

Get the Facts: Weightlifting, Size, & Strength

Myth:

Being strong = being big and being big = being strong.

Fact:

People who are avid gym goers usually want to lift weights to get big and/or get strong. Too many times do people fall into the trap of lifting to get big and strong at the same time. Don't get me wrong, someone new to lifting will indeed gain size and strength, but as time passes and experience is gained, strength and size become more mutually exclusive.

This topic mainly boils down to hypertrophy vs power training or training as a body builder vs training as a power lifter. "But don't your muscles have to get bigger to lift more weight?" The answer to this is yes but, it depends (a phrase that will follow most fitness questions). The amount of muscle needed to lift heavy weight is not as much as you may think. Also, there are a number of biological processes happening during muscle growth that contribute to the functionality of that muscle. For example, there is myofibrillar hypertrophy where the actual components that pull on the muscle increase in number and size, and there is sarcoplasmic hypertrophy where the fluid and other components of the muscle cell enlarge (Aragon, 2008). Let's add some context to these principles.

A bodybuilder lifts weights to achieve one thing, get "swole" or bigger. To do this, they follow the three main components of muscle growth stimulation: time under tension (how long is the muscle contracting), metabolite accumulation (lactic acid build up), and hypoxia (anaerobic metabolism in the muscles). All three factors stimulate the muscle to grow as much as possible but none of them require excessively heavy weights.

A powerlifter lifts weights to be able to get as much weight as humanly possible from point A to point B. This requires knowledge of biomechanics to position each joint to maximize its potential mechanical energy. This also requires practice of proper technique to harness momentum and gravity to the lifters' benefit. Finally, the muscle fibers that grow are those that aid in explosive power and the fibers develop more efficient ways to store and utilize energy extremely fast.

So how do you train for each of these goals? There are books written on that very question but, as always, there are a few tips you can use to get started. For gaining size, more repetitions and sets will maximize the oxygen usage, increase lactic acid accumulation, and tear the muscle fibers much more than lifting for a one repetition maximum. However, if your goal is to lift as much weight as you can, one time (one rep maximum), then you want to train at that range. Powerlifters tend to do many sets (4-12 sets) with very low repetitions (1-5 reps). This is to practice the exercise technique and become accustomed to the extreme load (Krieger et al., 2010).

Get the Facts Continued

Between each of the many sets a powerlifter may do, there is a long rest period. This is to allow the muscle time to reload/recharge for the next quick explosion of power needed to lift heavy. Consistent training in this manner will cause adaptation to occur where the muscle will be able to reload more quickly and efficiently. Bodybuilders may not rest at all between their sets. This prevents the muscle from being able to clear out the metabolites and lactate which is what aids in the stimulation of muscle growth.

Lastly, powerlifters tend to stick to their main lifts that they want to improve rather than doing many accessory lifts like a bodybuilder. This is due to time constraints and the fact that the more unnecessary weight from muscles that aren't practical to their goals, the heavier they become and the higher the weight class they may be in during competition. Bodybuilders, however, work every muscle in every possible way to ensure symmetrical growth throughout the body and the best possible aesthetic outcome.

When you see people who are massive and have muscles bulging from every corner, know that you will likely never see them squat their maximum amount or they may not even deadlift at all, but the guy/girl in the corner who looks smaller but is built like a tree can most likely lift 3-4 times his/her bodyweight, far more than the other person. When creating your routine keep your goals in mind and remember, everyone has different goals so there is no one perfect way to exercise.

References:

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