



E-ISSN: 2708-4523

P-ISSN: 2708-4515

AJMC 2024; 5(2): 469-475

© 2024 AJMC

www.allcommercejournal.com

Received: 10-08-2024

Accepted: 17-09-2024

Nguyen Dinh Long

Faculty of Sport Science, Ton Duc Thang University, Ho Chi Minh City, Vietnam

Pham Quynh SY

Faculty of Sport Science, Ton Duc Thang University, Ho Chi Minh City, Vietnam

Identifying the motivations of 12-year-old adolescents in mass running events: A pilot study in Ho Chi Minh City, Vietnam

Nguyen Dinh Long and Pham Quynh SY

DOI: <https://doi.org/10.22271/27084515.2024.v5.i2f.386>

Abstract

Background: There are already a lot of research on how adults are motivated to engage in physical activities through mass sporting events, but there aren't many on children and adolescents. In addition to the physical development of adolescents in primary and secondary schools, there is a lack of demand for physical activities. To solve this problem, the schools collaborate with certain city districts to host small-scale mass running events (Distances of 1.5 km, 2 km, 3 km, 5 km etc.) to foster an active lifestyle and a healthy learning environment for adolescents.

Aim: The purpose of this pilot study is to identify the factors that motivate 12-year-olds to participate in adolescents's mass running events, in Ho Chi Minh City, Vietnam.

Method: The Motives for Physical Activity Measure-Revised (MPAM-R) scale was used in a diagnostic survey to ascertain the most crucial incentive for adolescents and whether gender disparities exist.

Result: The highest values are respectively social motives (4.4); fitness motives (4.3); enjoyment/interesting (4.1); while the lowest values were obtained by competence/challenge (3.9) and appearance motives (3.7). Besides that two of the motivation (Social and fitness motives) differed significantly from one another in this pilot study, whereas the other three (competence/challenge, enjoyment/interesting, and appearance) no significantly between boys and girls. Three-weeks before the mass marathon event, all pilot questionnaires were administered at random to boys and girls attending a secondary school. All participant completed a participation form provided by the school and verified their identity in front of their parent (either the mother or the father). These findings will help organizers better organize large-scale sporting events aimed at kids and teenagers and better understand the motivations of adolescents gender. In order to encourage teens to lead active lives and reduce sedentary behaviour, local governments should collaborate with schools to develop more physical activities through mass events.

Keywords: Motives, sporting events, children, adolescents, physical activities, physical health, health promotion, adolescents' sport motivation, adolescent marathon runners

Introduction

Nowadays, physical health is always a concern for all ages from the elderly to adolescents and children, so the task of promoting community physical activities is a top priority to improve the quality of life (Organization 2019) [35]. Physical activities not only stop at their personal training but also through event activities such as community fun runs, cycling, 5km, 8km, 10km marathon events or other community connection events (Allender, Hutchinson *et al.* 2008, Hellison 2010) [4, 18]. Through such events, they will provide a dynamic environment to engage in activities without over-focusing on physical activity, while encouraging participation in community activities to enhance relationships and connections with society (Oka 2011) [34]. The potential of mass sporting events as a bridge to regular physical activity among individuals is to assess the overall physical health of society (Bauman, Murphy *et al.* 2009, Robinson 2010) [8, 41].

The market for mass sports events for adults and young people is saturated, while there are a growing number of initiatives and projects to organise physical activities for children and young people (Rees, Kavanagh *et al.* 2006) [39]. Mass amateur sports events can be an excellent way to encourage young people to exercise regularly, for example in cases where physical education classes in a school do not fully fulfil this role (Greenwell, Danzey-Bussell *et al.* 2024) [17]. The transition from kindergarten to school is particularly associated with many negative changes after entering primary school, with a decrease in physical activity

Corresponding Author:**Nguyen Dinh Long**

Faculty of Sport Science, Ton Duc Thang University, Ho Chi Minh City, Vietnam

levels. Furthermore, the fitness levels of children and young people have declined rapidly over the past few decades; young people spend more time in environments that require continuous sitting and sedentary behaviour (Lisowski, Kantanista *et al.* 2020) ^[23]. Adolescents' sedentary behaviour at secondary schools is mostly caused by the conventional idea of education and school environments (Jakubec, Frömel *et al.* 2020) ^[19]. Several previous studies have been conducted to investigate the factors that motivate older adults to participate in amateur and community sporting events such as half marathons, ultramarathons, cycling, and triathlons (Malchrowicz-Moško and Poczta 2018, Malchrowicz-Moško, Młodzik *et al.* 2019, Malchrowicz-Moško, Gravelle *et al.* 2020, León-Guereño, Galindo-Domínguez *et al.* 2021) ^[29, 28, 27, 22]. However, studies on the motivation of children and adolescents have not been widely disseminated, knowing that the physical condition and fitness of children and adolescents are not enough to increase the frequency, intensity and duration of their physical activities (Stuntz and Weiss 2010) ^[45]. In order to plan physical activities, one must research the elements that motivate individuals to modify their behaviour as well as strategies for drawing in the community (Mummery and Brown 2009) ^[33], understanding how sport is managed as a means of encouraging active lifestyles for kids and teens is important in order to get mass sport participation at the grassroots level (Green 2005) ^[15]. Previous research has shown that social support influences participation in community physical activity, which is also associated with health benefits (Agata and Monyeki 2018) ^[1]. In order to guarantee physical activity and a dynamic atmosphere for a better life, it is crucial to comprehend the elements that influence young motivation. This goes beyond simply enticing them to local sports events or other sporting occasions. According to research, teenagers' future motivational structures are influenced by their active involvement in sports during their primary school years (Simpkins, Vest *et al.* 2010, Mavropoulou, Barkoukis *et al.* 2019) ^[43, 31]. Another study highlighted the fact that specific motivation for physical activity in children under 12 years of age is an issue that has been largely under-addressed in contemporary research. Although participation in adequate physical activity is important for children's current and future health, there is little research on the factors that motivate children and adolescents to be physically active through sporting events (Pannekoek, Piek *et al.* 2013) ^[37]. The motivation why kids and teenagers engage in physical activity and sports are nuanced and multifaceted (Sterdt, Liersch *et al.* 2014) ^[44]. According to a different study, kids who engage in physical activity through athletic events have very strong loyalty (Martin, Batty *et al.* 2019) ^[30]. As a result, their research's findings demonstrate a substantial correlation between kids' early ages and their ongoing involvement in the activity. It is crucial for parents to play a specific role in encouraging their children to participate in sports (Green, Smith *et al.* 2005) ^[15]. There are many factors that affect physical activity participation in addition to a family's economic situation, class, and status. One such factor is the sociocultural capital that is transferred when a child develops a passion for sports, which is crucial for engaging in additional sports activities (Green, Smith *et al.* 2005, Aicher, Rice *et al.* 2017, Fenyves, Dajnoki *et al.* 2019) ^[15, 2, 12]. To improve the health values of teenagers, responsible organizations should make sure that more large-

scale sporting events are planned and that a variety of physical activities are available in a healthy setting. Studying the variables that affect their motivation to participate in relation to their family circumstances is an even more crucial undertaking. Another research has demonstrated that adolescents between the ages of 13 and 17 are highly perceptive of other people's motivations for engaging in competitive sports, such as parents, trainers, and peers (Bengoechea and Streaun 2007, Mudrak, Slepicka *et al.* 2018) ^[9, 32] and external environmental influences also affect their motivation to participate (Owen, Smith *et al.* 2014), the quality of friendships and external interactions had a modest correlation with self-esteem and devotion to sports among girls adolescents (Carvalho, Fernandes *et al.* 2017) ^[11]. Further intervention options to sustain and boost children's and teenagers' motivation for physical exercise include offering the right challenges, establishing a mastery motivated environment, making physical activity fun, and assisting kids with self-help (Litt, Iannotti *et al.* 2011, CachónZagalaz, Carrasco-Venturelli *et al.* 2023) ^[24, 10]. The purpose of this research is to identify the driving forces behind adolescents participation in mass running events.

Materials and Methods

Methods

The analyses pertaining to the (MPAM-R) was to identify the driving forces behind teenage participation in mass running events. The (MPAM-R) scale was consists of 30 items which load on 5 latent factors: (1) Social motives (5 items); (2) enjoyment/interest motives (7 items); (3) competence/challenge motives (6 items); (4) fitness motives (5 items); (5) appearance motives (6 items). Physical activity (Pate 1988) is defined as any bodily movement produced by skeletal muscles that results in energy expenditure. Energy expenditure can be measured in kilocalories. Physical activity in daily life can be classified as occupational, sports, training, household, or other activities. Exercise is a subset of physical activity that is planned, structured, and repetitive and has the ultimate or intermediate goal of improving or maintaining physical fitness.

Fitness motives refers a set of health-related attributes or skills (Physically healthy/active, energetic, and strong) (Pate 1988, Malchrowicz-Moško, Castañeda-Babarro *et al.* 2020) ^[38, 27]. The extent to which people have these attributes can be measured by specific tests.

Appearance refers to personal identity refers to how someone or something looks to be more physically attractive, look better, more impressive than others and achieve or maintain a desired weight. It includes attributes such as: Physical characteristics (Height, weight, body shape, facial features, hair color, and skin tone); Clothing and accessories: The style and choice of clothing (Jewelry, and other accessories); Grooming (Hairstyle, makeup, and overall cleanliness); Posture and body language (How someone holds themselves and moves).

Challenge and competence are interconnected terms often used in educational, professional, and personal development contexts. Challenge definition (A situation or task that requires effort, skill, or ingenuity to overcome); competence definition (The ability to perform a task successfully and independently). Relationship between Challenge and Competence in personal development: Challenge drives competence: When individuals face challenges, they often

develop new skills and abilities to overcome them, leading to increased competence. Competence helps overcome challenges: Individuals with strong competencies are better equipped to handle challenges and find effective solutions. By understanding the relationship between challenges and competencies in physically activities refers to being individuals can develop to improve at an activity new skills, and overcome obstacles to achieve their goals (Klarkowski, Johnson *et al.* 2016, Malchrowicz-Moško, Castañeda-Babarro *et al.* 2020) ^[21, 27].

Social motives are the psychological processes that drive people's thinking, feeling and behavior in interactions with other people, and these refers to being with friends and meeting new people during a sporting activity (MacCrimmon and Messick 1976, Malchrowicz-Moško, Castañeda-Babarro *et al.* 2020) ^[25, 27]. In summary, social Motives to being the driving forces behind human behavior that are the underlying reasons why individuals engage in social interactions. They are the psychological forces that influence our relationships, our attitudes towards others, and our overall behavior in social settings.

Factors influencing social motives (Gable and Berkman 2013, Malchrowicz-Moško, Castañeda-Babarro *et al.* 2020) ^[14, 27]: Personality traits (Individual differences in personality can significantly influence our social motives. For example, extroverted individuals may have a stronger need for affiliation, while conscientious individuals may be more driven by achievement); Cultural factors (Cultural norms and values can shape our social motives. In some cultures, collectivism may emphasize the importance of group harmony and affiliation, while individualism may prioritize personal achievement and independence); Situational factors (The specific context in which we find ourselves can also influence our social motives. For instance, a stressful situation may temporarily increase our need for safety and support). By understanding the underlying motives that drive our social behavior, we can gain insights into our own actions and the behavior of others. This knowledge can help us to build stronger relationships, resolve conflicts, and achieve our goals.

Enjoyment/interesting is a feeling of pleasure or satisfaction derived from an activity or experience. It's a positive emotion that often involves a sense of contentment, happiness, or gratification (Tamborini, Bowman *et al.* 2010) ^[46]. In physically activities, *enjoyment refers* simply because it is interesting, fun, enjoyable, and makes us happy (Malchrowicz-Moško, CastañedaBabarro *et al.* 2020) ^[27]. Factors influencing enjoyment: Subjective (Enjoyment is a personal experience that varies from person to person. What one person finds enjoyable, another might not); Pleasurable (Enjoyment often involves a sense of pleasure or happiness); Gratifying (It can be a source of satisfaction or fulfillment); Engaging (Enjoyment often involves being fully engaged in an activity); Voluntary (Enjoyment is typically something we choose to do, rather than something we are forced to do).

The MPAM-R is a modified version of the earlier scale by (Frederick and Ryan 1993) ^[13] which was shorter, while a longer version was later validated and presented by (Richard, Christina *et al.* 1997) ^[40]. Items should be responded in 7-point Likert scale (1 – “not at all true for me” to 7 – “very true for me”). Or Proposal of a New

Method to Calculate Factor Scores (MPAM-R) (Battistelli, Montani *et al.* 2016, Albuquerque, Lopes *et al.* 2017) ^[7, 3]. The MPAM-R allows for comparisons of motivation across different sports. Responses to the items on the questionnaire are on a seven-point Likert scale, where 1 means not important and 7 indicates the very important.

Participants

There were a randomly total of 60 participants, including 42 boys (70%) and 18 girls (30%). All runners participated in a 1.5 km marathon with the slogan "Physical development for children and adolescents!" at Mass Running Events at Mass Running Event on Saturday, July 27, 2025 in District 12, Ho Chi Minh City, Vietnam.

Data Collection

We contacted the Mass Running Events Organizing Committee to obtain permission to conduct an on-site survey. All participants were on a voluntary basis and were kept confidential. Respondents, children, and parents were informed about the nature of the survey 3-week before the event at the hall of the high school the survey was conducted. We expected children to complete the survey independently, under the supervision of their parents, but without their assistance. Therefore, we hoped that parents would not influence their responses unduly. We surveyed approximately 60 people of 500 participated in the Mass Running Events. The survey was conducted on-site before and after the start of the race was finished, with the help of many volunteers who provided support on the race course.

This purpose of study is to identifying children and adolescents' motivation to participate in physical activities at mass running events. The aurther was modified the items should be responded Likert's 5-point scale (1: Strongly disagree; 2: Disagree; 3: Neutral; 4: Agree, and 5: Strongly agree) is used to measure observed variables. The scales were formed based on previous studies and experts' consultations.

Data Analysis

Comparisons between the mean values on the five motivation scales were performed using the t-test for the independent variables, while in cases where the assumption of equal variance was not met (tested by the Levene test), the Cochran-Cox test was used. Analysis of the relationship between gender and decision-making to initiate in the event was performed using the Chi-square test. The effect size for the t-test was measured by Cohen's d coefficient, while the fi coefficient was used for the Chi-square test. Significant results were assumed for $p < 0.05$ and calculations were performed using SPSS 20.0.

Results

In table 1.1, it was determined which motives are most important to those who participated in the survey.

The results in Table 1.1 show the distribution from high to low of the five motivational factors of children participating in events, the first is social motives (min 3.8 - max 4.8); the second is Fitness motives (min 3.6 - max 4.8), the third is enjoyment/interest motives (min 3.6 - max 4.7), the fourth is competence/challenge motives (min 3.4 - max 4.6) and the last is same is appearance motives (min 3.3 - max 4.3).

Table 1: Motivate of the adolescents in mass running events

MPAM-R Scale	No.	Minimum	Maximum	Mean	Std. Deviation
Social motives	60	3.8	4.8	4.4	.23
Enjoyment/interest motives	60	3.6	4.7	4.1	.27
Competence/challenge motives	60	3.4	4.6	3.9	.24
Fitness motives	60	3.6	4.8	4.3	.26
Appearance motives	60	3.3	4.3	3.7	.23

Table 2: Different gender motivate of the adolescents in mass running events

MPAM-R Scale	Gender	No.	Mean	Std. Deviation	Std. Error Mean	t	p	MD
Social motives	Boy	42	4.3	.22	.03	- 1.549	.131	-.097
	Girl	18	4.4	.22	.05			
Enjoyment/interest motives	Boy	42	4.1	.28	.04	-.473	.639	-.185
	Girl	18	4.1	.25	.05			
Competence/challenge motives	Boy	42	3.9	.22	.03	.666	.508	.044
	Girl	18	3.9	.25	.06			
Fitness motives	Boy	42	4.2	.25	.04	- 1.024	.310	-.073
	Girl	18	4.3	.25	.06			
Appearance motives	Boy	42	3.7	.23	.03	.403	.689	.024
	Girl	18	3.7	.19	.04			

* $p > .5$ not significant; $p < .5$ Significant

The results in Table 1.2 show that the motivations of 12-year-old boys and girls participating in physical activities through marathon events do not have many significant ($p > .5$) differences between the motivations of enjoyment, competence/challenge and appearance. At the same time, there are significant ($p < .5$) differences between boys and girls in social motivation (Boys 4.3 and girls 4.4) and fitness motivation (Boys 4.2 and girls 4.3), although the insignificant difference may be due to the small size of the

analyzed groups.

The participants answered all of the MPAM-R motive questions in the comprehensive survey, as shown in Table 1.3. The assessment of all MPAM-R motives described by respondents is shown below (1–5: social motives, 6–12: enjoyment/interest motives, 13–19: competence/challenge motives, 20–24: fitness motives, 25–30: appearance motives).

Table 3: Assessment of detailed MPAM-R motives.

Motives-MPAM-R Scale	Minimum	Maximum	Mean	Std. Error	Standard Deviation
It enhances friends' relationships.	4	5	4.62	.063	.490
I want to be with my friends	4	5	4.43	.065	.500
I want to meet new people	3	5	3.98	.084	.651
My friends want me to take part	4	5	4.75	.056	.437
I enjoy spending time doing this sporting activity with other people.	2	5	3.93	.075	.578
I like the excitement of participation	3	5	3.85	.075	.577
It's fun	2	5	3.77	.084	.647
I like doing this activity	3	5	3.95	.060	.467
It makes me happy	3	5	4.22	.063	.490
I find this activity stimulating	3	5	4.32	.087	.676
I think it's interesting	3	5	4.18	.084	.651
I enjoy this activity	3	5	4.43	.077	.593
I like engaging in physically challenging activities	2	5	3.90	.078	.602
I want to acquire new skills	2	5	3.45	.080	.622
I want to improve my existing skills	3	5	3.93	.062	.482
I like the challenge	2	5	3.95	.069	.534
I want to maintain my current level of skill	2	5	3.88	.086	.666
I want to compete with others.	3	5	4.17	.076	.587
I want to get better at my activity	3	5	4.27	.078	.607
I want to be physically fit	4	5	4.58	.064	.497
I want to have more energy	3	5	4.18	.073	.567
I want to maintain my health	3	5	4.13	.080	.623
I want to improve my cardiovascular fitness	3	5	3.90	.081	.630
I want to maintain a healthy lifestyle	3	5	4.50	.069	.537
I want to maintain my weight so I look better	3	5	3.73	.075	.578
I want to look attractive to others	3	5	3.68	.069	.537
I want to improve my appearance	3	5	3.88	.059	.454
I feel physically unattractive if I don't participate	3	4	3.33	.061	.475
I want to improve my body shape	3	5	3.83	.079	.615
I want to maintain a trim and toned body.	2	4	3.62	.068	.524

Note: (1-5) social motives (5 items); (6-12) enjoyment/interest motives (7 items); (13-19) competence/challenge motives (6 items); (20-24) fitness motives (5 items); and (25-30) appearance motives (6 items);

Discussion

The results showed that the highest values achieved were social motives (4.4) to participating in sports events (e.g.: it enhances friends' relationships; I want to be with my friends; My friends want me to take part), the second was fitness motives (4.3) (e.g.: I want to be physically fit; I want to maintain a healthy lifestyle; I want to have more energy), the third was enjoyment/interest motives (4.1) (e.g.: I enjoy this activity; I find this activity stimulating; It makes me happy; I think it's interesting), the fourth was competence/challenge motives (3.9) (e.g.: I want to compete with others.; I want to get better at my activity) and the lowest value (3.7) achieved was appearance motives (e.g.: I want to maintain my weight so I look better; I want to improve my body shape). Therefore, aspects related to social, fitness and enjoyment motives should be particularly promoted in activities related to the marketing of youth sports events.

In our study, there were no gender differences in the motivations for enjoyment (.639), competence/challenge (.508) and appearance (.689) ($p > 0.5$)*. On the contrary, the results showed that there were differences between boys and girls in social motives (.131) and fitness motives (.310), ($p < 0.5$)*.

Previous studies on physical activity in children and adolescents have emphasized the importance of fun and enjoyment when participate in physical activities at sport events. According to Visek *et al.*, adolescents consider fun and enjoyment as the main reasons for participating in sports and lack of fun is the number one reason why adolescents drop out of sports (Visek, Achrati *et al.* 2015)^[47]. Based on previous studies found that children participate in triathlons due to factors such as competition, challenge, fun, prizes, or at the instigation of parents/friends or others (Scanlan, Carpenter *et al.* 1993)^[42]. But according to our pilot study, social motivations came in first, followed by fitness motivations, enjoyment, competence/challenge, and appearance motivation. In addition, another research that children are primarily motivated by enjoyment/interesting (Allender, Cowburn *et al.* 2006)^[4]. Additionally, there are five primary variables that inspire youngsters to participate in sports: friends, parents, perceived competence, pleasure and enjoyment, and learning new abilities (Bailey, Cope *et al.* 2013)^[6]. But while social motivation has been crucial for adult runners in other research, it was demonstrated to be the most significant factor in our study. According to research on the motivation of schoolchildren aged 11 to 15 worldwide, social, recreational, and health-related factors are seen to be the primary drivers of sport participation (Kazmierczak, Dąbrowska *et al.* 2020)^[20]. However, the current pilot study revealed that older students appeared to view physical activity as the most important way to have fun, connect with friends, be social, or make new friends, while competition/challenge and appearance motives were not rated as significant reasons for liking sport.

Limitations

The author of the current pilot study only looked at five motivational factors that affect people's motivation to participate in physical activities through the community marathon event: (1) social motives (5 items); (2) enjoyment/interest motives (7 items); (3) competence /challenge motives (6 items); (4) fitness motives (5 items);

and (5) appearance motives (6 items). Take into account how boys and girls participate in physical activities differently based on their gender. For the survey variables' validity testing phase, the 30 questions pertaining to the five variables were omitted because this was a pilot study.

Future Lines of Research

In order to improve the accuracy of the survey variables for gender, we intend to carry out future research on a bigger sample size and on a wider scale. Simultaneously, we will compare the correlation coefficients between the survey variables and test their values. Additionally, through child sports events, we will investigate additional elements that influence participants' motivation to engage in physical activities.

Conclusion

In the present pilot study discovered that social motivators, enjoyment/interesting motives, and fitness motivations were more closely linked to adolescents' drive to compete in running competitions than were competence/challenge and appearance motives. Two of the motivation (social and fitness motives) differed significantly from one another in this pilot study, whereas the other three (competence/challenge, enjoyment/interesting, and appearance) no significantly between boys and girls. These findings will help organizers better organize large-scale sporting events aimed at kids and teenagers and better understand the motivations of adolescents gender. In order to encourage teens to lead active lives and reduce sedentary behaviour, local governments should collaborate with schools to develop more physical activities though mass events.

References

1. Agata K, Monyeki MA. Association between sport participation, body composition, physical fitness, and social correlates among adolescents: the PAHL study. *Int J Environ Res Public Health*. 2018;15(12):2793.
2. Aicher TJ, Karadakis K, Eddosary M, Brenner J. Understanding the relationship between motivation, sport involvement and sport event evaluation meanings as factors influencing marathon participation. *J Glob Sport Manag*. 2017;2(4):217-233.
3. Albuquerque MR, Lage GM, Da Costa VT, Ferreira RM, Penna EM, de Paula JJ, *et al.* Cross-cultural adaptation and validation of the MPAM-R to Brazilian Portuguese and proposal of a new method to calculate factor scores. *Front Psychol*. 2017;8:261.
4. Allender S, Cowburn G, Foster C. Understanding participation in sport and physical activity among children and adults: A review of qualitative studies. *Health Educ Res*. 2006;21(6):826-835.
5. Allender S, Hutchinson L, Foster C. Life-change events and participation in physical activity: A systematic review. *Health Promot Int*. 2008;23(2):160-172.
6. Bailey R, Cope E, Pearce G. Why do children take part in, and remain involved in sport? A literature review and discussion of implications for sports coaches. *Int. J Coach Sci*. 2013, 7(1).
7. Battistelli A, Barreto M, Di Marco D, Eib C, Sarchielli G, Guenzi M, *et al.* Regulation of exercise behaviour and motives for physical activities: The Italian validation of BREQ and MPAM-R questionnaires.

- Psychol Fr. 2016;61(4):333-348.
8. Bauman A, Bull F, Chey T, Craig CL, Ainsworth BE, Sallis JF, *et al.* The role of community programmes and mass events in promoting physical activity to patients. *Br J Sports Med.* 2009;43(1):44-46.
 9. Bengoechea EG, Streat WB. On the interpersonal context of adolescents' sport motivation. *Psychol Sport Exerc.* 2007;8(2):195-217.
 10. Cachón-Zagalaz J, Sanabrias-Moreno D, González-Valero G, Chacón-Cuberos R, Zurita-Ortega F. Motivation toward physical activity and healthy habits of adolescents: A systematic review. *Children.* 2023;10(4):659.
 11. Carvalho RG, Monteiro D, Gonçalves M, Neves S, Rocha M. Relations of friendship and self-concept in adolescence: An exploratory study in the school context. *Estud Psicol.* 2017;34(3):379-388.
 12. Fenyves V, Biro-Szigeti S, Czibere I, Skrapits J, Katona G. Analysis of Sport Motivation Factors amongst Eastern European Higher Education Students. *Eur J Contemp Educ.* 2019;8(4):761-778.
 13. Frederick CM, Ryan RM. Differences in motivation for sport and exercise and their relations with participation and. *J Sport Behav.* 1993, 16(3).
 14. Gable SL, Berkman ET. Social motives and goals. In: *Handbook of approach and avoidance motivation.* Psychology Press; c2013. p. 203-216.
 15. Green BC. Building sport programs to optimize athlete recruitment, retention, and transition: Toward a normative theory of sport development. *J Sport Manag.* 2005;19(3):233-253.
 16. Green K, Smith A, Roberts K, Harris J. Young people and lifelong participation in sport and physical activity: a sociological perspective on contemporary physical education programmes in England and Wales. *Leisure Stud.* 2005;24(1):27-43.
 17. Greenwell TC, Danzey-Bussell LA, Shonk DJ. Managing sport events. *Human Kinetics;* c2024.
 18. Hellison D. Teaching personal and social responsibility through physical activity. *Human Kinetics;* c2010.
 19. Jakubec L, Jakubec A, Jakubec E, Jakubec J. Physical activity in 15–17-year-old adolescents as compensation for sedentary behavior in school. *Int. J Environ Res Public Health.* 2020;17(9):3281.
 20. Kazimierzak M, Zawadka D, Zawadzki J. The impact of modern ultramarathons on shaping the social identity of runners. The case study of karkonosze winter ultramarathon. *Int. J Environ Res Public Health.* 2020;17(1):116.
 21. Klarkowski M, Whittaker S, Gaver B, Frohlich D. Operationalising and evaluating sub-optimal and optimal play experiences through challenge-skill manipulation. In: *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems;* c2016.
 22. León-Guereño P, González-Calvo G, Calleja-González J, Calderón Monge A. Motivation behind running among older adult runners. *BMC Sports Sci Med Rehabil.* 2021;13:1-10.
 23. Lisowski P, Wyszynska J, Mazur A. Are there any differences between first grade boys and girls in physical fitness, physical activity, BMI, and sedentary behavior? Results of HCSC study. *Int. J Environ Res Public Health.* 2020;17(3):1109.
 24. Litt DM, Dodge T, Davidson SR, Doogan NJ. Motivations for adolescent physical activity. *J Phys Act Health.* 2011;8(2):220-226.
 25. MacCrimmon KR, Messick DM. A framework for social motives. *Behav Sci.* 1976;21(2):86-100.
 26. Malchrowicz-Moško E, Terlecka I, Kwiatkowski A. On the way to the marathon-Motivation for participating in mass running events among children and adolescents: Results of the poznan half marathon pilot study. *Int. J Environ Res Public Health.* 2020;17(14):5098.
 27. Malchrowicz-Moško E, Chlebosz K, Wierzchowska-Moczko A. Do years of running experience influence the motivations of amateur marathon athletes? *Int. J Environ Res Public Health.* 2020;17(2):585.
 28. Malchrowicz-Moško E, Chlebosz K. Male and female motivations for participating in a mass cycling race for amateurs. The Skoda bike challenge case study. *Sustainability.* 2019;11(23):6635.
 29. Malchrowicz-Moško E, Poczta J. Running as a form of therapy socio-psychological functions of mass running events for men and women. *Int. J Environ Res Public Health.* 2018;15(10):2262.
 30. Martin AJ, Marsh HW, Anderson DW. An examination of children's motives for triathlon participation as a function of age. *Ann Leisure Res.* 2019;22(2):183-201.
 31. Mavropoulou A, Charalambous A, Mendez M. The role of autonomy supportive activities on students' motivation and beliefs toward out-of-school activities. *J Educ Res.* 2019;112(2):223-233.
 32. Mudrak J, Zabokrtsky J, Mudrakova S. Sport motivation and doping in adolescent athletes. *PLoS One.* 2018, 13(10).
 33. Mummery WK, Brown WJ. Whole of community physical activity interventions: easier said than done. *Br J Sports Med.* 2009;43(1):39-43.
 34. Oka M. Toward designing an environment to promote physical activity. *Landsc J.* 2011;30(2):280-298.
 35. Organization WH. Global action plan on physical activity 2018-2030: more active people for a healthier world. *World Health Organization;* c2019.
 36. Owen KB, Smith J, Lubans DR. Self-determined motivation and physical activity in children and adolescents: A systematic review and meta-analysis. *Prev Med.* 2014;67:270-279.
 37. Pannekoek L, Vansteenkiste M, Wouters P. Motivation for physical activity in children: A moving matter in need for study. *Hum Mov Sci.* 2013;32(5):1097-1115.
 38. Pate RR. The evolving definition of physical fitness. *Quest.* 1988;40(3):174-179.
 39. Rees R, Kavanagh J, Harden A. Young people and physical activity: A systematic review matching their views to effective interventions. *Health Educ Res.* 2006;21(6):806-825.
 40. Richard M, Duda J, Halliwell W. Intrinsic motivation and exercise adherence. *Int. J Sport Psychol.* 1997;28(4):335-354.
 41. Robinson TN. Save the world, prevent obesity: piggybacking on existing social and ideological movements. *Obesity.* 2010, 18(n1s).
 42. Scanlan TK, Carpenter PJ, Schmidt GW. An introduction to the sport commitment model. *J Sport Exerc Psychol.* 1993;15(1):1-15.
 43. Simpkins SD, Vest AE, Snyder T. Participating in sport and music activities in adolescence: The role of activity

- participation and motivational beliefs during elementary school. *J Youth Adolesc.* 2010;39:1368-1386.
44. Sterdt E, Liersch S, Walter U. Correlates of physical activity of children and adolescents: A systematic review of reviews. *Health Educ J.* 2014;73(1):72-89.
 45. Stuntz CP, Weiss MR. Motivating children and adolescents to sustain a physically active lifestyle. *Am J Lifestyle Med.* 2010;4(5):433-444.
 46. Tamborini R, Bowman ND, Eden A. Defining media enjoyment as the satisfaction of intrinsic needs. *J Commun.* 2010;60(4):758-777.
 47. Visek AJ, Achrati SM, Mannix H. The fun integration theory: toward sustaining children and adolescents sport participation. *J Phys Act Health.* 2015;12(3):424-433.