The problem being examined is if the wingspan of a person correlates with the height of a person? This experiment is done for two reasons, the first reason is of course to answer our question and the second reason being to practice correlation coefficients. It was hypothesized that *if one person has a longer wingspan than another person, then the person with the longer wingspan will be taller*.

The first steps of the experiment is to collect all of the materials (2 meter sticks, roll of masking tape, and something to record data). After that tape the two ends of the meter sticks together. Next have the first person stand upright and hold their hands out at a 90° angle. Measure from the fingertip of the middle finger to the middle tip of the other middle finger. Then with the same person measure their height from bottom of their foot to the top of their head. Record this data and repeat with all of the people being tested. Graph the collected data and calculate the correlation coefficient. Lastly, share the data.

It was realized that wingspan and height actually have a very strong correlation with each other with a correlation coefficient of 0.95703864. The data found is as follows: Noah had a wingspan of 186.5cm and a height of 189cm, Sully had a wingspan of 169cm and a height of 164cm, Robin had a wingspan of 180cm and a height of 185cm, and Tyler had a wingspan of 175cm and a height of 169cm. Or refer to the table below.

|  |  |  |
| --- | --- | --- |
|  | Wingspan (cm) | Height (cm) |
| Noah | 186.5 | 189 |
| Sully | 169 | 164 |
| Robin | 180 | 185 |
| Tyler | 175 | 169 |

Wingspan (cm)

Height (cm)

These results do support the hypothesis that *if one person has a longer wingspan than another person, then the person with the longer wingspan will be taller* because as the height of a person increased so did their wingspan. It was also found that a person’s height has nearly a 1:1 correlation between height and wingspan with a few centimeters of discrepancy. The wingspan did correlate with the height of a person and is supported as it has a correlation coefficient of 0.95703864.

**Sources:**

“Arm Span VS Height.” *Introduction*, hs2135statistics.blogspot.com/p/introduction.html.