

**The
Vertical
Jump;
Can it be predicted?**

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In an experiment we are testing the vertical jump. By testing the vertical jump we will try to find a correlation between the height of the jump with other factors like if a person plays sport and weight. The vertical jump is when someone jumps straight into the air as high as they can. The vertical jump is something that is tested in all 3 of the top American sports; Football, basketball, and baseball. In football the vertical jump is tested to measure explosion from a standstill position but also shows the obvious, how high a player can jump. Jumping high in football is important because if a player can jump high he can go up and catch a high pass or just the opposite, he can go up and deflect a pass. In basketball jumping is one of the most important attributes a player can have. During a game of basketball there are countless times when being able to jump higher than your opponent can benefit that player. An example is if a player can jump high he can block a shooter's shot which really helps a team's defense. Just like in football that goes both ways as well, if a player can out jump his opponent he has a lower chance of having his shot blocked. Finally in baseball the vertical jump is also important. If you watch sports center during baseball season you will always see a highlight of a player making a big play due to his ability to jump high. In baseball an outfielder is someone who is in the outfield and catches the balls when they are hit far. Sometimes the balls are hit so far that they are close to being a home run or will be a home run. In professional baseball outfielders make great plays when they jump up high and catch the ball before they are considered a home run. This is why it is important in baseball.

The vertical jump test can also be used to assess your state of recovery prior to a weight training, speed, or even practicing. If you overtrain your nervous system by performing an excessive volume of heavy weight or high speed training, the fatigue will manifest itself first in

your performance in movements that require speed. You might not notice it much, but this type of fatigue will tend to show itself very quickly as a decrease in performance of the vertical jump. One thing you can do is use your vertical jump as a barometer of how much volume and intensity you should use for a training session.

In our research we will measure the vertical jump and weight, and whether or not a person plays a sport and try to make a prediction. After the data is collected will then break the data into selected sub groups and look for our correlations. After breaking the data down into sub groups we will compare the vertical jumps of male athletes to female athletes, male athletes to non male athlete, female athletes to non female athletes and finally we will break the data down by weight and try to predict what some ones vertical jump would be by knowing their weight and rather or not they are an athlete. Some of the other things that plays a factor in how high someone's jump is how strong their legs are. We are taking into account that all college athletes have to work out but we know that just because they work out does not mean that all their legs are the same strength. This could and will likely be a factor that could mess with a prediction. Due that after we construct our prediction formula will also try and conduct an a plus or minus error. Before we start to try and find our prediction formula we will graph all the data and find the mean and the median. In order to get a good prediction we will try to test between 20 and 30 people. The more people we do the more data we will have to work with is good.

Another expected fall back in our prediction formula is that there will be outliers in maybe each sub group. We hope that we come up with our error so that the outliers will not taint the formula. The way we plan to calculate the formula is by plotting the data and then find a curve to fit it. The equation to that curve will be the our prediction formula. With our prediction

formula we will then test it on the students in our class but also some of the vertical jumps of the Nfl combine last year.

In conclusion we feel that we will have a lot of data to work with so that we can get a good equation. Although we did not explore a correlation between success in a sport with vertical jump it could later be tested. When we are finally done with our research we do think that the formula will only be accurate to a certain degree because of all the things that go into having a good vertical jump. The vertical jump is such an important attribute to have as an athlete not just the three top American sports because in tennis when a player is at the net, the vertical jump is the difference between an easy point good overhead smash and much like the others also goes both ways because a point could also be lost with a struggle to just return a lob. So vertical jump is important to all athletes.