The Effect of Training Using Power Resistance Bands on the Jab Straight Results in Boxing at SMA Methodish Lubuk Pakam in 2025

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Abstract.

Background Researchers obtained information and facts from the field that students still make many errors in the jab straight technique. Therefore, the researchers aimed to implement a variation of training that is easy to understand and perform, namely training using power resistance bands.

Objectives The purpose of this study was to determine the effect of training using power resistance bands in the boxing class of the Methodish High School in Lubuk Pakam in 2025 on jab straight results.

Methods This research was quantitative, with a population and sample of 10 extracurricular students at the Methodish High School in Lubuk Pakam in 2025. This study used an experimental method and a "One Group Pretest-Posttest Design" design.

Results The pretest and posttest samples consisted of 10 students, with a pretest score range of 10, with a maximum score of 13 and a minimum score of 3. The mean pretest score was 8.83, and a standard deviation of 3.243. Meanwhile, the range or range of post-test values is 8, with a maximum value of 14 and a minimum value of 6, a mean or average post-test value of 10.50, and a standard deviation of 2.541.

Conclusion Power Resistance Bands training has been proven to have a significant effect on improving the Jab Straight ability of boxing athletes from the Methodist High School in Lubuk Pakam in 2025, as indicated by an increase in the average value from 8.5 to 10.7 and a t-test result with a significance value of 0.001 < 0.05. Despite the limitations of the study, these results support the theory and previous research that systematic exercise variations are effective in improving motor skills.

Keywords: Power Resistance Bands, Jab Straight, Boxing, Experiment, Extracurricular.

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INTRODUCTION

Boxing is one of the sports that requires high levels of physical skill and technical proficiency (N. R. Anggraini & Putra, 2023). The success of an amateur boxer, especially those at the beginner level, is largely determined by their ability to perform movements and techniques correctly. One of the most important elements in boxing is punching speed, which plays a crucial role in determining the effectiveness of attacks as well as an athlete's ability to anticipate an opponent's movements. Boxing is also a sport with high popularity among the general public, as indicated by the large number of boxing matches broadcast through electronic media and the high frequency of organized competitions. Boxing matches not only provide entertainment but also showcase the beauty of movement artistry and physical strength, making boxing an inspiring sport for many people, especially the younger generation (Mahfud et al., 2023).

Boxing is one of the sports that enjoys high popularity within society. This popularity can be seen in the wide coverage of boxing matches broadcast through various electronic media, as well as the high frequency of boxing competitions being held. Boxing matches often present exciting moments that combine the beauty of movement artistry with the physical power of the boxer, making them entertaining spectacles while also inspiring audiences. This appeal of boxing contributes to increasing interest among children and adolescents in the sport. They feel motivated to pursue boxing, either as a hobby or as the beginning of a journey toward athletic achievement. The presence of charismatic professional boxing idols and the energetic atmosphere of matches further encourages the younger generation to develop their skills in the world of boxing (Latuheru, 2023).

The jab straight movement, as one of the basic techniques in boxing, requires good coordination between muscle strength, speed, and accuracy. To improve jab straight performance, training methods are

needed that are not only effective in developing muscle strength but also flexibility and punch explosiveness. In this context, training using power resistance bands is considered an interesting alternative method to be studied. This tool is known to provide variable resistance that can stimulate muscles to work more optimally, both in increasing strength and improving movement speed (P. Anggraini, 2024).

Boxing has long been recognized as a form of martial art that emphasizes physical strength and technical skill, and it has become increasingly popular among various groups, including adolescents. This demonstrates that boxing is not merely a physical combat sport but also a medium for developing character, mental toughness, and technical skills among young athletes (N. R. Anggraini & Putra, 2023). One of the basic techniques in boxing is the jab straight, which is one of the primary punches used in matches. This technique is very important because it can produce fast and effective attacks while allowing boxers to maintain distance from their opponents. However, to generate maximal punches, structured and continuous training is required. Therefore, appropriate and effective training is essential to improve boxers' ability to perform the jab straight technique optimally.

One training method that has been developing is the use of power resistance bands. Resistance bands are popular training tools due to their ability to increase strength and flexibility. In the context of boxing, the use of resistance bands is believed to provide significant benefits in strengthening the muscles involved in punching movements, such as the shoulder, arm, and core muscles. Through training with resistance bands, boxers can improve muscular endurance and explosive strength, which are important for producing faster and harder punches (Latuheru, 2023). In addition, resistance bands can be used to train techniques in a more controlled manner, thereby reducing the risk of injuries that often occur in conventional boxing training. By using this tool, boxers can perform various exercise variations that focus on strengthening the core and arm muscles, which are vital components in executing a powerful jab straight. Therefore, the use of resistance bands as a training aid in boxing can be an effective alternative for improving punching techniques among young athletes (Mahfud et al., 2023).

On the other hand, boxing in Indonesia continues to develop, particularly among students. One institution that plays a role in the development of boxing is the SMA Methodist Lubuk Pakam Boxing Club. This club has become a training center committed to producing high-quality boxing athletes. Through intensive training and the application of appropriate training methods, the SMA Methodist Lubuk Pakam Boxing Club has produced a number of talented young boxers ready to compete at the national level. Therefore, this study was conducted to determine the effect of training using power resistance bands on jab straight performance among boxers at the SMA Methodist Lubuk Pakam Boxing Club. Good physical training not only focuses on strengthening muscles but also on developing technique and fighting strategy. By integrating new training methods such as power resistance band exercises, it is expected that boxers can achieve better results in mastering basic techniques (Aldi & Mulyana, 2024). This is particularly important, considering that the jab straight is a technique that must be mastered well by every boxer to compete effectively. Maximizing jab straight performance can increase a boxer's chances of winning in both local and national competitions.

In boxing, the jab-straight punch is one of the most important basic techniques. This punch functions not only as a primary attack but also as a tool to control distance from the opponent. A jab-straight performed with maximum speed and accuracy can create opportunities for more effective attack combinations, which can ultimately knock down an opponent. However, many junior boxers, especially at the Pertisar Boxing Club in Manado, still experience difficulties in executing sudden jab-straight punches with optimal speed. This issue represents a major challenge that must be addressed in improving the quality of boxing techniques (Duhe, 2019).

The straight punch is a technique that targets the facial area down to the abdominal region using the knuckles as the point of contact. This technique is easier to practice compared to other punches and is therefore frequently used by boxers in competitions. Due to its simplicity, many boxers rely on this punch for quick and effective attacks. A straight punch delivered at high speed allows boxers to launch repeated attacks, which requires high concentration to accurately hit the target (Musfira et al., 2020). Boxers who possess high straight-punch speed gain an advantage in accumulating points during matches. If a match does not end in a knockout, the winner is determined by the total points accumulated, with the boxer who scores more points declared the winner.

One way to improve the strength and speed of the jab-straight punch is through structured physical strength training, such as using power resistance bands. Training with resistance bands can help boxers strengthen the muscles involved in punching movements, particularly the core, shoulder, and arm muscles. By increasing the strength of these muscles, boxers will be able to deliver punches faster and more powerfully, thereby improving their jab-straight performance (Duhe, 2019). The use of power resistance

bands also offers advantages in training dynamic movements that closely resemble actual punching motions, making it more effective in enhancing boxing techniques. At SMA Methodist Lubuk Pakam, junior boxer training can utilize power resistance bands as one method to improve the quality of their jab-straight punches. By integrating this training into their routine, it is expected that boxers can overcome issues related to slow punches and insufficient speed in executing jab-straight techniques. In this regard, resistance band training not only enhances physical strength but also improves coordination between muscles and movements, enabling boxers to punch more effectively and face opponents with greater agility and aggression.

Resistance bands are exercise tools made of elastic rubber designed to provide resistance during training (Nebahatqoru et al., 2021). The ends of the band serve as anchor points, allowing users to pull or stretch the band. When used in exercise, resistance bands force muscles to contract against external resistance generated by band tension, prompting the body to respond by increasing muscle strength. Unlike conventional weight training, resistance bands provide progressively increasing resistance as the band is stretched, offering greater muscular challenge. Resistance band training is highly effective for improving endurance, strength, and muscle mass. These tools are also highly versatile and can be used for various types of exercises targeting the upper body, lower body, and core. Additionally, resistance bands enhance mobility and flexibility due to their dynamic and adjustable movements. With various resistance levels available, resistance bands are suitable for individuals ranging from beginners to professional athletes as a comprehensive muscle-strengthening training method.

Boxing does not rely solely on physical strength but also requires strong mental toughness and endurance. Boxers with strong mental resilience are better able to handle match pressure and control their emotions during competition (Latuheru, 2023). Therefore, boxing training that incorporates both physical and mental conditioning is essential in developing competent boxers. The use of power resistance bands in training is expected to contribute positively to the physical development of boxers, which in turn supports mental strength and fighting endurance. In addition, other factors affecting jab straight performance, such as breathing technique and body stability during punches, must also be considered. Training with resistance bands can help boxers regulate breathing more effectively, allowing them to optimize punch power without compromising body stability. This leads to more effective punches and reduces the risk of injury caused by excessive muscle tension (Nebahatqoru et al., 2021).

Arm explosive power and hand–eye coordination in boxing are closely related to the ability to perform straight punches. These two variables are interrelated and influence one another, highlighting the importance of understanding and mastering both. By managing arm strength and coordinating body movements effectively, boxers can enhance the effectiveness of their straight punches. Therefore, it is essential for boxers to develop both capabilities to support their skills, particularly in executing straight punches. Improvements in arm explosive power combined with proper hand–eye coordination provide advantages in boxing, allowing boxers to perform straight punches more accurately and effectively (Latuheru, 2023).

Student-level boxing, such as that practiced at the SMA Methodist Lubuk Pakam Boxing Club, also faces its own challenges. Beyond technical aspects, coaches play a crucial role in fostering character and fighting spirit among young boxers so that they excel not only physically but also mentally, preparing them for higher levels of competition. With continuous training support and innovative methods such as power resistance band exercises, these young boxers are expected to achieve better performance in student boxing competitions (Duhe, 2019). Considering the rapid development of boxing and the abundance of young athletic potential, this study is expected to make a significant contribution to the development of more effective and efficient training methods. The findings of this study are expected to serve as a reference for coaches and other boxing clubs in improving the quality of basic boxing technique training, particularly the jab straight, through more modern training methods focused on physical and technical strengthening.

However, in beginner boxing environments, particularly at the secondary school level such as SMA Methodist Lubuk Pakam, this training method has not been widely applied systematically. Therefore, this research is important to examine the extent to which training using power resistance bands affects jab straight performance among amateur boxers at the club. Thus, the results of this study are expected to contribute to the development of more effective boxing training programs, particularly in improving punch speed and strength among beginner boxers.

METHOD

Research Design

This type of research is an experimental study, which aims to determine the effect of training using power resistance bands on the results of straight jabs in boxing at the Methodist High School in Lubuk Pakam in 2024. This study uses a 2 x 2 "treatment by level" design, which means there are two independent variables that are manipulated and two levels of attribute variables that are classified. The independent variable in this study is the training method, which consists of training using power resistance bands and training without power resistance bands. The attribute variable is the level of arm muscle strength, which is grouped into high and low strength.

Participant

The population in this study included all boxing extracurricular participants at the Methodist High School in Lubuk Pakam who actively participated in the activity. These participants regularly engage in training aimed at improving their boxing skills, including basic techniques such as the straight jab.

- Sample : A portion of the population selected to represent the boxing extracurricular program (10 students).
- Population : 10 Students

The data sources used in this study consisted of primary and secondary data. Primary data were obtained from the results of straight jab skill tests before and after training in each treatment group. This testing was conducted to evaluate changes in participants' abilities as a result of the applied training methods. Meanwhile, secondary data were obtained from field notes and observations during the training process. This data provided additional information regarding the quality of interactions during training, as well as the effectiveness of training using power resistance bands in improving straight jab technique. This secondary data was essential to complement the analysis and help evaluate how the training affected participants' overall skills.

Data Analysis

Two-way analysis of variance (ANOVA) is a statistical method used to evaluate the effects of two or more factors on a dependent variable simultaneously, as well as to examine whether there is an interaction between those factors. In the context of this study, ANOVA was used to evaluate the main effect of using power resistance bands as a training method, along with other factors, on improving the quality of the jab straight in boxing at the SMA Methodist Lubuk Pakam Boxing Club.

The use of ANOVA in this study allows for the measurement of the individual effects of each independent variable (the training method using power resistance bands and other factors) and for the identification of potential interactions between these variables. ANOVA was conducted at a significance level of 0.05. This means that if the p-value (probability) obtained from the ANOVA calculation is less than 0.05, there is sufficient evidence to reject the null hypothesis (H_0). In other words, there is a significant effect of the training method using power resistance bands on jab straight performance. A significant result indicates that variations in treatment (such as differences in training methods) contribute meaningfully to improvements in the effectiveness of the jab straight. If an interaction between the independent variables is found, it indicates that the effect of one variable depends on the level of the other variable.

RESULTS AND DISCUSSION

Results

This study used an experimental quantitative data collection technique using tests. A pre-test was administered before the jab straight training session was administered, and a post-test was administered after 14 sessions of power resistance band training.

Table 1. Statistical Data

Statistics			
		pre-test score	post-test score
N	Valid	12	12
	Missing	0	0
Mean		8.83	10.50

Std. Error of Mean	.936	.733
Median	10.00	10.50
Mode	11	13
Std. Deviation	3.243	2.541
Variance	10.515	6.455
Skewness	-.627	-.239
S td. Error of Skewness	.637	.637
Kurtosis	-1.004	-1.118
Std. Error of Kurtosis	1.232	1.232
Range	10	8
Minimum	3	6
Maximum	13	14
Sum	106	126

Discussion

his study aims to determine whether there is an effect of Power Resistance Bands on jab straight performance in boxing at the SMA Methodist Lubuk Pakam Boxing Club in 2025. Based on the results of the pre-test and post-test conducted on 12 students, an improvement in scores was observed after the training intervention was applied.

The pre-test results showed a mean score of 8.83, while the post-test results increased to 10.50. This improvement indicates an enhancement in students' jab straight accuracy after receiving the jab straight training treatment. Based on the results of the t-test analysis on the pre-test and post-test data, it can be concluded that, according to the jab straight performance data in boxing at the SMA Methodist Lubuk Pakam Boxing Club in 2025, the two-tailed significance value was 0.001 < 0.05 and the calculated t-value was 5.000 > the t-table value of 1.894. This indicates that there is a significant effect of Power Resistance Band training on jab straight performance in boxing at the SMA Methodist Lubuk Pakam Boxing Club in 2025.

From the descriptive data analysis, it can be concluded that the pre-test and post-test involved a sample of 10 students, with a pre-test score range of 10, a maximum value of 13, and a minimum value of 3. The pre-test mean was 8.83 with a standard deviation of 3.243. Meanwhile, the post-test score range was 8, with a maximum value of 14 and a minimum value of 6. The post-test mean was 10.50 with a standard deviation of 2.541.

The normality test was conducted using the Shapiro–Wilk test because the sample size was below 50. The results showed that the pre-test jab straight data had a significance value of 0.147 > 0.05 and the post-test data had a significance value of 0.465 > 0.05, indicating that the data were normally distributed.
Based on the homogeneity test results, a significance value of 0.304 > 0.05 was obtained, indicating that the jab straight performance data in boxing at the SMA Methodist Lubuk Pakam Boxing Club in 2025 were homogeneous.

CONCLUSION

Based on the results of the study conducted through the implementation of Power Resistance Band training on jab straight performance in boxing at the SMA Methodist Lubuk Pakam Boxing Club in 2025, it can be concluded that:

1. There was an improvement in jab straight ability after the implementation of Power Resistance Band training, as indicated by an increase in the mean score from 8.5 in the pre-test to 10.7 in the post-test.
2. As shown in the histogram above, the post-test histogram indicates an increase in the mean score, where the pre-test mean jab straight score was 8.5 and increased to 10.7. This demonstrates a change in jab straight performance in boxing at the SMA Methodist Lubuk Pakam Boxing Club in 2025 after the Power Resistance Band training intervention.
3. This study has several limitations, including the short duration of the training program, a limited sample size of only 10 students, less supportive training facilities, and external factors such as fatigue and

motivation that were not fully controlled. Although the researcher attempted to control the seriousness of each student during training, some students still did not participate seriously.

4. These results support the theory that variations in training can improve motor skills more effectively by reducing boredom and increasing concentration. Power Resistance Band training provides a systematic and enjoyable form of exercise and is consistent with previous research conducted by Sely Majid and Muh. Zaenal (2021).
5. The t-test results showed that the two-tailed significance value was 0.001 < 0.05 and the calculated t-value was 5.000 > the t-table value of 1.894, indicating that there was a significant effect of Power Resistance Band training on jab straight performance in boxing at the SMA Methodist Lubuk Pakam Boxing Club in 2025.

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AUTHOR CONTRIBUTION STATEMENT

This research was conceptualized and designed by Aldi Boy Martupa Simanjuntak, who developed the research objectives and methodology, managed data collection, coordinated with participants, and supervised fieldwork at STOK Bina Guna Medan. Ramadan performed data analysis, interpreted the findings, and contributed significantly to the drafting of the manuscript. All authors participated in the revision of the manuscript, approved the final version for submission, and take full responsibility for the integrity and accuracy of the work.

CONFLICT OF INTEREST AND FUNDING

The authors declare no conflict of interest related to the conduct, authorship, or publication of this study.

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