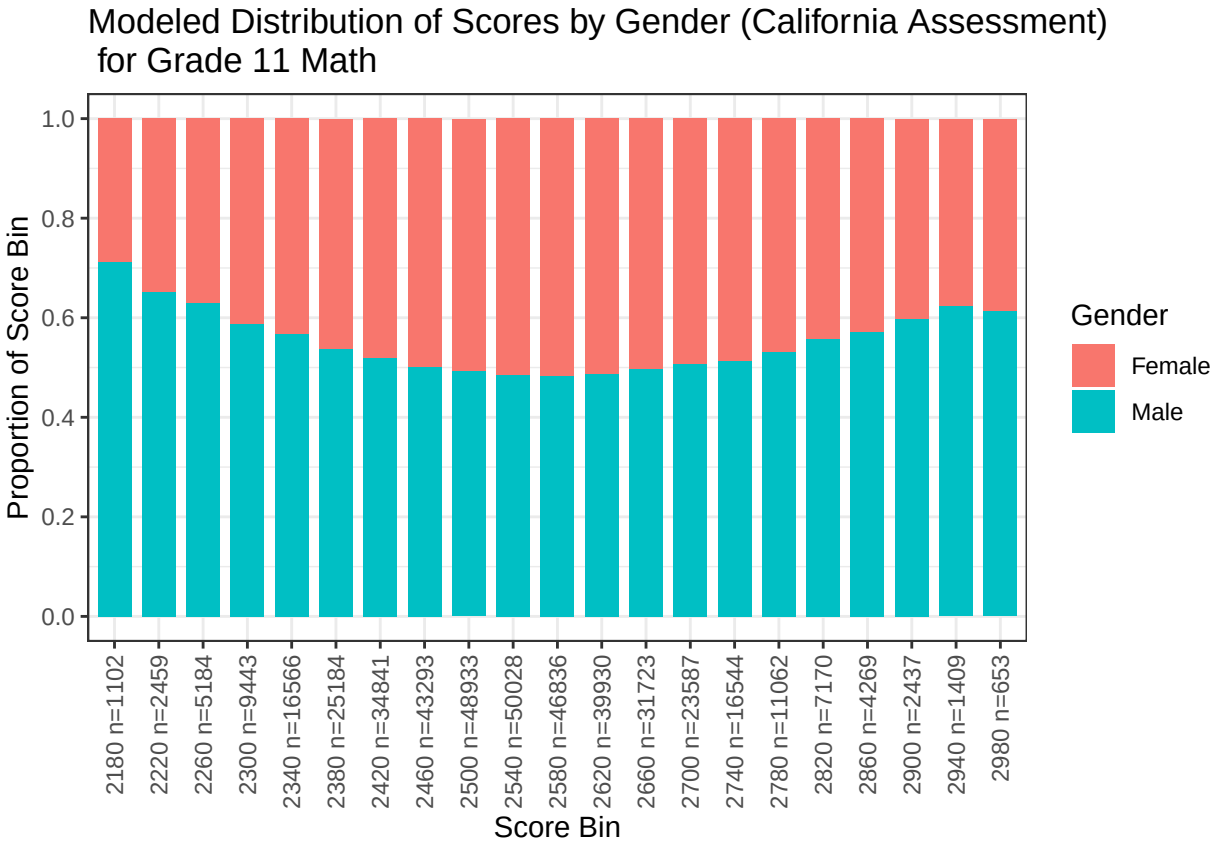
```
##
## [[12]]
```


Modeled Distribution of Scores by Gender (California Assessment)
for Grade 7 Math
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2180 n=969
2220 n=2511
2260 n=6065
2300 n=11952
2340 n=21396
2380 n=32512
2420 n=44164
2460 n=52613
2500 n=56117
2540 n=52358
2580 n=44152
2620 n=34119
2660 n=23985
2700 n=15327
2740 n=9116
2780 n=5012
2820 n=2516
2860 n=1211
2900 n=537
Score Bin
Gender
Female
Male

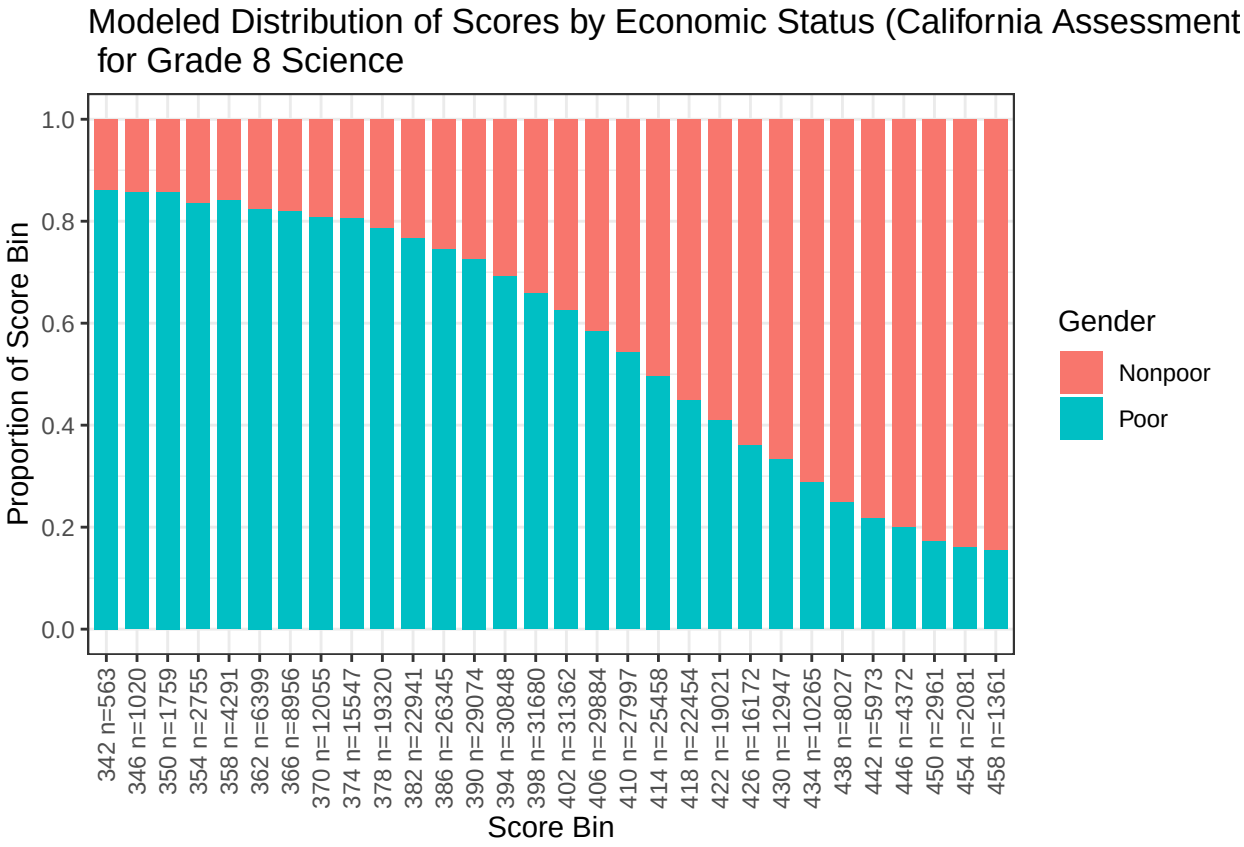
```
##
## [[13]]
```


Modeled Distribution of Scores by Gender (California Assessment)
for Grade 8 Math
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2180 n=1335
2220 n=3009
2260 n=6685
2300 n=12509
2340 n=21459
2380 n=32256
2420 n=43038
2460 n=51485
2500 n=54802
2540 n=52382
2580 n=45688
2620 n=36565
2660 n=26697
2700 n=18546
2740 n=12106
2780 n=7093
2820 n=4211
2860 n=2371
2900 n=1172
2940 n=603
Score Bin
Gender
Female
Male

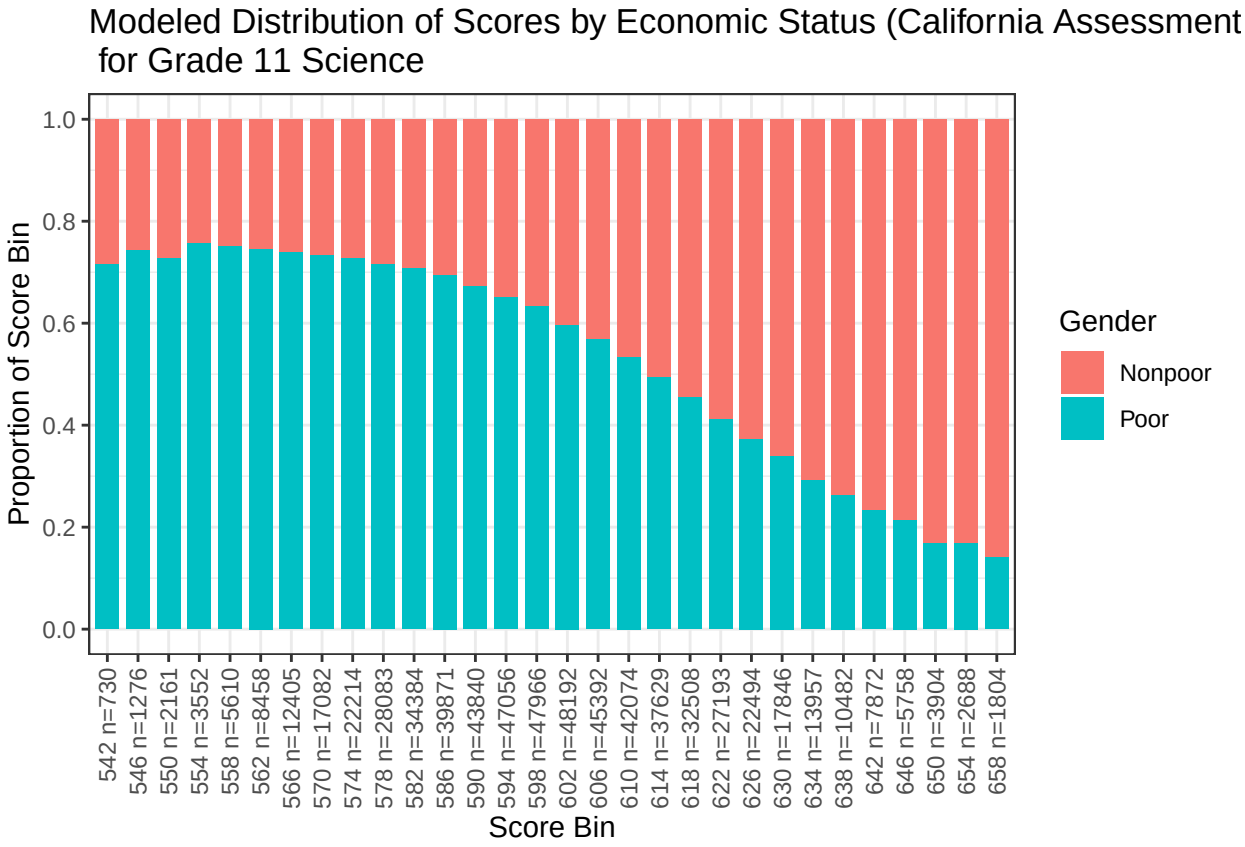
```
##
## [[14]]
```


Modeled Distribution of Scores by Gender (California Assessment)
for Grade 11 Math
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2180 n=1102
2220 n=2459
2260 n=5184
2300 n=9443
2340 n=16566
2380 n=25184
2420 n=34841
2460 n=43293
2500 n=48933
2540 n=50028
2580 n=46836
2620 n=39930
2660 n=31723
2700 n=23587
2740 n=16544
2780 n=11062
2820 n=7170
2860 n=4269
2900 n=2437
2940 n=1409
2980 n=653
Score Bin
Gender
Female
Male

```
##
## [[15]]
```


Modeled Distribution of Scores by Economic Status (California Assessment for Grade 8 Science
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
342 n=563
346 n=1020
350 n=1759
354 n=2755
358 n=4291
362 n=6399
366 n=8956
370 n=12055
374 n=15547
378 n=19320
382 n=22941
386 n=26345
390 n=29074
394 n=30848
398 n=31680
402 n=31362
406 n=29884
410 n=27997
414 n=25458
418 n=22454
422 n=19021
426 n=16172
430 n=12947
434 n=10265
438 n=8027
442 n=5973
446 n=4372
450 n=2961
454 n=2081
458 n=1361
Score Bin
Gender
Nonpoor
Poor

```
##
## [[16]]
```



Repeat Everything but With Simulating by "Race and Economic Status"

```
mean_sd_all= lapply(mean_sd_status %>%
                      group_split(Type, Grade), get_distribution_status)
actual_score = readxl::read_excel("G:/My Drive/More Statistics/CAASP2021-2022/ActualEntireScoreDistribu
  tidyr::uncount(N) %>%
  filter(Type != "Science") %>%
  group_split(Type, Grade)

list_data_status = list()


for(i in seq_along(mean_sd_all)){
  frame = rbind(data.frame(Type = "Modeled", Score = mean_sd_all[[i]]$Score),
                data.frame(Type = "Actual", Score = actual_score_all[[i]]$Score))
  if(mean_sd_all[[i]]$Type[i] == "Science"){
    if(mean_sd_all[[i]]$Grade[i] == 8){
      break_this = seq(320, 480, 20)
    }
    else{
      break_this = seq(520, 680, 20)
    }
```

```
    bin_this = 2
  }
  else{
    break_this = seq(2000, 3200, 200)
    bin_this = 10
  }
  list_data_status[[i]] = frame %>%
    ggplot(aes(x = Score, y = after_stat(count), fill = Type)) +
    geom_histogram(alpha = 0.4, binwidth = bin_this, position = "identity") +
    theme_bw() + scale_x_continuous(breaks = break_this) +
    xlab("Score") + ggtitle(paste("Actual vs Modeled Distribution of Scores \n (California Assessment,
                                  mean_sd_all[[i]]$Grade[1], mean_sd_all[[i]]$Type[1]))
}


race_data_status = list()


for(i in seq_along(mean_sd_all)){
  if(mean_sd_all[[i]]$Type[i] == "Science"){
    if(mean_sd_all[[i]]$Grade[i] == 8){
      break_this = seq(320, 480, 20)
    }
    else{
      break_this = seq(520, 680, 20)
    }
    bin_this = 2
  }
  else{
    left = plyr::round_any(quantile(mean_sd_all[[i]]$Score, 0.001), 200)
    right = plyr::round_any(quantile(mean_sd_all[[i]]$Score, 0.999), 200)
    break_this = seq(left, right, 200)
    bin_this = 10
  }
  race_data_status[[i]] = mean_sd_all[[i]] %>%
    filter(Ethnicity != "American Indian" &
             Ethnicity != "Pacific Islander") %>%
    ggplot(aes(x = Score, y = after_stat(count), fill = Ethnicity)) +
    geom_density(alpha = 0.3) + ylab("Count") +
    theme_bw() + scale_x_continuous(breaks = break_this) +
    xlab("Score") + ggtitle(paste("Modeled Distribution of Scores by Race \n (California Assessment, Us
                                  mean_sd_all[[i]]$Grade[1], mean_sd_all[[i]]$Type[1]))
}

every_nth = function(n) {
  return(function(x) {x[c(TRUE, rep(FALSE, n - 1))]})
}



dist_data_status = list()
cumulative_data_status = list()
```

```
for(i in seq_along(mean_sd_all)){
  if(mean_sd_all[[i]]$Type[i] == "Science"){
    if(mean_sd_all[[i]]$Grade[i] == 8){
      mean_sd_all[[i]]$Group = cut(mean_sd_all[[i]]$Score, breaks = seq(340, 460, 4))
    }
    else{
      mean_sd_all[[i]]$Group = cut(mean_sd_all[[i]]$Score, breaks = seq(540, 660, 4), dig.lab = 10)
    }
  }
  else{
    left = plyr::round_any(quantile(mean_sd_all[[i]]$Score, 0.001), 40)
    right = plyr::round_any(quantile(mean_sd_all[[i]]$Score, 0.999), 40)
    mean_sd_all[[i]]$Group = cut(mean_sd_all[[i]]$Score, breaks = seq(left, right, 40), dig.lab = 10)
  }
  temp = mean_sd_all[[i]] %>%
    group_by(Ethnicity, Group) %>%
    summarize(Count = n()) %>%
    ungroup() %>%
    group_by(Group) %>%
    mutate(Percent = Count/sum(Count)) %>%
    ungroup() %>%
    group_by(Ethnicity) %>%
    arrange(desc(Group)) %>%
    mutate(CountSum = cumsum(Count)) %>%
    ungroup() %>%
    group_by(Group) %>%
    mutate(PercentLess = CountSum/sum(CountSum))
  labels = temp %>% group_by(Group) %>% summarize(nice = sum(Count))
  if(mean_sd_all[[i]]$Type[i] == "Science"){
    levels(temp$Group) = paste0(as.numeric(stringr::str_sub(labels$Group, 2, 4)) + 2,
                                " n=", labels$nice)
  }
  else{
    levels(temp$Group) = paste0(as.numeric(stringr::str_sub(labels$Group, 2, 5)) + 20,
                                " n=", labels$nice)
  }
  dist_data_status[[i]] = temp %>%
    filter(!is.na(Group)) %>%
    ggplot(aes(x = Group, y = Percent, fill = Ethnicity)) +
    geom_bar(width = 0.75, position = "stack", stat = "identity") +
    scale_x_discrete(guide = guide_axis(angle = 90)) +
    scale_y_continuous(breaks = seq(0, 1, 0.2)) +
    theme_bw() + ylab("Proportion of Score Bin") +
    xlab("Score Bin") +
    ggtitle(paste("Modeled Distribution of Scores by Race \n (California Assessment, Using Race/Economi
                                    mean_sd_all[[i]]$Grade[1], mean_sd_all[[i]]$Type[1]))
  labels = temp %>% group_by(Group) %>% summarize(nice = sum(Count)) %>%
    arrange(desc(Group)) %>%
    mutate(nice_cum = cumsum(nice)) %>%
    arrange(Group)
  if(mean_sd_all[[i]]$Type[i] == "Science"){
    total = max(labels$nice_cum)
    levels(temp$Group) = paste0(as.numeric(stringr::str_sub(labels$Group, 1, 3)),
```

```
                                " (", sprintf("%0.1f%%", 100 * labels$nice_cum/total), ")")
  }
  else{
    total = max(labels$nice_cum)
    levels(temp$Group) = paste0(as.numeric(stringr::str_sub(labels$Group, 1, 4)),
                                " (", sprintf("%0.1f%%", 100 * labels$nice_cum/total), ")")
  }
  cumulative_data_status[[i]] = temp %>%
    filter(!is.na(Group)) %>%
    ggplot(aes(x = Group, y = PercentLess, color = Ethnicity, group = Ethnicity)) +
    geom_line(size = 1) + geom_point(size = 1.5) +
    scale_x_discrete(guide = guide_axis(angle = 90), limits=rev) +
    scale_y_continuous(breaks = seq(0, 1, 0.2)) +
    theme_bw() + ylab("Cumulative Proportion") +
    xlab("Score (Top % of Scores)") +
    ggtitle(paste("Cumulative Distribution (Score of At least) of Scores by Race \n (California Assessm
                                  mean_sd_all[[i]]$Grade[1], mean_sd_all[[i]]$Type[1]))
}
```

```
## `summarise()` has grouped output by 'Ethnicity'. You can override using the
## `.groups` argument.
## `summarise()` has grouped output by 'Ethnicity'. You can override using the
## `.groups` argument.
## `summarise()` has grouped output by 'Ethnicity'. You can override using the
## `.groups` argument.
## `summarise()` has grouped output by 'Ethnicity'. You can override using the
## `.groups` argument.
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## `.groups` argument.
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## `.groups` argument.
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## `.groups` argument.
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## `.groups` argument.
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## `.groups` argument.
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## `.groups` argument.
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## `.groups` argument.
## `summarise()` has grouped output by 'Ethnicity'. You can override using the
## `.groups` argument.
## `summarise()` has grouped output by 'Ethnicity'. You can override using the
## `.groups` argument.
## `summarise()` has grouped output by 'Ethnicity'. You can override using the
## `.groups` argument.
## `summarise()` has grouped output by 'Ethnicity'. You can override using the
## `.groups` argument.
```

```
dist_data_POOR_status = list()


for(i in seq_along(mean_sd_all)){
  if(mean_sd_all[[i]]$Type[i] == "Science"){
```

```
    if(mean_sd_all[[i]]$Grade[i] == 8){
      mean_sd_all[[i]]$Group = cut(mean_sd_all[[i]]$Score, breaks = seq(340, 460, 4))
    }
    else{
      mean_sd_all[[i]]$Group = cut(mean_sd_all[[i]]$Score, breaks = seq(540, 660, 4), dig.lab = 10)
    }
  }
  else{
    temp = mean_sd_all[[i]] %>%
        filter(Status == "Economically Disadvantaged")
    left = plyr::round_any(quantile(temp$Score, 0.001), 40)
    right = plyr::round_any(quantile(temp$Score, 0.999), 40)
    temp$Group = cut(temp$Score, breaks = seq(left, right, 40), dig.lab = 10)
  }
  temp = temp %>%
    group_by(Ethnicity, Group) %>%
    summarize(Count = n()) %>%
    ungroup() %>%
    group_by(Group) %>%
    mutate(Percent = Count/sum(Count))
  labels = temp %>% group_by(Group) %>% summarize(nice = sum(Count))
  if(mean_sd_all[[i]]$Type[i] == "Science"){
    levels(temp$Group) = paste0(as.numeric(stringr::str_sub(labels$Group, 2, 4)) + 2, " n=", labels$nic
  }
  else{
    levels(temp$Group) = paste0(as.numeric(stringr::str_sub(labels$Group, 2, 5)) + 20, " n=", labels$ni
  }
  dist_data_POOR_status[[i]] = temp %>%
    filter(!is.na(Group)) %>%
    ggplot(aes(x = Group, y = Percent, fill = Ethnicity)) +
    geom_bar(width = 0.75, position = "stack", stat = "identity") +
    scale_x_discrete(guide = guide_axis(angle = 90)) +
    scale_y_continuous(breaks = seq(0, 1, 0.2)) +
    theme_bw() + ylab("Proportion of Score Bin") +
    xlab("Score Bin") +
    ggtitle(paste("Modeled Distribution of Scores by Race (California Assessment) \n for Economically D
                                  mean_sd_all[[i]]$Grade[1], mean_sd_all[[i]]$Type[1]))
}
```

```
## `summarise()` has grouped output by 'Ethnicity'. You can override using the
## `.groups` argument.
## `summarise()` has grouped output by 'Ethnicity'. You can override using the
## `.groups` argument.
## `summarise()` has grouped output by 'Ethnicity'. You can override using the
## `.groups` argument.
## `summarise()` has grouped output by 'Ethnicity'. You can override using the
## `.groups` argument.
## `summarise()` has grouped output by 'Ethnicity'. You can override using the
## `.groups` argument.
## `summarise()` has grouped output by 'Ethnicity'. You can override using the
## `.groups` argument.
## `summarise()` has grouped output by 'Ethnicity'. You can override using the
## `.groups` argument.
```

```
## `summarise()` has grouped output by 'Ethnicity'. You can override using the
## `.groups` argument.
## `summarise()` has grouped output by 'Ethnicity'. You can override using the
## `.groups` argument.
## `summarise()` has grouped output by 'Ethnicity'. You can override using the
## `.groups` argument.
## `summarise()` has grouped output by 'Ethnicity'. You can override using the
## `.groups` argument.
## `summarise()` has grouped output by 'Ethnicity'. You can override using the
## `.groups` argument.
## `summarise()` has grouped output by 'Ethnicity'. You can override using the
## `.groups` argument.
## `summarise()` has grouped output by 'Ethnicity'. You can override using the
## `.groups` argument.
```

```
gender_data_status = list()


for(i in seq_along(mean_sd_all)){
  if(mean_sd_all[[i]]$Type[i] == "Science"){
    if(mean_sd_all[[i]]$Grade[i] == 8){
      mean_sd_all[[i]]$Group = cut(mean_sd_all[[i]]$Score, breaks = seq(340, 460, 4))
    }
    else{
      mean_sd_all[[i]]$Group = cut(mean_sd_all[[i]]$Score, breaks = seq(540, 660, 4), dig.lab = 10)
    }
  }
  else{
    left = plyr::round_any(quantile(mean_sd_all[[i]]$Score, 0.001), 40)
    right = plyr::round_any(quantile(mean_sd_all[[i]]$Score, 0.999), 40)
    mean_sd_all[[i]]$Group = cut(mean_sd_all[[i]]$Score, breaks = seq(left, right, 40), dig.lab = 10)
  }
  temp = mean_sd_all[[i]] %>%
    group_by(Status, Group) %>%
    summarize(Count = n()) %>%
    ungroup() %>%
    group_by(Group) %>%
    mutate(Percent = Count/sum(Count))
  labels = temp %>% group_by(Group) %>% summarize(nice = sum(Count))
  if(mean_sd_all[[i]]$Type[i] == "Science"){
    levels(temp$Group) = paste0(as.numeric(stringr::str_sub(labels$Group, 2, 4)) + 2, " n=", labels$nic
    title = "Modeled Distribution of Scores by Economic Status (California Assessment) \n for Grade"
  }
  else{
    levels(temp$Group) = paste0(as.numeric(stringr::str_sub(labels$Group, 2, 5)) + 20, " n=", labels$ni
    title = "Modeled Distribution of Scores by Economic Status (California Assessment) \n for Grade"
  }
  gender_data_status[[i]] = temp %>%
    filter(!is.na(Group)) %>%
    ggplot(aes(x = Group, y = Percent, fill = Status)) +
    geom_bar(width = 0.75, position = "stack", stat = "identity") +
    scale_x_discrete(guide = guide_axis(angle = 90)) +
    scale_y_continuous(breaks = seq(0, 1, 0.2)) +
    theme_bw() + ylab("Proportion of Score Bin") +
```

```
    xlab("Score Bin") +
    ggtitle(paste(title, mean_sd_all[[i]]$Grade[1], mean_sd_all[[i]]$Type[1]))
}
```

```
## `summarise()` has grouped output by 'Status'. You can override using the
## `.groups` argument.
## `summarise()` has grouped output by 'Status'. You can override using the
## `.groups` argument.
## `summarise()` has grouped output by 'Status'. You can override using the
## `.groups` argument.
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## `.groups` argument.
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## `.groups` argument.
## `summarise()` has grouped output by 'Status'. You can override using the
## `.groups` argument.
## `summarise()` has grouped output by 'Status'. You can override using the
## `.groups` argument.
```
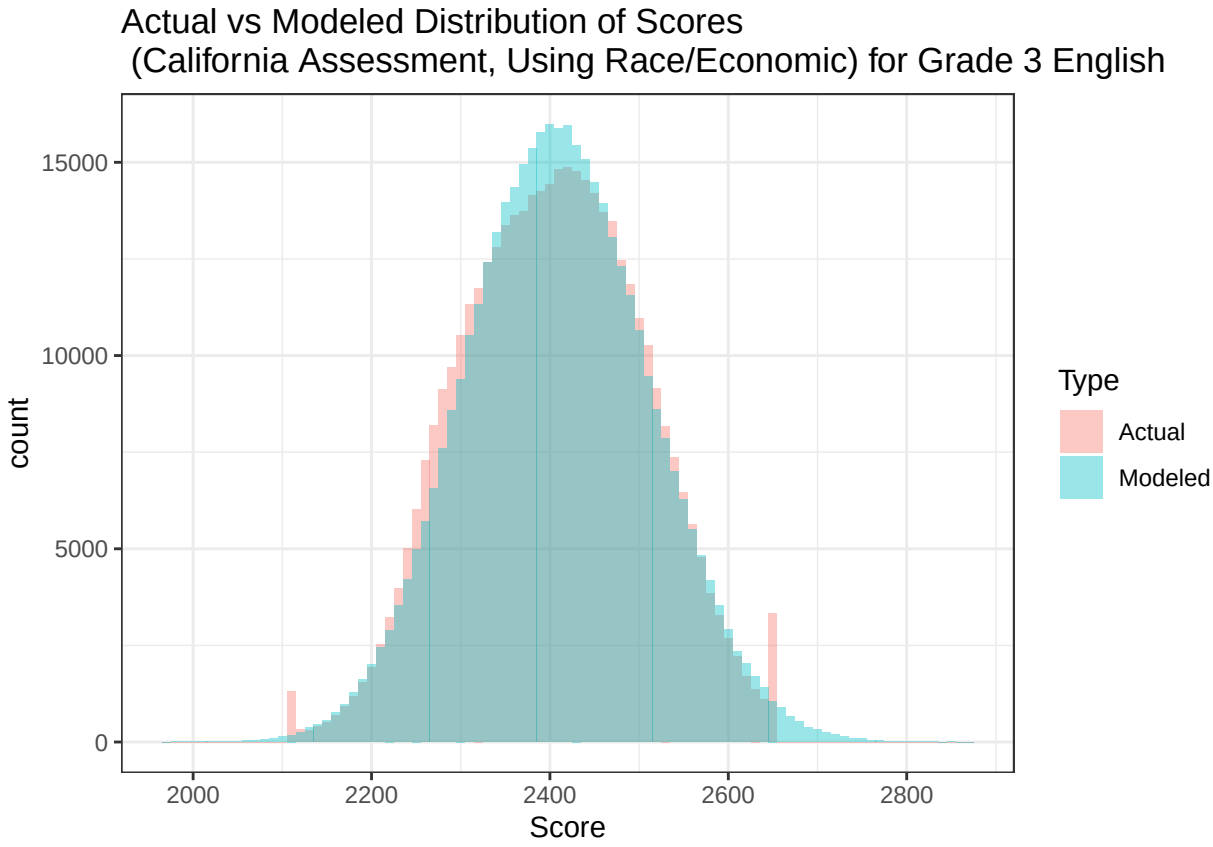
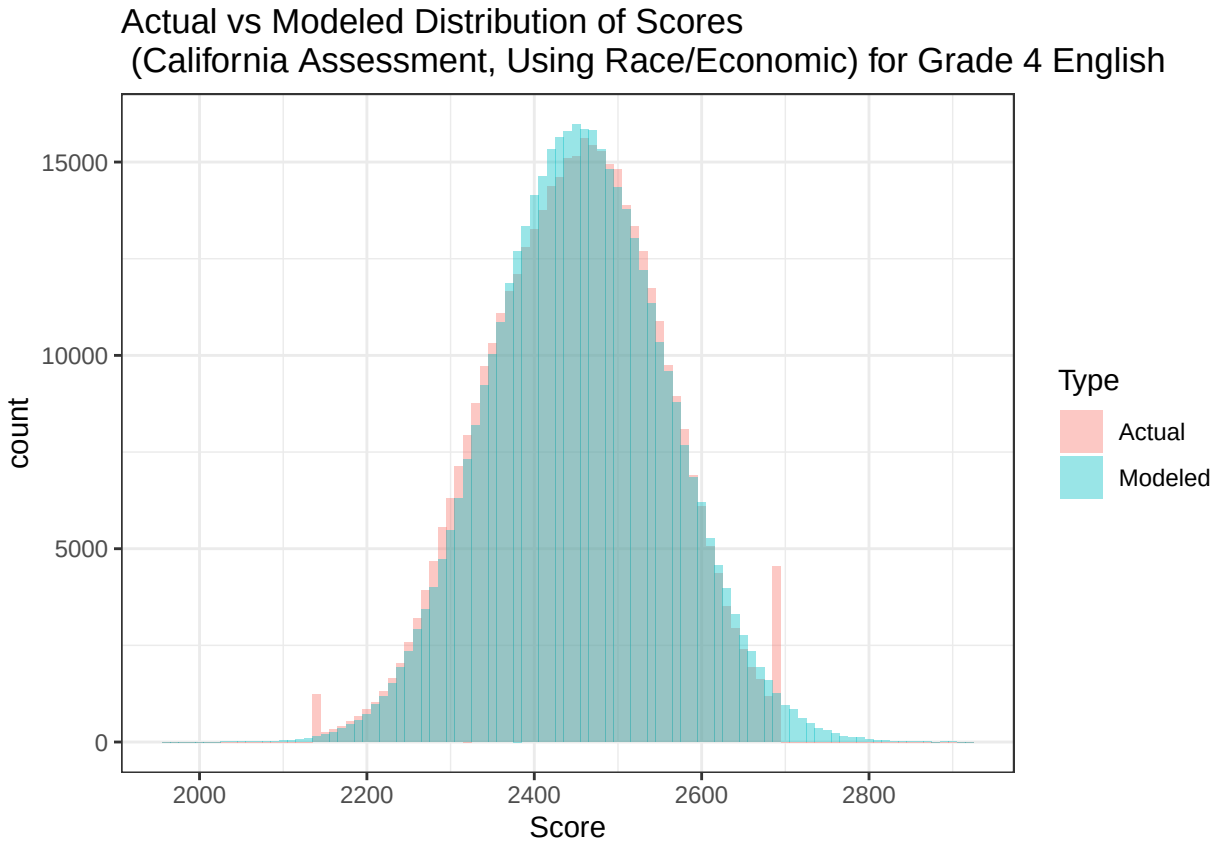

```
list_data_status
```

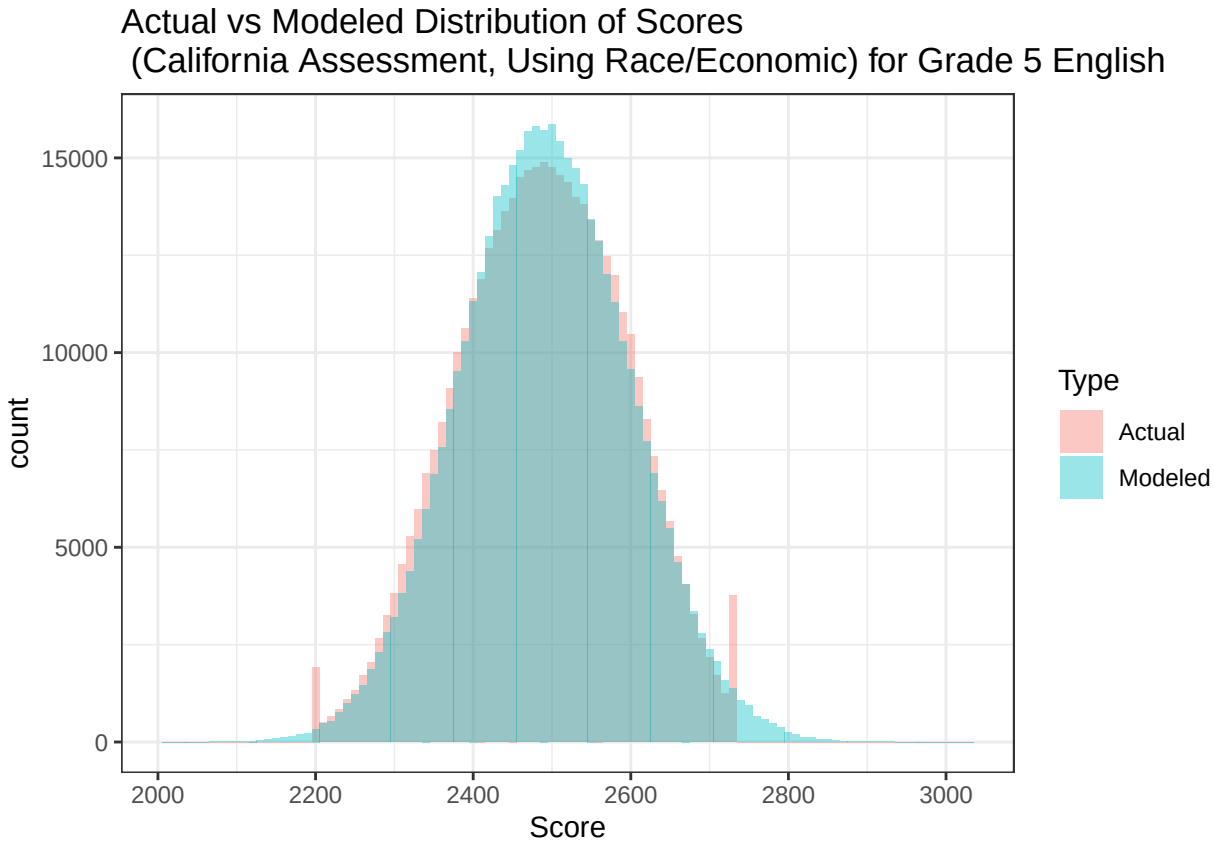
```
## [[1]]
```


Actual vs Modeled Distribution of Scores
(California Assessment, Using Race/Economic) for Grade 3 English
count
15000
10000
5000
0
2000
2200
2400
2600
2800
Score
Type
Actual
Modeled

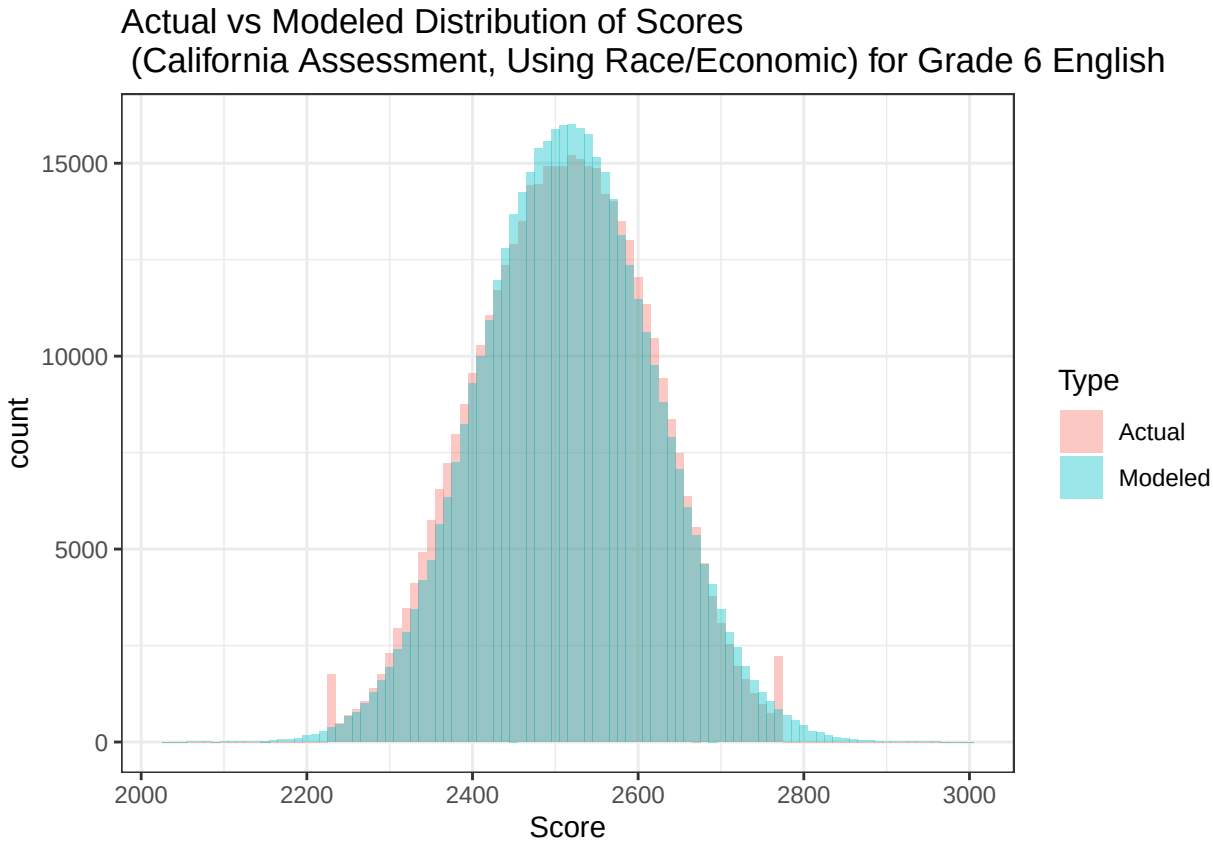
```
##
## [[2]]
```


Actual vs Modeled Distribution of Scores
(California Assessment, Using Race/Economic) for Grade 4 English
count
15000
10000
5000
0
2000
2200
2400
2600
2800
Score
Type
Actual
Modeled

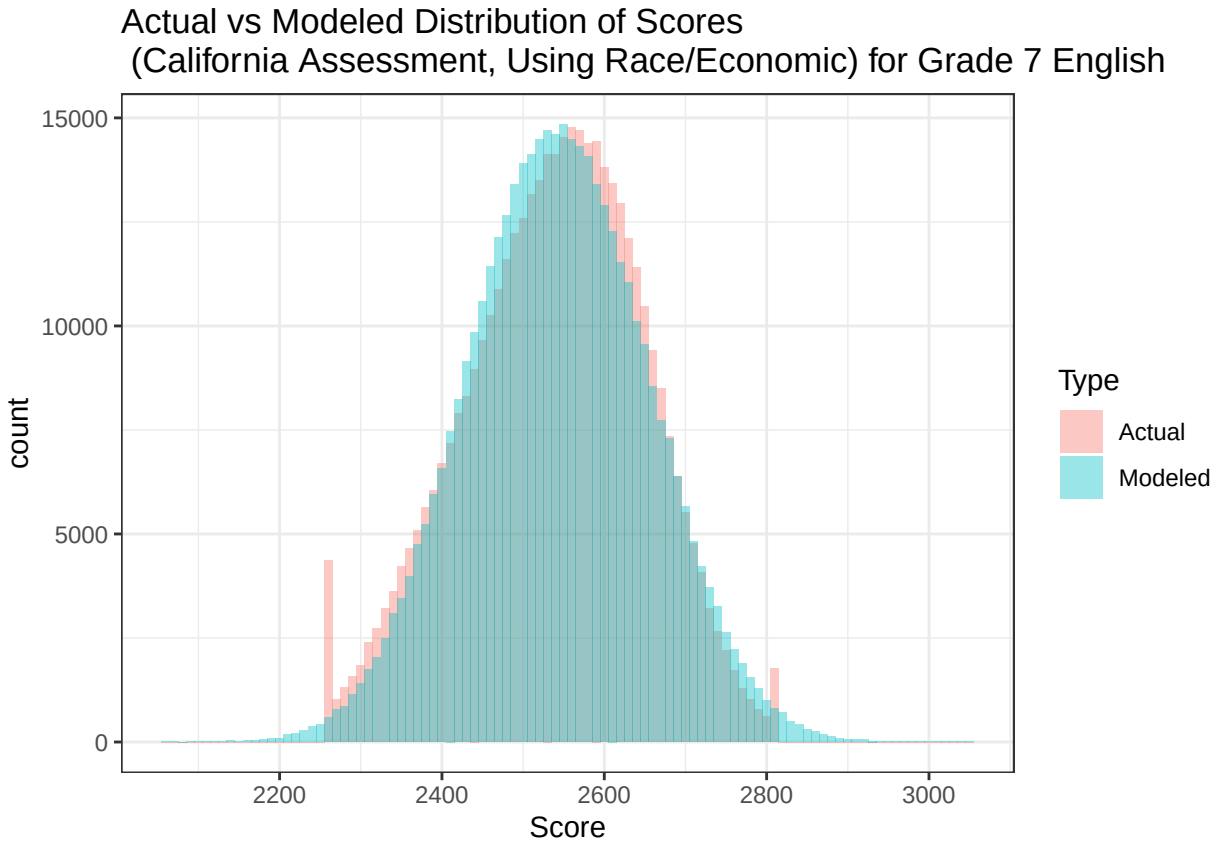
```
##
## [[3]]
```


Actual vs Modeled Distribution of Scores
(California Assessment, Using Race/Economic) for Grade 5 English
count
15000
10000
5000
0
2000
2200
2400
2600
2800
3000
Score
Type
Actual
Modeled

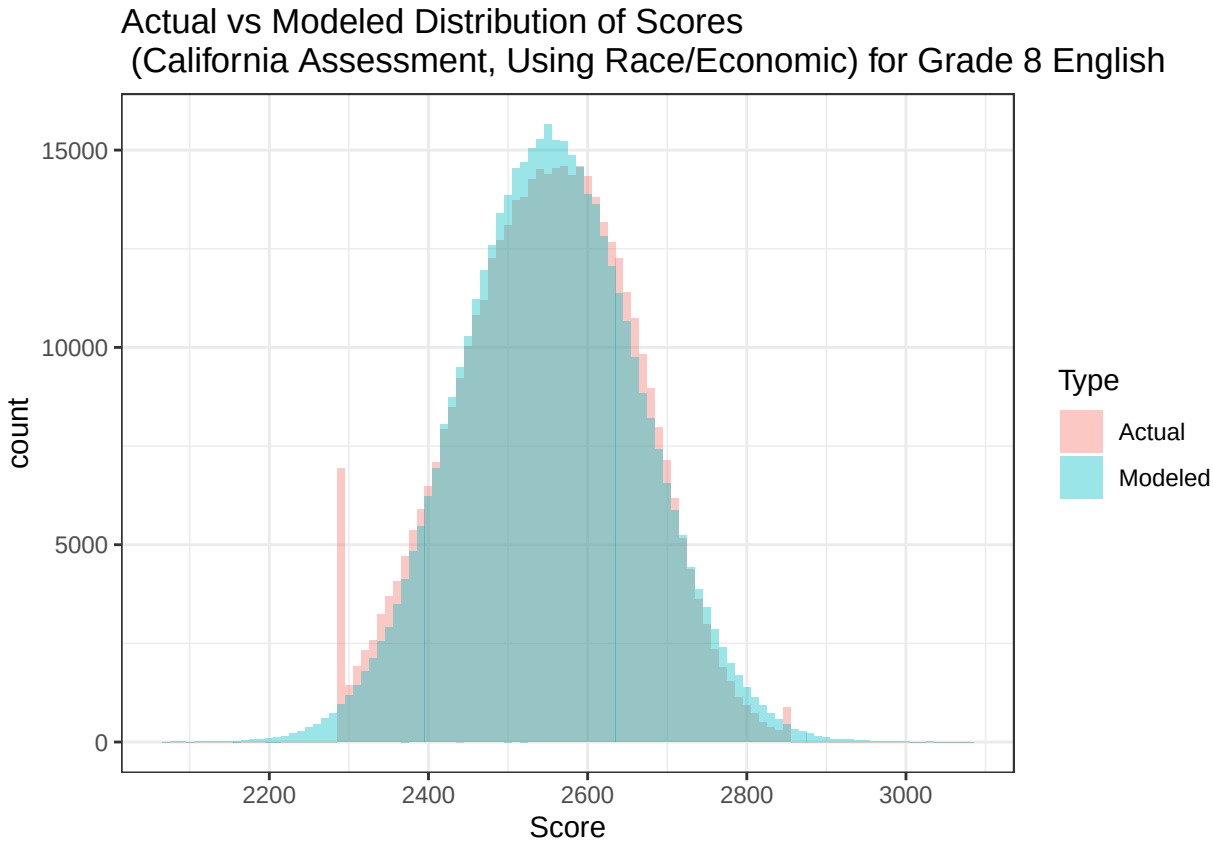
```
##
## [[4]]
```


Actual vs Modeled Distribution of Scores
(California Assessment, Using Race/Economic) for Grade 6 English
count
15000
10000
5000
0
2000
2200
2400
2600
2800
3000
Score
Type
Actual
Modeled

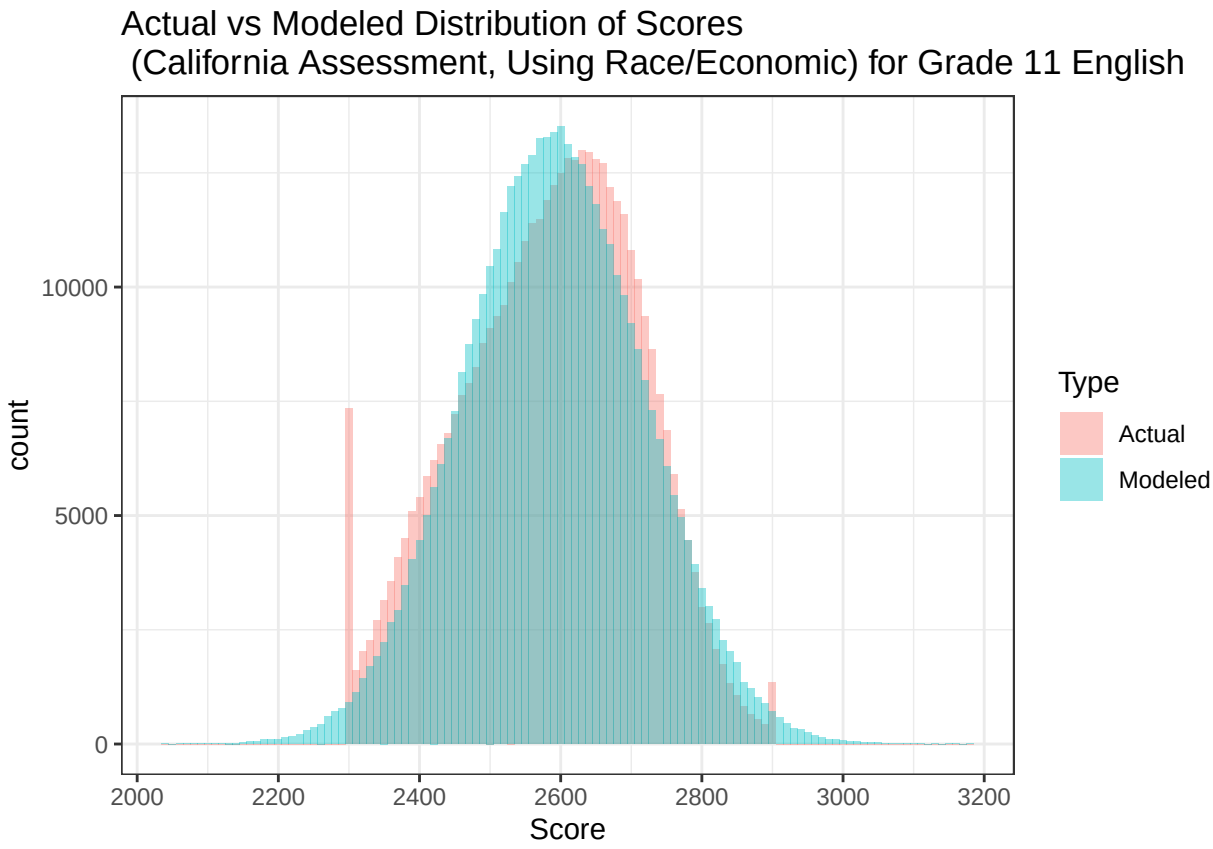
```
##
## [[5]]
```


Actual vs Modeled Distribution of Scores
(California Assessment, Using Race/Economic) for Grade 7 English
15000
10000
5000
0
count
2200
2400
2600
2800
3000
Score
Type
Actual
Modeled

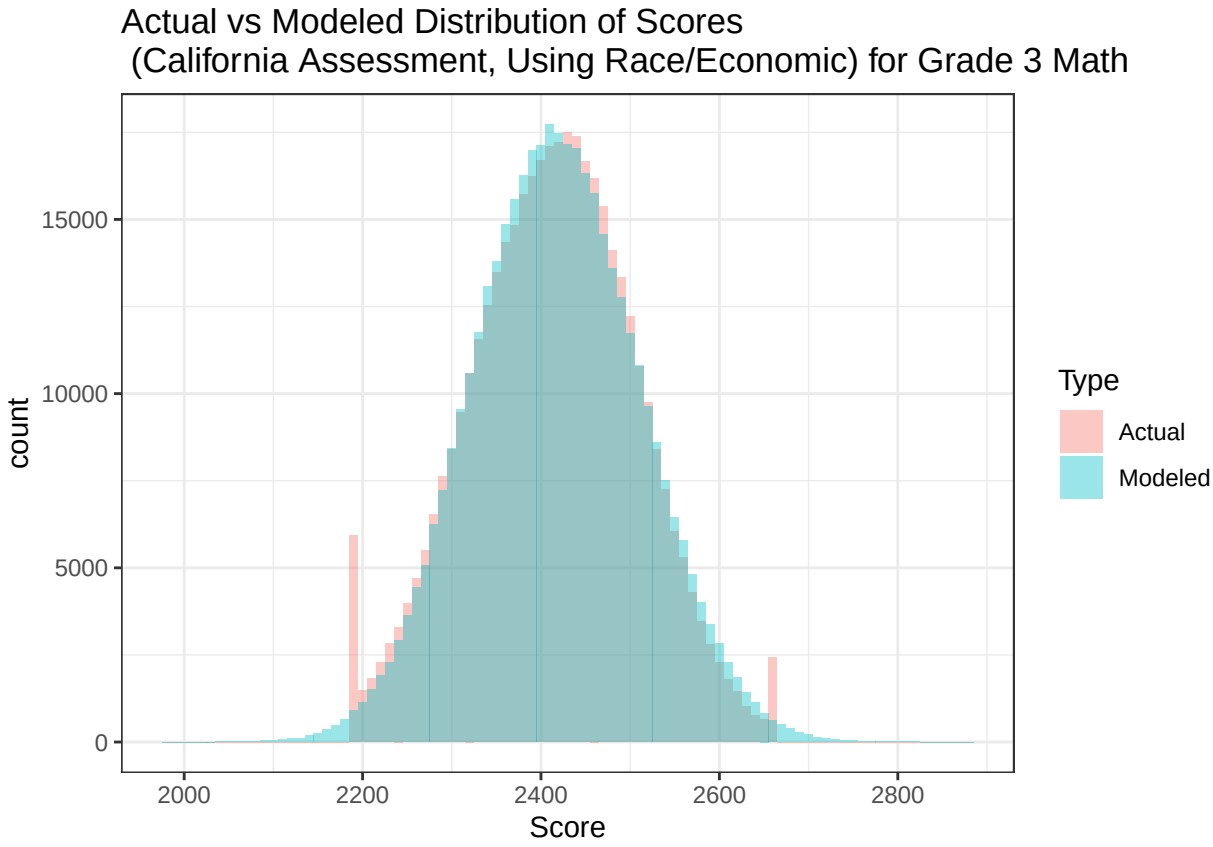
```
##
## [[6]]
```


Actual vs Modeled Distribution of Scores
(California Assessment, Using Race/Economic) for Grade 8 English
15000
10000
5000
0
count
2200
2400
2600
2800
3000
Score
Type
Actual
Modeled

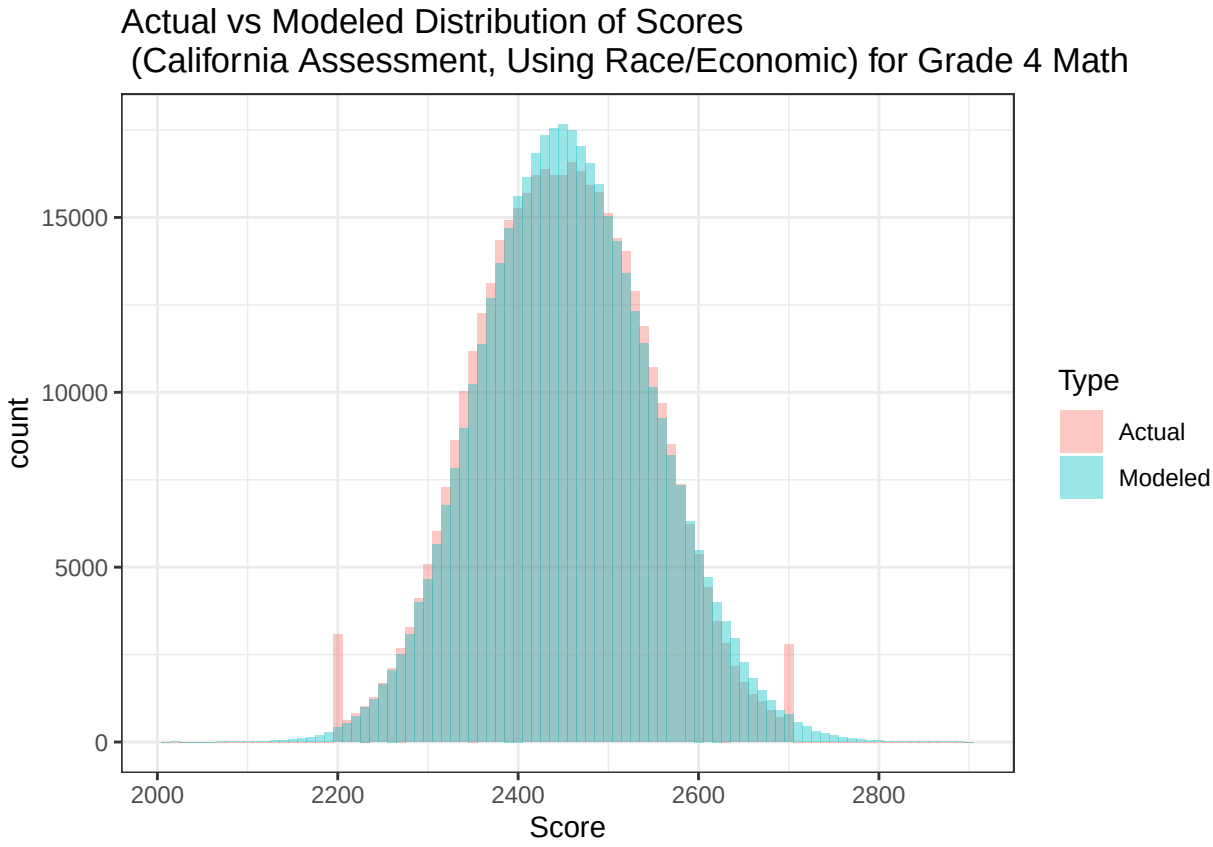
```
##
## [[7]]
```


Actual vs Modeled Distribution of Scores
(California Assessment, Using Race/Economic) for Grade 11 English
count
10000
5000
0
2000
2200
2400
2600
2800
3000
3200
Score
Type
Actual
Modeled

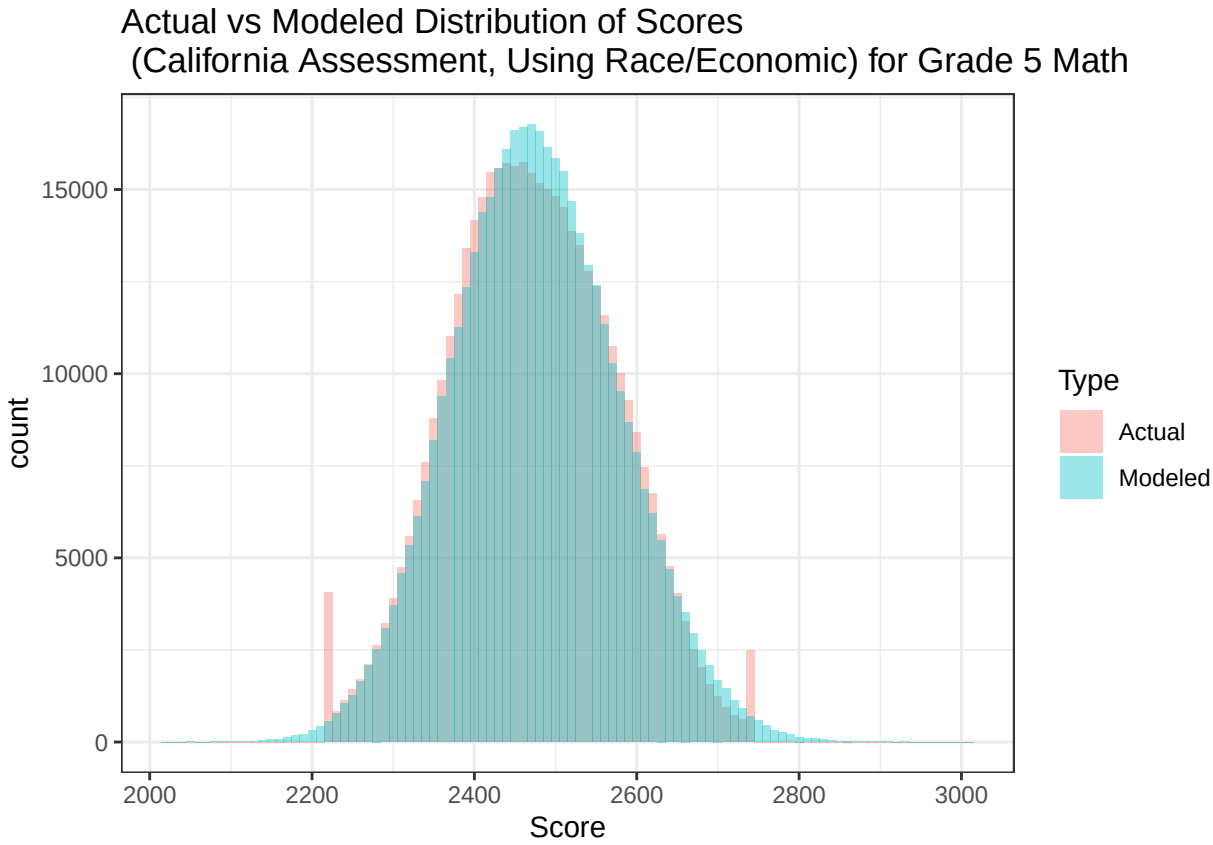
```
##
## [[8]]
```


Actual vs Modeled Distribution of Scores
(California Assessment, Using Race/Economic) for Grade 3 Math
count
15000
10000
5000
0
2000
2200
2400
2600
2800
Score
Type
Actual
Modeled

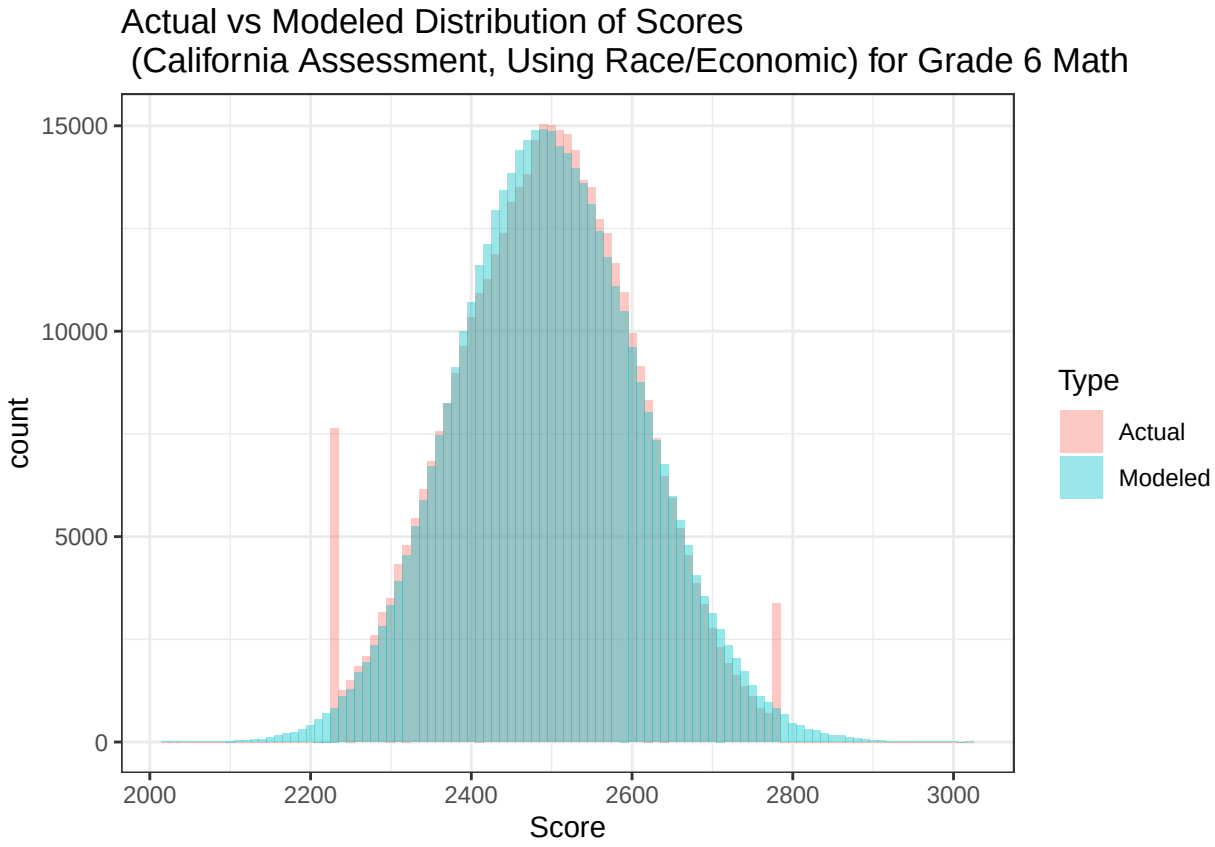
```
##
## [[9]]
```


Actual vs Modeled Distribution of Scores
(California Assessment, Using Race/Economic) for Grade 4 Math
count
15000
10000
5000
0
2000
2200
2400
2600
2800
Score
Type
Actual
Modeled

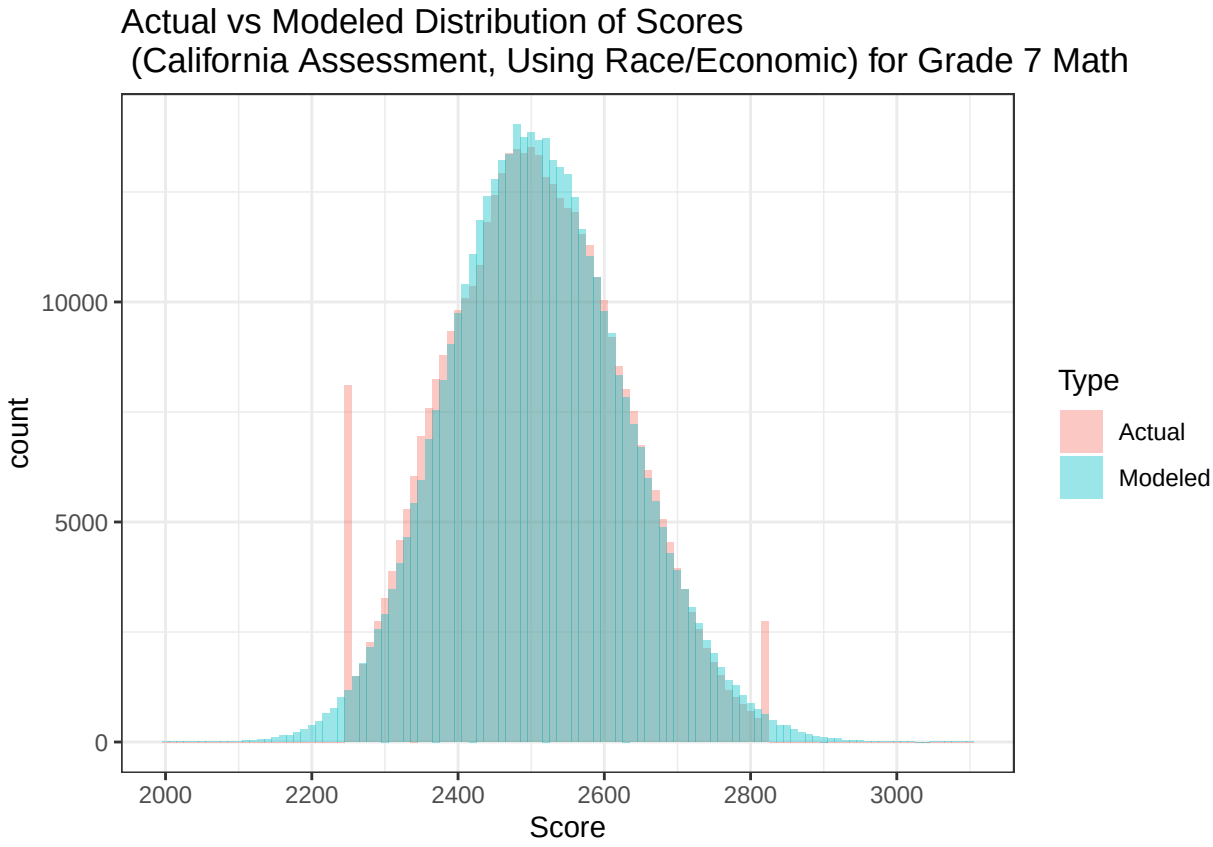
```
##
## [[10]]
```


Actual vs Modeled Distribution of Scores
(California Assessment, Using Race/Economic) for Grade 5 Math
count
15000
10000
5000
0
2000
2200
2400
2600
2800
3000
Score
Type
Actual
Modeled

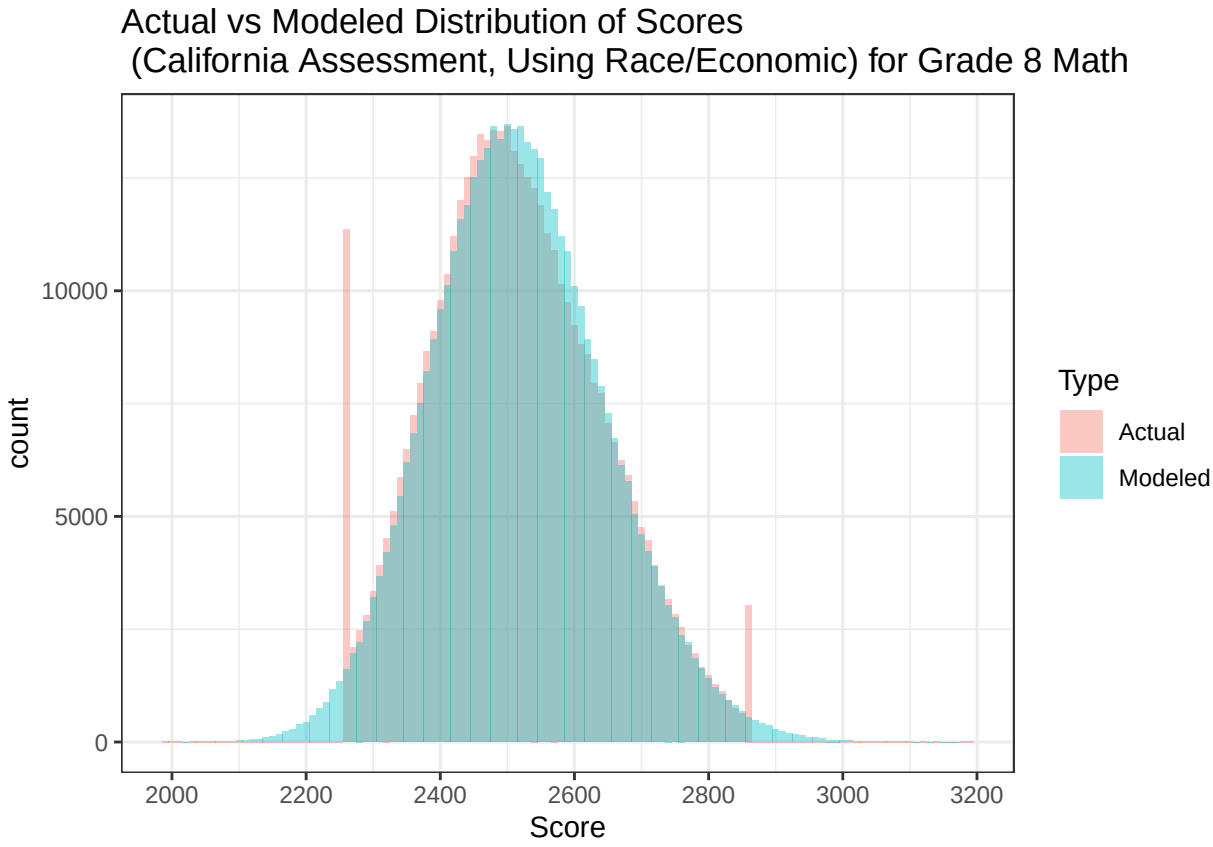
```
##
## [[11]]
```


Actual vs Modeled Distribution of Scores
(California Assessment, Using Race/Economic) for Grade 6 Math
15000
10000
5000
0
count
2000
2200
2400
2600
2800
3000
Score
Type
Actual
Modeled

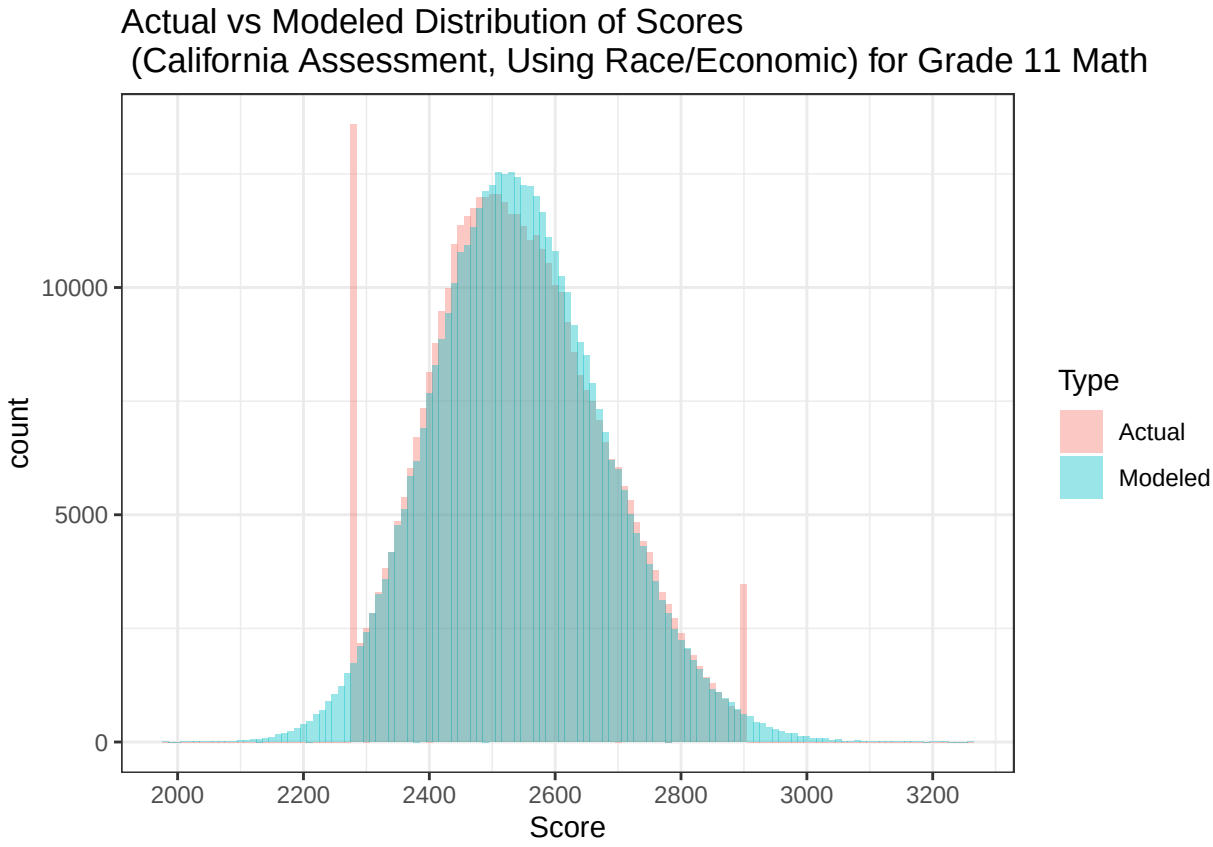
```
##
## [[12]]
```


Actual vs Modeled Distribution of Scores
(California Assessment, Using Race/Economic) for Grade 7 Math
count
10000
5000
0
2000
2200
2400
2600
2800
3000
Score
Type
Actual
Modeled

```
##
## [[13]]
```

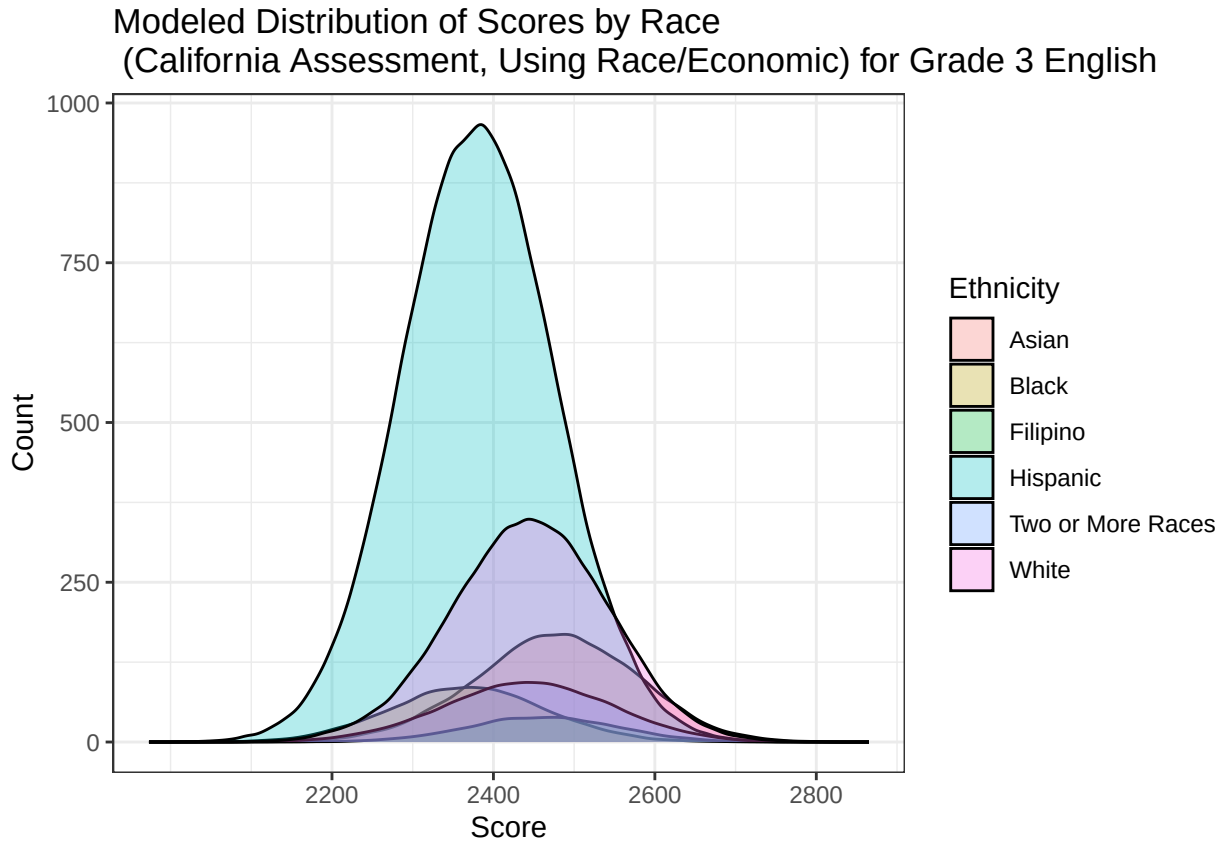

Actual vs Modeled Distribution of Scores
(California Assessment, Using Race/Economic) for Grade 8 Math
count
10000
5000
0
2000
2200
2400
2600
2800
3000
3200
Score
Type
Actual
Modeled

```
##
## [[14]]
```

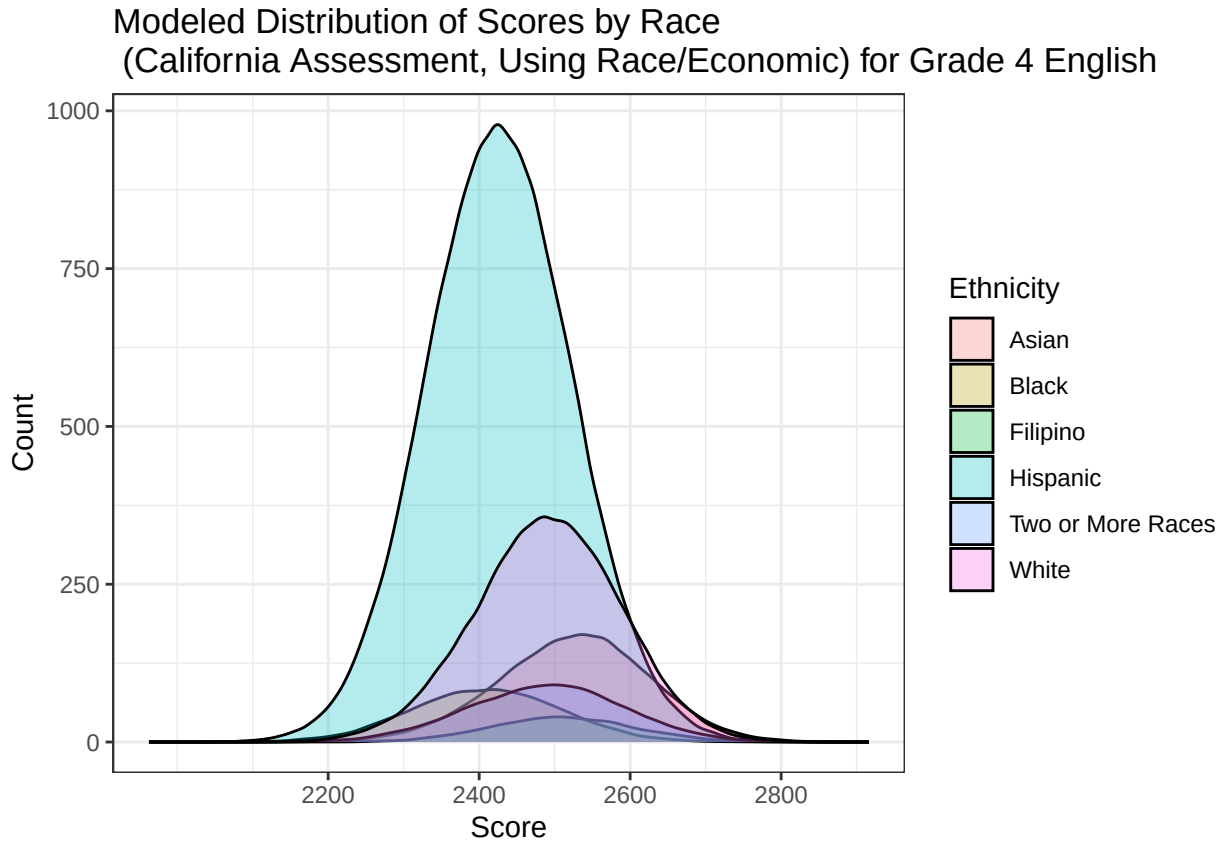



```
race_data_status
```

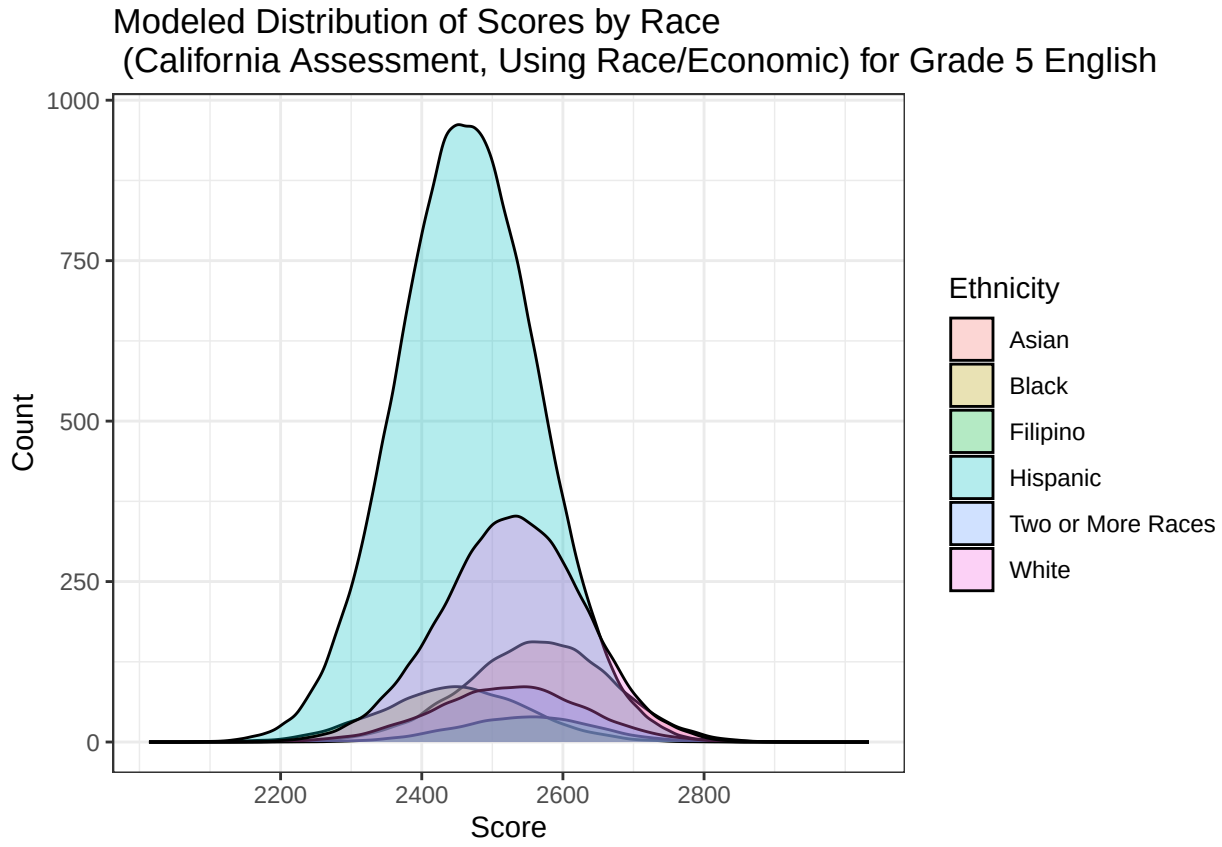
```
## [[1]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Economic) for Grade 3 English
Count
1000
750
500
250
0
2200
2400
2600
2800
Score
Ethnicity
Asian
Black
Filipino
Hispanic
Two or More Races
White

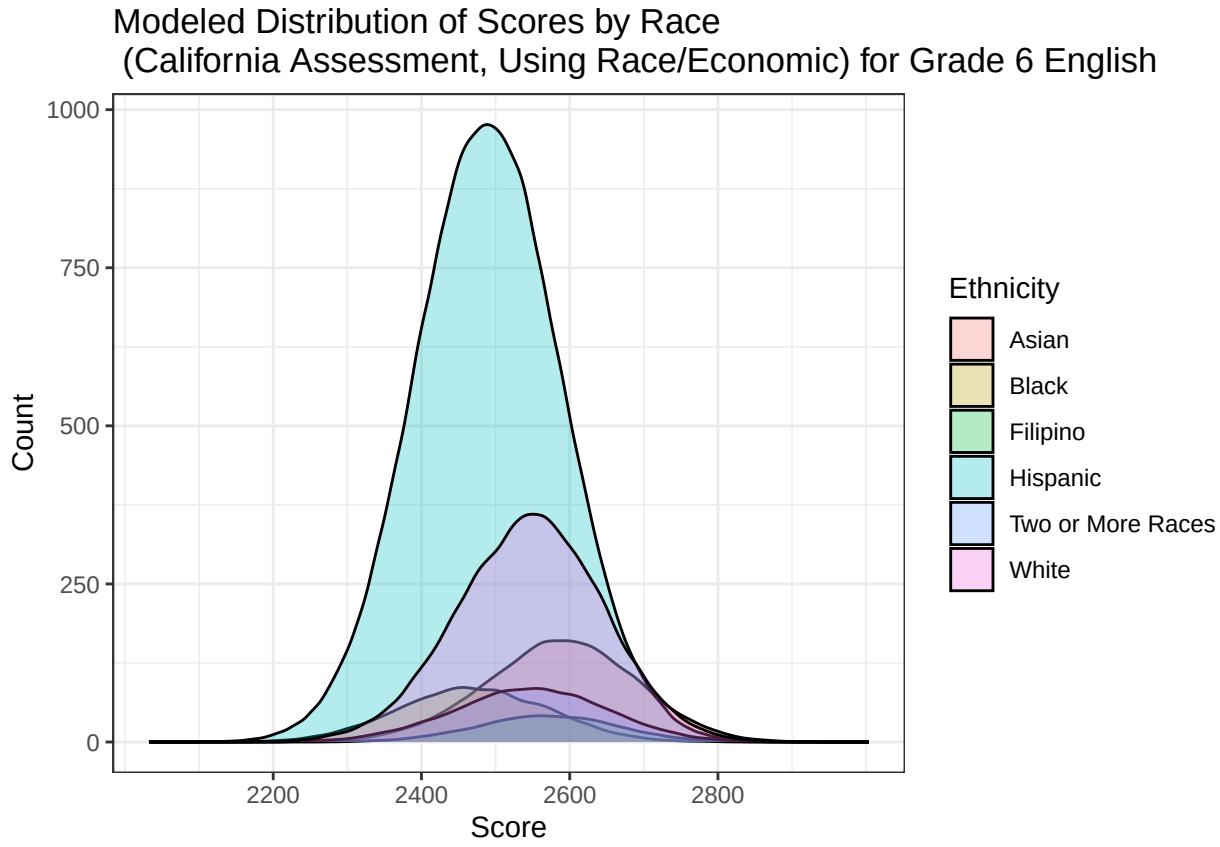
```
##
## [[2]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Economic) for Grade 4 English
Count
1000
750
500
250
0
2200
2400
2600
2800
Score
Ethnicity
Asian
Black
Filipino
Hispanic
Two or More Races
White

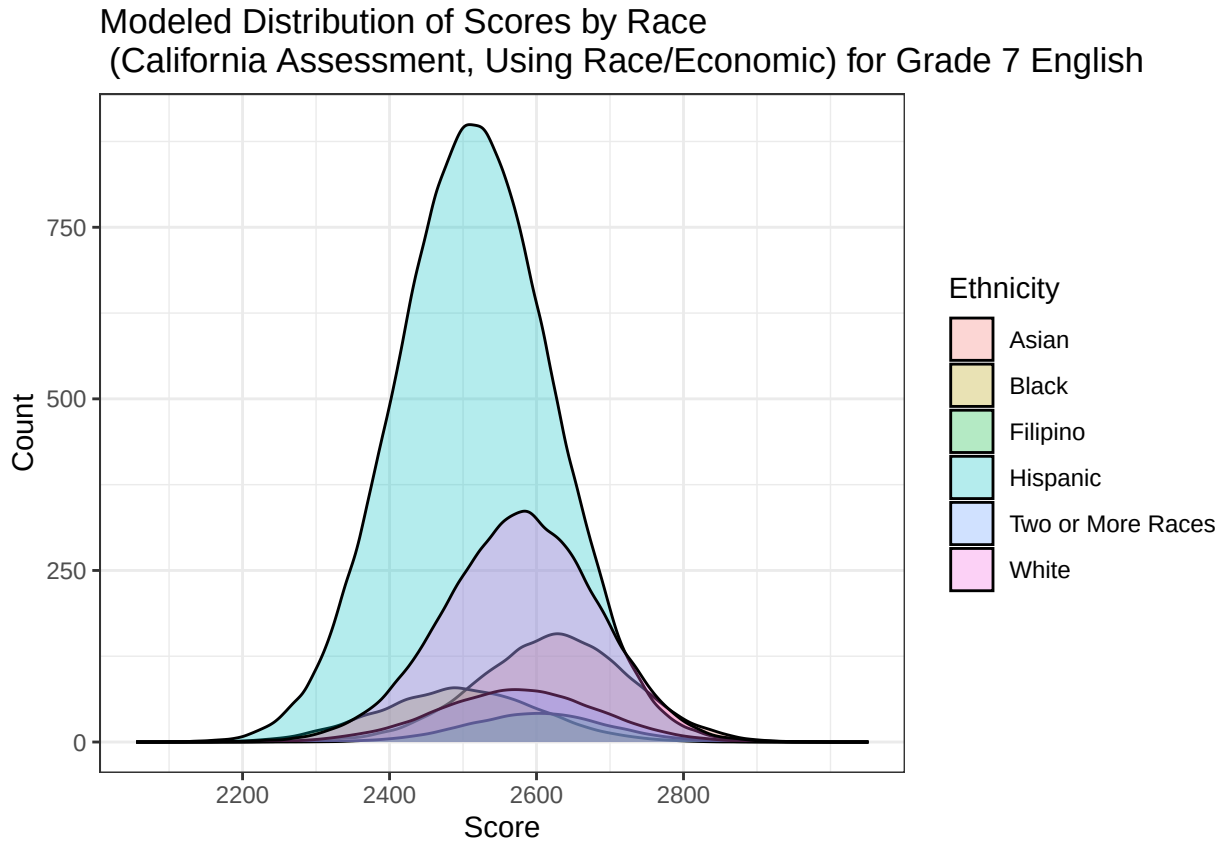
```
##
## [[3]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Economic) for Grade 5 English
Count
1000
750
500
250
0
2200
2400
2600
2800
Score
Ethnicity
Asian
Black
Filipino
Hispanic
Two or More Races
White

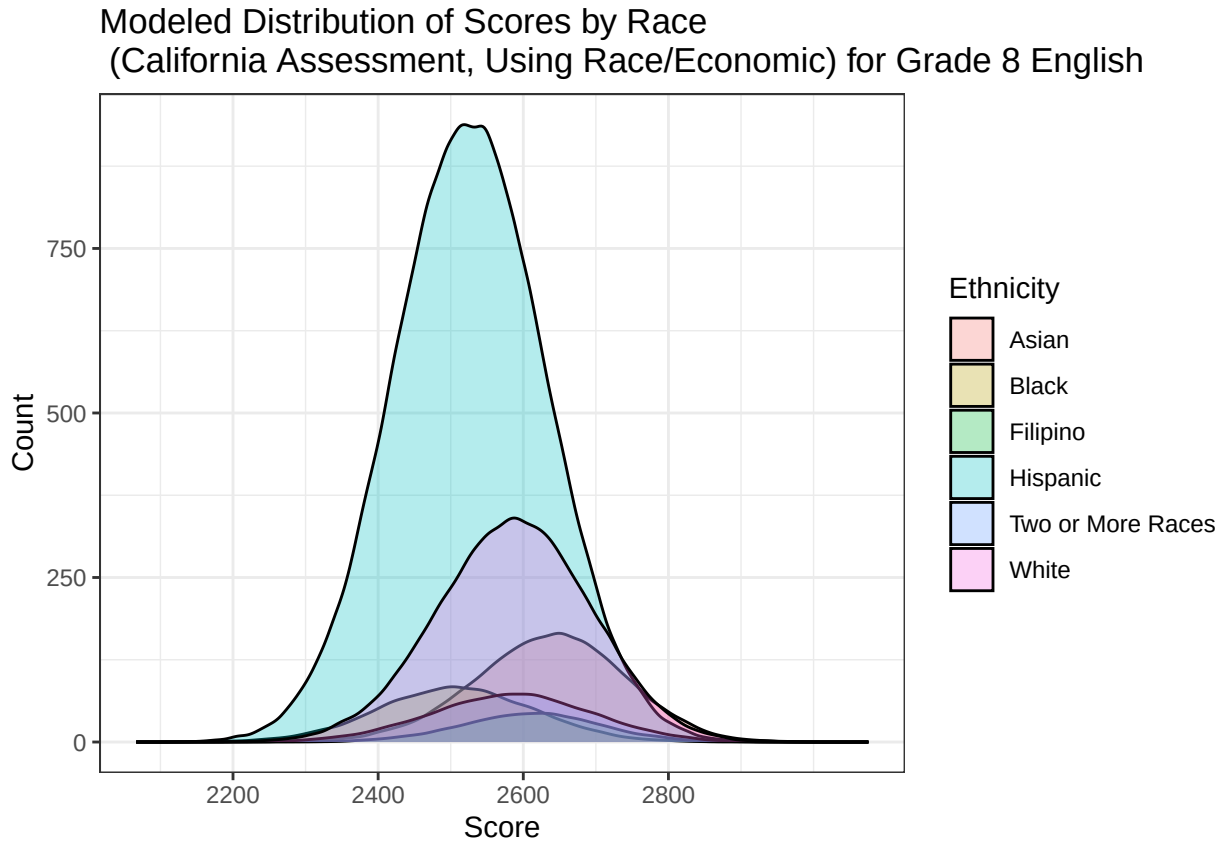
```
##
## [[4]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Economic) for Grade 6 English
Count
1000
750
500
250
0
2200
2400
2600
2800
Score
Ethnicity
Asian
Black
Filipino
Hispanic
Two or More Races
White

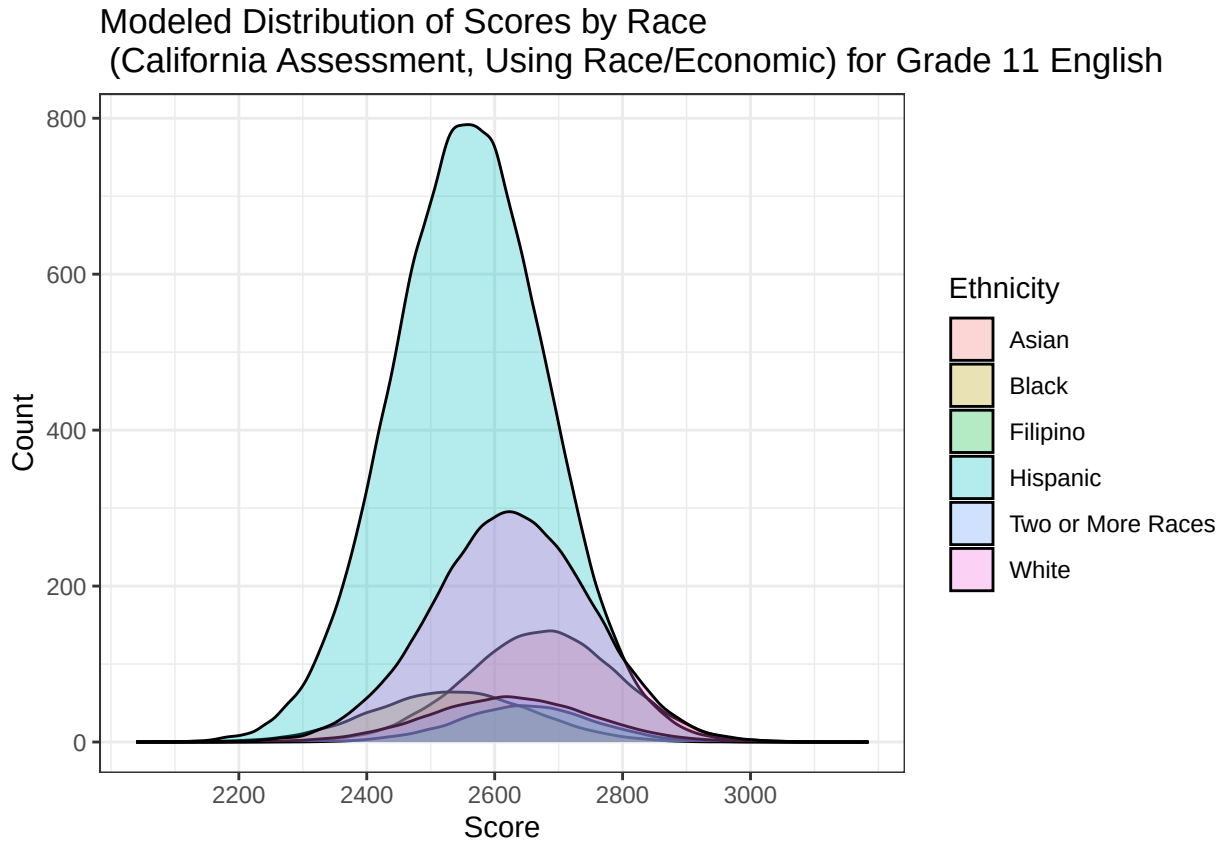
```
##
## [[5]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Economic) for Grade 7 English
Count
750
500
250
0
2200
2400
2600
2800
Score
Ethnicity
Asian
Black
Filipino
Hispanic
Two or More Races
White

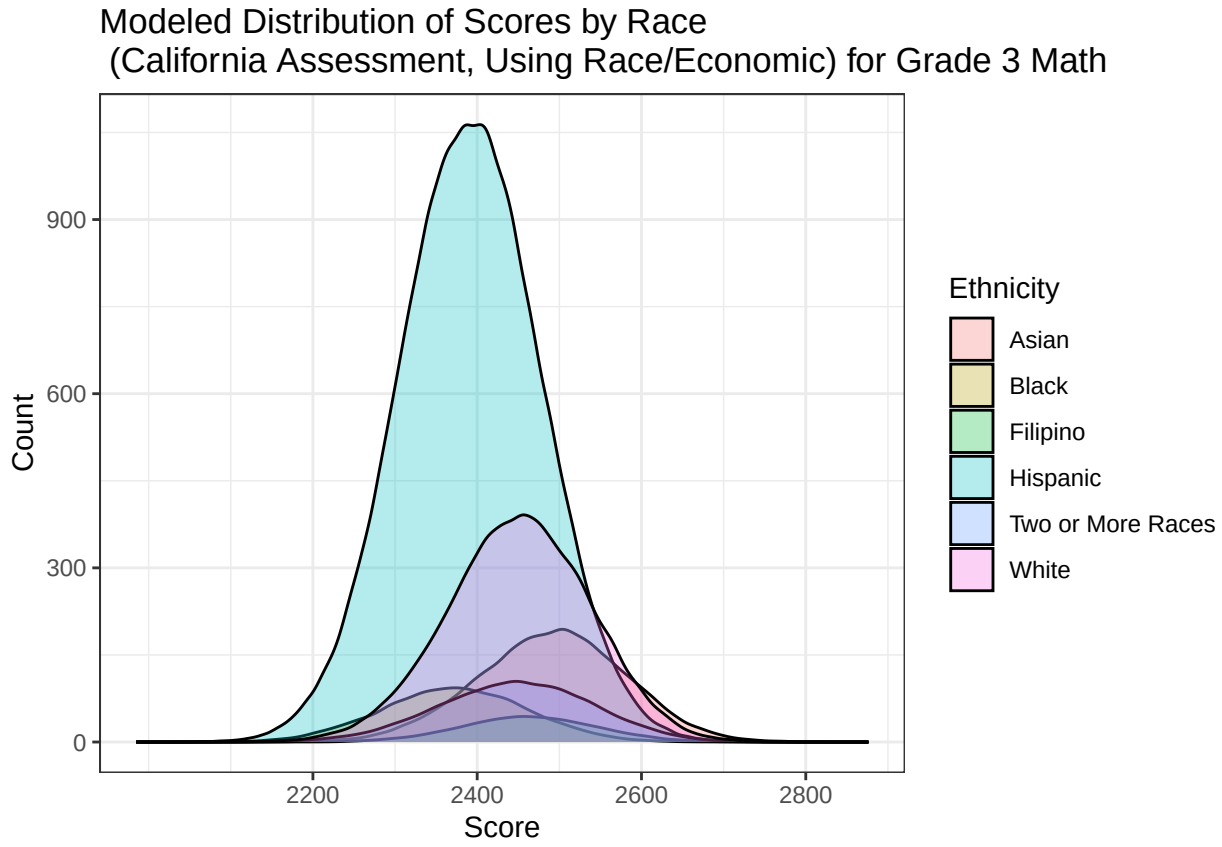
```
##
## [[6]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Economic) for Grade 8 English
Count
750
500
250
0
2200
2400
2600
2800
Score
Ethnicity
Asian
Black
Filipino
Hispanic
Two or More Races
White

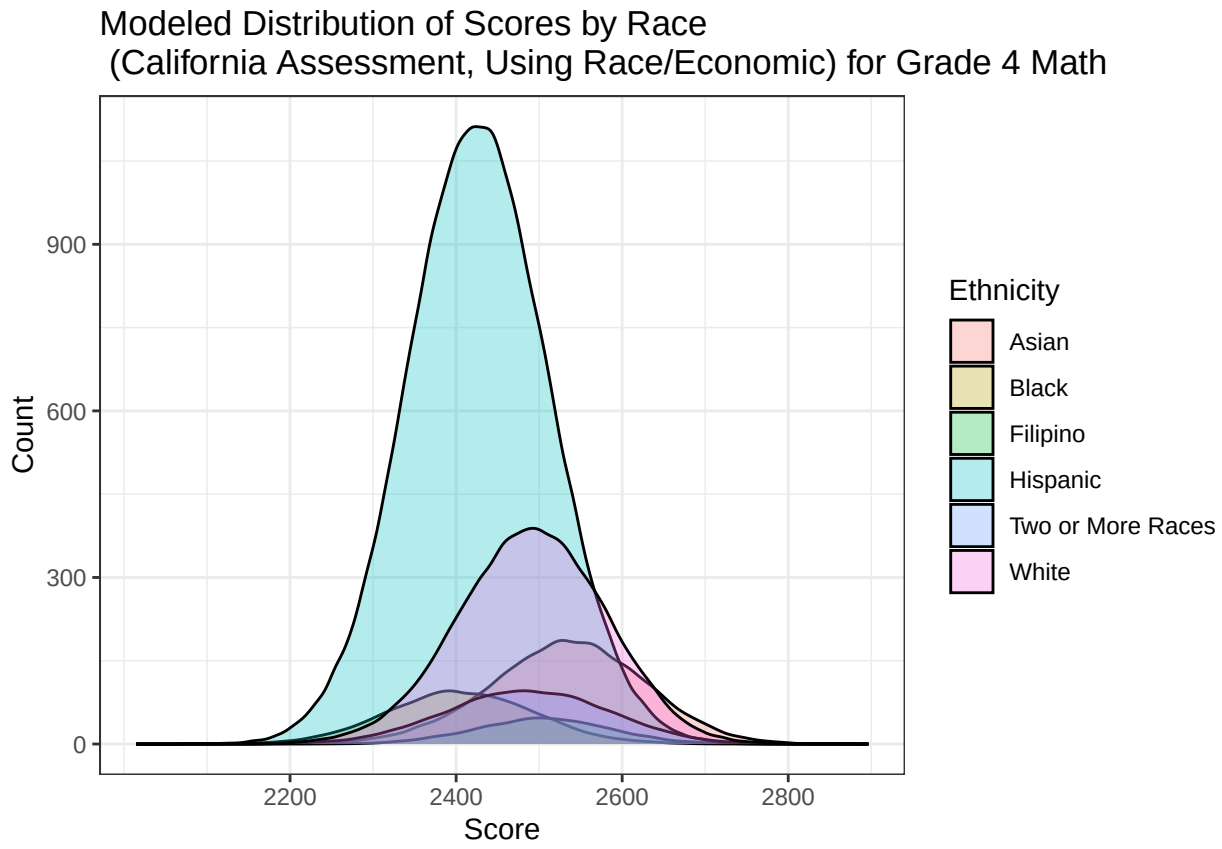
```
##
## [[7]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Economic) for Grade 11 English
Count
800
600
400
200
0
2200
2400
2600
2800
3000
Score
Ethnicity
Asian
Black
Filipino
Hispanic
Two or More Races
White

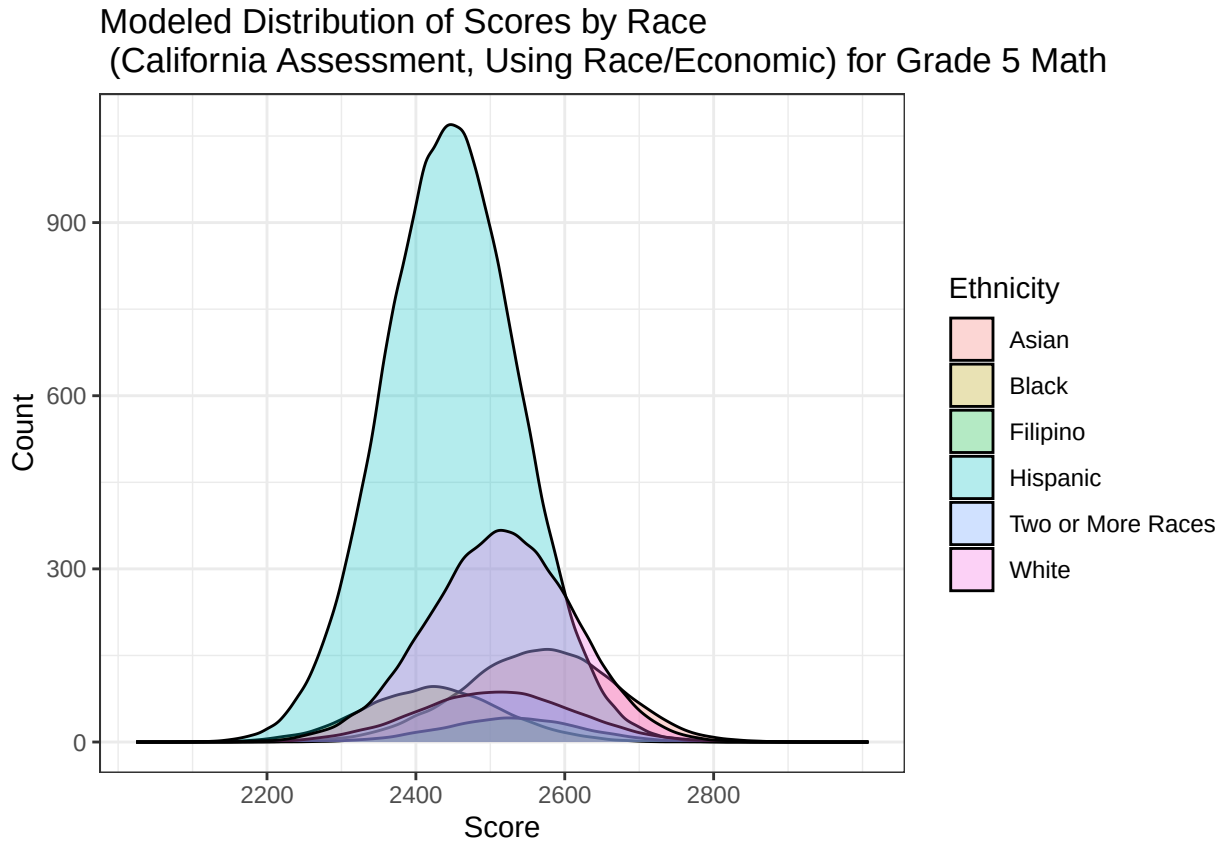
```
##
## [[8]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Economic) for Grade 3 Math
Count
900
600
300
0
2200
2400
2600
2800
Score
Ethnicity
Asian
Black
Filipino
Hispanic
Two or More Races
White

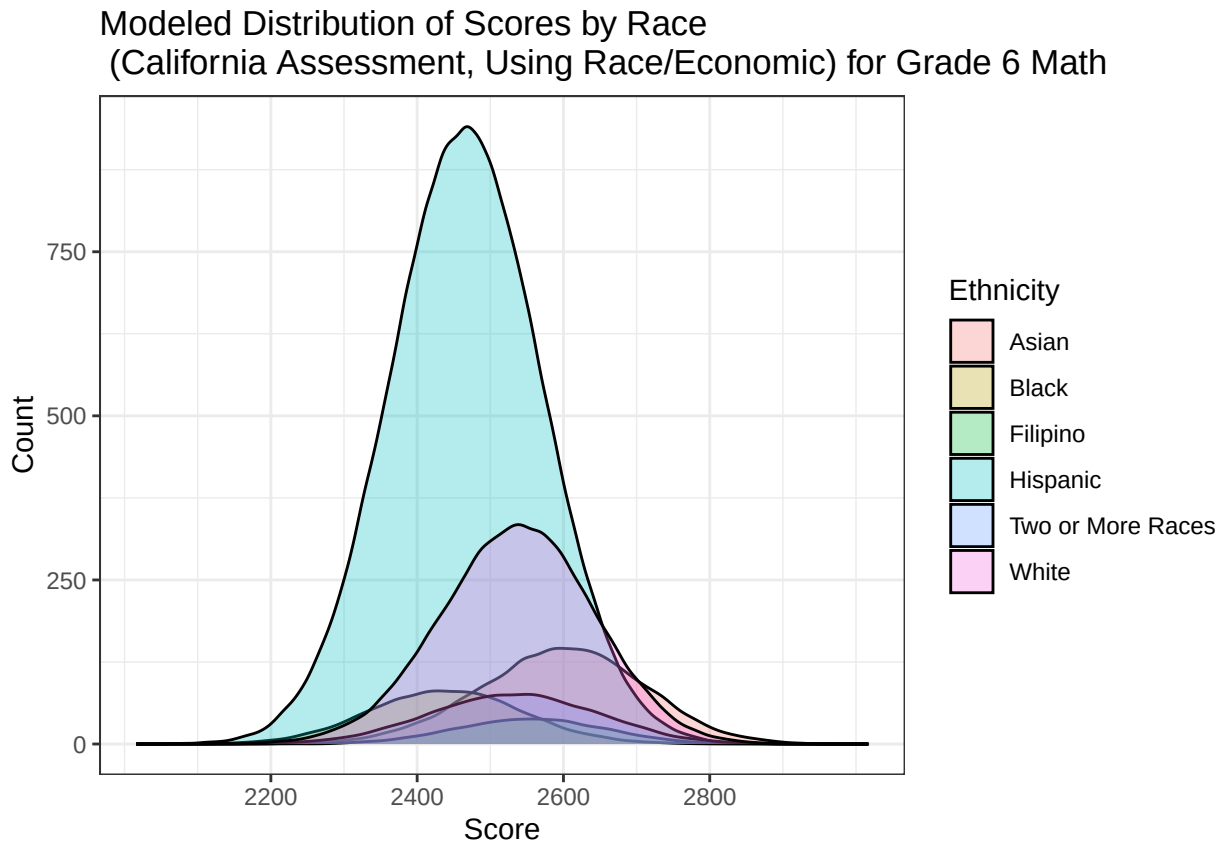
```
##
## [[9]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Economic) for Grade 4 Math
Count
900
600
300
0
2200
2400
2600
2800
Score
Ethnicity
Asian
Black
Filipino
Hispanic
Two or More Races
White

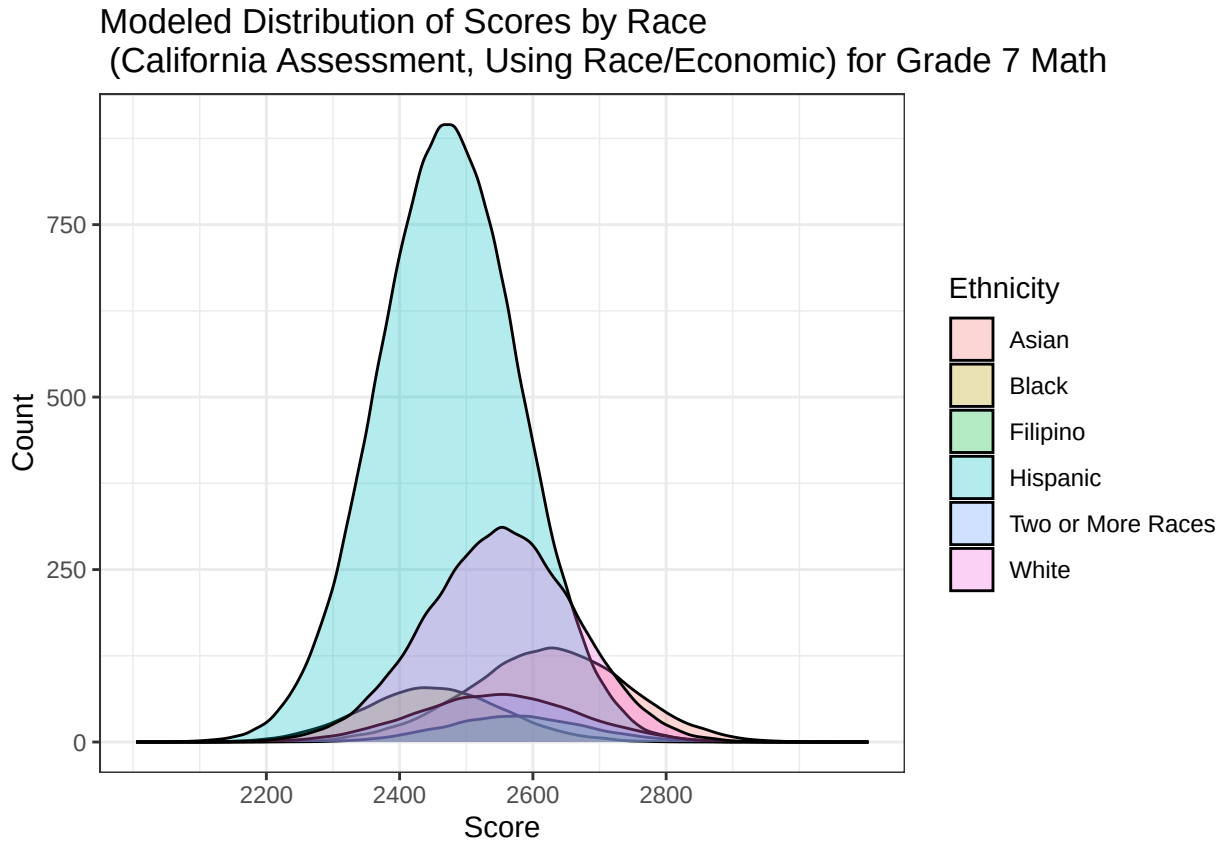
```
##
## [[10]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Economic) for Grade 5 Math
Count
900
600
300
0
2200
2400
2600
2800
Score
Ethnicity
Asian
Black
Filipino
Hispanic
Two or More Races
White

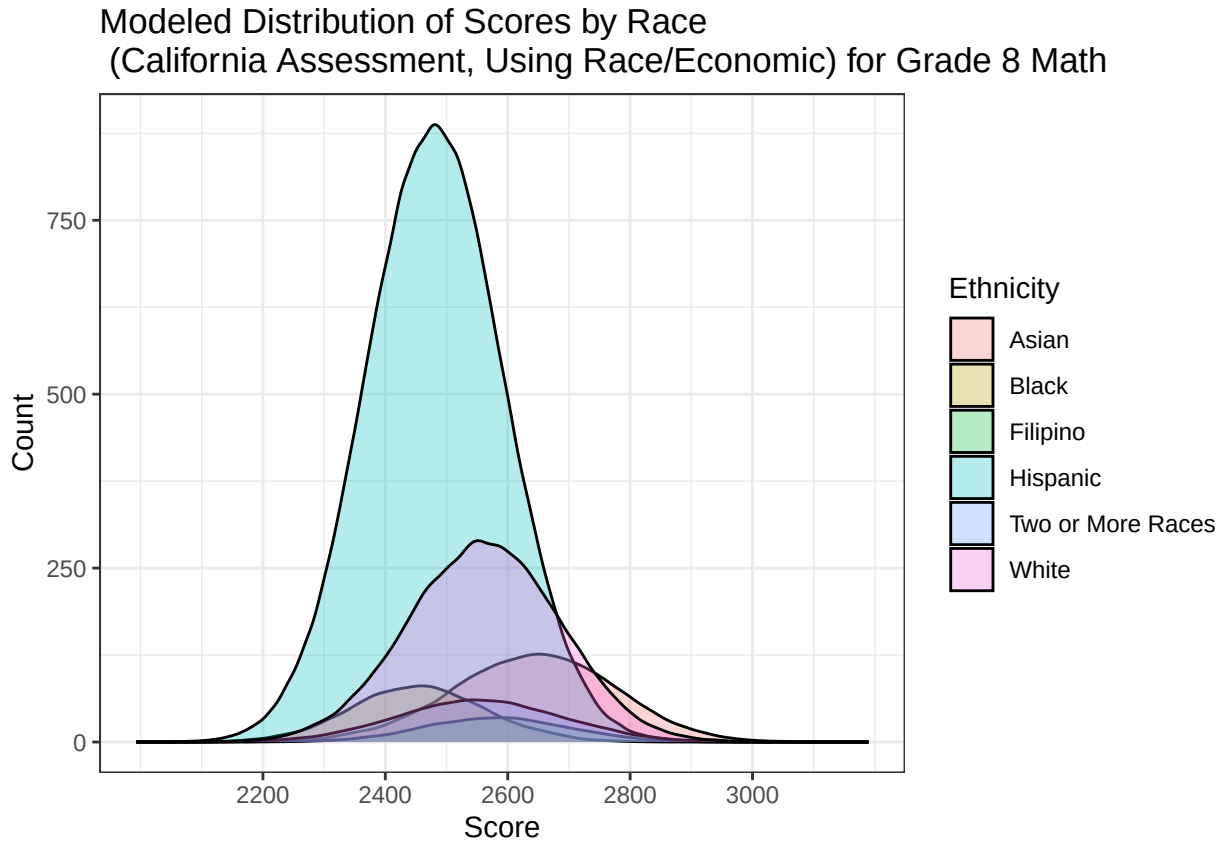
```
##
## [[11]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Economic) for Grade 6 Math
Count
750
500
250
0
2200
2400
2600
2800
Score
Ethnicity
Asian
Black
Filipino
Hispanic
Two or More Races
White

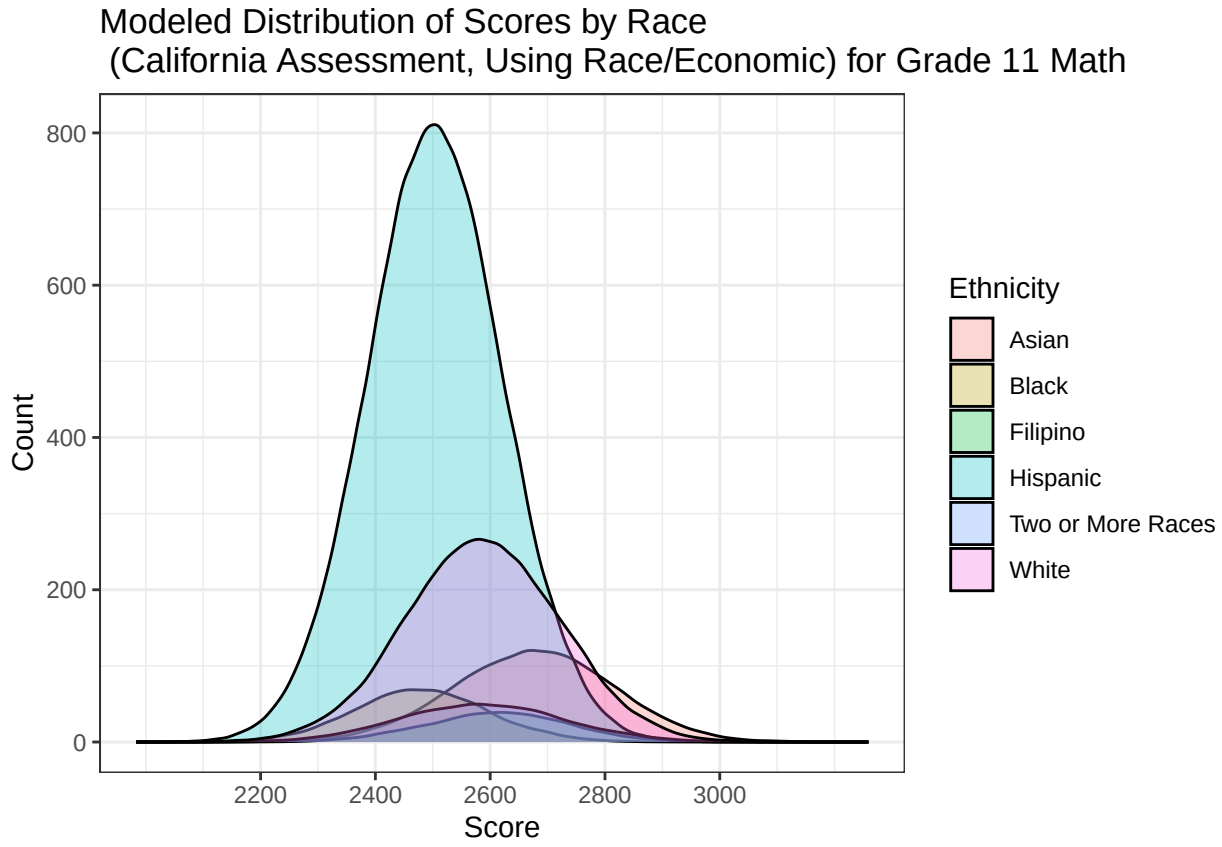
```
##
## [[12]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Economic) for Grade 7 Math
Count
750
500
250
0
2200
2400
2600
2800
Score
Ethnicity
Asian
Black
Filipino
Hispanic
Two or More Races
White

```
##
## [[13]]
```

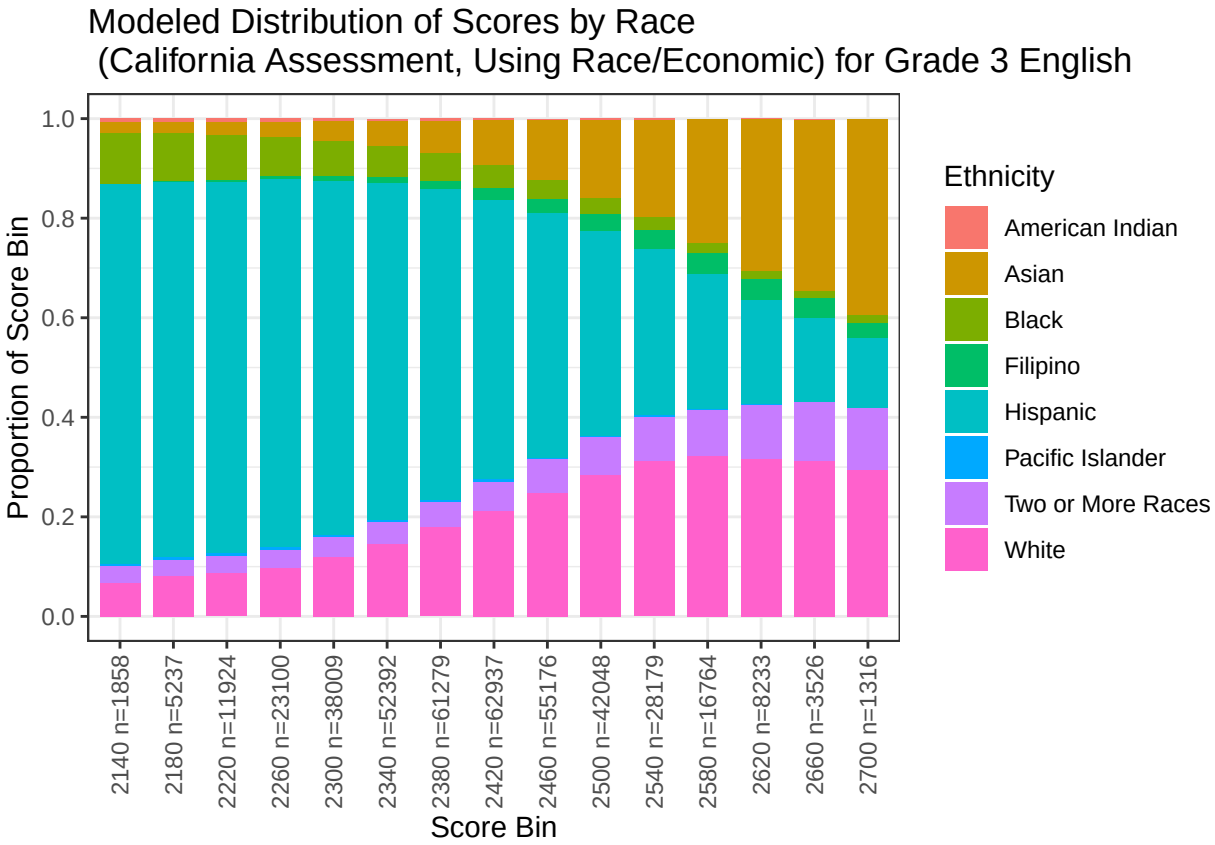

Modeled Distribution of Scores by Race
(California Assessment, Using Race/Economic) for Grade 8 Math
Count
750
500
250
0
2200
2400
2600
2800
3000
Score
Ethnicity
Asian
Black
Filipino
Hispanic
Two or More Races
White

```
##
## [[14]]
```

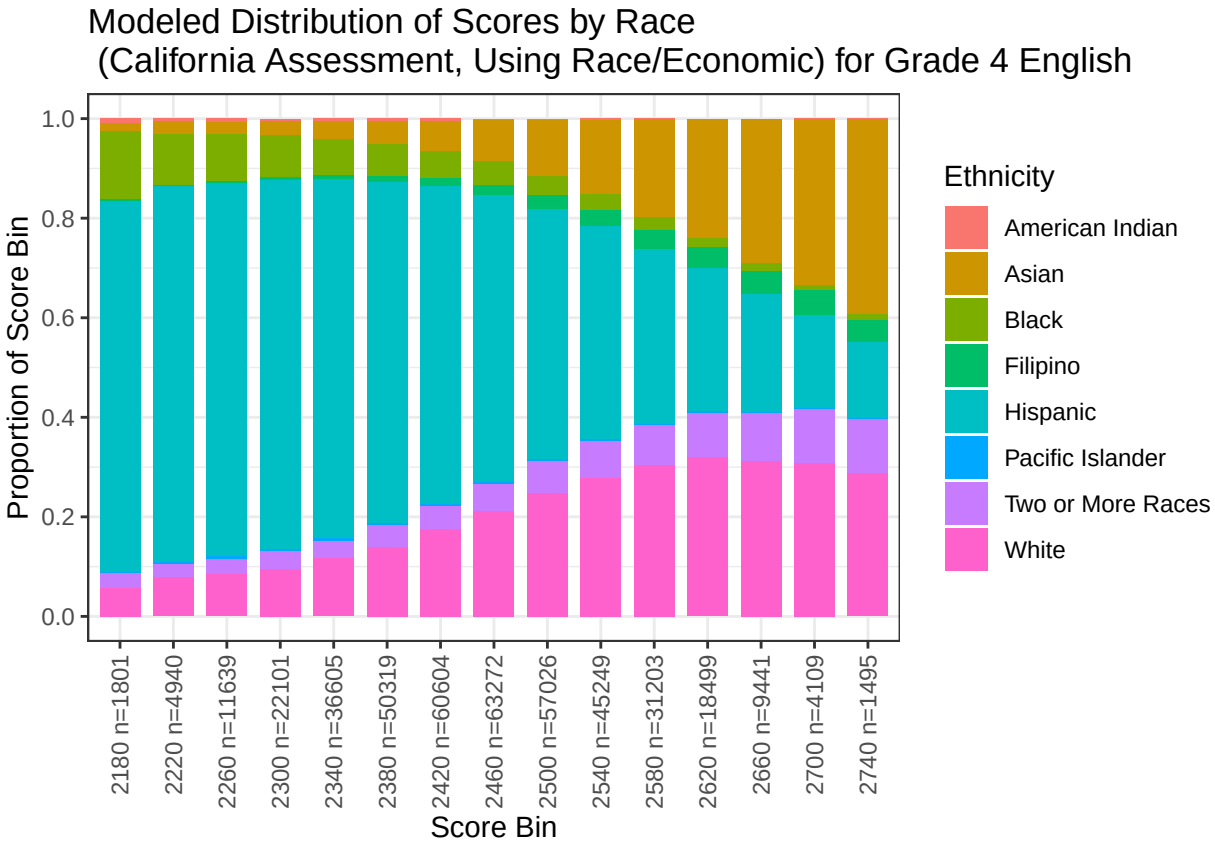



```
dist_data_status
```

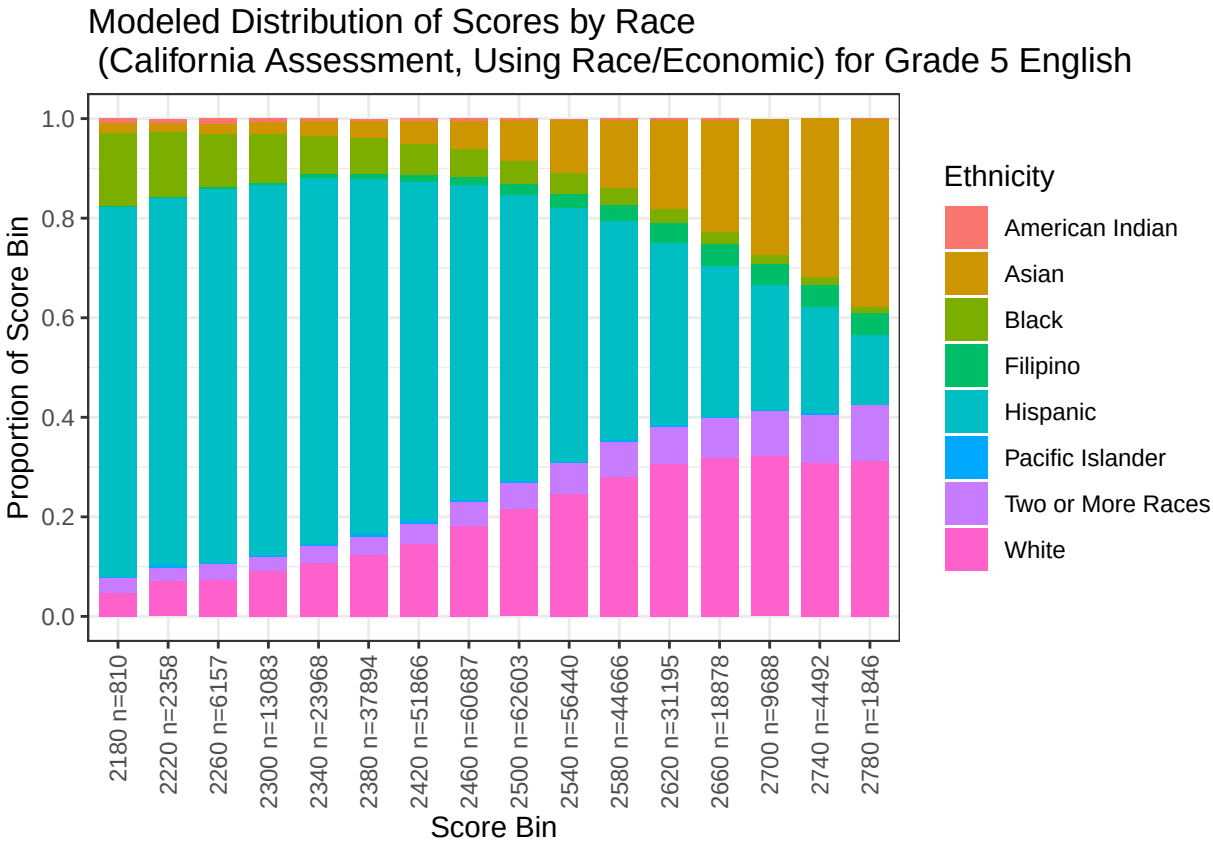
```
## [[1]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Economic) for Grade 3 English
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2140 n=1858
2180 n=5237
2220 n=11924
2260 n=23100
2300 n=38009
2340 n=52392
2380 n=61279
2420 n=62937
2460 n=55176
2500 n=42048
2540 n=28179
2580 n=16764
2620 n=8233
2660 n=3526
2700 n=1316
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

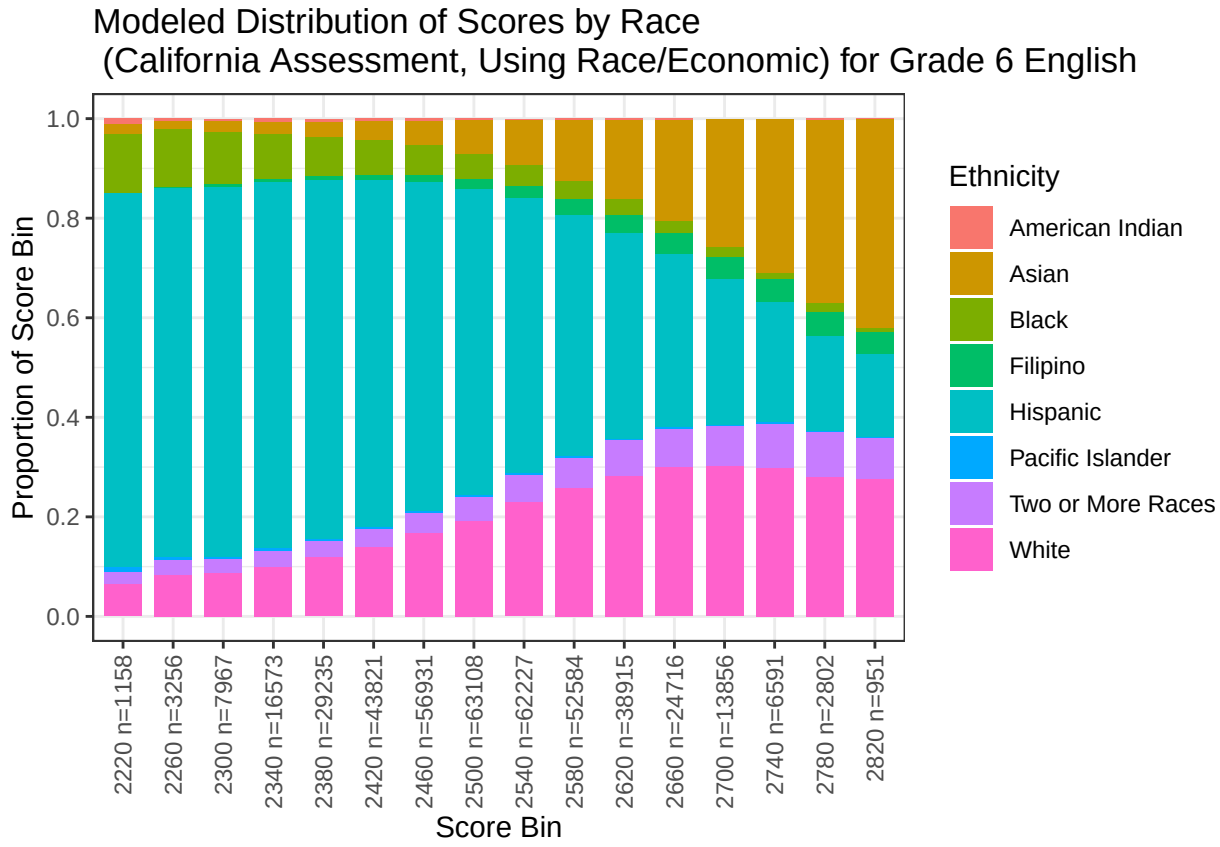
```
##
## [[2]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Economic) for Grade 4 English
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2180 n=1801
2220 n=4940
2260 n=11639
2300 n=22101
2340 n=36605
2380 n=50319
2420 n=60604
2460 n=63272
2500 n=57026
2540 n=45249
2580 n=31203
2620 n=18499
2660 n=9441
2700 n=4109
2740 n=1495
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

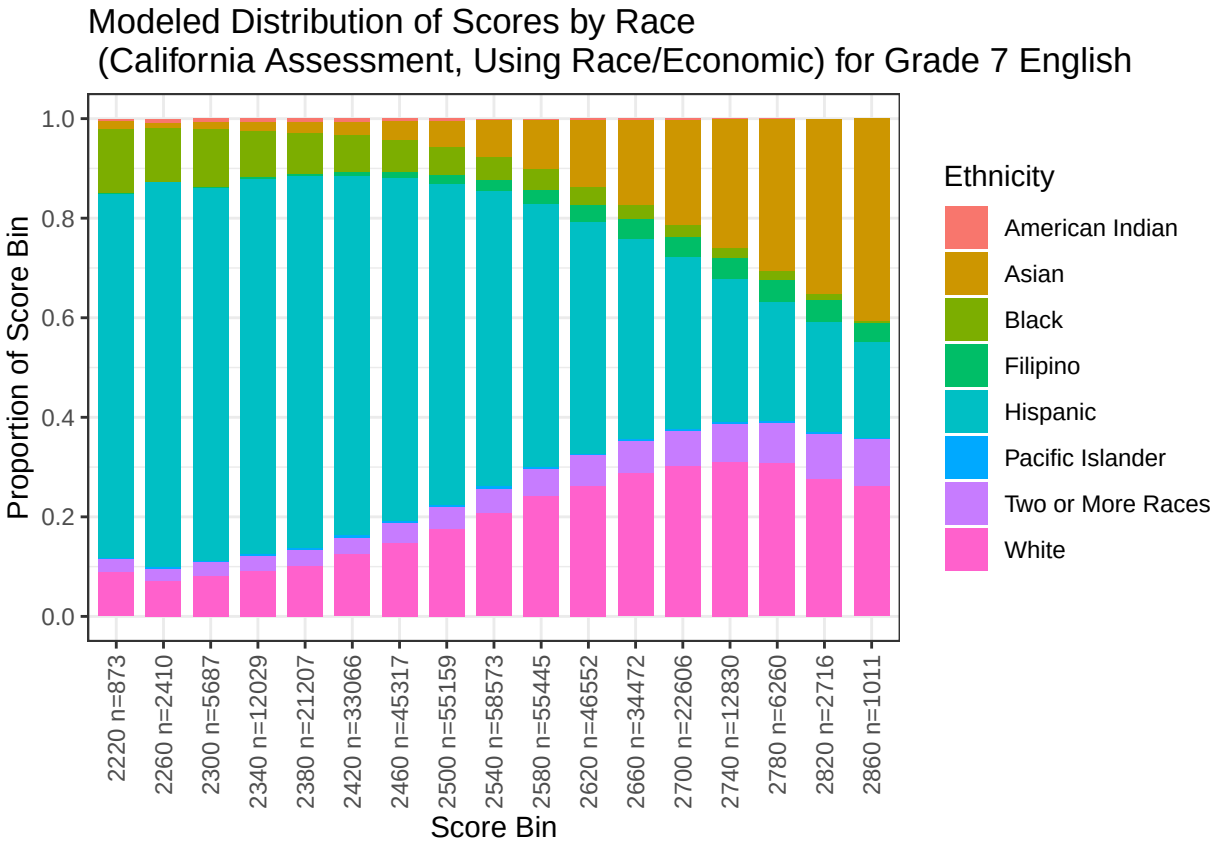
```
##
## [[3]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Economic) for Grade 5 English
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2180 n=810
2220 n=2358
2260 n=6157
2300 n=13083
2340 n=23968
2380 n=37894
2420 n=51866
2460 n=60687
2500 n=62603
2540 n=56440
2580 n=44666
2620 n=31195
2660 n=18878
2700 n=9688
2740 n=4492
2780 n=1846
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

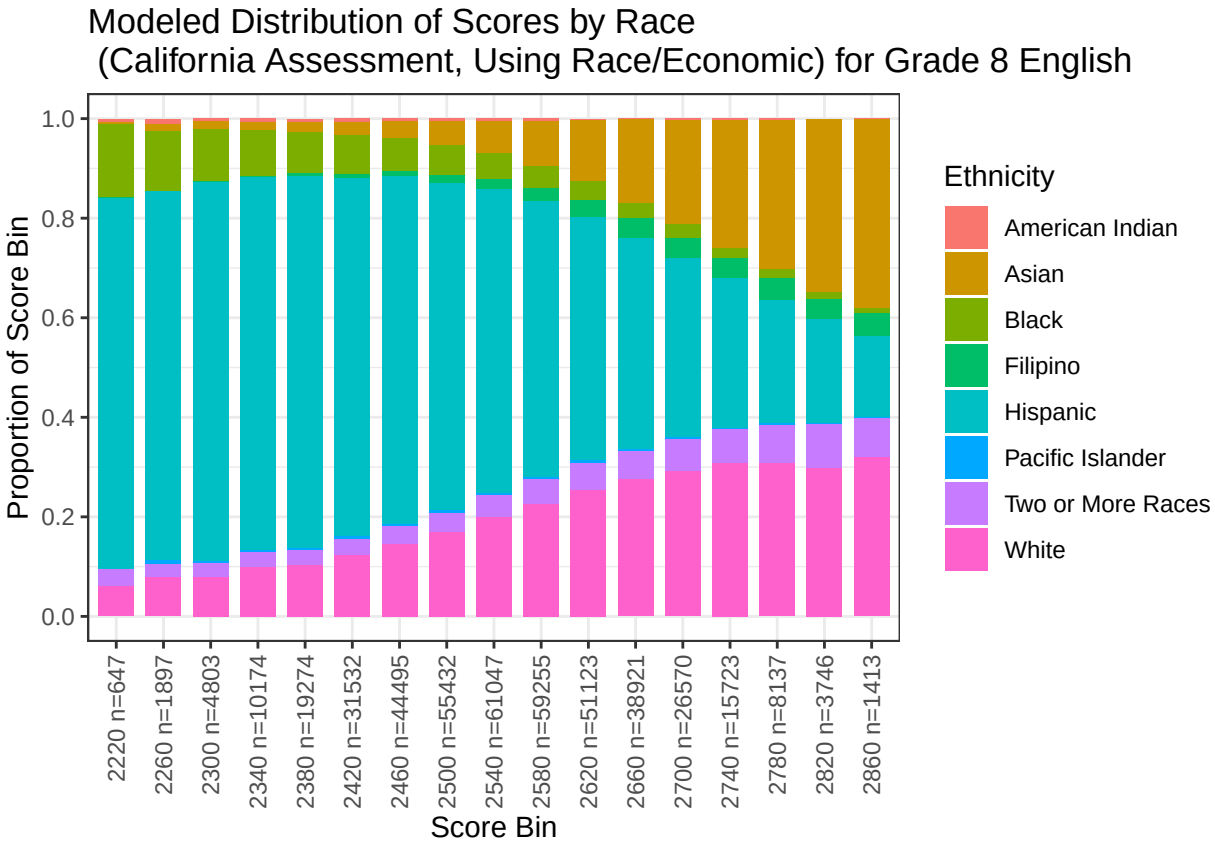
```
##
## [[4]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Economic) for Grade 6 English
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2220 n=1158
2260 n=3256
2300 n=7967
2340 n=16573
2380 n=29235
2420 n=43821
2460 n=56931
2500 n=63108
2540 n=62227
2580 n=52584
2620 n=38915
2660 n=24716
2700 n=13856
2740 n=6591
2780 n=2802
2820 n=951
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

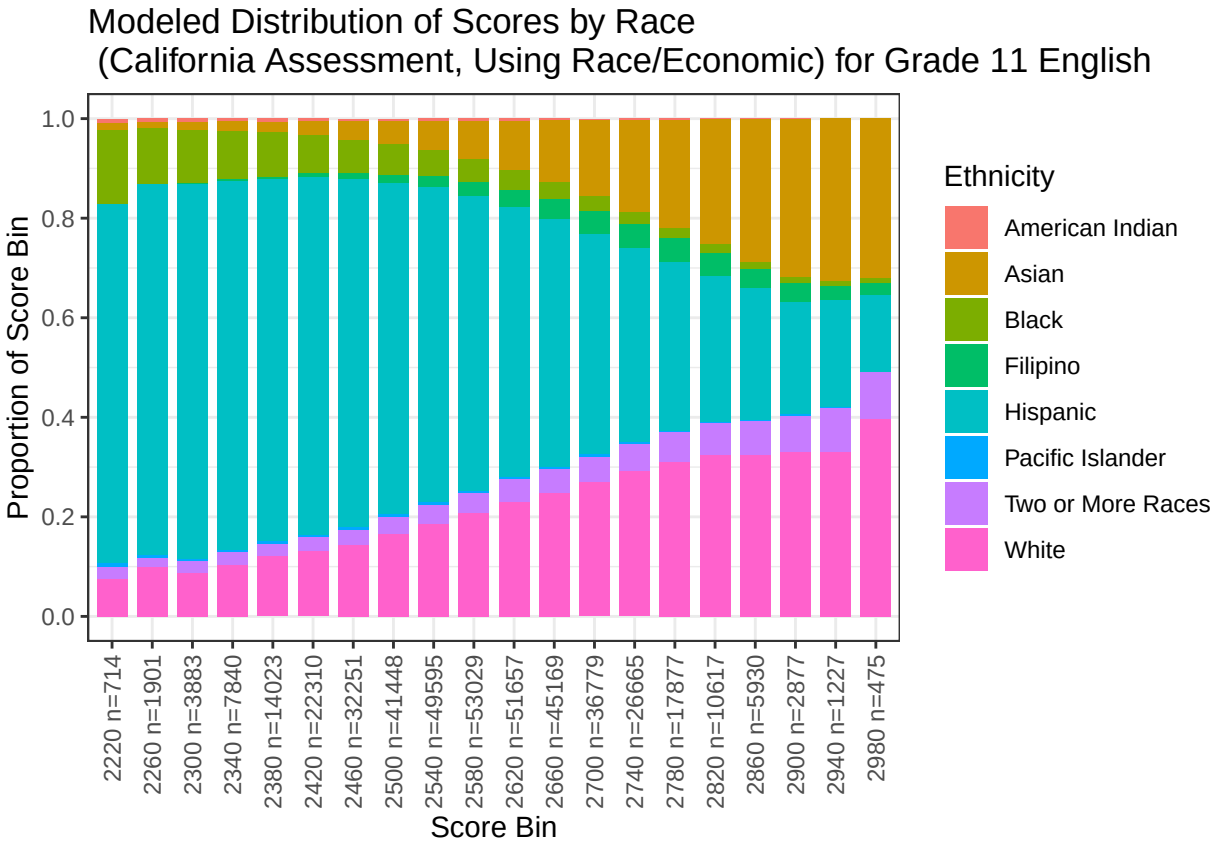
```
##
## [[5]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Economic) for Grade 7 English
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2220 n=873
2260 n=2410
2300 n=5687
2340 n=12029
2380 n=21207
2420 n=33066
2460 n=45317
2500 n=55159
2540 n=58573
2580 n=55445
2620 n=46552
2660 n=34472
2700 n=22606
2740 n=12830
2780 n=6260
2820 n=2716
2860 n=1011
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

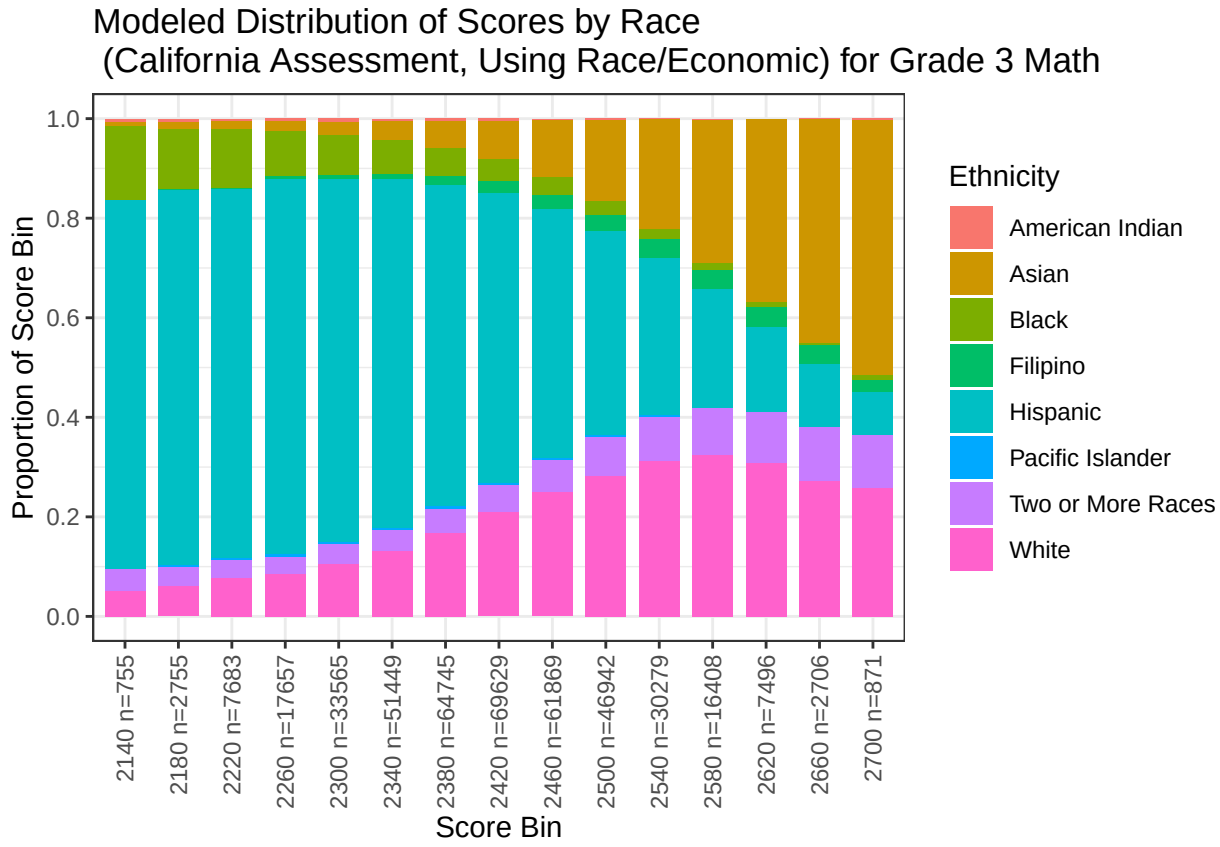
```
##
## [[6]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Economic) for Grade 8 English
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2220 n=647
2260 n=1897
2300 n=4803
2340 n=10174
2380 n=19274
2420 n=31532
2460 n=44495
2500 n=55432
2540 n=61047
2580 n=59255
2620 n=51123
2660 n=38921
2700 n=26570
2740 n=15723
2780 n=8137
2820 n=3746
2860 n=1413
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

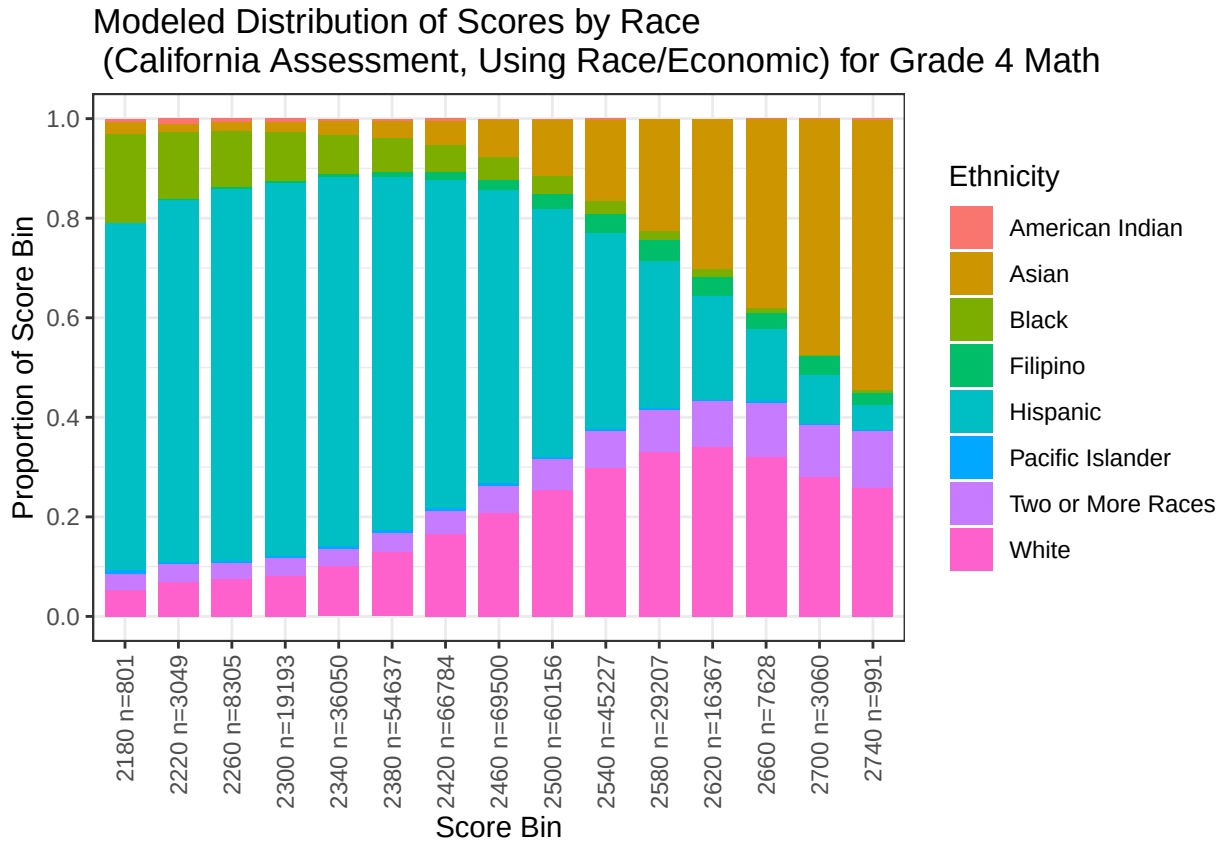
```
##
## [[7]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Economic) for Grade 11 English
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2220 n=714
2260 n=1901
2300 n=3883
2340 n=7840
2380 n=14023
2420 n=22310
2460 n=32251
2500 n=41448
2540 n=49595
2580 n=53029
2620 n=51657
2660 n=45169
2700 n=36779
2740 n=26665
2780 n=17877
2820 n=10617
2860 n=5930
2900 n=2877
2940 n=1227
2980 n=475
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

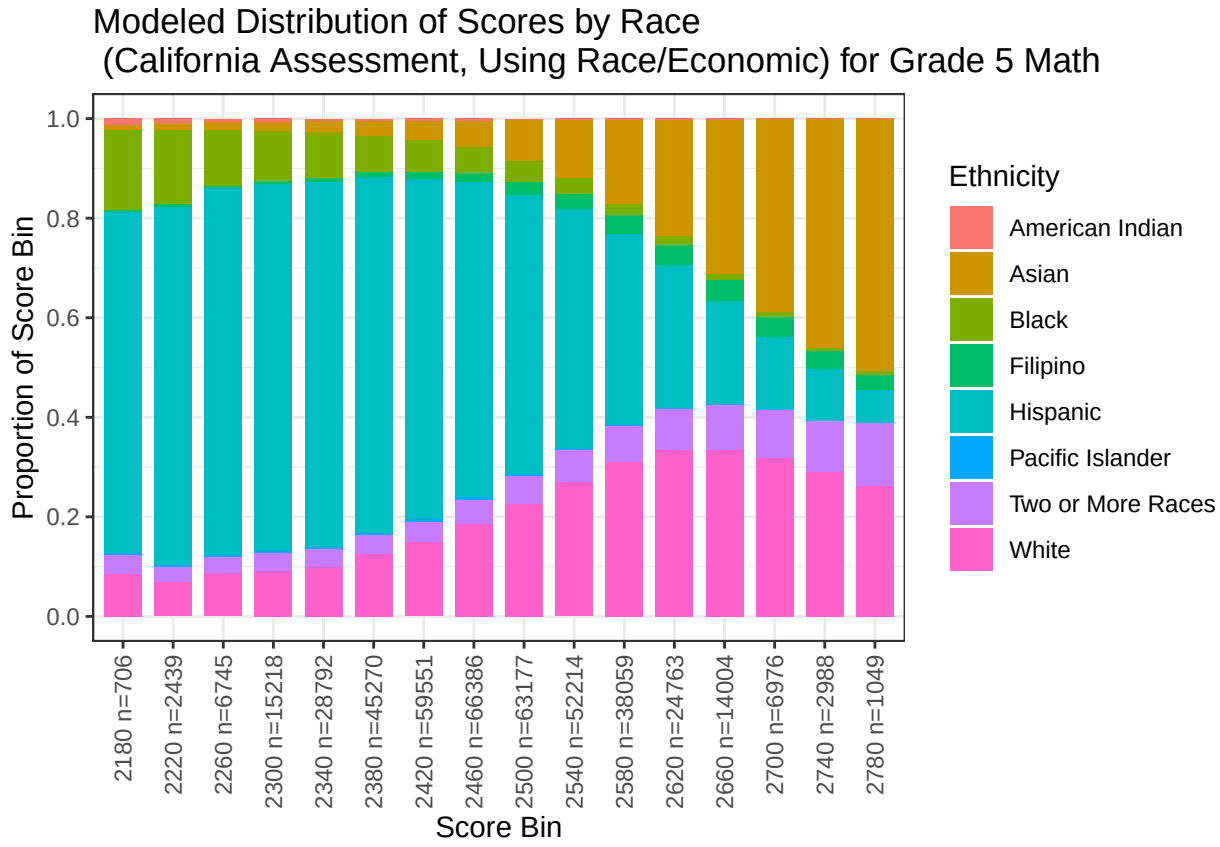
```
##
## [[8]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Economic) for Grade 3 Math
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2140 n=755
2180 n=2755
2220 n=7683
2260 n=17657
2300 n=33565
2340 n=51449
2380 n=64745
2420 n=69629
2460 n=61869
2500 n=46942
2540 n=30279
2580 n=16408
2620 n=7496
2660 n=2706
2700 n=871
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

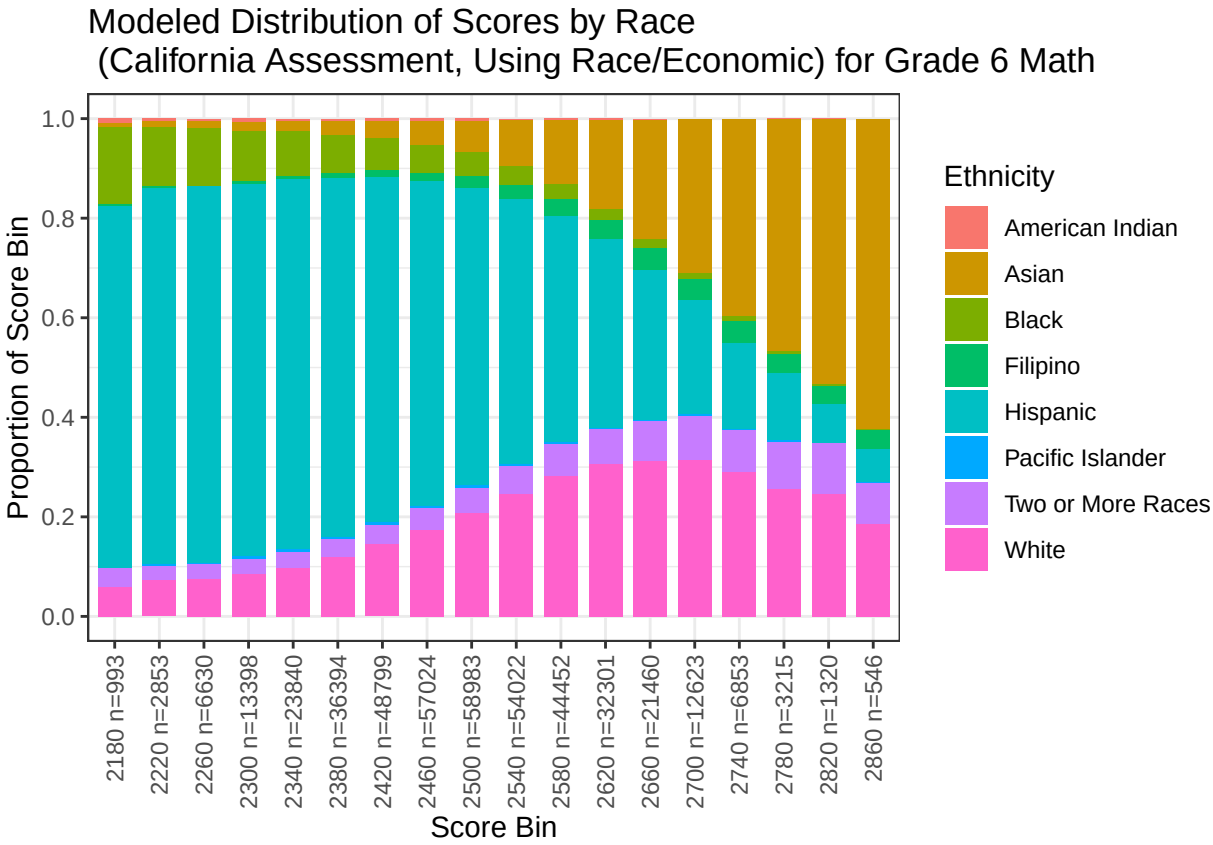
```
##
## [[9]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Economic) for Grade 4 Math
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2180 n=801
2220 n=3049
2260 n=8305
2300 n=19193
2340 n=36050
2380 n=54637
2420 n=66784
2460 n=69500
2500 n=60156
2540 n=45227
2580 n=29207
2620 n=16367
2660 n=7628
2700 n=3060
2740 n=991
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

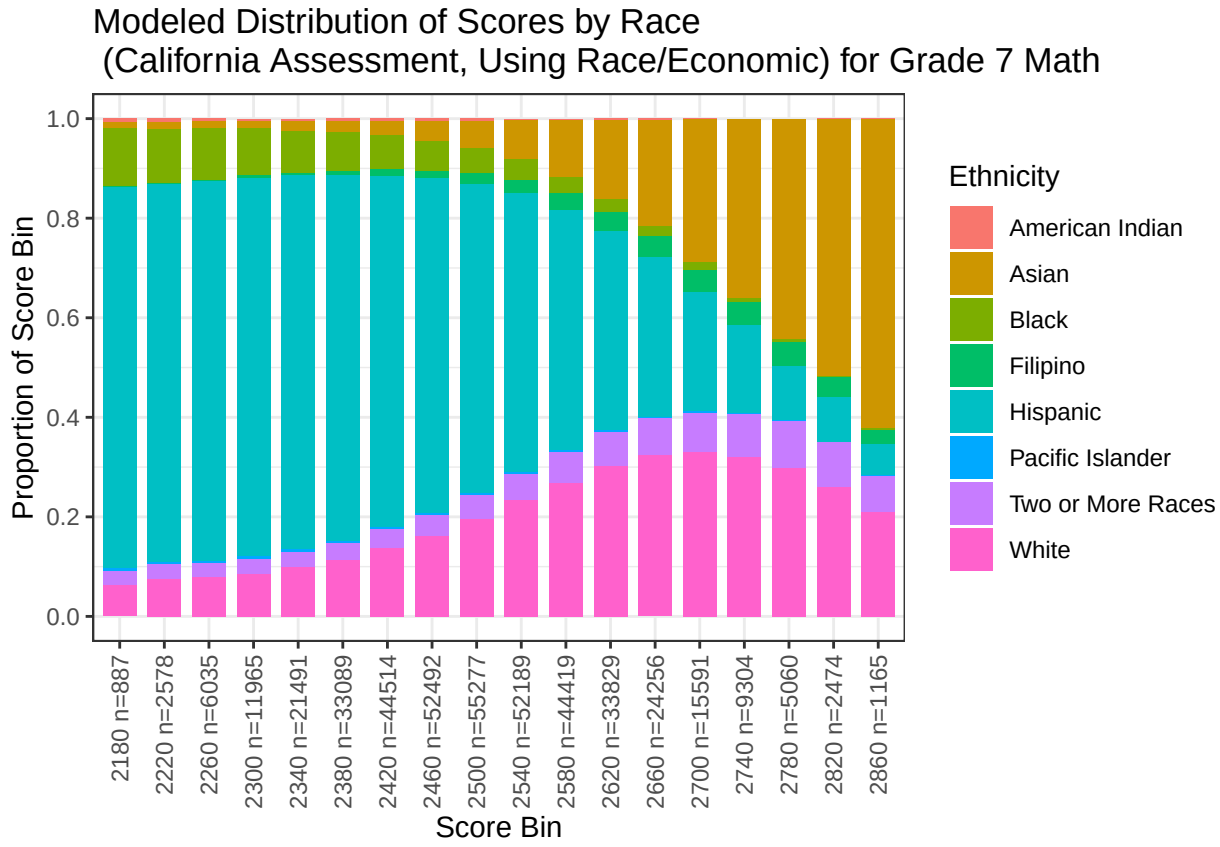
```
##
## [[10]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Economic) for Grade 5 Math
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2180 n=706
2220 n=2439
2260 n=6745
2300 n=15218
2340 n=28792
2380 n=45270
2420 n=59551
2460 n=66386
2500 n=63177
2540 n=52214
2580 n=38059
2620 n=24763
2660 n=14004
2700 n=6976
2740 n=2988
2780 n=1049
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

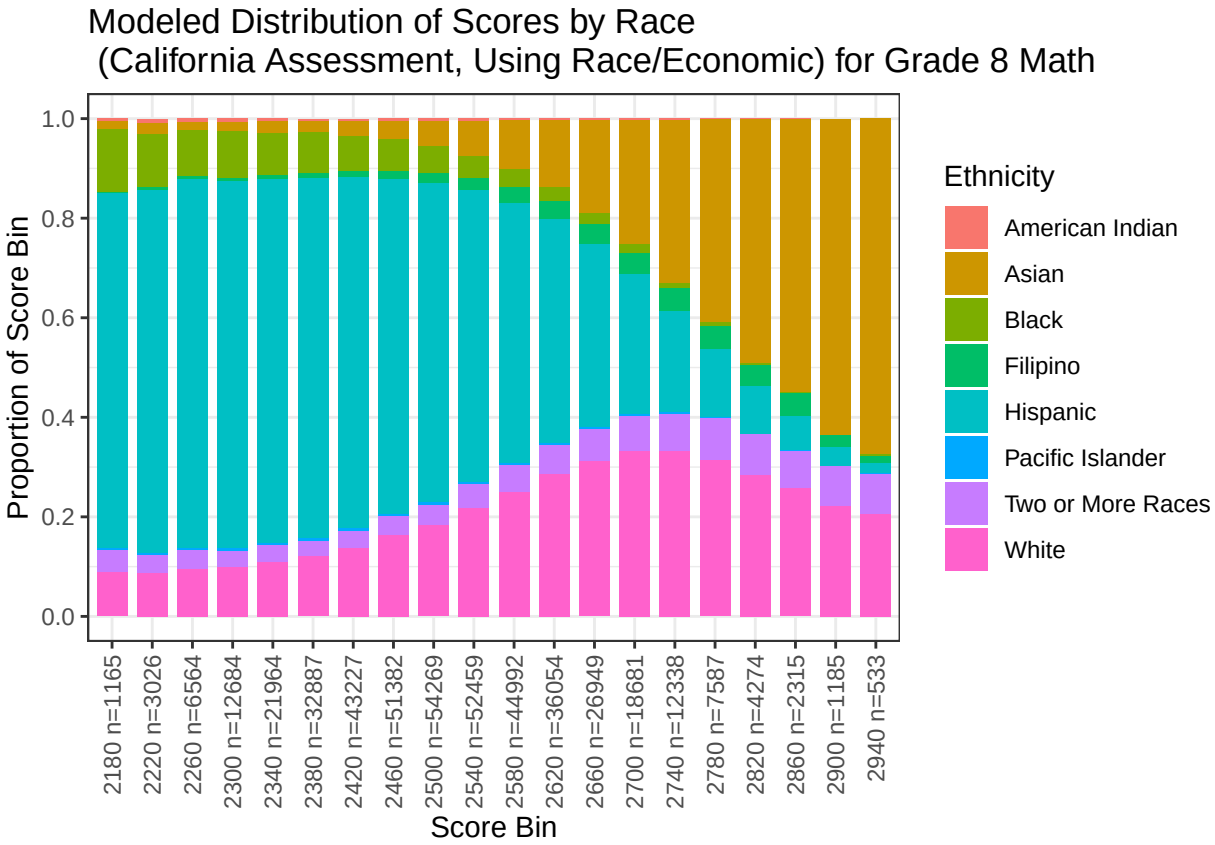
```
##
## [[11]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Economic) for Grade 6 Math
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2180 n=993
2220 n=2853
2260 n=6630
2300 n=13398
2340 n=23840
2380 n=36394
2420 n=48799
2460 n=57024
2500 n=58983
2540 n=54022
2580 n=44452
2620 n=32301
2660 n=21460
2700 n=12623
2740 n=6853
2780 n=3215
2820 n=1320
2860 n=546
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

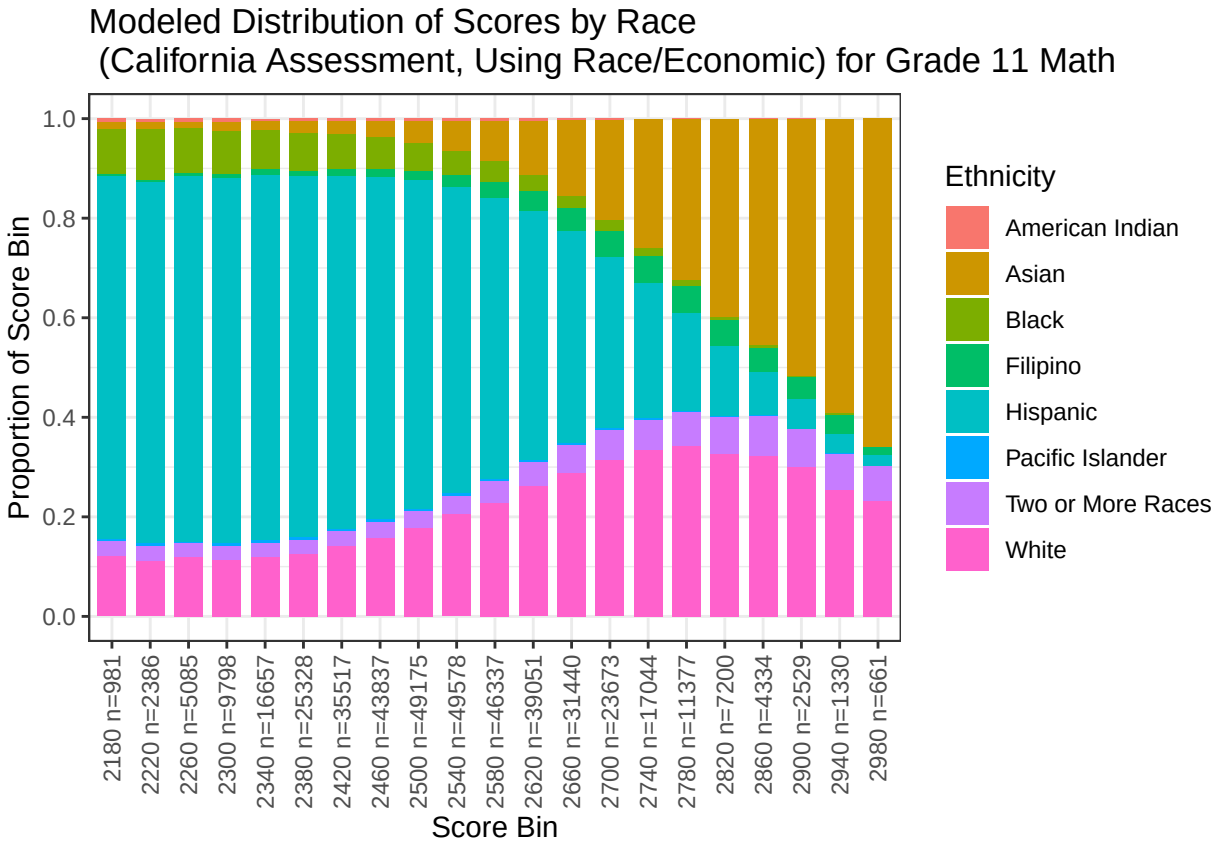
```
##
## [[12]]
```


Modeled Distribution of Scores by Race
(California Assessment, Using Race/Economic) for Grade 7 Math
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2180 n=887
2220 n=2578
2260 n=6035
2300 n=11965
2340 n=21491
2380 n=33089
2420 n=44514
2460 n=52492
2500 n=55277
2540 n=52189
2580 n=44419
2620 n=33829
2660 n=24256
2700 n=15591
2740 n=9304
2780 n=5060
2820 n=2474
2860 n=1165
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

```
##
## [[13]]
```

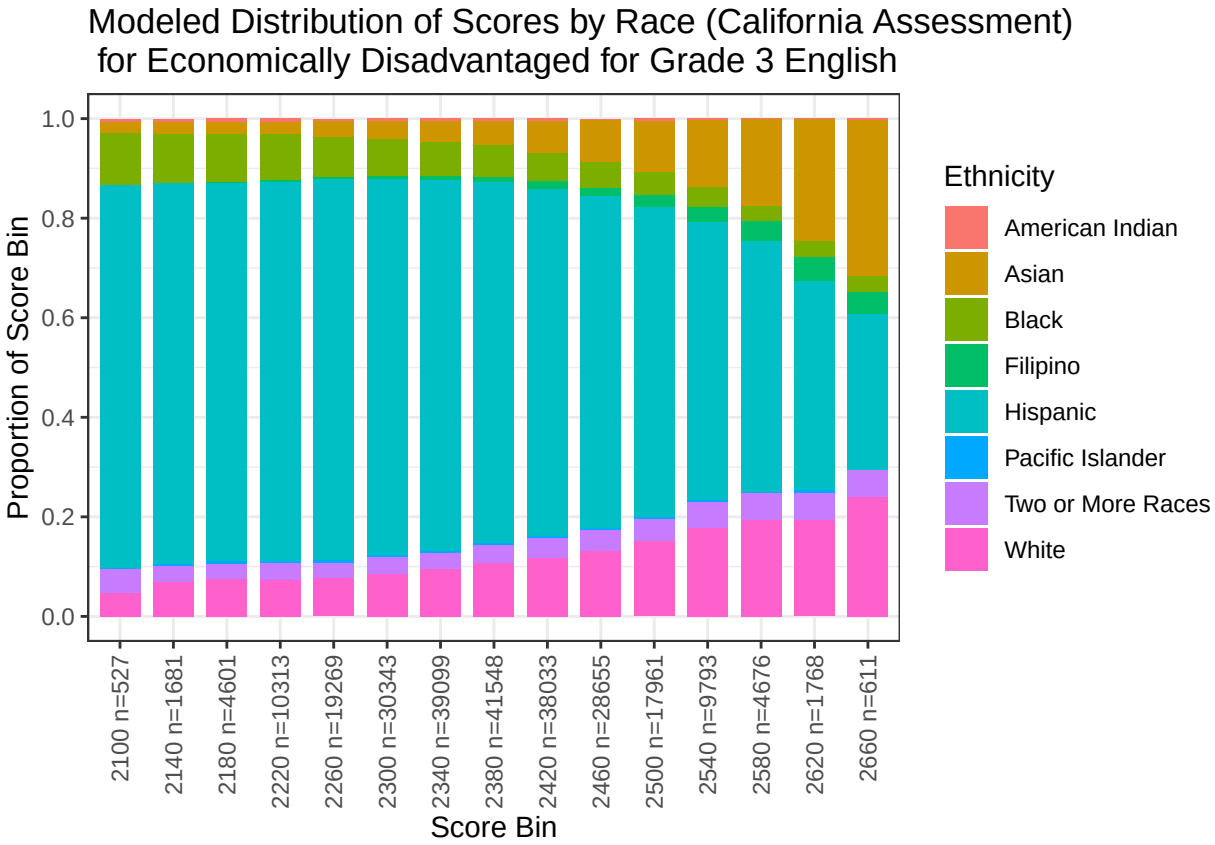

Modeled Distribution of Scores by Race
(California Assessment, Using Race/Economic) for Grade 8 Math
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2180 n=1165
2220 n=3026
2260 n=6564
2300 n=12684
2340 n=21964
2380 n=32887
2420 n=43227
2460 n=51382
2500 n=54269
2540 n=52459
2580 n=44992
2620 n=36054
2660 n=26949
2700 n=18681
2740 n=12338
2780 n=7587
2820 n=4274
2860 n=2315
2900 n=1185
2940 n=533
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

```
##
## [[14]]
```

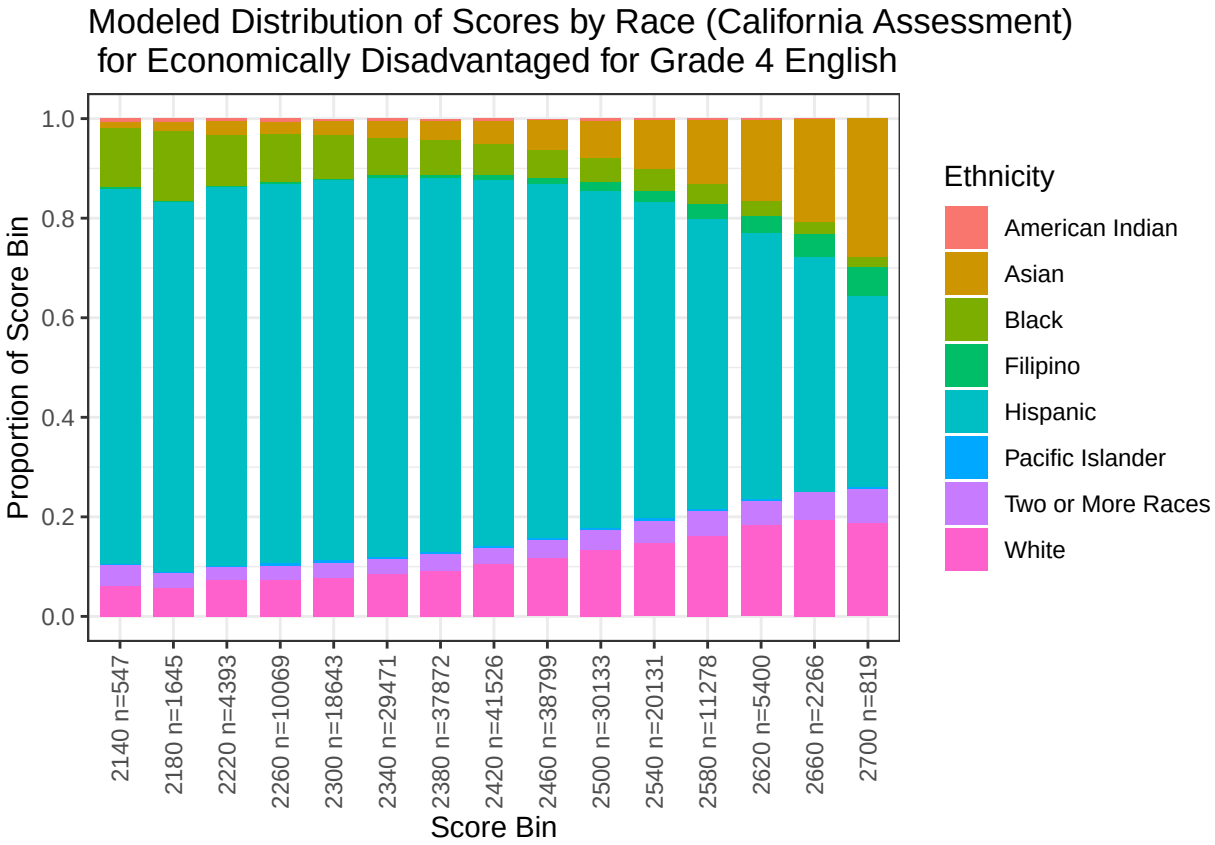



```
dist_data_POOR_status
```

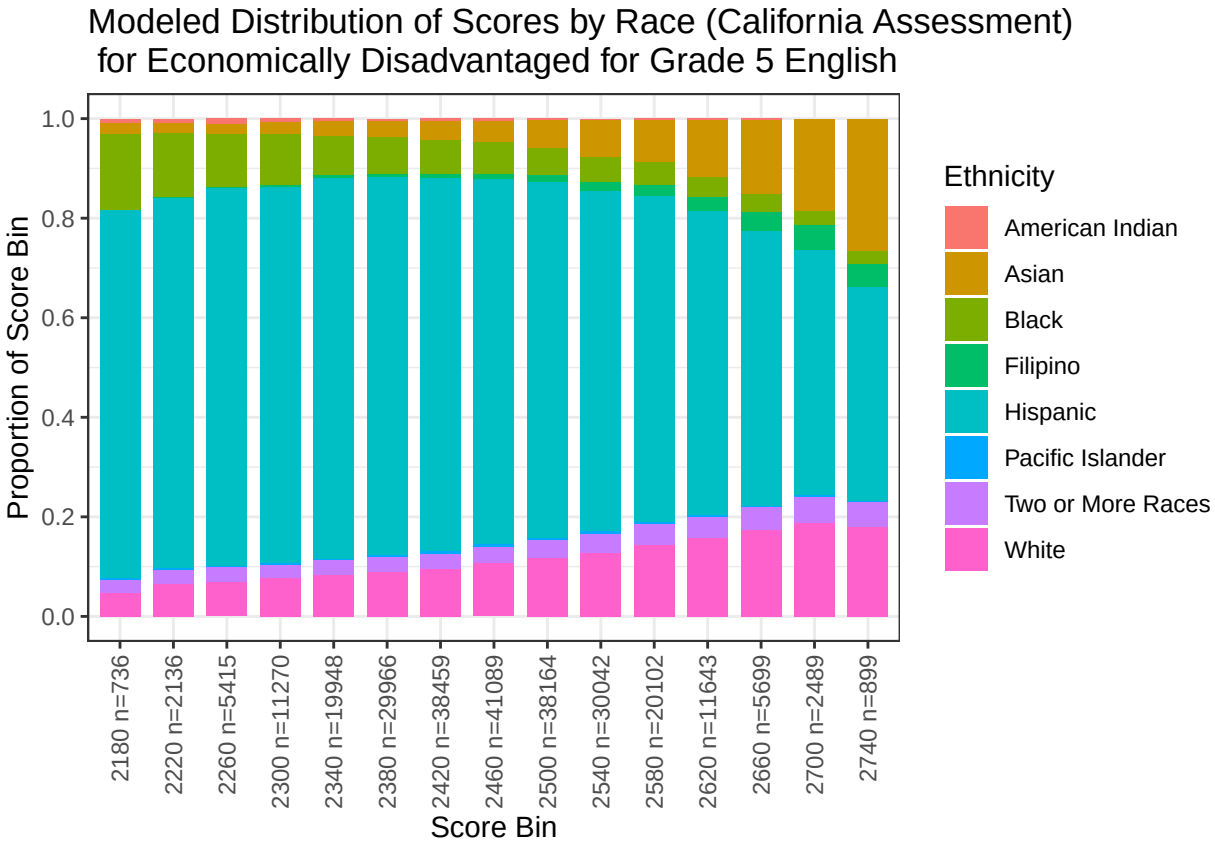
```
## [[1]]
```


Modeled Distribution of Scores by Race (California Assessment)
for Economically Disadvantaged for Grade 3 English
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2100 n=527
2140 n=1681
2180 n=4601
2220 n=10313
2260 n=19269
2300 n=30343
2340 n=39099
2380 n=41548
2420 n=38033
2460 n=28655
2500 n=17961
2540 n=9793
2580 n=4676
2620 n=1768
2660 n=611
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

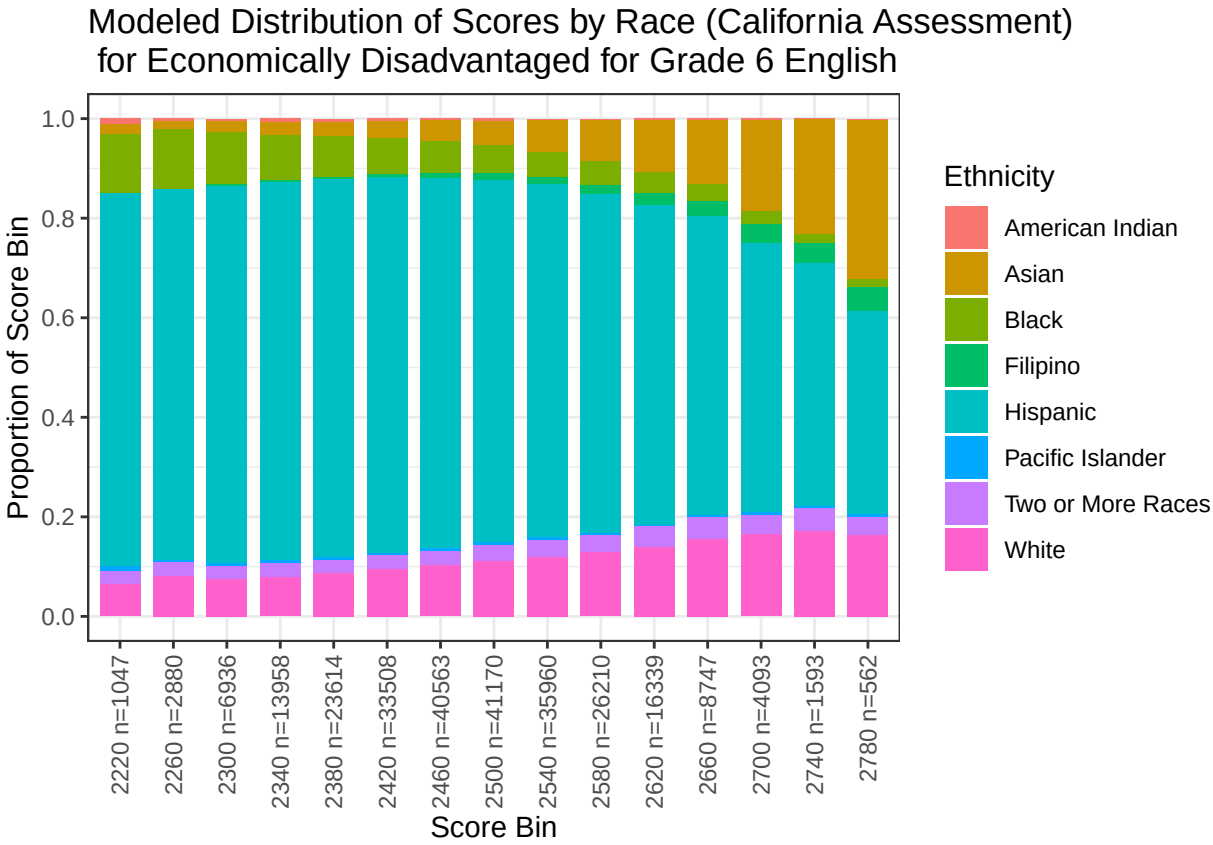
```
##
## [[2]]
```


Modeled Distribution of Scores by Race (California Assessment)
for Economically Disadvantaged for Grade 4 English
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2140 n=547
2180 n=1645
2220 n=4393
2260 n=10069
2300 n=18643
2340 n=29471
2380 n=37872
2420 n=41526
2460 n=38799
2500 n=30133
2540 n=20131
2580 n=11278
2620 n=5400
2660 n=2266
2700 n=819
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

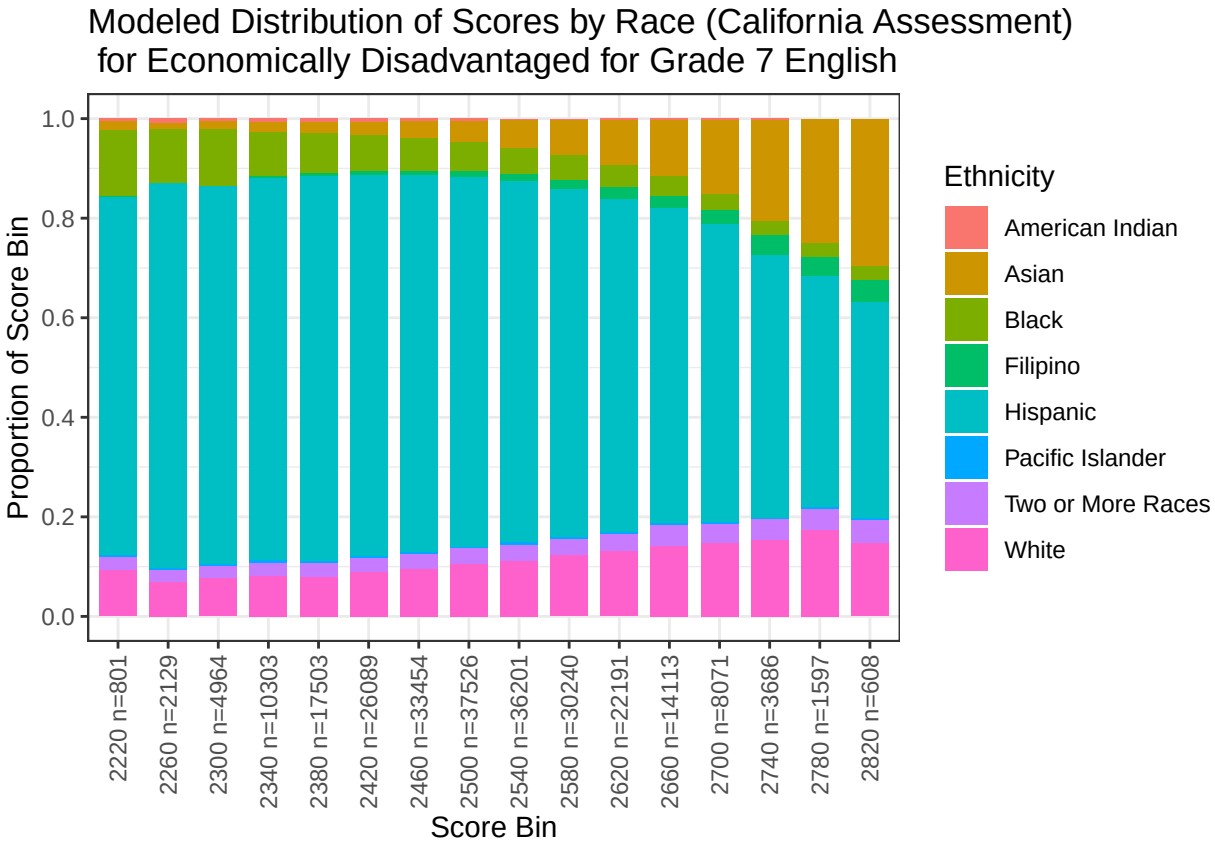
```
##
## [[3]]
```


Modeled Distribution of Scores by Race (California Assessment)
for Economically Disadvantaged for Grade 5 English
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2180 n=736
2220 n=2136
2260 n=5415
2300 n=11270
2340 n=19948
2380 n=29966
2420 n=38459
2460 n=41089
2500 n=38164
2540 n=30042
2580 n=20102
2620 n=11643
2660 n=5699
2700 n=2489
2740 n=899
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

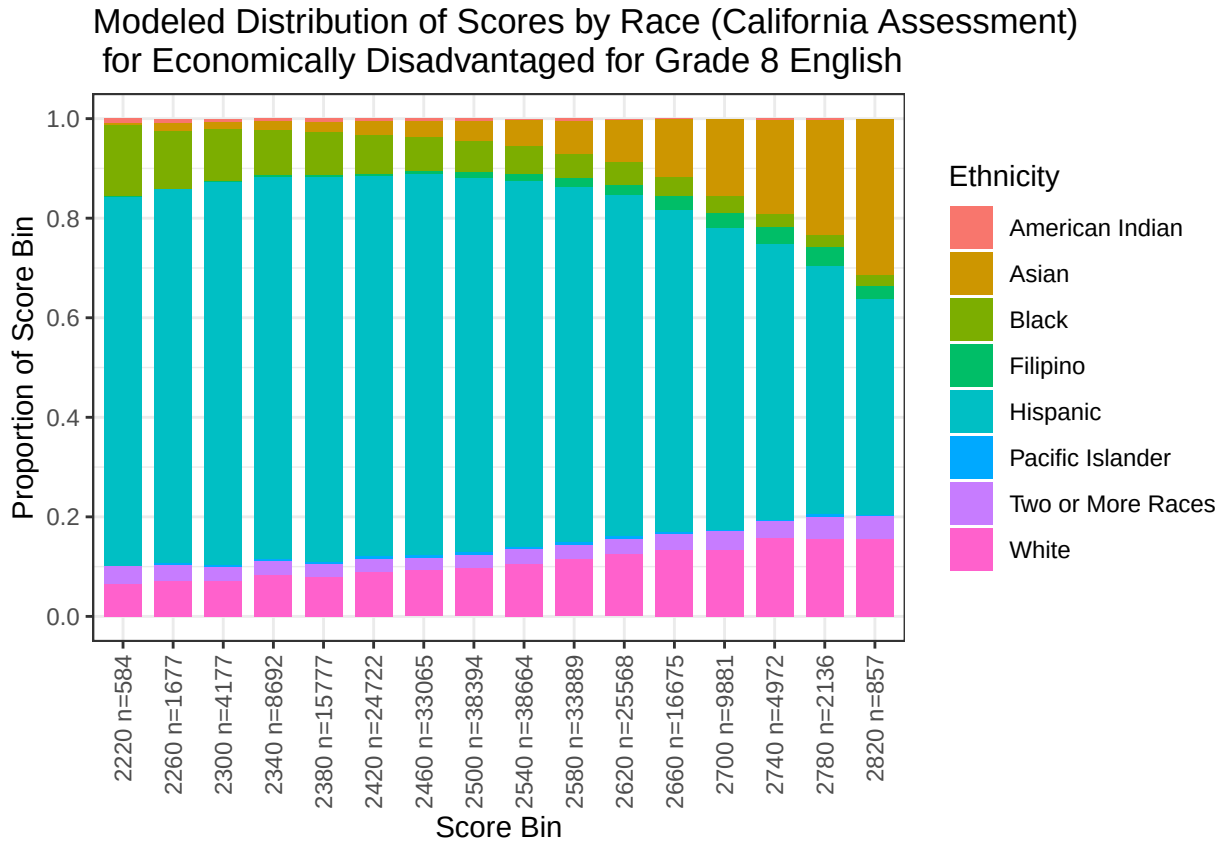
```
##
## [[4]]
```


Modeled Distribution of Scores by Race (California Assessment)
for Economically Disadvantaged for Grade 6 English
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2220 n=1047
2260 n=2880
2300 n=6936
2340 n=13958
2380 n=23614
2420 n=33508
2460 n=40563
2500 n=41170
2540 n=35960
2580 n=26210
2620 n=16339
2660 n=8747
2700 n=4093
2740 n=1593
2780 n=562
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

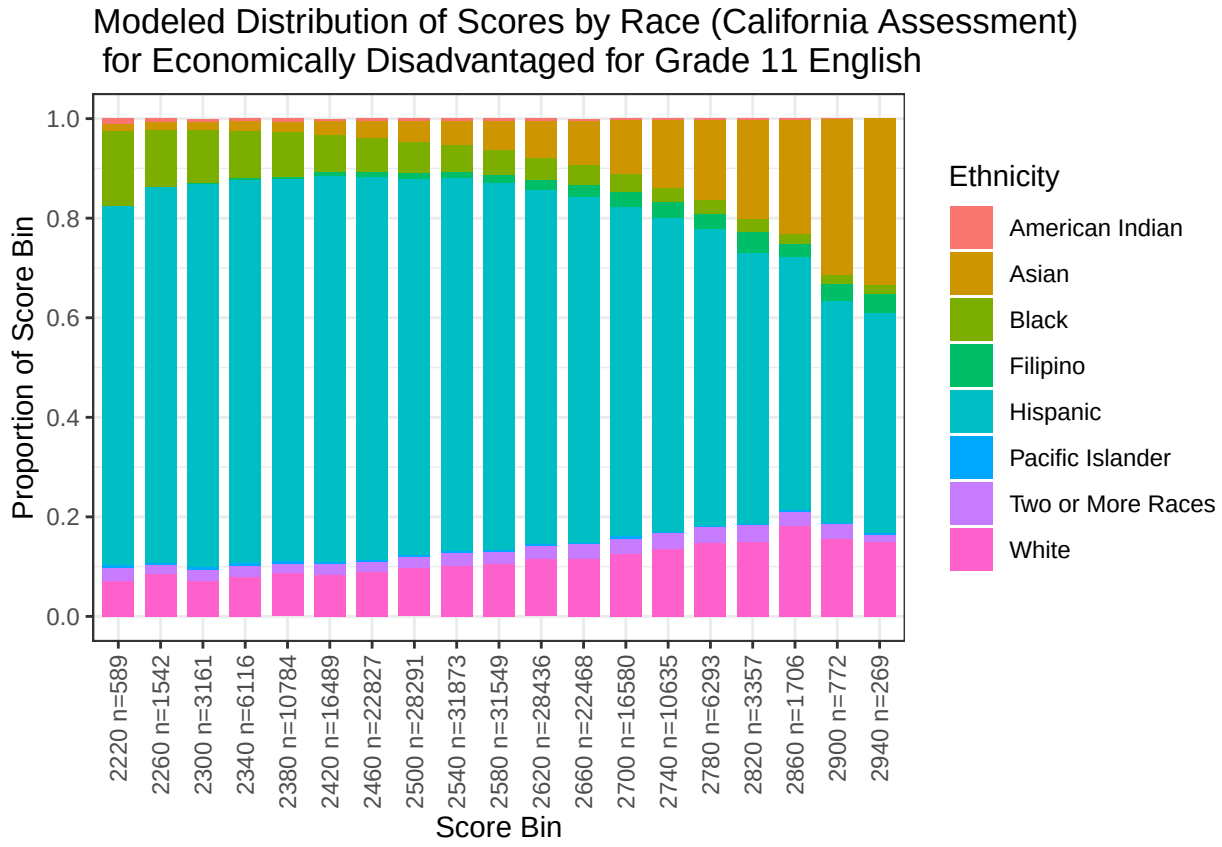
```
##
## [[5]]
```


Modeled Distribution of Scores by Race (California Assessment)
for Economically Disadvantaged for Grade 7 English
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2220 n=801
2260 n=2129
2300 n=4964
2340 n=10303
2380 n=17503
2420 n=26089
2460 n=33454
2500 n=37526
2540 n=36201
2580 n=30240
2620 n=22191
2660 n=14113
2700 n=8071
2740 n=3686
2780 n=1597
2820 n=608
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

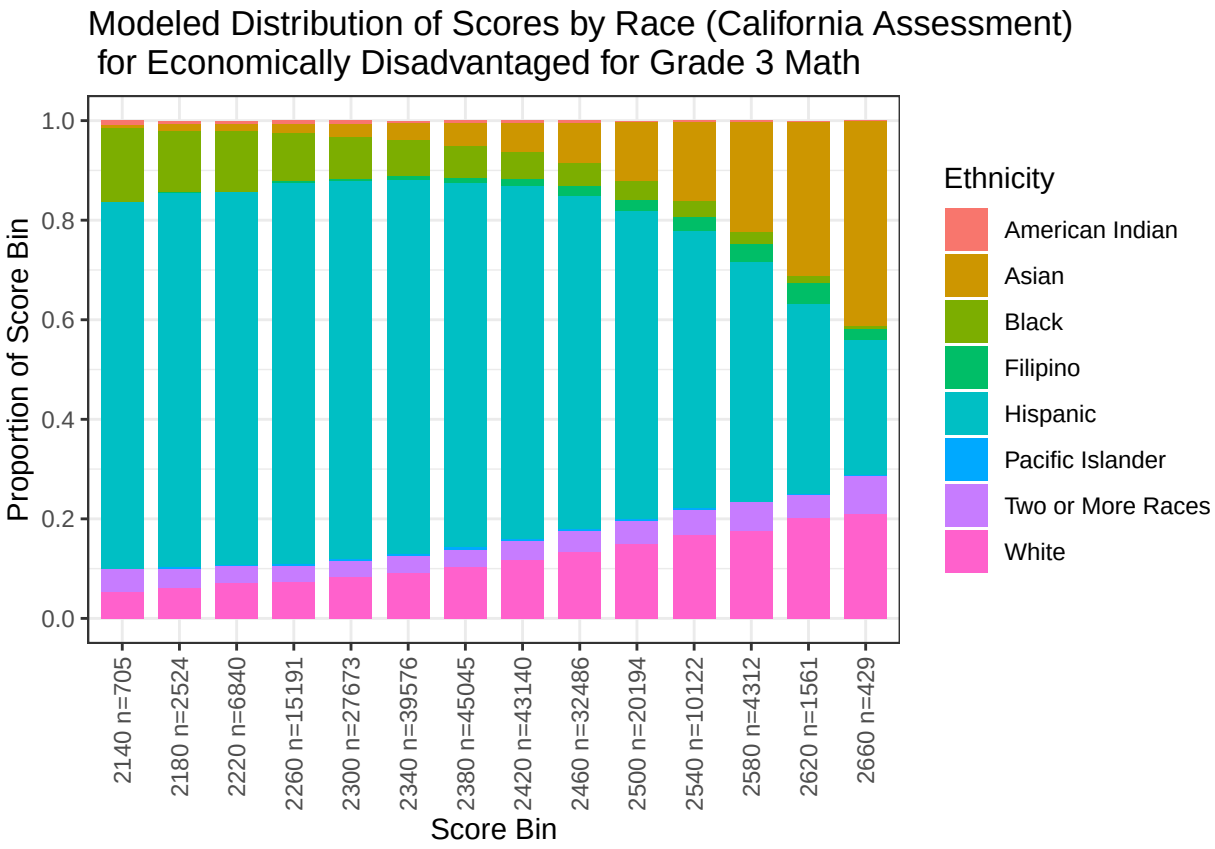
```
##
## [[6]]
```


Modeled Distribution of Scores by Race (California Assessment)
for Economically Disadvantaged for Grade 8 English
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2220 n=584
2260 n=1677
2300 n=4177
2340 n=8692
2380 n=15777
2420 n=24722
2460 n=33065
2500 n=38394
2540 n=38664
2580 n=33889
2620 n=25568
2660 n=16675
2700 n=9881
2740 n=4972
2780 n=2136
2820 n=857
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

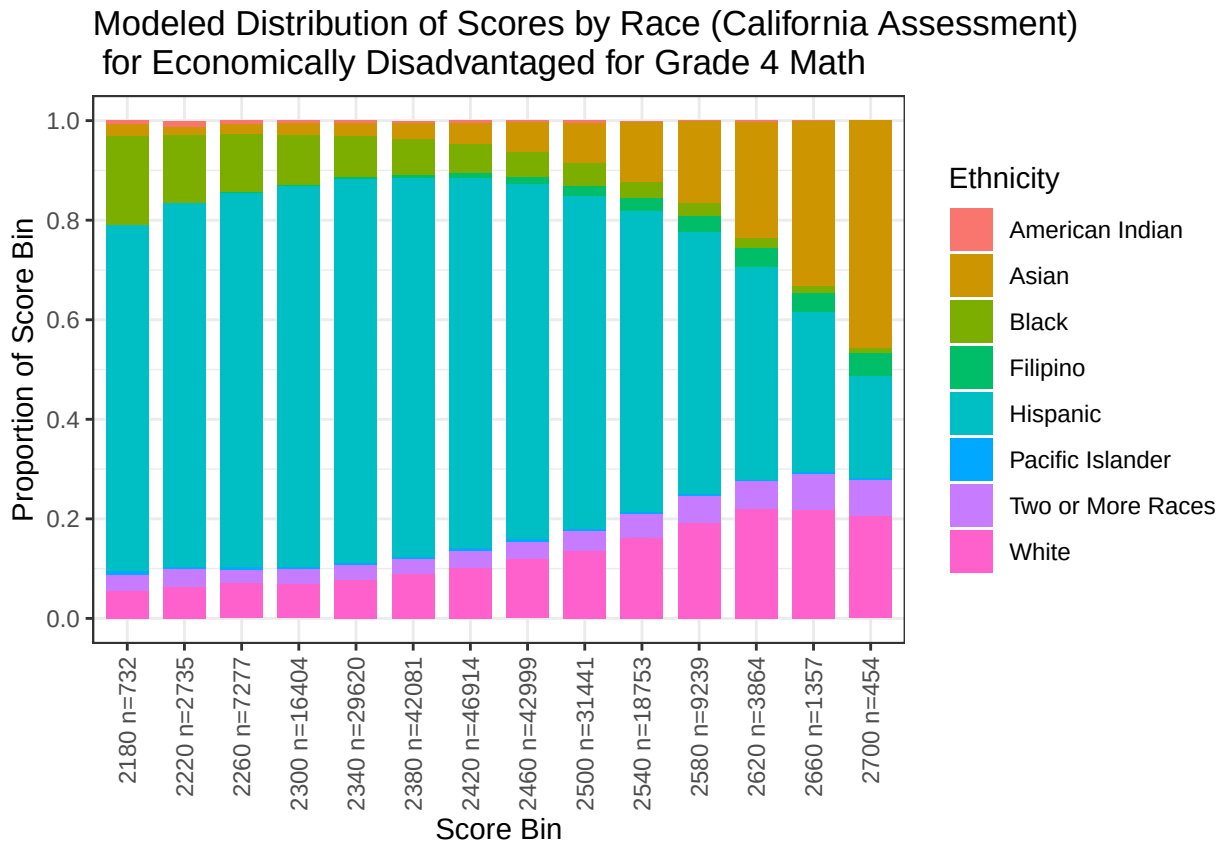
```
##
## [[7]]
```


Modeled Distribution of Scores by Race (California Assessment)
for Economically Disadvantaged for Grade 11 English
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2220 n=589
2260 n=1542
2300 n=3161
2340 n=6116
2380 n=10784
2420 n=16489
2460 n=22827
2500 n=28291
2540 n=31873
2580 n=31549
2620 n=28436
2660 n=22468
2700 n=16580
2740 n=10635
2780 n=6293
2820 n=3357
2860 n=1706
2900 n=772
2940 n=269
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

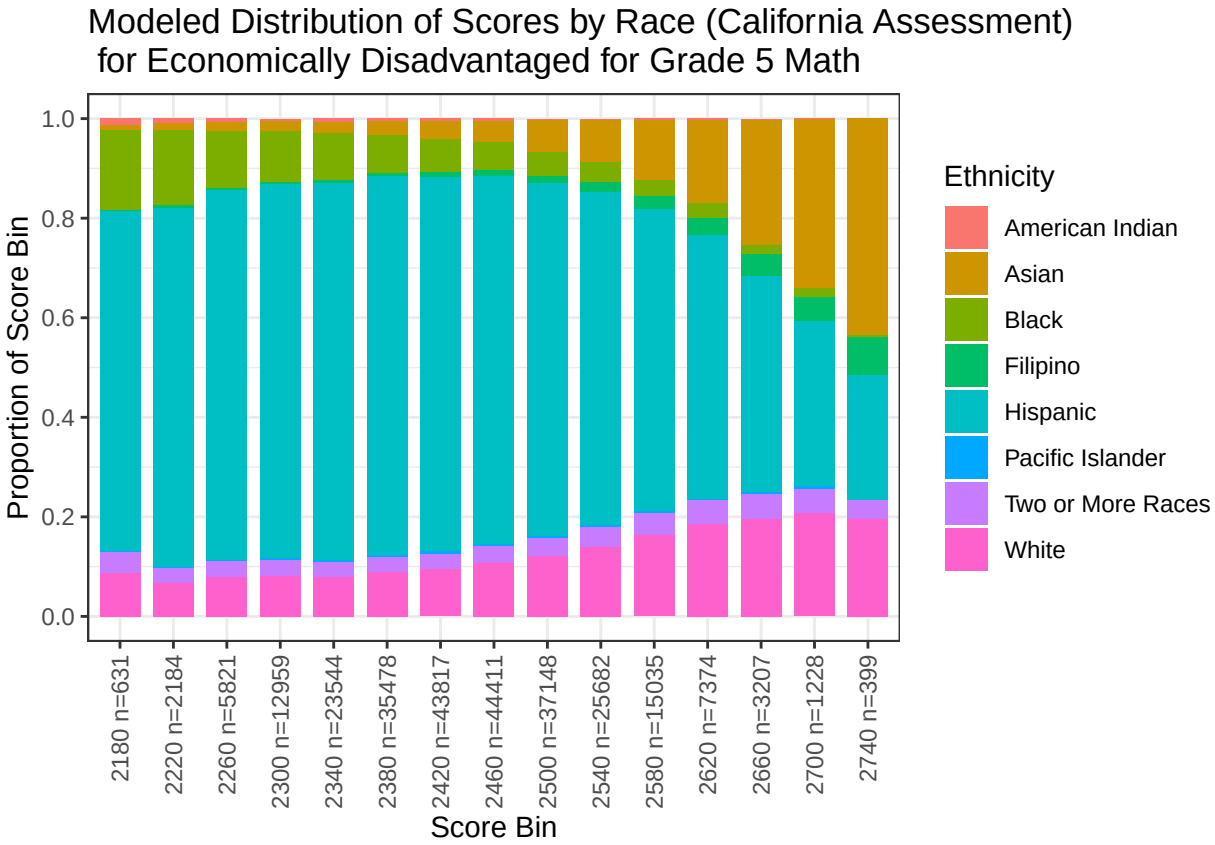
```
##
## [[8]]
```


Modeled Distribution of Scores by Race (California Assessment)
for Economically Disadvantaged for Grade 3 Math
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2140 n=705
2180 n=2524
2220 n=6840
2260 n=15191
2300 n=27673
2340 n=39576
2380 n=45045
2420 n=43140
2460 n=32486
2500 n=20194
2540 n=10122
2580 n=4312
2620 n=1561
2660 n=429
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

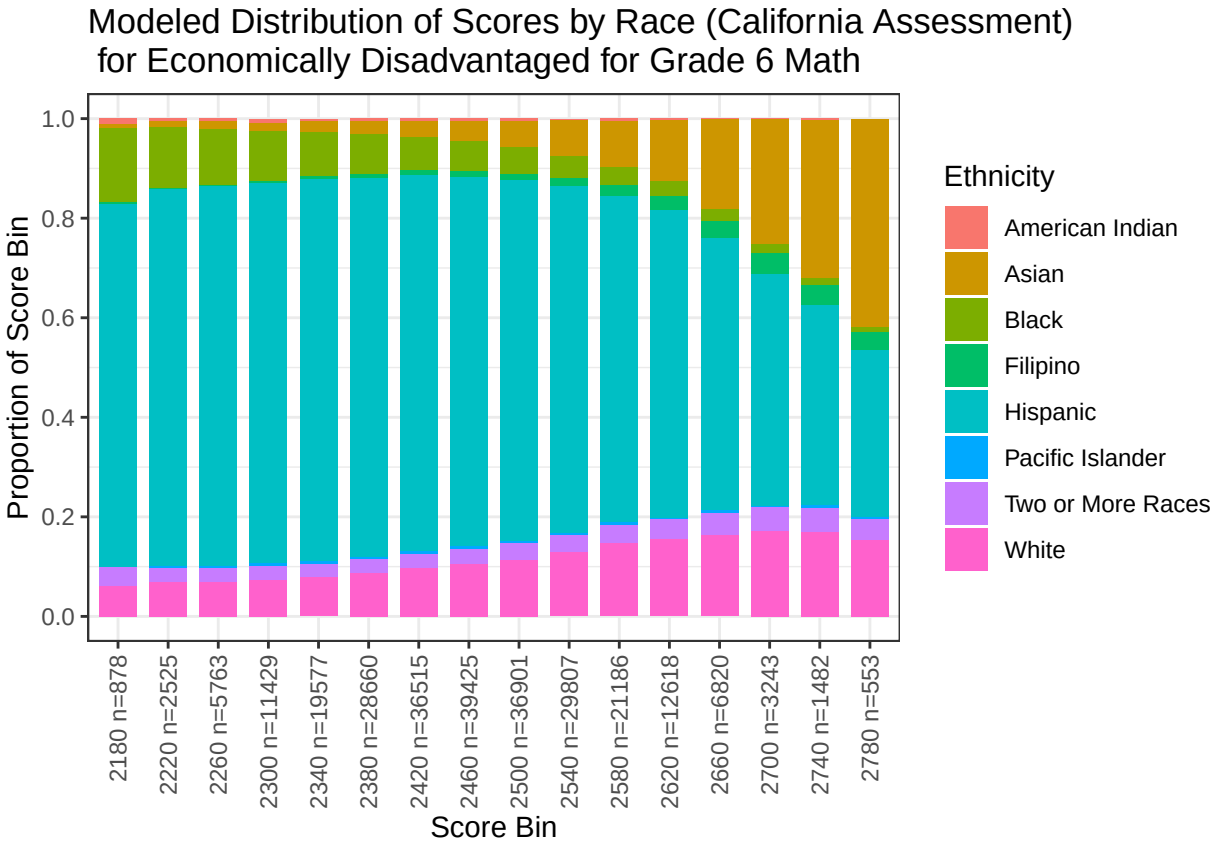
```
##
## [[9]]
```


Modeled Distribution of Scores by Race (California Assessment)
for Economically Disadvantaged for Grade 4 Math
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2180 n=732
2220 n=2735
2260 n=7277
2300 n=16404
2340 n=29620
2380 n=42081
2420 n=46914
2460 n=42999
2500 n=31441
2540 n=18753
2580 n=9239
2620 n=3864
2660 n=1357
2700 n=454
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

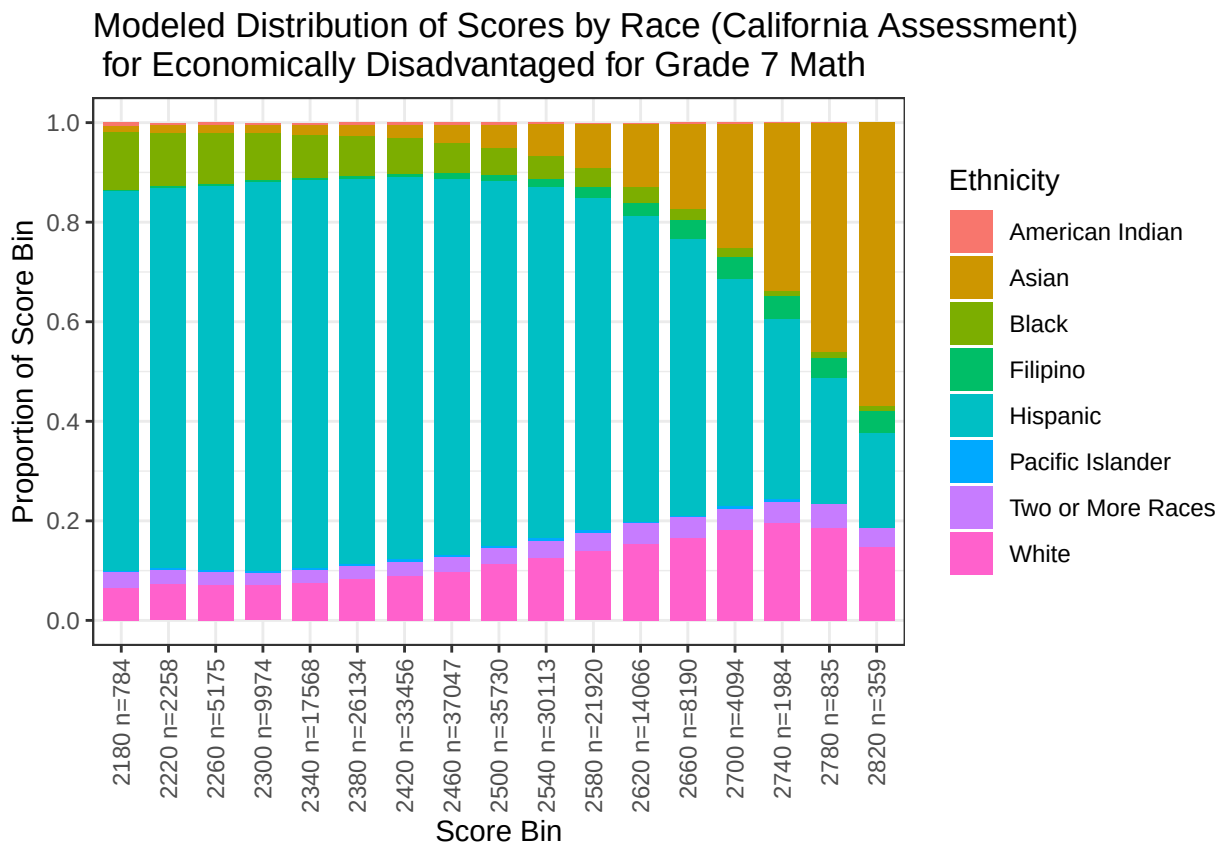
```
##
## [[10]]
```


Modeled Distribution of Scores by Race (California Assessment)
for Economically Disadvantaged for Grade 5 Math
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2180 n=631
2220 n=2184
2260 n=5821
2300 n=12959
2340 n=23544
2380 n=35478
2420 n=43817
2460 n=44411
2500 n=37148
2540 n=25682
2580 n=15035
2620 n=7374
2660 n=3207
2700 n=1228
2740 n=399
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

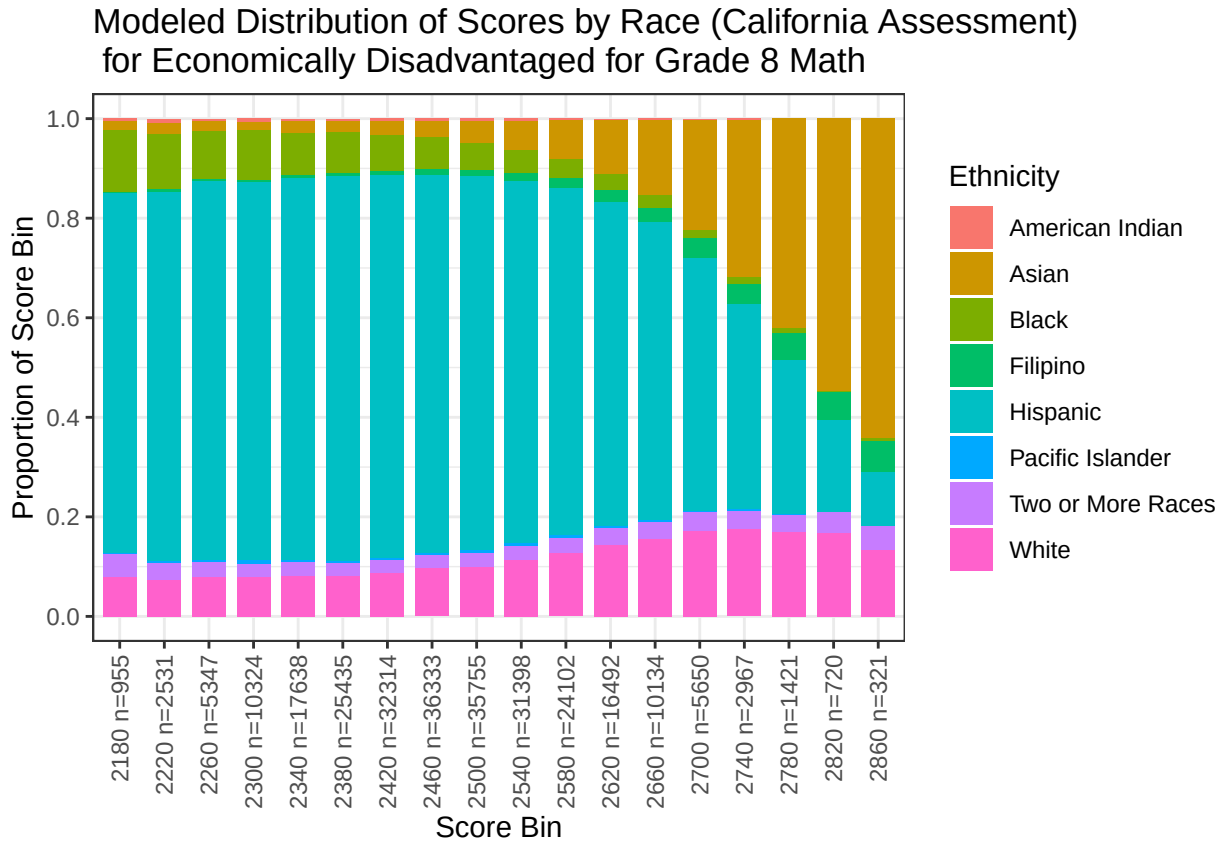
```
##
## [[11]]
```


Modeled Distribution of Scores by Race (California Assessment)
for Economically Disadvantaged for Grade 6 Math
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2180 n=878
2220 n=2525
2260 n=5763
2300 n=11429
2340 n=19577
2380 n=28660
2420 n=36515
2460 n=39425
2500 n=36901
2540 n=29807
2580 n=21186
2620 n=12618
2660 n=6820
2700 n=3243
2740 n=1482
2780 n=553
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

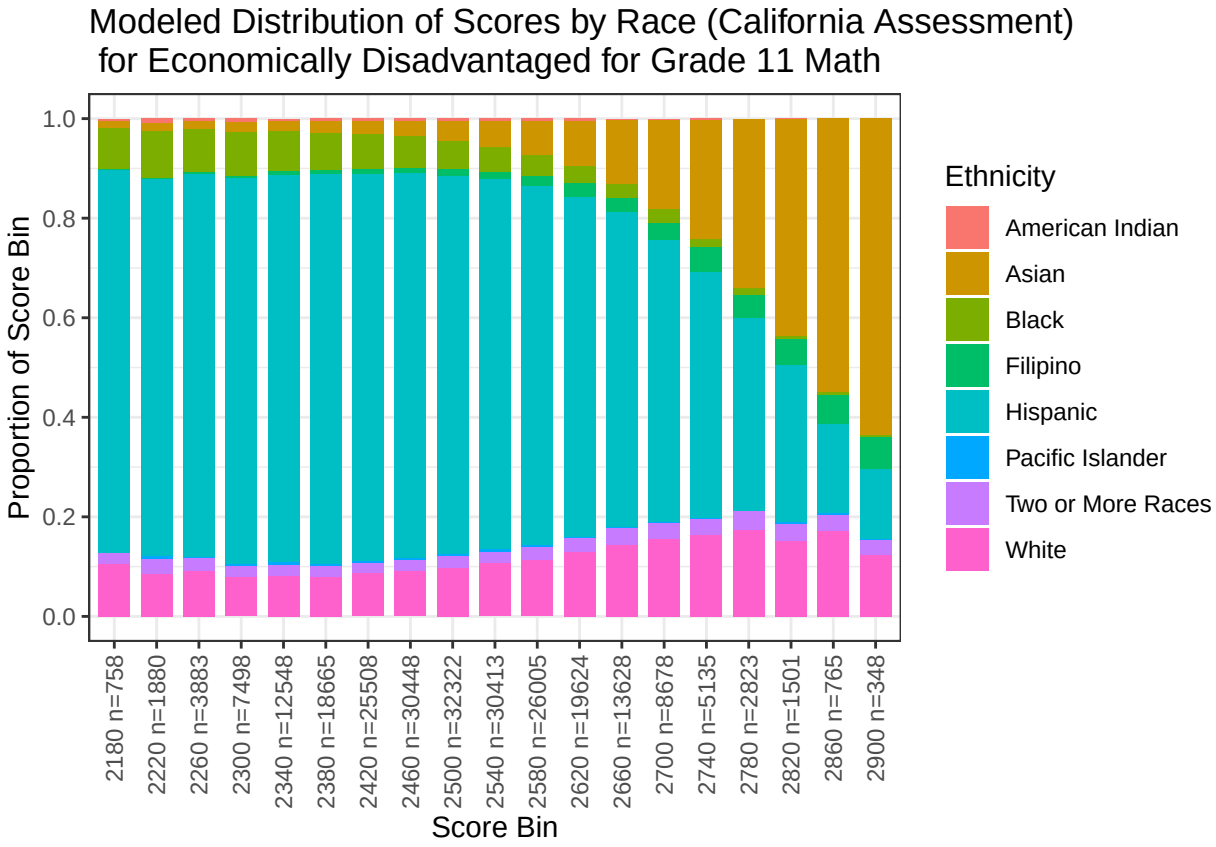
```
##
## [[12]]
```


Modeled Distribution of Scores by Race (California Assessment)
for Economically Disadvantaged for Grade 7 Math
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2180 n=784
2220 n=2258
2260 n=5175
2300 n=9974
2340 n=17568
2380 n=26134
2420 n=33456
2460 n=37047
2500 n=35730
2540 n=30113
2580 n=21920
2620 n=14066
2660 n=8190
2700 n=4094
2740 n=1984
2780 n=835
2820 n=359
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

```
##
## [[13]]
```

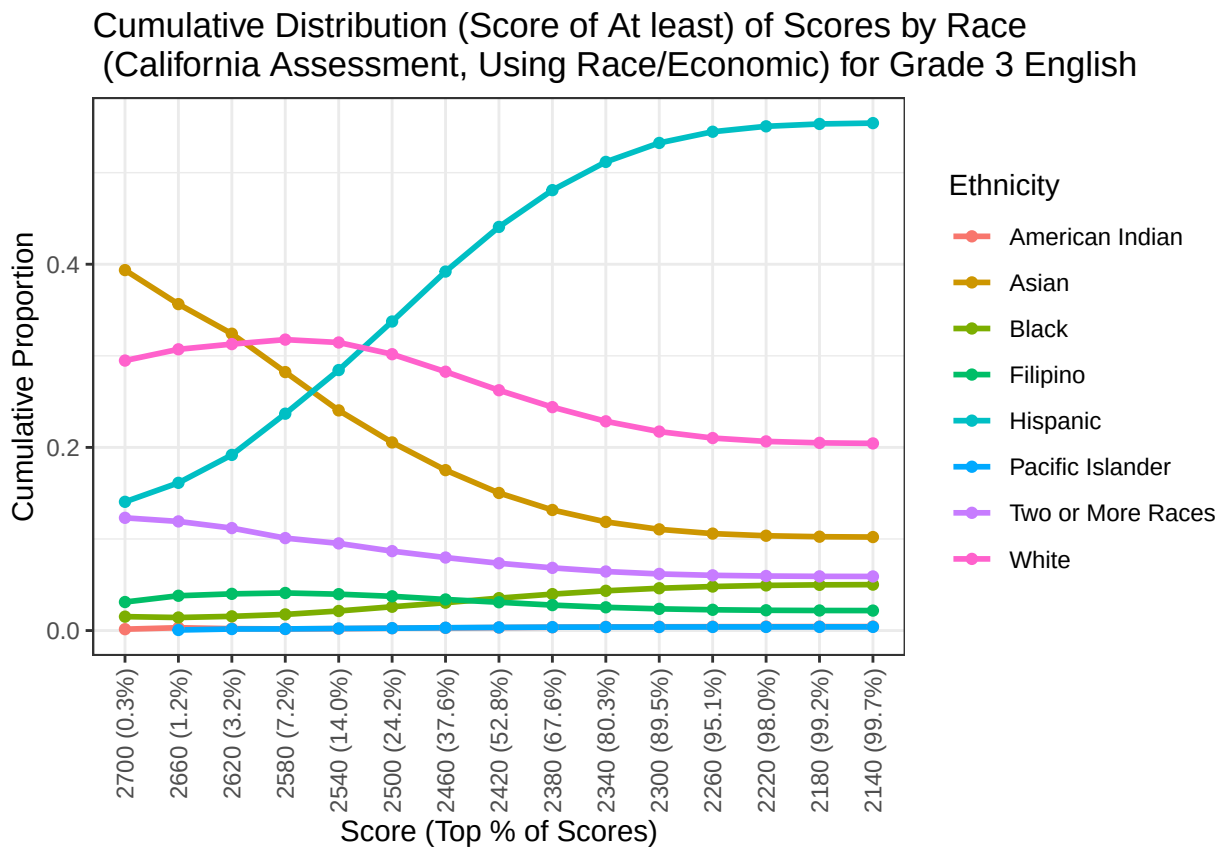

Modeled Distribution of Scores by Race (California Assessment)
for Economically Disadvantaged for Grade 8 Math
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2180 n=955
2220 n=2531
2260 n=5347
2300 n=10324
2340 n=17638
2380 n=25435
2420 n=32314
2460 n=36333
2500 n=35755
2540 n=31398
2580 n=24102
2620 n=16492
2660 n=10134
2700 n=5650
2740 n=2967
2780 n=1421
2820 n=720
2860 n=321
Score Bin
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

```
##
## [[14]]
```

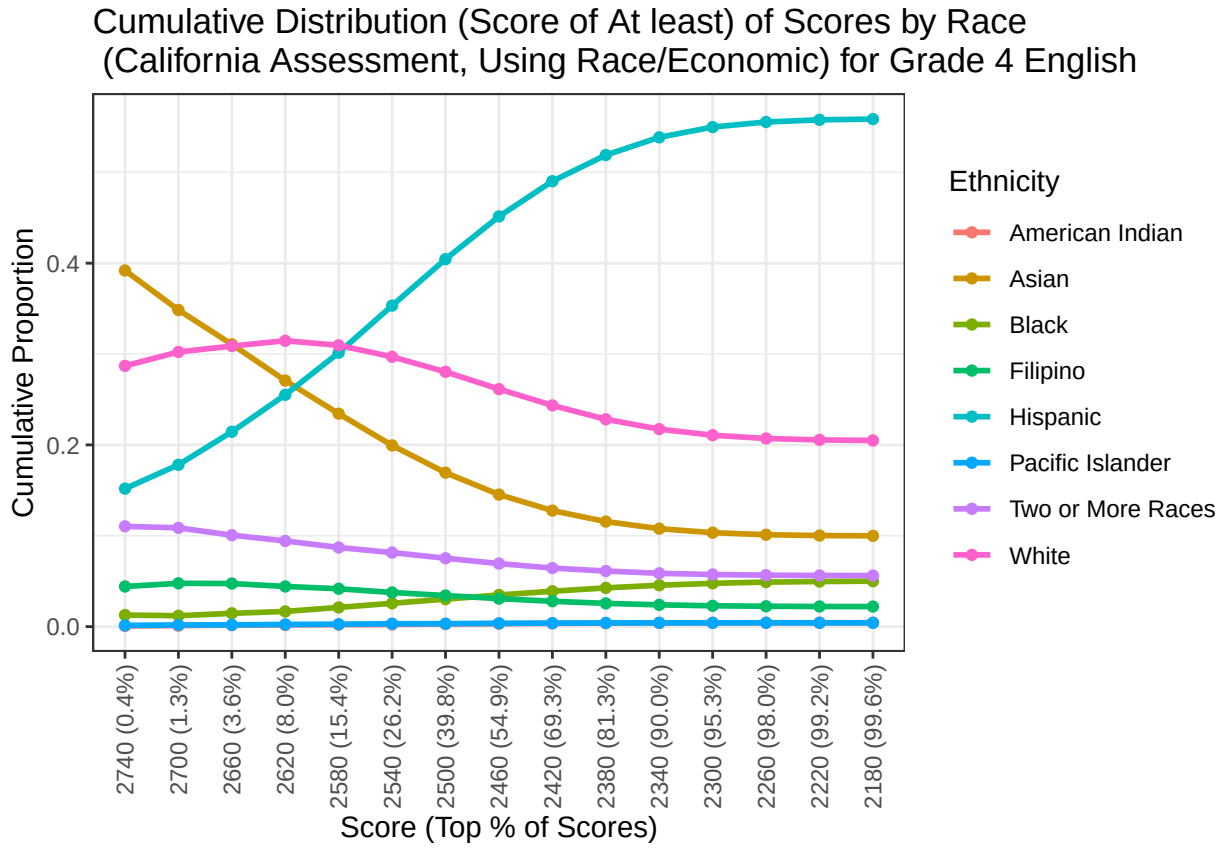



```
cumulative_data_status
```

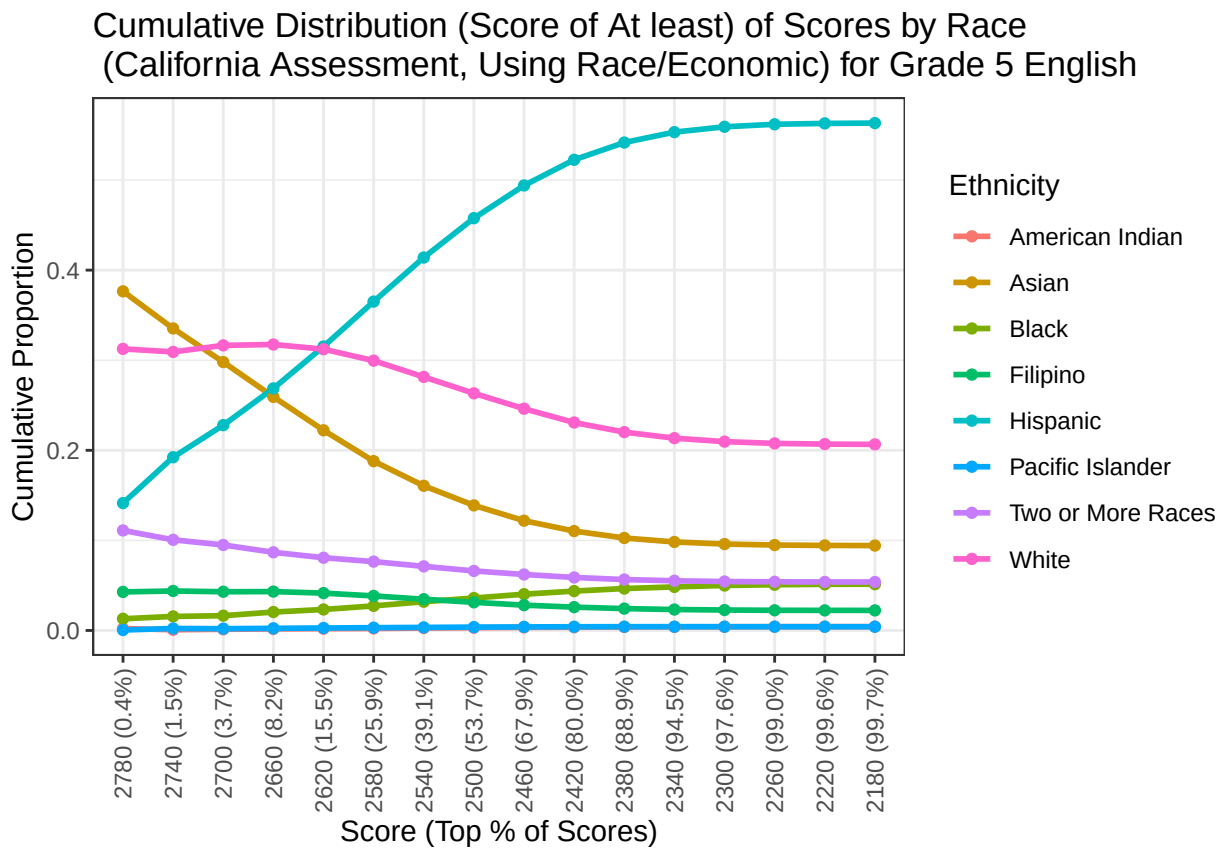
```
## [[1]]
```


Cumulative Distribution (Score of At least) of Scores by Race
(California Assessment, Using Race/Economic) for Grade 3 English
Cumulative Proportion
0.0
0.2
0.4
2700 (0.3%)
2660 (1.2%)
2620 (3.2%)
2580 (7.2%)
2540 (14.0%)
2500 (24.2%)
2460 (37.6%)
2420 (52.8%)
2380 (67.6%)
2340 (80.3%)
2300 (89.5%)
2260 (95.1%)
2220 (98.0%)
2180 (99.2%)
2140 (99.7%)
Score (Top % of Scores)
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

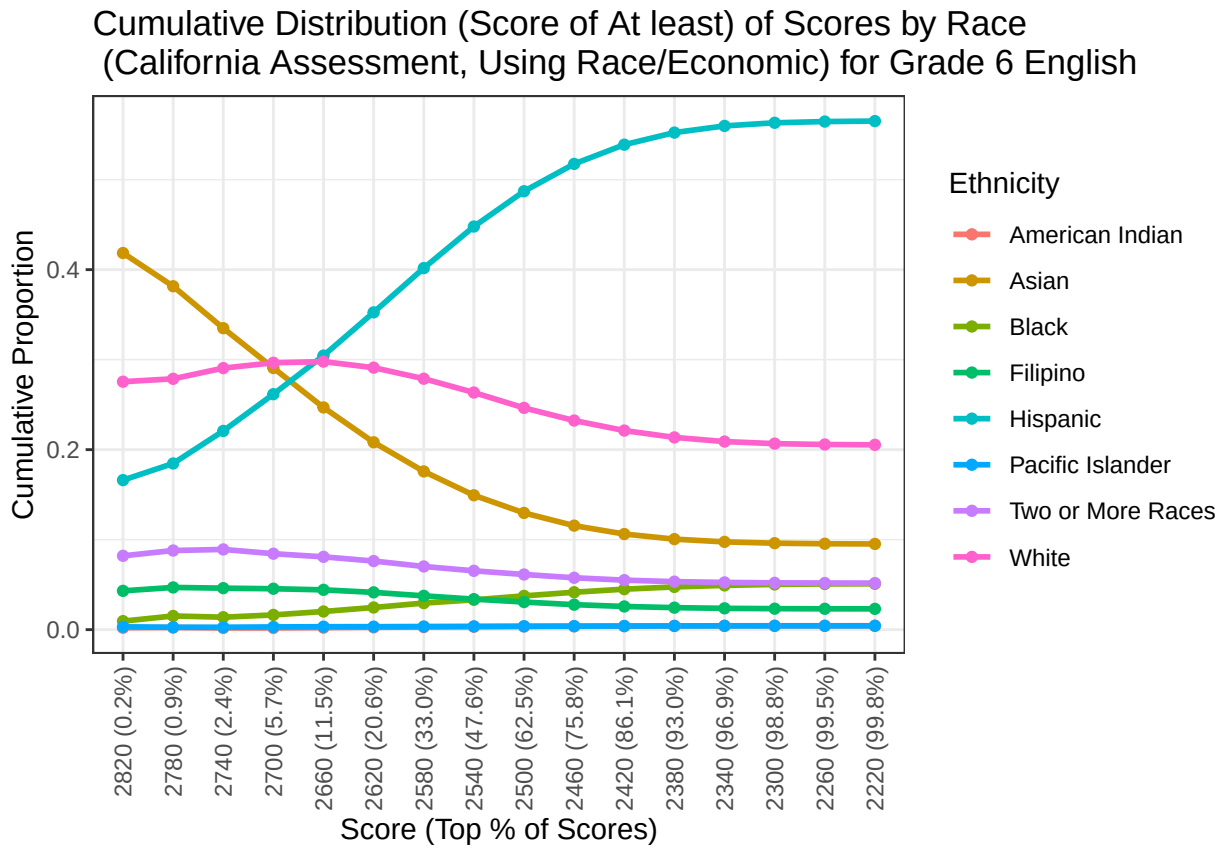
```
##
## [[2]]
```


Cumulative Distribution (Score of At least) of Scores by Race
(California Assessment, Using Race/Economic) for Grade 4 English
Cumulative Proportion
0.0
0.2
0.4
2740 (0.4%)
2700 (1.3%)
2660 (3.6%)
2620 (8.0%)
2580 (15.4%)
2540 (26.2%)
2500 (39.8%)
2460 (54.9%)
2420 (69.3%)
2380 (81.3%)
2340 (90.0%)
2300 (95.3%)
2260 (98.0%)
2220 (99.2%)
2180 (99.6%)
Score (Top % of Scores)
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

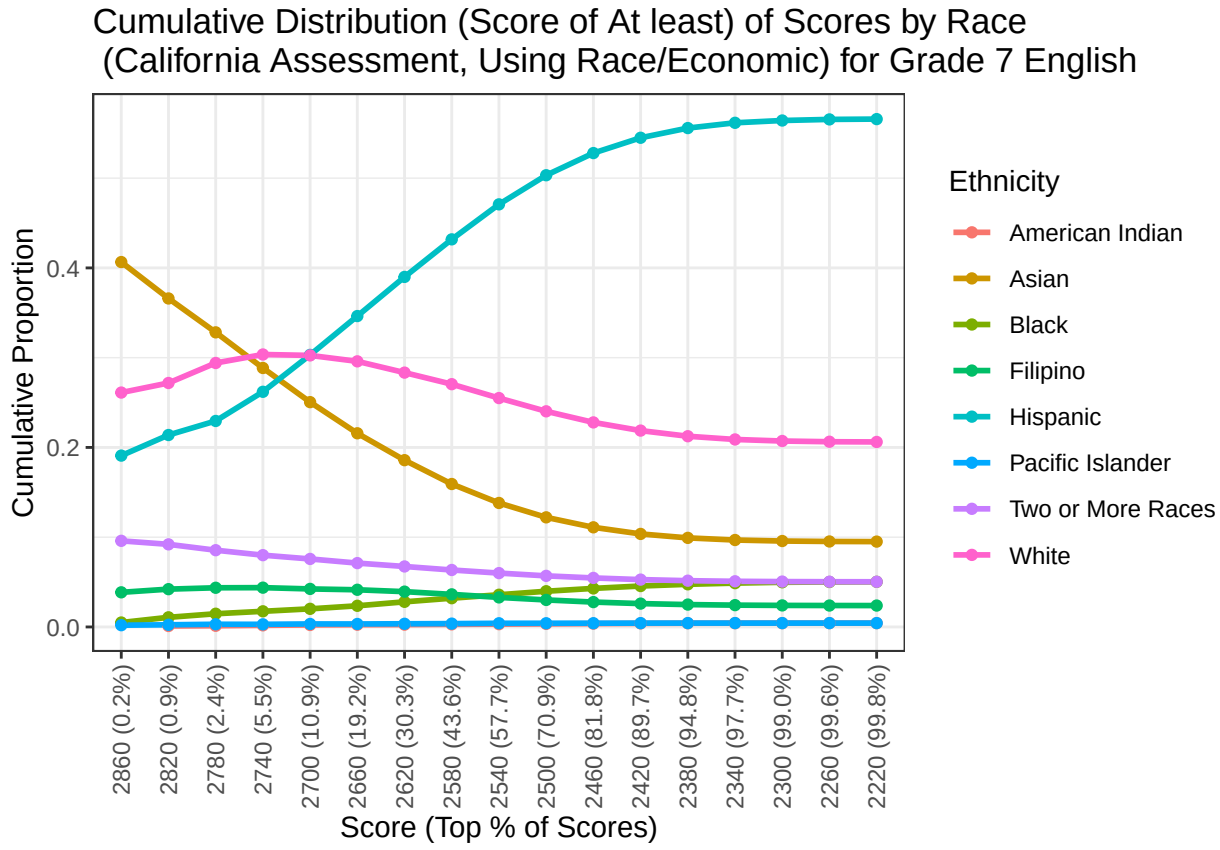
```
##
## [[3]]
```


Cumulative Distribution (Score of At least) of Scores by Race
(California Assessment, Using Race/Economic) for Grade 5 English
Cumulative Proportion
0.0
0.2
0.4
2780 (0.4%)
2740 (1.5%)
2700 (3.7%)
2660 (8.2%)
2620 (15.5%)
2580 (25.9%)
2540 (39.1%)
2500 (53.7%)
2460 (67.9%)
2420 (80.0%)
2380 (88.9%)
2340 (94.5%)
2300 (97.6%)
2260 (99.0%)
2220 (99.6%)
2180 (99.7%)
Score (Top % of Scores)
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

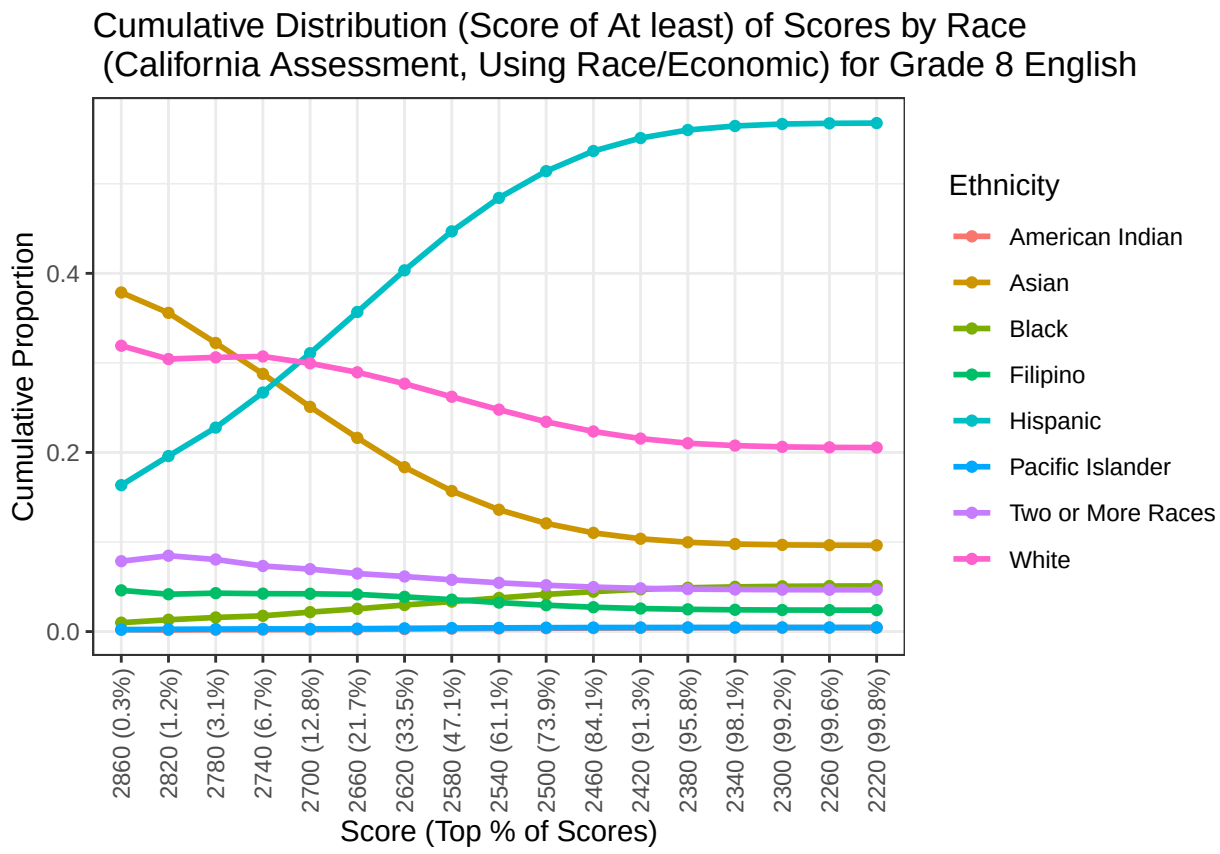
```
##
## [[4]]
```


Cumulative Distribution (Score of At least) of Scores by Race
(California Assessment, Using Race/Economic) for Grade 6 English
Cumulative Proportion
0.0
0.2
0.4
2820 (0.2%)
2780 (0.9%)
2740 (2.4%)
2700 (5.7%)
2660 (11.5%)
2620 (20.6%)
2580 (33.0%)
2540 (47.6%)
2500 (62.5%)
2460 (75.8%)
2420 (86.1%)
2380 (93.0%)
2340 (96.9%)
2300 (98.8%)
2260 (99.5%)
2220 (99.8%)
Score (Top % of Scores)
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

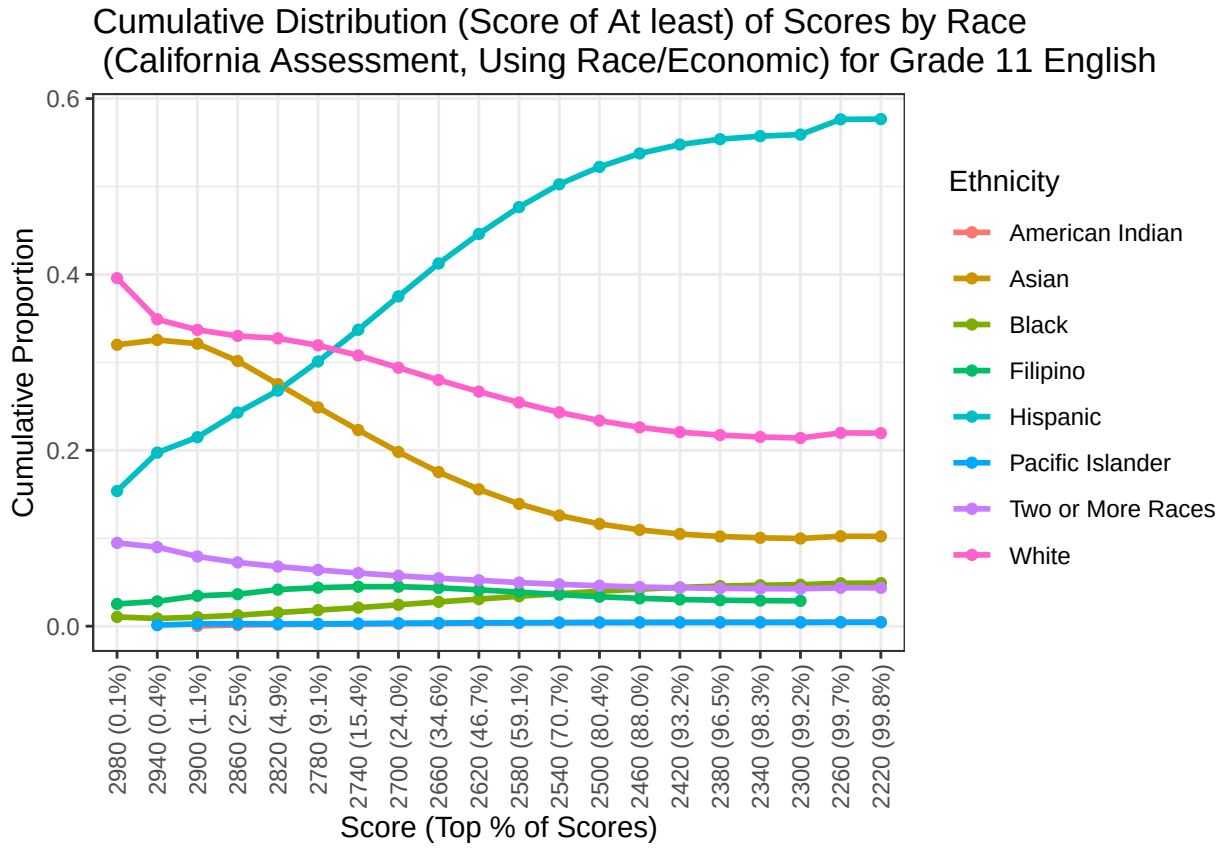
```
##
## [[5]]
```


Cumulative Distribution (Score of At least) of Scores by Race
(California Assessment, Using Race/Economic) for Grade 7 English
Cumulative Proportion
0.0
0.2
0.4
2860 (0.2%)
2820 (0.9%)
2780 (2.4%)
2740 (5.5%)
2700 (10.9%)
2660 (19.2%)
2620 (30.3%)
2580 (43.6%)
2540 (57.7%)
2500 (70.9%)
2460 (81.8%)
2420 (89.7%)
2380 (94.8%)
2340 (97.7%)
2300 (99.0%)
2260 (99.6%)
2220 (99.8%)
Score (Top % of Scores)
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

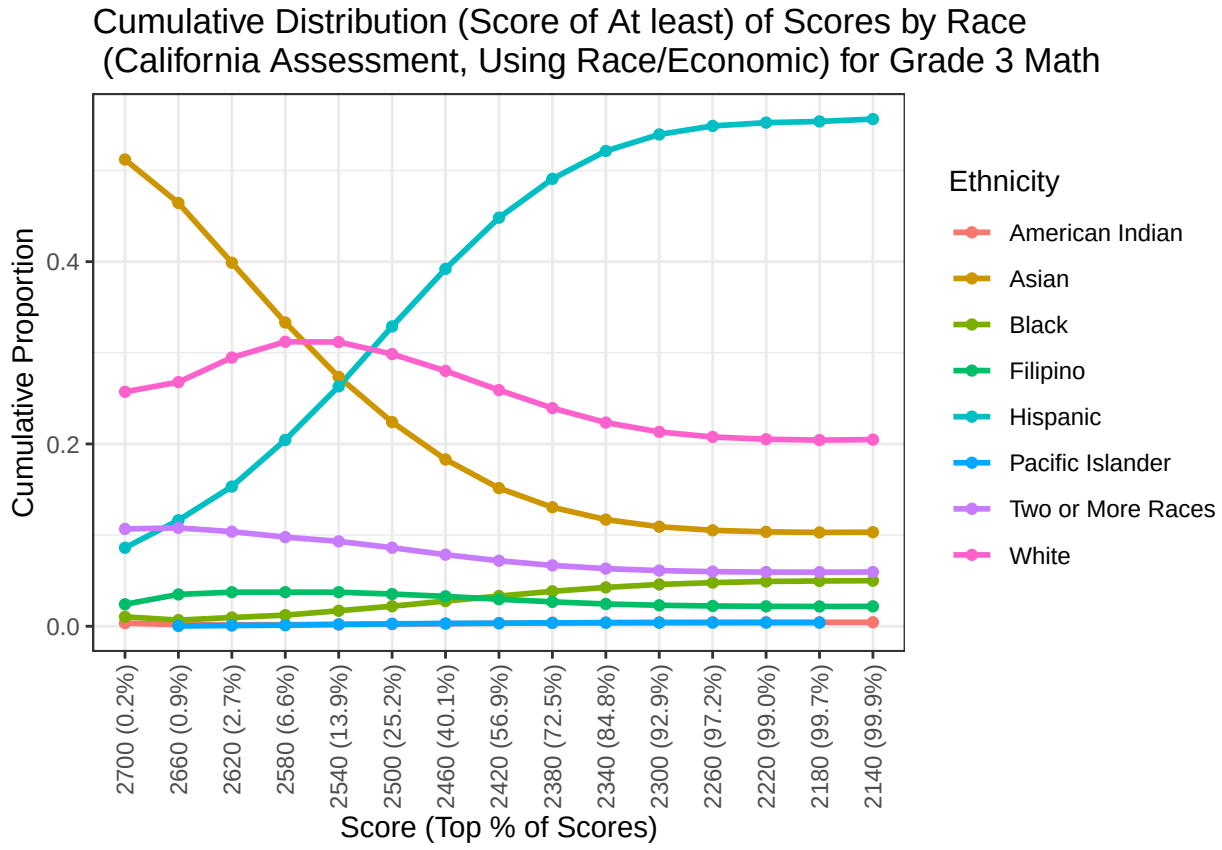
```
##
## [[6]]
```


Cumulative Distribution (Score of At least) of Scores by Race
(California Assessment, Using Race/Economic) for Grade 8 English
Cumulative Proportion
0.0
0.2
0.4
2860 (0.3%)
2820 (1.2%)
2780 (3.1%)
2740 (6.7%)
2700 (12.8%)
2660 (21.7%)
2620 (33.5%)
2580 (47.1%)
2540 (61.1%)
2500 (73.9%)
2460 (84.1%)
2420 (91.3%)
2380 (95.8%)
2340 (98.1%)
2300 (99.2%)
2260 (99.6%)
2220 (99.8%)
Score (Top % of Scores)
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

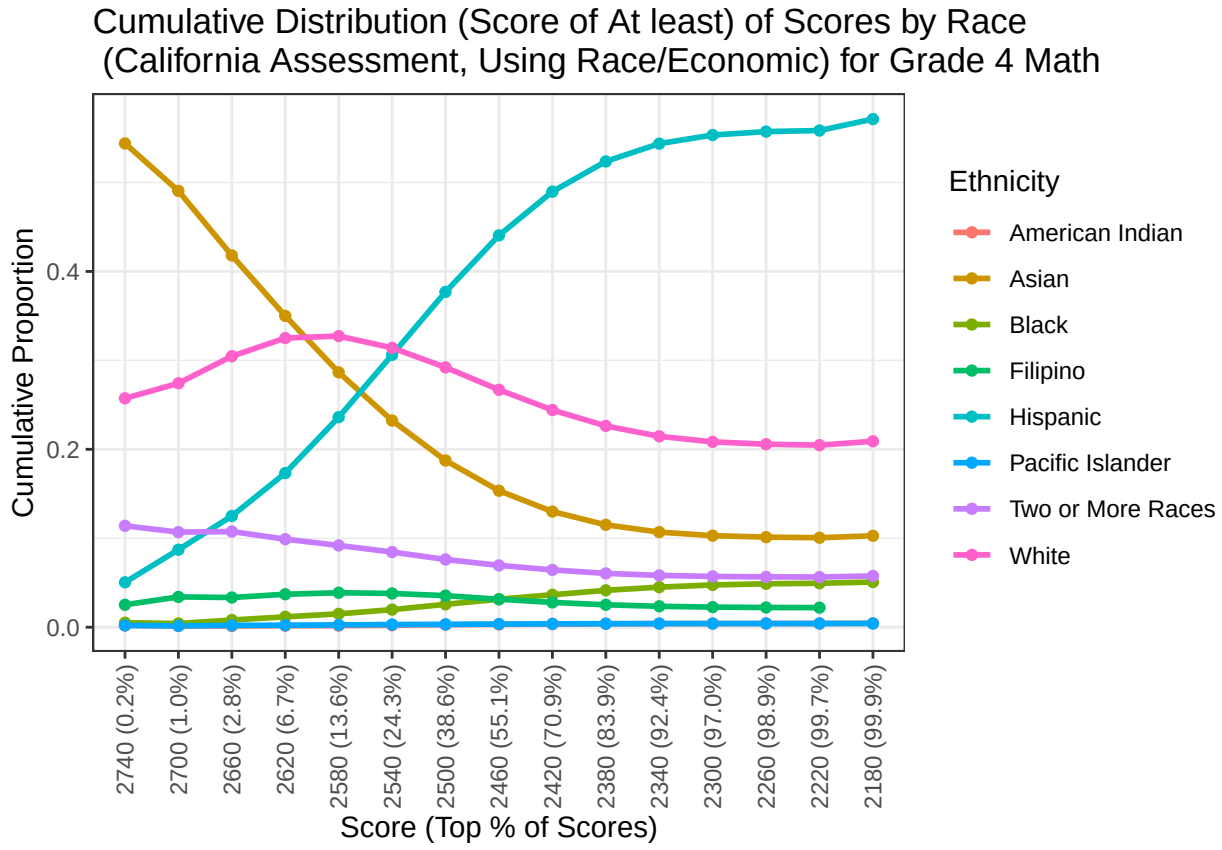
```
##
## [[7]]
```


Cumulative Distribution (Score of At least) of Scores by Race
(California Assessment, Using Race/Economic) for Grade 11 English
Cumulative Proportion
0.6
0.4
0.2
0.0
2980 (0.1%)
2940 (0.4%)
2900 (1.1%)
2860 (2.5%)
2820 (4.9%)
2780 (9.1%)
2740 (15.4%)
2700 (24.0%)
2660 (34.6%)
2620 (46.7%)
2580 (59.1%)
2540 (70.7%)
2500 (80.4%)
2460 (88.0%)
2420 (93.2%)
2380 (96.5%)
2340 (98.3%)
2300 (99.2%)
2260 (99.7%)
2220 (99.8%)
Score (Top % of Scores)
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

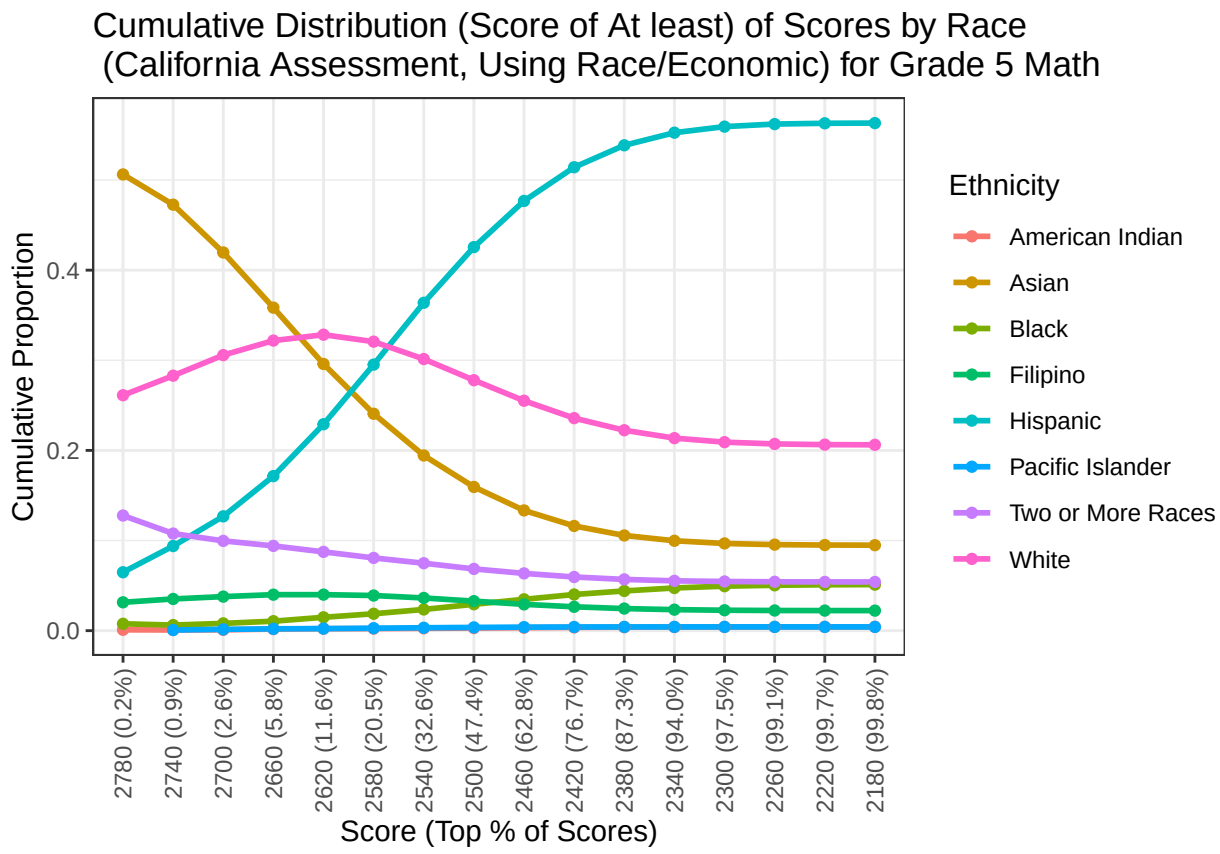
```
##
## [[8]]
```


Cumulative Distribution (Score of At least) of Scores by Race
(California Assessment, Using Race/Economic) for Grade 3 Math
Cumulative Proportion
0.0
0.2
0.4
2700 (0.2%)
2660 (0.9%)
2620 (2.7%)
2580 (6.6%)
2540 (13.9%)
2500 (25.2%)
2460 (40.1%)
2420 (56.9%)
2380 (72.5%)
2340 (84.8%)
2300 (92.9%)
2260 (97.2%)
2220 (99.0%)
2180 (99.7%)
2140 (99.9%)
Score (Top % of Scores)
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

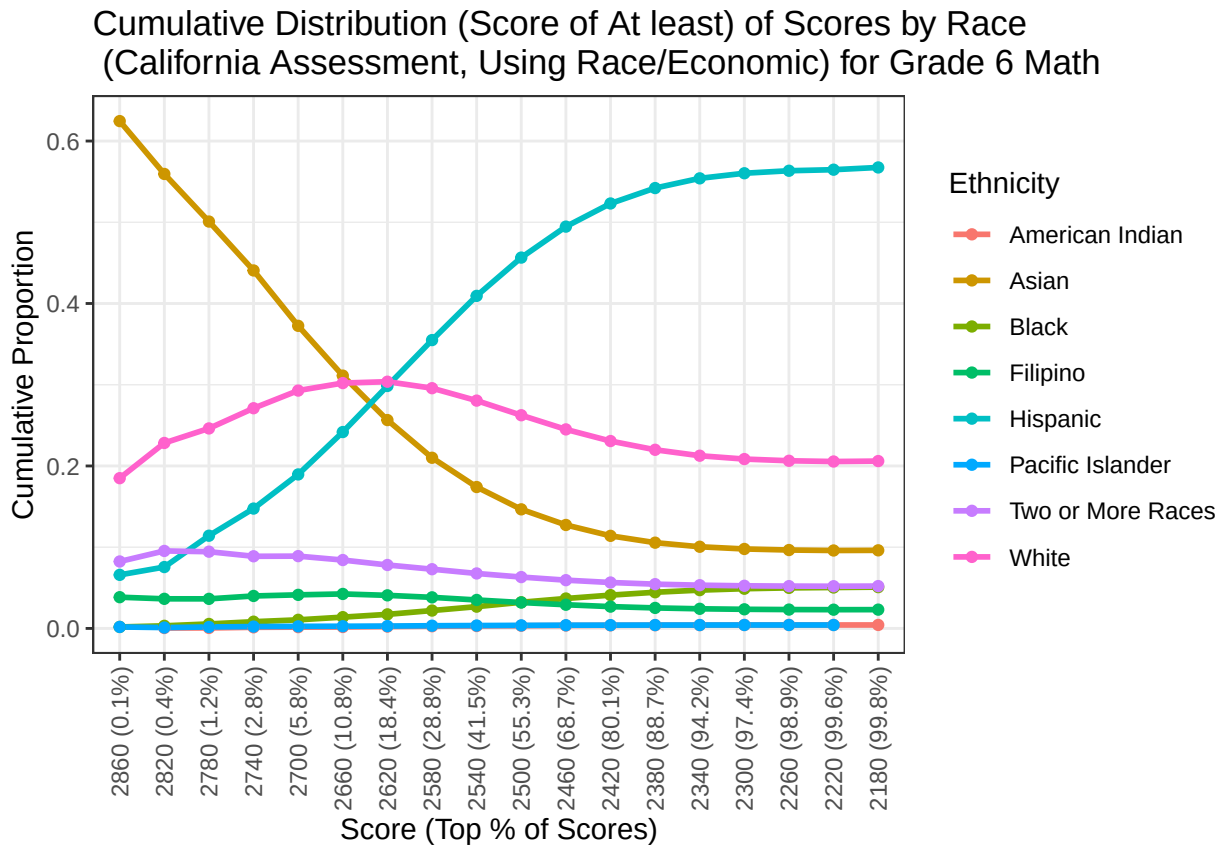
```
##
## [[9]]
```


Cumulative Distribution (Score of At least) of Scores by Race
(California Assessment, Using Race/Economic) for Grade 4 Math
Cumulative Proportion
0.0
0.2
0.4
2740 (0.2%)
2700 (1.0%)
2660 (2.8%)
2620 (6.7%)
2580 (13.6%)
2540 (24.3%)
2500 (38.6%)
2460 (55.1%)
2420 (70.9%)
2380 (83.9%)
2340 (92.4%)
2300 (97.0%)
2260 (98.9%)
2220 (99.7%)
2180 (99.9%)
Score (Top % of Scores)
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

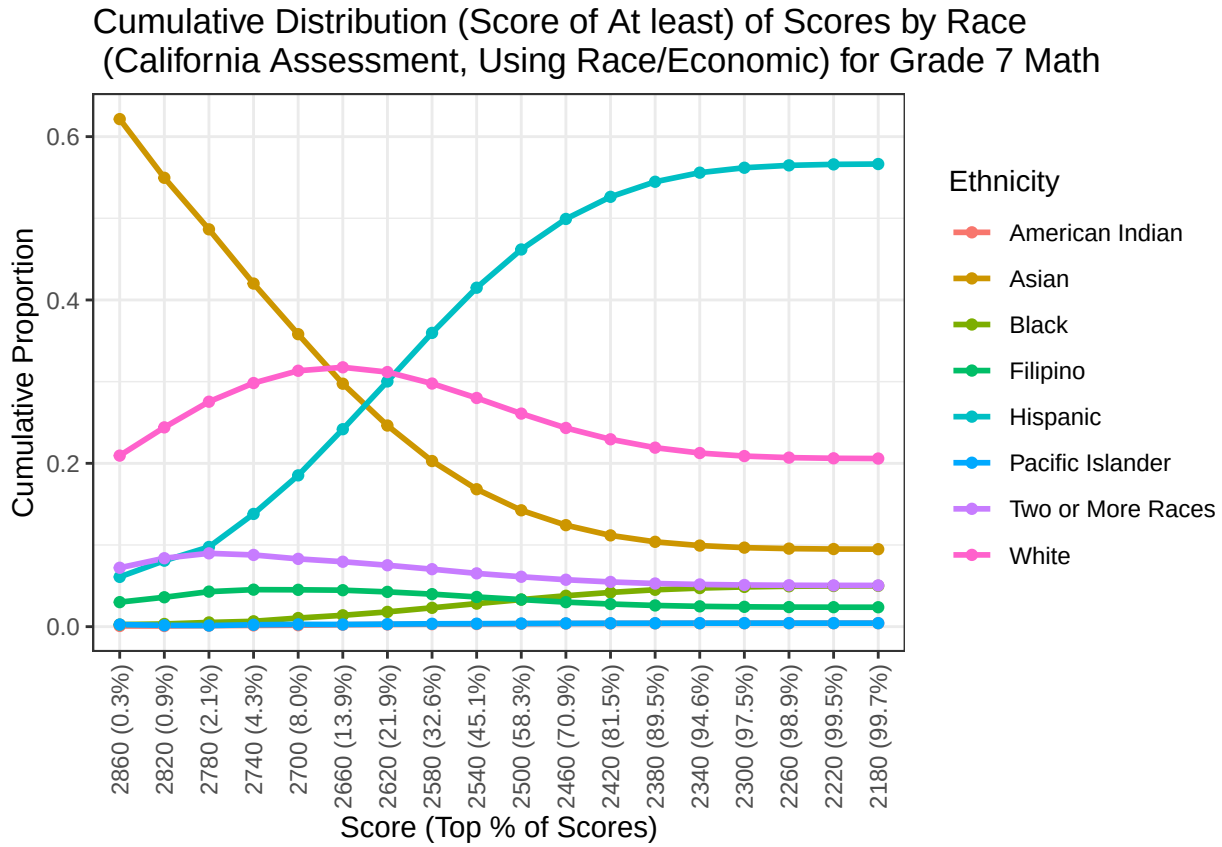
```
##
## [[10]]
```


Cumulative Distribution (Score of At least) of Scores by Race
(California Assessment, Using Race/Economic) for Grade 5 Math
Cumulative Proportion
0.0
0.2
0.4
2780 (0.2%)
2740 (0.9%)
2700 (2.6%)
2660 (5.8%)
2620 (11.6%)
2580 (20.5%)
2540 (32.6%)
2500 (47.4%)
2460 (62.8%)
2420 (76.7%)
2380 (87.3%)
2340 (94.0%)
2300 (97.5%)
2260 (99.1%)
2220 (99.7%)
2180 (99.8%)
Score (Top % of Scores)
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

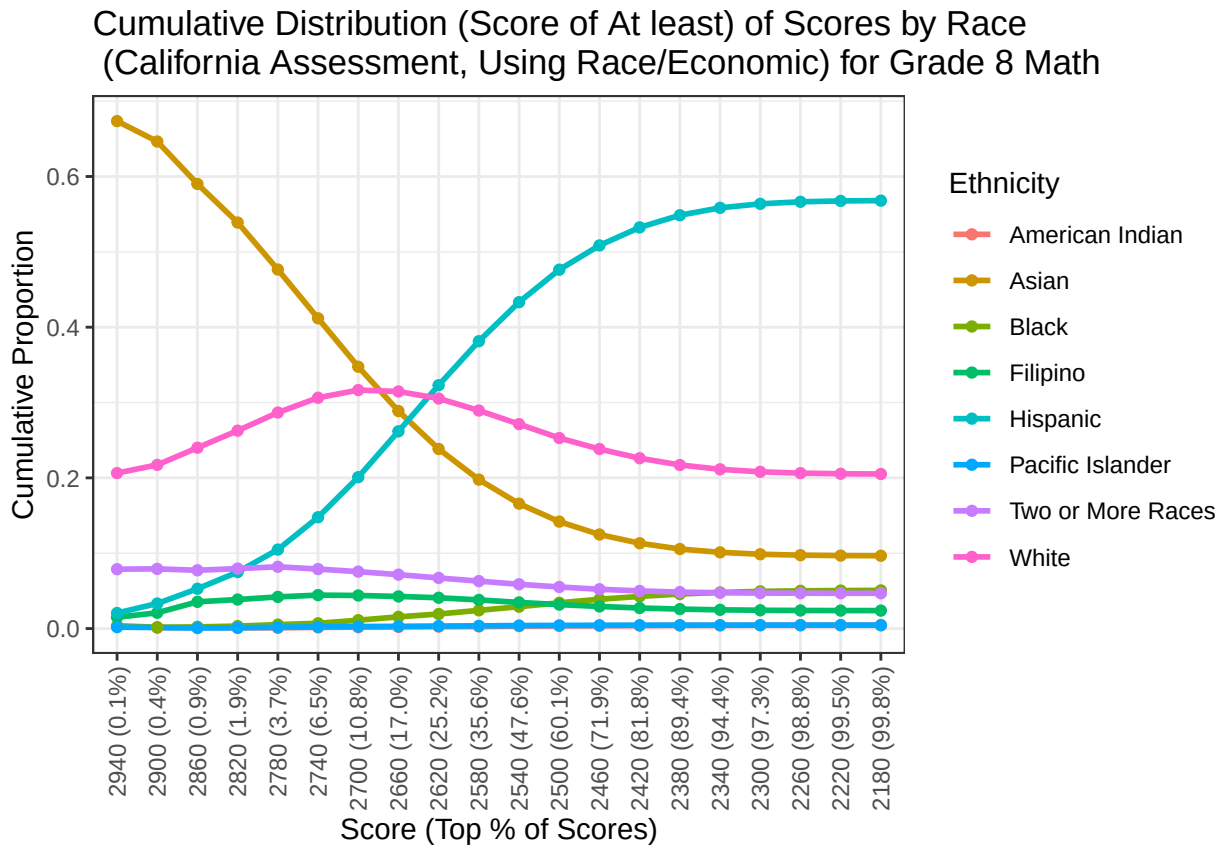
```
##
## [[11]]
```


Cumulative Distribution (Score of At least) of Scores by Race
(California Assessment, Using Race/Economic) for Grade 6 Math
Cumulative Proportion
0.6
0.4
0.2
0.0
2860 (0.1%)
2820 (0.4%)
2780 (1.2%)
2740 (2.8%)
2700 (5.8%)
2660 (10.8%)
2620 (18.4%)
2580 (28.8%)
2540 (41.5%)
2500 (55.3%)
2460 (68.7%)
2420 (80.1%)
2380 (88.7%)
2340 (94.2%)
2300 (97.4%)
2260 (98.9%)
2220 (99.6%)
2180 (99.8%)
Score (Top % of Scores)
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

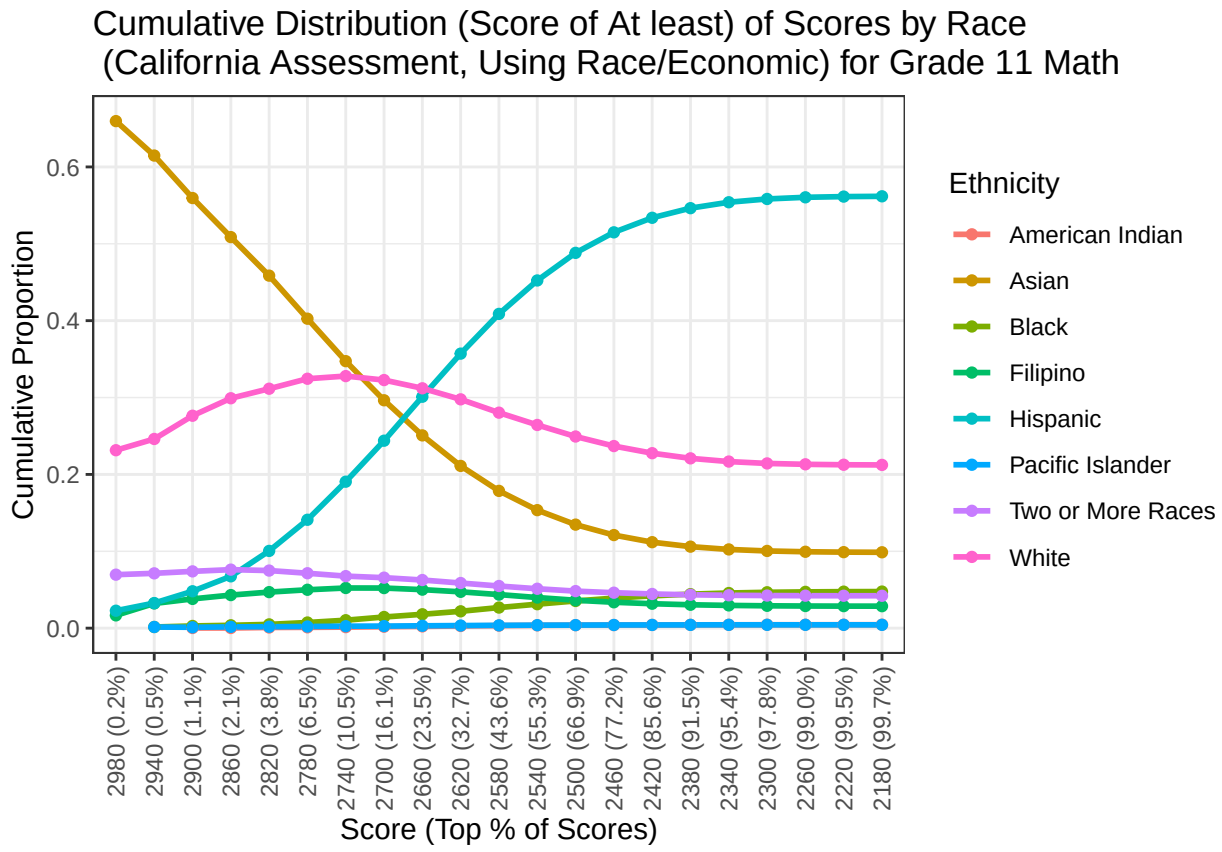
```
##
## [[12]]
```


Cumulative Distribution (Score of At least) of Scores by Race
(California Assessment, Using Race/Economic) for Grade 7 Math
Cumulative Proportion
0.6
0.4
0.2
0.0
2860 (0.3%)
2820 (0.9%)
2780 (2.1%)
2740 (4.3%)
2700 (8.0%)
2660 (13.9%)
2620 (21.9%)
2580 (32.6%)
2540 (45.1%)
2500 (58.3%)
2460 (70.9%)
2420 (81.5%)
2380 (89.5%)
2340 (94.6%)
2300 (97.5%)
2260 (98.9%)
2220 (99.5%)
2180 (99.7%)
Score (Top % of Scores)
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

```
##
## [[13]]
```

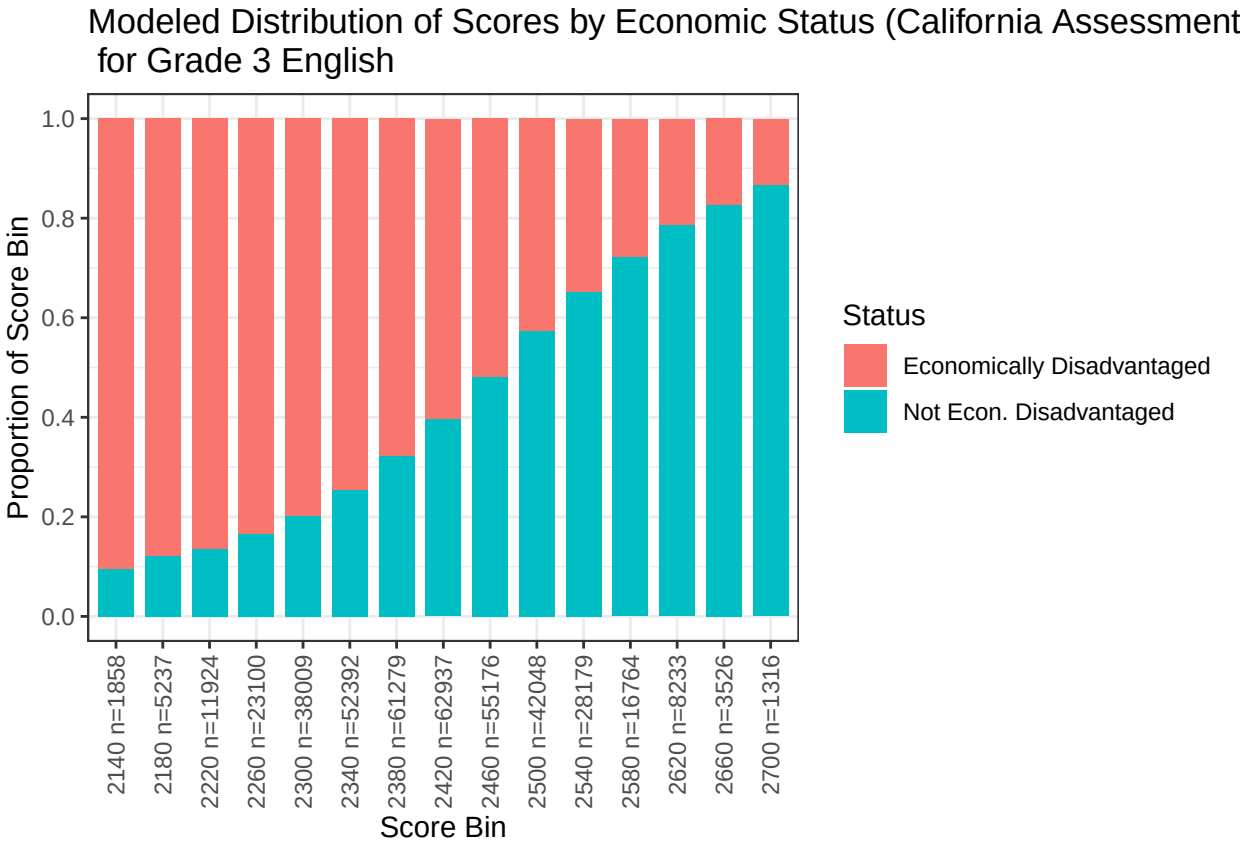

Cumulative Distribution (Score of At least) of Scores by Race
(California Assessment, Using Race/Economic) for Grade 8 Math
Cumulative Proportion
0.0
0.2
0.4
0.6
2940 (0.1%)
2900 (0.4%)
2860 (0.9%)
2820 (1.9%)
2780 (3.7%)
2740 (6.5%)
2700 (10.8%)
2660 (17.0%)
2620 (25.2%)
2580 (35.6%)
2540 (47.6%)
2500 (60.1%)
2460 (71.9%)
2420 (81.8%)
2380 (89.4%)
2340 (94.4%)
2300 (97.3%)
2260 (98.8%)
2220 (99.5%)
2180 (99.8%)
Score (Top % of Scores)
Ethnicity
American Indian
Asian
Black
Filipino
Hispanic
Pacific Islander
Two or More Races
White

```
##
## [[14]]
```

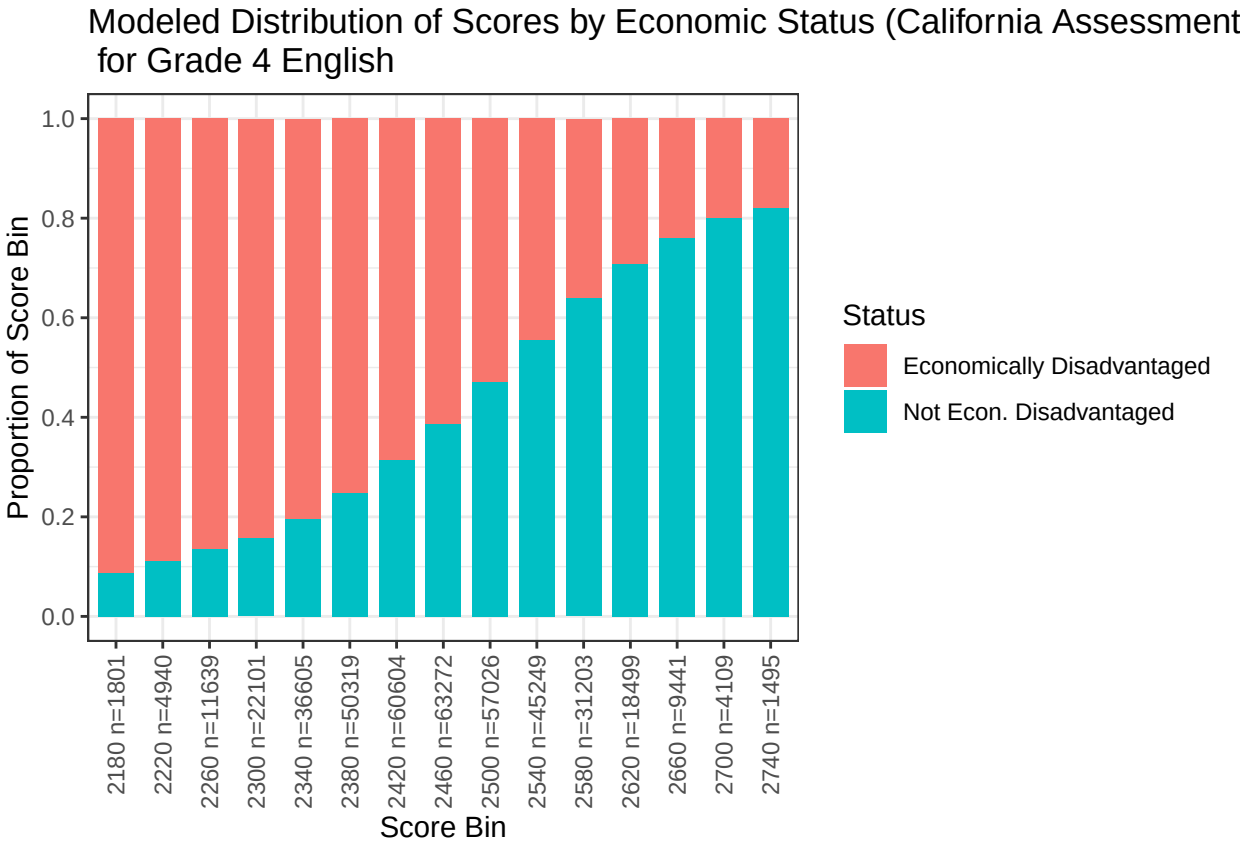



```
gender_data_status
```

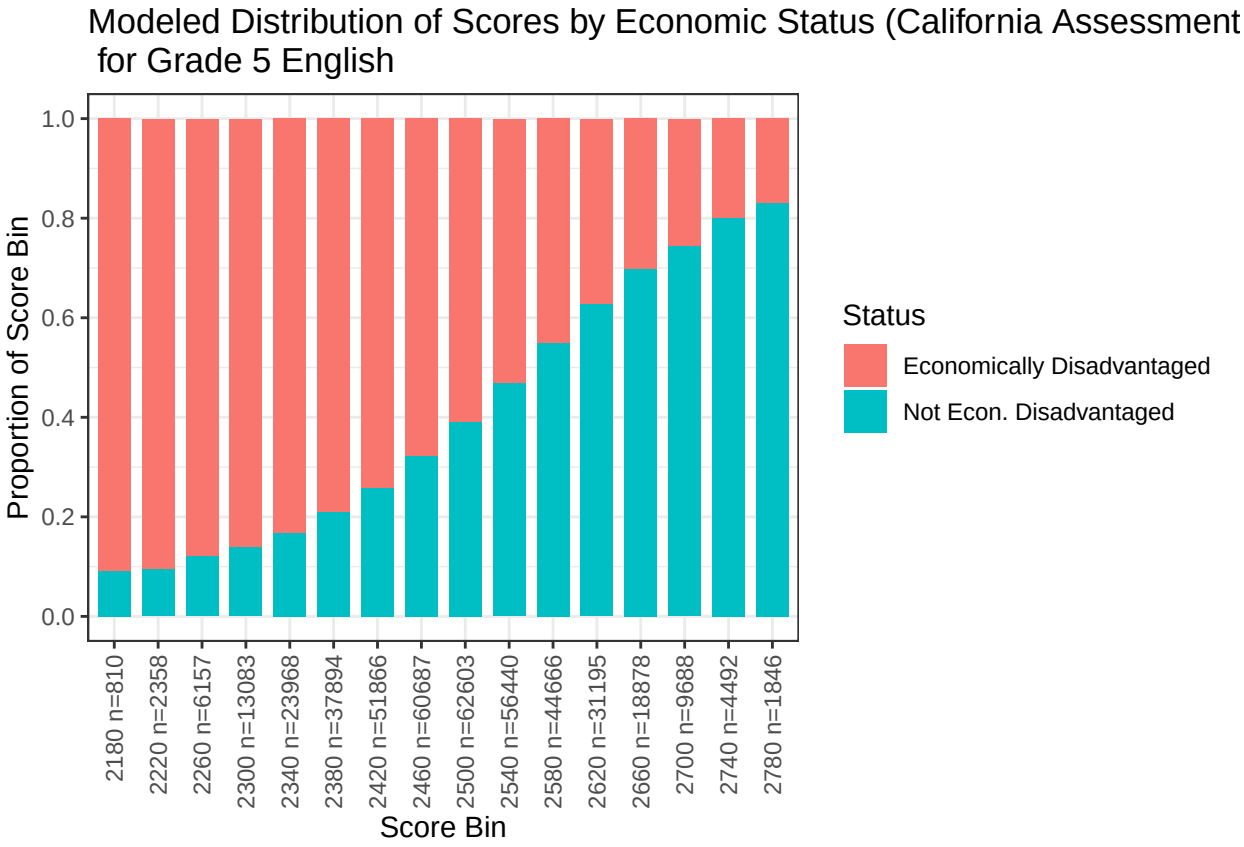
```
## [[1]]
```


Modeled Distribution of Scores by Economic Status (California Assessment for Grade 3 English
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2140 n=1858
2180 n=5237
2220 n=11924
2260 n=23100
2300 n=38009
2340 n=52392
2380 n=61279
2420 n=62937
2460 n=55176
2500 n=42048
2540 n=28179
2580 n=16764
2620 n=8233
2660 n=3526
2700 n=1316
Score Bin
Status
Economically Disadvantaged
Not Econ. Disadvantaged

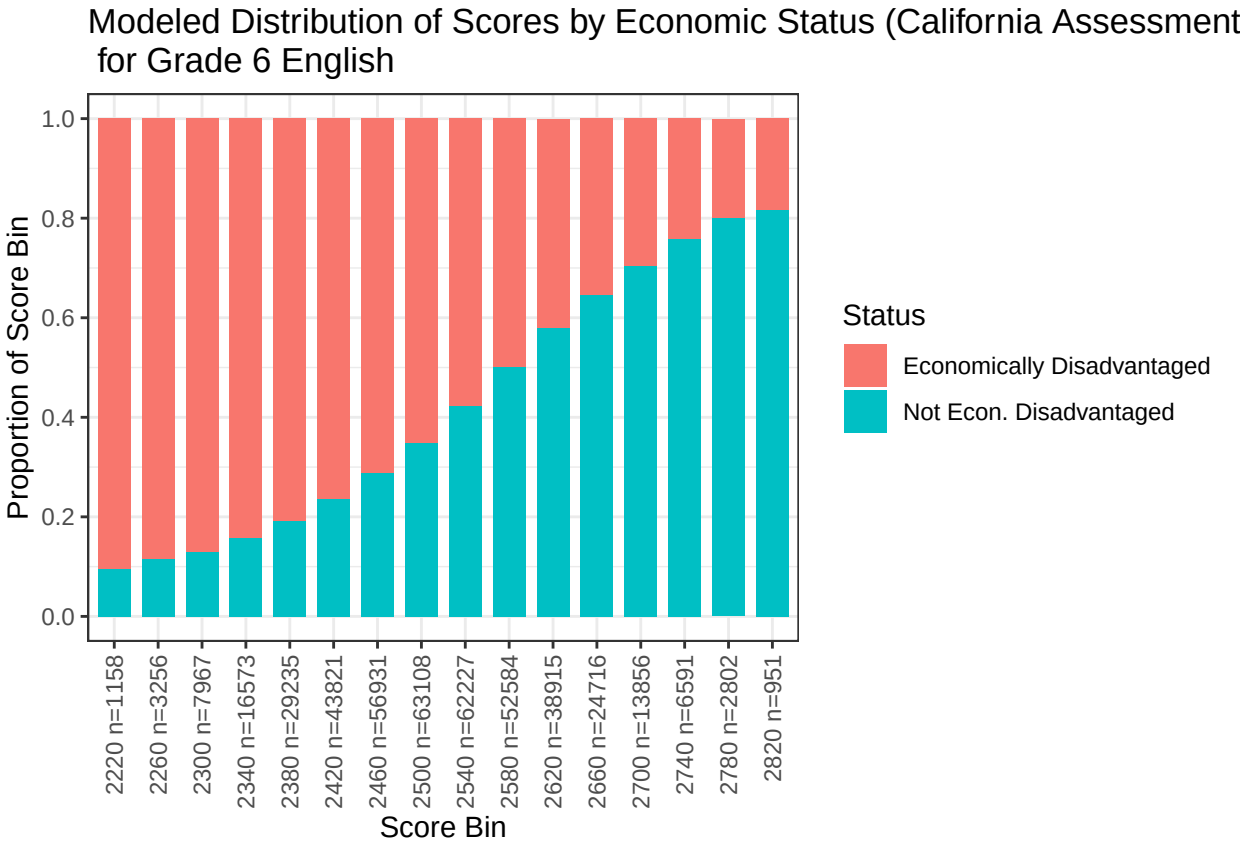
```
##
## [[2]]
```


Modeled Distribution of Scores by Economic Status (California Assessment for Grade 4 English
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2180 n=1801
2220 n=4940
2260 n=11639
2300 n=22101
2340 n=36605
2380 n=50319
2420 n=60604
2460 n=63272
2500 n=57026
2540 n=45249
2580 n=31203
2620 n=18499
2660 n=9441
2700 n=4109
2740 n=1495
Score Bin
Status
Economically Disadvantaged
Not Econ. Disadvantaged

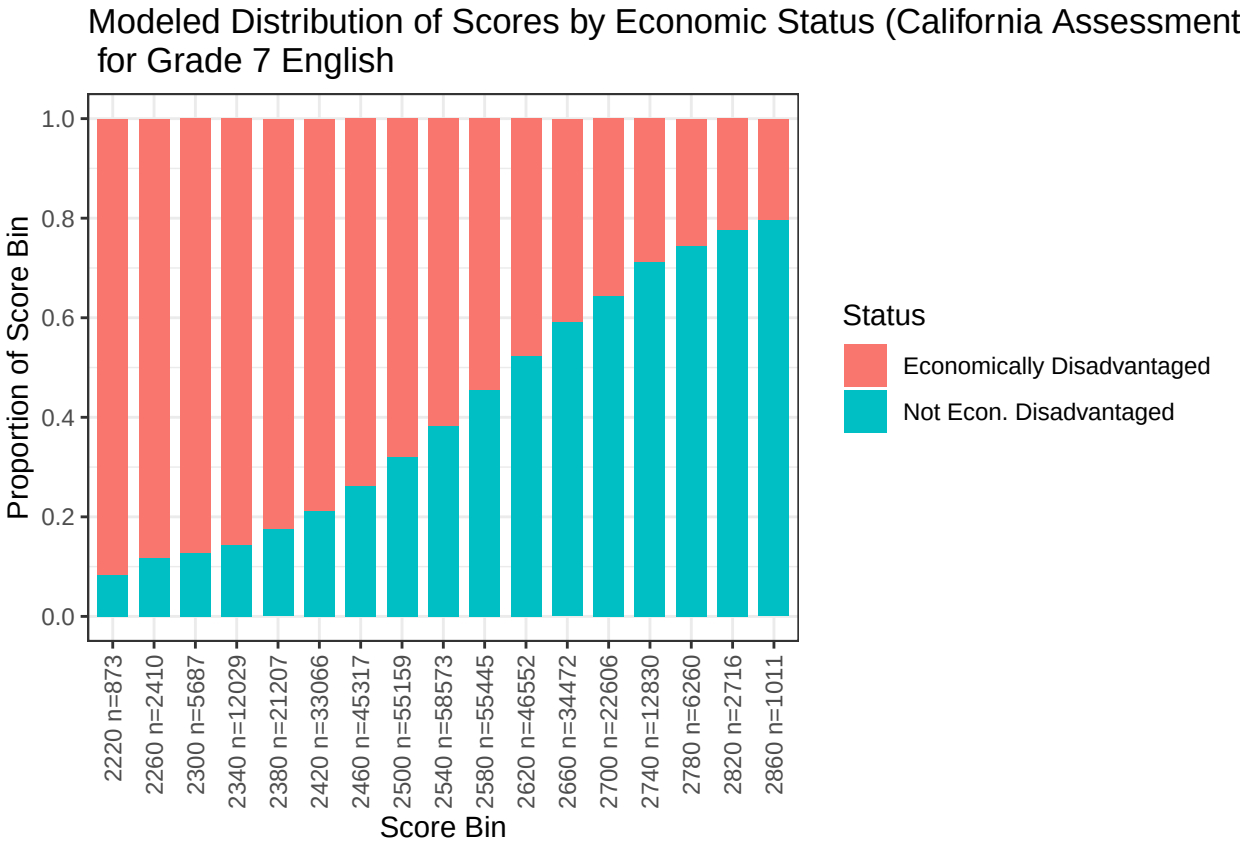
```
##
## [[3]]
```


Modeled Distribution of Scores by Economic Status (California Assessment for Grade 5 English
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2180 n=810
2220 n=2358
2260 n=6157
2300 n=13083
2340 n=23968
2380 n=37894
2420 n=51866
2460 n=60687
2500 n=62603
2540 n=56440
2580 n=44666
2620 n=31195
2660 n=18878
2700 n=9688
2740 n=4492
2780 n=1846
Score Bin
Status
Economically Disadvantaged
Not Econ. Disadvantaged

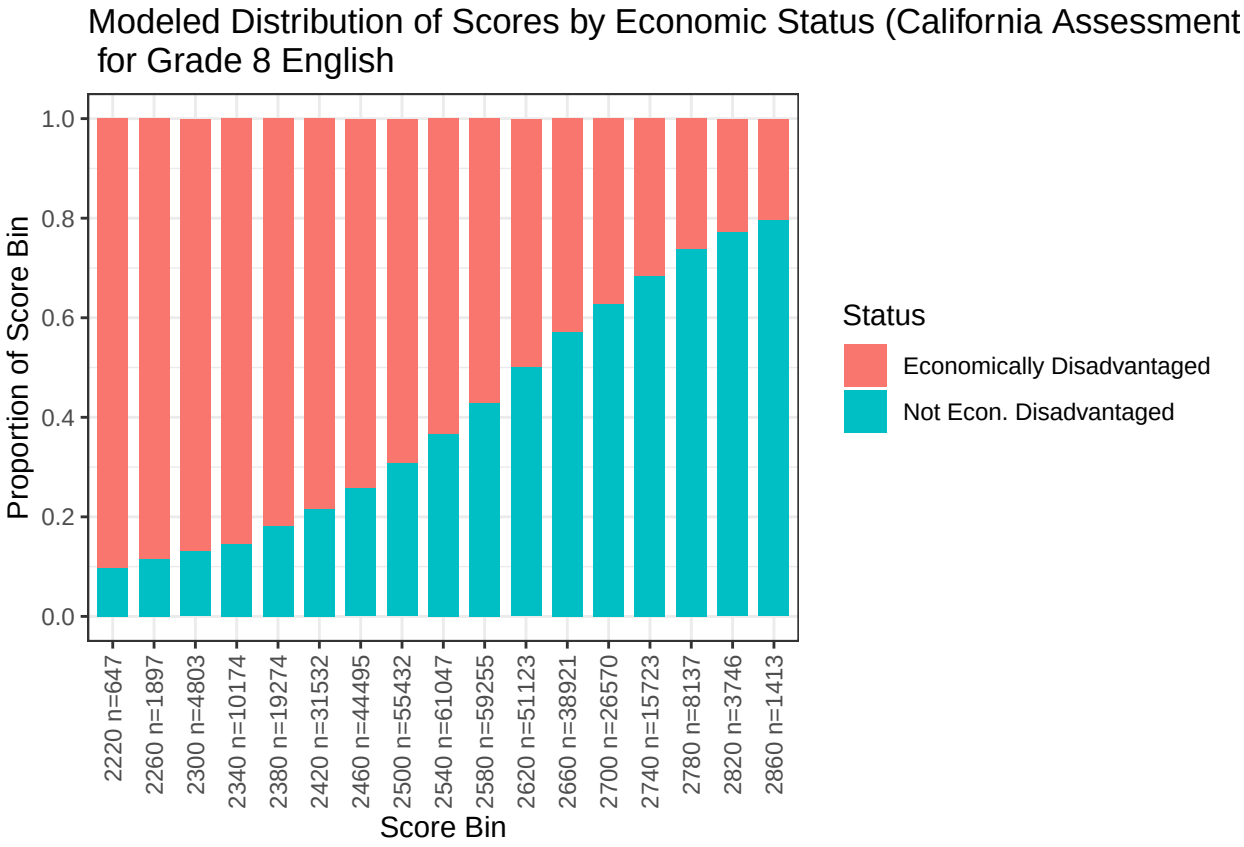
```
##
## [[4]]
```


Modeled Distribution of Scores by Economic Status (California Assessment for Grade 6 English
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2220 n=1158
2260 n=3256
2300 n=7967
2340 n=16573
2380 n=29235
2420 n=43821
2460 n=56931
2500 n=63108
2540 n=62227
2580 n=52584
2620 n=38915
2660 n=24716
2700 n=13856
2740 n=6591
2780 n=2802
2820 n=951
Score Bin
Status
Economically Disadvantaged
Not Econ. Disadvantaged

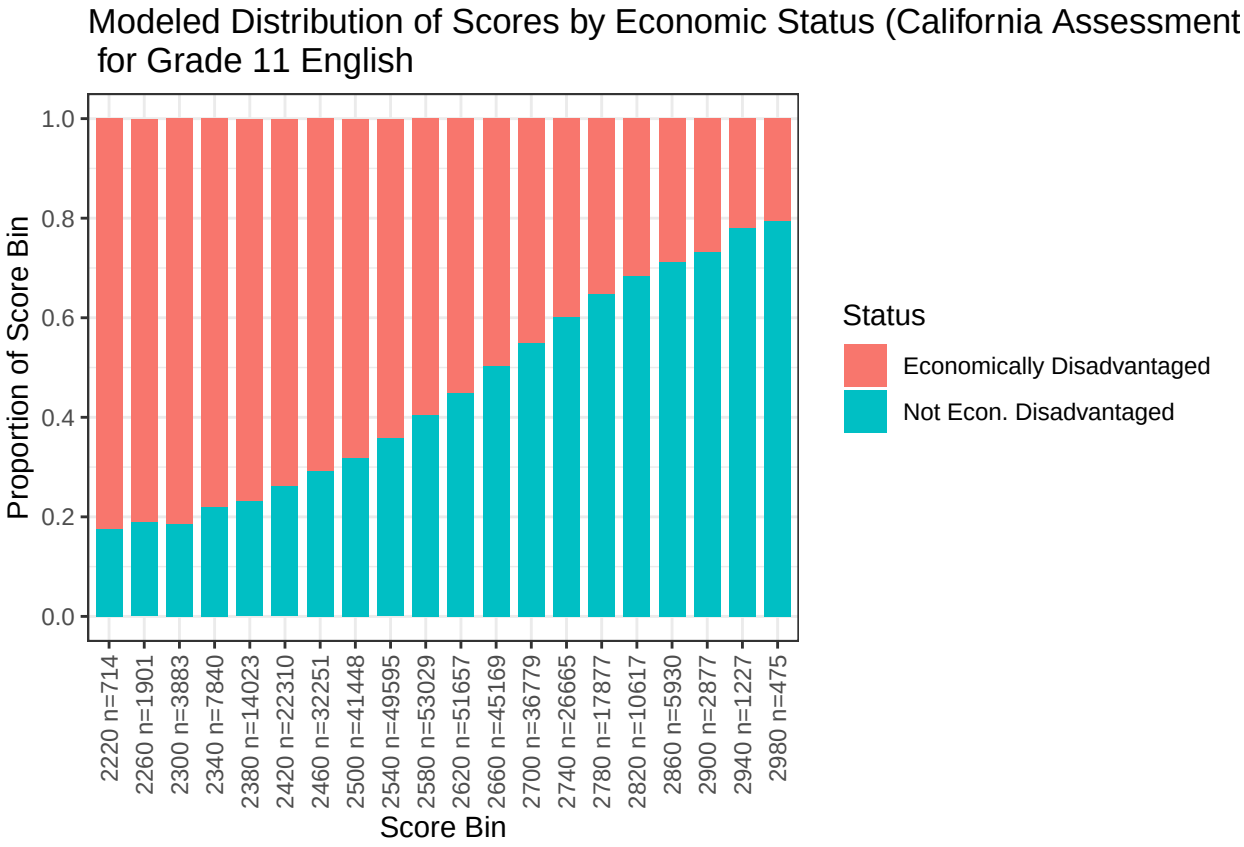
```
##
## [[5]]
```


Modeled Distribution of Scores by Economic Status (California Assessment for Grade 7 English
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2220 n=873
2260 n=2410
2300 n=5687
2340 n=12029
2380 n=21207
2420 n=33066
2460 n=45317
2500 n=55159
2540 n=58573
2580 n=55445
2620 n=46552
2660 n=34472
2700 n=22606
2740 n=12830
2780 n=6260
2820 n=2716
2860 n=1011
Score Bin
Status
Economically Disadvantaged
Not Econ. Disadvantaged

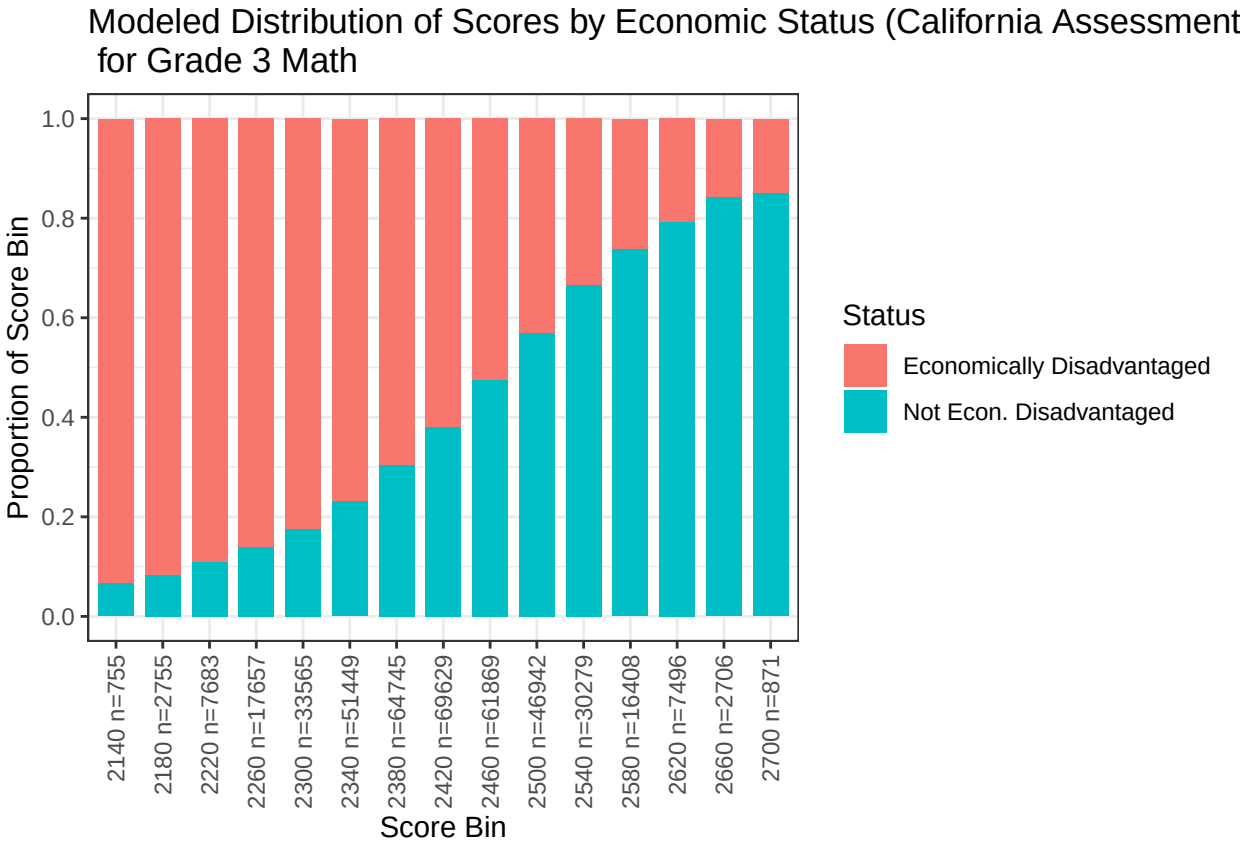
```
##
## [[6]]
```


Modeled Distribution of Scores by Economic Status (California Assessment for Grade 8 English
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2220 n=647
2260 n=1897
2300 n=4803
2340 n=10174
2380 n=19274
2420 n=31532
2460 n=44495
2500 n=55432
2540 n=61047
2580 n=59255
2620 n=51123
2660 n=38921
2700 n=26570
2740 n=15723
2780 n=8137
2820 n=3746
2860 n=1413
Score Bin
Status
Economically Disadvantaged
Not Econ. Disadvantaged

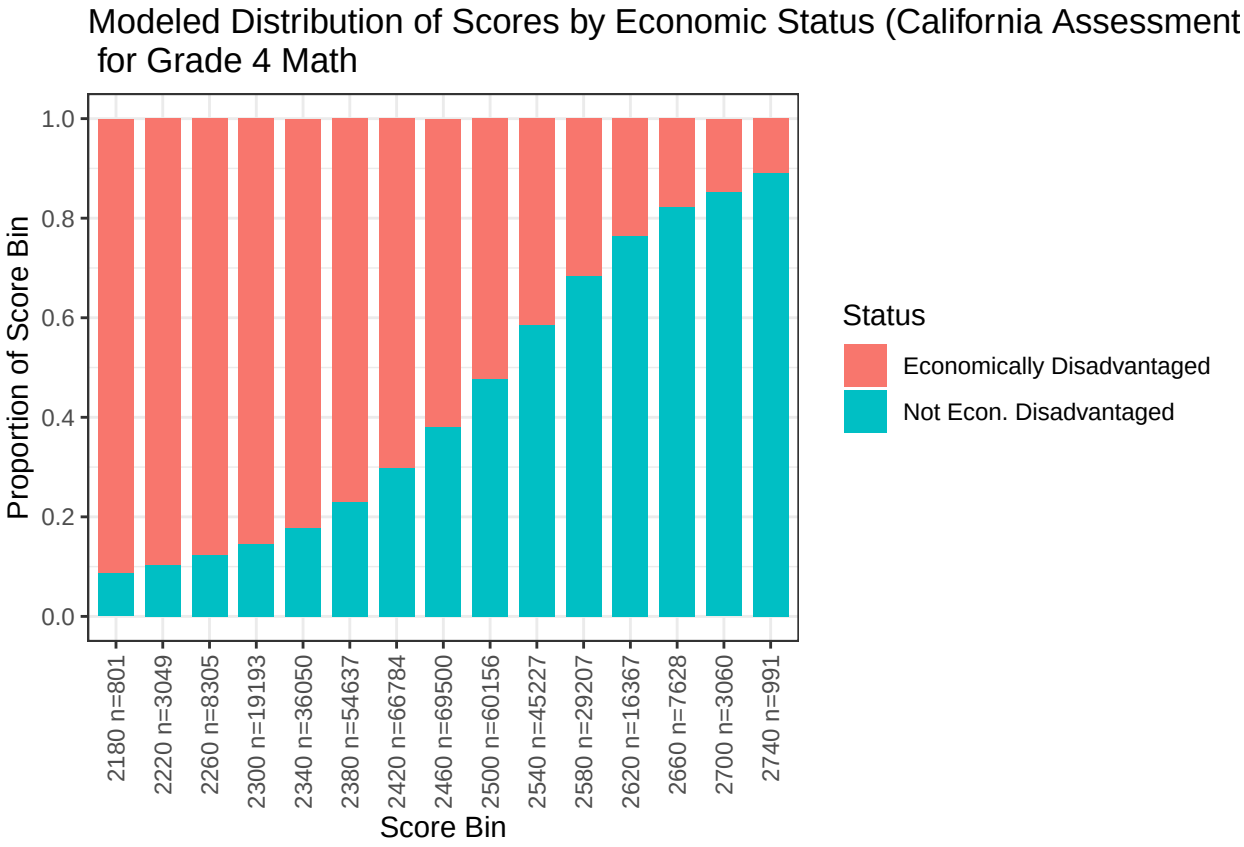
```
##
## [[7]]
```


Modeled Distribution of Scores by Economic Status (California Assessment for Grade 11 English
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2220 n=714
2260 n=1901
2300 n=3883
2340 n=7840
2380 n=14023
2420 n=22310
2460 n=32251
2500 n=41448
2540 n=49595
2580 n=53029
2620 n=51657
2660 n=45169
2700 n=36779
2740 n=26665
2780 n=17877
2820 n=10617
2860 n=5930
2900 n=2877
2940 n=1227
2980 n=475
Score Bin
Status
Economically Disadvantaged
Not Econ. Disadvantaged

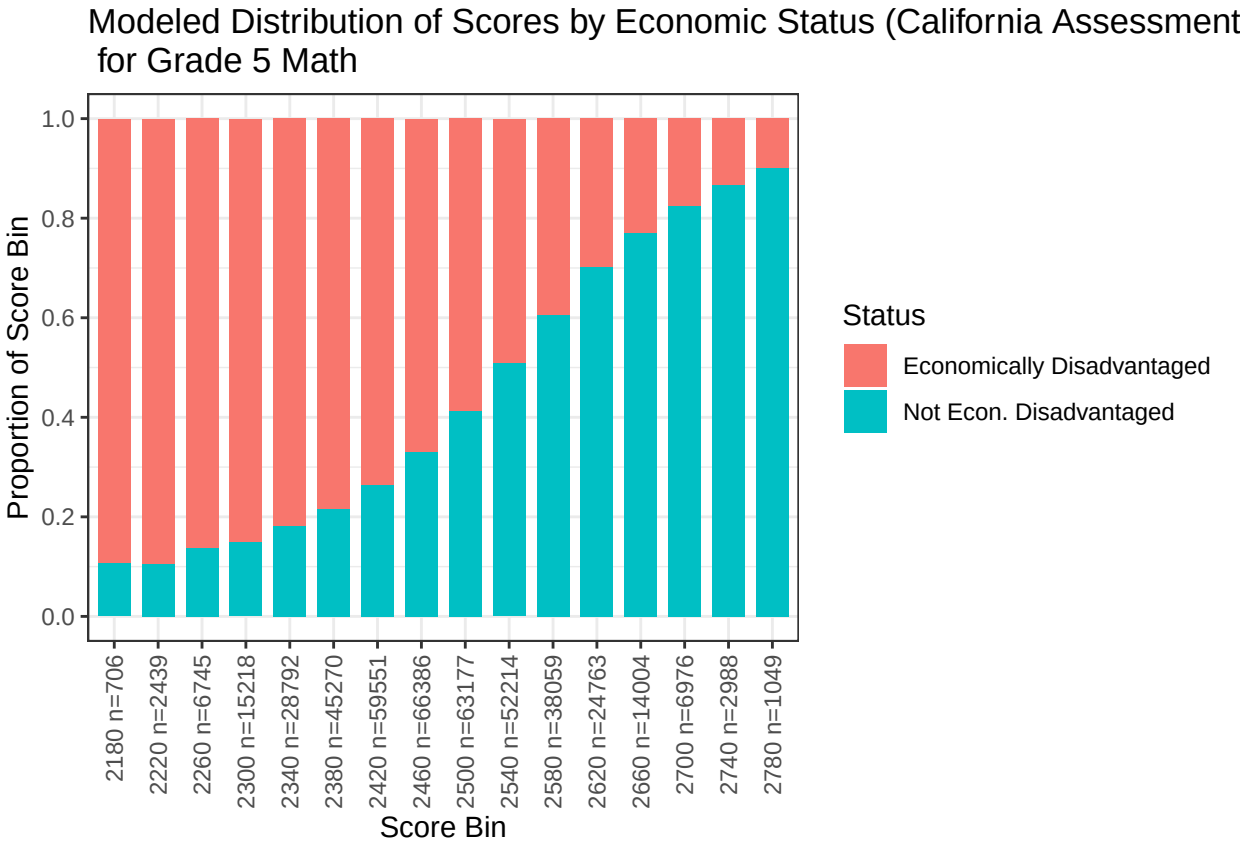
```
##
## [[8]]
```


Modeled Distribution of Scores by Economic Status (California Assessment for Grade 3 Math
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2140 n=755
2180 n=2755
2220 n=7683
2260 n=17657
2300 n=33565
2340 n=51449
2380 n=64745
2420 n=69629
2460 n=61869
2500 n=46942
2540 n=30279
2580 n=16408
2620 n=7496
2660 n=2706
2700 n=871
Score Bin
Status
Economically Disadvantaged
Not Econ. Disadvantaged

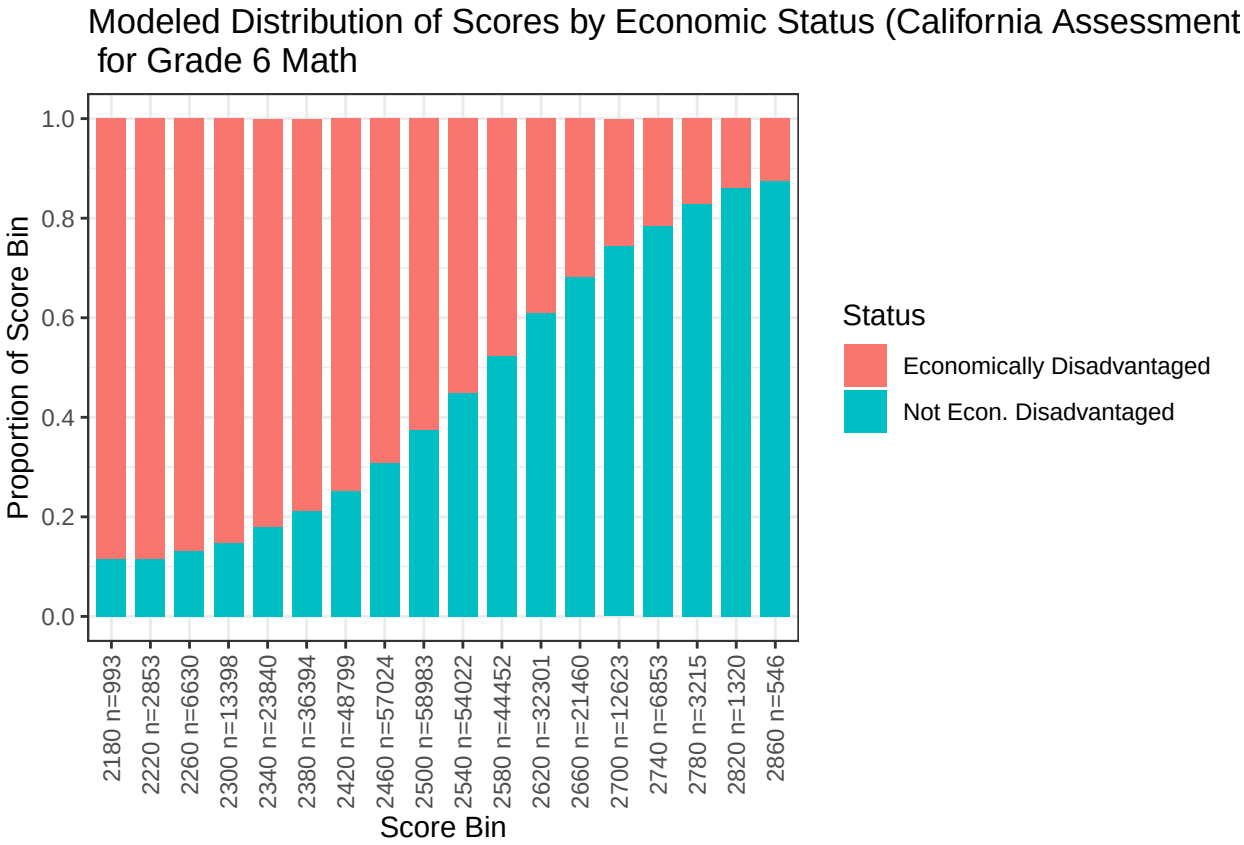
```
##
## [[9]]
```


Modeled Distribution of Scores by Economic Status (California Assessment for Grade 4 Math
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2180 n=801
2220 n=3049
2260 n=8305
2300 n=19193
2340 n=36050
2380 n=54637
2420 n=66784
2460 n=69500
2500 n=60156
2540 n=45227
2580 n=29207
2620 n=16367
2660 n=7628
2700 n=3060
2740 n=991
Score Bin
Status
Economically Disadvantaged
Not Econ. Disadvantaged

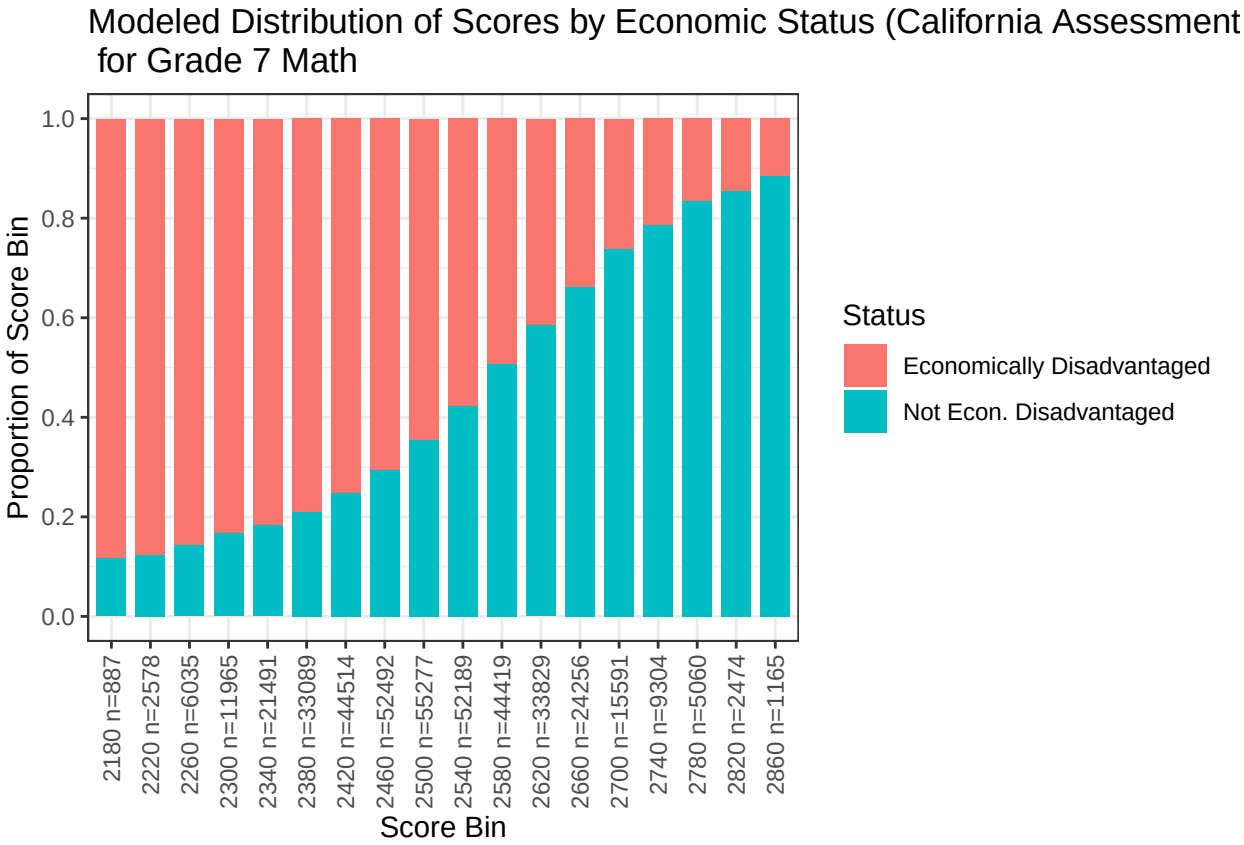
```
##
## [[10]]
```


Modeled Distribution of Scores by Economic Status (California Assessment for Grade 5 Math
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2180 n=706
2220 n=2439
2260 n=6745
2300 n=15218
2340 n=28792
2380 n=45270
2420 n=59551
2460 n=66386
2500 n=63177
2540 n=52214
2580 n=38059
2620 n=24763
2660 n=14004
2700 n=6976
2740 n=2988
2780 n=1049
Score Bin
Status
Economically Disadvantaged
Not Econ. Disadvantaged

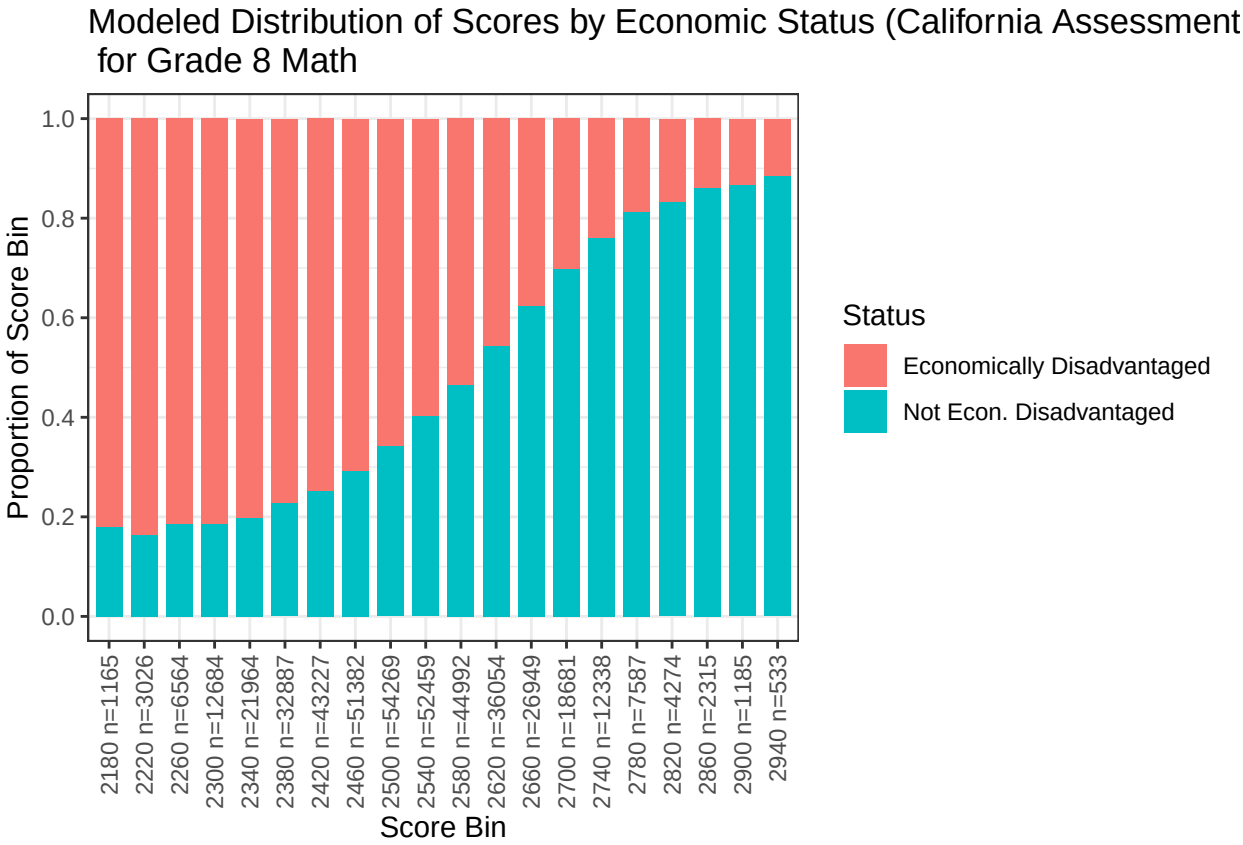
```
##
## [[11]]
```


Modeled Distribution of Scores by Economic Status (California Assessment for Grade 6 Math
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2180 n=993
2220 n=2853
2260 n=6630
2300 n=13398
2340 n=23840
2380 n=36394
2420 n=48799
2460 n=57024
2500 n=58983
2540 n=54022
2580 n=44452
2620 n=32301
2660 n=21460
2700 n=12623
2740 n=6853
2780 n=3215
2820 n=1320
2860 n=546
Score Bin
Status
Economically Disadvantaged
Not Econ. Disadvantaged

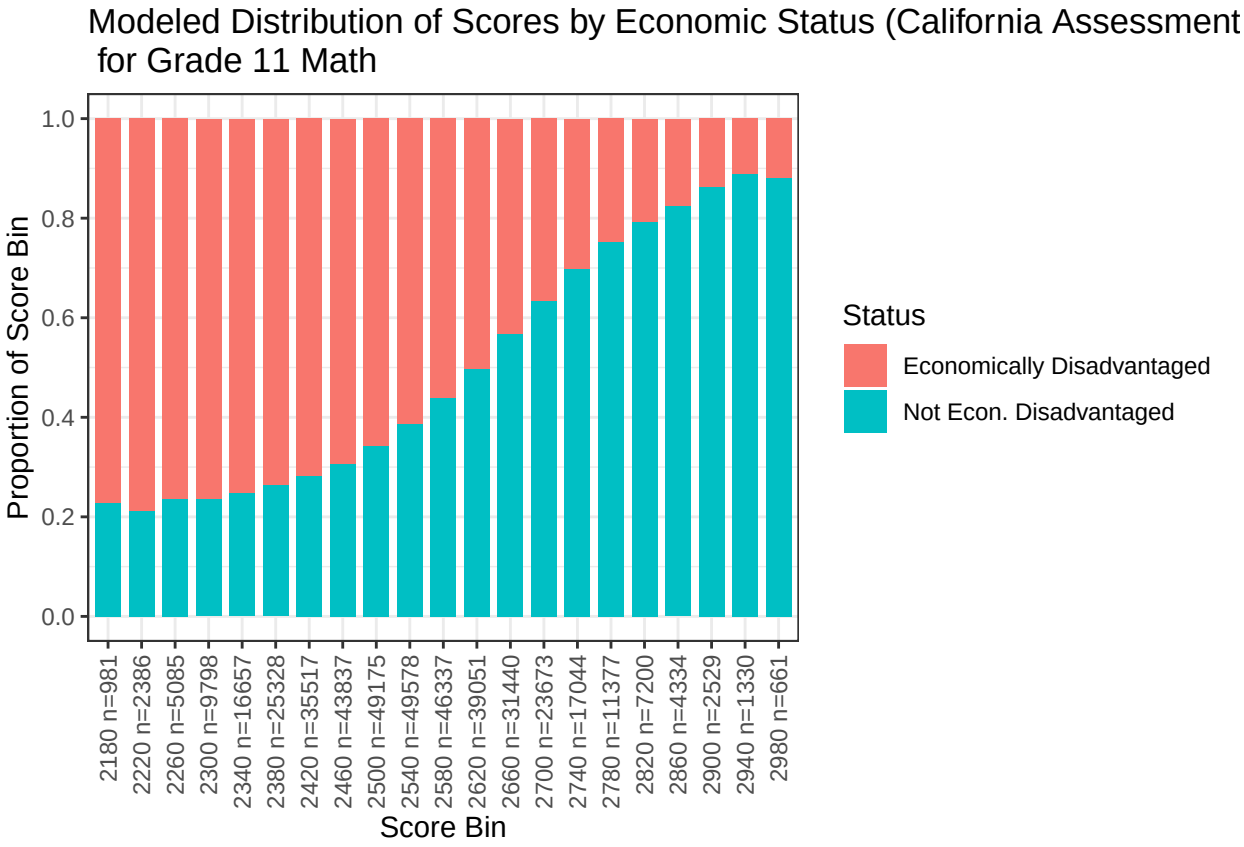
```
##
## [[12]]
```


Modeled Distribution of Scores by Economic Status (California Assessment for Grade 7 Math
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2180 n=887
2220 n=2578
2260 n=6035
2300 n=11965
2340 n=21491
2380 n=33089
2420 n=44514
2460 n=52492
2500 n=55277
2540 n=52189
2580 n=44419
2620 n=33829
2660 n=24256
2700 n=15591
2740 n=9304
2780 n=5060
2820 n=2474
2860 n=1165
Score Bin
Status
Economically Disadvantaged
Not Econ. Disadvantaged

```
##
## [[13]]
```


Modeled Distribution of Scores by Economic Status (California Assessment for Grade 8 Math
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2180 n=1165
2220 n=3026
2260 n=6564
2300 n=12684
2340 n=21964
2380 n=32887
2420 n=43227
2460 n=51382
2500 n=54269
2540 n=52459
2580 n=44992
2620 n=36054
2660 n=26949
2700 n=18681
2740 n=12338
2780 n=7587
2820 n=4274
2860 n=2315
2900 n=1185
2940 n=533
Score Bin
Status
Economically Disadvantaged
Not Econ. Disadvantaged

```
##
## [[14]]
```


Modeled Distribution of Scores by Economic Status (California Assessment for Grade 11 Math
Proportion of Score Bin
1.0
0.8
0.6
0.4
0.2
0.0
2180 n=981
2220 n=2386
2260 n=5085
2300 n=9798
2340 n=16657
2380 n=25328
2420 n=35517
2460 n=43837
2500 n=49175
2540 n=49578
2580 n=46337
2620 n=39051
2660 n=31440
2700 n=23673
2740 n=17044
2780 n=11377
2820 n=7200
2860 n=4334
2900 n=2529
2940 n=1330
2980 n=661
Score Bin
Status
Economically Disadvantaged
Not Econ. Disadvantaged