



# PUNCH FORCE!

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# Abstract

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Our project was about finding out if training would make you punch harder. We did research and thought it would. We recorded our punching strength at the beginning. Then, we trained for 1 week and at the end we recorded it again. It turned out to make a difference and made us punch harder even training for only a week.

# Research Question

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- Research Question: How does training affect how hard you punch?
- Independent Variable [What will you be *changing?*]: The training.
- Dependent Variable [What will you be *measuring?*]: How hard you punch.

# Introduction / Purpose

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- The purpose of this experiment is to see how the amount of training affects someone's skill.
- I became interested in this experiment when my team suggested it to me.
- The information gained through this experiment will help others see how training affects someone's skill.



# Background Research

- In this experiment, my research question is, "How does training affect how hard you punch?" Punching form and leg stance is very important while punching. If you put your thumb in your hand while making a fist you could break your hand. To correctly make a fist start by curling the tips of your fingers into your palm, then wrapping your thumb around the first knuckle of your ring finger. To find the right position, stand squarely facing your target, then drop the foot on your dominant side back and out to an angle between 30 and 45 degrees. Your body uses mostly all the muscles in your body while punching which makes working out all of them important. Medicine ball throws help your core strength which can improve your balance and posture. Plyometric push-ups can help with your power and speed by training parts of your body that improve power, like your arm, shoulder and pectoral-strength. Another good workout is shadowboxing. This helps with punching power since it forces you to work on proper technique and proper execution. I hypothesize that if you train to punch harder, then you will increase your punch strength because research shows that training increases punching power.

# Hypothesis

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- If I train for a certain amount of time, then my punching force will increase because research shows training for a long time period can drastically increase punch force.
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# Materials

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- Humans (3)
  - Muscles (That contribute to your punches)
  - Machine that measures punch strength.
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# Procedures

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1. Find a punching machine
2. Punch the machine 3 times for an average score.
3. Do 50 pushups, 50 squats, 50 sit-ups, and 15 minutes of shadow boxing once every day for 1 week.
4. After the 1 week, repeat steps 1 and 2.
5. Record all your data.

# Results- Data Table

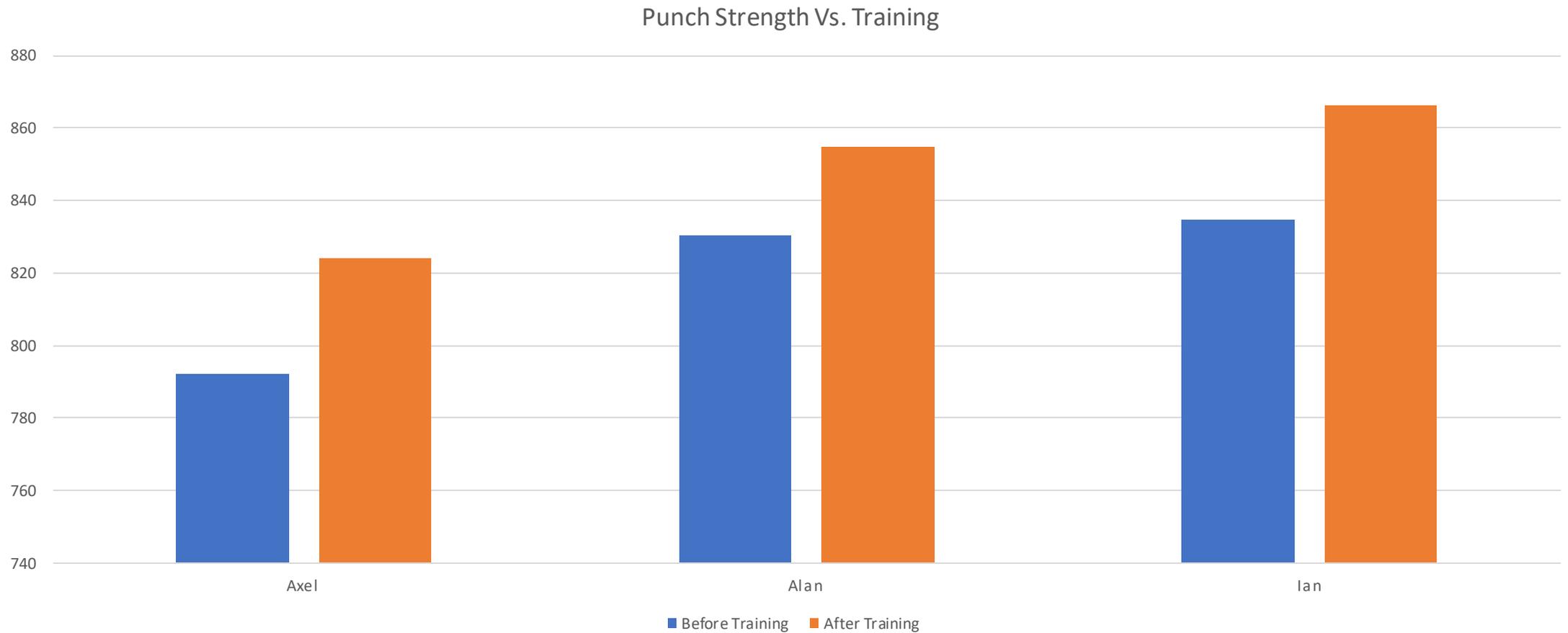
Punch progress throughout exercising.



Before training	Trial 1	Trial 2	Trial 3	Average
Scholar 1	797	778	802	792.3333
Scholar 2	836	823	832	830.3333
Scholar 3	845	832	827	834.6667

After training	Trial 1	Trial 2	Trial 3	Average
Scholar 1	812	824	836	824
Scholar 2	844	856	865	855
Scholar 3	862	873	864	866.3333

# Results - Graph



# Results

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- Scholar 1's average punch score started off at 792 and increased to a score of 824.
- Scholar 2's average punch score started off at 830 and increased to a score of 855.
- Scholar 3's average punch score started off at 834 and increased to a score of 866.

# Conclusion

- My hypothesis was correct. Exercising for a week on strength and punching drills increased my punch score.
- If I did this experiment again, I would have more people do it and train for a longer period. I would record my punch scores every weekend to see my improvement over time.
- In this experiment, I learned that a lot of muscles contribute to punching and form is very important too, and all this help you punch harder.
- My findings could be used to show boxers and other people the best exercises to increase your punching strength.

# References



- [Blog.ringside.com/9-exercises-improve-punching-power/](http://Blog.ringside.com/9-exercises-improve-punching-power/)
- [Popsci.com/throw-punch/](http://Popsci.com/throw-punch/)
- [Mmhavine.com/punching-muscles/](http://Mmhavine.com/punching-muscles/)