Samuel McKay

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Research Proposal

Proposal to Research Long Term Benefits of a Strength Training Program on Adolescents

The following is a proposal to research the long-term effects of a properly organized strength-training program on the health of adolescents. Strength training has been researched in many contexts to find its effects on children. However, these studies have many shortcomings that will be addressed later. The findings of this research will be useful to a wide variety of people including, but not limited to parents of adolescent children, young athletes, and middle school to high school coaches. It is the hope that this research will shed light on what an effective strength-training program can accomplish for adolescent children and encourage more adolescents to strength train.

As was said previously, there have been numerous studies done on strength training and its effect on adolescents. Unfortunately, many of these studies only focus on the potential injuries one can accrue by strength training. A study done on adolescent powerlifters documented the injuries they sustained within 1 year of training (Brown, Kimball). A study done on young football players also examined lifting weights and injuries (Risser, Risser, Preston). A study done in 2000 moved research in the right direction by looking at some positives of strength training (Faigenbaum). The study determined there might be a link between lifting weights

and preventing sports injuries while increasing performance, but this was not conclusively backed by the data. A review done in 2006 examined the injuries associated with strength training, but by also looking to find a link between growth in adolescents and lifting weights (Malina). There was no link found between strength training and stunted growth, contrary to what is often believed. Additionally a study was done to examine the role of strength training in weight loss with children (Sothern et. al). While exercise was recommended, the exercise used in the study did not resemble a strength-training program.

The body of research that has been performed thus far in regards to strength training and adolescents is limited in usefulness for multiple reasons. The biggest reason is because the strength training programs used are ineffective. Without using a proper strength-training program, it is difficult to say what the effects of one would be. Novices to strength-training experience what is known as "the novice effect" (Rippetoe). This allows them to increase in strength workout to workout on a regular basis if given the proper routine and guidance. This is why the previous studies are lacking. They were not done under the proper guidance of a strength coach with expertise in this area. The previously mentioned study done on the effects of strength training and weight loss only discussed flexibility exercise and aerobic exercise, neither of which comes close to being classified as strength training.

This is why there is a need for further research on adolescents who participate in a long term strength training program that is well organized and done under the watchful eye of a qualified strength coach. The goal, at the end of this

study, would be to check the difference in health between the participants in this study who participated in strength training and a control group who did not do any regular strength training. One measurement to be done on the subjects in this study would be an assessment of their fat free mass index. The fat free mass index is a measure of how much muscle a person has. Unlike body mass index, it takes into account a person's body fat and not just their weight (Natural Physiques). The subjects would also have their heart rate and other general health markers measured. The objective would be to compare the two groups to see what impact long term strength training had on the adolescents who participated in it.

Many boundaries exist with this research plan. The biggest of which is finding participants willing to participate in a study that will take two to five years. The long-term effects of strength training cannot be studied without long-term participation in strength training from the individuals. Additionally, finding a qualified coach willing to instruct for such a long period of time could prove difficult. However, while these boundaries may prove difficult to overcome they are what would make this research innovative and new. No research of this scale exists, specifically research that was conducted with a well thought out program under the guidance of an expert.

Should this research successfully be conducted, the body of knowledge on this subject could be greatly expanded. Current research does not necessarily support or refute the idea that adolescents can build significant amounts of muscle from strength training. If research was conducted on a long enough scale, it could be determined if an appreciable amount of muscle mass could in fact be built by

adolescents. General benefits of strength training on adolescents could also be expanded upon based on the results from blood pressure and other health markers. If the benefits are great enough, strength training may be recommended to adolescents on a more regular basis.

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