

Play and Children's Kinesiological Activities: A Precondition for Making Daily Exercise a Habit

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Abstract

Research was conducted among 628 primary school pupils from the first to the fourth grade (7-10 years of age) in order to determine preferences for play and kinesiological leisure activities among early school-age children, i.e. children at the age subsequent to preschool age where play is a primary means of impact on a person's overall anthropological status. The obtained results point to a possible conclusion that the tendency of preference for play, kinesiological activities and both play and kinesiological activities is partly associated with children's chronological age, although this regularity is somewhat disrupted. Additionally, belonging to a class or a group significantly affects the formation of common preferences. If these results are considered as a consequence of the attitudes towards leisure time formed already at preschool age, and we can agree that the impacts in this period are fairly varied, in addition to a relatively small percentage of children who are included in the organized educational system, it can be concluded that primary education is the time when grouping of attitudes takes place. On the other hand, this does not diminish the influences that take place at preschool age. The present study did not confirm gender differences in preferences for leisure time activities, although some previous experiences did indicate this possibility. Apparently, the differences resulted from belonging to certain groups that have had a more significant effect on determining these preferences.

The responsibility of preschool institutions and schools in cooperation with parents primarily refers to preparing children for life in the society and civilization as it is, i.e. society characterized by a significantly reduced need for movement. Forming the habit of daily exercise – movement can significantly impact the reduction of negative effect of sedentary lifestyle, and due to a general feeling of well-being, play is the most appropriate means to achieve this goal in the youngest age group.

Key words: children; leisure time; play; preschool education; primary education.

Introduction

Play is “the oldest form of physical education and the most autonomous of human activities, spontaneous and freely selected; it is characterized by a diversity of movements and is accompanied by a strong sense of pleasure and satisfaction”¹ (Findak & Prskalo, 2004). On the other hand, the term ‘kinesiological activity’ implies an entire set of activities which are divided into *unconventional* and *conventional* activities. The primary function of unconventional activities is to develop qualities and abilities, while conventional activities are mainly used in the development of motor skills (Findak & Prskalo, 2004). This overview particularly aims to show the significance of the ‘motor play’ where the issue of play is dealt with through movement based on the natural forms of movement. This significance is emphasized particularly because of the conditions prevailing in urban areas and determining people’s way of life, thus becoming their inseparable part, both with respect to content as well as the type of children’s play (Prskalo, 1991). Play is the very thing that needs to be understood and accepted as a possible activity that will prepare a child for life in the contemporary society because it is the contemporary society that places before the contemporary man, and even more so of the man of the future, new unprecedented challenges among which the lack of movement is considered the most alarming. “Recruitment of all the forces of society and civilization in the narrow and civilization in the broad sense is an effective response, and should be primarily directed towards childhood – the period of the greatest possibilities. Thus recruiting educational systems is not a dilemma as to *whether* we should, but rather *how* we should respond to the overall challenges of the contemporary society, considering positive, and even more so, negative implications. This is the only way civilization may oppose the anti-civilization while culture opposes the increasingly more aggressive subculture” (Prskalo, 2010). Children generally have positive attitudes towards play, and experiences have shown that in most cases the reason children relate positively to movement activities in the form of play are not the “higher goals” but the play itself (Prskalo, 2010). It is reasonable to conclude that in every child’s life, already from an early age, play becomes a precondition for making play, especially motor play and kinesiological activities, a permanent habit that each person will engage in throughout their lives. Play and kinesiological activity becomes an integral part of children’s leisure time immediately after the preschool age or at early school age. The reason for linking these two seemingly different contents may be found in the fact that it is almost impossible to isolate the motor component from the concept of play, i.e. play is abundant in first-rate and irreplaceable kinesiological unconventional content, that is primary and modified biotic motor knowledge.

Aim

The aim of this research was to investigate preference for play and kinesiological activities during leisure time among early school-age children, i.e. at an age

¹ The quotes in this article are translations of the Croatian original made for the purpose of this paper, unless otherwise indicated.

immediately following the preschool age where play is a primary means of overall impact on a person's anthropological status. In addition, this article aimed to provide theoretical foundations for the importance of play, especially motor play in creating the habit of daily exercise that will follow children in their subsequent development and become a lifelong habit.

Hypotheses

- H01 Preferences for play in the first four grades of primary school remain unchanged.
- H02 Preferences for kinesiological activities in the first four grades of primary school remain unchanged.
- H03 Preferences for kinesiological activities or play in the first four grades of primary school remain unchanged.
- H04 Preferences for play in the first four grades of primary school are not gender related.
- H05 Preferences for kinesiological activities in the first four grades of primary school are not gender related.
- H06 Preferences for kinesiological activity or play in the first four grades of primary school are not gender related.

Research Methods

The research was conducted on a sample of 628 male and female pupils from the first to the fourth grade (ages 7-10)² in two primary schools in Zagreb, Davorin Trstenjak and Ivan Goran Kovačić, in the period between 2007 and 2012. Table 1 shows the structure of the research participants. A guided interview asking the respondents to *list their favourite leisure time activities starting from the most favourite* elicited responses that indicated play in general, kinesiological activities, or both. The respondents who did not answer the question were not included in the statistical analysis that consisted of calculating the frequency of data and t- test which was used to confirm the difference in the percentages.

Table 1. Structure of the sample by age (grade) and gender (N-number and % percentage) and t-test results showing the significance of differences in the percentages of subsamples in relation to the total sample (p-significance of the difference)

Grade	Boys	Girls
1 st	72	84
2 nd	78	86
3 rd	74	93
4 th	73	68
Total	297	331

² Children who reach the official school starting age of six years before the 1 of April may be admitted to the first grade. A child who has not reached the official starting age of six years before the 1 of April may be admitted to the first grade of primary education at the request of parents or guardians and if approved by the official county or the City of Zagreb state administration office responsible for primary education. Primary Education Act (NN 69/03).

Results and Discussion

Age Related Preference for Play and Kinesiological Activities

Figures 1 and 2 show the results obtained from the research, while Tables 2 and 3 give t-test values and the significance of differences in the percentages of the preference for play and kinesiological activities in the participants' leisure time.

It is evident from Figures 1 and 2 that the tendency of preference for play, kinesiological activities and both play and kinesiological activities is related to the respondents' chronological age although this regularity is somewhat compromised and indicates the impact of belonging to a class and probably joint preferences. Past experiences confirm these results, so the obtained data on preferences for kinesiological leisure activities, as well as participation in extracurricular activities, demonstrated a linear growth until the third grade. These data have been explained by the maturity of children in accepting this way of spending leisure time (Prskalo, 2007). If these data are considered a result of the attitude formation toward leisure time already at preschool age, and the influences in this period are varied, in addition to the fact that at preschool age only a small percentage of children is involved in organized educational system, it is evident that children's attitudes are grouped during primary education period. Young children's leisure time is a social phenomenon that requires a professional approach both within educational institutions and in all other areas of social life and work. The nature and scope of leisure time activities are becoming important variables in investigating the effectiveness of education in general, and particularly in the school system (Leburić & Relja, 1999).

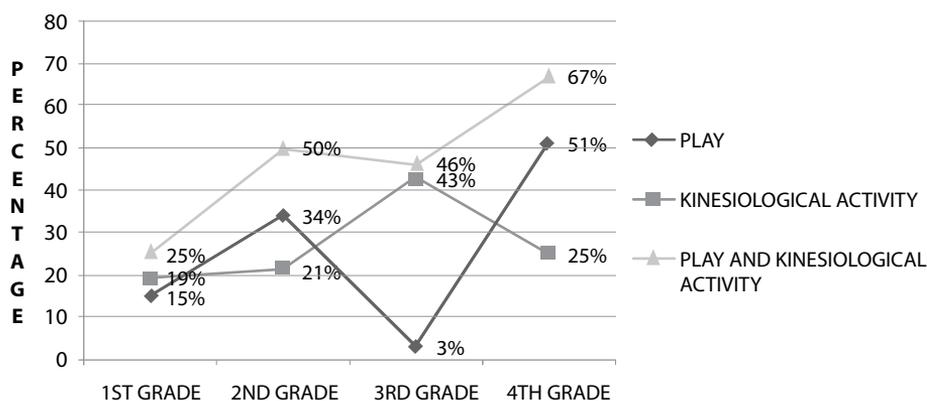


Figure 1. Percentages of preference for play, kinesiological activities and both play and kinesiological leisure time activities among early school-age children

Table 2. The level of significance of percentages in the preference for play, kinesiological activities and both play and kinesiological activities confirmed by t-test for the age defined subsample of early school-age children

PLAY	1 st	2 nd	3 rd	KINESIOLOGICAL ACTIVITY	1 st	2 nd	3 rd	PLAY AND KINESIOLOGICAL ACTIVITY	1 st	2 nd	3 rd
1 st				1 st				1 st			
2 nd	.02			2 nd	.79			2 nd	.01		
3 rd	.02	.00		3 rd	.01	.01		3 rd	.03	.65	
4 th	.00	.04	.00	4 th	.44	.57	.03	4 th	.00	.04	.01

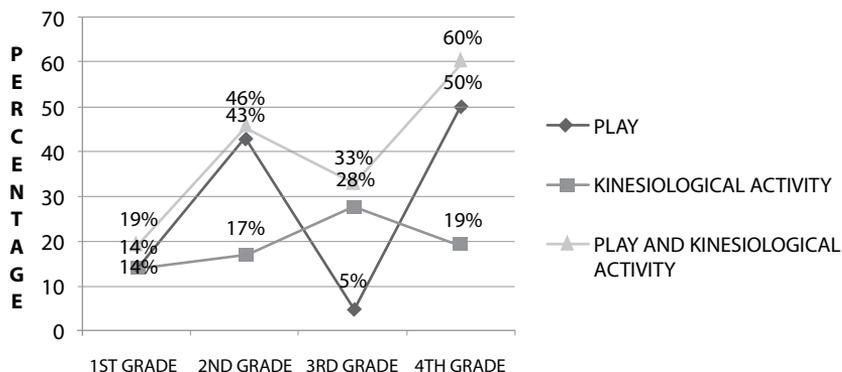


Figure 2. Percentage of preference for play, kinesiological activities and both play and kinesiological leisure time activities among early school-age girls

Table 3. The level of significance of percentages in the preference for play, kinesiological activities and both play and kinesiological activities confirmed by t-test for the age defined subsample of early school-age girls

PLAY	1 st	2 nd	3 rd	KINESIOLOGICAL ACTIVITY	1 st	2 nd	3 rd	PLAY AND KINESIOLOGICAL ACTIVITY	1 st	2 nd	3 rd
1 st				1 st				1 st			
2 nd	.00			2 nd	.63			2 nd	.00		
3 rd	.07	.00		3 rd	.05	.09		3 rd	.07	.09	
4 th	.00	.39	.00	4 th	.46	.75	.20	4 th	.00	.09	.00

Interests as a separate problem and a phenomenon directly related to how the young spend their leisure time have, in the study by Ilišin (2002), been understood as a form of terminal values characterized by the preoccupation with favourite activities (Pantić, 1980). Principal interests are formed early, they are long-lived and are among the most stable of human dispositions (Ilišin, 2002). The results obtained in this study allow the rejection of H01 when it comes to boys, and it can be concluded that the preferences for play in the first four grades of primary school do change with age. Unlike boys, H01 can be accepted for the first and third grade girls, as well as for the second and fourth grade girls. H02 (*Preferences for kinesiological activities in the first four grades of primary school remain unchanged.*) is partially rejected because the difference in preferences for kinesiological activities have been proven for specific age groups among boys, whereas for girls H02 is accepted in full. It was also hypothesized that preferences

for kinesiological activities or play in the first four grades of primary school would remain unchanged (H03), and this hypothesis is accepted partially as in most cases age proved to be a significant predictor of the change in this attitude.

Gender Related Preference for Play and Kinesiological Activities

Percentages of gender related preferences for play, kinesiological activities and both play and kinesiological activities are shown in Figures 3, 4 and 5, and the level of significance of these percentages is given in Table 4. The data presented in Figure 3 confirmed H04 (*Preferences for play in the first four grades of primary school are not gender related*), H05 (*Preferences for kinesiological activities in the first four grades of primary school are not gender related*) and H06 (*Preferences for kinesiological activity or play in the first four grades of primary school are not gender related*). The quantitative confirmation of these indicators is given in Table 4. The results presented in the table also indicate that there are no significant gender related differences; there are apparently greater differences within groups formed in the convenience sample. However, some studies emphasized the existence of gender dimorphism in leisure time so, for instance, girls spend more time pursuing their hobbies or reading, while boys' leisure time more often involves doing sports or different games (McHale et al., 2001). Boys spend more time watching television but also engage in more physical exercise than girls. Girls spend most of their time in sedentary activities and such behaviour is consequently related to overweight (Te Velde et al., 2007).

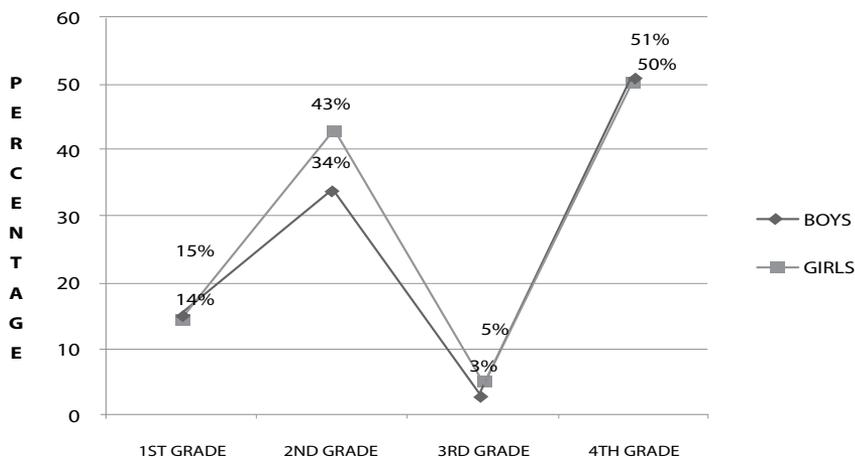


Figure 3. Percentages of preference for play in leisure time among early school-age boys and girls in the age and gender defined subsamples

It is clear that children can be influenced by the selection of leisure time activities, hence it should be insisted upon already in preschool. Namely, at such an early age it is the attitudes of parents, preschool teachers and school teachers that will have the greatest impact on children's attitudes towards a particular activity. Results obtained for primary education boys and girls indicate former influence and actual response

to this influence. Unfortunately, in our country, the attention given to leisure time as a field of study by the pedagogical theory is insufficient and untimely. As usual, everything revolves around school while extracurricular and out-of-school activities have, only to a certain extent, influenced the culture of leisure time both in theoretical and practical terms (Previšić, 2000). Impact of preschool institutions also needs to be emphasized because it is obvious that belonging to a certain group can determine children's preferences during their formal education. This fact should be considered and used to help children opt for a useful way of spending leisure time from the earliest age. In addition, this needs to be the primary educational task in the field of physical and health education both during preschool years and during primary education. This is primarily possible because of the fact that children have an intrinsically developed biotic need for movement and just require good guidance in order to meet that need.

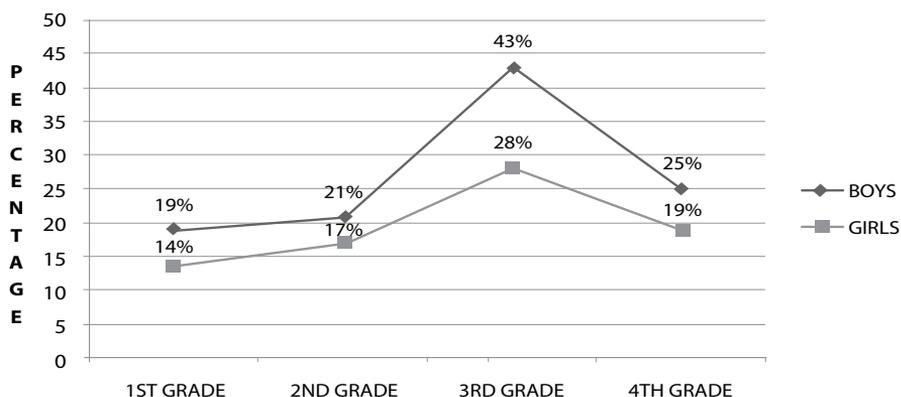


Figure 4. Percentages of preference for kinesiological activities in leisure time among early school-age boys and girls in age and gender defined subsamples

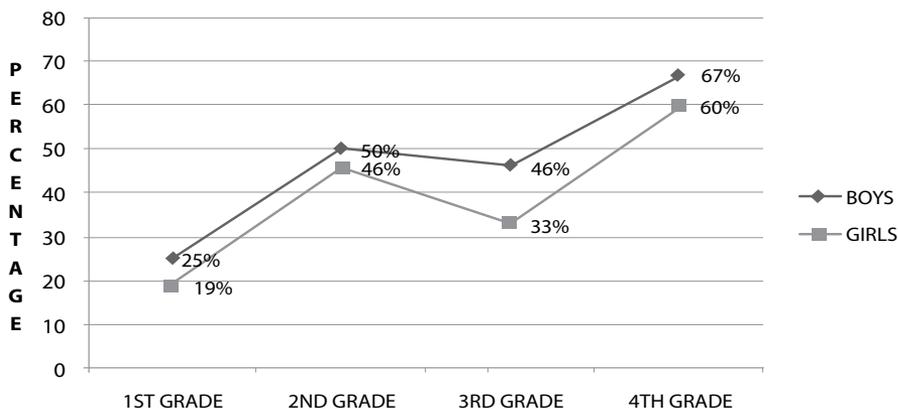


Figure 5. Percentages of preference for both play and kinesiological activities in leisure time among early school-age boys and girls in age and gender defined subsamples

Table 4. *The level of significance of percentages in the preference for play, kinesiological activities and both play and kinesiological activities confirmed by t-test for the gender defined subsample of early school-age children*

GRADE	PLAY	KINESIOLOGICAL ACTIVITY	PLAY AND KINESIOLOGICAL ACTIVITY
1 st	0.88	0.49	0.46
2 nd	0.26	0.53	0.63
3 rd	0.55	0.06	0.12
4 th	0.91	0.39	0.39

Modern Life, Play and Kinesiological Activity

Life in the contemporary society is conditioned by the overall progress that improves the quality of life and increases the production capacity of the society on the one hand, but on the other hand “takes its toll” on that quality. This is an indisputable fact but the response of the society through its institutions is a legitimately expected one. The responsibility of preschool institutions, schools and parents is to prepare children for their future life in the society as it is. This society and this civilization are threatened by an unhealthy lifestyle that includes poor diet and lack of movement. In addition, when it comes to the balanced development, high concentration of the population in the cities is greatly unfavourable and imposes bad living conditions on the majority of the population in the Republic of Croatia from the demographic, ecological and kinesiological perspective (Prskalo & Babin, 2008). Short-term health programmes do not have a significant impact on obesity, while physical activity has proved efficient in the prevention and reduction of obesity (Flynn et al., 2006). “Physical exercise and health are closely related and it is necessary to create the habit of daily physical exercise and practicing different sports already at an early age. A preschool child needs to satisfy the basic human needs for healthy mental and physical growth and development, including movement as one of the most important needs. Since children at such an early age are still not independent, the most important role in satisfying these needs is that of the family and preschool teachers” (Blažević, Božić, & Dragičević, 2012). Kinesiological activities can certainly affect a number of educational variables, and the importance of kinesiologists, as well as both school and preschool teachers is especially emphasized. Naturally, preschool teachers are the first persons who introduce children to organized physical exercise and their attitudes will have a significant impact on children’s attitudes. They are the ones who need to encourage and preserve positive attitudes, as all children when they start preschool and school already have a developed set of spontaneous movement activities (games), and a positive attitude towards movement that manifests itself through play. However, in order for preschool and school teachers’ educational activities to be meaningful, it is necessary to determine the preferences for educational values that we want to develop in children. Although the differences between values and anti-values are obvious, different attitudes can result in educational anarchy (Prskalo, 2010).

“The key issue closely related to the industrialization which has in the 20th century shifted into hyper-industrialization is the issue of leisure time. It will become even

more important with the transition of the society towards hyper-informatization which has inevitably become the central feature of the 21st century” (Prskalo, 2010). Health as a motive cannot stimulate children to play and to engage in kinesiological activities but it must be at the epicentre of every humanistic educational system, especially since research has shown that being overweight mainly results from energy imbalance between energy intake and consumption (Zahner et al., 2006). Physical exercise creates a balance in many functional mechanisms (Badrić & Barić, 2006). The extent to which the benefits of incorporating kinesiological activities in the younger age groups in the form of games, especially motor games, are going to be used will depend primarily on parents, and preschool and school teachers.

Conclusion

Based on the present study it can be concluded that the tendency of preference for play, kinesiological activities and both play and kinesiological activities is associated with children’s chronological age although this regularity is somewhat disrupted and indicates the effects of belonging to a class or a group on the formation of common preferences. If these results are seen as a consequence of attitudes towards leisure time formed already at preschool age, when the impacts are fairly varied and especially since a relatively small percentage of children are involved in organized educational system, i.e. preschool education institutions, it can be concluded that grouping of attitudes takes place during primary education. On the other hand, this does not diminish the influences that occur at preschool age. The present study did not identify gender differences in the preferences for leisure time activities, although some previous studies did indicate this possibility. Apparently, the differences were greater within groups determined by these preferences.

Life in the contemporary society is characterized by the overall progress which improves the quality of life and increases the production capacity of the society on the one hand, but on the other hand “takes its toll” on that quality. This is an indisputable fact but the response of the society through its institutions is legitimately expected. The responsibility of preschool institutions and schools in cooperation with parents primarily refers to preparing children for life in the society and civilization as it is, even if it means living in a society characterized by a significantly reduced need for movement. This can be achieved through forming the habit of daily exercise – movement, and due to a general feeling of well-being, play is the most appropriate means to achieve this goal in the youngest age group.

References

- Badrić, M., & Barić, A. (2006). Primjenjivi sadržaji kineziologije u razvoju ekoosjetljivosti i ekokomunikacije u izvannastavnim aktivnostima učenika. In B. Neljak (Ed.), *Zbornik radova 15. ljetne škole kineziologa Republike Hrvatske* (pp. 393-397). Poreč: Hrvatski kineziološki savez.
- Blažević, I., Božić, D., & Dragičević, J. (2012). Relacije između antropoloških obilježja i aktivnosti predškolskog djeteta u slobodno vrijeme. In V. Findak (Ed.), *Zbornik radova 21. ljetne škole kineziologa Republike Hrvatske* (pp. 122 – 127). Poreč: Hrvatski kineziološki savez.
- Findak, V., & Prskalo, I. (2004). *Kineziološki leksikon za učitelje*. Petrinja: Visoka učiteljska škola.
- Flynn, M.A.T., McNeil, D.A., Maloff, B., Mutsingwa, D., Wu, M., Ford, C., & Tough, S. C. (2006). Reducing obesity and related chronic disease risk in children and youth: a synthesis of evidence with “best practice“ recommendations. *Obesity Reviews*, 7 (1), 7-66.
- Ilišin, V. (2002). Interesi i slobodno vrijeme mladih. In V. Ilišin & F. Radin (Eds.), *Zbornik radova “Mladi uoči trećeg milenija”* (pp. 269-302). Zagreb: Institut za društvena istraživanja i Državni zavod za zaštitu obitelji, materinstva i mladeži.
- Leburić, A., & Relja, R. (1999). Kultura i zabava mladih u slobodnom vremenu. *Napredak*, 140(2), 175-183.
- Mc Hale, S. M., Crouter, A. C., & Tucker, C. J. (2001). Free-Time Activities in Middle Childhood: Links with Adjustment in Early Adolescence. *Child Development*, 72(6), 1764-1778.
- Pantić, D. (1980). *Priroda interesovanja*. Beograd: IIC.
- Previšić, V. (2000). Slobodno vrijeme između pedagogijske teorije i odgojne prakse. *Napredak*, 141(4), 403 – 410.
- Prskalo, I. (2007). Kineziološki sadržaji i slobodno vrijeme učenica i učenika mlađe školske dobi. *Odgojne znanosti*, 9(2), 319-331.
- Prskalo, I. (2010). Tjelesna i zdravstvena kultura – kultura življenja. *Zrno*, 21(92), 2-3.
- Prskalo, I., & Babin, J. (2008). Stanje i perspektiva razvoja u području edukacije. In B. Neljak (Ed.), *Zbornik radova 17. ljetne škole kineziologa Republike Hrvatske* (pp. 30 – 41). Poreč: Hrvatski kineziološki savez.
- Prskalo, I. (1991). Spontane kretne aktivnosti kao sadržaj nastavnih i vannastavnih aktivnosti učenica mlađeg školskog uzrasta. *Fizičko vaspitanje*, 1(1), 9-11.
- Te Velde, S.J., De Bourdeaudhuij, I., Rasmussen, M., Hagströmer, M., Klepp, K.I., & Brug, J. (2007). Patterns in sedentary and exercise behaviors and associations with overweight in 9–14-year-old boys and girls - a cross-sectional study. *BMC Public Health*, 7, 16.
- Zahner, L., Puder, J.J., Roth, R., Schmid, M., Guldemann, R., Pühse, U., Knöpfli, M., Braun-Fahrlander, C., Marti, B., & Kriemler, S. (2006). A school-based physical activity program to improve health and fitness in children aged 6–13 years (“Kinder-Sportstudie KISS“): study design of a randomized controlled trial. *BMC Public Health*, 6, 147.

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Igra i kineziološka aktivnost djeteta – preduvjet stvaranja navike svakodnevnog vježbanja

Sažetak

Istraživanje provedeno na uzorku od 628 učenica i učenika od 1. do 4. razreda (od 7– 10 godina starosti) s ciljem utvrđivanja preferencije prema igri, ali i kineziološkoj aktivnosti u slobodnom vremenu djece mlađe školske dobi, dobi koja slijedi nakon predškolske dobi u kojoj je igra osnovno sredstvo utjecaja na ukupan antropološki status osobe. Rezultati istraživanja ukazuju na mogući zaključak kako je tendencija preferencije prema igri, kineziološkoj aktivnosti i naglašeno igri i kineziološkoj aktivnosti povezana dijelom s kronološkom dobi, premda je ta pravilnost donekle narušena. Osim toga, pripadnosti nekom razredu – skupini značajno utječe na oblikovanje zajedničkih preferencija. Ako promatramo te rezultate kao posljedicu oblikovanja stava prema slobodnom vremenu još iz predškolske dobi, a možemo se složiti kako su utjecaji u tom razdoblju raznovrsni, te kako je relativno malen postotak djece uključen u organizirani odgojno-obrazovni sustav, može se zaključiti kako do grupiranja stavova dolazi upravo u primarnoj edukaciji, ne umanjujući utjecaje u predškolskoj dobi. Istraživanjem nisu utvrđene razlike u preferenciji sadržaja slobodnog vremena s obzirom na pripadnost spolu iako su neka dosadašnja iskustva na to upućivala. Očigledno su razlike uzrokovane pripadnošću određenim skupinama koje su znatnije utjecale na determiniranje te preferencije. Odgovornost predškolskih ustanova i škole u suradnji s roditeljima je prije svega u tome da pripreme dijete za život u društvu i civilizaciji kakva jest, za koju je karakteristično da postoji značajno smanjena potreba za kretanjem. Stvaranjem navike svakodnevnog vježbanja – kretanja, a igra je zahvaljujući općem osjećaju ugone najprimjerenije sredstvo za ostvarenje tog cilja u najmlađim kategorijama, može se značajno djelovati na smanjenje negativnih doprinosa sedentarnog načina života.

Ključne riječi: dijete; igra; kineziološka aktivnost; primarna edukacija; predškolski odgoj; slobodno vrijeme.