

## BOX 10.2 How to Calculate Pearson's $r$

1. Create a work table with eight columns and a row for each case.
2. In the first column, place the case identifier.
3. In the second and fifth columns, place, respectively, the values of the independent and dependent variables. Calculate the mean for each by summing the values and dividing by  $n$ .
4. In the third and sixth columns, subtract the respective mean from the value of the variable in the previous column.
5. In the fourth and seventh columns, square the difference found in the previous column. At the bottom of each, calculate the sum of squares.
6. In the eighth column, multiply the (unsquared) differences from the third and sixth columns and sum the products at the bottom.
7. Calculate Pearson's  $r$  by taking the sum of the eighth column and dividing it by the square root of the product you get when you multiply the sum of squares for  $X$  (from column 4) by the sum of squares for  $Y$  (from column 7).