

# FACTORS CONTRIBUTING TO THE PHYSICAL FITNESS OF STUDENTS IN ISLAMIC BOARDING SCHOOLS: SISTEMATIC LITERATURE REVIEW

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**Abstract:** *There are several studies that discuss the factors that affect physical fitness in general, but none have discussed specifically about the factors that contribute to the physical fitness of students in Islamic boarding schools. The purpose of this study was to find out what are the factors that contribute to the physical fitness of students in Islamic boarding schools. The method used in this study is literature review using the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) method. Articles searched through Google Scholar and obtained 8 national articles. The results of 8 selected articles revealed that the factors that contribute to the physical fitness of students include internal and external factors. Internal factors, including age, sex, genetics (heart capacity, posture, obeistas, hemoglobin and muscle fibers), intrinsic motivation, physical activity, lifestyle (nutritional status and sleep quality). External factors, including facilities and infrastructure (field, physical education teachers, curriculum, and trainers), and extrinsic motivation (Islamic boarding school regulations, and Islamic boarding school support). Conclusion new findings in this study, that each Islamic boarding school has differences based on rules or habits that cause differences in physical fitness factors that occur in students. Islamic boarding schools that support their students to do physical activity tend to have good physical fitness, while Islamic boarding schools that do not support their students to do physical activity are the main factors that cause lack of physical fitness in students.*

**Keywords:** *Factors, Physical Fitness, Santri, Islamic Boarding School.*

## INTRODUCTION

Indonesia is the largest multicultural country in the world, this is characterized by many ethnic, ethnic, religious, and cultural groups (Nugraha, 2020). This has led to many educational institutions, one of which is pesantren (Widianto, Kristiyanto, & Liskustyawati, 2019) Ponorogo. This research uses descriptive method with survey research. The selected sample was 150 students with a purposive sampling technique. Data collection techniques using the Indonesian Physical Fitness Test (TKJI). Pesantren is an original Indonesian Islamic education (Hidayatulloh, Saepulmillah, Nugraha, & Hasanah, 2022). Pesantren is a religious educational institution that teaches, develops, and disseminates Islamic religious sciences.

Pesantren is the oldest Islamic educational institution in Indonesia (Almira, Hasan, & Dhita, 2021). According to Junaedi (2017: 172) pesantren are educational institutions that have elements, such as 1) kiai (teachers) as caregivers; 2) students studying Islam; 3) classical books written by earlier scholars (dominies) and in Arabic; 4) teaching system with recitation or madrasah; and 5) huts or dormitories for the students to live in. Along with the times, pesantren have undergone many changes. In addition to studying religious science, pesantren also add general subjects in the learning curriculum (Widianto et al., 2019) Ponorogo. This research uses descriptive method with survey research. The selected sample was 150 students with a purposive sampling technique. Data collection techniques using the Indonesian Physical Fitness Test (TKJI). This causes students to have a lot of burden to carry out their daily activities.

Physical Fitness is the ability and ability of the body to carry out a physical activity without causing significant fatigue (Wulandari & Jariono, 2022). Physical fitness is a need that needs to be met by a person in order to carry out his daily activities properly, efficiently and effectively. In addition, physical fitness can also be a benchmark for whether or not a person's physical condition is good (Najib et al. 2021). According to Caspersen, physical fitness can be categorized in health such as cardiorespiratory endurance, muscle strength. In addition, it is also related to skills such as speed and strength (Fühner, Kliegl, Arntz, Kriemler, & Granacher, 2021) efforts have been undertaken by for instance the World Health Organization (WHO).

Good or bad body fitness can be seen from the factors that affect it. In previous studies, there were factors related to students' physical fitness, such as physical activity, anxiety, and body mass index (BMI) (Alamsyah, Hestningsih, & Saraswati, 2017) go to school and other activities that support learning. In children and adolescents physical fitness is often forgotten especially in early adolescence, even though physical fitness is very useful to support physical work capacity in order to achieve high learning achievement. This study aims to investigate factors related to physical fitness in adolescent students at SMKN 11 Semarang. This research investigates three aspects related to physical fitness of students, i.e. Physical Activity Level, Anxiety Level and Body Mass Index. The study was conducted on students of class XI in the age range 15 - 18 years. This type of research is an analytical survey with cross sectional approach. The population is a student of grade XI with a total of 525 students, then the sample was taken as many as 183 students. Primary data consists of questionnaires to determine physical activity and anxiety levels, while weight and height measurements are required to find out the Body Mass Index. In addition, physical fitness measurements were performed using the Cooper Test method. Meanwhile, secondary data in the form of information of active student of class 2015 is obtained from the administrations office's student center. Statistical analysis is using Spearman rank test and Pearson Product Moment correlation test. From the result of bivariate test at  $\alpha=0,01$ , resulted in a significant positive relationship between physical activity with physical fitness ( $p=0,000$  and  $r=0,314$ ). In addition, there is an influence between genders on students' physical fitness (Nurmitasari & Zaidah, 2020). According to Nurhasan (2011) there are internal and external factors in physical fitness. Internal factors are factors that have been inherent and settled in an individual, such as genetics, age, gender, and so on. External factors are factors obtained from outside, such as exercise, physical activity, lifestyle and nutritional status (Arifin, 2018). In addition, in Prianto's research (2022), factors that affect physical fitness, namely food and nutrition, sleep and rest, life habits, gadgets, and the environment (Prianto, Utomo, Abi Permana, Mutohir, & Suroto, 2022).

Based on the factors that affect physical fitness described above, it is still not explained the factors that affect the physical fitness of students specifically. For this reason, the author wants to know more about what factors contribute to the physical fitness of students in Islamic boarding schools.

## METHOD AND MATERIALS

The design of this study uses the literature review method. A literature review study is a research design using secondary data related to a particular topic. The literature review study aims to conclude the theory from some of the results of previous research. This article review data collection method uses Google Scholar access for national research journal articles and international research journals. The literature review data collection stage uses the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) flow method. The search for research journals is determined on criteria (1) variables according to needs, write down, (2) data collection methods are consistent, (3) research results are measured valid, (4) data analysis is clearly and precisely defined.

Researchers searched for articles on the topic of physical fitness factors in Islamic boarding schools, using google scholar databases for national and international articles. Google scholar was chosen because of its ease of access to get complete and in-depth articles. In addition, the keywords "santri" and "pondok pesantren" can only be searched in national research. To find articles that match the research objectives, researchers use Indonesian and English keywords. Keywords in Indonesian, including factors, physical fitness, students, boarding schools. Keywords in English, including factors, physical fitness, students, boarding school. The use of English words aims to get articles written by international researchers published in international journals.

The selection of study types is carried out through a screening process and determination of eligibility to be made in the meta-analysis. In the selection of studies in this study using several criteria, namely 1) articles related to sports and physical fitness of students 2) published in the last 8 years. Next, the researcher selected all titles and abstracts to check for duplication using the mendeley application. Search results and the process of selecting articles will be outlined using a flow chart. The 2020 Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) flowchart was used to summarize the study selection process.

## RESULT

From the search that has been carried out by researchers found 9 national journals in the last 8 years that have been reviewed and obtained a variety of research methods and different results. The following is the author's name (year), research title, type of journal, study design, and factors that affect the physical fitness of students.

**Table 1.** Article Review

No	Author (year)	Title of study	Journal Type	Study Design	Factors Contributing to Santri's Physical Fitness
1.	(Al-Jamil, Sugiyanto, & Sugihartono, 2018)	Analysis of Physical Fitness Level of Islamic Boarding School Education Students in Kotaa Bengkulu	Kinestetik	Descriptive Qualitative	Physical activity patterns of pondok pesantren students, nutrition, physical education learning curriculum, facilities and infrastructure, teaching staff, extracurriculars with a frequency of once a week.
2.	(Wahab, Kusnadi, & Listyasari, 2021)	Physical Fitness Profile of Santri Riyadlul'ulum Wadda'wah Islamic Boarding School Tasikmalaya City	Poduim: Siliwangi <i>Journal of Sport Science</i>	Descriptive Qualitative	Physical activities carried out regularly by santri
3.	(Mubarok, Ginanjar, & Mudzakir, 2022)	Socialization of Physical Fitness Activities in Increasing Body Immunity of Darul Ma'arif Indramayu Islamic Boarding School Students during the New Normal Adaptation Period	Jornal Berkarya	Discussion, socialization, and evaluation	Lifestyle habits
4.	(Wahyu, Simanjuntak, & Atiq, 2017)	Physical Fitness Survey of Santri (Men) at Darul Khairat Islamic Boarding School Pontianak City	Journal Keolahragaan	Descriptive Survey	Islamic boarding schools have not paid attention to the physical fitness of santri, as seen from the facilities and infrastructure
5.	(Wijaya, Hudah, & Kresnapati, 2021)	Physical Fitness Level for Santri Putra Age 12-16 Years at Addainuriyah Islamic Boarding School 2 Pederungan Semarang	<i>Journal of Physical Activity and Sports</i>	Descriptive Quantitative Survey method	Self-motivation, exercise regularly, and rest while sleeping for at least 8 hours
6.	(Agus & Mudzakir, 2020)	Comparison of Physical Fitness of Students in Islamic Boarding Schools and in Regular Schools	Jurnal Kependidikan Jasmani dan Olahraga	<i>Ex-Post Facto</i>	Differences in the management of Islamic boarding schools, residences, climate, weather, living habits, physical education curriculum
7.	(Dian, Adi, & Andiana, 2018)	Sports Motivation Survey for Men Santri Sabillurrosyad Gasek Islamic Boarding School Malang	Prosiding Seminar Nasional Ilmu Keolahragaan	Descriptive Survey method	Lack of support from the lodge to perform sports activities, (Extrinsic Motivation)
8.	(Rejalestio & Sugihartono, 2022)	Fitness Level of Santri Boarding School in Rejang Lebong Regency	<i>Athena : Physical Education and Sports Journal</i>	Descriptive Qualitative	Lack of understanding of educators in Islamic boarding schools,

## DISCUSS

### *Physical Fitness*

According to the United States Department of Health and Human Services (USDHHS) physical fitness can be defined as a person's ability to perform daily tasks with vigor and alertness, without feeling significant fatigue with

enough energy to enjoy leisure time and be able to meet unexpected emergencies (Saunders et al. 2020). Physical fitness was found to have a relationship as a marker of a person's health. Physical fitness can be classified into cardiorespiratory, muscle strength, and neuromotor. Observational data showed that cardiorespiratory fitness in particular was positively associated with health indicators, including cardiometabolic, bone, and mental health, as well as muscle strength and movement skills (Joensuu et al., 2021).

Physical fitness is divided into two categories, namely health-related fitness and fitness related to skills. Health-related physical fitness, namely body composition, flexibility, cardiorespiratory endurance (aerobic endurance), muscle strength and muscle endurance (Sukanti & Zein, 2016; Mutaqin, 2018). Physical fitness is an important thing for students, because student activities in Islamic boarding schools are different from students in public schools (Al-Jamil et al., 2018) Santri who have good physical fitness, will be able to follow every activity in the Islamic boarding school well. This is in line with Prabowo's opinion (2022) that the better the level of physical fitness, the better a person will be in carrying out an activity. (Prabowo, Raibowo, eko nopiyanto, & restu illahi, 2022).

### ***Factors of Santri's Physical Fitness***

The good and bad of physical fitness can be seen through the factors that influence it. There are internal and external factors that affect physical fitness, such as genetics, age, gender, physical activity, nutrition, and healthy living habits (Fadilah & Adriani, 2023). Santri has differences with students in general, students who live in an Islamic boarding school have special factors that affect body fitness, such as physical activity, lifestyle (nutritional status and sleep quality), facilities and infrastructure (field, PJOK teachers, curriculum, and trainers), and motivation (self-will, boarding school regulations, and Islamic boarding school support) (Agus & Mudzakir, 2020; Al-Jamil et al., 2018; Dian et al., 2018; Mubarak et al., 2022; Rejalestio & Sugihartono, 2022; Wahab et al., 2021; Wahyu et al., 2017; Wijaya et al., 2021).

### ***Physical activity on the physical fitness of santri***

In several studies found, it is explained that doing physical activity is the main factor that affects the physical fitness of students (Agus & Mudzakir, 2020; Al-Jamil et al., 2018; Mubarak et al., 2022; Wahab et al., 2021; Wijaya et al., 2021). This is explained by Wahab et. al., (2021) in his research that students who carry out regular physical activities, their physical fitness is included in the good category (Wahab et al., 2021). Other studies report that there is a relationship between physical activity and physical fitness (Muharamda & Effendi, 2020; Setiawan, Munawarah, & Wibowo, 2021; Syampurma, 2018). In addition, regular physical activity is not limited only to improving cardiorespiratory and muscular fitness, bone and cardiometabolic health, and positive effects on weight status, but also improving mental health and social health (Kapoor, Chauhan, Singh, Malhotra, & Chahal, 2022). Thus, life habits and physical activity will have an impact not only on the physical fitness of students, but also on the mental and social health of students. According to Ardella (2020), physical activity at the age of 12-18 years is at least 60 minutes per day with moderate to strong intensity. If you want to get health, you can do 20 minutes or more for 3-4 days a week (Ardella, 2020).

One study reported no significant results between physical activity and physical fitness (Suryadinata, Wirjatmadi, Adriani, & Lorensia, 2020) due to the poor conduction of physical activities. Meanwhile, a high level of physical activity positively affects the quality of life. However, irrespective of the numerous studies reported on the correlation between age, weight, and physical activity, there is limited study on the differences of physical activities in the geriatric and adult groups of obese and non-obese people. This study, therefore, aims to investigate the effect of age and weight on physical activity in geriatric and adult groups. Design and methods: The purposive sampling technique was used to obtain data from 154 respondents from community-integrated health care in Surabaya, East Java, Indonesia. These respondents were equally divided into two groups of adult (21-60 years). These results are influenced by other factors. According to Wiarto (2013) explained the level of physical fitness influenced by age, sex, genetics, food, smoking. Genetic factors have an effect on heart capacity, posture, obeistas, hemoglobin and muscle fibers.

### ***A healthy lifestyle towards the physical fitness of students***

In addition, life habits are another factor that affects the physical fitness of students (Agus & Mudzakir, 2020; Al-Jamil et al., 2018; Mubarak et al., 2022). A study reports that there is a relationship between a healthy lifestyle and



physical fitness (Abhinaya & Wahjuni, 2022). Lifestyle plays a very important role for health. In sociology, lifestyle is life for a person (Kamakhya, 2017). A healthy lifestyle is a way to live by maintaining all health conditions, which include drinks, food, nutritional consumption and daily behavior, it could be that in a sport it is able to manage health and be able to prevent all things that have the potential to cause disease (Monzera & Maria Ulfah, 2022).

The busy schedule of activities in Islamic boarding schools makes the lifestyle of students irregular. According to the observations that the author made, the lifestyle of students tends to be monotonous and irregular, such as lack of physical activity, irregular eating, messy sleep schedules and so on. A study reports that sleep quality has a close relationship with physical fitness (Gunarsa & Wibowo, 2021; Putra, 2019). Similar to sleep quality, nutritional status is also related to physical fitness (Cocca, Verdugo, Cuenca, & Cocca, 2020). Eating food has an influence on nutritional status, good nutritional status will support physical fitness. Nutritional status in the good category if you get enough nutrients that can be used by the body to help physical growth, development of thinking, activeness, and general health. Nutritional status is lacking if the body receives nutrients in an excessive capacity that causes negative and harmful effects for body. Energy needs are determined by basal metabolism, age, physical activity, temperature, environment, and health, and the recommended amount of energy obtained from 50-60% carbohydrates, 25-35% protein, and 10-15% fat (Tangke, Katiandagho, & Rochmady, 2020).

### ***Facilities and Infrastructure for the physical fitness of students***

A study reports that there is a relationship between facilities and infrastructure on physical fitness (Saleh & Ramdhani, 2020). Another study reported that one of the factors that causes students to have low fitness is the lack of physical activity caused by inadequate facilities and infrastructure in Islamic boarding schools (Bangun & Zaluku, 2019). Sports facilities and infrastructure have a significant influence on sports participation (Sayyid, Zainuddin, Ghabban, & Altowerqi, 2021).

### ***Motivation to exercise is expected physical fitness of students***

Another factor that affects physical fitness is motivation. According to Mylsidayu (2014: 27-28) individual behavior in sports is influenced by motivation, namely intrinsic motivation and extrinsic motivation. Intrinsic motivation comes from within the individual himself to do sports activities, while extrinsic motivation comes from outside the individual to do sports activities. Research reports that intrinsic motivation has a greater influence than extrinsic motivation. Intrinsic factors that influence students to participate in sports activities include talent, physique, skills, and hobbies. In addition, extrinsic factors, including parents, friends, teachers, coaches, and schools (Nurwakhid, n.d.).

According to Mylsidayu (2014: 29) Exercise motivation is influenced by internal factors and external factors. Internal factors include, desire to grow and develop, express oneself, and hope. External factors include available facilities, facilities and infrastructure, training methods, training programs and environment. This means that there needs to be a combination of motivation between students and Islamic boarding schools, because the achievement of maximum physical fitness through high exercise motivation supported by high movement activities are two factors that influence each other (Nopiyanto & Dimiyati, 2018).

## **CONCLUSION**

Based on the description above, it can be concluded that the physical fitness of students is influenced by internal and external factors. Internal factors, including age, sex, genetics (heart capacity, body posture, obeistas, hemoglobin and muscle fibers), intrinsic motivation, physical activity, lifestyle (nutritional status and sleep quality). External factors, including facilities and infrastructure (field, physical education teachers, curriculum, and trainers), and extrinsic motivation (Islamic boarding school regulations, and Islamic boarding school support).

New findings in this study, that each Islamic boarding school has differences based on rules or habits that cause differences in physical fitness factors that occur in students. Islamic boarding schools that support their students to do physical activity tend to have good physical fitness, while Islamic boarding schools that do not support their students to do physical activity are the main factors that cause lack of physical fitness in students.

The combination of internal motivation in students and support from Islamic boarding schools will improve the physical fitness of students. Understanding the importance of physical fitness is a factor in the emergence of motivation in students and support from Islamic boarding schools. Further research is needed on intervention or

support from Islamic boarding schools for physical activity carried out by students as an effort to improve physical fitness.

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Primljen: 20. maj 2024. / Received: May 20, 2024  
Prihvaćen: 12. septembar 2024. / Accepted: September 12, 2024

