An Analysis of Height Limitations Enforced by Bone Strength

Wouldn't it just be amazing if there was no limit to anything? What if we could eat all we want none stop and nothing would happen? Or what if we could write a paragraph and call it an essay? Yes, but unfortunately our world doesn't work like that. There are limits on everything and anything even our growth. There is a certain height limit that we cannot exceed or else our bones won't be able to support our weight and just tumble down. But what is this incredulous height of which we cannot exceed? Well that is one answer I am ready to find out.

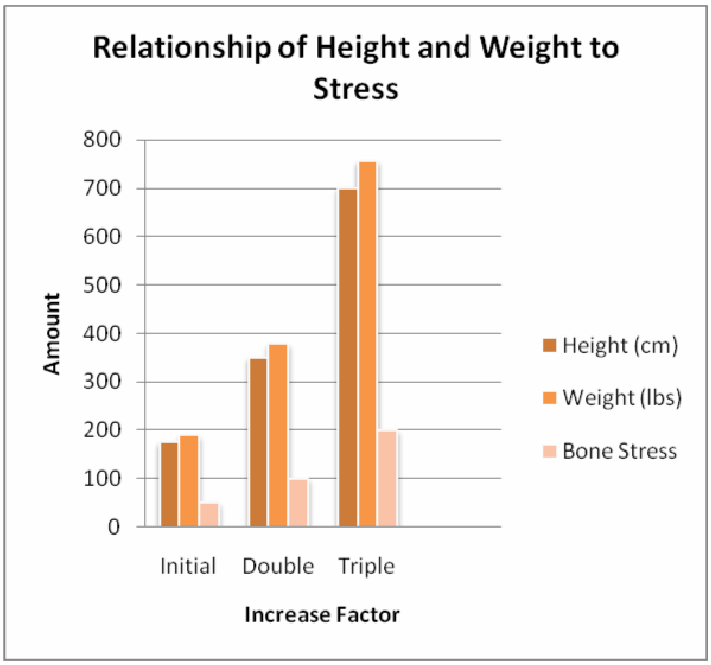
We know that that no human can exceed 200 Mpa. Mammals like us have a ratio of 3 to five times the safety factors of the working stress to the breaking stress. It would be ridiculous to use 5 times because a human cannot, as I said before, exceed 200 Mpa, and five times the safety factor would exceed it. So I have chosen to work with 3. Since I'm using 3, I have to create a table that shows when our bone stress reaches 200. I am using an average male which would be 189lbs. and 5'9. The bone stress is measured because half of your weight, when walking, goes to one leg and the other half to the other.

Multiplication Factor	Height (cm)	Weight(lbs)	Bone Stress
Initial X	175	189	50
Double(2X)	350	378	100
Triple (3X)	700	756	200

In this table we see the average height and we see how much the average person would double triple and so on. So I will first double the initial

height/weight/bone stress (X), then triple it and so on. ➧According to my assumption, a human can grow to an astounding 22.9 feet tall. The tallest man in the world however in real life was 8'11. He died at 22 due to heart problems because of his heart. Yet with all the advanced technology and medicine, a person can now get the attention required if they were as tall as Robert Pershing Wadlow.

In order to visually see the table better, we can use a bar graph like the one shown here. We see that weight is always higher then both height and Bone Stress. My initial value is half of my double and 1/3 of my triple.



In conclusion, I believe a human cannot surpass 22 feet, which I have thoroughly showed using background knowledge as well as help from previous assumptions. Yet it may be possible, there are doubts that a person will not

survive if they were this tall. The body cannot pump blood through the extremities making survival highly impossible. They can get infections, diseases, and many other difficulties that may lead to death. The tallest man now of our century is Leonid Stadnyk who is said to break Waldow's record. It has been recorded that he grows an amazing 15 cm per year. It is amazing how we can grow to be a certain height but our bones and body wouldn't be able to support it. It's a question that many people don't really ask- if out body can't support that height and weight, why do certain people get that big? Imagine if there was someone who was 22 feet tall? Imagine the bumping into walls, being stared at, having customized everything etc? I guess having some limits sounds like a very good idea.