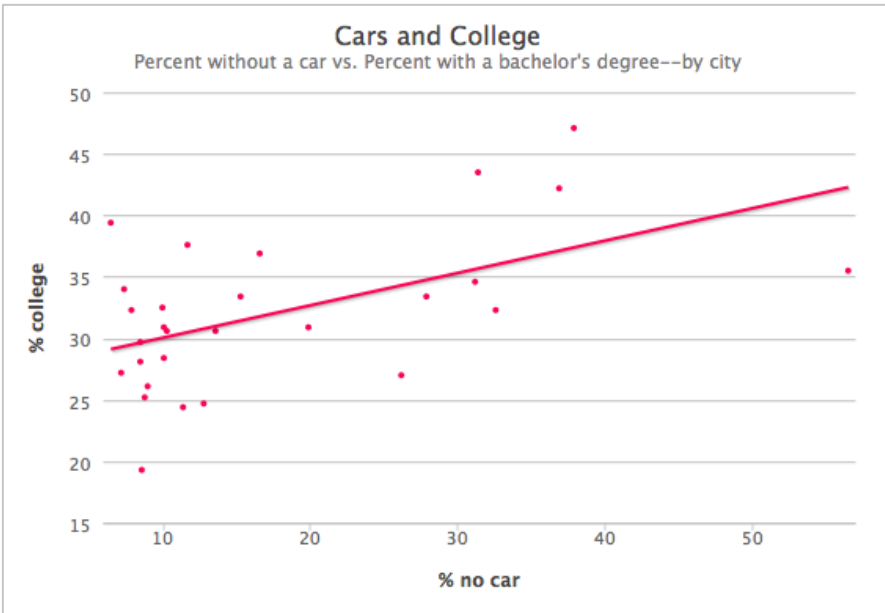


Quiz 10

Name _____

The following scatterplot showing the percentage of bachelor degree holders and the percentage of people not owning a car in several US cities.¹



- (a) In this scatterplot, which is the
 - i. Explanatory variable?
 - ii. Response variable?

- (b) Check the equation that is closest to the equation of the regression line shown: (Assume $y = \% \text{ college}$ and $x = \% \text{ no car}$.) *Check one*
 - ___ $y = 0.275x + 30$
 - ___ $y - 0.29 = 0.275x$
 - ___ $y = 27.5x + 29$
 - ___ $y = 0.275x + 27$
 - ___ $y = 27.5x + 2.75$

- (c) Interpret the slope of the line in this context.

- (d) Based on the scatterplot, mark each of the following statements as True (T) or False (F)
 - ___ If a mayor discourages car ownership, the percent of bachelor's degrees in the mayor's city will increase
 - ___ High car ownership corresponds to a low proportion of bachelor's degree holders
 - ___ "Green cities" attract college graduates
 - ___ There is a negative association between car ownership and bachelor's degrees

¹ <http://www.theatlantic.com/business/archive/2014/01/why-do-the-smartest-cities-have-the-smallest-share-of-cars/283234/>

ANSWERS

(a) In this scatterplot, which is the

iii. Explanatory variable?

% with no car

iv. Response variable?

% that have bachelor's degrees

(b) Check the equation that is closest to the equation of the regression line shown: (Assume $y =$ % college and $x =$ % no car.)

$y = 0.275x + 30$

$y - 0.29 = 0.275x$

$y = 27.5x + 29$

$Xy = 0.275x + 27$

$y = 27.5x + 2.75$

(c) The slope tells us that for every one percent increase in people without cars, there is a 0.275% increase in holders of bachelors degrees.

(d) Based on the scatterplot, mark each of the following statements as True (T) or False (F)

F If a mayor discourages car ownership, the percent of bachelor's degrees in the city will increase

T High car ownership corresponds to a low proportion of bachelor's degree holders

F "Green cities" attract college graduates

T There is a negative association between car ownership and bachelor's degrees