INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY RESEARCH AND ANALYSIS
ISSN(print): 2643-9840, ISSN(online): 2643-9875
Volume 05 Issue 12 December 2022
DOI: 10.47191/ijmra/v5-i12-28, Impact Factor: 6.261
Page No. 3503-3508

The Effect of Sprint Exercise on Stairs and Clips on Increasing Limb Power in Aerobic Gymnastic Athletes

T. Fahmi Taufiqurrahman[1], Dr. Devi Tirtawirya, M.Or [2], Andrian Rahaman Ayudi[3]
[1,2,3] Department of Sport Science, Yogyakarta State University, Yogyakarta Indonesia

ABSTRACT: The purpose of this study was to determine the effect of sprint training on stairs and inclines on increasing leg power in aerobic gymnastic athletes. The sample used was at LPSB Mutiara Purwokerto, totaling 14 athletes with an age range of 13-15 years. Samples were divided into two groups based on pretest scores using ordinal pairing. Instrument for measuring leg power in aerobic gymnastic athletes using the Yo-Yo intermittent test. Data analysis techniques include descriptive analysis, prerequisite tests (normality and homogeneity tests), hypothesis testing using paired sample tests and independent sample tests. The analysis used SPSS 23 software. The results showed (1) there was a significant effect of sprint training on the stairs on the leg power of aerobic gymnastic athletes, amounting to 6.66%. (2) There is a significant effect of sprint training on an incline on the leg power of aerobic gymnastic athletes, amounting to 7.06%. (3) There is no significant difference between sprint training on stairs and sprint training on inclines to the leg power of aerobic gymnastic athletes, with t count 0.111 < t table 2.120, and a significance value of 0.913 > 0.05. Based on the results of the research that has been done, it proves that there is no difference in sprinting on stairs and sprinting on inclines to the leg power of aerobic gymnastic athletes. It is suggested to the trainers, to use the sprint training method on the stairs and sprint on the incline as a variation of the exercise in increasing the leg power of aerobic gymnastic athletes.

KEYWORDS: sprints on stairs, on inclines, leg power

INTRODUCTION

In this era of globalization, gymnastics is a sport that is very popular both on a regional and international scale. The unique nature of gymnastics is that it requires movement, skill, and body control that is not the same as other sports (Sands et al., 2016). Gymnastics involves physical movements that require good physical condition and performance. The components of the physical conditions needed for gymnastics include muscle strength, muscle endurance, cardiovascular endurance, explosive muscle strength, and flexibility (Xu et al., 2020); (Mkaouer et al., 2018); (Russo et al., 2021). Further disclosed ((Gasparetto et al., 2022); (Paunović et al., 2022); and (Markov, 2020), the components of physical condition that contribute to gymnastics include arm muscle strength, leg muscle explosiveness, balance, and agility. The discipline of gymnastics demands the implementation of perfect technical elements, where many components of fitness, such as strength, speed, aerobic capacity, flexibility, power, balance, coordination and agility, as well as anthropometric characteristics, are very decisive in success (Santana et al., 2019).

Based on the opinion above, there are two physical components that are considered quite important, namely speed and strength commonly referred to as power. (Zemková et al., 2017) states that "Power is calculated as a product of force and velocity and the actual position by integration of velocity". Muscle power or explosive power concerns the strength and speed of dynamic and explosive muscle contractions and involves a maximal expenditure of muscle strength in the shortest time (Aksović et al., 2021); (Niu & Durakoglu, 2021). Power is critical in determining success in many sports such as aerobics gymnastics, built by two physical components, including speed and strength. In the field, there are still coaches who do not know the form of power training in gymnastics. Based on these results, the coach realized that athletes still lacked power, considering that leg power is very important for gymnastic athletes.

A successful gymnastic training program will pay attention to the characteristics of each individual, be balanced, and experience improvement. It should be noted that choosing a training method to help smooth the training process is one very strategic effort that can be carried out by a coach to convey the training material that has been prepared. In this study, the emphasis will be on sprint training on stairs and inclines. The stair climbing exercise can also be called the Harvard step. This stair climbing exercise is carried out with the aim of increasing the elements of speed and strength in physical condition because the elements

of speed and strength are fundamental parts of power. The essence of this exercise is to practice going up and down the stairs by jumping up one step at a time.

Running uphill or uphill running is part of speed training. Speed is the ability to perform movements in a short or short time (Haugen et al., 2019); (Nygaard Falch et al., 2019). One way to train that speed is by running uphill. Uphill running is a running movement on an incline or incline, the way to run uphill as fast as possible, then down slowly for recovery. The number of reps depends on the length and steepness of the climb. The easier it is to the top, the more reps. Uphill running training aims to master running skills, train reaction speed, and increase leg muscle power. As an effect of being given uphill running training, there is a change in speed as a form of adaptation of the body to the training provided in the form of increasing the ability to work muscles (Hinks et al., 2022); (Kavaliauskas et al., 2018).

METHODS

This type of research is an experiment. Experimental research is research conducted to find out the consequences of a treatment given intentionally by researchers (Rogers & Revesz, 2019). The sample used was Pekanbaru female gymnastic athletes aged 14-19 years, totalling 18 athletes. Samples were divided into two groups based on pretest scores using ordinal pairing. An instrument for measuring leg power using a vertical jump. Data analysis techniques include descriptive analysis, prerequisite tests (normality and homogeneity tests), and hypothesis testing using paired sample tests and independent sample tests. Analysis using the help of SPSS 23 software.

FINDING

The research process was carried out in 16 meetings for 5 weeks. The results of the descriptive statistical analysis of pretest and posttest leg power in aerobic gymnastic athletes are presented in Table 1.

Table 1. Descriptive Analysis Results of Pretest and Posttest Leg Power Statistics in Aerobic Gymnastics Athletes

Kelompok		N	Minimum	Maximum	Mean	Std. Deviation
Sprint Training Group on Stairs	Pretest	7	29.00	40.00	33.33	3.71
	Posttest	7	31.00	43.00	35.56	4.00
Sprint Training Group on an Incline	Pretest	7	28.00	38.00	33.00	3.54
	Posttest	7	29.00	42.00	35.33	4.47

Based on Table 1, it shows that the leg power of the aerobic gymnastic athletes in the sprint training group on the stairs at the pretest averaged 33.33 ± 3.71 at the time of the posttest increased by an average of 35.56 ± 4.00. Leg power in the aerobic gymnastic athlete in the sprint training group was inclined at the pretest with an average of 33.00 ± 3.54 while at the posttest it increased with an average of 35.53 ± 4.47.

The data normality test uses the Shapiro-Wilk method with a significance level of 0.05, the results are in Table 2:

Table 2. Results of Normality Test Analysis

Kelompok		Shapiro-Wilk		
		Statistic	df	Sig.
Sprint Training Group on Stairs	Pretest	0.932	9	0.499
	Posttest	0.938	9	0.558
Sprint Training Group on an Incline	Pretest	0.952	9	0.712
	Posttest	0.942	9	0.600

Based on the statistical analysis of the normality test that was carried out using the Shapiro-Wilk test, data on leg power in aerobic gymnastic athletes during the pretest and posttest obtained normality test results with a significance value of p> 0.05, which means that the data is normally distributed.

Homogeneity test using the Levene Test, the results are in Table 3:

Table 3. Results of Homogeneity Test Analysis

Test of Homogeneity of Variances				
Power Limbs	Levene Statistic	df1	df2	Sig.
Pretest-Posttest Limb Power Sprint Group on Stairs	0.007	1	16	0.934
Pretest-Posttest Leg Power Sprint Group on an Incline	0.134	1	16	0.719

Based on the analysis results in Table 3, it can be seen that the pretest-posttest Power of the limbs in aerobic gymnastic athletes obtained sig. $p > 0.05$, so the data is homogeneous.

Hypothesis analysis using the t-test, the t-test used is the paired sample test and the independent sample test. The first and second hypotheses were analyzed using the paired sample t-test (df = n-1) using SPSS 23 at a significance level <0.05. The results of hypothesis testing are presented in Table 4:

Table 4. Results of Paired Sample T Test Analysis

Paired Samples Test								
Pair	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pretest-Posttest Sprint exercise on stairs	2.22	1.20185	0.40062	-3.14605	-1.29840	5.547	8	0.001
Pretest-Posttest Sprint practice on an incline	2.33	1.32288	0.44096	-3.35019	-1.31648	5.292	8	0.001

Based on the analysis results in Table 4, the pretest-posttest of the intensive interval group obtained a t-value of 5.547 with a significance value of p of 0.001 <0.05. These results indicate that there is a significant difference. Thus the first hypothesis, which reads, "There is a significant effect of sprint training on stairs on leg power in aerobic gymnastic athletes", is **accepted.** The magnitude of the increase in leg power in aerobic gymnastic athletes after being given sprint training on the stairs was 6.66%.

Based on the analysis results in Table 5, the pretest-posttest for the sprint group on an incline obtained a t count of 5,292 with a significant p-value of 0.001 <0.05. These results indicate that there is a significant difference. Thus the second hypothesis, "There is a significant effect of sprint training in an incline on leg power in aerobic gymnastic athletes", is **accepted.** The magnitude of the increase in leg power in aerobic gymnastic athletes after being given sprint training on an incline was 7.06%.

Table 5. Results of the Independent Samples Test Analysis

Independent Samples Test								
t-test for Equality of Means								
		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
							Lower	Upper
Power	Equal variances assumed	0.111	16	0.913	0.22222	2.00077	-4.01922	4.46367
	Equal variances not assumed	0.111	15.808	0.913	0.22222	2.00077	-4.02342	4.46786

Based on the analysis results in Table 6 above, it can be seen that the t count is 0.111 and the t table (df 16) is 2.120 with a p-significance value of 0.038. Because the t count is 0.111 < t table 2.120, and the significance value is 0.913 > 0.05, these results show no significant difference. Thus the alternative hypothesis (Ha), which reads, "There is a significant difference in sprint training on stairs and sprinting on inclines to the leg power of aerobic gymnastic athletes", is rejected. This means there is no difference between sprint training on stairs and sprinting on an incline towards the leg power of aerobic gymnastic athletes.

DISCUSSION

Effect of Sprint Exercise in Stairs on Leg Power

Based on the results of the analysis shows that there is a significant effect of sprinting on the stairs on the leg power of aerobic gymnastic athletes. The magnitude of the increase in leg power after being given a sprint on the stairs was 6.66%. The results of this study were strengthened in research (L. F. Pratama & Wahyudi, 2022); (Sari & Madri, 2022) that there is an effect of training up and down stairs with sig. (2-tailed) of 0.000 with a significant level <0.05. The stair climbing exercise can also be called the Harvard step. This stair climbing exercise is carried out with the aim of increasing the elements of speed and strength in physical condition because the elements of speed and strength are a fundamental part of leg power.

The Effect of Sprint Exercise on Stairs and Clips on Increasing Limb Power in Aerobic Gymnastic Athletes

This exercise cannot be separated from the strength of the leg muscles because it uses many leg muscles besides just using the leg muscles. The main muscle components involved in climbing stairs are the Sartorius muscle, Gracilis muscle, Seminendinosus muscle, Gluteus Maximus muscle, Vastus Lateralis muscle, Vastus Medialis, Vastus Intermedius muscle, Gastrocnemius muscle, Peroneus longus muscle, Halucis longus extensor muscle, and Halucis longus muscle. Flexor. Stair climbing exercises help improve aspects of movement, balance, coordination of muscle strength and reaction time between all parts of the body and change direction quickly for players, even at high speed. Apart from the physical benefits, using this tool can also improve the nervous system and related muscle groups (N. E. Pratama et al., 2018).

Stair climbing exercises are used to increase leg work in maximizing athletic performance (Jamil et al., 2015). Stair climbing exercises are multi-directional training, which helps improve strength, power, balance, agility, coordination, proprioception, core and joint stability, foot speed, hand-eye coordination, reaction time and mobility (Pawar & Borkar, 2018). Stair training sessions will help achieve many of the above objectives by doing the exercises in rhythm and teaching the body and mind various leg combinations.

Ladder training is the newest method of the multi-directional training program because the elements of the motor components; strength, power, balance, agility, coordination, joint stability, foot speed, hand-eye coordination and reaction time increase (Ravi & Kalimuthu, 2019). The mind and body get to grips with the different leg combinations with training. Speed ladder training is essential for all sports where agility, leg power, aerobic capacity and speed are important. Exercises for agility Ladder exercises should be done immediately after warming up so that the muscles are fresh and ready to give 100% under proper form (Pramod & Divya, 2019).

The Effect of Sprint Training on Climbs on Leg Power

Based on the results of the analysis shows that there is a significant effect of sprint training on an incline on the leg power of aerobic gymnastic athletes. The magnitude of the increase in leg power after being given sprint training on an incline was 7.06%. The results of this study were reinforced in the research (Krisyanto & Rachman, 2021) that uphill running exercises can increase leg power. The exercises were carried out for 16 meetings. In stage 1, the sample does 5 reps and 4 sets with 1-minute intervals followed by a 15-second recovery. In stage 2, the sample performs 6 reps and 5 sets with 1-minute intervals followed by 15 seconds of recovery. In stage 3, the sample performs 7 repetitions and 6 sets with 1-minute intervals followed by 15 seconds of recovery. In stage 4, the sample performs 8 reps and 7 sets at 1-minute intervals followed by a 15-second recovery. Why can it increase, because the assumption is that if a runner runs in a field that is not the field of his race, a runner is running in a horizontal plane, but he has to run in a diagonal field that automatically requires more muscle strength. It is hoped that from this exercise, the power will increase because increased power is increased strength to be fast, which will automatically increase the ability to run.

Compared with flat running, in uphill running, due to the position of the lower extremities, the muscles of the hip joint increase their work, while the work of the knees and ankles remains the same compared to flat running. The use of elastic energy also changes as you go uphill. While most of the energy stored in the tendons is recovered in flat running, running uphill at a steeper incline requires an increase in the center of mass, causing an increase in the positive tissue generated by the body since the stored elastic energy cannot be used due to the increased ground contact time. Analyzing mechanical efficiency, previous research has proven that uphill runners show an efficiency of about 25%. This value corresponds only to muscle contraction (Snyder et al., 2012); (Whiting et al., 2022); (Hunter et al., 2022); (Whiting et al., 2020).

Dewolf (2016) stated (1) When running uphill at a certain speed, the average external power developed during the positive work phase appears to be a limiting factor. As the incline increases, being maintained air time longer, the vertical velocity at takeoff will increase as the minimum vertical displacement increases. It will require more power during the boost. (2) When running downhill, the average external power developed during the negative working phase appears to be the limiting factor. Indeed, although vertical velocity is lower on takeoff, ta and thus T - increases with incline and velocity as ballistic drop increases. The longer it increases, the external force developed during the brakes because the energy to be extended after a touchdown is greater. In addition to better muscle performance during eccentric than concentric contraction, force during braking is limited by (1) an increase in brake at the expense of thrust and (2) a reduction in an upshift. As a result, the bouncing mechanism when walking decreases gradually disappears as speed and incline increase.

Differences in Sprints in Stairs and Sprints in Inclines against Leg Power

Based on the results of the analysis showed that there was no significant difference between sprint training on stairs and sprinting on inclines to the leg power of aerobic gymnastic athletes, with a significance value of 0.913 > 0.05. This means that both types of exercise are equally good for increasing the leg power of aerobic gymnastic athletes. The increase in muscle strength is caused by an increase in the number of contractile proteins, actin and myosin filaments and increases the strength of

connective tissue and ligaments. In addition to increasing leg muscle strength, leg muscle speed will also increase with jumping movements that are carried out quickly and repeatedly (Suyanto et al., 2021). An increase in muscle strength and speed of the leg muscles will directly affect the increase in the explosive power of the leg muscles. This is based on two important elements in explosive power, namely muscle strength and muscle speed.

Explosive power training methods can be done with several training methods including circuit training, weight training, interval training, and so on. On the basis of the training method, experts further develop it into a form of training with certain characteristics according to their respective versions. Exercising a maximum of 4 times per week is sufficient to stimulate an increase in muscle phosphorylase activity. To increase strength and speed, a progressive weight training system is used, which is based on the 10 RM (Maximum Repetitions) system.

CONCLUSION

Based on the results of data analysis, description, testing of research results, and discussion, it can be concluded that: (1) There is a significant effect of sprint training on stairs on the leg power of aerobic gymnastic athletes, with t count 5.547 > t table 2.306, and a significance value 0.001 <0.05. The magnitude of the increase in leg power after being given sprint training on the stairs was 6.66%. (2) There is a significant effect of sprint training on an incline on the leg power of aerobic gymnastic athletes, with t count 5.292 > t table 2.306, and a significance value of 0.001 <0.05. The magnitude of the increase in leg power after being given sprint training on an incline was 7.06%. (3) There is no significant difference between sprint training on stairs and sprint training on inclines to the leg power of aerobic gymnastic athletes, with t count 0.111 < t table 2.120, and a significance value of 0.913 > 0.05. Based on the results of the research that has been done, it proves that there is no difference in sprinting on stairs and sprinting on inclines to the leg power of aerobic gymnastic athletes. It is suggested to the trainers, to use the sprint training method on the stairs and sprint on the incline as a variation of the exercise in increasing the leg power of aerobic gymnastic athletes.

REFERENCES

1) Aksović, N., Bjelica, B., Milanović, F., Jovanović, N., & Zelenović, M. (2021). Plyometric training effects on explosive power, sprint and direction change speed in basketball: A review. *Turkish Journal of Kinesiology*, *7*(2), 73–79.
2) Dewolf, A. H., Peñailillo, L. E., & Willems, P. A. (2016). The rebound of the body during uphill and downhill running at different speeds. *Journal of Experimental Biology*, *219*(15), 2276–2288.
3) Gasparetto, Z., Julião, A. L., Thuany, M., Martinez, P. F., de Mendonça Bacciotti, S., & de Oliveira-Junior, S. A. (2022). CONCERNS ABOUT STRENGTH TESTS IN GYMNASTICS: A SYSTEMATIC REVIEW. *Science of Gymnastics Journal*, *14*(2), 225–236.
4) Haugen, T., Seiler, S., Sandbakk, Ø., & Tønnessen, E. (2019). The training and development of elite sprint performance: an integration of scientific and best practice literature. *Sports Medicine-Open*, *5*(1), 1–16.
5) Hinks, A., Jacob, K., Mashouri, P., Medak, K. D., Franchi, M. V, Wright, D. C., Brown, S. H. M., & Power, G. A. (2022). Influence of weighted downhill running training on serial sarcomere number and work loop performance in the rat soleus. *Biology Open*, *11*(7), bio059491.
6) Hunter, I., Bradshaw, C., McLeod, A., Ward, J., & Standifird, T. (2022). Energetics and Biomechanics of Uphill, Downhill and Level Running in Highly-Cushioned Carbon Fiber Midsole Plated Shoes. *Journal of Sports Science & Medicine*, *21*(1), 127.
7) Jamil, S. A., Aziz, N., & Hooi, L. B. (2015). Effects of ladder drills training on agility performance. *International Journal of Health, Physical Education and Computer Science in Sports. Volume*, *17*.
8) Kavaliauskas, M., Jakeman, J., & Babraj, J. (2018). Early adaptations to a two-week uphill run sprint interval training and cycle sprint interval training. *Sports*, *6*(3), 72.
9) Krisyanto, S., & Rachman, H. A. (2021). The effect of uphill and downhill exercise on soccer player's leg power. *Jurnal Keolahragaan*, *9*(1), 100–107.
10) Markov, A. (2020). ANAEROBIC CAPACITY OF LOWER LIMBS IS CRUCIAL FOR GYMNAST'S PERFORMANCE. *Research in Physical Education, Sport & Health*, *9*(1).
11) Mkaouer, B., Hammoudi-Nassib, S., Amara, S., & Chaabène, H. (2018). Evaluating the physical and basic gymnastics skills assessment for talent identification in men's artistic gymnastics proposed by the International Gymnastics. *Biology of Sport*, *35*(4), 383–392.
12) Niu, L., & Durakoglu, A. (2021). Sports Science Teaching of Athletics Based on Nonlinear Mathematical Equation. *Applied Mathematics and Nonlinear Sciences*.

13) Nygaard Falch, H., Guldteig Rædergård, H., & van den Tillaar, R. (2019). Effect of different physical training forms on change of direction ability: a systematic review and meta-analysis. *Sports Medicine-Open*, *5*(1), 1–37.
14) Paunović, M., Velikčković, S., Okičić, T., Jović, S., & Đorđević, D. (2022). THE INFLUENCE OF STRENGTH ON THE GYMNASTS'SUCCESS IN PERFORMING VAULT. *Science of Gymnastics Journal*, *14*(2), 173–183.
15) Pawar, S. B., & Borkar, P. (2018). Effect of ladder drills training in female kabaddi players. *International Journal of Physical Education, Sports and Health*, *5*(2), 180–184.
16) Pramod, R., & Divya, K. (2019). The effects of ladder training on speed of Egyptian high school boys student's in Qatar. *International Journal of Physical Education, Sports and Health*, *6*(1), 18–22.
17) Pratama, L. F., & Wahyudi, A. (2022). Pengaruh Latihan Skipping dan Naik Turun Tangga Terhadap Tinggi Loncatan Pada Atlit Bola Voli Klub Tunas Kabupaten Tegal. *Indonesian Journal for Physical Education and Sport*, *3*(1), 92–96.
18) Pratama, N. E., Mintarto, E., Kusnanik, N. W., & Pratama, N. (2018). The influence of ladder drills and jump rope exercise towards speed, agility, and power of limb muscle. *Journal of Sports and Physical Education*, *5*(1), 22–29.
19) Ravi, P., & Kalimuthu, D. (2019). The effects of ladder training on speed of Egyptian high school boys student's in Qatar. *International Journal of Physical Education, Sports and Health*, *6*(1), 19–22.
20) Rogers, J., & Revesz, A. (2019). Experimental and quasi-experimental designs. In *The Routledge handbook of research methods in applied linguistics* (pp. 133–143). Routledge.
21) Russo, L., Palermi, S., Dhahbi, W., Kalinski, S. D., Bragazzi, N. L., & Padulo, J. (2021). Selected components of physical fitness in rhythmic and artistic youth gymnast. *Sport Sciences for Health*, *17*(2), 415–421.
22) Sands, W. A., McNeal, J. R., Penitente, G., Murray, S. R., Nassar, L., Jemni, M., Mizuguchi, S., & Stone, M. H. (2016). Stretching the spines of gymnasts: a review. *Sports Medicine*, *46*(3), 315–327.
23) Santana, M. V., Mirón, I. M., Vargas, L. A., & Bedoya, J. L. (2019). Comparative analysis of adherence to the mediterranean diet among girls and adolescents who perform rhythmic gymnastics. *Revista Brasileira de Medicina Do Esporte*, *25*, 280–284.
24) Sari, T. M., & Madri, M. (2022). Pengaruh Latihan Jump To Box dan Naik Turun Tangga terhadap Peningkatan Power Otot Tungkai Atlet Bolabasket Kota Payakumbuh. *Jurnal JPDO*, *5*(2), 63–67.
25) Snyder, K. L., Kram, R., & Gottschall, J. S. (2012). The role of elastic energy storage and recovery in downhill and uphill running. *Journal of Experimental Biology*, *215*(13), 2283–2287.
26) Suyanto, D. H., Paskaria, C., & Gunawan, D. (2021). Perbandingan kekuatan otot dan massa otot antara wanita lansia aktif dan tidak aktif berolahraga. *JURNAL ILMU FAAL OLAHRAGA INDONESIA*, *4*(1), 9–13.
27) Whiting, C. S., Allen, S. P., Brill, J. W., & Kram, R. (2020). Steep (30) uphill walking vs. running: COM movements, stride kinematics, and leg muscle excitations. *European Journal of Applied Physiology*, *120*(10), 2147–2157.
28) Whiting, C. S., Hoogkamer, W., & Kram, R. (2022). Metabolic cost of level, uphill, and downhill running in highly cushioned shoes with carbon-fiber plates. *Journal of Sport and Health Science*, *11*(3), 303–308.
29) Xu, C., Yao, M., Kang, M., & Duan, G. (2020). Improving physical fitness of children with intellectual and developmental disabilities through an adapted rhythmic gymnastics program in China. *BioMed Research International*, *2020*.
30) Zemková, E., Kyselovičová, O., Jeleň, M., Kováčiková, Z., Ollé, G., Štefániková, G., Vilman, T., Baláž, M., Kurdiová, T., & Ukropec, J. (2017). Upper and lower body muscle power increases after 3-month resistance training in overweight and obese men. *American Journal of Men's Health*, *11*(6), 1728–1738.