



Journal Homepage: [-www.journalijar.com](http://www.journalijar.com)

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI:10.21474/IJAR01/20624
DOI URL: <http://dx.doi.org/10.21474/IJAR01/20624>



RESEARCH ARTICLE

PARENTAL SUPPORT OF CHILDREN IN PHYSICAL ACTIVITY IN PUBLIC PRIMARY SCHOOLS IN KASARANI SUB-COUNTY, NAIROBI COUNTY, KENYA. A GENDER PERSPECTIVE

Ruth Mugo Kahiga and Juliet Njeri Mwasya

Department of Educational Communication, Technology and Pedagogical Studies, University of Nairobi, Nairobi, Kenya.

Manuscript Info

Manuscript History

Received: 18 January 2025

Final Accepted: 21 February 2025

Published: March 2025

Keywords: -

Parental Support, Physical Activity,
Physical Inactivity, Gender

Abstract

Physical activity is an essential component of a healthy lifestyle. It improves individuals' health outcomes, enabling them to achieve their goals. However, health reports continue to show increased physical inactivity and a high prevalence of non-communicable diseases among children. Evidence from literature shows that support from parents can be a primary influencer of children's participation in physical activity. However, due to social-cultural practices, equal opportunities for boys and girls to participate in physical activity is a contemporary issue. This descriptive survey study involving 100 class eight learners aimed to establish the role of parents in supporting boys' and girls' participation in physical activity. A questionnaire was used to collect data, and descriptive statistics were used to analyse data. Findings revealed that slightly more girls (50) than (46) boys indicated participating in physical activity, and more girls (26) played games with their parents. A higher proportion of (50) girls indicated that boys had more time to play. About (30) and (42) of boys and girls reported that parents played a role in providing play materials. More girls (46) reported that their parents informed them about benefits of physical activity, while more boys (48) indicated that their parents encouraged them to participate in physical activities. In conclusion, it is important to note that parents play a significant role in supporting their children's participation in physical activity. Parents should be encouraged to consider physical activity as part of their family lifestyle while offering equal support to boys' and girls' participation in physical activity.

"© 2025 by the Author(s). Published by IJAR under CC BY 4.0. Unrestricted use allowed with credit to the author."

Introduction:

Physical activity (PA) is any bodily movement produced by skeletal muscles that requires energy expenditure (WHO,2020). It is a movement that improves individuals' health and involves various activities, namely walking, running, swimming, sports, and active forms of recreation like dance and yoga. Physical activity can be done at any level for enjoyment by all, irrespective of gender, age, social or economic status, and any other diversity. According to WHO (2018), regular physical activity helps prevent and treat Non-Communicable Diseases (NCDs) such as heart disease, stroke, diabetes, and cancer. It helps to prevent hypertension, overweight and obesity. For example, the WHO (2021) report on obesity and overweight shows that over 340 million children and adolescents 5-19 years

Corresponding Author:- Ruth Mugo Kahiga

Address:- Department of Educational Communication, Technology and Pedagogical Studies, University of Nairobi, Nairobi, Kenya.

old were overweight or obese in 2016. The World Obesity Atlas Report (2022) shows that more than one billion people around the world will be obese, a majority of whom will be in Low and Middle-Income Countries (LMICs) like Kenya. This report further projects that more than one million Kenyan children (5-19 years old) will be obese by 2030. According to this report, Kenya is ranked 143 out of 183 countries in preparedness for obesity-related illnesses. To address this crisis, there is a global call to end misunderstanding, under-investment, and stigmatisation of obesity, which is preventable since one of its causes is lifestyle changes.

Centres for Disease Control and Prevention (2022) posits that being physically active can improve the health of an individual's brain, help manage weight, reduce the risk of diseases, strengthen bones and muscles, and enhance the ability to undertake everyday activities. Evidence for increasing numbers of overweight and obese children and adolescents, combined with the number of children leading sedentary lifestyles, highlights the importance of understanding how parents can encourage children's participation in physical activity.

WHO (2018) has further noted that in most countries, girls, women, older adults, underprivileged groups, and people with disabilities and chronic diseases have fewer opportunities to access safe, affordable, and appropriate programmes and places in which to be physically active. According to the Military Team (2014), differences in gender typing may leave girls at an increased risk of obesity and obesity-related diseases due to physical inactivity. Burtka (2019) further pointed out that according to Suncorp's 2019 Australian Youth and Confidence Research, girls play sports less than boys; thus, they tend to miss out on immense benefits from sports.

Further, physical activity can improve quality of life, well-being, and mental health by preventing cognitive decline and symptoms of depression and anxiety while improving children's academic attainment and achievement (WHO, 2022). The National Centre for Chronic Disease Prevention and Health Promotion (2022) further affirms that not getting enough physical activity will likely lead to non-communicable diseases, which causes a significant economic burden on health systems, organisations, institutions, resources and personnel. Physical inactivity negatively impacts health systems, the environment, economic development, community well-being and quality of life (WHO, 2018).

The recommended physical activity for children and adolescents is at least 60 minutes (one hour) or more of moderate to vigorous physical activity daily (WHO, 2020). This shows that children and adolescents must be active throughout the day and engage in regular physical activity to support cardiovascular, bone strength, and mental health. However, the most recent global data reveal that the majority (81%) of boys and girls aged between 11–17 years old spend less than one hour a day doing moderate- to vigorous-intensity physical activity, which means that more girls (85%) are inactive as compared to (77.6 %) boys in most countries (Guthold et al., 2020). A comparative analysis of physical activity levels for adolescents in 2010 and 2016 shows modest improvements, which were more common among boys than girls (WHO, 2022). This indicates that there are gender differences in the ways boys and girls participate in physical activity. Indeed, WHO (2022) points out that globally, there are diverse levels of physical activity between women and men, girls and boys, old and young, and socioeconomically advantaged and disadvantaged. The global status report on physical activity country profiles shows that in Kenya, physical inactivity for adolescents aged 11-17 years is 85% for males and 89% for females (WHO, 2023).

Literature Review:

Empirical studies have been done on parents' role in supporting their children in physical activities. Beets et al., (2010) reviewed literature from 1970 to 2008 on the relationship of parental social support to physical activity among the youth. The review shows that parents play a significant role in influencing their children's attitudes toward physical activity since they are the primary proponents or inhibitors. It is important to note that family is an important factor in improving children's physical activity habits since children's physical activity habits are shaped by their parents, who act as the primary socialisation agent in their lives (Welk et al., 2003). Without a role model for fitness, it becomes difficult for children to recognise the benefits of integrating wellness into their daily routine (Playground Professional, 2020).

Beet et al., (2020) reviewed literature on the influence of parental social support on the physical activity of developing children and adolescents in community, home and school settings. This study aimed to determine how much parents supported their children in physical activity at home. In their findings, Beets et al., (2010) highlight four categories of social support under two distinct mechanisms: tangible and intangible. Tangible social support is divided into two categories: instrumental social support, which involves purchasing equipment and transportation, and conditional social support, which involves doing activities with the child and watching or supervising them.

Intangible social support is divided into two categories: motivational social support, which involves offering encouragement and praise and informational social support, which involves discussing the benefits of PA.

According to Welk et al., (2003), two aspects of parental behaviours promote physical activity in children. First, there is role modelling, which includes parents' interest in this activity, their efforts to be active, and their support, encouragement, and involvement with the child. Second, there is facilitation by providing access and opportunities for the child to be active. This study adopted both Welk et al., (2003) and Beets et al., (2010) aspects of parental support as it looked at parental provision of play materials and opportunities for participating in PA, participation in PA with their children, encouragement, and discussion of PA's benefits.

Bonavolonta et al., (2021) posit that parents play a key role in youth sports educational experience as they are responsible for introducing their children to physical activity, and their involvement is associated with sports participation in the early stages. Bonavolonta et al. (2021) conducted a study to assess male soccer players' perceived and desired parental involvement. Eighty male soccer players aged between 11 and 14 completed the Parental Involvement in Sport Questionnaire (PISQ) before or after their training sessions. The PISA results revealed that excessive parental involvement can cause pressure on children. A balance is needed between supporting involvement from the parents without too much pressure. The study involved male soccer players recruited from a recreational soccer club.

Dewan (2023) stresses that when parents encourage their children to participate in sports, it fosters a love of physical activity that remains with them for life. Playground Professionals (2020) argue that parents play a critical role in teaching their children the importance of daily physical activity. They need not force their children to go outside to play but instill the value of physical activity in their minds. To teach children the value of physical activity, parents should engage and invite them to their physical activity routine so that they can witness the value parents place on having a regular physical activity routine, educate them on the science behind physical activity so that they can appreciate its value, help them find and identify a physical activity that they enjoy and create the family physical activity schedule.

Fredricks and Eccles (2005) noted that parents should provide concrete, emotional, educational, and economic support for children to engage in physical activity. This was revealed by a study involving parents and their 2nd, third, and 5th-grade children in testing whether role modelling, parents' beliefs, and their provision of experiences are related to children's perceptions of sports competence, value, and participation. The role of parents in their children's physical activity involvement is supported by the expectancy-value model postulated by Eccles and Wigfield (2002). The model postulates that a combination of individual and social influences will predict a person's future achievement choices and persistence with those choices.

Yao and Rhodes (2015) examined the correlation between parents' children's physical activity, focusing mainly on parental modelling and support. Ten significant databases were used in the literature from 1970 to 2014. The review found that support from the parents and their modelling behaviours were related to children's physical activity. The review looked at parental encouragement and praise, participation with the child or supervision, discussion on PA benefits, and provision of play equipment. The study did not review whether there was equity in parental support given to boys and girls. The current study aimed to examine whether there was equity in parental encouragement and provision of opportunities for boys and girls to participate in PA.

Dunton et al., (2012) examined joint physical activity and sedentary behaviour in parent and child pairs. The study conducted in Chino, California, found that girls engaged in a more significant percentage of their total moderate to vigorous physical activity with their parents than boys. Girls and older children engaged in more sedentary behaviour with their parents than boys and younger children. Older parents engaged in a more significant percentage of sedentary behaviour with their children than younger parents. The study revealed that joint parent-child physical activity may be effective in increasing activity levels of parents and children.

Welk et al., (2003), in a study assessing parental influence on children's physical activity, involved 994 children from 3 elementary schools. The children completed a questionnaire on participation and attraction to physical activity, perceived competence, and perceived parental influence. The study revealed that parents who support physical activity tend to have more physically active children than children whose parents do not display these behaviours.

According to the May recreation team (2018), children develop their creativity, dexterity, strengths, physical abilities, and social and cognitive skills through play, thus the need for parents to play with them. When parents emulate positive physical activity behaviours, they help their children develop healthy habits that will be useful throughout their lives in counteracting obesity issues. However, it is paramount to note that physical activity levels are influenced by cultural values, which may underlie the type of parental social support given to adolescents' engagement when engaged in physical activity. Beets et al., (2010) point out that parental perception of gender is influenced by society, which is likely to make parents encourage boys more than girls to engage in physical activity. Burtka (2019) further noted that one of the reasons why girls do not participate in physical activity is the cultural messages that tell girls indirectly that sports are for boys.

Peterson et al., (2021) assert that parental gender-typing significantly influences how boys and girls perceive physical activity. Girls seek parental support, while boys are more encouraged to be physically active. Further, Fredricks and Eccles (2005) affirm that parents have reported perceiving their boy child to be more competent in sports than their girl child and that sports are more important for boys than girls. This parental perception appears to translate into girls perceiving significantly lower levels of sports competence than males (Boise et al., 2005), as parents who adhere to strict gender-typed notions of physical activity tend to have children who are less engaged in physical activity (Fredericks & Eccles, 2005). In addition, The Military REACH Team (2014) reports that many girls are not socialised to have positive attitudes toward physical activity and do not receive the social support they need to develop healthy habits.

The reviewed studies and reports are not based on the Kenyan context; thus, the current study aimed to establish the extent to which parents support their children, both girls and boys, towards their physical activity, especially during the school holidays in the Kahawa zone, Kasarani sub-county, Nairobi County, Kenya. Specifically, the study looked at tangible and intangible social support as advanced by Beets et al., (2010). Under tangible social support, the study examined instrumental support, as mentioned by Beets et al., (2010), by explicitly assessing parental involvement in physical activity and providing play materials. Under intangible social support, the study examined motivational support by assessing parental encouragement of their children to participate in PA. Informational support entailed assessing parental discussions with the child on play or games and their benefits. According to Beets et al., (2010), evidence of parental impact on children's activity levels may inform the interventions and programmes that will help promote physical activity among boys and girls.

Research Methodology:

The study used a descriptive survey design. Two out of 12 public primary schools from Kahawa Zone, Kasarani Sub-County in Nairobi County were purposive sampled. The target population of girls and boys in the two sampled public primary was 648 class eight learners, with 338 boys and 310 girls. Stratified and systematic sampling techniques were used to select 50 boys and 50 girls from class eight from the two sampled primary schools. The eight learners in the class were selected for this study because they have the highest primary education level. Thus, learners could comprehend the nature of the study and provide informed responses. A questionnaire was used to collect data from the class eight learners. Data collected was analysed using descriptive statistics (frequencies and percentages).

Presentation and discussions of findings

Boys' and girls' responsibilities include physical activities/play participation.

Table 1: Participation in Physical Activities/Play by gender category.

Gender	Boys				Girls			
	Yes		No		Yes		No	
Responses	F	%	F	%	F	%	F	%
Did you play games during the school holiday?	46	46%	4	4%	50	50%	-	-
Do your parent(s) play games with you?	22	22%	28	28%	26	26%	24	24%

Findings from Table 1 show that 50 (50%) girls indicated that they participated in physical activity during the school holidays compared to 46 (46%) boys. These findings imply that slightly more girls indicated engaging in physical activity and games at home than boys. This finding concurs with World Bank (2022), which revealed gender

differences in activity levels. In addition, Kretschmer et al.'s study (2023) affirmed that boys and girls had similar distributions for sedentary and light-intensity activities. However, moderate and vigorous activity differences were found, with boys having higher average activity levels than girls. The disparity in participation among boys and girls is due to biological reasons (Wickel, 2009) and socio-ecological factors at individual, family, school and environmental levels (Telford et al., 2016).

Further findings from Table 1 show that more girls, 26 (26%), played games with their parents compared to 28 (28%) boys who did not engage in play activities with their parents. This finding concurs with Dunton et al.'s (2012) study, which noted that girls engaged in a more significant percentage of their total moderate to vigorous physical activity with their parents than boys. Further, Schoeppe et al. (2017) posited that girls are more susceptible to role modelling from their parents than boys, who may require less encouragement while playing outdoors.

Facilitation of participation in physical activity

Table 2: - Facilitation of the involvement in physical activity by gender category.

Gender	Boys				Girls				
	Parents	Siblings	Friends	Church	Parents	Siblings	Friends	Church	Self
Who organised the games?	2 2%	6 6%	38 38%	4 4%	4 4%	10 10%	30 30%	4 4%	2 2%
	Parents	Siblings	Friends	Church	Parents	Siblings	Friends	Church	Grand parents
Who provided the play materials?	30 30%	2 2%	18 18%	-	42 42%	-	6 6%	-	2 2%

Data in Table 2 shows that 38 (38%) boys indicated that their friends organised their games compared to 30 (30%) girls. A higher proportion, 10 (10%) of girls, indicated that their siblings organised the games compared to 6 (6%) boys. Similarly, four (4%) boys and 4 (4%) girls indicated that the church organised the games. A higher proportion of 4 (4%) girls indicated the games were organised by their parents as compared to 2 (2%) boys, while a further two (2%) girls indicated that they organised the games themselves. The findings imply that friends played a significant role in the organization of games for both boys and girls compared to the parents, who played a minimal role. Bentley et al., (2012) pointed out that a lack of adequate knowledge of physical activity may contribute to parents' failure to organise physical activity for their children since they may tend to perceive them to be very active.

The majority of the girls, 42 (42%) and 30 (30%) boys indicated that parents provided play materials respectively, while 18 (18%) boys and 6 (6%) girls reported that materials were provided by their friends respectively. These findings imply that most parents offered positive social support by providing play materials for their children to use during physical activities. Besides parents, guardians, and friends, grandparents provide social support by providing play materials to the boys and girls. This concurs with Fredricks and Eccles's (2005) findings, which affirmed that parents should provide concrete, emotional, educational and economic support for children to participate in physical activity. Although studies show that parents' support for their children towards activity is higher among boys (Telford et al., 2016), more parents may be required to support girls in the provision of play materials while encouraging them to make use of these materials (Schoeppe et al., 2017).

Boys' and girls' responses on parental encouragement and their participation in physical activities /play

Table 3:- Parental Encouragement of Boys and Girls Participation in Physical Activity/Play.

Gender	Boys				Girls			
	Yes	No	Yes	No	Yes	No	Yes	No
	F	%	F	%	F	%	F	%
Do you talk about play/games with your parent/guardian (s)?	48	48%	2	2%	44	44%	6	6%
	Parents	Siblings	Friends	No one	Parents	Siblings	Friends	No one
Who tells you that it is healthy to play?	42 42%	2 2%	6 6%	-	46 46%	-	2 2%	2 2%

	Parents	Siblings	Friends	Self	Parents	Siblings	Friends	Self
Who tells you it is time to play?	20 20%	4 4%	14 14%	12 12%	18 18%	8 8%	16 16%	8 8%

Data in Table 3 shows that the majority of boys, 48 (48%), and 44 (44%) girls discussed play or games with their parents, while more girls, 46 (46%) and 42 (42%) boys, indicated that their parents told them about the benefits of participating in play. Twenty (20%) boys and 18 (18%) girls reported that their parents reminded them of the time to play, while 16 (16%) girls and 14 (14%) boys indicated their friends informed them of the time to play. Some boys, 12 (12%), and 8 (8%) of the girls indicated that they were the ones who decided that it was time. At the same time, a few eight girls and four boys were reminded about the time to play with their siblings.

The implication is that most parents discuss the importance of engaging and participating in physical activities with their boys and girls. This concurs with the findings reported by Playground Professional (2020), which stated that parents should educate their children on the science behind physical activity so that they can appreciate its benefits. However, there is a need for more parents to urge their boys and girls to take time to play in order for them to reap the benefits of physical activity. As Bonavolonta et al., (2021) affirm, parents are responsible for introducing and encouraging their children to participate in physical or sporting activities since it will foster a love of play that will likely remain in their lives forever.

Boys and Girls Responses on who should be involved in outdoor play games

Table 4: - Involvement in outdoor play games by gender category.

Gender	Boys			Girls		
Responses	Boys	Girls	Both	Boys	Girls	Both
Who should play outdoor games?	20 20%	-	30 30%	18 18%	2 2%	30 30%
Who gets more time to play at home?	46 46%	2 2%	2 2%	50 50%	-	-
Who is encouraged to learn and participate in games?	42 42%	-	8 8%	38 38%	6 6%	6 6%

Table 4 shows that majority of the boys, 30 (30%), noted that both boys and girls should play outdoor games, while 20 (20%) stated that only boys should play. Majority of the girls, 30 (30%), indicated that both boys and girls should play outdoor games, while 18 (18%) indicated that only boys should play the games, and 2 (2%) indicated that only girls should play the games. Of the girls, 50 (50%) reported that boys had more time to play as compared to 46 (46%) boys, while 42 (42%) boys and 38 (38%) girls revealed that boys received more parental encouragement to learn and participate in games.

A similar number of girls and boys (30%) noted that they need to be engaged in outdoor play since they have a right to play for enjoyment and health. The boys and girls who indicated that boys have more time to play at home specified that boys are encouraged to learn more about games and sports by their parents, love sports and know how to play, are more energetic, strong and active, do not know how to do house chores, are elders. In contrast, girls have more housework and are encouraged not to play.

The implication is that most boys and girls believe participation in play is a right for boys and girls. However, 38 (38%) of the boys and girls believe that only boys should play. Welk et al., (2003) affirm that boys participate in physical activity as they are encouraged by parents, while Burtka (2019) points out that girls may think that sports are for boys and that probably is the reason why 18 (18%) girls indicated that only boys should play outdoor games.

The findings reveal that boys get more time to play while receiving parental encouragement to learn and participate in games. Fredricks and Eccles (2005) affirm that parents' perceptions of sports are more important for boys than girls, and thus, boys are more encouraged to engage in sports. In further affirming this, Burtka (2019) noted that boys may have more time than girls due to family expectations since they are required to take up more family responsibilities and domestic chores when they reach puberty.

Conclusions:

The findings in this study show that both boys and girls participate in physical activity, which is essential for healthy living. Parental engagement in physical activity and provision of play materials for girls was higher than that of boys, and this calls for a change of attitude and mindset to achieve gender equity. The fact that friends or peers had the upper hand over the parents in organizing activities for boys and girls highlights the need for more parental involvement.

Parents encouraged and motivated boys and girls to participate in physical activity. This can go a long way in helping boys and girls acquire and maintain active and healthy lifestyles. However, more boys indicated they received parental encouragement than girls, while more girls received education on the benefits of physical activity.

Most boys and girls indicated that it was their right to play for enjoyment and health purposes. However, most boys and girls indicated that boys had more time for play and were encouraged to learn and participate in games.

Recommendations:

Parents should be role models for their boys and girls by displaying the value and importance of physical activity. This will encourage their children to become more active participants in physical activity. They need to expose their children to various activities while seeking ways to help them find and identify the physical activity they enjoy. They should ensure that both boys and girls engage in moderate to vigorous physical activity to enable them to reap the maximum benefits of physical activity. They should create family physical activity time schedules and provide play materials for both boys and girls.

Programmes educating parents on the risk factors of a sedentary lifestyle would help them identify and prevent habit-forming behaviours among their children that could lead to obesity. Similarly, programmes to create awareness of gender typing and its dangers and advocate for an increase in opportunities for both boys and girls to engage in physical activity should be organised. Further, community centres and schools could create programmes that allow children and their parents to use safe spaces and equipment to engage in physical activity.

References:

1. Beets, M.W., Cardinal, B.J., & Alderman, B.L. (2010). Parental social support and the physical activity-related behaviours of youth: a review. *Health Education and Behavior*, 37 (5): 621-44 doi: 10.1177/1090198110363884
2. Bently, G. F., Goodred, J. K., Jago, R., Sebire, S. J., Lucas, P. J., Fox, K. R., Stewart-Brwon, S. and Turner, K. M. (2012). Parents' views on child physical activity and their implications for physical activity parenting interventions: a qualitative study. *BMC Pediatrics*; 12:180.
3. Bonavolonta, V. Cataldi, S. Latino, F., Carvutto, R., De Candia, M., Mastrorilli, G., Messina, G., Patti, A, and Fischetti, F. (2021). The Role of Parental Involvement in Youth Sport Experience: Perceived and Desired Behavior by Male Soccer Players. *International Journal of Environmental Research and Public Health* 18(16), 8698 doi: 10.3390/ijerph18168698
4. Boise, J. E., Sarrazin, P.G., Brustad, R. J., Trouilloud, D. O., Cury, F. (2005) Elementary school children's perceived competence and physical activity involvement: The influence of parents' role modelling behaviours and perceptions of their child's competence. *Psychology of Sport and Exercise*, 6, 381-397. doi: 10.1016/j.psychsport.2004.03.003
5. Burtka, A. T. (2019). Girls play sports less than boys and miss out on crucial benefits. *Global Sports Matters*.
6. Centers for Disease Control and Prevention (CDC). (2022). Physical activity. Retrieved from
7. <https://www.cdc.gov/physicalactivity/basics/pa-health/index.htm#>
8. Dewan, A. (2023). 6 important reasons why parents should encourage their children to play sports. Retrieved from <https://www.parentcircle.com/why-parents-should-encourage-their-children-to-play-sports/article>
9. Dunton, G.F., Liao, Y., Almanza, E., Jerrett, M., Spruijt-Metz, D., Chou, C.P., Pentz, M.A. (2012). Joint physical activity and sedentary behaviour in parent-child pairs. *Med Sci Sports Exerc*. 2012;44(8):1473–80.
10. Eccles, J. S. and Wigfield, A. (2002) Motivational beliefs, values, and goals. *Annual Review of Psychology*. 53, 109-132 doi: 10.1146/annurev.psych.53.100901.135153
11. Fredricks, J. A., & Eccles, J. S. (2005). Family Socialization, Gender, and Sport Motivation and Involvement. *Journal of Sport & Exercise Psychology*, 27:3-31. doi: 10.1123/jsep.27.1.3.

12. Guthold, R., Stevens, G. A., Riley L. M, and Bull, F. C. (2020) Global trends in insufficient physical activity among adolescents: a pooled analysis of 298 population-based surveys with 1.6 million participants. *Lancet Child Adolescents Health*. 2020;4(1):23–35.
13. Kretschmer, L., Salali, G.D., Andersen, L.B., Hallal, P. C., Northstone, K., Sardinha, L.B., Dyble, M., Bann, D. and International Children’s Accelerometry Database (ICAD) Collaborators. (2023). Gender differences in the distribution of children’s physical activity: evidence from nine countries. *International Journal of Behavioral Nutrition and Physical Activity* **20**, 103 (2023).
14. Kothari, C. R., & Gang, W. (2014). *Research Methodology; Methods and Techniques*. New Age International Publishers Ltd.
15. May recreation team. (2018). The importance of parents and play. Retrieved from <https://info.mayrecreation.com/blog/the-importance-of-parents-and-play>
16. National Center for Chronic Diseases Prevention and Health Promotion (NCCDPHD). (2022). Physical inactivity. Retrieved from <https://www.cdc.gov/chronicdisease/resources/publications/factsheets/physical-activity.htm#>:
17. Peterson, M.S., Lawman, H. G., Wilson, D. K., Fairchild, A., Van Horn, M. L. (2012). The association of self-efficacy and parent social support on physical activity in male and female adolescents. *Health Psychology*, 32,6, 666-674.
18. Schoeppe, S., Vandelanotte, C., Bere, E., Lien, N., Verloigne, M., Kovács, E.,Manios, Y., Bjelland, M., Vik, F. N., and Lippevelde, W. V. (2017). The influence of parental modelling on children’s physical activity and screen time: Does it differ by gender? *European Journal of Public Health*, Volume 27, Issue 1, Pages 152–157.
19. Telford, R. M., Telford, R. D., Olive, L. S., Cochrane, T., Davey, R. (2016). Why Are Girls Less Physically Active than Boys? Findings from the LOOK Longitudinal Study. *PLoS One*. 11(3)
20. The Military REACH Team (2014). Parental Influence on Children’s Physical Activity Motivation: Research Brief. The University of Minnesota.
21. <https://reachfamilies.umn.edu/sites/default/files/rdoc/Parental%20Influence%20on%20Children's%20Physical%20Activity%20Motivation.pdf>
22. Playground professionals. (2020). How parents can teach their kids the importance of physical activity. Retrieved from
23. <https://playgroundprofessionals.com/play/health/how-parents-can-teach-their-kids-importance-physical-activity#>
24. Welk, G. J., Wood, K., Morss, G. (2003) Parental influences on physical activity in children: An exploration of potential mechanisms. *Pediatric Exercise Science*, 15, 19-33
25. Wickel, E. E, Eisenmann, J. C, Welk, G.J. (2009) Maturity-related variation in moderate-to-vigorous physical activity among 9–14-year-olds. *Journal of Physical Activity and Health*. 6: 597–605.
26. World Health Organization. (2018). Global action plan on physical activity 2018-2030: more active people for a Healthier World. Retrieved from <https://apps.who.int/iris/bitstream/handle/10665/272722/9789241514187eng.pdf?sequence=1&isAllowed=y>
27. World Health Organization. (2020). WHO Guidelines on physical activity and sedentary behaviour. Retrieved from <https://www.who.int/publications/i/item/9789240015128>
28. WHO. (2021). Obesity and overweight. Retrieved from <https://www.who.int/news-room/factsheets/detail/obesity-and-overweight>
29. World Health Organization. (2022). Global status report on physical activity 2022. Retrieved from <https://www.who.int/publications/i/item/9789240059153>
30. World Health Organization. (2023). Global status report on physical activity 2022: country profiles Retrieved from <https://www.who.int/publications/i/item/9789240064119>
31. World Obesity Federation. (2022). World Obesity Atlas 2022. Retrieved from <https://www.worldobesity.org/resources/resource-library/world-obesity-atlas-2022>
32. Yao, C.A., and Rhodes, R.E. (2015) Parental correlates in child and adolescent physical activity: a meta-analysis. *International Journal of Behavioural Nutrition and Physical Activity*. 2015; 12:10.