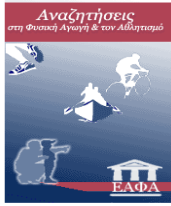


Research



Αναζητήσεις στη Φυσική Αγωγή & τον Αθλητισμό
Τόμος 18 (2), 98 – 105
Δημοσιεύτηκε: Ιούλιος 2020



Inquiries in Sport & Physical Education
Volume 18 (2), 98 – 105
Released: July 2020

www.pe.uth.gr/emag

ISSN 1790-3041



“After School Exercise”: A Program to Promote Students’ Physical Activity II. Students’ Perceptions of the Program (Short version of a Greek article)

Ioannis Syrmpas, Evangelia Andreadou, Theano Asteriou, Xanthi Babani, Evangelos Brisimis, Spyros Papavasil-
eiu, Elemi Skourgia, Efthymios Faltakas, Athanasia Chatzipanteli, & Marios Goudas

Department of Physical Education & Sport Science, University of Thessaly

Abstract

The purpose of the present study was to examine fifth and sixth graders’ perceptions of and their experiences with the program entitled “After School Exercise”. Twenty students were purposefully selected and participated in the study (N = 7 boys, N = 13 girls). The students were asked to answer open-ended questions. The results indicated that the students had positive experiences with participating in the program. They also stated that due to their participation in the program they increased the time they spent in physical activity (PA). Finally, different aspects of the program were found to be attractive to them. This confirms that students have different characteristics and needs that curriculum designers should consider when designing a new curriculum. The provision for PA with a differentiated level of difficulty and parents’ involvement in extracurricular PA proved to be effective strategies, based on students’ reports, in promoting their participation in PA.

Keywords: *physical activity, experiences, satisfaction, knowledge*

This is an extended English summary of the paper: «Γυμνάζομαι και Μετά το Σχολείο». Ένα πρόγραμμα για την αύξηση της σωματικής δραστηριότητας των μαθητών/τριών. II. Οι αντιλήψεις των μαθητών/τριών για το πρόγραμμα, Inquiries in Physical Education and Sport, 18(2), 87-97.

Development of this manuscript was supported by a post-doctoral fellowship to the first author in the context of the program “Post-Doctoral Fellowships- University of Thessaly” which is funded by the Stavros Niarchos Foundation to the University of Thessaly.

Corresponding address: Ioannis Syrmpas
Department of Physical Education & Sport Science, University of Thessaly
42100, Karyes, Trikala, Greece
E-mail: jsyrmpas@gmail.com

Introduction

Organizations (e.g., United States Department of Health and Human Services, 2010; World Health Organization, 2014) and studies (Hallal et al., 2006; Janssen & LeBlanc, 2010; Poitras et al., 2016) argued that systematic participation in PA protects against several non-communicable diseases (e.g., cardiovascular disease, types of cancer). For this reason, the World Health Organization (WHO) recommends that children (5 to 17 years old) should be engaged in moderate to high-intensity PA of at least one hour per day (WHO, 2010).

A significant number of researches has been conducted aiming at increasing the duration of students' participation in after school PA. However, the results of a respective review (Dobbins et al., 2013) indicated that only ten of them (Araújo-Soares et al., 2009; Barbeau et al., 2007; Donnelly et al., 2009; Kriemler 2010; Luepker et al., 1996; McManus et al., 2008; Salmon et al., 2008; Simon et al., 2004; Stone et al., 2003; Webber et al., 2008), resulted in an increased duration of students' participation in PA. However, little is known, as far as we know, of students' perceptions of the aspects of these programs that influenced their intention to increase their participation in PA.

Factors related to children's physical activity

The findings of a significant number of studies have shown that a number of physiological, psychological, socio-economic and environmental factors influence children's participation in PA. For example, psychological factors such as perceived competence (Sallis et al., 2000), satisfaction (Dishman et al., 2005) perceived benefits resulting from children's involvement in PA (Zakarian et al., 1994) positively influence their participation in them. Social factors such as parents' (Adkins et al., 2004), siblings', and friends' involvement in PA (Sallis et al., 1988) have also a positive effect on children's participation in PA. Additionally, parents' support (Sallis et al., 2000) for engaging in PA plays a pivotal role in children's engagement in PA. Finally, environmental factors such as children's accessibility to nearby home destinations, mild intensity and speed vehicle traffic in their neighbourhood, the proximity of children's homes to destinations such as shops, their accommodation in the densely populated neighbourhood and their accessibility or proximity to recreational facilities/sports facilities (Bauman et al., 2012) and their lack of transportation to sports areas located in a long distance from their home (Lovell et al., 2010) significantly affect children's participation in PA.

Arguably, based on the aforementioned findings, it can be concluded that the promotion of students' participation in PA is a multifactorial process. Therefore, curriculum designers should take all of these factors into account in their efforts to design an effective program. In addition, they should bear in mind that in a typical physical education (PE) lesson the teacher addresses students who have developed a unique personality, and each one of them learns in different ways and has different needs and ambitions (Gallahue & Donnelly, 2007; Moss-ton & Ashworth, 2008; Sanchez et al., 2012). Therefore, it is likely that different aspects of the lesson will attract the interest of the students.

The current Greek PE curriculum has proven to be ineffective to promote students' participation in PA to meet WHO's recommendations (2010). Recent research findings have revealed that in Greece only 12% of children over 13 and 14% of over 15 met WHO's recommendations (2018). Based on the above findings, the researchers designed the program "After School Exercise". The program was developed by taking into account the aforementioned factors and was based on the socio-cognitive model of self-regulation of learning (Zimmerman, 1989). A detailed account of this program can be found in Syrmpas, Kolovelonis, & Goudas, 2020 (this issue).

The purpose of the study

The purpose of the research was to explore students' perceptions regarding their participation in the "After School Exercise" program. More specifically students' perceptions of the aspects of the program that they found more or less attractive as well as the knowledge (kinetic and cognitive) they gained from their participation in it.

Methods

Participants and procedure

Students who participated in the program "After School Exercise" were asked to share their perceptions regarding the program. A purposeful selection of participants was employed. More specifically, PE teachers were

asked at the end of the program to indicate, based on students' motivation to participate in the program, a high and a low motivated student from each class. Eight PE teachers participated in the study. Two of them delivered the program to four classes each and the rest delivered it to two classes each. As a result, 20 students (N = 7 boys, N = 13 girls) 10 highly and 10 low motivated were asked to answer open-ended questions. The Ministry of Education and the University Institutional Review Board approved this study. Participants' anonymity was ensured in the text below presenting quotes of the students by following a coding process. More specifically, if the participant was a boy the letter "A" was used, while the girl was the letter "K" and then a number was added. For example, the first participant was a girl and was coded as K1 while the second was a boy and coded as A2.

Data analysis

Content analysis was performed according to the guidelines of LeCompte and her colleagues (1993). Initially, during the open coding process, two researchers created, independently of each other, codes based on the responses of each student individually. For example, to the question, "Can you tell me more specifically what you learned in this program?" the answer "We learn that we should participate in after school PA because it is good for our health" was coded as "knowledge of the benefits of exercise". Whereas the answer was "Doing exercise properly, it was coded as "fitness training knowledge". Each student's answer to each question was examined and then all of the answers were compared and categorized. Then the two researchers compared the coding and checked for agreement. When differences in researchers' coding occurred after discussion and exchange of arguments, they came to an agreement.

Results

Students were asked to indicate what they thought was the purpose of the program, its advantages, and disadvantages, to which extent they acquired new knowledge, and finally, whether the program urges them to increase the time they spent in PA. The main findings of the study are presented in the following section.

Students' perceptions of the purpose of the program

Interestingly, students reported that the program aimed at a variety of goals. For example, six of them (K1, A13, K17, A18, K19, and K20) stated that the purpose of the program was to "Learn to exercise properly". While, six other students (A2, K4, K11, K14, A15, and K16) said, "To do more exercise during PE lesson and out of school... without equipment and in each possible place". Two students (K8, A9) attributed a knowledge characteristic to the program and stated that the program aimed to "Help them to know what physical fitness is and what skills it consists of". Finally, three students (A3, K6, and K7) perceived that the program was designed to "Help them to understand how important fitness and beneficial is to their health". Overall, students pointed out different aspects of the program as the main purpose.

Students' perceptions of their acquired knowledge

The majority of students reported they had learned "... a lot of new information" or "... I was aware of some of them, while I was not aware of some of them". Only one of the students (A2) stated: "I knew all of them ...". More specifically, seven students (A3, K4, K5, K6, K7, A13, and K14) reported that they learned "... that exercise is good for our health... and how to exercise properly". Two students (A2 and A15) stated that "(I learned) to exercise without special equipment and to measure my heart rate". In the same vein a student (K16) reported "(I learned) to exercise without special equipment, to set goals and not to give up my effort... not to compare my performance with other students' performance, but to compare my current performance with my previous performance... to measure my heart beats and to be aware of the level of the intensity of exercise". Four students (A9, K8, K10, and K11) also responded that they learned "to maintain my aerobic endurance and to be fit". While four students (K1, A3, K19, and K20) stated that, I learned to do "curl-ups, dorsal raise and measuring my heart beats by putting my fingers to my throat". Finally, one student (A18) stated that he learned to do "cycling and exercise properly" and K17 recorded that he learned that "that our heart beats many times...".

Students' perceptions of the aspects of the program that they satisfied them

Students reported that they found attractive a variety of aspects of the program. For example, four students

(A9, K10, K17, and A18) stated that they found the program attractive because it includes "... new activities especially in circuit training (practice teaching style)". Three others (K1, A13, and K14) reported: "... (I liked) curls ups, dorsal raise, and push-ups... we did them for exercise". Similarly, three students reported that different activities attract their interest. More specifically, K11 stated "(I liked) stretching exercises ... (Because they help me to) improve my flexibility", while K12 reported "basketball practice and basket shots (because they) ... help me to exercise at least 2 days a week" and K20 stated "volleyball and football". Alternatively, four students stated that they liked that the program urged them to practice with their families. For example, two students (K5 and K6) reported "... because of the program, my mom and I enjoyed exercise" similarly two students (K7 and K8) stated that "... my parents and I go for walking, running and cycling and is very nice to exercising ... I improved my fitness". Three students (A3, K4, and A16) said that they liked "... the goals we set and we were trying to overcome day by day" additionally A16 stated, "I think we were very lucky to have this opportunity". Two more students (A15 and K19) said they liked that "... I learned to measure my heart beats" and A15 added, "... so (by measuring my heart beats) I can understand how intense the exercise is." Finally, one student (A2) stated, "... we were in a team and we try to achieve a goal".

Students' perceptions of the aspects of the program that they did not satisfy them

Interestingly the majority of students reported that there were satisfied with all aspects of the program. However, four students reported that they did not like some of the program's activities. More specifically, three of them (K14, K17, and A19) stated that they did not like "... curls ups and pushups". One of them (K17) justified this answer by saying "... because they make me feel tired". However, K14 stated, "... that although he did not like pushups I did it to strengthen my arms". Finally, the K1 student said "... I didn't like it when we were running for a long duration of time" because "I was tired". Interestingly, the running activity was of six minutes duration.

Students' perceptions of the effectiveness of the program

Finally, the majority of the students reported that due to their participation in the program they increased the time they spent in PA. Five of them (K5, K8, A9, K10, and K12) reported that they participate in activities they learned through the program. For example, they stated, "I did curl-ups, dorsal raise, and push-ups". Some of the students increased the time they spent in structured PA, (e.g., (A13) reported that he is doing more football and swimming"). While some of the students increased, the time they spent simultaneously in structured activities and after school personal activities (e.g., K16 stated "... Yes, I exercise three times a week in the club and almost daily alone". Interestingly, three of the students (K4, K6, and A15) reported that they were exercising with their parents or siblings (e.g., K6 stated, "... I started walking with my dad and doing better curl-ups and dorsal raise". Finally, only two students (K1 and K20) reported that the program did not encourage them to participate more often in PA.

Discussion

The purpose of the present study was to explore the perceptions of fifth and sixth graders of the aim of the program "Exercise After School", and its effectiveness, its aspects that they found more or less attractive, and the acquired knowledge. Based on the students' reports it can be said that students formed a wide range of perceptions regarding different aspects of the program they perceived as the program's priorities.

Students' reports revealed a variety of goals that the program prioritizes. Most of them stated that the aim of the program was to participate more often in PA with no special equipment and to learn how to perform the exercise properly. Therefore, it can be said that the majority of students capture the key point of the program. However, some students appeared to prioritize different goals of the program (e.g. students' awareness of PA health benefits). A rational explanation for the variety of students' perceptions could be their different needs and priorities. Researchers from other disciplines have argued that students have their own mentality (Nunan, 1995) and that even if the teacher explains to the students the purpose of the teaching unit or the course they often either misunderstand the purpose of it or they not even know why they participated in specific course activities (Block, 1994). However, taking into consideration that most of them reported that they had increased the time involved in PA it can be argued that they were aware of the main purpose of the program even if they did not

mention it.

Interestingly the majority of students, with one exception, reported that they acquired new knowledge through their participation in the program. However, it was found that they reported having learned a variety of subject matter. More specifically, a significant number of students stated that they learned that systematic participation in PA is beneficial to their health. They also reported that they learned how to design a proper exercise program. The rest of the students stated that they had learned about different aspects of the program. Therefore, it can be assumed that, depending on his or her abilities and needs, each of the participants emphasized a different learning aspect of the program. The above confirms that each of them has formed a different learning profile (Shen & Chen, 2007). In addition, each student is a unique personality who learns in different ways and has different needs and ambitions (Gallahue & Donnelly, 2007; Mosston & Ashworth, 2008; Sanchez et al., 2012). Therefore, teachers should take into account the individual characteristics of each student during the educational process in order to lead them to effective learning (Alexander & Jetton, 2000). Researchers taking into consideration the aforementioned suggestions and the fact that the curriculum developers should design programs should aim at the development of students' motor, cognitive, emotional and social skills designed a program that includes a variety of skills, knowledge, and strategies in order to cope with students' diversity.

Additionally, students reported that they were satisfied and enjoyed different aspects of the program. For example, some students reported that they liked new and differentiated difficulty PA (e.g., sit-ups, dorsal raise, and push-ups). Similarly, some of them were impressed by the improvement in their skills and physical conditioning. This finding is aligned with the findings from previous studies which showed that when PE teachers help students to adopt activities commensurate with their individual abilities then they may promote students' autonomy (Byra et al., 2014) which urge them to feel success and satisfaction (Fairclough, 2003) and eventually help them to develop positive attitudes towards this activity (Hagger & Chatzisarantis, 2007).

Furthermore, a significant number of students supported that they liked that the program urged them to participate along with their parents in after school PA. In particular, six students reported that their decision to participate along with their parents in PA help them to increase their level of PA and their satisfaction as well. This finding confirms that the involvement of significant others (Duncan et al., 2005; Adkins et al., 2004) in PA positively influences children's participation in PA. In addition, parental support, combined with children's perceived competence (Sharma et al., 2008), are likely to increase their participation and satisfaction with PA (Beets et al., 2010; Hodge et al., 2017).

Interestingly, four students reported that although in general, they liked the program; they did not like some of the program activities. However, they not only reported that they regularly participated in the program but also increased the time they involved in PA. The main reason for this as they reported was the perceived benefits of PA to their health. Arguably, it can be assumed that students' perceived benefits of engaging in PA are related to their willingness to participate in PA (Ar-yuwat et al., 2013; Robbins et al., 2010).

One of the main objectives of the program was to motivate students to participate in after school PA. Interestingly, the majority of students, with two exceptions, stated that the program urges them to increase the time they spent in PA. Therefore, it can be argued that the program was effective and helped specific students to be physically active. It can also be said, based on the students' reports that different aspects of the program contributed to the increase of their participation in PA. More specifically, students reported that they were practising after school with activities differentiated in terms of difficulty that they found enjoyable and learned through their participation in the program. The above are aligned with findings of previous research (Allender et al., 2006; Robbins et al., 2010; Sallis, 1992) according to which children's satisfaction is related to their intention to engage in PA. It can also be concluded that if students are introduced to alternative activities that do not require special equipment then they are more likely to adopt them. This kind of activities may eliminate factors that inhibit students' participation in PA, such as lack of sports infrastructure, difficulty in accessing them (Stucky-Ropp & DiLorenzo, 1993) and lack of transportation to sports facilities (Lovell et al., 2010; Moore, 2010; Sallis, et al., 1992).

In conclusion, the findings of the present study suggested that the overwhelming majority of students increased their time in PA. In addition, students, based on their individual characteristics and needs, found interesting and adopted different aspects of the program. Therefore, it can be said that the "After School Exercise" program has those characteristics that may urge students to participate in after school PA.

Limitations

Even though researchers attempted to select a representative number of students, the results cannot be generalized. Finally, students' increased participation in PA based on their reports and not in objective measurements (e.g., accelerometers). Future studies with a larger and more representative number of participants as well as the use of objective assessment of students in PA will need to confirm the findings of this study.

References

- Adkins, S., Sherwood, N. E., Story, M., & Davis, M. (2004). Physical activity among African-American girls: the role of parents and the home environment. *Obesity Research, 12*(S9), 38-45.
- Alexander, P. A., & Jetton, T. L. (2000). Learning from text: A multidimensional and developmental perspective. In M. L. Kamil, P. B. Mosenthal, P. D. Pearson, & R. Barr (Eds.), *Handbook of reading research: Vol. III* (pp. 285-310). Lawrence Erlbaum Associates.
- Allender, S., Cowburn, G., & Foster, C. (2006). Understanding participation in sport and physical activity among children and adults: a review of qualitative studies. *Health Education Research, 21*(6), 826-835.
- Araújo-Soares, V., McIntyre, T., MacLennan, G., & Sniehotta, F. F. (2009). Development and exploratory cluster-randomised opportunistic trial of a theory-based intervention to enhance physical activity among adolescents. *Psychology and Health, 24*(7), 805-822.
- Ar-yuwat, S., Clark, M. J., Hunter, A., & James, K. S. (2013). Determinants of physical activity in primary school students using the health belief model. *Journal of Multidisciplinary Healthcare, 6*, 119-126.
- Barbeau, P., Johnson, M. H., Howe, C. A., Allison, J., Davis, C. L., Gutin, B., & Lemmon, C. R. (2007). Ten months of exercise improves general and visceral adiposity, bone, and fitness in black girls. *Obesity, 15*(8), 2077-2085.
- Bauman, A. E., Reis, R. S., Sallis, J. F., Wells, J. C., Loos, R. J., Martin, B. W., & Lancet Physical Activity Series Working Group. (2012). Correlates of physical activity: why are some people physically active and others not? *The Lancet, 380*(9838), 258-271.
- Beets, M. W., Cardinal, B. J., & Alderman, B. L. (2010). Parental social support and the physical activity-related behaviors of youth: a review. *Health Education & Behavior, 37*(5), 621-644.
- Block, D. (1994). A day in the life of an English class: Teacher and learner perceptions of task purpose in conflict. *System, 22*, 153-175.
- Byra, M., Sanchez, B., & Wallhead, T. (2014). Behaviors of students and teachers in the command, practice, and inclusion styles of teaching: Instruction, feedback, and activity level. *European Physical Education Review, 20*(1), 3-19.
- Dobbins, M., Husson, H., DeCorby, K., & LaRocca, R. L. (2013). School-based physical activity programs for promoting physical activity and fitness in children and adolescents aged 6 to 18. *Cochrane Database of Systematic Reviews, 2*, CD007651, doi: 10.1002/14651858.CD007651.pub2.
- Donnelly, J. E., Greene, J. L., Gibson, C. A., Smith, B. K., Washburn, R. A., Sullivan, D. K., ... & Jacobsen, D. J. (2009). 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, 49*(4), 336-341.
- Dishman, R. K., Motl, R. W., Saunders, R., Felton, G., Ward, D. S., Dowda, M., & Pate, R. R. (2005). Enjoyment mediates effects of a school-based physical-activity intervention. *Medicine & Science in Sports & Exercise, 37*(3), 478-487.
- Duncan, S. C., Duncan, T. E., & Strycker, L. A. (2005). Sources and types of social support in youth physical activity. *Health psychology, 24*(1), 3-10.
- Fairclough, S. (2003). Physical activity, perceived competence and enjoyment during high school physical education. *European Journal of Physical Education, 8*(1), 5-18.
- Gallahue, D. L., & Donnelly, F. C. (2007). *Developmental physical education for all children*. Human Kinetics.
- Hagger, M. S., & Chatzisarantis, N. L. D. (2007). *Intrinsic motivation and self-determination in exercises and sport*. Champaign, IL: Human Kinetics.
- Hallal, P., Victoria, C., Azevedo, M., & Wells, J. (2006). Adolescent physical activity and health: A systematic review. *Sports Medicine, 36*(12), 1019-1030.

- Hodge, C. J., Kanters, M. A., Forneris, T., Bocarro, J. N., & Sayre-McCord, R. (2017). A family thing: positive youth development outcomes of a sport-based life skills program. *Journal of Park & Recreation Administration*, 35(1) 34-50.
- Janssen, I., & LeBlanc, A. G. (2010). Systematic review of the health benefits of physical activity and fitness in school-aged children and youth. *International Journal of Behavioral Nutrition and Physical Activity*, 7(1), 40.
- Kriemler, S., Zahner, L., Schindler, C., Meyer, U., Hartmann, T., Hebestreit, H., Brunner La Rocca H. P., van Mechelen, W., & Puder, J. J. (2010). Effect of school based physical activity programme (KISS) on fitness and adiposity in primary schoolchildren: cluster randomised controlled trial. *British Medical Journal*, 340, c785, 1-8.
- Lovell, G., El Ansari, W., & Parker, J. K. (2010). Perceived exercise benefits and barriers of non-exercising female university students in the United Kingdom. *International Journal of Environmental Research and Public Health*, 7(3), 784-798.
- Luepker, R. V., Perry, C. L., McKinlay, S. M., Nader, P. R., Parcel, G. S., Stone, E. J., Webber, L. S., & Elder, J. P., Feldman H. A., Johnson, C. C., Kelder, S. H. & Wu M. (1996). Outcomes of a field trial to improve children's dietary patterns and physical activity: The Child and Adolescent Trial for Cardiovascular Health (CATCH). *Journal of the American Medical Association*, 275(10), 768-776.
- LeCompte, M. D., Preissle, J., & Tesch, R. (1993). *Ethnography and qualitative design in educational research*. New York, NY: Academic Press.
- McManus, A. M., Masters, R. S., Laukkanen, R. M., Clare, C. W., Sit, C. H., & Ling, F. C. (2008). Using heart-rate feedback to increase physical activity in children. *Preventive Medicine*, 47(4), 402-408.
- Moore, J. B., Jilcott, S. B., Shores, K. A., Evenson, K. R., Brownson, R. C., & Novick, L. F. (2010). A qualitative examination of perceived barriers and facilitators of physical activity for urban and rural youth. *Health Education Research*, 25(2), 355-367.
- Mosston, M., & Ashworth, S. (2008). *Teaching physical education* (1st online ed.). Spectrum Institute for Teaching and Learning.
- Nunan, D. (1995). Closing the gap between learning and instruction. *Tesol Quarterly*, 29(1), 133-158.
- Poitras, V. J., Gray, C. E., Borghese, M. M., Carson, V., Chaput, J. P., Janssen, I., Katzmarzyk, P. T., Pate, R. R., Gorber, S. C., Kho, M. E., Sampson, M. & Tremblay, M. S. (2016). Systematic review of the relationships between objectively measured physical activity and health indicators in school-aged children and youth. *Applied Physiology, Nutrition, and Metabolism*, 41(6), 197-239.
- Robbins, L. B., Talley, H. C., Wu, T. Y., & Wilbur, J. (2010). Sixth-grade boys' perceived benefits of and barriers to physical activity and suggestions for increasing physical activity. *The Journal of School Nursing*, 26(1), 65-77.
- Sallis, J. F. (1992). Parental Behavior in Relation to Physical Activity and Fitness in 9-Year-Old Children. *Archives of Pediatrics & Adolescent Medicine*, 146(11), 383.
- Sallis, J. F., Alcaraz, J. E., McKenzie, T. L., Hovell, M. F., Kolody, B., & Nader, P. R. (1992). Parental behavior in relation to physical activity and fitness in 9-year-old children. *American Journal of Diseases of Children*, 146(11), 1383-1388.
- Sallis, J. F., Patterson, T. L., Buono, M. J., & Nader, P. R. (1988). Relation of cardiovascular fitness and physical activity to cardiovascular disease risk factors in children and adults. *American Journal of Epidemiology*, 127(5), 933-941.
- Sallis, J. F., Prochaska, J. J., & Taylor, W. C. (2000). A review of correlates of physical activity of children and adolescents. *Medicine and Science in Sports and Exercise*, 32(5), 963-975.
- Sanchez, E., Byra, M., and Wallhead, T. (2012) Students' perceptions of the command, practice, and inclusion styles of teaching. *Physical Education and Sport Pedagogy* 17, 317-330.
- Salmon, J., Ball, K., Hume, C., Booth, M., & Crawford, D. (2008). Outcomes of a group-randomized trial to prevent excess weight gain, reduce screen behaviours and promote physical activity in 10-year-old children: switch-play. *International Journal of Obesity*, 32(4), 601-612.
- Sharma, S. V., Hoelscher, D. M., Kelder, S. H., Day, R. S., & Hergenroeder, A. (2008). Psychosocial, environmental and behavioral factors associated with bone health in middle-school girls. *Health Education Research*, 24, 173-184

- Shen, B., & Chen, A. (2007). An examination of learning profiles in physical education. *Journal of Teaching in Physical Education*, 26(2), 145-160.
- Simon, C., Wagner, A., DiVita, C., Rauscher, E., Klein-Platat, C., Arveiler, D., Schweitzer, B., & Tribby, E. (2004). Intervention centred on adolescents' physical activity and sedentary behaviour (ICAPS): concept and 6-month results. *International Journal of Obesity*, 28(S3), S96-S103.
- Stone, E. J., Norman, J. E., Davis, S. M., Stewart, D., Clay, T. E., Caballero, B., Lohman, T. G. & Murray, D. M. (2003). Design, implementation, and quality control in the Pathways American-Indian multicenter trial. *Preventive Medicine*, 37, 13-23.
- Stucky-Ropp, R. C., & DiLorenzo, T. M. (1993). Determinants of exercise in children. *Preventive Medicine*, 22(6), 880-889.
- Syrmpas, I. Kolovelonis, A., & Goudas, M. (2020). After school exercise: a program to promote students' physical activity. I. Theoretical background and program development. *Inquiries in Sport and Physical Activity*. 18(2), 78 – 86.
- United States, Centers for Disease Control and Prevention (U.S.), & National Center for Chronic Disease Prevention and Health Promotion (U.S.). (2010). *How tobacco smoke causes disease: The biology and behavioral basis for smoking-attributable disease: A report of the Surgeon General*. Rockville, MD: U.S. Dept. of Health and Human Services, Public Health Service, Office of the Surgeon General. US Government Printing Office.
- Webber, L. S., Catellier, D. J., Lytle, L. A., Murray, D. M., Pratt, C. A., Young, D. R., Elder, J. P., Lohman, T. G., Stevens, J., Jobe, J. B., & Pate, R. R. (2008). Promoting physical activity in middle school girls: Trial of Activity for Adolescent Girls. *American Journal of Preventive Medicine*, 34(3), 173-184.
- World Health Organization (2010). *Global recommendations on physical activity for health*. World Health Organization.
- World Health Organization (2014). *Global status report on noncommunicable diseases*. World Health Organization.
- World Health Organization (2018). *Europe Physical Activity in the Health Sector Report*. Retrieved from: http://www.euro.who.int/__data/assets/pdf_file/0008/382337/fs-health-eng.pdf?ua=1 (accessed 11 Nov 2018).
- Zakarian, J. M., Hovell, M. F., Hofstetter, C. R., Sallis, J. F., & Keating, K. J. (1994). Correlates of vigorous exercise in a predominantly low SES and minority high school population. *Preventive Medicine*, 23(3), 314-321.
- Zimmerman, B. J. (1998). Developing self-fulfilling cycles of academic regulation: An analysis of exemplary instructional models. In D. H. Schunk & B. J. Zimmerman (Eds.), *Self-regulated learning. From teaching to self-reflective practice* (pp. 1-20). Guilford.

Υπεύθυνος έκδοσης: Ελληνική Ακαδημία Φυσικής Αγωγής. **Υπεύθυνη συντακτικής επιτροπής:** Όλγα Κούλη. **Επιμελητές έκδοσης:** Θεόδωρος Γιάννης, Βάσω Ζήση, Βασίλης Γεροδήμος, Αντώνης Χατζηγεωργιάδης, Θανάσης Τσιόκανος, Αθανάσιος Τζιμαμούρτας, Γιώργος Τζέτζης, Θωμάς Κουρτέσης, Ευάγγελος Αλμπανιδής, Κων/να Δίπλα. **Διαχείριση-επιμέλεια-στοιχειοθεσία:** Ευάγγελος Γαλάνης, Χαράλαμπος Κρομμύδας, Βασιλης Μπουγλας.

Editor -in- Chief: Hellenic Academy of Physical Education. **Head of the editorial board:** Olga Kouli. **Editorial Board:** Theodorakis Giannis, Vaso Zissi, Vasilis Gerodimos, Antonis Chatzigeorgiadis, Thanassis Tsiokanos, Athanasios Jamurtas, Giorgos Tzetzis, Thomas Kourtessis, Evangelos Albanidis, Konstantina Dipla. **Editorial management:** Evangelos Galanis, Haralampos Krommidas, Vasilis Bouglas.