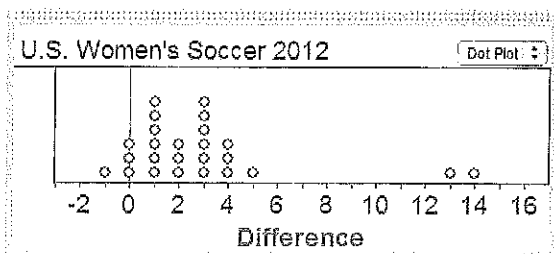


37. **Feeling sleepy?** Students in a college statistics class responded to a survey designed by their teacher. One of the survey questions was "How much sleep did you get last night?" Here are the data (in hours):

9	6	8	6	8	8	6	6.5	6	7	9	4	3	4
5	6	11	6	3	6	6	10	7	8	4.5	9	7	7

- Make a dotplot to display the data.
- Describe the overall pattern of the distribution and any departures from that pattern.

39. **U.S. women's soccer—2012** Earlier, we examined data on the number of goals scored by the U.S. women's soccer team in games played in the 12 months prior to the 2012 Olympics. The dotplot below displays the goal differential for those same games, computed as U.S. score minus opponent's score.

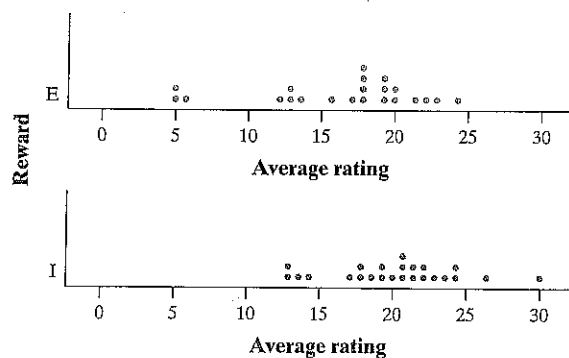


- Explain what the dot above -1 represents.
- What does the graph tell us about how well the team did in 2012? Be specific.

41. **Dates on coins** Suppose that you and your friends emptied your pockets of coins and recorded the year marked on each coin. The distribution of dates would be skewed to the left. Explain why.

43. **Creative writing** Do external rewards—things like money, praise, fame, and grades—promote creativity? Researcher Teresa Amabile designed an experiment to find out. She recruited 47 experienced creative writers who were college students and divided them into two groups using a chance process (like drawing names from a hat). The students in one group were given a list of statements about external reasons (E) for writing, such as public recognition, making money, or pleasing their parents. Students in the other group were given a list of statements about internal reasons (I) for writing, such as expressing yourself and enjoying playing with words. Both groups were then instructed to write a poem about laughter. Each student's poem was rated separately by 12 different poets using a creativity scale.<sup>24</sup> These ratings were averaged to obtain an overall creativity score for each poem.

Dotplots of the two groups' creativity scores are shown below. Compare the two distributions. What do you conclude about whether external rewards promote creativity?



45. **Where do the young live?** Below is a stemplot of the percent of residents aged 25 to 34 in each of the 50 states. As in the stemplot for older residents (page 33), the stems are whole percents, and the leaves are tenths of a percent. This time, each stem has been split in two, with values having leaves 0 through 4 placed on one stem, and values ending in 5 through 9 placed on another stem.

11	44
11	66778
12	0134
12	666778888
13	000001111444
13	7788999
14	0044
14	567
15	11
15	
16	0

- Why did we split stems?
- Give an appropriate key for this stemplot.
- Describe the shape, center, and spread of the distribution. Are there any outliers?