fizjoterapia polska

POLISH JOURNAL OF PHYSIOTHERAPY

OFICJALNE PISMO POLSKIEGO TOWARZYSTWA FIZJOTERAPII

THE OFFICIAL JOURNAL OF THE POLISH SOCIETY OF PHYSIOTHERAPY

NR 3/2023 (23) KWARTALNIK ISSN 1642-0136

Występowanie zaburzeń w obrębie stawów skroniowo-żuchwowych podczas zarażenia COVID-19

The occurrence of temporomandibular joint disorders during COVID-19 infection

Possibilities of physiotherapeutic treatment in the case of patients with pusher syndrome

Możliwości postępowania fizjoterapeutycznego u pacjentów z zespołem odpychania

MATIO sp. z o.o.

to sprawdzony od 7 lat dystrybutor
urządzeń do drenażu dróg oddechowych
amerykańskiej firmy Hillrom

Hill-Rom

The Vest® Airway Clearance System

model 205

MetaNeb™

sprzęt medyczny do drenażu i nebulizacji dla pacjentów w warunkach szpitalnych – ze sprzętu w Polsce korzysta wiele oddziałów rehabilitacji i OIOM

MATIO sp. z o.o., ul. Celna 6, 30-507 Kraków, tel./fax (+4812) 296 41 47,
tel. kom. 511 832 040, e-mail:matio_med@mukowiscydoza.pl, www.matio-med.pl

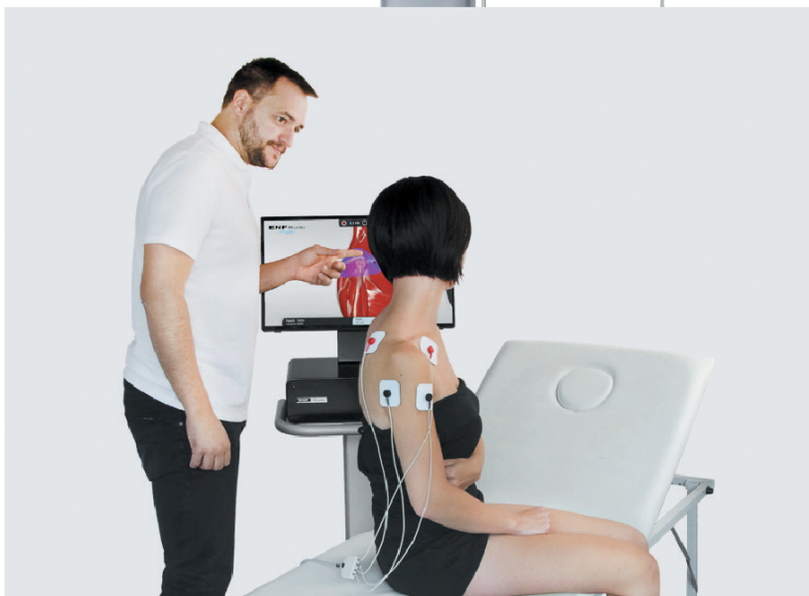
Terapia ENF

Kompleksowy system oceny i fizjoterapii

- autoadaptacyjna fizjoterapia
- obiektywna ocena stanu tkanek
- biofeedback w czasie rzeczywistym
- gotowe protokoły terapeutyczne
- wszechstronne zastosowanie
- anatomia 3D
- mapy 3D

www.enf-terapia.pl

ENF THERAPY



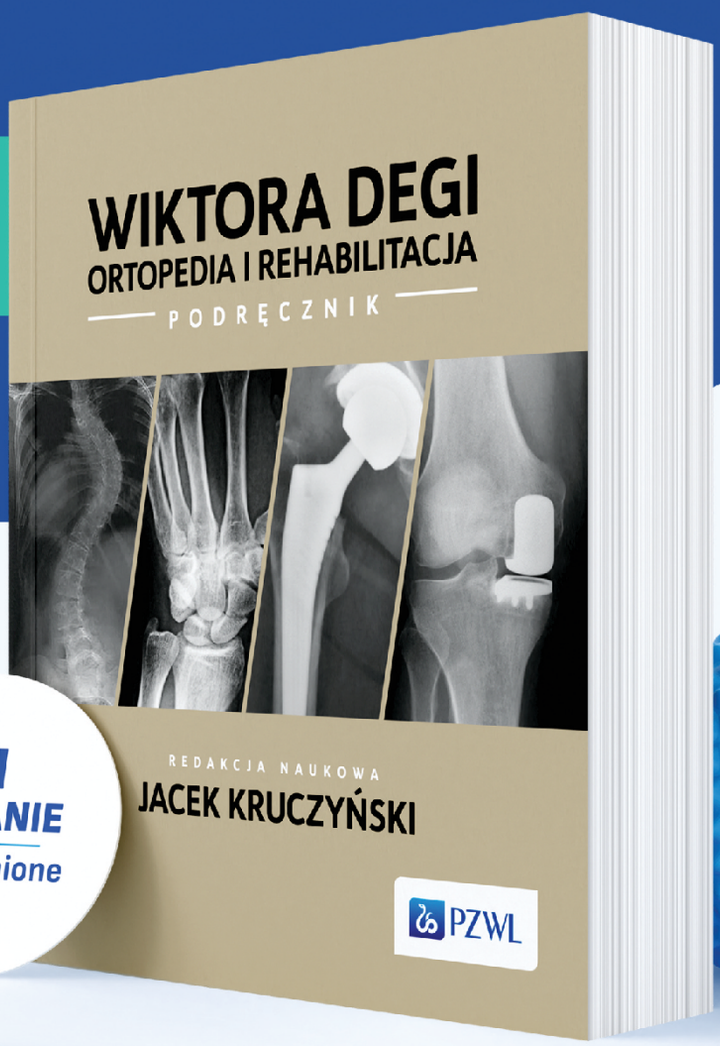
Aktualna
i praktyczna wiedza!

PZWL

ponad
800 rycin
i 1 tys. stron

dodatkowe
materiały
multimedialne

szukaj na **pzwl.pl**



III WYDANIE
uaktualnione

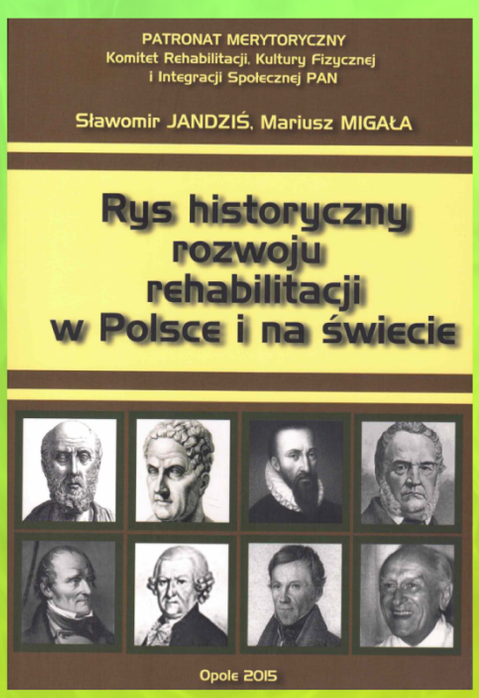
POBIERZ DARMOWY E-BOOK
od PZWL w prezencie!

fizjoterapia polska

STUDIO

sklep internetowy: www.djstudio.shop.pl

w sklepie dostępne między innymi:
·archiwalne numery Fizjoterapii Polskiej w wersji papierowej
·artykuły w wersji elektronicznej
·książki poświęcone fizjoterapii
·prenumerata Fizjoterapii Polskiej



Rabat 15% na pojedyncze artykuły w j. polskim z czasopisma Fizjoterapia Polska w sklepie DJ Studio

djstudio.shop.pl

15% z kodem

FP3-2023-ART

do 30 września 2023

"ORT" Butterfly®
Biomagnetic System

Rok założenia firmy 1996
www.butterfly-mag.com
tel. 85 743 22 21
kom. **603 299 035**

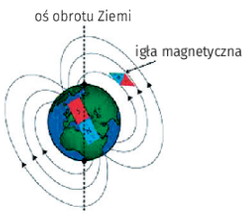
BIOMAGNETOTERAPIA W WYROBACH MEDYCZNYCH „ORT BUTTERFLY”

- BEZ BÓLU, STRESU I BEZ TABLETEK!
- LECZYSZ SIĘ NATURALNIE
- ŚPIĄC, PRACUJĄC, WYPOCZYWAJĄC...
- USUWASZ BÓL I JEGO PRZYCZYNĘ!
- TERAPIA STARA JAK ŚWIAT!
- SPRAWDZA SIĘ I DAJE RADĘ W NIERÓWNEJ WALCE Z PANDEMIĄ – COVID 19!

REGULARNA BIOSTYMULACJA MAGNETYCZNA!

Ogromny potencjał Natury w zwalczaniu smogu energetycznego i autooksydacji, będącej główną przyczyną wszystkich chorób cywilizacyjnych! **Najstarsza Terapia Świata** wspomagająca każdą formę leczenia! Uważa się do dziś, że bez niej nie da się wyleczyć żadnej choroby do końca! **Naturalna Terapia Magnetyczna** Twoje Zdrowie, Twoja Uroda, Odporność i Sprawność do późnej starości! **Wypróbuj** – gdy zawiodły już inne terapie!

Biomagnetoterapia inicjuje ożywienie komórkowe, oczyszcza i „odmładza” krew, podnosząc witalność całego organizmu, który uruchamia intuicyjne procesy obronne, znosząc dyskomfort powodowany bólem, urazem lub stresem, bez konieczności ostrej dawki leków chemicznych...



DLACZEGO CHORUJEMY?
Natężenie sztucznych pól elektromagnetycznych zwiększyło się 100 tys. razy! Naturalne pole magnetyczne Ziemi zmniejszyło swą moc o połowę!

"ORT" Butterfly®
Biomagnetic System

BIOMAGNETYZM - *jako antidotum; jedyne i absolutne; na cancerogenną ekspansję „smogu energetycznego”!*

ZŁOTE LOGO
Międzynarodowych Targów
Rehabilitacja
Łódź IX/2007

Jestem osobistym królikiem doświadczalnym! I żyję – realizując 25 lat wciąż nowe i śmielsze pomysły w wykorzystaniu tej **boskiej energii** naturalnych magnesów! Dzięki nim pokonuję dziś niezliczone przeszkody i przeciwności losu z nieznaną mi przedtem energią i determinacją! To moja pasja! I przeznaczenie!

Najnowsza opinia klienta:

Komentarz ten jest moim osobistym świadectwem zadowolenia z produktów biomagnetycznych „Ort Butterfly”, których używam od 20. lat! Zastanawiam się, zwłaszcza nad fenomenem poduszki (określenie nie jest przypadkowe) zwyczajnie; nie wyobrażam sobie snu i wypoczynku bez magnetycznej „Ort Butterfly” – pod głową! Jej ergonomiczny, przyjazny dla głowy i szyi kształt sprawia, że wysypiam się „po królewsku”. Zabieram ją również ze sobą w bliższe i dalsze podróże! Czyż gdyby była to zwyczajna poduszka, fundowałbym sobie dodatkowy bagaż? Wychwalam więc ją od zarania, polecam i rekomenduję, bo jest tego warta! Bez niej nie wyobrażam sobie prawdziwie relaksacyjnego snu i błogiego, kojącego wyczpoczynku! Dziękuję, że ją Pani stworzyła!

J. Szw. Działdowo (maj 2020)

PS *Poduszki „Ort Butterfly” to prawdziwe arcydziełka robione z wyczuciem i sercem... jak rzeźby Michała Anioła... Polecam wszystkim!*

Zapraszamy do zapoznania się z opiniami użytkowników i ekspertów jakie pojawiły się na przestrzeni ostatnich 10 lat: www.butterfly-mag.com → opinie klientów

ŚRODKIEM DO CELU

- pewność że dziecko jest nakarmione
- więcej czasu na wspólną zabawę z dzieckiem
- szansa na lepsze efekty rehabilitacji

Jeśli występują problemy z żywieniem (np. problemy z motoryką jamy ustnej, konieczność modyfikacji konsystencji diety, ograniczony apetyt), skonsultuj się z naszym Ekspertem.

Skontaktuj się z naszym Ekspertem i dowiedz się więcej na temat:

- konsekwencji wynikających z niedożywienia
- wskazań do żywienia dojelitowego
- dokumentów niezbędnych do rejestracji w poradni żywieniowej
- dokarmiania przez zgłębnik
- najbliższej poradni żywieniowej

Mgr Iwona Widera

Specjalista pielęgniarstwa psychiatrycznego.
Ekspert do spraw żywienia dojelitowego dzieci oraz osób dorosłych.

Zadzwoń: 698-945-066

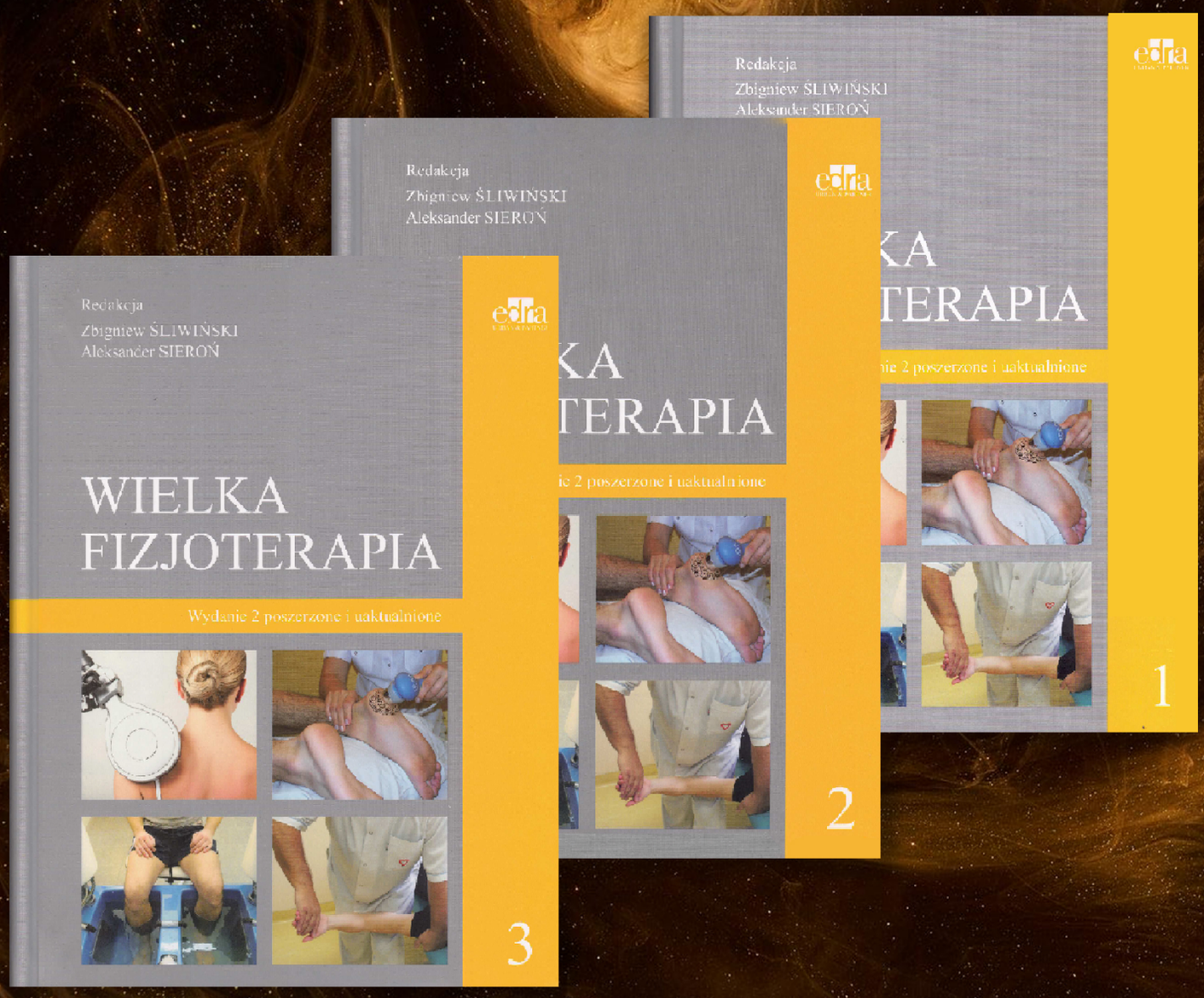
- Szczegółowa lista poradni żywieniowych, realizujących świadczenie żywienia dojelitowego w warunkach domowych na stronie: www.pelnaporcjaopieki.pl

WAŻNE:
Świadczenie objęte pełną refundacją NFZ

NUTRICIA
PEŁNA PORCJA OPIEKI

PEDS/FGRW/21/04/2023

RABAT NA WSZYSTKIE KSIĄŻKI WYDAWNICTWA EDRA URBAN & PARTNER W KSIĘGARNI DJ STUDIO



w tym:
Wielka Fizjoterapia tomy 1-3
djstudio.shop.pl
10% z kodem FP-3-23-EDRA
do 30 września 2023

PTF ubezpieczenia

zabezpiecz się przed potencjalnymi roszczeniami pacjentów

program ubezpieczeń dla fizjoterapeutów
pod patronatem PTF

dla kogo?

Zarówno dla fizjoterapeutów prowadzących własną działalność w formie praktyki zawodowej, podmiotu leczniczego jak również tych, którzy wykonują zawód wyłącznie na podstawie umowy o pracę lub umowy zlecenie.

co obejmuje program ubezpieczeń?

- igłoterapie
- zabiegi manualne (mobilizacje i manipulacje)
- leczenie osteopatyczne
- naruszenie praw pacjenta i szkody w mieniu pacjentów

oraz szereg innych rozszerzeń ukierunkowanych na zawód fizjoterapeuty

kontakt w sprawie ubezpieczeń:

Piotr Gnat
+48 663 480 698
piotr.gnat@mentor.pl
linkedin.com/in/piotrgnat

ubezpiecz się **on-line** na **PTFubezpieczenia.pl**

fizjoterapia polska
nr 3/2023 (23)

An examination of an 8-week online activity-specific skills program to BMI of local college students

Badanie 8-tygodniowego internetowego programu umiejętności specyficznych dla aktywności w odniesieniu do BMI studentów lokalnych uczelni

Akhmad Sobarna[1(A,B,C,D,E)], Joseph Lobo[2(A,B,C,D,E)], Edi Setiawan[3(A,C,D,E)], Kristia Estilo[4(A,C,D,E)], Lou Margarett Parcon[5(A,C,D,E)], Andrea Audine Bulquerin[6(A,C,D,E)], Jackelyn Delos Santos[7(A,D,E)], Mike Jhun Valencia[8(A,D,E)], Joanna Marie Sabid[9(A,D,E)], Frietzie Inayan[9(A,D,E)], Hasanuddin Jumareng[10(A,D,E)]

[1]STKIP Pasundan Cimahi, Indonesia
[2]Mabalacat City College, Mabalacat City, Philippines
[3]Universitas Suryakancana, Indonesia
[4]West Visayas State University- Janiuay Campus, Iloilo, Philippines
[5]Pototan National Comprehensive High School, Iloilo, Philippines
[6]Iloilo National High School, Department of Education, Iloilo, Philippines
[7]Panitan National High School, Department of Education, Capiz, Philippines
[8]Malay College, Aklan, Philippines
[9]Iloilo State University of Fisheries, Science and Technology, Iloilo, Philippines
[10]Universitas Halu Oleo, Indonesia

Abstract

Requiring college students to engage in basic resistance training, locomotor, and non-locomotor exercises has shown mixed results in decreasing and improving BMI. This study aimed to assess the effectiveness of an online activity-specific skills program on college students' BMI. An experimental research design was employed, with students participating in activity-specific exercises for eight consecutive weeks. Demographic factors, including gender, pre- and post-test BMI, and the Physical Activity Readiness Questionnaire, were considered. An Independent Sample T-Test was used to determine significant differences in post-test scores based on gender, while a Paired Samples T-Test was used to analyze differences between pre- and post-test scores. The results indicated no significant difference in the pre-test scores. Moreover, after the eight-week activity-specific skills program, there was no significant difference observed between the pre- and post-test scores. The movement patterns taught in PE 1, encompassing locomotor, non-locomotor, and basic resistance training, did not impact students' body mass indexes. These findings may prompt educators to reassess the effectiveness of current physical education methods or to explore alternative approaches that might be more successful in reducing students' BMI. As the results are inconclusive, further research with a larger sample size is needed to validate the assertions made in this study.

Keywords

basic resistance training movement patterns, locomotor movements, non-locomotor movements, online setting, physical education

Streszczenie

Wymaganie od studentów uczelni angażowania się w podstawowe ćwiczenia oporu, ruchy lokomocyjne i nie-lokomocyjne wykazało mieszane wyniki w zakresie zmniejszania i poprawy wskaźnika BMI. Celem tego badania było ocena skuteczności internetowego programu umiejętności specyficznych dla aktywności w odniesieniu do BMI studentów. Zastosowano eksperymentalne projektowanie badań, w którym studenci uczestniczyli w ćwiczeniach specyficznych dla danej aktywności przez osiem kolejnych tygodni. Wzięto pod uwagę czynniki demograficzne, takie jak płeć, BMI przed i po teście oraz Kwestionariusz Gotowości do Aktywności Fizycznej. Do określenia istotnych różnic w wynikach po teście w oparciu o płeć użyto testu T dla niezależnych próbek, natomiast test T dla próbek sparowanych został użyty do analizy różnic między wynikami przed i po teście. Wyniki wskazały, że nie zaobserwowano istotnej różnicy w wynikach przedtestowych. Co więcej, po ośmiotygodniowym programie specyficznych umiejętności dla danej aktywności nie zaobserwowano istotnej różnicy między wynikami przed i po teście. Nauczane wzory ruchu w PE 1, obejmujące ruchy lokomocyjne, nie-lokomocyjne i podstawowe ćwiczenia oporu, nie miały wpływu na wskaźniki masy ciała studentów. Wyniki te mogą skłonić pedagogów do ponownej oceny skuteczności obecnych metod edukacji fizycznej lub do poszukiwania alternatywnych podejść, które mogą okazać się bardziej skuteczne w redukowaniu BMI studentów. Ponieważ wyniki są niejednoznaczne, potrzebne są dalsze badania z większą liczbą próbek, aby potwierdzić twierdzenia przedstawione w tym badaniu.

Słowa kluczowe

podstawowe wzory ruchów treningu oporowego, ruchy lokomocyjne, podstawowe wzory ruchów treningu oporowego, wychowanie fizyczne

doi.org/10.56984/8ZG143B52

Introduction

As a preventative measure against the spread of the deadly COVID-19 virus, most colleges in the Philippines and other areas of the world switched to online or distance learning two years ago [1–3]. The dramatic shifts in the modern educational system have had far-reaching effects on the lives of most college students, causing problems with their mental and, more importantly, their physical health as a result of decreased participation in a wide range of physical activities [4–6]. Utilizing the online learning mode provided numerous benefits and advantages, which was especially helpful during the assault of COVID-19. As was previously said, various educational institutions around the world have leveraged technology to bring learning into the homes of their students. Surprisingly in the post-pandemic era, this form of instruction will play a vital role in assisting HEIs in providing students with a superior education [7]. The primary objective of most physical education courses is to instill in students a lifelong routine of regular physical activity. Although online learning has its uses, it does not appear to be a good fit for this area. While the main advantages of online education are their accessibility and safety, physical education classes have a little impact on students' skill sets and tacit knowledge. Despite this, higher education institutions nevertheless face a wide range of difficulties. Educators from throughout the world have voiced concerns about the use of online physical education courses. These challenges stem from factors like insufficient IT skills, the use of many platforms, and a general lack of access to home-based technology [8]. Due to the repetitive nature of sessions within the constraints of the setting and the ineffectiveness of instructional tools, it can be difficult to convey the true objective and relevance of physical education [9]. Furthermore, due to teachers' inexperience in the field, acquired mostly through trial and error, it is challenging to perform comprehensive assessments of physical education sessions online. However, research has also revealed that student engagement is low in virtual classes because of the lack of a physical connection between the teacher and the learner. This is a problem on top of the other challenges online instructors already face while running classes. The lack of real-world experience, flagging motivation, and diminished social opportunities are all potential repercussions. The data shown thus far highlights the challenges that institutions around the world are having with the deployment of e-learning in the wake of the global pandemic. The nature of physical education (PE) may lead some to believe that it is impossible to teach PE online. Despite recent technological advancements, physical education cannot be properly taught in a solitary online format due to the interactive and social aspect of the subject [10].

Effectiveness of locomotor, non-locomotor, and basis Resistance training movement patterns in a home-based setting

There has been a rise in recent years in the amount of research published on the topic of using the internet and other technology means to motivate individuals to engage in fundamental resistance training movement patterns and locomotor and non-locomotor movements. It is fascinating to observe how different research settings shape the findings presented in academic journals. Students in the Elementary Teacher Education Program at the University of Mataram were surveyed online, and they assessed their own locomotor skills and their non-locomotor mobility very poorly [11]. On the one hand, [12] experimental study assessed the impact of digital physical activity films on the development of locomotor skills in preschoolers. A total of 906 kids, 442 in the intervention group and 464 in the control group, were studied. Locomotor skill improvement was compared between the intervention and control groups using Two 2 × 2 (Group × Time) ANOVAs with repeated measurements. The locomotor subscale exhibited significant ($p < 0.05$) group time interactions. Locomotor skill development was statistically significant in the intervention group but not in the control group. The results imply that performance can be improved with the help of digital tools aimed at enhancing locomotor skills. In addition, [13] investigated the barriers to and motivations for participation in an online-delivered, home-based RT program for older adults with low muscle mass. Thirty men and women, ages 70 to 71, with low muscle mass were given home-based RT with internet workout videos to perform three times a week for 45 minutes for 10 weeks. Out of a total of 30, 27% completed the study. The increase in chair stand time was 1.6 seconds (95% CI, 0.8-2.3 seconds), while the increase in lean body mass was 0.39 kilograms (95% CI, 0.06-0.72 pounds). The online RT program for elderly people with low muscle mass was practicable as evidenced by high compliance, user satisfaction, increased lean mass, and increased chair-stand duration. Participants' pleasant experiences may be responsible for the intervention's success and favorable outcomes. These results indicate that an RT program provided over the internet may be helpful for elderly people with muscle wastage. Similarly, [14] study aimed to compare the efficacy of three training programs, each of which consisted of 15 sessions (three per week): supervised livestreaming (LS), unsupervised following a video recording (VR), and unsupervised following a written curriculum (WP). They also tracked and compared metrics including muscular fitness, cardiovascular health, and total activity. In order to provide useful analysis for statistically significant comparisons between small groups, they also computed mean differences, 95% confidence intervals (C.I.), and Cohen's effect sizes (E.S.). All three groups saw increases in their levels of physical activity: LS = 93.3%, VR = 86%, and WP = 74%. There was no change in weight, however there was a decrease in waist circumference of 1.3 cm (95% C.I. = 2.1, 0.5; E.S. = 0.170; $p < 0.004$). Resting heart rate ($\Delta = -7.3$ bpm; 95% C.I. = −11.9, −2.7; E.S. = 1.296; $p < 0.001$) and Ruffier's index ($\Delta = -2.1$bpm; 95% C.I. = −3.5, −0.8; E.S. 1.099; $p < 0.001$) were both significantly reduced by LS, but not by VR or WP. It didn't take long to prove that online instruction from a distance was effective. However, the most effective method was supervision, demonstrating the need for an experienced trainer. From what has been discussed so far, it appears that not only can people be enticed to participate in fundamental resistance training movement patterns, but also locomotor and non-locomotor movement activities, but that a broad variety of ways and tools may be used to do so. However, college students are not the intended participants for these scholarly articles. There has probably been little published research on the efficacy of providing these kinds of acti-

doi.org/10.56984/8ZG143B52

vities online. Therefore, it is vital that an investigation along these lines be carried out.

Purpose of the study

This research aims to assess the impact of an activity-specific skills program (including locomotor, non-locomotor, and basic resistance training movement patterns) on the body mass indexes of undergraduate students at a STKIP Pasundan Cimahi and Philippine college.

Materials and methods

Research design

The purpose of this experimental study was to evaluate the effectiveness of the activity-specific skills program included in the current Physical Education 1 course offered by the college's department of Physical Education.

Participants of the study

Participants selected for this study were undergraduate students enrolled in Physical Education 1 at STKIP Pasundan Cimahi (n = male: 20, female: 10) and universities in the Philippines (n = male: 20, female: 20). Therefore, purposive sampling technique was employed. Researchers use their own judgment to decide who will provide the most valuable data, rather than relying on statistical probability [15]. To ensure that the data collected from the participants is as reliable as possible, a set of selection criteria has been developed:

1. 1st year student enrolled in Physical Education 1-Movement Competency;
2. Either male or female; and
3. No medical history.

Instruments and data gathering procedure

A questionnaire comprised of four (4) sections was used to compile responses from the participants. The Physical Activity Readiness Questionnaire (PAR-Q), Body Mass Index (BMI) [pre- and post-test scores] are included as well as other demographic details (i.e., gender). Those who were found to have a preexisting medical condition were immediately disqualified from taking part in the study. Study participants were given a list of activity-specific skills to complete, such as those found in the categories of non-locomotor skills, locomotor skills, and basic resistance training movement patterns. The students will complete each of the eight (8) weekly assignments. The instructor-in-charge will convene with students during a set week before to the events below to go over prerequisites and logistics. A video and a module were made available to students as part of the online format of the course to help them with the subsequent assignments. The required workout regimen for the experiment is laid forth in Table 1.

Table 1. Activity-specific skills activities for the course of eight weeks

Week	Activities
Week 01	Non-Locomotor Skills • Bracing the core • Dead bug series
Week 02	• Rolling • Bird dog series
Week 03	• Press up, scapular protraction and retraction • Plank series • Squat series
Week 04	Locomotor Skills • Crawl and Creep • Landing and jumping • Throwing
Week 05	• Linear movements (hop, skip, leap or bound, jog, and run) • Lateral movements (slide, crossover, grapevine)
Week 06	Basic Resistance Training movement patterns • Lower body: squat, lunge & hinge
Week 07	• Upper body: Horizontal pull & push; vertical pull & push
Week 08	• Lifting and throwing

doi.org/10.56984/8ZG143B52

Monitoring procedures activity-specific skills program adherence
The study participants were monitored in two ways to ensure they all completed the exercises: (1) they were required to submit an index card in the college-required format detailing the activities they took and Body Mass Index (post-test); and (2) they were required to submit unaltered and uncut video footage of themselves performing the exercises. Both of these vital monitoring tools were deposited in Google Drive by the participants. To show that they are making progress, students must submit the following weekly. Surprisingly, all of the participants contributed their full attention and turned in their work on time.

Statistical analysis
The data was analyzed using IBM SPSS 27 (IBM Statistical Package for the Social Sciences). Descriptive statistics were utilized to characterize the demographic features of the participants according to gender and body mass index scores (pre-test) using frequency and percentage. In addition, the Independent Sample T-Test was used to analyze the difference in participants' sex-based test results after the intervention. This test, classified as a parametric test, compares the dispersion of two independent variables [16]. Finally, the participants' pre- and post-test scores were compared using the Paired samples T-test to determine whether or not there was a statistically significant improvement in their performance after engaging in a battery of activity-specific skills exercises [17].

Ethical considerations
It was made clear to the participants what was being measured and how, as well as what the goals of the experiment were. Benefits to academia and the scientific community as a whole have also been detailed. With this in mind, the questionnaire asked participants to confirm their approval by clicking a box next to the attached agreement.

Results

Table 2 illustrates the demographic characteristics of the participants according to gender [Nmale = 32 (45.7%) and Nfemale = 38 (54.3%)] and body mass index scores (pre-test) [Nunderweight = 14 (20.0%), Nnormal = 45 (64.3%), Noverweight = 10 (14.3%) and Nobese = 1 (1.4%)].

Table 2. Demographic characteristics of the participants

Week	Items	N (%)
Gender	Male	32 (45.7%)
	Female	38 (54.3%)
Body Mass Index (pre-test)	Underweight (UW)	14 (20.00%)
	Normal (N)	45 (64.3%)
	Overweight (OW)	10 (14.3%)
	Obese (O)	1 (1.4%)

Table 3 displays the body mass index (pre-test) classification of the participants according to gender. Based on the table, most male participants fall under the normal classification, followed by underweight and overweight, and lastly, obese [Nnormal = 19 (59.38%), Nunderweight = 6 (18.75%), Noverweight = 6 (18.75%), and Nobese = 1 (3.12%)]. For female participants, most are under the normal classification, followed by the underweight and overweight [Nnormal = 26 (68.42%), Nunderweight = 8 (21.05%), Noverweight = 4 (10.53%)], respectively.

Table 3. Contingency table of the participants' gender and Body mass index (BMI) classification

Gender	Body Mass Index Classification			
	Underweight/UW (%)	Normal/N (%)	Overweight/OW (%)	Obese/O (%)
Male	6 (18.75%)	19 (59.38%)	6 (18.75%)	1 (3.12%)
Female	8 (21.05%)	26 (68.42%)	4 (10.53%)	0 (0.0%)

Based on the Independent samples t-test findings which can be seen on Table 4, it was found that no significant difference was observed on the pre-test scores of the participants after performing a series of activity-specific skills activities for eight weeks [t(60.228) = 0.732, p = 0.467], even male participants (22.06 ± 4.61) has a slightly higher mean score compared to female participants (21.31 ± 3.81).

Table 4. Independent samples t-Test results based on post-test scores

Gender	N	M ± SD	SE	df	t-test	Sig.	Decision
Male	32	22.06 ± 4.61	0.815	60.228	0.732	0.467	Not significant
Female	38	21.31 ± 3.81	0.618				

doi.org/10.56984/8ZG143B52

After performing the Paired samples t-test, it was found that there was no significant difference observed between the pre- and post-test score of the participants after performing a series of activity-specific skills activities for eight weeks [t(69) = −1.249, p = 0.216], which can also be seen in Table 4 and 5.

Table 5. Paired samples t-test results

	Paired differences						
	M ± SD	SE	95% Confidence Interval of the Difference		t	df	Sig.
			Lower	Upper			
Pre-test − post-test	−0.152 ± 1.02	0.121	−0.394	0.091	−1.249	69	0.216

Table 6. Body Mass Index (BMI)-based on pre- and post-test scores of participants after completing a series of activity-

Pre-test						Post-test					
Participants	BMI	Class	Participants	BMI	Class	Participants	BMI	Class	Participants	BMI	Class
1	17.90	1.00	36	20.22	2.00	1	17.90	1.00	36	19.70	2.00
2	21.30	2.00	37	33.57	3.00	2	21.30	2.00	37	32.59	3.00
3	19.70	2.00	38	21.00	2.00	3	20.10	2.00	38	20.70	2.00
4	17.50	1.00	39	21.10	2.00	4	18.00	1.00	39	21.60	2.00
5	17.30	1.00	40	20.40	2.00	5	17.30	1.00	40	20.00	2.00
6	18.67	2.00	41	20.06	2.00	6	16.20	1.00	41	20.06	2.00
7	22.80	2.00	42	19.93	2.00	7	22.80	2.00	42	20.65	2.00
8	33.60	3.00	43	25.60	3.00	8	32.50	3.00	43	24.91	2.00
9	21.00	2.00	44	19.53	2.00	9	20.00	2.00	44	19.00	2.00
10	19.30	2.00	45	21.21	2.00	10	19.30	2.00	45	19.90	2.00
11	25.50	3.00	46	15.75	1.00	11	25.00	3.00	46	15.80	1.00
12	22.90	2.00	47	25.70	3.00	12	24.30	2.00	47	26.00	3.00
13	26.20	3.00	48	21.00	2.00	13	25.83	3.00	48	21.00	2.00
14	24.40	2.00	49	23.40	2.00	14	24.70	2.00	49	22.16	2.00
15	18.50	2.00	50	16.00	1.00	15	19.25	2.00	50	16.25	1.00
16	23.52	2.00	51	19.84	2.00	16	24.10	2.00	51	24.10	2.00
17	16.30	1.00	52	18.38	1.00	17	16.30	1.00	52	20.20	2.00
18	29.80	3.00	53	20.38	2.00	18	29.80	3.00	53	20.77	2.00
19	20.90	2.00	54	21.20	2.00	19	21.30	2.00	54	21.60	2.00
20	21.20	2.00	55	18.67	2.00	20	21.20	2.00	55	22.30	2.00
21	19.61	2.00	56	17.58	1.00	21	19.61	2.00	56	18.60	2.00
22	21.80	2.00	57	22.93	2.00	22	21.80	2.00	57	24.81	2.00
23	35.76	4.00	58	18.60	2.00	23	35.76	4.00	58	18.17	1.00
24	19.90	2.00	59	23.44	2.00	24	20.80	2.00	59	24.54	2.00
25	20.40	2.00	60	18.10	1.00	25	21.80	2.00	60	17.90	1.00
26	22.50	2.00	61	20.00	2.00	26	22.20	2.00	61	18.93	2.00
27	18.50	2.00	62	16.79	1.00	27	18.50	2.00	62	16.79	1.00
28	16.46	1.00	63	23.59	2.00	28	17.31	1.00	63	24.23	2.00
29	19.80	2.00	64	32.87	3.00	29	20.70	2.00	64	33.80	3.00
30	18.60	2.00	65	21.78	2.00	30	19.00	2.00	65	21.92	2.00
31	21.73	2.00	66	17.56	1.00	31	20.77	2.00	66	18.28	1.00
32	24.60	2.00	67	28.30	3.00	32	23.40	2.00	67	27.10	3.00
33	26.39	3.00	68	21.32	2.00	33	27.40	3.00	68	20.46	2.00
34	18.50	2.00	69	20.95	2.00	34	18.50	2.00	69	21.09	2.00
35	18.10	1.00	70	17.50	1.00	35	17.70	1.00	70	17.47	1.00

Class: 1- Underweight, 2- Normal, 3- Overweight, 4- Obese

doi.org/10.56984/8ZG143B52

Discussion

Different findings have surfaced at different points throughout the investigation. No significant differences in performance were found across groups of participants who were tested for a variety of activity-specific skills (including locomotor, non-locomotor, and basic Resistance Training movement patterns). Multiple experiments carried out over the period of several years support this finding. There were no significant variations in performance between the sexes in terms of locomotor skill competency, as determined by an analysis of variance (ANOVA) done in the study by [18]. Similarly, [19] found no difference in performance to locomotor movements based on gender. However, the study by [20] found that girls averaged higher than boys did on tests of locomotor ability. ANOVA results ($p < .05$) also show that girls outperform boys when it comes to locomotor ability [21]. [22] also found that girls outpace boys when it comes to locomotor competence (SMD = −0.07 (95% CI −0.15, 0.01), p = 0.09, I2 = 66%). The age-sex trend model also revealed that girls' locomotor skills grew at a considerably faster rate than boys' ($\beta = 6.3004$ and 4.6782, $p < 0.001$) [23]. Meanwhile, [24] shows that boys, on average, outperform girls when it comes to locomotor skills proficiency. A study by [25] found that when comparing the ability levels of boys and girls in hop, skip, and slide, the former group did better ($p < .05$). After searching extensively through academic literature, researchers were unable to locate any research that specifically addressed non-locomotor skills. Furthermore, no substantial difference was identified between the sexes in regards to basic resistance training movement patterns, which contradicts a number of previously published scholarly publications. Women have had a larger increase in relative upper-body strength with resistance training than men, according to a systematic review and meta-analysis by [26]. In addition, a gender gap was found for increases in knee extensor maximal torque and muscle quality ($p < 0.05$), with men showing higher gains than women [27]. Increases in maximal torque were 15.8 ± 10.6% for women and 41.7 ± 25.5% for men, while improvements in muscle quality were 8.8 ± 17.5% for women and 33.7 ± 25.5% for men. Males and females may respond differently to resistance training, at least in terms of the degree of adaptability. Finally, [28] found that there were disparities in absolute strength between the sexes prior to resistance training, but that following training, both men and women saw a rise in absolute strength in the shoulder press, lat pull down, biceps curl, and strength per lean body mass. Squat, leg extension, and leg curl absolute strength were found to be significantly different between the sexes prior to resistance training, but increased for both sexes following resistance training. Prior to resistance training, gender differences in leg extension and leg curl per lean body mass were visible, while differences in squat per lean body mass were not. All of the foregoing data points to the fact that research have reached diverse conclusions when looking for differences between the sexes. In addition, most studies in this area have been undertaken with students in primary or secondary education. In this regard, it is plausible to conclude that there is a dearth of articles reporting on scholarly research undertaken in universities and colleges. Therefore, it is highly recommended that a comparable study be conducted in the field of HE.

When the participants' body mass index (BMI) was compared before and after the intervention, researchers discovered no statistically significant improvement. The results of this study go counter to those of other studies that have looked at the correlation between physical activity and body mass index. For example, in boys and girls alike, [29] found a correlation between BMI and motor development in the preschool years. Total MS score was significantly correlated with PA body mass index z score ($p = .03$), as reported by [30]. Despite the results of this study, it is reasonable to assume that people's body mass index will increase if they engage in more locomotor and non-locomotor related activities. Resistance training plus other forms of exercise (like HIIT) and dietary advice was also found to be useful in lowering and improving body mass index [31]. Equally convincing is the evidence from study [32], which shows that a regimen that incorporates both aerobic and anaerobic exercise reduces body mass index. However, the aforementioned studies do not seek out prospective college students, nor do the tasks assigned to participants in the various studies parallel one another. That is what it is recommended to study these methods in greater depth.

Conclusion

The different locomotor, non-locomotor, and basic resistance training movement patterns taught in Physical Education 1 did not seem to have a positive effect on students' body mass indexes, even when the course was offered online. Researchers hope their findings will prompt colleges to rethink their current approaches to physical education or to seek out promising new methods of lowering students' BMIs. Although these studies have limitations, they can nevertheless contribute to the promotion of physical fitness on campus if they are combined with other activities and dietary advice created in conjunction with the school's dietitian. It is advised that a similar study be conducted with a bigger sample size to further analyze whether or not the claims stated by this investigation may be accepted or rejected, as the results of this investigation remain inconclusive.

Adres do korespondencji / Corresponding author

Akhmad Sobarna

E-mail: akhmadsobarna9@gmail.com

Piśmiennictwo/ References

1. Foo, C. chung, Cheung, B., & Chu, K. man. (2021). A comparative study regarding distance learning and the conventional face-to-face approach conducted problem-based learning tutorial during the COVID-19 pandemic. BMC Medical Education, 21(1), 1–6. https://doi.org/10.1186/s12909-021-02575-1
2. Gabriel, J., & Rhonda, D. (2020). Students transition from face to face learning to online learning at higher education: A case study in Trinidad and Tobago. Educational Research and Reviews, 15(8), 487–494. https://doi.org/10.5897/err2020.4005

doi.org/10.56984/8ZG143B52

3. Prevandos, F. G., & Martin, J. T. (2022). Development and Validation of Module in Physical Education 4: Team Sports. International Journal of Human Movement and Sports Sciences, 10(6), 1327–1336. https://doi.org/10.13189/saj.2022.100624
4. Gewalt, S. C., Berger, S., Krisam, R., & Breuer, M. (2022). "Effects of the COVID-19 pandemic on university students' physical health, mental health and learning, a cross-sectional study including 917 students from eight universities in Germany". PLOS ONE, 17(8), e0273928. https://doi.org/10.1371/journal.pone.0273928
5. Guo, Y., Liao, M., Cai, W., Yu, X., Li, S., Ke, X., Tan, S., Luo, Z., Cui, Y., Wang, Q., Gao, X., Liu, J., Liu, Y., Zhu, S., & Zeng, F. (2021). Physical activity, screen exposure and sleep among students during the pandemic of COVID-19. Scientific Reports, 11(1), 8529. https://doi.org/10.1038/s41598-021-88071-4
6. Idris, F., Zulkipli, I. N., Abdul-Mumin, K. H., Ahmad, S. R., Mitha, S., Rahman, H. A., Rajabalaya, R., David, S. R., & Naing, L. (2021). Academic experiences, physical and mental health impact of COVID-19 pandemic on students and lecturers in health care education. BMC Medical Education, 21(1), 542. https://doi.org/10.1186/s12909-021-02968-2
7. Pokhrel, S., & Chhetri, R. (2021). A Literature Review on Impact of COVID-19 Pandemic on Teaching and Learning. Higher Education for the Future, 8(1), 133–141. https://doi.org/10.1177/2347631120983481
8. Korcz, A., Krzysztoszek, J., Łopatka, M., Popeska, B., Podnar, H., Filiz, B., Mileva, E., Kryeziu, A. R., & Bronikowski, M. (2021). Physical Education Teachers' Opinion about Online Teaching during the COVID-19 Pandemic—Comparative Study of European Countries. Sustainability, 13(21), 11730. https://doi.org/10.3390/su132111730
9. Jeong, H.-C., & So, W.-Y. (2020). Difficulties of Online Physical Education Classes in Middle and High School and an Efficient Operation Plan to Address Them. International Journal of Environmental Research and Public Health, 17(19), 7279. https://doi.org/10.3390/ijerph17197279
10. Moustakas, L., & Robrade, D. (2022). The Challenges and Realities of E-Learning during COVID-19: The Case of University Sport and Physical Education. Challenges, 13(1), 9. https://doi.org/10.3390/challe13010009
11. Safruddin, S., Nasaruddin, N., Widodo, A., Sobri, M., & Radiusman, R. (2021). Students' Basic Movement Skills in Physical Education during the Online Learning. Proceedings of the 2nd Annual Conference on Education and Social Science (ACCESS 2020), 556(Access 2020), 314–317. https://doi.org/10.2991/assehr.k.210525.097
12. Bulca, Y., Ozdurak, R. H., & Demirhan, G. (2020). The effects of digital physical exercise videos on the locomotor skill learning of pre-school children. European Early Childhood Education Research Journal, 28(2), 231–241. https://doi.org/10.1080/1350293X.2020.1716475
13. Vikberg, S., Björk, S., Nordström, A., Nordström, P., & Hult, A. (2022). Feasibility of an Online Delivered, Home-Based Resistance Training Program for Older Adults – A Mixed Methods Approach. Frontiers in Psychology, 13(June), 1–11. https://doi.org/10.3389/fpsyg.2022.869573
14. Daveri, M., Fusco, A., Cortis, C., & Mascherini, G. (2022). Effectiveness of Different Modalities of Remote Online Training in Young Healthy Males. Sports, 10(11), 170. https://doi.org/10.3390/sports10110170
15. Etikan, I. (2016). Comparison of Convenience Sampling and Purposive Sampling. American Journal of Theoretical and Applied Statistics, 5(1), 1. https://doi.org/10.11648/j.ajtas.20160501.11
16. Gerald, B. (2018). A Brief Review of Independent, Dependent and One Sample t-test. International Journal of Applied Mathematics and Theoretical Physics, 4(2), 50. https://doi.org/10.11648/j.ijamtp.20180402.13
17. Ross, A., & Willson, V. L. (2017). Paired Samples T-Test. In Basic and Advanced Statistical Tests (pp. 17–19). SensePublishers. https://doi.org/10.1007/978-94-6351-086-8_4
18. Jiménez Díaz, J., Salazar Rojas, W., & Morera, M. (2015). Age and gender differences in fundamental motor skills (original version in English). Pensar En Movimiento: Revista de Ciencias Del Ejercicio y La Salud, 13(2), 1–16. https://doi.org/10.15517/pensarmov.v13i2.18327
19. Niemistö, D., Finni, T., Cantell, M., Korhonen, E., & Sääkslahti, A. (2020). Individual, Family, and Environmental Correlates of Motor Competence in Young Children: Regression Model Analysis of Data Obtained from Two Motor Tests. International Journal of Environmental Research and Public Health, 17(7), 2548. https://doi.org/10.3390/ijerph17072548
20. Kit, B. K., Akinbami, L. J., Isfahani, N. S., & Ulrich, D. A. (2017). Gross Motor Development in Children Aged 3–5 Years, United States 2012. Maternal and Child Health Journal, 21(7), 1573–1580. https://doi.org/10.1007/S10995-017-2289-9/METRICS
21. Bolger, L. E., Bolger, L. A., O' Neill, C., Coughlan, E., O'Brien, W., Lacey, S., & Burns, C. (2018). Age and Sex Differences in Fundamental Movement Skills Among a Cohort of Irish School Children. Journal of Motor Learning and Development, 6(1), 81–100. https://doi.org/10.1123/jmld.2017-0003
22. Zheng, Y., Ye, W., Korivi, M., Liu, Y., & Hong, F. (2022). Gender Differences in Fundamental Motor Skills Proficiency in Children Aged 3–6 Years: A Systematic Review and Meta-Analysis. International Journal of Environmental Research and Public Health, 19(14), 8318. https://doi.org/10.3390/ijerph19148318
23. Wang, H., Chen, Y., Liu, J., Sun, H., & Gao, W. (2020). A Follow-Up Study of Motor Skill Development and Its Determinants in Preschool Children from Middle-Income Family. BioMed Research International, 2020, 1–13. https://doi.org/10.1155/2020/6639341
24. Robinson, L. E. (2011). The relationship between perceived physical competence and fundamental motor skills in preschool children. Child: Care, Health and Development, 37(4), 589–596. https://doi.org/10.1111/j.1365-2214.2010.01187.x
25. Xia, X., Chao, L., Nan, C., Yin, X., Zheng, H., & Zhang, S. (2022). Fundamental motor skills of kindergarten children in different environments and ethnic groups in Northwest China. BMC Pediatrics, 22(1), 423. https://doi.org/10.1186/s12887-022-03497-7
26. Roberts, B. M., Nuckols, G., & Krieger, J. W. (2020). Sex Differences in Resistance Training: A Systematic Review and Meta-Analysis. Journal of Strength and Conditioning Research, 34(5), 1448–1460. https://doi.org/10.1519/JSC.0000000000003521
27. Da Boit, M., Sibson, R., Meakin, J. R., Aspden, R. M., Thies, F., Mangoni, A. A., & Gray, S. R. (2016). Sex differences in the response to resistance exercise training in older people. Physiological Reports, 4(12), e12834. https://doi.org/10.14814/phy2.12834
28. Shin, Y.-A., Kim, K.-H., Suk, M.-H., & Leem, M.-Y. (2012). Effect of Resistance Training on Body Composition, Hormone, and Muscle Strength According to Gender. The Official Journal of the Korean Academy of Kinesiology, 14(2), 23–35. https://doi.org/10.15758/jkak.2012.14.2.23
29. Cerit, E., Özlü, K., Deryahanoğlu, G., Denizci, T., Yamaner, F., Nur, H., Kendirci, P., & Koçak, Ç. V. (2020). Determination of the basic motor skills and its relationship to BMI and physical activity level in preschooler. African Educational Research Journal, 8(1), 115–123. https://doi.org/10.30918/AERJ.8S1.20.018
30. Guo, H., Schenkelberg, M. A., O'Neill, J. R., Dowda, M., & Pate, R. R. (2018). How Does the Relationship Between Motor Skill Performance and Body Mass Index Impact Physical Activity in Preschool Children? Pediatric Exercise Science, 30(2), 266–272. https://doi.org/10.1123/pes.2017-0074
31. Ahmadi, A., Moheb-Mohammadi, F., Navabi, Z. S., Dehghani, M., Heydari, H., Sajjadi, F., & Khodarahmi, S. (2020). The effects of aerobic training, resistance training, combined training, and healthy eating recommendations on lipid profile and body mass index in overweight and obese children and adolescents: A randomized clinical trial. ARYA Atherosclerosis, 16(5), 226–234. https://doi.org/10.22122/ARYA.V16I5.1990
32. Jin, C.-H., Rhyu, H.-S., & Kim, J. Y. (2018). The effects of combined aerobic and resistance training on inflammatory markers in obese men. Journal of Exercise Rehabilitation, 14(4), 660–665. https://doi.org/10.12965/jer.1836294.147