PROCEEDING ICSDP 2022
THE INTERNATIONAL CONFERENCE OF SPORT FOR DEVELOPMENT & PEACE

THE INTEGRATION OF THE SELFTALK TRAINING METHOD AND THE ENDURANCE TRAINING METHOD TO INCREASE THE VO2MAX OF MID-DISTANCE SPEED INLINE SKALE ATHLETE

Atep Deni[1]
[1]Department of Sport Education, [1]Postgraduated School, Universitas Pendidikan Indonesia

Abstract
This study aims to test the self-talk exercise method and the endurance method to increase the Vo2Max athletes. This research is an experimental study with a pretest-posttest two design research design. The sample consisted of 36 children consisting of 24 boys and 12 girls aged 14.7”1.78. who had been trained for 4.1 ("2.32 years. This study was divided into two groups that were randomly selected. 18 children in the experimental group were given a self-talk training program that was integrated with interval training, 18 athletes in different groups were given an integrated self-talk training program with fartlek training). The results obtained are: 1) The self-talk training model which is integrated with interval training increases Vo2Max with the overall treatment design results increasing by 36.91%. Fartlek's integrated self-talk training program with the overall average result increased by 11.71%, The interval training integrated self-talk training method was better than the Fartlek-integrated self-talk model.

Keyword: Self Talk, Interval Training, Fartlek, Speed Inline Skate

Introduction

It is important to know the training model of different physical conditions on the effect of adaptation on physiological parameters when choosing the optimal training model to increase the specific needs of the sport of speed I Line Skate, it is necessary to evaluate the training program by all stakeholders which can have a positive impact on the development of athlete performance. One of the programs implemented is a program to improve the physical condition of athletes, the coach is responsible for program preparation and implementation of physical condition improvement exercises based on sport science, which prioritizes specific programs and safety, as described below: Positive youth development programs based on physical activity are an attractive type of program designed to promote healthy youth development and respond to emerging youth health priorities. This program uses physical activity as a means of transportation to foster youth interest and involvement in physical activity, as well as promote broader social, emotional and psychological development.

The development of roller skating has progressed very rapidly, one of which is the development of complex techniques that are equally owned by athletes from various regions in West Java, this condition can be seen from the observations during the PORDA 2010 2014

and 2018 PORDA roller skate sports competitions. All athletes have equal technical ability, the end of the athlete's victory is determined by the support of excellent physical and mental conditions for the techniques used. One of the misconceptions about roller skating is that athletes are well prepared with only technical and strategic training. If that is all that is needed then the level of performance, and the ability to carry out a technique will be very limited and relatively unable to increase anymore. If you want physical and mental conditions that have the potential to develop optimally; consistently increasing; and balanced abilities, athletes must be prepared and managed through training programs that are arranged systematically, choosing the right training method, so that it has a significant impact on the development of the athlete's performance. Roller Skate Athletes certainly need endurance to support race performance in order to maximize their performance. One of them combines mental skill training and physical training carried out by roller skaters te learning in youth development.

Lasitan according to (Harsono, 1988: 155) is a state or condition of the body that is able to work for a long time, without experiencing excessive fatigue after completing the work. According to (Sukadiyanto, 2011: 60) the term endurance in the world of sports is known as the ability of an athlete's organ equipment to fight fatigue during an activity or work. Muscular endurance in terms of muscle work is the ability to work or a group of muscles in a certain period of time, understanding the resilience of the energy system is the ability to work the organs of the body within a certain period of time. There are several factors that affect resilience, one of which is VO2max. According to McArdle, (in Sukadiyanto, 2011:61). The influencing factor in endurance is the maximum ability of the human body for every cell that needs oxygen to convert food energy into ATP (Adenosine Triphosphate). Contracting muscle cells require a lot of ATP which produces muscle used in exercise that requires a lot of oxygen and produces CO2. Likewise, sports activities will greatly affect the structure of the heart and the function of the heart itself (Billat et al., 2013). In order to achieve good performance, being in good physical condition cannot be separated from adequate preparation and physique, it will be very difficult to develop training towards a good Vo2Max. In the journal (Zwiren, Freedson, Ward, Wilke, & Rippe, 2013). about Vo2Max said that, "Vo2max (also maximal oxygen consumption, maximal oxygen uptake, peak oxygen uptake, or maximal aerobic capacity) is the maximum capacity of an individual body to transmit through the circulatory system and use oxygen in the motor muscles. . The greater the Vo2max, the more efficient the respiratory system (Poole, Gardner, & Angeles, 1984) higher oxygen consumption of individuals indicates a more efficient cardio respiratory system. Oxygen is one of the fuels needed by humans and one of the components needed by muscles for heavy or light activities. The roller skating branch certainly requires VO2max to support the race. This program is designed for girls in grades three to five and consists of a 24-course curriculum and culminates in a 5K running program. Each lesson includes a discussion topic, warm-up, exercises, group processing activities, and a close. Overall, the lessons are organized into three broad sections namely self-awareness and self-care, teamwork and connectedness, and community empowerment and contribution and each lesson is designed to promote a level of physical, psychological, and social development. As explained by (Ulrich, Ulrich, Branta, Ulrich, & Ulrich, 2013). Lessons follow a common format, starting with a" Joining "activity to introduce and discuss daily themes. "Warm up" activities incorporate physical movements that integrate the theme of the day. "Exercise" also

integrates a daily theme while incorporating running or physical conditioning. The lesson ends with a "Wrap" which summarizes the day's activities and themes and provides an "energy reward" for those who show a positive attitude ".

The training method to increase Vo2max used by researchers is the Interval Training Method and the Fartlek training method, as High-intensity anaerobic interval training is also regularly planned in the majority of team sports to develop maximal oxygen uptake (Vo2max) (Buchheit & Laursen, 2013) and Recent studies focussing on self-talk (Hardy, Gammage, & Hall, 2001) have increased our understanding of this much promoted mental skill. As a result, self-talk can be thought of as a multidimensional phenomenon focusing on athletes' self-verbalizations, which can serve both instructional and motivational functions (Hardy, Hall, & Hardy, 2004)

Methods

Participants for the present study were a sample of 36 athletes with a mean age of 14.7 years {SD = 4.07); 66% were male and 33% were female. Athletes competed in a represented a range of skill levels from provincial (50%), through to National (50%) standard.

Procedure

This study uses a measurement procedure instrument used is the Balke Test. The Balke method is one of the oldest ways of monitoring and measuring VO2max development for an athlete.

This test is suitable for measuring endurance and fitness for endurance and group sports. The advantage of this test is that it is easy to administer and can be used at once for many participants (mass). This test is also very commonly used by trainers so that it is easy for participants to understand and do.

Data Analysis

In this study, the type of data is primary data, Primary data is data obtained by taking it yourself without an intermediary,

Result

To find out the measurement results in this study, it will be processed using a statistical approach, so that it can be seen whether the answer is accepted or rejected according to the proposed real level. Data collection by tests and measurements. The results of the analysis in this study can be explained as follows:

1. Descriptive Statistical Analysis Results

Based on the table above, it can be explained descriptive statistical analysis as follows:

Table 1.1 Descriptive Statistics of the Interval Integrated Self Talk Method and Fartlek's Integrated Self Talk Method

Group	Measurement	Mean	Std Deviation	N
Self-Talk - Interval	*Pre Test*	41.3867	3.75796	18
	Post Test	49.7639	4.04542	18

	Gain Score	8.3772	2.70372	18
Self-Talk - Fartlek	*Pre Test*	42.4167	3.66720	18
	Post Test	45.7783	3.79547	18
	Gain Score	3.3617	75394	18

Based on the results of the descriptive statistical analysis presented in table 1.1, the mean of the Self Talk – Interval group, the pre-test was 41.3867 and the standard deviation was 3.75795. Then the post-test measurement results obtained an average value of 49.7639 and a standard deviation of 4.04542 and the gain score measurement results obtained an average value of 8.3772 and standard deviation of 2.70372. In the Self Talk – Fartlek group, the pre-test was 42.4167 and the standard deviation was 3.66720. Then the post-test measurement results obtained an average value of 45.7783 and a standard deviation of 3.79547 and the results of the gain score measurement obtained a mean value of 3.3617 and a standard deviation of 75394.

2.1 Normality test is used to determine whether the data is normally distributed or not. The normality test assessment is if the value of Sig. (significance) < 0.05 then the data is said to be abnormal, whereas if the value of Sig. (significance) or > 0.05 then the data distribution is said to be normal. The results of the analysis are presented as follows:
Table 2. 2 Normality Test for Self-Talk Group – Interval and Self Talk – Fartlek.

Group	Measurement	Shapiro-Wilk Statistic	df	Sig.	Kesimpulan
Self-Talk - Interval	Pre Test	.927	18	.169	Normal
	Post Test	.947	18	.374	Normal
	Gain Score	.804	18	.552	Normal
Self-Talk - Fartlek	Pre Test	.946	18	.373	Normal
	Post Test	.930	18	.195	Normal
	Gain Score	.937	18	.262	Normal

*. This is a lower bound of the true significance
a. Lilliefors Significance Correction

Based on the results of the normality test presented in table 2.2, the results of the analysis prove that the data for all groups can be assumed to be normally distributed because Sig. > 0.05.

3.1 Homogeneity test was conducted to determine the similarity of variance or to test that the data obtained came from a homogeneous population. The homogeneity test assessment is if the value of Sig. (significance) < 0.05 then the data is said to be inhomogeneous, whereas if the value of Sig. (significance) or > 0.05 then the data distribution is said to be homogeneous. The results of the homogeneity data acquisition are as follows:

Table 3. 1 Test of Homogeneity of Self Talk Group – Interval and Self Talk – Fartlek

Group	Measure	Levene Statistic	df1	df2	Sig.	Conclusion
Self-Talk Interval – and *Self-Talk Fartlek*	Pre-test	.042	1	34	.840	Homogen
	Post-test	.226	1	34	.637	Homogen
	Gain score	6.445	1	34	.516	Homogen

Based on the results of the homogeneity test as presented in table 3.1, the value of Sig. > 0.05. According to these results, it can be stated that the data has a homogeneous variance.

Hypothesis 1

Test in this study uses the Paired Sample t-Test. The decision making of the Paired Sample t-Test test is Ho is rejected if the value of Sig. (significance) < 0.05 and H1 is accepted if the value of Sig. (significance) > 0.05. The results of the Paired Sample t-Test are presented in the following table:

Table 4. 1 Test the Effect of Interval Self Talk Method Group on Increasing Vo2max of Medium Distance Roller Skate Athletes

Paired Differences							
			95% Confidence Interval of the Difference				
Mean	Std. Deviation	Std. Error Mean	Lower	Upper	T	df	Sig. (2-tailed)
8.37722	2.70372	.63727	9.72175	7.03269	13.145	17	.000

The results of the Paired Sample t-Test above are as follows:

Ho : There is no effect of the interval-integrated self-talk method on the increase in Vo2max of middle-distance speed inline skate athletes.

H1 : There is an effect of the interval integrated self-talk method group on the increase in Vo2max of middle-distance speed inline skate athletes.

It is known that the value of Sig. 0.000, the value of Sig 0.000 <0.05 then H0 is rejected. This means that there is an effect of the interval integrated self-talk method group on increasing the Vo2max of middle-distance speed inline skate athletes

Hypothesis 2

test in this study using the Paired Sample t-Test The decision making of the Paired Sample t-Test test is Ho is rejected if the value of Sig. (significance) < 0.05 and H1 is accepted if the value of Sig. (significance) > 0.05. The results of the Paired Sample t-Test are presented in the following table:

Table 5. 1 Testing the Effect of the Fartlek Integrated Self Talk Method Group on Increasing Vo2max of Medium Distance Roller Skate Athletes

Paired Differences							
			95% Confidence Interval of the Difference				
Mean	Std. Deviation	Std. Error Mean	Lower	Upper	T	df	Sig. (2-tailed)

3.36167	.75394	.17771	3.73659	2.98674	18.917	17	.000

The results of the Paired Sample t-Test above are as follows:
Ho : There is no effect of the Fartlek-Integrated self talk method group on the increase in Vo2max of middle-distance speed inline skate athletes
H1: There is an effect of the Fartlek Integrated Self-Talk Method Group on the increase in Vo2max of middle-distance speed inline skate athletes
It is known that the value of Sig. 0.000, the value of Sig 0.000 <0.05 then H0 is rejected. This means that there is an effect of the Fartlek Integrated Self-Talk Method group on increasing Vo2max for medium-distance speed inline skate athletes.

Hypothesis 3
test in this study using the Independent Sample t-Test The decision making of the Independent Sample t-Test test is Ho is rejected if the value of Sig. (significance) < 0.05 and H1 is accepted if the value of Sig. (significance) > 0.05. The results of the Independent Sample t-Test are presented in the following table:
Table 6. 1 Test of Group Differences Interval Integrated Self Talk Method and Fartlek Integrated Self Talk Method

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Gain Score	Equal variances assumed	6.455	.016	7.581	34	0.000	5.01556	.66159	3.67105	6.36006
	Equal variances not assumed			7.581	19.628	0.000	5.01556	.66159	3.63383	6.39728

The results of the Independent Sample t-Test above are as follows:
Ho : There is no significant difference between the interval-integrated self-talk method group and the fartlek-integrated self-talk method group to increase the Vo2max of medium-distance roller skate athletes.
H1 : There is a significant difference between the interval-integrated self-talk method group and the fartlek-integrated self-talk method group to increase the Vo2max of intermediate distance skaters.
It is known that the value of Sig. 0.000, the value of Sig 0.000 <0.05 then H0 is rejected. This means that there is a significant difference between the interval-integrated self-talk method group and the fartlek-integrated self-talk method group to increase the Vo2max of medium-distance roller skate athletes.

Differences in the Improvement of the Interval Integrated Self Talk Method Group and the Fartlek Integrated Self Talk Method Group

Table 7. 1 Differences in the Interval Integrated Self Talk Method Group and the Fartlek Integrated Self Talk Method Group.

		N	Mean	Std. Deviation	Std. Error Mean
Gain Score	Kelompok Self Talk – Interval	18	8.3772	2.70372	.63727
	Kelompok Self Talk – Fartlek	18	3.3617	75394	.17771

Based on the results above, it can be seen that the interval integrated self-talk method group with an average value of 8.3772 and a standard deviation of 2.70372 and the fartlek-integrated self-talk method group with an average value of 3.3617 and a standard deviation of 7.5394. From this description, it can be concluded that the interval integrated self talk method group experienced a significant increase compared to the fartlek integrated self talk method group to increase the Vo2max of middle-distance speed inline skate athletes.

Discussion

The main finding of this study was that it was specifically designed to increase Vo2max. Furthermore, exercise program monitoring is a valid measure of actual training achievement in these types of training modes. Therefore, the results show that it is possible to carry out integrated endurance training with specialized self-talk for medium-distance skaters to develop VO2MAX effectively and the performance of rollerblading athletes is rarely appropriate. It must be emphasized that this requires good organization, because Psychologically, endurance training is tiring, so it requires encouragement through the self-talk method to athletes when carrying out the given training program. Several factors must be considered when designing resistance training dose, namely external dose and internal dose. The external dose (outer load) is the amount of workload designed for an athlete who frames the sessions of an exercise program. In order to develop a proper training program, a trainer needs to be familiar with the characteristics of the external dose. The external dose component is volume, i.e. the amount of work performed during a training session or a training phase. The volume of exercise can be in the form of duration, distance travelled and the number of repetitions / repetitions. The fact that athletes perform endurance training is tiring so that complementary exercises are needed to be carried out simultaneously to increase their seriousness in training..

Hardy et al. (2004), which focused on how athletes' use self-talk, may help to explain the content-related sport type differences found in this investigation (i.e. team sport athletes employed more negative and overt self-talk than their individual sport counterparts). Hardy et al. (2004) found that team sport athletes used a less deliberate form of self-talk and had a significantly reduced belief in their self-talk compared with individual sport athletes. It may follow that as team sport athletes have less belief that their self-talk impacts on their sporting performances, they are more prone to use self-talk that is negative and overt, perhaps as a way to ''blow off steam'',

Although it is not one of the research hypotheses, it is also the training of this study that interval integrated self-talk exercise causes an increase in VO2max which is more than

the integrated self-talk method of fartlek exercise the increase is smaller. Significance was found not only in the pre to post increase in VO2max in the training group with the Integrated Self Talk method of interval training, but there was also a significant change in the magnitude of the change between groups. This finding shows that if the difference between the self-talk method is integrated with interval training and the self-talk method is integrated with fartlek training. At the increase, the increase in fitness will lead to greater questions at a certain relative intensity, thereby increasing Vo2Max

Conclusion

Self-talk, endurance, interval training and fartlek can performed in a way that is more specific to rollerblading than regular running. The combination of exercise between psychology and physical exercise concidered quality of work. Proven heart ratean oxygen uptake indicator that increases vo2max without having to do it on skates as shown in this experiment.

References

Billat, V., Petot, H., Karp, J. R., Sarre, G., Morton, R. H., & Mille-Hamard, L. (2013). The sustainability of VO2max: Effect of decreasing the workload. *European Journal of Applied Physiology*, *113*(2), 385–394. https://doi.org/10.1007/s00421-012-2424-7

Buchheit, M., & Laursen, P. B. (2013). High-intensity interval training, solutions to the programming puzzle: Part I: Cardiopulmonary emphasis. *Sports Medicine*, *43*(5), 313–338. https://doi.org/10.1007/s40279-013-0029-x

Hardy, J., Gammage, K., & Hall, C. (2001). A descriptive study of athlete self-talk. *Sport Psychologist*, *15*(3), 306–318. https://doi.org/10.1123/tsp.15.3.306

Hardy, J., Hall, C. R., & Hardy, L. (2004). A note on athletes' use of self-talk. *Journal of Applied Sport Psychology*, *16*(3), 251–257. https://doi.org/10.1080/10413200490498357

Harsono, (1988), Coaching dan Aspek Aspek Psikologi Dalam Coaching, Jakarta, CV.Kesuma.

Poole, D. C., Gardner, B. P., & Angeles, L. (1984). *To Endurance Training*. 242–247.

Sukadiyanto. (2011). Pengantar Teori dan Metodologi Melatih Fisik. Bandung: Lubuk Agung.

Ulrich, D. A., Ulrich, B. D., Branta, C. F., Ulrich, D. A., & Ulrich, B. D. (2013). *Research Quarterly for Exercise and Sport Developmental Gross Motor Skill Ratings : A Generalizability Analysis Developmental Gross Motor Skill Ratings : A Genera1izability Analysis*. (March 2013), 37–41.

Zwiren, L. D., Freedson, P. S., Ward, A., Wilke, S., & Rippe, J. M. (1991). Estimation of vo2max: A comparative analysis of five exercise tests. *Research Quarterly for Exercise and Sport*, *62*(1), 73–78. https://doi.org/10.1080/02701367.1991.10607521