Data Analysis - Stacked Bar Chart with Grouping Variable

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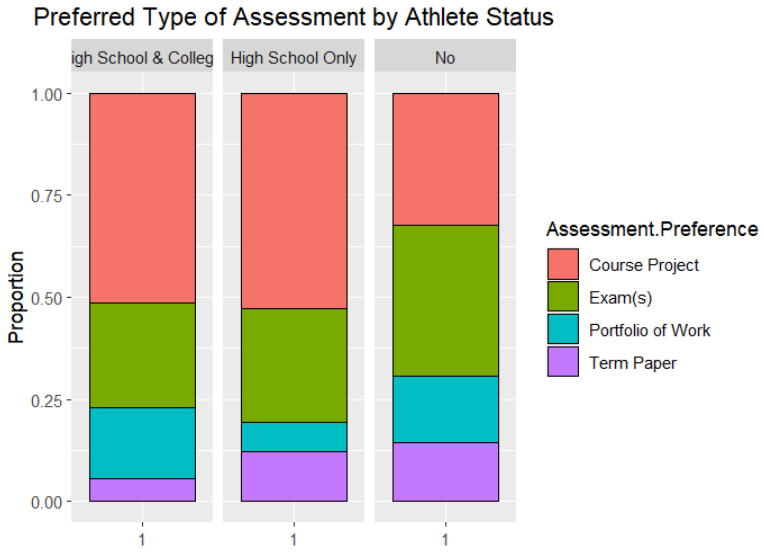
The Assignment

1) Using [7.6.2], construct a Stacked Bar Chart of the Preferred Type of Assessment with a grouping variable of Athlete Status.



2) Reading from the graphs, which status has the lowest proportion of students who prefer course projects?

"No" athlete status group has the lowest proportion of students.

3) Reading from the graphs, for students who only competed in high school, what was their most favored type of assessment?

Course Project

4) [9.2.3] Construct a two-way table of the counts of the Athlete Status and Preferred Type of Assessment

Assessment Preference	Course Project	Exam(s)	Portfolio of Work	Term Paper	Total
High School & College	18	9	6	2	**35**
High School Only	30	16	4	7	**57**
No	20	23	10	9	**62**
Total	**68**	**48**	**20**	**18**	**154**

5) What percentage of students prefer course projects?

44.2%

6) What percentage of students competed athletically while in high school (only)?

37%

7) What percentage of students did not compete athletically and preferred a Portfolio of Work?

6.5%

8) Of the students who did not compete athletically, what percentage prefer exams?

37.1%

9) Of the students who prefer course projects, what percent compete athletically in both high school and college?

26.5%

10) What percentage of students prefer exams or compete athletically in high school (only)?

57.8%

Code R

1)

```
Stack.Bar.Chart.2 <- ggplot(LabData, aes(x = factor(1), stat = "bin", fill =
Assessment.Preference))
Stack.Bar.Chart.2 + geom_bar(position = "fill", col = "black") +
   ggtitle("Preferred Type of Assessment by Athlete Status") +
   xlab("") +
   ylab("Proportion") +
   facet_grid(facets = . ~ School.Athletics) +
   theme(axis.line = element_blank(), plot.title = element_text(hjust = 0.5))
```

4)

```
table(School.Athletics, Assessment.Preference)
```

5-10)

```
percentage_cp <- (sum(c(18, 30, 20)) / sum(c(35, 57, 62))) * 100
percentage_cp

 percentage_hs <- (57 / 154) * 100
 percentage_hs

percentage_nap <- (10 / 154) * 100
percentage_nap

percentage_nae <- (23 / 62) * 100
percentage_nae

percentage_cphsc <- (18 / 68) * 100
percentage_cphsc

percentage_eohs <- ((48 + 57 - 16) / 154) * 100
percentage_eohs
```