Correlation

- Describes the relationship between two variables.
- $r$ value shows strength of relationship, and can be negative or positive.
- $r = 1$ is a direct positive correlation.

<table>
<thead>
<tr>
<th>Positive</th>
<th>Negative</th>
<th>No Correlation</th>
</tr>
</thead>
</table>

\[
\begin{align*}
\text{\[r = 0.7\]} & & \text{\[r = -0.7\]} & & \text{\[r = 0\]} \\
\text{\[r = 0.3\]} & & \text{\[r = -0.3\]} & & \text{\[r = 0\]}
\end{align*}
\]

Correlation is not causation!

Linear Non-Linear