Classifying Strength of Linear Relationships

Range of Possible r values:

-1  -0.5  0  0.5  0.8  1

Strong
Moderate
Weak

Ex. \( x = \# \) of automatic weapons
\( y = \) murder rate
\( r = 0.885 \rightarrow 0.8 \leq r \leq 1 \)
\( \Rightarrow \) A strong positive relationship exists between \( x \) & \( y \).

Ex. \( x = \) adult literacy rate of a country
\( y = \) infant mortality rate of the country
\( r = -0.864 \rightarrow -1 \leq r \leq -0.8 \)
\( \Rightarrow \) A strong negative relationship exists between adult literacy & infant mortality.

Ex. \( x = \) hours of sleep for college students.
\( y = \) shoe size of those students.
\( r \approx -0.00511 \rightarrow -0.5 < r < 0.5 \)
\( \Rightarrow \) A very (if not non-existent) weak negative relationship exists between hours of sleep & shoe size.