

Promoting Physical Activities: Strategies of Pre-school Teachers in Families and Communities

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Abstract Existing research on strategies employed by preschool teachers to promote physical activities within families and communities remains limited and lacks clarity. This study aims to comprehensively explore the strategies employed by preschool teachers to promote physical activities within families and communities. Utilizing a qualitative research design specifically, multiple case studies as the research approach, and purposive sampling, ten teachers participated in the study. The interview protocol, derived from established theories and past studies, underwent validation by two experts. Thematic analysis was employed to manually analyze and code the data. Themes encompassing preschool teachers' instructional strategies for facilitating physical activities for children in their care include the teaching of physical activities, the use of games, utilizing television to encourage children to exercise, and employing structured play and exercise routines. Additional findings highlight preschool teachers' knowledge in physical activity, the lack of support from parents, a deficiency in professional knowledge, and insufficient funding. In terms of specific strategies employed to reach out to families, the study reveals the utilization of WeChat to disseminate information on physical activity and the incorporation of parent-teacher meetings. However, engagement with the broader community during events is acknowledged to be less extensive. This study sheds light on critical aspects of preschool teachers' efforts to promote physical activity, offering insights for future interventions and initiatives.

Keywords Physical Activity, Preschool Teachers, Families, Communities

1. Introduction

The formative years of children constitute an important period for the development of individual physical activity patterns, and experts acclaim that children should engage in significant levels of physical activity through both planned and spontaneous play [1]. Physical activity promotion is crucial in early childhood education settings, where children experience opportunities such as free play and outdoor activities [2], along with instructional practices that leverage interest in physical activity [3]. Early childhood educators, when equipped with the necessary training and resources [4], are in a prime position to encourage their students to participate in physical exercise. They play a crucial role in fostering dynamic learning environments and providing high-quality opportunities for children's growth in the classroom [5]. Encouraging early promotion of physical activity among preschool children by preschool teachers, within families and communities, has the potential to foster a lifestyle of fitness and activity during their crucial early developmental years. The promotion and encouragement of physical activity within families and communities play a crucial role in enhancing children's cognitive, physical, and psychological health [5].

Furthermore, teachers are the key players in exhibiting and educating vigorous and steady physical activity among preschool children. Establishing and disseminating vigorous physical activity during childhood has significant enduring consequences for lifestyle that continue into mature years. Preschool teachers have the potential to reshape robust physical activity routines through effective instructional strategies and classroom practices, fostering the education and development of preschool children. However, relying solely on the children is insufficient. To comprehensively promote physical activity, preschool teachers must employ strategies that involve and inform families and communities about the crucial health benefits associated with children's engagement in such activities. Teachers' diverse strategies, as highlighted by Donnelly et al. [6], engage children not only in cognitive activities but also in physical activities. According to Lubans et al. [7], incorporating such approaches can significantly enhance academic outcomes, promote overall health, and foster a demonstrated eagerness to learn [8]. Studies frequently look at how these teacher's strategies of exercise affect many facets of children's well-being and health [9]. These sessions improve the strength of the muscles, blood circulation, and general well-being in addition to helping one reach the daily exercise needs.

In view of China's significant shifts in society and economy, childhood physical inactivity has become a major public health concern requiring coordinated, interdisciplinary, and methodical interventions [10]. China's most recent national physical and wellness-enhancing programmes and initiatives have emphasised the promotion of physical activity in children; yet, there are currently no evidence-based, scientific physical activities strategies employed by teachers for preschool children. It is evident that teachers in China do not completely recognise the detrimental health implications of physical inactivity and the significance of physical activity, as seen by their lack of strategies on physical activity for children. The purpose of this study is to explore the strategies employed by the pre-schools teachers to promote physical activities to families and communities.

Physical Activity

Caspersen et al. [11] defines physical activity as movement that results in energy consumption. For young children, physical activity may be brief, determined by recurrent fluctuations in activity, largely driven by intrinsic motivation and chosen without constraints [12]. Children's physical activity and behaviors are influenced by external factors, including the early childcare environment, family management, parents' expressions of emotions and stress, family bonds, and familial issues. Nevertheless, physical activity in the context of education is often viewed in isolation, categorized solely under physical activity education syllabi. Physical activity is crucial as a means of developing central motor skills and sustaining children's

optimal health [13]. Isenberg and Quisenberry [14] assert that early childhood environments are prone to accentuate or integrate physical activity through engaging in lively games.

Strategies employed by teachers

According to Zelazo et al. [15], a strategy is a means of converting an objective into significance. As defined by Shore [16], a strategy is an educator's endeavour to put objectives into behaviour. Teaching strategies are consequently methods of giving students educational opportunities while adding impact, significance, or perception. According to Harrison et al. [17], there is no one optimal strategy for every teaching approach; instead, strategies need to be chosen based on how well they match the demands of the instructional environment and then modified to fit the specific requirements of each approach. This demonstrates that in order to connect their lessons to the proper teaching philosophies, teachers need to be well-versed in a range of strategies for instruction. Past studies have identified ten categories of strategies that were applied by teachers namely games [17], role modelling, basic movement skills exercise, musical engagement, fitness exercise, motor-skill development, behavioral coaching [18], cross-curricular integration [19], teacher engagement and competence-focused atmosphere [20].

Theoretical Underpinnings

There is an underpinning theoretical explanation as to why and how role models work as a stimulus to explain learner behaviors. Social cognitive theory [21] suggests learning is mainly done through observation and is based on role models. A person who is "regarded as exemplary, or worthy of imitation" is a role model [22]. Learners view teachers in educational settings as role models who are crucial to their learning processes [23]. Particularly when they promote greater participation, individuals such as teachers, parents and from the communities are seen as role models by the learners. Children can become more motivated when teachers engage in PA with them and exhibit motor abilities during PE courses [24]. When teachers act as role models for fitness, learners are reported to be more active [25]. Also, research has shown that teachers who engage in physical activity provide students with a favorable role model for healthy behavior. For instance, the majority (83%) of instructors in a study of health, PE, recreation, and dance workers consistently engaged in PA and had a healthy body weight [26]. Smuka [27] observed how males participated more in courses where their instructors actively indulged in physical activity.

Past Studies

Parents who work around the clock often rely on these

kindergartens and nurseries to send their children from morning to evening for the child's cognitive development. It is by attending the learning centres, preschool or kindergartens, the child has the chance to enhance cognition and general thinking abilities [28]. Children spend the most time with non-family members and engage in physical activity most frequently in kindergarten, which is also where they live. Concurrently, this period marks the beginning of a child's school career, a crucial time for forming good exercise habits [28].

The most effective physical activity promotion for preschoolers requires a thorough study of the components that affect it. The community is the fundamental unit of urban space in China and the first setting where young children can exercise their rights to participate in civic life [29]. Wang et al. [30] investigated preschool children's physical activity and community environment based on a cross-sectional study of two selected cities in China. Findings showed that preschool children's physical activity patterns are sustained by parents' perceptions of suitable walking distances, improved PA facilities, community personal safety, and community transportation environments. Okely et al. [31] confirmed that sufficient phases of physical activity during the formative years influence children's health and development. Okely et al. [31] investigated 6-month impacts of an 18-month programme involving more than one component as intervention on physical activity in early childhood education in selected poverty-stricken communities. Trost and Brookes [32] agree that children need to be exposed to the basic fundamental movement skills (FMS) which are the fundamental building blocks for lifelong physical activity engagement. Dooley et al. [33] discussed the importance of providing young children with sufficient chances for physical activity and the potential benefits of childcare facility policies. They examined the relationship between centre policies and probabilities of proposing best practices for physical activity in both early care and early childhood education. Moss and Gu [34] carried out systematic review of home- and community-based interventions for physical activity and reported 19 studies so far have been carried out and found that studies on implementing physical activity participation among preschool children can be very challenging. It was reported that Chinese children and adolescents' development of physical fitness is still not primarily improving significantly [35]; hence the researchers explained that it is imperative to investigate possible effective solutions. The purpose of this study is to explore the strategies employed by the pre-schools teachers to promote physical activities to families and communities.

The study is guided by two research questions:

1. How do pre-school teachers instruct and facilitate physical activities for children in their care?

2. What specific strategies do pre-school teachers utilize to communicate and promote awareness of physical activity within families and the broader community?

2. Materials and Methods

In this study, a qualitative research approach was employed. According to [36], qualitative research aims to understand the significance individuals attach to objects in their lives by gathering descriptive data on people's words and behaviors. By exploring participants' beliefs and emotions and presenting phenomena from their perspectives, it seeks to comprehend the human experience [37]. This study employed a qualitative descriptive study. Qualitative case study is defined as an approach to research that enables exploration of a phenomenon and this study, the phenomenon refers to the strategies of pre-school teachers utilized in promoting physical activities to families and communities [38]. As stated by Yin [48], a case study design needs to be taken into account as follows: (a) the purpose of the research is to answer "how" and "why" questions; (b) you are unable to change the actions of those participating when conducting the study; (c) you desire to investigate the surrounding circumstances as you consider they have significance to the phenomena according to study; or (d) the boundaries between the context and the phenomenon being studied are not clear. Miles and Huberman [49] describe the case as "a phenomenon of a certain type happening in a bounded context." The case corresponds to "the effect, your unit of analysis" (p.25). The research was conducted in three different kindergartens within a selected province in China. These kindergartens were chosen because the teachers there had experience in conducting physical activities with the selected preschool children. As a result, the researchers were interested in deeply exploring the strategies employed by these preschool teachers to promote physical activities within families and communities.

Participants

In this study, a purposive sampling strategy was employed. Purposeful sampling involves selecting key informants in the field who can provide rich information [38]. Ten preschool teachers voluntarily participated in this study, all of whom have more than ten years of teaching experience in preschools. Their extensive teaching backgrounds in physical activity provide a valuable lens through which researchers can capture the real experiences and challenges associated with exploring the strategies employed by preschool teachers to promote physical activities within families and communities. Table 1 below presents their information.

Table 1. Preschool teachers' information

No	Preschool teacher	Gender	Experience	Teaching of physical activities
1	Teacher Tan	Female	8	-use of games -use of toys -use of tv to make the kids exercise
2	Teacher Lee	Female	10	-group game -give children gifts some physical activity for children
3	Teacher He	Female	8	Set goals for teaching, observe kids based on their hobbies & preferences, teammate for observation, learning by doing,
4	Teacher Li Yan	Female	7	-incorporating movement into storytelling or using counting exercises that involve physical actions
5	Teacher Su	Female	7	-games based -story-telling
6	Teacher Lam	Male	11	-educational games
7	Teacher Chan	Male	8	-Structured play and exercise routines, story telling
8	Teacher Liu	Male	9	-Structured play and exercise routines, incorporating movement into storytelling enhances engagement and comprehension
9	Teacher Rong	Male	7	organized games, exercises, dance, and outdoor playtime.
10	Teacher Liu Li	Female	12	some games to make them run and compete with each other

Data Collection

The data for this study was collected from one source, that is, a semi-structured interview. There are two instruments in this study namely the online semi-structured interview protocol and the interview content validation form for experts to validate the instruments. The semi-structured interview protocol and the guiding questions were developed by the researchers based on the Social Cognitive Theory adopted in this study, and some important aspects of the physical activities from the past studies. The semi-structured protocol contains open-ended questions on strategies employed by the physical activity teachers. Once the interview protocol had been designed, two experts were chosen to validate the instrument. The experts agreed on the questions prepared, and just a few small grammatical flaws needed to be corrected.

In this study, we utilised semi-structured interviews to obtain data from ten physical activity programme teachers who have been teaching at the preschool for over ten years. The framework technique enables researchers to use a combination of methods for analysis, allowing themes to be formed both inductively (through the lens of study participants' opinions and experiences) and deductively from previous studies. Robust analysis based on the

researchers' thorough study of participant responses, a report based on several circumstances, and consensus on repeating themes emerged. The researchers transcribed all of the interviews and extensively examined the transcripts. The transcripts were reread several times to acquire acquainted with the entire data set. After that, the researchers independently coded all of the transcripts. The researchers discussed all of the open-coded transcripts together. Following consensus and debate, a set of codes was established. The steps of processing, applying, and refining the analytical framework continued until no new codes were created. The final framework had five categories organised into twenty-six themes. All the tables are labelled as categories, themes and excerpts.

Semi-structured interviews with the preschool teachers were conducted online. Earlier, the teachers were contacted via email and provided with information regarding the purpose of the study. After getting the teachers' consent to participate in this study through the interview, the researchers developed an interview protocol to seek further information regarding the strategies employed by the pre-schools teachers to promote physical activities to families and communities. The interview protocol, derived from established theories and past studies, underwent validation by two experts.

Data Analysis

The interview transcripts were first all meticulously transcribed. The collected data were reviewed and classified appropriately. The process of data analysis was carried out in accordance with [39] description, which included organising the data, doing a preliminary search of the database, classifying and coding the themes, presenting the data, and coming up with an interpretation. These actions build a spiral of activities involving data analysis and representation and are connected to each other. Triangulation was used to increase trustworthiness by combining many data collecting techniques, including interviewing, documentation, and observation, to make sure that the data and supporting evidence utilised in the conclusions were consistent. Additionally, by returning the interview transcript to the participants and asking them to verify its validity. To ensure accuracy and bias control, member screening was also carried out to confirm authenticity. A thematic analysis was performed on the gathered data.

3. Findings

This section presents the study's findings, focusing on how preschool teachers facilitate physical activities for children. It explores the specific strategies employed by pre-school teachers to communicate and promote awareness of physical activity within families and the broader community.

1. How do pre-school teachers instruct and facilitate physical activities for children in their care?

Teaching Methods

Teaching methods category emerged based on the interviews conducted with the teachers. Under this category, the themes identified were planning of lessons, design activities, use simple language, learners' needs, design activities-based motor skills and gross, use of movement-based activities, and games. These themes reflect how the preschool teachers instruct and facilitate physical activities for children in their classroom.

Planning of Lessons

All ten teachers interviewed in this study employ various methods to instruct and facilitate physical activity for the children under their care. A notable practice among these educators is the incorporation of physical activity into their lesson plans. This demonstrates a shared commitment among the preschool teachers to recognize the significance of physical activity in fostering children's development, health, and well-being. Physical activity plays a crucial role in enhancing motor skills, coordination, balance, and self-confidence.

Design Activities

Teacher Tan emphasized that physical activity is integral to her daily teaching and learning activities, seamlessly woven into her lesson plans. She actively designs activities that promote physical engagement. In contrast, Teacher Lee opts for simple language to ensure clear understanding, believing that providing concise instructions fosters attentiveness in her students.

Learners' Needs

Teacher He, on the other hand, shared her practice of setting specific activity goals aligned with her lesson plans. She underscores the importance of understanding children's hobbies and preferences, while also paying attention to discipline and potential risks during physical activities. Teacher He organizes activities based on weekly themes, prepares relevant teaching materials, creates engaging lead-ins, and incentivizes children with bonuses to encourage their participation.

Design Activities-Based Motor Skills and Gross

Teacher Li Yan emphasizes that physical activities are seamlessly integrated into the daily routine, with activities such as obstacle courses, dance, and outdoor play strategically designed to enhance both gross and fine motor skills. Similarly, Teacher Su agrees on the importance of embedding physical activities within structured play to promote gross motor skills in her daily lessons. She incorporates activities like hopping, skipping, and jumping into games to enhance coordination and balance. Notably, Teacher Su places a strong emphasis on safety measures, ensuring that equipment is chosen with careful consideration for the children's age and developmental stage.

Teacher Lam, on the other hand, highlights the seamless integration of physical activities into lesson plans to enhance engagement and learning outcomes. For example, incorporating movement into educational games not only keeps children active but also reinforces key concepts such as numbers, letters, and spatial awareness.

Use of Movement-Based Activities

Teacher Chan emphasizes that the inclusion of physical activities within lesson plans is essential for holistic child development. Incorporating movement into storytelling or integrating counting through physical actions not only engages children but also promotes cognitive development alongside physical fitness.

Teacher Liu shares that the implementation of physical activities is seamlessly woven into the fabric of lessons, recognizing their pivotal role in cognitive development. For instance, incorporating movement into storytelling enhances engagement and comprehension.

Games

Teacher Rong mentioned that he instructs and facilitates

physical activities for children through organized games, exercises, dance, and outdoor playtime. Additionally, he provides equipment and sets up activities to keep the children engaged and active.

As for Teacher Liu Li, physical activity is a regular practice in her teaching, seamlessly integrated into her lessons every day. She defines physical activity as bodily movement that requires energy expenditure, encompassing

a wide range of activities from simple daily tasks like walking and climbing stairs to more structured exercises such as jogging, swimming, or participating in sports. Recognizing physical activity as a key component of a healthy lifestyle, she emphasizes its association with numerous physical and mental benefits. Table 2 below displays the teaching methods used by different physical activity teachers.

Table 2. Teaching methods used by the physical activity teachers

Teachers	Categories	Themes	Excerpts
Teacher Tan	Teaching Methods	-Planning of lessons -Design activities	Parts of physical activity is usually plan in my lessons on a daily basis. I design activities in my lesson plan.
Teacher Lee	Teaching Methods	-Use simple language -Learners' needs	I use simple language to instruct physical activity for my class so that the kids can follow my instruction.
Teacher He	Teaching Methods	-Planning of lessons -Design activities	I usually set a goal of activity based on lesson plan, observe children's hobbies and preferences, watch discipline and potential risks. I arrange activity based on weeks and topics on physical activity, come up with relevant teaching materials, prepare for an interesting lead-in and give children bonus to encourage them to join.
Teacher Li Yan	Teaching Methods	-Planning of lessons -Design activities-based motor skills and gross	Physical activities are embedded in the daily routine. Activities such as obstacle courses, dance, and outdoor play are designed to enhance gross and fine motor skills.
Teacher Su	Teaching Methods	-Planning of lessons -Design activities-based gross motor skills	In our daily routines, physical activities are embedded in structured play to promote gross motor skills. Activities such as hopping, skipping, and jumping are incorporated into games to enhance coordination and balance
Teacher Lam	Teaching Methods	-Planning of lessons -Use of movement-based activities	Integration of physical activities is seamlessly woven into the lesson plans to enhance engagement and learning outcomes. For instance, incorporating movement into educational games not only keeps the children active but also reinforces key concepts such as numbers, letters, and spatial awareness.
Teacher Chan	Teaching Methods	-Planning of lessons -Use of movement-based activities	Integration of physical activities within the lesson plans is vital for holistic child development. For instance, incorporating movement into storytelling or incorporating counting through physical actions not only engages children but also promotes cognitive development alongside physical fitness.
Teacher Liu	Teaching Methods	-Planning of lessons -Use of movement-based activities	Integration of physical activities is seamlessly woven into the fabric of our lessons, recognizing their pivotal role in cognitive development. For instance, incorporating movement into storytelling enhances engagement and comprehension
Teacher Rong	Teaching Methods	-Games	I instruct and facilitate physical activities for children through organized games, exercises, dance, and outdoor playtime. I provide equipment and set up activities to keep the children engaged and active.
Teacher Liu Li	Teaching Methods	-Planning of lessons	I embed physical activity in my lesson every day.

Games

Games category emerged based on the interviews conducted with the teachers. Under this category, the themes identified were kinesthetic learning, giving rewards to kids, motor skills development, and encouraging competition among children.

Kinesthetic Learning

Preschool teachers in this study have employed games as a means to cultivate physical activity among the children. Kinesthetic learning exposes the learners to succeed in atmospheres that involve their senses of touch, movement, and physical activity. According to Teacher Tan, such activities contribute to the children's happiness, enhance learning efficiency, and foster better relationships between teachers and students. Importantly, all teachers emphasize the paramount importance of safety measures when planning and implementing physical activities to ensure the well-being of the children. However, only six teachers used games as shown in Table 3 below.

Teacher Tan highlights that having a variety of toys and physical activity equipment is considered standard for preschools. These resources enable teachers to collaboratively design diverse and engaging physical activities for the children. The teachers work together with

the specific goal of creating interesting and meaningful tasks that contribute to the educational objectives. It is unanimously agreed among the teachers that engaging in physical activity is beneficial for the children's physical health, cognitive development, and overall well-being.

Giving Rewards to Kids

Teacher Lee shares that giving rewards to children via games can influence them to take part in the physical activity. Teacher Lee uses games as a way to motivate the children to engage in the learning process.

Motor Skills Development

Teacher Rong explains that he integrates physical activities into lessons through movement games related to topics, brain breaks to get the wiggles out, and hands-on activities that involve moving around. I also take the children outdoors regularly for active play and learning.

Encouraging Competition among Children

Teacher Liu Li, creates interesting and fun activities, especially tailored to the children's age. This includes games that involve running and friendly competition, either individually or in group activities. Teacher Liu Li also incorporates movements related to a story to add depth to simple running activities.

Table 3. Preschool teachers who have used games

Teachers	Categories	Themes	Excerpts
Teacher Tan	Games	-Kinesthetic Learning	...doing games and doing other things connected with body and hands.
Teacher Lee	Games	-giving rewards to kids	I will also prepare group game and many gifts to attract the children to join in the activities.
Teacher Su	Games	-Motor skills development	Activities such as hopping, skipping, and jumping are incorporated into games to enhance coordination and balance
Teacher Lam	Games	-Motor skills development	Utilizing age-appropriate exercises and games, I focus on developing their gross and fine motor skills, fostering coordination and strength
Teacher Rong	Games	-Motor skills development	I integrate physical activities into lessons through movement games related to topics.
Teacher Liu Li	Games	-encouraging competition among children	I make some interesting and funning activities, especially suitable for the children's age, such as some games to make them run and compete with each other.

Interactive Learning through Television

All ten teachers in this study share a common strategy: using television as a means of interactive learning to encourage children to exercise, which constitutes another form of physical activity. As outlined in the excerpt below, teachers have found that utilizing television, especially for exercise, captures children's attention more effectively and facilitates easier coordination of instructions. Teachers note that children can easily get distracted and may only focus on playing and disturbing their friends without a structured approach. The use of television is perceived as enjoyable and entertaining. Teachers emphasize that leveraging television in the context of technology and media can positively influence the learning of physical activity. The primary goal of using television is to encourage children to exercise and break a sweat, promoting their overall health. Table 4 shows preschool teachers who have used television to encourage children to exercise.

Media Literacy for Teaching

In this study, preschool teachers were aware of the media

literacy for teaching and they unanimously expressed their utilization of structured play and exercise routines to incorporate physical activity into the learning environment. Teachers commonly take children outdoors for active play and learning, integrating various physical activities into structured play. Examples include movement games related to specific topics, brain breaks to release energy, and hands-on activities that involve movement.

For instance, Teacher Liu creatively linked a simple running activity to a story, while Teacher Lam incorporated movement into educational games, ensuring children remained active while reinforcing key concepts such as numbers, letters, and spatial awareness. Similarly, Teacher Liu integrated mathematics concepts through activities like counting, sorting, and spatial awareness during physical play. Teacher Su, as part of her daily routines, embeds structured play to promote gross motor skills, including activities like hopping, skipping, and jumping, which enhance coordination and balance. Furthermore, she incorporates counting exercises accompanied by actions like clapping or stomping, reinforcing both numerical concepts and physical coordination.

Table 4. Preschool teachers who have used television to encourage children to exercise

Teachers	Categories	Themes	Excerpts
Teacher Tan	Using Television to teach	-Interactive learning through television	I will usually use the TV or toy or cartoons to arouse the interest and curiosity.
Teacher Lee	Using Television to teach	-Interactive learning through television	Children love watching TV so I on the TV and let the children move a lot. Children love television.
Teacher He	Using Television to teach	-Interactive learning through television	Have to use TV sometimes so that they children can follow the exercise steps. TV can be fun.
Teacher Li Yan	Using Television to teach	-Media literacy for teaching	Television helps a lot for my teaching for physical activity.
Teacher Su	Using Television to teach	- Media literacy for teaching	I sometimes use television. Children enjoy movement when they imitate characters or roles shown on television.
Teacher Lam	Using Television to teach	- Media literacy for teaching	Sometimes I do use tv because it's easier to follow the exercise steps.
Teacher Chan	Using Television to teach	- Media literacy for teaching	I make use of television a lot for physical activity.
Teacher Liu	Using Television to teach	- Media literacy for teaching	I use television a lot because children can mimic the adults exercising. Some children do not listen. They get distracted easily because they just think of playing with friends.
Teacher Rong	Using Television to teach	Media literacy for teaching	There is not much resources to teach, I use television sometimes for exercise purpose for the kids.
Teacher Liu Li	Using Television to teach	-Interactive learning through television	I use TV most of time.

Other Related Findings

Importance of Physical Activity

All the preschool teachers in this study have demonstrated a strong understanding of physical activity. Notably, two teachers, Teacher Tan and Teacher He, highlighted how their early education in universities shaped their theoretical knowledge of physical activity and influenced their incorporation of it into daily teaching and learning planning as illustrated in Table 5. The teachers universally grasp that physical activity extends beyond

formal sports; it involves exercise using the body and hands.

Improve Children's Learning

Based on Table 5, it is apparent that for PA preschool teachers to know the importance of PA that would then contribute and enhance children's learning. PA is not just limited to activities involving body and hands but, it is beneficial for the children's physical health that would indirectly boost their emotions and make them a better learner. Preschool teachers believe that through PA, it could also help to improve teacher-learner relationship.

Table 5. Other related findings

Teachers	Categories	Themes	Excerpts
Teacher Tan	Importance of Physical activities	-improve children's learning	Theoretical knowledge obtained from university. Physical activity is about doing sports connected with body and hands. It is like learn through doing. Physical activity is good for physical health of the children. It boots students' emotions, makes them a better learner. Physical activity can boost children's learning efficiency and improved teacher-learner relationship.
Teacher Lee	Importance of Physical Activities	-exposure to learning through doing	Physical activity is not just about moving one's body. It is learning through doing. Teachers teaching children to move body parts through teaching and learning activities.
Teacher He	Importance of Physical Activities	-enhance children's confidence and motivation	I learnt about physical activity during my university years. I enhance my knowledge from website on physical activity. Learning by doing concept. It is important in bridging knowledge and playing. Physical activity can be activated both from home and school. Physical activity boosts kids' confidence and motivation to learn more knowledge and learn virtue.
Teacher Li Yan	Importance of Physical Activities	-overall well-being of children	I know that I must come up with appropriate activities that contribute to the overall well-being of the children in my care whenever I try to link physical activity.
Teacher Su	Importance of Physical Activities	-overall well-being of children	Physical activity has an important role to play in enhancing the overall development of children so when I teach, I have to make sure I design physical activities for the children to engage in.
Teacher Lam	Importance of Physical Activities	-overall well-being of children	Physical activity can boost children's growth, well-being and social skills.
Teacher Chan	Importance of Physical Activities	-physical activity is important for children	I know the importance of physical activity for children.
Teacher Liu	Importance of Physical Activities	-knowledge required in PA	I read a lot on of child development and physical education.
Teacher Rong	Importance of Physical Activities	overall well-being of children	As a preschool teacher, I understand the importance of physical activity for children's development, health, and wellbeing. Physical activity helps build motor skills, coordination, balance, and self-confidence.
Teacher Liu Li	Importance of Physical Activities	-proper planning of PA	Physical activity needs proper planning by the teacher.

Exposure to Learning through Doing

Moreover, three teachers—Teacher Tan, Teacher Lee, and Teacher He—emphasized the concept of 'learning through doing.' They stressed that successful implementation of physical activity in teaching requires a hands-on approach, reinforcing the importance of practical application in understanding and teaching this concept effectively.

All the preschool teachers unanimously agree that physical activity is beneficial for children, boosting their emotions and nurturing them into better learners. This improvement in emotional well-being indirectly enhances the teacher-learner relationship and, consequently, leverages children's learning efficiency. Through physical activity, children actively learn by doing, as teachers guide them through instructional practices that involve moving various body parts.

Enhance Children'S Confidence and Motivation

Teacher He emphasizes that while the initiation of physical activity often begins at schools, it can also be encouraged by parents and families at home. Collaborative efforts between teachers and parents in promoting children's physical activity not only enhance confidence and motivation but also contribute to acquiring knowledge and virtues. This collaboration is crucial in bridging the gap between knowledge acquisition and play.

Proper Planning of PA

Developing physical activities for children requires meticulous planning and the use of appropriate materials and tools. Recognizing the pivotal role of physical activity in the overall development of children, teachers strive to design engaging activities that contribute to their holistic growth.

Overall Well-Being of Children

All preschool teachers in this study have shown their agreement in terms of how PA can boost overall well-being of children. For instance, Teacher Su mentioned that PA has a crucial role to play in improving the overall development of children. For this reason, Teacher Su explained that suitable activities must be planned and designed earlier for the children to engage in.

Table 5 presented the evidence gathered from interviews with preschool teachers.

Issues Faced by the Teachers

The teachers reported other issues that obstruct the flow and implementation of the physical activity. The category emerged is issues faced by the teachers and the themes identified include lack of funds, lack of support from parents, and lack of professional knowledge.

Lack of Support from Parents

All the teachers in the study emphasized the importance of support from various stakeholders, including parents, communities, and families, for the effective implementation of physical activity initiatives. Teachers observed that parents sometimes lack understanding of how to actively engage with their children in physical activities like jumping and clapping. This lack of parental involvement may stem from a lack of knowledge or guidance on motivating children to participate in such activities. Moreover, teachers noted a reluctance among parents to participate in assigned physical activities, especially those requiring video submissions. This apparent disinterest and lack of commitment contribute to a broader issue of insufficient parental engagement. The challenge extends beyond individual families, as parents and communities, in general, exhibit a limited understanding of the importance of physical activity. This lack of awareness exacerbates the situation, hindering both parental and community interest and participation in physical activities.

Lack of Professional Knowledge

Teachers unanimously acknowledge that they lack professional knowledge in effectively promoting physical activity. They express the need for more training, exposure, and focused study in this domain. Teachers specifically highlight the importance of acquiring knowledge to handle children during physical activities, aiming to minimize the risk of injuries when engaging in such activities within schools. There is a shared concern among teachers regarding potential mishaps during physical activities, as they fear it may lead to parental dissatisfaction. Preschool teachers face challenges in educating families and communities about the importance of physical activities. These challenges often stem from competing priorities and misconceptions prevalent in these contexts.

Lack of Fund

A significant challenge faced by teachers is the lack of funds, crucial for acquiring tools and equipment necessary for conducting physical activities with children. This financial constraint is compounded by other challenges, including limited time, inadequate space and equipment, and the prioritization of academics over physical activities. Teachers also encounter difficulties in communicating the importance of physical activities to families from diverse cultural and socioeconomic backgrounds. Some parents may lack awareness of the significance of physical activity in child development. Busy schedules and time constraints further restrict families' ability to engage in such activities. Additionally, resistance to changing established habits or routines can hinder family participation in physical activities.

Table 6 below presented the evidence gathered from interviews with preschool teachers.

Table 6. Issues faced by preschool teachers

Teachers	Categories	Themes	Excerpts
Teacher Tan	Issues faced by teachers	Lack of professional knowledge	Lack of professional knowledge. We need more training and studying. Lack of fund to buy equipment or toys. It can be challenging to organise activities for instance if children are hurt some parents will be very furious.
Teacher Lee	Issues faced by teachers	Lack of support from parents	Some parents are way too busy to conduct physical activity with children at home. Time is really limited. Fathers are always absent from taking part with children in physical activity.
Teacher He	Issues faced by teachers	Lack of support from parents	Parents show lack of interest to participate in physical activities assigned to do with parents in which parents have to record and send the videos back to teachers. Sometimes, communities do not offer this kind of physical activity for children because they are either short of fund or cannot find the appropriate venue to conduct children-parent related physical activities.
Teacher Li Yan	Issues faced by teachers		limited access to safe outdoor. Time constraint.
Teacher Su	Issues faced by teachers	Lack of support from parents	Lack of parental support.
Teacher Lam	Issues faced by teachers	Lack of support from parents	Parents do not take physical activities seriously.
Teacher Chan	Issues faced by teachers	Lack of support from parents	Parents have lack of knowledge about physical activity.
Teacher Liu	Issues faced by teachers	Lack of support from parents	Parents and communities have lack of understanding on physical activity.
Teacher Rong	Issues faced by teachers	Lack of Fund	Challenges faced include lack of time, space and equipment, academics taking priority, and lack of parental engagement
Teacher Liu Li	Issues faced by teachers	Lack of support from parents	Some parents have no time to spend and participate with children on physical activity.

2. What specific strategies do pre-school teachers utilize to communicate and promote awareness of physical activity within families and the broader community?

Using WeChat to Deliberate Information on Physical Activity

The interviews with teachers revealed challenges in effectively communicating and promoting awareness of physical activity within families and the broader community. Notably, only three teachers—Teacher Tan, Teacher Lee, and Teacher He—utilized WeChat as a platform for sharing crucial information on physical activity. In their approach, teachers assigned tasks to parents, encouraging them to engage in physical activities with their children over the weekends. Upon completion, parents were asked to record and send videos of the activities to the teachers. Teacher Tan, in addition to this, shared her practice of recording videos of children participating in physical activities and then forwarding them to parents. Furthermore, she instructed children to spend time playing with their grandparents on weekends, encouraging them to share these experiences in class the

following week.

Teacher Lee, on the other hand, shared that she prefers sharing physical activity videos with parents, encouraging them to participate in the activities with their children over the weekend. She uses simple language to convey and explain the importance of physical activity to parents, providing guidance based on each child's personality. Additionally, she incorporates game activities that families can do together. Teacher He explained that she typically assigns tasks related to physical activity for parents to perform at home. In return, parents are required to record these activities with their children and share the videos through the WeChat app. To motivate children to engage in physical activity with their parents, Teacher He offers bonuses to those who complete the activities together.

Parent-Teacher Meeting

Teacher He emphasizes the significance of physical activity to parents through organized meetings, while also occasionally participating in community activities. Similarly, Teacher Li Yan adopts a similar strategy, conveying the importance of physical activity during parent-teacher meetings. Teachers Su, Chan, Liu, and Liu

Li also utilize parent-teacher meetings as a platform to discuss the significance of physical activity. Teacher Lam utilizes the sports day event for this purpose, and Teacher Rong employs multiple channels such as newsletters, activity calendars, parent-teacher meetings, and informal conversations to communicate with families about physical activity. Additionally, he provides ideas for active play that parents can implement at home. Teacher Rong mentioned that he usually organizes family events or sports days where parents can actively participate in physical activities with their children to foster a sense of collaboration between home and school.

Community

Teacher Lee mentioned her participation in community activities such as Children's Day, but acknowledged that the engagement with communities during these events is not deeply extensive. Interestingly, none of the teachers in this study provided specific strategies for actively engaging communities in promoting the vitality of physical activity. These limitations appear to be closely connected to a general lack of promotion within communities regarding the importance of cultivating physical activity.

Table 7 below presented the evidence gathered from interviews with preschool teachers.

Table 7. Strategies used to communicate and promote awareness of physical activity

Teachers	Categories	Themes	Excerpts
Teacher Tan	Mode of communication	Using WeChat to deliberate information on physical activity	I will tell the parents how important it is physical activity through parents' conference. I usually forward happy videos of their children using the WeChat app. Sometimes, I get the children to play with their grandparents during weekends and then share their experiences in class the following week.
Teacher Lee	Mode of communication	-Using WeChat to deliberate information on physical activity -community	I will send videos using WeChat of what kind physical activity can be practiced by parents at home. I use simple language to explain on physical activity to parents. I usually guide the parents to perform physical activity at home based on their children's personalities. I will ask the families to do game activity as well. I do join community activities like children's day.
Teacher He	Mode of communication	Using WeChat to deliberate information on physical activity	I usually set some assignments or tasks for parents to do in relation to physical activity at home. The, parents have to record the physical activity with children and share it with me using WeChat app. Children who engage in physical activity will get bonus from me if they finish the physical activity with parents. I also explain the importance of physical activity to parents through arranged meetings with parents. Sometimes, I volunteer in community activities.
Teacher Li Yan	Mode of communication	Parent-Teacher Meeting	Hmm, I don't have much to say but I just share the importance of physical activity with parents in a meeting.
Teacher Su	Mode of communication	Parent-Teacher Meeting	Regular communication with families includes sharing insights into the importance of physical activity for child development in parent-teacher meeting. Not so much with community.
Teacher Lam	Mode of communication	Parent-Teacher Meeting	Sometimes through sports day event I get to explain to parents on physical activity.
Teacher Chan	Mode of communication	Parent-Teacher Meeting	We only discuss during parent-teacher meetings on physical activity.
Teacher Liu	Mode of communication	Parent-Teacher Meeting	I update parents through parent-teacher meetings on the benefits of physical play in child development.
Teacher Rong	Mode of communication	Parent-Teacher Meeting	I communicate with families about physical activity through newsletters, activity calendars, parent-teacher meetings, and informal conversations. I provide ideas for active play at home.
Teacher Liu Li	Mode of communication	Parent-Teacher Meeting	I organise parent meetings on the importance of physical activity.

4. Discussion

The foundation of teachers' knowledge in physical health is important as they can nurture and facilitate children's physical health and well-being. This finding is in line with findings reported by Quan et al. [40] which state that sufficient or moderate physical activity leads to improve children's health as well as their physical and mental fitness. Teachers have a fundamental role in promoting and providing physical activity for children. Another reason is that children spend a substantial quantity of time with teachers in the schools [41]. Teachers in this study mentioned that they include movement into educational games to keep children active but they were also exposed to key concepts such as numbers, letters, and spatial awareness. Throughout the school day, teachers do not just engage students in physical activity in class but they also engage children in physical education by asking the children to move their body parts which is a great opportunity for the students to participate. According to Cheung [42], children tend to be more physically active in schools as compared to home. Teachers have more crucial roles to play because they know the learners best and they are able to decide and determine the different types of physical activities that they can design based on children's habits, preferences and behaviours. Findings obtained from this study coincide with findings reported by Chow et al. [43] who reported that teachers who frequently enhance children's engagement in physical activity will produce children with good behaviour. Another study by Brown et al. [44] showed that teachers who frequently give motivation and encouragement to children to participate in physical activity will elevate children's physical activity level as reported by teachers in this study. Teachers can influence the way children learn as stated by Bandura [45] who suggests learning is mainly done through observation and is based on role models. According to [45] social cognitive theory, the majority of learning occurs through observation and is heavily dependent on the effect of role models. According to Yancey [22], a person who is "perceived as outstanding, or deserving of imitating," is a role model. In this study, teachers are not just role models to the children but they are also role models to the parents and communities. This is because the teachers educate and guide the parents on the importance of cultivating awareness of physical activity to them [23]. In this study, the teachers served as great role models to enhance the learning processes of the children. The only reason for this role model is that the teachers encourage children to participate actively in physical activity. Teachers in this study exhibited and embedded physical activities within structured play to promote gross motor skills in their daily lessons. The incorporation of activities like hopping, skipping, and jumping into games to enhance coordination and balance. The demonstration of motor skills by teachers to children in physical activity in this study has increased children's motivation and this is supported by Vidourek [46].

Beyond promoting health, physical activity serves as a crucial means of enhancing social skills, emotional resilience, and cognitive abilities. This holistic perspective informs the design and implementation of activities that contribute to well-rounded child development. Despite the benefits that teachers, children, and parents gain from physical activity, challenges persist when it comes to promoting it to parents, families, and communities at large. Findings from this study, which align with Hasan et al. [47], indicate that parents often lack support and time, primarily due to a lack of understanding about the value of physical activity for children. Some argue that these activities have no beneficial effect on children's academic performance, contributing to a lack of prioritization. Insufficient tools and resources for administering physical education further compound the issue, leading to the subject not receiving the attention it deserves. Additionally, parents express reluctance to assist schools in promoting physical activity, fearing potential exhaustion and harm to their children. Worries about the impact of these activities on academic performance contribute to the preference for screen-based activities over physical activity among many parents.

5. Conclusions

Physical activity promotion during early childhood in the integration of family and community can significantly improve children's physical activity in terms of their general health, speed, endurance motor skills, agility, academic accomplishments, strength and endurance. The findings presented in this study show that teachers' efforts in engaging children in physical activity can benefit children in terms of their health, well-being, emotions, and cognitive abilities. However, more involvement from the communities is needed to enhance awareness in physical activity. Future research should evaluate efforts put forward by policy makers and curriculum developers of the early childhood curriculum on strategies families can use to educate children on the importance of physical activity and educating families and communities by giving them educational materials related to physical activity. Quality early care and education are essential before formal schooling since they contribute to long-term good growth including physical activity.

REFERENCES

- [1] Biddle, S. J., M. Asare, "Physical Activity and Mental Health in Children and Adolescents: A Review of Reviews," *British Journal of Sports Medicine*, vol. 45, no. 11, pp. 886-895, 2011. DOI: 10.1136/bjsports-2011-090185.
- [2] Vanderloo, L. M. "Screen-viewing among Preschoolers in Childcare: A Systematic Review," *BMC Pediatrics*, vol. 14, no. 1, 2014. DOI: 10.1186/1471-2431-14-205.

- [3] Mandolesi, L., Polverino, A., Montuori, S., Foti, F., Ferraioli, G., Sorrentino, P., S. Giuseppe, "Effects of Physical Exercise on Cognitive Functioning and Wellbeing: Biological and Psychological Benefits," *Frontiers in Psychology*, vol. 9, 2018. DOI: 10.3389/fpsyg.2018.00509.
- [4] Goldfield, G. S., Harvey, A., Grattan, K., B. A. Kristi, "Physical Activity Promotion in the Preschool Years: A Critical Period to Intervene," *International Journal of Environmental Research and Public Health*, vol. 9, no. 4, pp. 1326-1342, 2012. DOI: 10.3390/ijerph9041326.
- [5] Blatchford, P., Bassett, P., Brown, P., W. Rob, "The Effect of Support Staff on Pupil Engagement and Individual Attention," *British Educational Research Journal*, vol. 35, no. 5, pp. 661-686, 2009. DOI: 10.1080/01411920902878917.
- [6] Donnelly, J. E., Greene, J. L., Gibson, C. A., Smith, B. L., Washburn, R. A., Sullivan, D. K., K. DuBose, et al. "Physical Activity Across the Curriculum (PAAC): A Randomized Controlled Trial to Promote Physical Activity and Diminish Overweight and Obesity in Elementary School Children," *Preventive Medicine*, vol. 49, no. 4, pp. 336-341, 2009. DOI: 10.1016/j.ypmed.2009.07.022.
- [7] Lubans, D. R., Beauchamp, M. R., Diallo, T. M. O., Peralta, L. R., Bennie, A., White, R. L., Owen, K., C. Lonsdale, "School Physical Activity Intervention Effect on Adolescents' Performance in Mathematics," *Medicine & Science in Sports & Exercise*, vol. 50, no. 12, pp. 2442-2450, 2018. DOI: 10.1249/mss.0000000000001730.
- [8] Peterson, J. W., Loeb, S., L. J. Chamberlain, "The Intersection of Health and Education to Address School Readiness of All Children," *Pediatrics*, vol. 142, no. 5, 2018. DOI: 10.1542/peds.2018-1126.
- [9] Centeio, E. E., Jung, Y., D. M. Castelli, "ACTIVE YOU: Teacher Attributes and Attitudes Predicting Physical Activity Promotion," *Behavioral Sciences*, vol. 13, no. 3, pp. 210, 2023. DOI: 10.3390/bs13030210.
- [10] Quan, M., Zhang, H., Zhang, J., Zhou, T., Zhang, J., Zhao, G., Fang, H., Sun, S., Wang, R., P. Chen, "Preschoolers' Technology-Assessed Physical Activity and Cognitive Function: A Cross-Sectional Study," *Journal of Clinical Medicine*, vol. 7, no. 5, pp. 108, 2018. DOI: 10.3390/jcm7050108.
- [11] Caspersen, C. J., Powell, K. E., G. M. Christenson, "Physical Activity, Exercise, and Physical Fitness: Definitions and Distinctions for Health-Related Research," *Public Health Reports*, vol. 100, no. 2, pp. 126, 1985.
- [12] McGowan, A. L., Chandler, M. C., H. K. Gerde, "Infusing Physical Activity into Early Childhood Classrooms: Guidance for Best Practices," *Early Childhood Educational Journal*, 2023. DOI: 10.1007/s10643-023-01532-5
- [13] SHAPE America, "National Standards for K-12 Physical Education". <https://www.shapeamerica.org/standards/pe> (accessed 10 Dec. 2023)
- [14] Isenberg, J. P., N. Quisenberry, "A Position Paper of the Association for Childhood Education International. PLAY: Essential for All Children," *Childhood Education*, vol. 79, pp. 33-39, 2002.
- [15] Zelazo, P. D., Müller, U., Frye, D., S. Marcovitch, "The Development of Executive Function in Early Childhood: VI. The Development of Executive Function: Cognitive Complexity and Control—Revised," *Monographs of the Society for Research in Child Development*, vol. 68, no. 3, pp. 93-119, 2003. DOI: 10.1111/j.0037-976X.2003.00266.x
- [16] Shore, R, "Rethink the Brain: New Insights into Early Development," *Families and Work Institute*, 2003, pp. 1-58.
- [17] Harrison, J. M., Blakemore, C. L., M. M. Buck, "Instructional Strategies for Secondary School Physical Education," 1989.
- [18] Annesi, J. J, "Generalizability of an Adult-Validated Model for Predicting Increased Physical Activity in After-School Program Children: Effects of Treatment Formats on Fitness Indicators," *Evaluation and Program Planning*, vol. 73, pp. 33-43, 2019.
- [19] Roth, D. L, Fredman, L, W. E. Haley, "Informal Caregiving and Its Impact on Health: A Reappraisal from Population-Based Studies," *Gerontologist*, vol. 55, no. 2, pp. 309-319, 2015. DOI: 10.1093/geront/gnu177
- [20] Jennings, J. M., T. Angelo, "Student Engagement: Measuring and Enhancing Engagement with Learning," *Proceedings of the Universities Academic Audit Unit*, New Zealand, 2006.
- [21] Bandura, A, "Self-efficacy: Toward a Unifying Theory of Behavioral Change." *Psychological Review*, vol. 84, no. 2, pp. 191-215, 1977. DOI: 10.1037/0033-295X.84.2.191
- [22] Yancey, A. K, "Building Positive Self-Image in Adolescents in Foster Care: The Use of Role Models in an Interactive Group Approach," *Adolescence*, vol. 33, no. 130, pp. 253-267, 1998.
- [23] Lashley, C., P. Barron, "The Learning Style Preferences of Hospitality and Tourism Students: Observations from an International and Cross-Cultural Study," *International Journal of Hospitality Management*, vol. 25, no. 4, pp. 552-569, 2006. DOI: 10.1016/j.ijhm.2005.03.006
- [24] Vidourek, R. A., King, K. A., Bernard, A. L., Murnan, J., L. Nabors, "Teachers' Strategies to Positively Connect Students to School," *American Journal of Health Education*, vol. 42, no. 2, pp. 116-126., 2011.
- [25] Senne, T. A., Rowe, D. A., Decker, J. T., Douglas, S. M., B. B., Boswell, "Investigation of Lesson Contexts and Teaching Behaviors as Related to Physical Activity Levels during Middle School Physical Education Instruction," *Research Quarterly for Exercise and Sport*, vol. 77, no. (Suppl 1), pp. A69., 2006.
- [26] Cardinal, B.J., "Role Modeling Attitudes and Physical Activity and Fitness Promoting Behaviors of HPERD Professionals and Preprofessional," *Research Quarterly for Exercise and Sport*, vol. 72, no. 1, pp. 84-90, 2001.
- [27] Smuka, I, "Teacher Role Model and Students' Physical Activity," *Polish Journal of Sport and Tourism*, vol. 19, no. 4, pp. 281-286, 2012.
- [28] Hesketh, K. R., van Sluijs, E. M., Blaine, R. E., Taveras, E. M., Gillman, M. W., S. E., Benjamin Neelon, "Assessing Care Providers' Perceptions and Beliefs about Physical Activity in Infants and Toddlers: Baseline Findings from the Baby NAP SACC Study," *BMC Public Health*, vol. 15, pp.

- 100, 2015.
- [29] Chen, D., Li, G., Y. Duan, "The Relationship between Self-Control and Academic Self-efficacy in High School Students: Moderating Mediating Effect," *Chinese Journal of Health Psychology*, vol. 29, no. 10, pp. 1574-1580, 2021.
- [30] Wang, Y., He, G., Ma, K., Li, D., C. Wang, "Preschool Children's Physical Activity and Community Environment: A Cross-Sectional Study of Two Cities in China," *International Journal of Environmental Research and Public Health*, vol. 19, no. 22, pp. 14797, 2022. DOI: 10.3390/ijerph192214797
- [31] Okely, A. D., Kariippanon, K. E., Guan, H., Taylor, E. K., Suesse, T., Cross, P. L., Chong, K. H., Suherman, A., Turab, A., Staiano, A. E., A. S. Ha, "Global Effect of COVID-19 Pandemic on Physical Activity, Sedentary Behaviour and Sleep Among 3-To 5-Year-Old Children: A Longitudinal Study of 14 Countries". *BMC Public Health*, vol. 21, pp. 1-15, 2021.
- [32] Trost, S. G., D. S. Brookes, "Effectiveness of a Novel Digital Application to Promote Fundamental Movement Skills in 3-to 6-year-old Children: A Randomized Controlled Trial," *Journal of Sports Sciences*, vol. 39, no. 4, pp. 453-459, 2021.
- [33] Dooley, K. E., Kaplan, R, Mwelase, N, Grinsztejn, B, Ticona, E, Lacerda, M, Sued, O, Belonosova, E, Ait-Khaled, M, Angelis, K, Brown, D, Singh, R, Talarico, C. L, Tenorio, A. R, Keegan, M. R., M. Aboud, "Dolutegravir-based Antiretroviral Therapy for Patients Coinfected with Tuberculosis and Human Immunodeficiency Virus: A Multicenter, Noncomparative, Open-label, Randomized Trial," *Clinical Infectious Disease*, vol. 70, no. 4, pp. 549-556, 2020. DOI: 10.1093/cid/ciz256
- [34] Moss, S., X. Gu, "Home- and Community-Based Interventions for Physical Activity and Early Child Development: A Systematic Review of Effective Strategies," *International Journal of Environmental Research and Public Health*, vol. 19, pp. 11968, 2022. DOI: 10.3390/ijerph191911968
- [35] Tong, T., Wang, X., Zhai, F., X. Li, "The Effect of the KDL Active School Plan on Children and Adolescents' Physical Fitness in China," *International Journal of Environmental Research and Public Health*, vol. 19, pp. 13286., 2022. DOI: 10.3390/ijerph192013286
- [36] Taylor, S.J., Bodgan, R., M. DeVault, "Introduction to Qualitative Research Methods: A Guidebook and Resource," John Wiley & Sons Inc, 2015.
- [37] Varutharaju, E., N. Ratnavadivel, "Enhancing Higher-Order Thinking Skills through Clinical Simulation," *Malaysian Journal of Learning and Instruction*, vol 11, pp. 75–100, 2014.
- [38] Suri, H, Purposeful Sampling in Qualitative Research Synthesis. *Qualitative research journal*, vol. 11, no. 2, pp. 63-75., 2011.
- [39] Creswell, J. W., C. N. Poth, "Qualitative Inquiry and Research Design Choosing among Five Approaches (4th ed)," Sage Publications, 2018.
- [40] Quan, M., Zhang, H., Zhang, J., Zhou, T., Zhang, J., Zhao, G., Fang, H., Sun, S., Wang, R., P. Chen, "Preschoolers' Technology-Assessed Physical Activity and Cognitive Function: A Cross-Sectional Study," *Journal of Clinical Medicine*, vol. 7, no. 108, 2018. DOI: 10.3390/jcm7050108
- [41] Barbosa, H. C., A. R. D., Oliveira, "Physical Activity of Preschool Children: A Review," *Physiother Rehabil*, vol. 1, no. 111, 2016. DOI: 10.4172/2573-0312.1000111
- [42] Cheung, P. "Teachers as Role Models for Physical Activity: Are Preschool Children More Active when Their Teachers Are Active?" *European Physical Education Review*, vol. 26, no. 1, pp. 101-110, 2020. DOI: 10.1177/1356336X19835240
- [43] Chow, B. C, McKenzie, T. L, L., Louie, "Physical Activity and its Contexts during Preschool Classroom Sessions," *Advances in Physical Education*, vol. 5, no. 3, pp. 194–203, 2015.
- [44] Brown, W. H, Googe, H.S, K. L. Mclver, "Effects of Teacher-Encouraged Physical Activity on Preschool Playgrounds," *Journal of Early Intervention*, vol. 31, no 2, pp. 126–145, 2009.
- [45] Bandura, A, "Social Learning Theory," Prentice-Hall, 1977.
- [46] Vidourek, R. A., King, K. A., Bernard, A. L., Murnan, J., L., Nabors, "Teachers' Strategies to Positively Connect Students to School," *American Journal of Health Education*, vol. 42, no. 2, pp. 116-126, 2011.
- [47] Hasan, A. R., Rashid, M. H., Smith, G., Selim, M. A., S. Rasheed, "Challenges of Promoting Physical Activity Among School Children in Urban Bangladesh: A Qualitative Inquiry," *PloS one*, vol. 15, no. 3, pp. e0230321., 2020. DOI: 10.1371/journal.pone.0230321
- [48] Yin, R. K, "Case Study Research: Design and Methods. 3rd Edition," Sage, 2003.
- [49] Miles, M. B., & A. M. Huberman, "Qualitative Data Analysis: An Expanded Sourcebook," Sage Publications, 1994.