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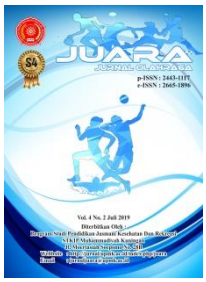

Implementation of the Health-Related Fitness Model

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Abstract

This study aims to see the effect of providing a health-related fitness model on the physical improvement and physical activity of SMK students. The method used in this study was experimental with a randomized control group pretest-posttest design. The sample used a random cluster sampling technique by selecting the experimental group and the control group, consisting of 33 students aged 16-17 years. The instruments used in this study were physical fitness test instruments, namely the Indonesian Physical Fitness Test (TKJI) and the International Physical Activity Questionnaire (IPAQ). The results showed this study indicates a change in students' understanding of the HRF model before and after treatment; there is an effect of using the HRF model on physical fitness tests and active lifestyles. There is a significant relationship between understanding HRF, physical fitness, and an active lifestyle of 0.457, which is sufficient. There was an effect of Health-related fitness on physical fitness and students' busy lifestyles. A good Health Related Fitness can have a significant impact both on yourself and on fellow friends, relatives, family, and other general public.

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INTRODUCTION

Excellent physical fitness is needed by all people, from children to the elderly, regardless of one's social status, even from intellectuals to laypeople (Pavlova, Vovkanych, & Vynogradskyi, 2014; Adi, Da'i, & Cahyani, 2020). Because excellent physical fitness is the primary capital to carry out daily activities well (Kuswari, Handayani, Gifari, & Nuzrina, 2019), physical health-related to fitness must also be carried out with predetermined standards, such as doing regular exercise activities three times a week will improve one's physical fitness (Elmagd,

2016; Fahrizqi, Agus, Yuliandra, & Gumantan, 2021), as well as physical education programs in schools which are expected to increase awareness to implement active lifestyle. However, to develop a lifelong energetic individual, students need to understand the concept of fitness and how physical activity contributes to health (Ohuruogu, 2016; Praja & Yudha, 2021).

However, based on current data from the Ministry of Health of the Republic of Indonesia in 2020, as many as 18.8% and 10.8% of children in Indonesia have the problem of being overweight and obese (KEMENKES RI, 2020). Children with low fitness levels are more likely to become overweight or obese over time than those with high fitness levels (Sahoo, Sahoo, & Choudhury, 2015).

Healthy physical fitness was the only significant contributor to primary school students' participation in physical activity out of several of the factors tested (Suherman, Suherman, Juliantine, & Mahendra, 2021). However, today's children are about 15% less fit than their parents when they were younger. Lifestyle choices will provide a quality of life that allows them to do many things and avoid obesity (Prusak et al., 2016).

The school environment plays a vital role in providing opportunities for children to engage in physical activity (Prusak et al., 2016). The Health-Related Fitness (HRF) model can be an alternative learning model that can be integrated with physical education to provide knowledge and habituation to practice physical activity for children at school. This Health-Related Fitness model has a goal consisting of 5 stages that are in line with the development and growth of students (Houston & Kulinna, 2015).

According to Don & Murray (1997) in the book Foundations of Personal Fitness, HRF is a type of physical fitness that emphasizes physical activity and exercise that will improve or help you maintain your functional health. The five components of HRF are cardiovascular fitness, flexibility, muscle strength, muscle endurance, and body composition. This health-related fitness model is expected for students to develop skills, physical fitness, knowledge, attitudes, and behaviors that can lead them to have an active and healthy lifestyle.

This learning model believes that the success of physical education begins with the embeddedness of students' enjoyment of various physical activities. Therefore, multiple supplies such as skills, physical fitness, attitudes, knowledge, and daily behavior must always be self-trust oriented to establish a healthy, active lifestyle in the future.

The characteristics of the HRF model emphasize knowledge, attitudes, and behavior, an ongoing program of activities, and regular testing and individual assessment (Chen, Hammond-bennett, Hypnar, & Mason, 2018). This research provides an overview of the implementation of the Health-Related Fitness model as a form of promotion of fitness education by adjusting the applicable

curriculum in Indonesia. The findings highlight that the Health-Related Fitness model provides health-related improvements for students (Brusseau et al., 2014). Based on the description above, the researcher intends to research the relationship between health-related fitness models and physical fitness and active lifestyles in vocational students. The research objective in this study aims to see the effect of providing a health-related fitness model on the physical improvement and physical activity of SMK students.

METHODS

Participants in this study were students in the age range of 16/17 years which was the transitional phase from adolescence to adulthood. The method used in this study is an experimental study with a one-group pretest-posttest design (Fraenkel, Wallen, & Hyun, 2012). The population in this study were students of class XI. The sampling technique used random cluster sampling to put 33 people as samples. The instrument used in this research is the TKJI (Indonesian Physical Fitness Test) taken from Helicon's theory in Metzler (2000) book entitled Instructional Models For Physical Education about physical fitness. Meanwhile, to see the active lifestyle in this study using the International Physical Activity Questionnaire (IPAQ) (Booth, 2015).

Data analysis techniques include reliability tests and analysis prerequisite tests. This research used SPSS 20. The data analysis used was the analysis prerequisite test used in this study, including normality and homogeneity tests and hypothesis testing.

FINDINGS AND DISCUSSION

Findings

Table 1. Normality Test

	Group	Shapiro-Wilk Sig
TKJI	Pretest	0,197
	Postest	0,005
IPAQ	Pretest	0,012
	Postest	0,085

Based on the Shapiro-Wilk normality test for TKJI data, Sig. Pretest is 0.197, and Posttest is 0.005. Because one data, namely posttest data <0.05, it can be concluded that the TKJI data is not normally distributed. So that an alternative to processing TKJI data can use a non-parametric test: the Wilcoxon test.

As for the IPAQ data obtained, the value of Sig. Pretest is 0.012 and Posttest is 0.085. From the two data, both > 0.05, it can be concluded that the IPAQ data is normally distributed. The next statistical test is the homogeneity test and hypothesis testing.

Tabel 2 Homogeneity Test

	Levene Statistic	Sig
TKJI	0,690	0,410
IPAQ	1,722	0,194

Because the normality test on the TKJI data is not normally distributed, the homogeneity test is not considered, so the next statistical test is the Wilcoxon test. Then, for the IPAQ data, the value based on the mean on the homogeneity test is 0.194 > 0.05, so according to the basis for making decisions on the homogeneity test, it can be concluded that the variance of the IPAQ data is the same (homogenous).

Table 3. First Output of Wilcoxon Test; Ranks

			N	Mean Rank	Sum of Ranks
Posttest	TKJI	Negative Ranks	0[a]	0,00	0,00
Eksperimen	–	Positive Ranks	33[b]	17,00	561,00
Pretest	TJKI	Ties	0[c]		
Eksperimen		Total	33		

Based on the table above, it is known three things:

1) Negative ranks or the difference (negative) between the understanding test results for the pretest and posttest is 0, both on the value of N, Mean grade, and a sum of levels. This 0 value indicates no decrease from the pretest value to the posttest value.

2) Positive ranks or the difference (positive) between the understanding test results for the pretest and posttest. There are 33 positive data (N), which means that 33 students experienced an increase in understanding from the pretest to the posttest. The mean rank or the average increase is 17.00. At the same time, the number of positive levels or sum of grades is 561.00.

3) Ties are the similarity of pretest and posttest values. Here the value of the tie is 0, so it can be said that there is no equal value between pretest and posttest values.

Table 4. Second Output Wilcoxon Test; Test Statistics

	Z	Asymp. Sig. (2-tailed)
Posttest TKJI group Experiment – Pretest TKJI group Experiment	-5.092	0,000

In the Wilcoxon test, the determination of the hypothesis test is seen in the second output of "test statistics." The following is the basis for decision-making used in the Wilcoxon test as a guide to answering the research hypothesis.

1) If the value of Asymp. Sig. (2-tailed) < 0.05 then Ha is accepted

2) If the value of Asymp. Sig. (2-tailed) > 0.05 then Ha is rejected

Based on the table above, the Asymp value is known. Sig. (2-tailed) is worth 0.000.

Because of the value of 0.000 <0.05, it can be concluded that Ha is accepted. This means that there is a difference between the results of the physical fitness test (TKJI) for pretest and posttest data, so it can also be concluded that "there is an effect of using the Health-Related Fitness Model on the physical fitness of XI students of SMKN Buahdua Sumedang."

Discussion

The Health-Related Fitness (HRF) model is a program well known in the learning process to improve physical fitness as an instrument for application in supporting daily life. In the data that has been analyzed, the active lifestyle and physical fitness have a unidirectional relationship which if the understanding of the HRF model increases, the active lifestyle will increase, if the knowledge of the HRF model increases, the physical fitness will increase, and if the active lifestyle increases, the physical fitness will increase (Filgueira et al., 2021). These two things are closely related and influence each other between variables. A quality physical education program should prepare individuals for lifelong physical activity and healthy behaviors (Tannehill, Mars, & Macphail, 2014). According to SHAPE America - Society of Health and Physical Educators, physical education aims to develop physically literate individuals who have the knowledge, skills, and beliefs to enjoy the lifelong healthy physical activity (SHAPE, 2015).

The fitness paradigm in physical education is currently changing with the changing times that are increasingly advanced (Powell, Powell, Wood, & Nevill, 2015). In the current physical education learning process, it is not only about motion that dominates, but more than that the results or educational values, especially in physical education that must be achieved, have been growing, as stated in the journal (Bailey, Armour, Kirk, & Jess, 2009), that sports, physical education and educational values in it include Physical health, physical skills, Affective, Social, Cognitive, Creativity, Lifestyle/Leisure, this shows that physical education that has been growing in it consists of various aspects such as physical health, physical skills, can show sportsmanship, mutual respect, tolerance and even remain reasonable in the face of defeat, still respect the opponent when winning, also in terms of knowledge that can add insight into how important it is to maintain physical fitness, maintain health for the long time and there are many more benefits that can be obtained so that it provides knowledge that has an effect on awareness and carries out an active and healthy lifestyle into everyday life (Langhammer, Bergland, & Rydwik, 2018).

And from all aspects that are included in physical education, namely an active lifestyle, it will become a necessity and a lifestyle in the present and the future. Exercise and fitness have an essential role to play for health (Jackson & Jackson, 2016), through quality physical education programs, the potential to make (at least) four unique contributions to students' lives: (1) daily physical activity, (2) level of physical fitness personalized, (3) development of competence in various physical and sports skills, and (4) acquiring the knowledge necessary to

lead an active and healthy lifestyle (Houston & Kulinna, 2014).

This academic review critically examines the theoretical and empirical foundations for physical education and school sports (PESS) educational purposes. A historical overview of PESS development shows the origins of four broad domains: physical, social, affective, and cognitive. Analysis of the evidence indicates that PESS can make a development contribution to youth in each of these domains. Likewise, the mechanisms that enable PESS to contribute to cognitive and academic development are barely understood.

However, there is some persuasive evidence suggesting that physical activity can increase a child's concentration and arousal, which may indirectly benefit academic performance (Shephard, 2010). It can be concluded that many of the educational benefits claimed for PESS are highly dependent on contextual and pedagogic variables, which makes us question the simple equivalence of participation and beneficial outcomes for youth. In the last section, therefore, the review raises questions about whether PESS should be held accountable for the claims made by the benefits of education and about the implications of accountability (Bailey et al., 2009).

CONCLUSION

In its influence on physical fitness and an active lifestyle, it can be seen from the difference in pretest and posttest scores on the students' tkji and ipaq scores, the results of which show that there is a significant effect based on the tests carried out. There is a very significant influence on the understanding that is carried out on its influence in the application of an active lifestyle, increasing the level of physical fitness. A good health-related fitness can have a significant impact both on yourself and fellow friends, relatives, family, and the general public.

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