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The effectiveness of the remix jump program on cardiovascular endurance in elementary school students

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Abstract

Low cardiovascular endurance among elementary school students remains a concern in school-based physical education, particularly given limited engagement in moderate-to-vigorous physical activity. This study aimed to compare the effectiveness of the Remix Jump Program and conventional physical education in improving students' cardiovascular endurance as measured by the Bleep Test. A quantitative quasi-experimental pretest–posttest control-group design was employed, involving 20 fifth-grade students from SDN Pantai Mekar 01, Bekasi Regency, divided into an experimental group (n = 10) and a control group (n = 10). Cardiovascular endurance was assessed using the Bleep Test (Multi-Stage Fitness Test) before and after the intervention. Data were analyzed using descriptive statistics and an independent-samples t-test to compare mean gain scores between groups at the 0.05 significance level. The experimental group improved from a mean score of 6.57 to 10.45 (Δ = +3.88), whereas the control group increased from 6.08 to 7.06 (Δ = +0.21). Inferential analysis indicated a statistically significant difference in mean gain scores between groups ($p < 0.05$). Based on cardiovascular endurance outcomes measured by the Bleep Test, the Remix Jump Program was associated with greater improvements compared to conventional physical education within the scope of the measured variable. These findings provide preliminary evidence for the contextual application of structured music-based rhythmic exercise in elementary school physical education settings.

Keywords: Cardiovascular endurance, physical education, rhythmic exercise, music-based intervention.

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INTRODUCTION

Physical education at the primary level is essential for fostering students' fitness, particularly in developing cardiovascular endurance, aerobic capacity, and participation in moderate-to-vigorous physical activity (MVPA), which are key indicators of long-term health and physical performance (Dimarucot & Macapagal, 2021). However, participation in

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MVPA during school-based physical education remains relatively low, particularly in activities requiring sustained aerobic effort and coordinated endurance-oriented movement (Bile et al., 2021; Putri et al., 2024). This condition contributes to reduced cardiovascular endurance among elementary school students, as reflected in declining aerobic capacity associated with sedentary lifestyles and excessive gadget use (Zhai et al., 2025). Limited engagement in sustained aerobic activities may directly affect students' cardiorespiratory efficiency and movement stamina, indicating the need for structured learning interventions that specifically target measurable indicators of cardiovascular endurance within school-based physical education settings. In this context, rhythmic jumping activities have the potential to increase aerobic load by inducing continuous, repetitive large-muscle movements that elevate heart rate and oxygen consumption. The synchronization of movement with rhythmic cues may help maintain exercise intensity within a moderate-to-vigorous range, thereby providing consistent stimulation to the cardiorespiratory system and supporting short-term improvements in aerobic capacity during structured physical education sessions.

The urgency of this research stems from low student motivation to engage in continuous aerobic activities during physical education actively. Monotonous and unvaried instructional approaches may lead to boredom, reducing students' willingness to engage in endurance-based activities (Suharti & Darisman, 2017). When participation decreases, opportunities to improve cardiovascular endurance also decline. Integrating digital music with rhythmic movement activities offers a potential solution by stimulating enthusiasm, regulating exercise tempo, and maintaining movement consistency (Prakosa & Hartati, 2022; Surur et al., 2025). Rhythm-based cues can serve as external regulators, stabilizing exercise intensity and promoting sustained participation during aerobic activities. Consequently, structured, music-integrated exercise models may improve objectively measured cardiovascular endurance in physical education contexts.

Several earlier studies highlight the positive effects of approaches that incorporate music or rhythmic movement. Rhythmic gymnastics has been shown to enhance general motor skills and coordination in young children (Valsamidis et al., 2024), while skipping or jump-rope exercises have been reported to improve cardiovascular endurance in athletic populations (Fawver et al., 2020). However, many of these studies primarily focus on general motor development or athletic populations rather than school-based physical education contexts. In addition, limited studies have objectively measured cardiovascular endurance using standardized aerobic assessment tools such as the Bleep Test within a comparative quasi-experimental classroom design (Chen & Lin, 2021). As a result, empirical evidence regarding the effectiveness of structured digital music-based jump interventions on cardiovascular endurance in elementary school physical education remains limited, indicating a clear research gap.

This research builds upon a previous study that developed the Remix Jump Program as a digital music-based physical fitness training model (Gerber et al., 2025). While earlier findings demonstrated improvements in student motivation and participation, physiological indicators such as cardiovascular endurance were not objectively evaluated. The present study extends this work by empirically examining its effectiveness in improving cardiovascular endurance, a measurable component of aerobic fitness, using the Bleep Test (Selland et al., 2022). The novelty of this study lies in the structured integration of rhythmic jumping exercises synchronized with systematically programmed digital music to regulate tempo, maintain rhythmic pacing, and support consistent aerobic loading (Woodard et al., 2021; Lahoz et al., 2025). This approach emphasizes contextual implementation and objective physiological measurement rather than merely combining music and movement.

Based on the identified gap, the main research problem is whether the Remix Jump Program is more effective than conventional physical education instruction in improving students' cardiovascular endurance. This study employs a comparative quasi-experimental pretest–posttest control-

group design to examine differences between the intervention and conventional learning groups. Cardiovascular endurance is measured objectively using the Bleep Test as a standardized aerobic assessment instrument. The purpose of this research is therefore to compare the effectiveness of the Remix Jump Program and conventional physical education in improving cardiovascular endurance indicators measured through the Bleep Test. By explicitly adopting a comparative design and objective measurement, this study aims to strengthen the empirical evidence regarding music-based rhythmic interventions in elementary school physical education.

METHOD

This study employed a quantitative approach using a quasi-experimental pretest–posttest control group design (Tarigan et al., 2022; Arabi & Saberi Kakhki, 2025). This design enabled comparison between students who participated in the Remix Jump Program and those who received conventional physical education without altering regular classroom conditions. Using pretest and posttest measurements, changes in cardiovascular endurance could be observed and compared between groups over time. Given the limited number of participants and the single-school context, this study should be considered a small-scale pilot quasi-experiment intended to provide preliminary empirical evidence within a controlled educational setting. Although quasi-experimental designs do not involve random assignment and may be vulnerable to selection bias, this limitation was minimized by ensuring baseline equivalence between groups and applying clear inclusion criteria. Pretest scores were examined to confirm comparable initial cardiovascular endurance levels prior to the intervention, and both groups followed regular physical education schedules to reduce contextual differences, thereby strengthening internal validity while maintaining ecological validity.

The research was conducted at a public elementary school (SDN Pantai Mekar 01), Muaragembong District, Bekasi Regency, West Java, from July to September 2025. The site was selected based on preliminary

observations indicating low student engagement and limited participation in aerobic-based physical education activities. The population consisted of 38 fifth-grade students, of whom 20 were selected using purposive sampling (Fujimori et al., 2024; Kusuma et al., 2025). The selection criteria included physically healthy students who were not participating in intensive extracurricular sports activities and who maintained a minimum attendance rate of 90% during the intervention. The selected sample was divided into an experimental group (n = 10) and a control group (n = 10), representing comparable characteristics of elementary school students in the context of physical education learning.

The experimental group received an intervention using the Remix Jump Program, a digital music-based rhythmic jumping program designed to improve cardiovascular endurance. The program was implemented over eight weeks, with sessions held five times per week and lasting approximately 5–8 minutes each. Each session followed a standardized structure: a warm-up phase, a core phase of rhythmic jumping movements synchronized with a programmed musical tempo, and a cool-down phase. Musical tempo and repetition patterns were regulated and maintained consistently across sessions to ensure stable aerobic load and pacing. The tempo progression was adjusted gradually to sustain moderate aerobic intensity while remaining appropriate for elementary school students. Meanwhile, the control group participated in regular physical education lessons without rhythmic music integration or structured pacing.

Cardiovascular endurance was measured using the Bleep Test (Multi-Stage Fitness Test), which assesses aerobic capacity through progressive shuttle running over a 20-meter distance (Reiter et al., 2025; Wirnantika et al., 2017). The test was administered twice, once as a pretest and again as a posttest following the intervention. To ensure standardized testing conditions, all assessments were conducted on the same field surface, at similar times of day, using identical audio signals and instructions. Students wore appropriate sports attire, and the same

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evaluator supervised both pretest and posttest sessions to maintain procedural consistency.

Data were analyzed using both descriptive and inferential statistical methods. Descriptive statistics were used to summarize mean scores, standard deviations, and changes in cardiovascular endurance for each group. Gain scores were calculated to represent differences between pretest and posttest measurements. An independent samples t-test was conducted to compare mean gain scores between the experimental and control groups (Abduh et al., 2020). Statistical analysis was performed using SPSS version 24, with a significance level of $\alpha = 0.05$; p-values below 0.05 indicate a statistically significant difference between groups.

RESULTS

Table 1 presents the pretest and posttest Bleep Test scores for both the experimental and control groups. The experimental group recorded a mean pretest score of 6.57 and a posttest score of 10.45, yielding a mean gain of 3.88. In comparison, the control group showed a mean pretest score of 6.08 and a posttest score of 7.06, with a mean gain of +0.21. The standard deviation values for each group are also presented in Table 1 to describe the distribution of scores across measurement points. Differences in mean scores between pretest and posttest can be observed in both groups, with a greater numerical increase in the experimental group. Gain scores were calculated to represent the change in cardiovascular endurance for each group using pretest–posttest measurements. These descriptive results provide an overview of score changes prior to inferential statistical testing. Further statistical comparisons between groups were conducted using an independent-samples t-test.

The assessment was administered twice, once before the intervention (pretest) and once after the intervention (posttest), for both groups: the experimental group that followed *the Remix Jump Program* and the control group that followed conventional physical education.

Table 1. Pretest and posttest results in the Bleep test measurements

Group	N	Average Pretest	Standard Deviation	Average Post test	Standard Deviation	Improvement (Δ)	Standard Deviation
Experiment	10	6.57	0.35	10.45	1.69	+3.88	1.46
Control	10	6.08	0.46	7.06	0.25	+0.21	0.68

The table is made into a graph, so the results are as follows:

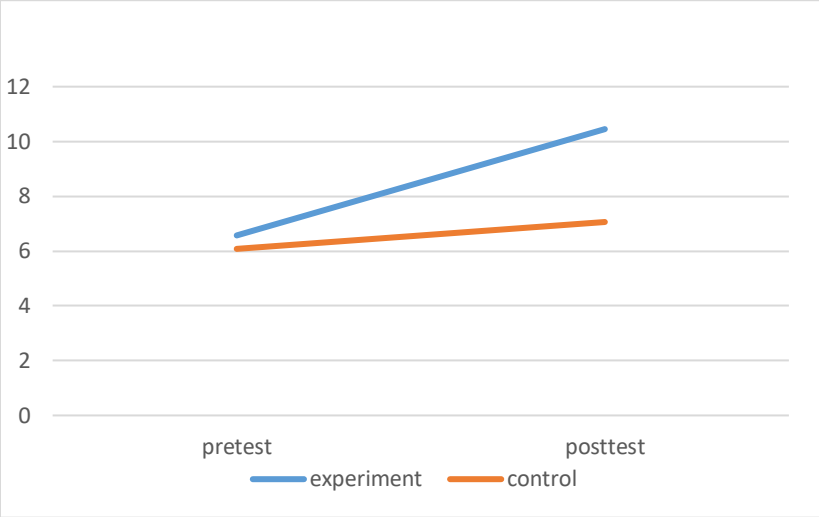

Figure 1. Pretest and posttest result bleep test Source: Author (2025)

The data in Table 1 indicate that both groups improved their Bleep Test scores, with the experimental group demonstrating a larger gain than the control group. The experimental group increased from a mean pretest score of 6.57 (SD = 0.35) to a posttest mean of 10.45 (SD = 1.69), resulting in a mean improvement (Δ) of +3.88 (SD = 1.46). Meanwhile, the control group showed a pretest mean of 6.08 (SD = 0.46) and a posttest mean of 7.06 (SD = 0.25), with a mean improvement (Δ) of +0.21 (SD = 0.68). These values present the mean scores and standard deviations for both groups at pretest and posttest. The gain scores reflect the magnitude of change observed in each group, calculated as the difference between pretest and posttest scores. Further statistical comparison between groups is reported in the inferential analysis section.

Inferential analysis was conducted using an independent samples t-test to compare the mean gain scores between the experimental and control groups. The results showed a statistically significant difference between the two groups, $t(18) = 6.73$, $p = 0.000$. The mean gain score in the experimental

group was higher than that of the control group. These statistical results indicate that the changes in cardiovascular endurance between groups were not equivalent based on the pretest–posttest measurements. Further interpretation of these findings is presented in the subsequent section.

DISCUSSION

The structured rhythmic characteristics of the Remix Jump Program may explain the observed improvement in cardiovascular endurance. The significant difference in cardiovascular endurance between groups suggests that the program improved aerobic performance during the observed intervention period. The synchronization of jumping movements with programmed musical tempo likely helped maintain pacing consistency and sustained aerobic engagement throughout each session. The alignment between movement tempo and musical rhythm may have supported short-term consistency in aerobic load, facilitating continuous movement patterns important for short-duration aerobic stimulation in elementary school students (Armen Gemael et al., 2025). The integration of music within structured jumping activities may also have enhanced task adherence during the intervention period, while rhythm-integrated movement can support active participation in school-based physical activity contexts (Putra et al., 2022). Rather than merely increasing activity volume, the program has facilitated controlled, repeated aerobic exposure during regular physical education sessions.

From a physiological perspective, the improvement in Bleep Test scores may reflect short-term aerobic responses associated with repeated rhythmic jumping performed five times per week over eight weeks. Given the relatively brief duration of each session, the findings are more likely associated with improved movement efficiency and aerobic tolerance rather than long-term cardiovascular adaptation. Regular exposure to moderate rhythmic jumping may enhance students' ability to sustain incremental shuttle running demands during the Bleep Test. The rhythmic cueing embedded in the program likely served as an external regulator, maintaining movement tempo and reducing fluctuations in exercise intensity. Such

structured rhythmic guidance has been associated with improved motor engagement in school-aged children (Septiana et al., 2020). However, the present findings should be interpreted within the scope of short-term intervention effects rather than prolonged physiological remodeling.

From a pedagogical perspective, the structured integration of music may have helped maintain attention and movement consistency during the intervention (Gustiawati, 2017; Saptono et al., 2021). Music in this context functions not merely as entertainment but as a pacing guide that supports coordinated, continuous movement. The combination of rhythmic cues and jumping tasks may have reduced disengagement commonly observed in conventional physical education settings. This structured approach may help bridge students' need for enjoyable learning with the requirement for sustained physical effort. However, motivational variables were not directly measured in this study, and therefore, such interpretations remain inferential. The primary empirical contribution remains the measurable change in cardiovascular endurance.

The contextual novelty of this study lies in applying a structured, digital-music-based jump intervention in elementary school PJOK classes, using a comparative quasi-experimental design. While previous studies have examined music-integrated movement or skipping exercises separately (Asfahani, 2023; Valsamidis et al., 2024; Fawver et al., 2020), limited research has evaluated such integration within a controlled classroom-based comparison using objective aerobic measurement tools. In this sense, the contribution is methodological and contextual rather than conceptual. By embedding rhythmic jumping into regular physical education sessions, the intervention operationalized aerobic training within a realistic school environment, distinguishing it from research conducted in athletic or extracurricular settings (Galih Dwi et al., 2024). The findings provide preliminary evidence that structured rhythmic jump activities may be incorporated into regular physical education sessions to support aerobic outcomes.

Several limitations should be considered when interpreting these findings. The relatively small sample size, single-school context, and quasi-experimental design indicate that the results should be interpreted proportionally within the specific setting of this study. The absence of randomization and the limited scope of measurement variables suggest that the findings reflect short-term, context-bound outcomes rather than broadly generalizable effects. In addition, environmental factors such as weather conditions and space availability may have influenced the consistency of implementation. These considerations indicate that the results should be understood as indicative rather than conclusive evidence.

Overall, the findings indicate that the Remix Jump Program may improve cardiovascular endurance in elementary school physical education settings. However, these conclusions are limited to the measured outcome and the specific intervention structure employed in this study. Further research involving larger and more diverse samples is needed to determine the consistency of these findings across broader educational contexts and to examine additional components of physical fitness.

CONCLUSION

Based on cardiovascular endurance outcomes measured using the Bleep Test and a comparative quasi-experimental analysis, the findings indicate that students who participated in the Remix Jump Program demonstrated greater improvements than those who received conventional physical education. The results show that structured digital music-based rhythmic jumping exercises were associated with higher mean gain scores in the experimental group, indicating significantly greater improvements in cardiovascular endurance. These findings directly address the research objective of comparing the intervention's effectiveness on objectively measured cardiovascular endurance outcomes within the scope of the study design. The results also suggest that rhythmic jumping activities aligned with digital music support short-term improvements in aerobic performance in elementary school physical education settings.

However, these findings should be interpreted proportionally given the small sample size, single-school setting, quasi-experimental design, and focus on a single outcome variable. Therefore, the results represent context-specific and preliminary evidence rather than broadly generalizable effects within broader educational contexts. Further investigation with larger, more diverse samples is required to examine the consistency of these findings and to strengthen empirical generalizability across different settings.

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REFERENCE

Abduh, I., Humaedi, H., & Agusman, M. (2020). Analisis Hubungan Tingkat Kesegaran Jasmani terhadap Hasil Belajar Siswa. *JOSSAE (Journal of Sport Science and Education)*, *5*(2), 75–82. https://doi.org/10.26740/jossae.v5n2.p75-82

Arabi, S. M., & Saberi Kakhki, A. (2025). Comparing the effects of fine, gross, and fine-gross motor exercises on the motor competence of 6–12 year-old autistic children: A quasi-experimental study with a follow-up test. *Acta Psychologica*, *254*, 104842. https://doi.org/10.1016/J.ACTPSY.2025.104842

Armen Gemael, Q., & Novita Sari, Z. (2025). Exploring the interest of early teenagers in futsal extracurricular participation. *Jurnal Penelitian Pembelajaran*, *11*(1), 64–80. https://doi.org/10.29407/js_unpgri.v11i1.25108

Asfahani, A. M. (2023). The Relationship Between Academic Self-Efficacy and Undergraduate Students' Perceptions of Electronic Assessment:

A Mediation Analysis. *International Journal of Learning, Teaching and Educational Research*, *22*(6), 226–244. https://doi.org/10.26803/ijlter.22.6.13

Bile, R. L., Tapo, Y. B. O., & Desi, A. K. (2021). Pengembangan Model Latihan Kebugaran Jasmani Berbasis Permainan Tradisional Sebagai Aktivitas Belajar Siswa Dalam Pembelajaran PJOK. *Jurnal Penjakora*, *8*(1), 71. https://doi.org/10.23887/penjakora.v8i1.30752

Chen, C. C., & Lin, S. Y. (2021). The impact of rope jumping exercise on physical fitness of visually impaired students. *Research in Developmental Disabilities*, *32*(1), 25–29. https://doi.org/10.1016/J.RIDD.2010.08.010

Dimarucot, H. C., & Macapagal, L. S. (2021). The validity and reliability of three field tests for assessing college freshmen students' cardiovascular endurance. *International Journal of Human Movement and Sports Sciences*, *9*(2), 363–374. https://doi.org/10.13189/SAJ.2021.090226

Fawver, B., Cowan, R. L., DeCouto, B. S., Lohse, K. R., Podlog, L., & Williams, A. M. (2020). Psychological characteristics, sport engagement, and performance in alpine skiers. *Psychology of Sport and Exercise*, *47*, 101616. https://doi.org/10.1016/J.PSYCHSPORT.2019.101616

Fujimori, S., Ashida, K., Watanabe, N., Nishino, T., Sasamori, F., Okuhara, M., Tabuchi, H., & Terasawa, K. (2024). Human rights health care measures reporting physical fitness test for ages 6 to 17 with 10-year follow-up. *International Journal of Human Rights in Healthcare*, *18*(1), 92–106. https://doi.org/10.1108/IJHRH-12-2023-0092

Galih Dwi, G. D., Maliki, O., Ari Widiyatmoko, F., Hudah, M., & Yuliawan, D. (2024). Improvement of manipulative skills of 6-year-old children through "Si buyung" gymnastics. *Jurnal SPORTIF : Jurnal Penelitian Pembelajaran*, *10*(1), 47–57. https://doi.org/10.29407/js_unpgri.v10i1.21420

Gerber, M., Cheval, B., Cody, R., Colledge, F., Hohberg, V., Klimentidis, Y. C., Lang, C., Looser, V. N., Ludyga, S., Stults-Kolehmainen, M., & Faude, O. (2025). PSYCHOPHYSIOLOGICAL FOUNDATIONS OF HUMAN PHYSICAL ACTIVITY BEHAVIOR AND MOTIVATION: THEORIES, SYSTEMS, MECHANISMS, EVOLUTION, AND GENETICS. In *Physiological Reviews* (Vol. 105, Issue 3, pp. 1213–1290). American Physiological Society. https://doi.org/10.1152/physrev.00021.2024

Gustiawati, R. (2017). Implementasi Model-Model Pembelajaran Penjas dalam Meningkatkan Kemampuan Guru Memilih dan MENGEMBANGKAN STRATEGI PEMBELAJARAN PENDIDIKAN JASMANI OLAHRAGA DAN KESEHATAN. *JOSSAE (Journal of Sport Science and Education)*, *1*(1), 27–31. https://doi.org/10.26740/jossae.v1n1.p27-31

Kusuma, P. A., Riyadi, S., & Handayani, S. (2025). Regular exercise has a beneficial effect on increasing aerobic capacity in army students. *Jurnal Penelitian Pembelajaran*, *11*(1), 1–17. https://doi.org/10.29407/js_unpgri.v11i1.23935

Lahoz, C., Pérez-Rey, J., González, D., Gallart, J., Bayod, J., & Luesma, M. J. (2025). The relationship between lower limb alignment and physical fitness in children aged 10–12: A sex-specific analysis using the ALPHA-fitness test battery. *Brazilian Journal of Physical Therapy*, *29*(5), 101242. https://doi.org/10.1016/J.BJPT.2025.101242

Prakosa, T., & Hartati, S. (2022). PENINGKATAN KEBUGARAN JASMANI SISWA MELALUI AKTIVITAS FISIK RINGAN DALAM PEMBELAJARAN PJOK. *Riyadhoh : Jurnal Pendidikan Olahraga*, *5*, 39. https://doi.org/10.31602/rjpo.v5i2.7818

Putra, R. W., Sari, L. P., Meirina, R., Nursyam, Y., Hamzaini, H., & Zaidi, A. (2022). Efektivitas Media Pembelajaran Musik Digital Berbasis Android untuk Meningkatkan Hasil Belajar. *Edukatif : Jurnal Ilmu Pendidikan*, *4*(3), 3604–3611. https://doi.org/10.31004/edukatif.v4i3.2732

Putri, M., Bakhtiar, S., Bafirman, B., Ihsan, N., & Pratama Putri, L. (2024). The role of learning strategies on object control skills is reviewed from coordination in children. *Jurnal SPORTIF : Jurnal Penelitian Pembelajaran*, *10*(1), 139–156. https://doi.org/10.29407/js_unpgri.v10i1.22047

Reiter, T., Maccallum, D., Roberts, M., Roberts, J. D., & Dawkins, T. G. (2025). Arterial stiffness and subendocardial viability ratio: temporal responses to ultra-endurance exercise. *Applied Physiology Nutrition and Metabolism*, *50*, 1–9. https://doi.org/10.1139/APNM-2025-0029

Saptono, T., Sumintarsih, S., & Purwandono Saleh, R. A. (2021). Perbandingan Latihan Aerobik Dan Anaerobik Terhadap Tingkat Imunitas Atlet Bolavoli Melalui Physical Fitness Test. *Jurnal Penjaskesrek*, *8*(2), 172–188. https://doi.org/10.46244/penjaskesrek.v8i2.1536

Selland, C., Vukovich, M. D., & Meendering, J. R. (2022). Comparison of VO2peak from the Progressive Aerobic Cardiovascular Endurance Run (PACER) and treadmill in children. *Journal of Exercise Science & Fitness*, *20*(2), 84–89. https://doi.org/10.1016/J.JESF.2022.01.002

Septiana, R. A., & Kurnia, D. (2020). The use of mobile learning in Physical Education learning. *Journal of Physical and Outdoor Education*, *2*(1), 59–67. https://doi.org/10.37742/jpoe.v2i1.24

Suharti, S., & Darisman, E. K. (2017). Pengaruh Senam Semangat Pagi (SSP) Terhadap Peningkatan Kebugaran Siswa Kelas XI SMAN 4 Sidoarjo. *Jurnal SPORTIF : Jurnal Penelitian Pembelajaran*, *3*(2), 192–202. https://doi.org/10.29407/js_unpgri.v3i2.11894

Surur, M., Gustiawati, R., Kurniawan, F., Gani, R. A., & Rahayu, T. (2025). *Pengembangan program kebugaran jasmani dengan pemanfaatan musik digital pada anak sekolah dasar*. *24*(2), 268–279. https://doi.org/10.20527/multilateral.v24i2.21704

Tarigan, B., Hidayat, T., & Angga Lardika, R. (2022). Physical Activities and Cognitive Functions of Students. *Jurnal SPORTIF : Jurnal Penelitian Pembelajaran*, *8*(3), 61–70. https://doi.org/10.29407/js_unpgri.v8i3.18797

Valsamidis, K., Printza, A., Valsamidis, N., Constantinidis, J., & Triaridis, S. (2024). Improvement of the aerobic performance in endurance athletes presenting nasal valve compromise with the application of an internal nasal dilator. *American Journal of Otolaryngology*, *45*(1), 104059. https://doi.org/10.1016/J.AMJOTO.2023.104059

Wirnantika, I., Pratama, B. A., & Hanief, Y. N. (2017). SURVEY TINGKAT KEBUGARAN JASMANI SISWA KELAS IV SDN PUHRUBUH I DAN MI MAMBAUL HIKAM DI KABUPATEN KEDIRI. *Jurnal SPORTIF : Jurnal Penelitian Pembelajaran*, *3*(2), 240–250. https://doi.org/10.29407/js_unpgri.v3i2.11898

Woodard, K. F., Markwell, L. T., & Fairbrother, J. T. (2021). Effects of an expert-modeled attentional focus cue structure on skilled jump rope performance and learning. *Human Movement Science*, *80*, 102889. https://doi.org/10.1016/J.HUMOV.2021.102889

Zhai, S., Zhao, Q., Wang, J., Li, L., Chen, J., & Zhang, Z. (2025). A Characteristic Electrocardiographic Manifestation Suggests Hypercalcemia. *Diagnostics*, *15*(23). https://doi.org/10.3390/diagnostics15233034