criteria for "Interpreting the Linear Correlation Coefficient *r*" given in the preceding box.)

- ***Using Computer Software to Interpret r:*** If the computed *P*-value is less than or equal to the significance level, conclude that there is a linear correlation. Otherwise, there is not sufficient evidence to support the conclusion of a linear correlation. Example 1 includes Minitab, TI-83/84 Plus calculator, and STATDISK displays. Those technologies provide the *P*-value of 0.294. Because that *P*-value is *not* less than or equal to the significance level of 0.05, we conclude that *there is not sufficient evidence to support the conclusion that there is a linear correlation between shoe print lengths and heights of people.*
- ***Using Table A-6 to Interpret r:*** Consider critical values from Table A-6 as being both positive and negative, and draw a graph like Figure 10-3. For the sample data in Table 10-1, Table A-6 yields $r = 0.878$ (for five pairs of data and a 0.05 significance level). We can now compare the computed value of $r = 0.591$ to the critical values of $r = \pm 0.878$ as shown in Figure 10-3.
- ***Correlation*** If the computed linear correlation coefficient *r* lies in the left or right tail region beyond the critical value for that tail, conclude that there is sufficient evidence to support the claim of a linear correlation.
- ***No Correlation*** If the computed linear correlation coefficient lies between the two critical values, conclude that there is not sufficient evidence to support the claim of a linear correlation.

Because Figure 10-3 shows that the computed value of $r = 0.591$ lies between the two critical values, we conclude that *there is not sufficient evidence to support the claim of a linear correlation between shoe print lengths and heights.*

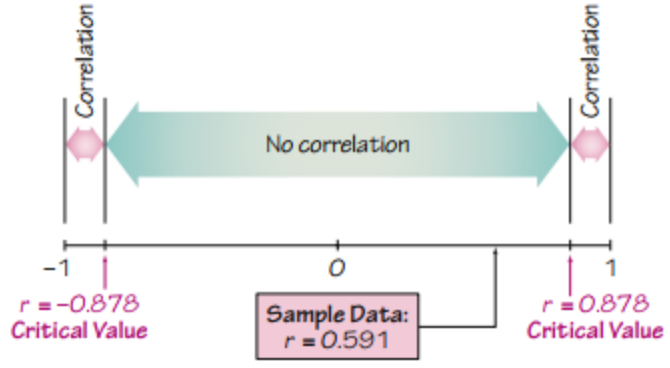

Figure 10-3 Critical Values from Table A-6 and the Computed Value of *r*

Example 5 Larger Data Set

Example 4 used only the shoe lengths and heights from five males. Let's now use the shoe lengths and heights from the 40 subjects listed in Data Set 2 in Appendix B. The scatterplot is shown in Figure 10-1(b). Refer to the following results obtained by using XLSTAT with Excel. See that the value of the linear correlation coefficient is $r = 0.813$ and the *P*-value is less than 0.0001. Is there sufficient evidence to support a claim of a linear correlation between the lengths of shoe prints and heights?