

Assessment due May 9, 2021 00:13 +03

The following four parts look at probabilities related to alcohol and tobacco consumption among the cases.

Question 5a

1/1 point (graded)

For cases, what is the probability of being in the highest alcohol group?

✓ **Answer:** 0.225

Explanation

The probability can be calculated using the following code:

```
high_alc_cases <- esoph %>%  
  filter(alcgp == "120+") %>%  
  pull(ncases) %>%  
  sum()  
  
p_case_high_alc <- high_alc_cases/all_cases  
p_case_high_alc
```

Submit

You have used 3 of 10
attempts

i Answers are displayed within the problem

Question 5b

1/1 point (graded)

For cases, what is the probability of being in the highest tobacco group?

✓ **Answer:** 0.155

0.155

Explanation

The probability can be calculated using the following code:

```
high_tob_cases <- esoph %>%  
  filter(tobgp == "30+") %>%  
  pull(ncases) %>%  
  sum()  
  
p_case_high_tob <- high_tob_cases/all_cases  
p_case_high_tob
```

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You have used 1 of 10
attempts

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Question 5c

1/1 point (graded)

For cases, what is the probability of being in the highest alcohol group **and** the highest tobacco group?

0.05

✓ **Answer:** 0.05

0.05

Explanation

The probability can be calculated using the following code:

```
high_alc_tob_cases <- esoph %>%  
  filter(alcgp == "120+" & tobgp == "30+") %>%  
  pull(ncases) %>%  
  sum()  
  
p_case_high_alc_tob <- high_alc_tob_cases/all_cases  
p_case_high_alc_tob
```

Submit

You have used 1 of 10 attempts

i Answers are displayed within the problem

Question 5d

1/1 point (graded)

For cases, what is the probability of being in the highest alcohol group **or** the highest tobacco group?

0.33

✓ **Answer:** 0.33

0.33

Explanation

The probability can be calculated using the following code:

```
p_case_either_highest <- p_case_high_alc + p_case_high_tob - p_c  
p_case_either_highest
```

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You have used 1 of 10 attempts

i Answers are displayed within the problem

The following six parts look at probabilities related to alcohol and tobacco consumption among the controls and also compare the cases and the controls.

Question 6a

1/1 point (graded)

For controls, what is the probability of being in the highest alcohol group?

✓ **Answer:** 0.0687

Explanation

The probability can be calculated using the following code:

```
high_alc_controls <- esoph %>%  
  filter(alcgp == "120+") %>%  
  pull(ncontrols) %>%  
  sum()  
  
p_control_high_alc <- high_alc_controls/all_controls  
p_control_high_alc
```

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You have used 1 of 10
attempts

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Question 6b

1/1 point (graded)

How many times more likely are cases than controls to be in the highest alcohol group?

✓ **Answer:** 3.27

Explanation

This calculated using the following code:

```
p_case_high_alc/p_control_high_alc
```

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You have used 1 of 10
attempts

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Question 6c

1/1 point (graded)

For controls, what is the probability of being in the highest tobacco group?

✓ **Answer:** 0.0841

Explanation

The probability can be calculated using the following code:

```
high_tob_controls <- esoph %>%  
  filter(tobgp == "30+") %>%  
  pull(ncontrols) %>%  
  sum()  
  
p_control_high_tob <- high_tob_controls/all_controls  
p_control_high_tob
```

Submit

You have used 1 of 10
attempts

i Answers are displayed within the problem

Question 6d

1/1 point (graded)

For controls, what is the probability of being in the highest alcohol group **and** the highest tobacco group?

✓ **Answer:** 0.0133

Explanation

The probability can be calculated using the following code:

```
high_alc_tob_controls <- esoph %>%  
  filter(alcgp == "120+" & tobgp == "30+") %>%  
  pull(ncontrols) %>%  
  sum()  
  
p_control_high_alc_tob <- high_alc_tob_controls/all_controls  
p_control_high_alc_tob
```

Submit

You have used 1 of 10
attempts

i Answers are displayed within the problem

Question 6e

1/1 point (graded)

For controls, what is the probability of being in the highest alcohol group **or** the highest tobacco group?

0.139

✓ **Answer:** 0.139

0.139

Explanation

The probability can be calculated using the following code:

```
p_control_either_highest <- p_control_high_alc + p_control_high_  
p_control_either_highest
```

Submit

You have used 1 of 10
attempts

i Answers are displayed within the problem

Question 6f

1/1 point (graded)

How many times more likely are cases than controls to be in the highest alcohol group **or** the highest tobacco group?

2.37

✓ **Answer:** 2.37

2.37

Explanation

This calculated using the following code:

```
p_case_either_highest/p_control_either_highest
```

Submit

You have used 1 of 10
attempts

i Answers are displayed within the problem