

Introduction to Statistics and Data Science using *eStat*

## Chapter 2 Visualization of Qualitative Data

# 2.3 Visualization of Categorical Raw Data

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## 2.3 Visualization of Raw Data

### ❖ Raw Data and Summary Data

- Survey on gender in a class, and write them as 'male', 'female', 'male' and 'male'... => **raw data**
- Compile the raw data as a frequency distribution table

Gender	Student
Male	6
Female	4

=> **summary data.**

## 2.3 Visualization of Raw Data

[Example 2.3.1] (Gender Survey – Raw data without group)  
For the census, gender data is compiled by coding (1: male, 2: female) as shown in Table 2.3.1  
(Ex ⇒ eBook ⇒ Ex020301\_Raw\_Gender.csv).

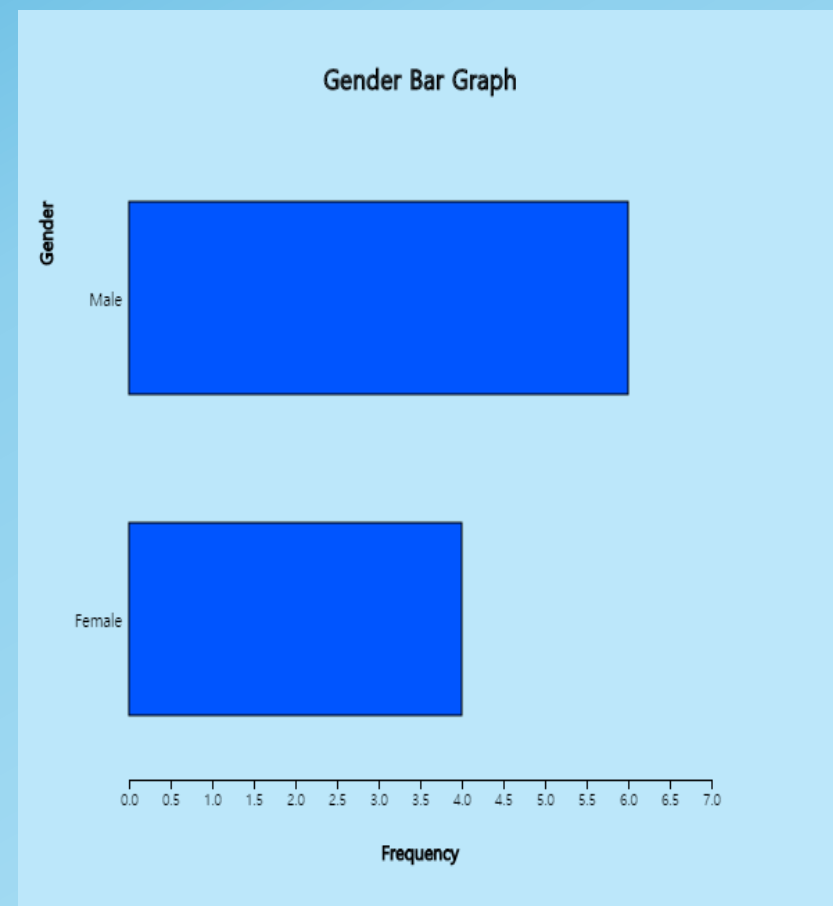
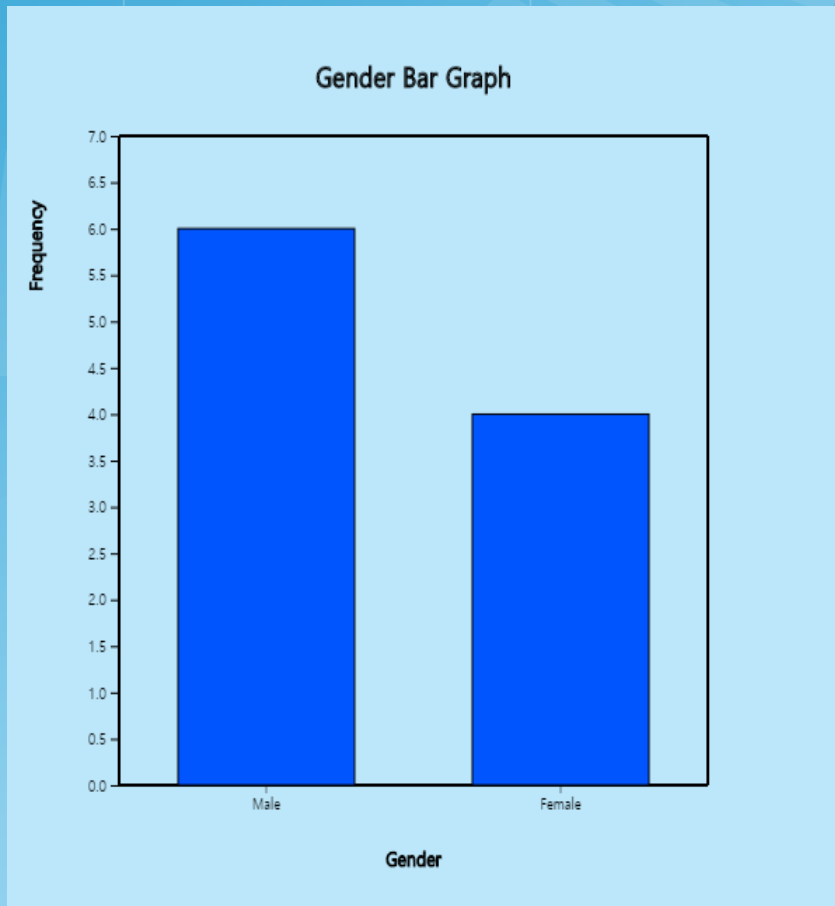
These data are called **raw data**.

Use 『eStat』 to draw a bar chart, pie chart, and a band graph to find out the characteristics.

Gender
1
2
1
2
1
1
1
2
1
2

## 2.3 Visualization of Raw Data

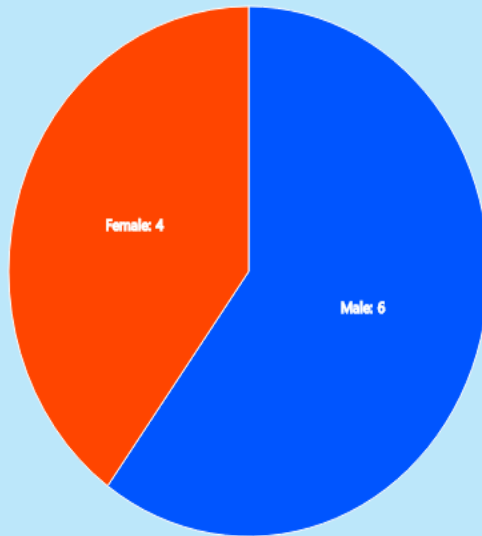
### [Example 2.3.1] (Gender Survey – Raw data without group)



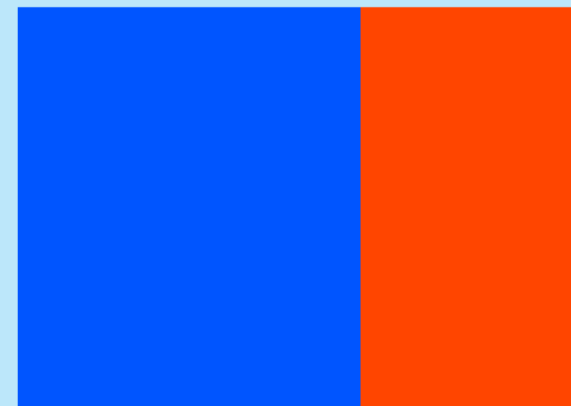
## 2.3 Visualization of Raw Data

[Example 2.3.1] (Gender Survey – Raw data without group)

Gender Pie Chart



Gender Band Graph



■ Male

■ Female

## 2.3 Visualization of Raw Data

**[Example 2.3.2] (Population – raw data with group)**  
In addition to the gender data of [Example 2.3.1], marital status is also surveyed as Table 2.3.2 shows the data of marriage status along with gender (1: Single 2: Married, 3: Other).

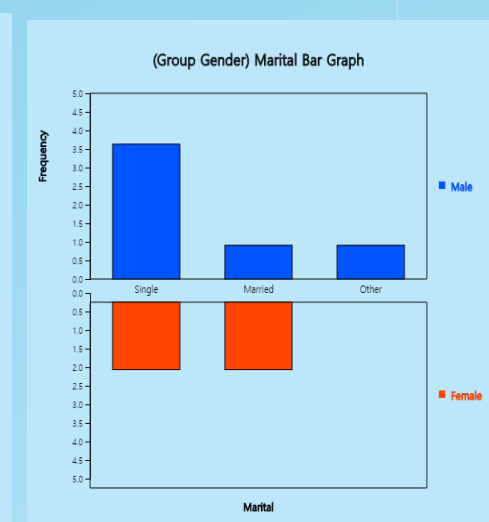
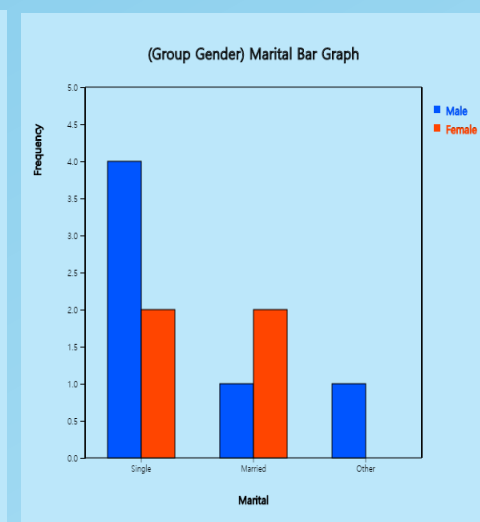
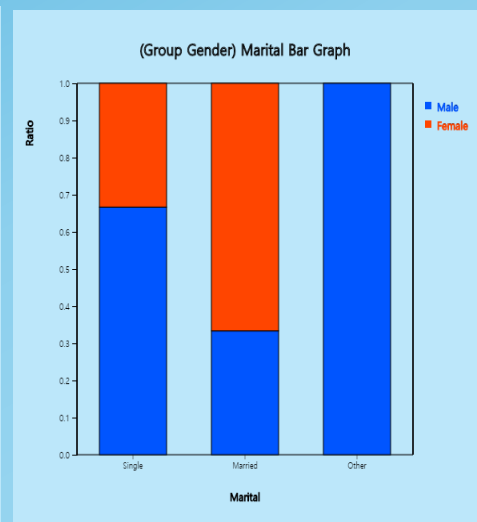
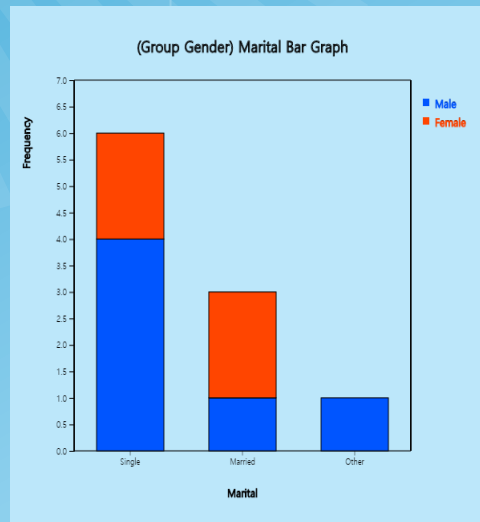
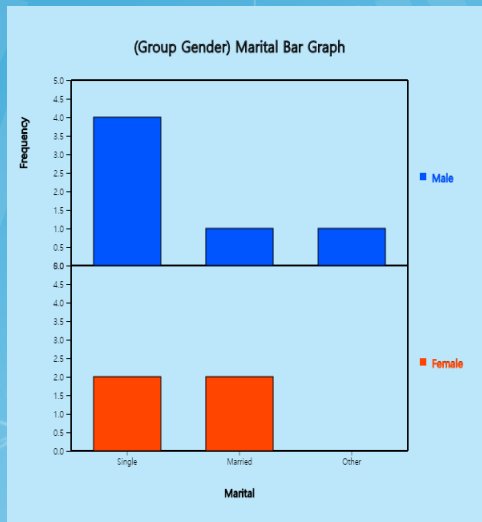
**Ex ⇒ eBook ⇒ EX020302\_Raw\_MaritalByGender.csv)**

In this data, compare the characteristics of marital status by gender with bar charts, pie chart, band graph, and line graph for each male and female.

Gender (1:Male, 2:Female)	Marital Status (1:Single, 2:Married, 3:Other)
1	1
2	2
1	1
2	1
1	2
1	1
1	1
2	2
1	3
2	1

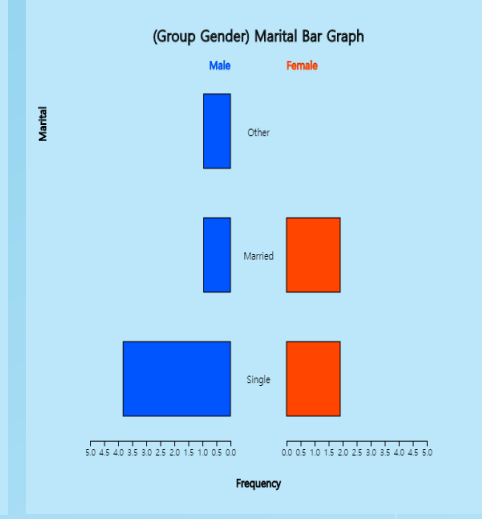
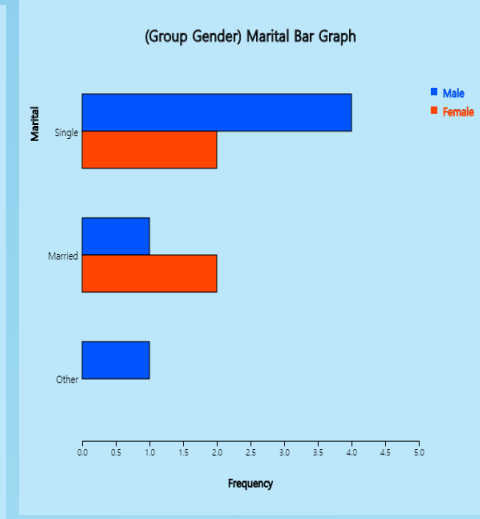
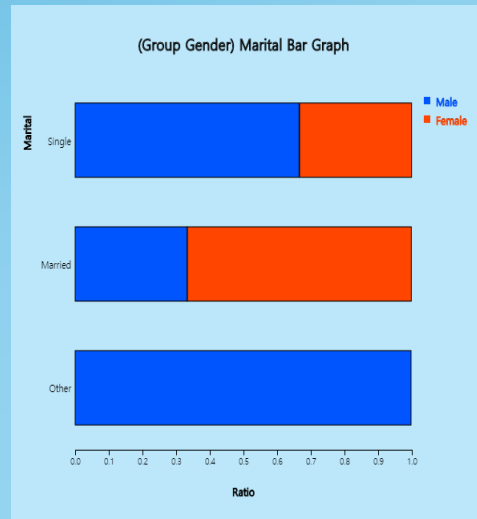
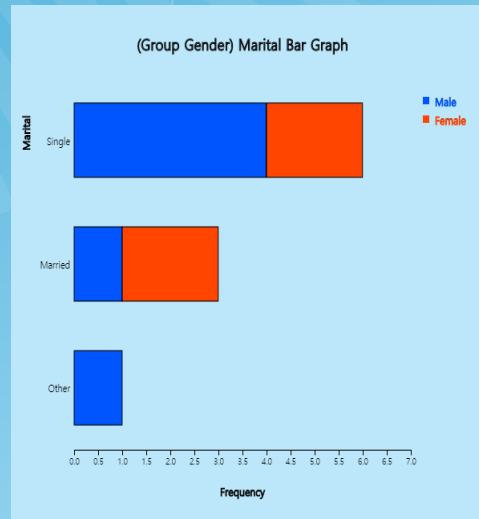
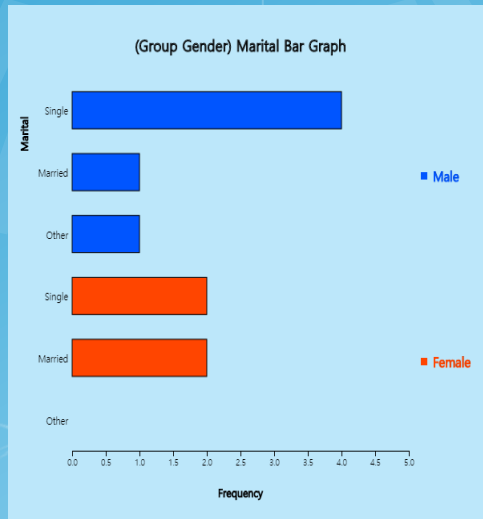
## 2.3 Visualization of Raw Data

### [Example 2.3.2] (Population – raw data with group)



## 2.3 Visualization of Raw Data

### [Example 2.3.2] (Population – raw data with group)

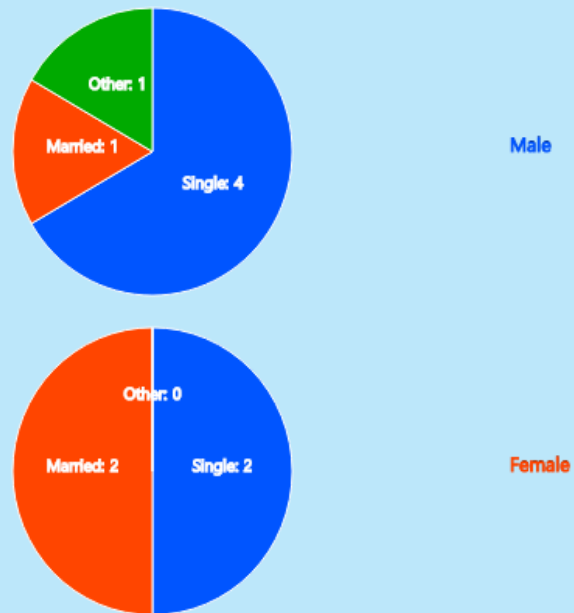




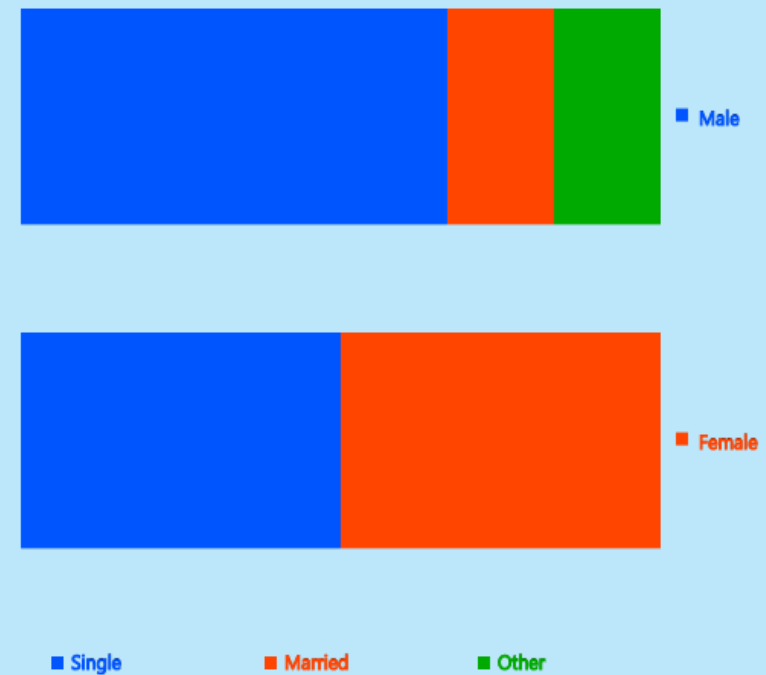
## 2.3 Visualization of Raw Data

### [Example 2.3.2] (Population – raw data with group)

(Group Gender) Marital Pie Chart



(Group Gender) Marital Band Graph





Thank you