

## LEARNING CHECK

1. Explain the concept of a regression line.

A: It is the line that illustrates the nature of the relationship between two variables. It is the line above which there is the same amount of distance as there is below that line; from this perspective, the regression line is similar to a mean.

2. Use the following regression equation to predict the yearly salary (in thousands) from the number of years of higher education:

$$\hat{Y} = 3X + 22$$

- a) Jeremy has had 0 years of higher education. Estimate his annual salary.

A: 22 (\$22,000)

- b) Andrea has had 11 years of higher education. Estimate her annual salary.

A: 55 (\$55,000)

- c) What is the slope of this regression equation?

A: 3 (\$3,000)

- d) What is the y-intercept of this regression equation?

A: 22 (\$22,000)

3. In the previous chapter, we used data from Kevin Zabel et al. (Zabel, Christopher, Marek, Wieth, & Carlson, 2009) in the Learning Check to check our understanding of correlations using SPSS. We will again use their research here to check our understanding of univariate regression using SPSS. As a refresher on this research, recall that these researchers conducted a study in which they asked people to invest hypothetical money among mutual fund choices that varied in how risky they were. That is, some mutual funds offered potential for large payoffs but carried a lot of risk, whereas other mutual funds were fairly safe investments but offered less chance for large payoffs. For our purposes discussing univariate regression, Zabel et al. wanted to see whether people's age predicted the riskiness of the investments selected. Here is the SPSS output from their analyses:

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