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# Percentage of swimmer's coach needs for the development of applications for the physical conditions of swimming

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### Abstract

Swimming is a great sport for keeping fit and fresh because it requires all parts of the body to remain actively moving in the water and because of the weight of the body's resistance to water. The trainer's inability to provide an understanding of physical exercise, design a training program, and comprehend the dosage of athlete training is the root cause of the athlete's diminished physical ability. The purpose of this research is to find out percentage of swimmer's coach needs for the development of applications for the physical conditions of swimming. A survey based quantitative descriptive approach is utilized in this study. The participants in this study were 5 Yogyakarta swimming club coaches. The total sampling method was used to select 5 club coaches for this study's sample. In this study, a questionnaire instrument with a Likert scale. The data in this study were analyzed using descriptive analysis with SPSS version 25. Based on the research results obtained data percentage of trainer needs regarding the application of the physical condition of swimming in the high category, obtaining a percentage of 80% with a total of 4 trainers and a moderate percentage of 20% consisting of 1 trainer. Therefore, it can be concluded that the swimmer's coach is highly dependent on the application of the swimming sport's physical condition.

**Keywords:** Applications, Physical Conditions, Swimming

#### INTRODUCTION

Sports and community activities are currently inseparable due to their effectiveness as a requirement for physical health maintenance (Sandi Akbar Romadhon, 2016). According to (Falaahudin & Sugiyanto, 2013) Sports are physical activities that can be interpreted as having the capacity to improve quality of life and good body fitness. A healthy personality that is able to adapt to change and is resilient and creative in solving complex problems will be developed through sport, which will strengthen the body and soul (Iwandana et al., 2022).

According to (W. A. Nugroho et al., 2020) sport teaches fair play, honesty, respect for friends and foes, and accepting defeat. Sports that begin at a young age and are developed in a planned, tier-based, and long-term manner are known as achievement sports (Falaahudin et al., 2021). According to (Ismoko & Sukoco, 2013), achievement is defined as a person's level of success attained through learning or experience. According to (Indrayana, 2012), success can be achieved by directly overcoming obstacles in life and relying on one's intellectual, emotional, and spiritual resources. According to (Wibowo & Hakim, 2019), achieving a goal necessitates serious effort and a strong commitment. Exercise is one method for maintaining physical fitness. Participating in any sport at any location whether for men or women can serve as the foundation for a happy and healthy life (S. Nugroho et al., 2021). Health sports aimed at healing or rehabilitation, as well as achievement sports aimed at achieving the highest levels of success (Tarigan et al., 2021). Achievement sports are sports that, with the assistance of sports science and technology, encourage and foster athletes (athletes) in a planned, tier-based, and long-term manner through competitions to achieve both national and international sports accomplishments (Pamungkas, 2021). Achievement sports include swimming (Allung et al., 2019).

According to (Wahyudi, 2015), swimming is a water-based sport that can be practiced by men and women of all ages. Swimming is considered safe for people of all ages due to its numerous benefits and low risk of injury. Some people also use swimming as a form of therapy, recreation, therapy, and achievement (Firdausi, 2018). Swimming is one of the sports that is frequently competed in both locally and internationally in terms of achievements (Paramita et al., 2020). Swimming has the potential to improve fitness as well as health (Putra & Witarsyah, 2019). To be able to carry out a variety of activities without becoming significantly exhausted, body fitness is essential (Palar et al., 2015). Speed and endurance are two characteristics that stand out in achievement swimming (Rizkiyansyah & Mulyana, 2019). Despite the fact that the correct style and technique of movement are also very important (Sungkowo, Kaswarganti Rahayu, 2015). According to (Klarita dewi et al., 2020), swimming is a time-based sport in which the fastest swimmer takes the title. According to (Rohman, 2019), swimming is a fun water activity for people of all ages. A suitable training program is required for swimmers to achieve success (W. A. Nugroho et al., 2020). The four competing swimming styles are crawl (freestyle), butterfly (butterfly), breaststroke (breaststroke), and backstroke (backstroke) (Budi et al., 2020). Swimming is affected by a lot of things. Internal factors include technique mastery, mental health, and physical fitness. External factors include things like nutrition, training programs, facilities and infrastructure, and the environment (Sukmawati & Hartoto, 2015).

One of an athlete's fundamental abilities is physical fitness (Prayogo et al.,, 2021). Athletes' physical condition is the first thing coaches look at to determine whether they are ready to compete. An athlete's performance will undoubtedly be subpar if he is in poor physical condition, especially if he is competing (Iwandana et al., 2021). If athletes are in good physical shape, they can succeed (Suharjana, 2013). State of being assumes a significant part in progress in different games, including swimming. The trainer's inability to provide an understanding of physical exercise, design a training program, and comprehend the dosage of athlete training is the root cause of the athlete's diminished physical ability. On the other hand, structured training

programs for physical fitness cannot be implemented on an ongoing basis (Wani, 2018). In addition, there is a lack of coach expertise.

#### **METHOD**

A survey based quantitative descriptive approach is utilized in this study. (Sugiyono, 2016) defines the term "population" as "something or people with certain qualities and characteristics". The participants in this study were 5 Yogyakarta swimming club coaches. (Suharsimi, 2013) says that the sample is a segment of the population that is suited to the conditions or characteristics being studied. The total sampling method was used to select 5 club coaches for this study's sample. In this study, a questionnaire instrument with a Likert scale was used for data collection:

$$P = \frac{\Sigma R}{N} \times 100$$

Information:

P = Score

 $\Sigma R$  = Total score

N = Max Score

Table 1. Questionnaire Score Table		
Question	Score	
Strongly agree	4	
Agree	3	
Don't agree	2	
Strongly disagree	1	

The Likert scale, which has at least four inquiries and scores addressing individual qualities, is utilized in the evaluation of the poll (Much et al., 2016). The research instrument was a questionnaire. According to (Sugiyono, 2011), the questionnaire-based research instrument collects and records data on paper. Research instruments can be constructed from valid questionnaires (Ramadhani, 2021). The data in this study were analyzed using descriptive analysis with SPSS version 25.

## RESULT AND DISCUSSION

Table 2. Descriptive Statistics Results

		Total	Average
N	Valid	5	5
	Missing	0	0
Mean		52,40	3,4933
Std. Devia	tion	4,278	.28519
Minimum		48	3,20
Maximum	-	57	3,80

From the analysis above it can be explained that from the 5 trainer respondents the results obtained were a minimum score of 48, a maximum of 57, a mean of 52.40, and a standard deviation of 4.278.

Table 3. Percentage of interest in swimming practice

Classification	Frequency	P (%)
High	4	80%
Medium	1	20%
Total	5	100%

Based on the table above, it shows the percentage of trainer needs regarding the application of the physical condition of swimming in the high category, obtaining a percentage of 80% with a total of 4 trainers and a moderate percentage of 20% consisting of 1 trainer.

According to (Surahman, 2016), swimming requires the fastest time for an athlete to win a race in achievement sports. Start, turn, finish techniques, endurance, power, speed, and mentality are all factors that affect speed in order to achieve the fastest time. In order to maximize a swimmer's performance, the appropriate training program must be provided (Susanto, 2017). In addition, proper dietary planning and an exercise program that incorporates both technical and physical aspects require attention. The athlete's food or nutrition intake at the training camp must also be controlled so as to support the improvement of the athlete's physical condition during the preparatory, match, and recovery periods (Setiawan et al., 2017). According to (Baja & Rismayanthi, 2019), an athlete with a well-balanced and planned diet will have a good nutritional status. A better physical condition will be supported and maintained by a healthy diet (Rismayanthi, 2015). The body will get more energy from the food it eats, which can help it swim at a higher level of physical performance.

Naturally, systematic and measurable training methods must be provided in order to achieve good physical condition (Falaahudin & Sugiyanto, 2013). Athlete performance can be improved by using the right training techniques, taking the right amount of exercise, and eating the right food (Rohman, 2019). Repeated training is one factor that contributes to an athlete's improved performance and skills. According to (Rahima, Ahmad Atiq, 2013), the goal of repetitive training is for athletes to improve their mastery of movement techniques, resulting in more efficient movements and motion automation over time. The expansion of burden and force is likewise completed in a swimmer's preparation program.by periodically and measurably increasing the amount of training load and intensity. The goal of training is to help athletes improve their psychological quality in addition to their physical and technical quality in order to improve their performance during competitions (Surahman, 2016).

#### **CONCLUSION**

Based on the research results obtained data percentage of trainer needs regarding the application of the physical condition of swimming in the high category, obtaining a percentage of 80% with a total of 4 trainers and a moderate percentage of 20% consisting of 1 trainer. Therefore, it can be concluded that the swimmer's coach is highly dependent on the application of the swimming sport's physical condition.

#### REFERENCES

- Allung, J. R., Soegiyanto, & Kusuma, D. W. Y. (2019). Evaluating Coaching Achievement Taekwondo Sports Branch of Students Development Center and Sport Training NTT. *Journal of Physical Education and Sports*, 8(2), 116–120.
- Baja, F. R., & Rismayanthi, C. (2019). Hubungan Tingkat Pengetahuan Diet Dan Aktivitas Fisik Terhadap Status Gizi Pada Siswa Sekolah Menengah Atas. *MEDIKORA*, 18(1), 1–6. https://doi.org/10.21831/medikora.v18i1.29189
- Budi, D. R., Listiandi, A. D., Festiawan, R., Widanita, N., & Anggraeni, D. (2020). Indeks Masa Tubuh (IMT): Kajian Analisis pada Atlet Renang Junior Usia Sekolah Dasar. *TEGAR: Journal of Teaching Physical Education in Elementary School*, 3(2), 46–53. https://doi.org/10.17509/tegar.v3i2.24452
- Falaahudin, A., Iwandana, D. T., Nugroho, W. A., & Rismayanthi, C. (2021). The relationship between arm muscle strength, leg muscle strength, arm power and leg power on the 25 meter crawl style swimming achievement. *MEDIKORA*, 20(1), 93–102. https://doi.org/10.21831/medikora.v20i1.40109
- Falaahudin, A., & Sugiyanto, F. (2013). Evaluasi Program Pembinaan Renang Di Klub Tirta Serayu, Tcs, Bumi Pala, Dezender, Spectrum Di Provinsi Jawa Tengah. *Jurnal Keolahragaan*, *I*(1), 13–25. https://doi.org/10.21831/jk.v1i1.2342
- Firdausi, D. K. A. (2018). Peningkatan Hasil Belajar Renang Gaya Bebas. *JUARA: Jurnal Olahraga*, 3(2), 11–18. https://doi.org/10.33222/juara.v3i1.216
- Indrayana, B. (2012). Perbedaan Pengaruh Latihan Interval Training dan Fartlek terhadap Daya Tahan Kardiovaskular pada Atlet Junior Putra Taekwondo Wild Club Medan 2006/2007. Jurnal Cerdas Syifa, 1(1), 1–10.
- Ismoko, A. P., & Sukoco, P. (2013). Pengaruh Metode Latihan dan Koordinasi terhadap Power Tungkai ... Anung Probo Ismoko, Pamuji Sukoco 1. *Jurnal Keolahragaan*, *I*(1), 1–12.
- Iwandana, D. T., Falaahudin, A., & Mubarok, Z. (2021). Competitive Anxiety in Bantul District Athletes Who Have the Potential to Win Gold Medals in Porda Diy. *Social Science Learning Education Journal*, 06(11), 767–770. https://doi.org/10.15520/sslej.v6i11.2886
- Iwandana, D. T., Falaahudin, A., & Romadhoni, M. (2022). Koordinasi Kegiatan Menjaga Kebugaran Melalui Massage Bagi Atlit KONI Bantul Yogyakarta. In *Prosiding Seminar Nasional Hasil Riset dan Pengabdian* (Issue 4).
- Klarita dewi, D. P., Sungkowo, S., Rahayu, K., & Setiawan, T. (2020). Profil Prestasi Atlet Renang Grup 3 Kota Semarang Tingkat Jawa Tengah Tahun 2019. *Journal of Sport Coaching and Physical Education*, 5(1), 14–18. https://doi.org/10.15294/jscpe.v5i1.36755
- Much, I., Subroto, I., Farisa, S., & Haviana, C. (2016). Sistem Informasi Angket Pengukuran Skala Kebutuhan Materi Pembelajaran Tambahan Sebagai Pendukung Pengambilan Keputusan Di Sekolah Menengah Atas Menggunakan Skala Likert. 1(2), 1–12.
- Nugroho, S., Nasrulloh, A., Karyono, T. H., Dwihandaka, R., & Pratama, K. W. (2021). Effect of intensity and interval levels of trapping circuit training on the physical condition of badminton players. *Journal of Physical Education and Sport*, 21(3), 1981–1987. https://doi.org/10.7752/jpes.2021.s3252
- Nugroho, W. A., Umar, F., & Iwandana, D. T. (2020). Peningkatan Kecepatan Renang 100 Meter Gaya Bebas Melalui Latihan Interval Pada Atlet Para-Renang Sekolah Khusus Olahraga Disabilitas Indonesia (SKODI). *Jurnal Menssana*, 5(1), 56–65.
- Palar, C. M., Wongkar, D., & Ticoalu, S. H. R. (2015). Manfaat latihan olahraga aerobik terhadap kebugaran fisik manusia. *Jurnal E-Biomedik*, *3*(1). https://doi.org/10.35790/ebm.3.1.2015.7127
- Pamungkas, O. I. (2021). Hubungan Fleksibilitas dan Kekuatan Terhadap Kemampuan Tendangan Dollyo Chagi Atlet Taekwondo Universitas Negeri Yogyakarta. *Jorpres (Jurnal Olahraga Prestasi*), 17(2), 142–147. https://journal.uny.ac.id/index.php/jorpres/article/view/40569
- Paramita, D. A., Sinrang, A. W., & Santoso, A. (2020). Korelasi antara program latihan dengan

- fungsi paru dan prestasi pada atlet renang usia dewasa muda. *Jurnal Pendidikan Jasmani, Olahragm Dan Kesehatan*, 3(2), 201–212.
- Putra, & Witarsyah. (2019). Pengaruh Latihan Daya tahan Kekuatan Otot Lengan dan Otot Tungkai Terhadap Kecepatan Renang Gaya Dada 50 Meter. *Jurnal Pendidikan Dan Olahraga*, 2(1), 51–56.
- Rahima, Ahmad Atiq, W. Y. (2013). Keterampilan Gaya Bebas (Crawl) Dalam Olaharaga Renang Pada Mahasiswa Penjaskesrek Untan. *Journal*, *I*(1), 1–11.
- Ramadhani, B. &. (2021). Statistika Penelitian Pendidikan.
- Rismayanthi, C. (2015). Konsumsi protein untukpeningkatan prestasi. *MEDIKORA*, 11(2). https://doi.org/10.21831/medikora.v11i2.4763
- Rizkiyansyah, A., & Mulyana, B. (2019). Pengaruh Media Papan Luncur dan Pull Buoy Pola Metode Drill terhadap Hasil Belajar Teknik Dasar Renang Gaya Bebas. *Jurnal Kepelatihan Olahraga*, 11(2), 112–123. https://doi.org/10.17509/jko-upi.v11i2.20311
- Rohman, U. (2019). Penerapan Metode Latihan Interval dalam Meningkatkan Kecepatan Renang Gaya Bebas 50 Meter. *Jurnal Ilmiah SPIRIT*, 19(1), 59–67.
- Sandi Akbar Romadhon, T. R. (2016). Motivasi dan minat masyarakat dalam berolahraga sepeda di kota semarang. *Active Journal of Physical Education, Sport, Health and Recreation*, *5*(1), 24–28. https://doi.org/10.15294/active.v5i1.9318
- Setiawan, A., Jauhari, M., & Setiakarnawijaya, Y. (2017). Tingkat Pemahaman Orang Tua Atlet Renang Kelompok Umur Empat (K.U IV) tentang Gizi di Klub Renang Indonesia Star Aquatic Jakarta Timur. *JURNAL SEGAR*, 3(2), 111–118. https://doi.org/10.21009/segar.0302.05
- Sugiyono. (2016). Metode Penelitian dan Pengembangan (Research and Development/R&D). *Bandung: Alfabeta*.
- Sugiyono, D. (2013). Metode Penelitian Kuantitatif, Kualitatif, dan Tindakan.
- Suharjana. (2013). Analisis Program Kebugaran Jasmani Pada Pusat-Pusat Kebugaran Jasmani Di Yogyakarta. *Medikora*, 11(2), 135–149.
- Suharsimi, A. (2013). Metodologi penelitian. In Bumi Aksara.
- Sukmawati, D., & Hartoto, S. (2015). Penerapan Pemebelajaran Renang Gaya Bebas Terhadap Hasil Belajar Renang Gaya Bebas. *Jurnal Pendidikan Olahraga Dan Kesehatan*, 3(2), 366–370.
- Sungkowo, Kaswarganti Rahayu, K. S. B. (2015). Pengaruh Latihan Interval dan Kapasitas Vital Paru terhadap Kecepatan Renang 50 Meter Gaya Crawl. *Media Ilmu Keolahragaan Indonesia*, 5(2), 24–29. https://doi.org/10.15294/miki.v5i2.7882
- Surahman, F. (2016). Pengaruh Metode Repetisi dan Metode Interval Intensif Terhadap Kecepatan Renang Gaya Bebas 50 Meter (Studi Eksperimen Pada Atlet Klub Profi Swimming Kota Padang). *Curricula*, 2(2), 31–40. https://doi.org/10.22216/jcc.v2i2.216
- Susanto, E. (2017). Pembelajaran Renang Gaya Bebas Dengan Pendekatan Gaya Mengajar Resiprokal. *Journal of Chemical Information and Modeling*, 53(9), 1689–1699.
- Tarigan, B. S., Ramadhani, A., Falaahudin, A., & Iwandana, D. T. (2021). *Sport Activities during the Covid-19 Pandemic*. 6(9), 552–555. https://doi.org/10.15520/sslej.v6i09.2842
- Wahyudi, U. (2015). Pembelajaran renang dengan pendekatan bermain terhadap keterampilan mengapung. *Pendidikan Jasmani*, 25(5), 105–113.
- Wibowo, E. T., & Hakim, A. A. (2019). Profil Indeks Massa Tubuh Pada Atlet Tim Nasional Indonesia Pada Asian Games 2018. *Jurnal Kesehatan Olahraga*, 8(1), 131–140.