

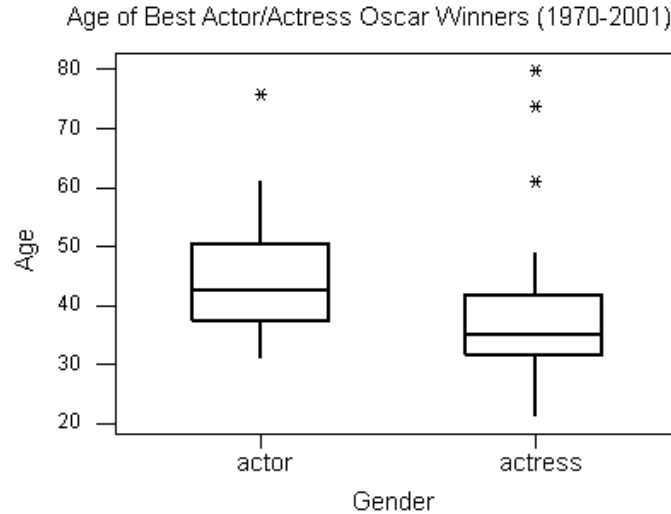
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## Ages of Oscar Winners

### Background:

The set of boxplots shown below represent the ages of actors and actresses who have been awarded an Oscar for Best Actor/Actress. The data include 32 male actors and 32 female actresses that won the prestigious award between the years 1970 and 2001.



- Record the five-number summary for each gender.

#### Actors

Minimum: \_\_\_\_\_

Q<sub>1</sub>: \_\_\_\_\_

Median: \_\_\_\_\_

Q<sub>3</sub>: \_\_\_\_\_

Maximum: \_\_\_\_\_

#### Actresses

Minimum: \_\_\_\_\_

Q<sub>1</sub>: \_\_\_\_\_

Median: \_\_\_\_\_

Q<sub>3</sub>: \_\_\_\_\_

Maximum: \_\_\_\_\_

- Which gender shows more variability in the ages of the winners? Explain using appropriate measures.
  
- What other statistical questions can you think of based on these plots? Is there anything surprising about the differences between genders that could be worth exploring?

Name: \_\_\_\_\_

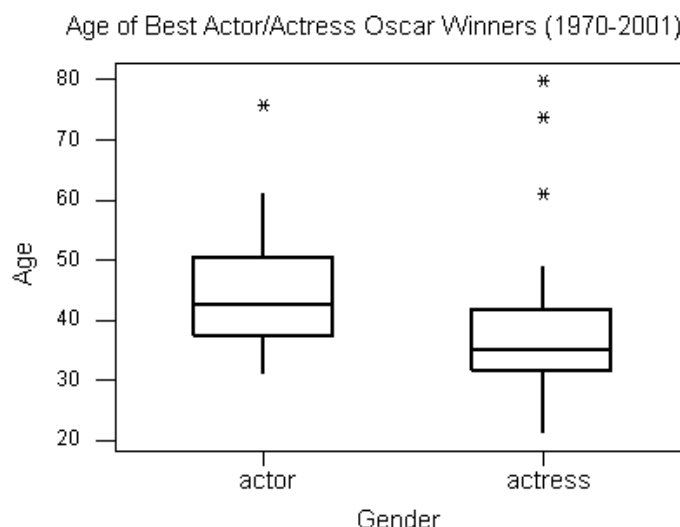
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## Ages of Oscar Winners

### Answer Key

Background:

The set of boxplots shown below represent the ages of actors and actresses who have been awarded an Oscar for Best Actor/Actress. The data include 32 male actors and 32 female actresses that won the prestigious award between the years 1970 and 2001.



1. Record the five-number summary for each gender.

#### Actors

Minimum: 31Q<sub>1</sub>: 38Median: 43Q<sub>3</sub>: 50Maximum: 76

#### Actresses

Minimum: 22Q<sub>1</sub>: 32Median: 35Q<sub>3</sub>: 42Maximum: 80

2. Which gender shows more variability in the ages of the winners? Explain using appropriate measures.

*If we use the range as a measure of spread, then the female actresses show more variability since the youngest actress was 22 and the oldest was 80 which is a difference of 58 years compared to the range of male actors which was only 45 years. If we use the IQR as a measure of spread, then we can say that there was more variability in the age of male actors since the middle 50% of male Oscar winners were within 12 years difference compared to females, which displayed only a 10-year difference. In this case the IQR is a more reliable measure of spread since it measures the spread in the middle 50% of the data and is less affected by extreme values in the data.*

3. What other statistical questions can you think of based on these plots? Is there anything surprising about the differences between genders that could be worth exploring?

*Answers may vary. Are female Oscar winners typically younger than male Oscar winners?*