CONNECTEDNESS OF THE PARENTS’ PHYSICAL ACTIVITY AND LEISURE TIME WITH THE INVOLVEMENT OF CHILDREN IN KINESIOLOGY PROGRAMS OF INSTITUTIONAL EARLY AND PRESCHOOL EDUCATION

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Abstract
The aim of the study was to determine the link between the parents’ level of physical activity and their leisure time with the decision on the inclusion of preschool children in kindergarten kinesiology programs. The study was conducted on a sample of 112 parents of preschool children, 77 mothers and fathers whose children attend a regular kindergarten program, 35 mothers and fathers whose children attend an additional kindergarten sports program. The estimated levels of physical activity of parents were obtained using the Baecke questionnaire through which the following variables were reviewed: work index (WI1), sports index (SI2) and leisure time index (LTI3), education level (s) and income level (D). The correlation results show a significant connectedness between the variables of household income and education level with the work, sports and leisure time indices (only for fathers), and it can be concluded that people with a lower education and lower income level work in more difficult conditions and have less opportunity to become involved in sports activities during leisure time. The analysis results indicate that there are no statistically significant differences between parents whose children attend a regular program and parents whose children attend a kindergarten sports program. A statistically significant difference was found only among mothers in the variable work index. It can be said that the level of education, income, and indices of work, sports and leisure have no significant role in involving children in sports programs, but rather that different social statuses independently affect the sports activity of children.

Key words: physical activity, leisure time, parents, pre-school children, sports program

Introduction
The 21st century man should be engaged in continuing his education throughout life. An important aspect of lifelong education in a sedentary lifestyle is also the concern about the physical fitness and health. The means by which this can be accomplished is through regular engagement in various physical activities (Berčić, 2009). Physical activity thus becomes an important component of everyday life. Measuring its levels among individuals is important from the point of working towards raising the level of awareness of importance and usefulness of conducting regular physical activity in the population (Mišigoj - Duraković, 2007). Leisure time has always had significance not only for the individual, but for every healthy society. The quality and quantity of leisure time are the best indicators of the cultural reach of a modern society and the living standard. Therefore, socio-pedagogical circles tend to turn leisure time towards personal development and upgrade of the individual. Leisure time means "the space and the opportunity to interact in the processes of individualization, socialization and inculturation, self-actualization and self-realization of personality" (Previšić, 2000). Nowadays, the most important determinant of the quality of leisure time is emphasizing the improvement of the quality of life. In this context, the basis for a successful development of children depends on the family. Family members jointly participate in selected leisure time activities and thus develop mutual trust and close relations, thereby contributing to the creation of family cohesiveness. In carrying out its educational mission, content and physical education play an important, because studies have shown that physical activities of children and parents are mutually related and that when parents increase their physical activity the children become more active as well. At that age the bone-bonding and neuromuscular system of the child are being developed, so it is essential to direct the children in a proper and professional manner towards various forms of physical or sports activities that also contribute to the child's overall growth and development. The modern life of adults which is lacking in motor activity doesn't leave a negative effect merely on their health, but unfortunately also on the health of children and youth. Adults transmit their way of life to the child, so that in a family environment the child usually has no prerequisites (time and space) to meet their genuine need for movement and play. Many studies have shown that the parents’ way of life and their habits are closely connected to the children’s habits (Sothen, 2004). Therefore, the lack of motor activity in the preschool period, period that is most suitable for stimulating the development of morphological characteristics, motor and functional abilities, and acquiring healthy habits (Pejić, 2005), will not only adversely affect the development of skills and acquisition of motor knowledge, but the consequences of the lack of movement will negatively affect the child’s health status.
In addition, children’s leisure time is defined as “a great window of opportunity and if it is not sufficiently designed and managed the leisure time window can become a negative as well as a positive factor of development” (Mlinarević et al., 2012). Involving children in sports programs and the level of their activity depends on many factors, such as current prerequisites and equipment of kindergartens within which sports programs are implemented, personnel who conduct sports programs, as well as the parents’ attitudes and preferences towards sports activities for children and their usual level of physical activity. According to research results of leisure time in Europe and America (Flammer and Schaffner, 2003) participation in sports activities among children is highly expressed. From this perspective, kindergartens are particularly important as autonomous educational environments as well as other forms of out-of-family education that could offer a huge range of sports activities and opportunities to eliminate the negative consequences of a modern lifestyle for the health of preschool children. Studies conducted in recent years in the Republic of Croatia indicate a positive impact of a kinesiology program on the integral development of early and preschool aged children (Sindik, 2009, Špelić 2002, Videmšek, 2003). Early childhood is an extremely important and sensitive developmental period in which the child acquires a diverse and rich experience. Bala (2007) argues that children get to know themselves and the world around them through movement and they communicate with the environment which positively affects the development as a whole. The biological need for movement and dance is strongly emphasized for preschool children and many parents ignore these needs, thus depriving children of sensorimotor stimulation which negatively influences the children's development. Spurrier et al. (2008) studied the correlation between the family environment with physical activity of preschool children and their eating habits. The authors directly observed and interviewed parents so as to learn about their physical and eating habits. Children's physical activity and their eating habits were monitored through regular parental reporting by means of questionnaires. They found that children who have access to playground and equipment play outdoors more. Children who have a Playstation and “badly” set parental rules regarding time spent watching TV spend more time at home. Higher intake of healthy fruits and vegetables was associated with a reduced consumption of fruit juices, snacks and vice versa. The authors concluded that physical activity in the home environment and parental behavior are directly connected with physical activity of preschool children and it affects their nutritional and “sitting” habits. They emphasized that this situation might change if the parents were more concerned about the activities of children and would thus help in the prevention of childhood obesity.

Access to leisure time, whose purpose is the overall harmonious development, is a characteristic of the modern notion of leisure time and which implies a very active engagement. We should strive to ensure that children acquire the habit of active use of leisure time in order to establish a realistic relationship between leisure time, which they use to relax and have fun, and leisure time which enables personal development. Quality leisure time of children implies the possibility of integral development and at the same time acts as prevention of disorders. The aim of this study was to determine the link between the level of physical activity and the parents’ leisure time with the decision on the inclusion of preschool children in kindergarten kinesiology programs. In accordance with the aim, the tasks of this research are to determine whether there is a correlation/difference between the level of education and the parents’ income (mothers and fathers separately) with the work, sports and leisure time indices, and to determine whether there are statistically significant differences in the indices of work, sports and leisure time between parents (mothers and fathers separately) whose children attend a regular program and parents whose children attend a kindergarten sports program. Establishing these connections is important both from the standpoint of the science of kinesiology as well as for practical applications, primarily due to the increase in knowledge about the status of families of early and preschool aged children and the correlation with the educational process. Linking the connectedness of the level of physical activity and the involvement of children in kinesiology programs would enable the planning of specific measures for a heightened concern about the organization of kinesiology programs that will be available even to those children whose parents did not include their child in a kinesiology program because of the aforementioned demographic characteristics.

Research methods

The sample

The study was conducted on a sample of 112 parents of preschool children, 77 mothers and fathers whose children attend a regular kindergarten program, 35 mothers and fathers whose children attend an additional kindergarten sports program. The kinesiology program is carried out according to the author Pejičić, 2003.

The sample of variables

The estimated personal level of the parents’ physical activity were obtained using the Baecke questionnaire (Baecke et al., 1982) whereby the following variables were verified: work index (WI1) sports index (SI2) and leisure time index (LT13), level of education (s), and income (D). The Baecke questionnaire was used to analyze the most common forms of minor body activities and their components. The questionnaire contains 16 questions that test the physical intensity during work, the physical intensity during sports activities
and the physical intensity during leisure periods. This latter can be expressed in METs i.e. in kcal/min by using targeted questions in this questionnaire regarding the duration, intensity and frequency of activities. Eight questions relate to the verification of physical load during work, four questions refer to the verification of the physical load during sports activities and four questions relate to the verification of the physical load during leisure time. Based on data retrieved from the questionnaire, three indices were calculated: index indicators of the level of activities related to work (WORK INDEX - WI1), index indicators of the sports and recreational activities level (SPORT INDEX - SI2) and index indicators of the level of physical activity during leisure time (LEISURE TIME INDEX - LTI3). The lowest index value was 1.0, which marked the lowest level of physical activity, while the highest index value was 5.0, indicating the highest level of physical activity. The index of total activity was calculated as the average value of these three indices (Baekke, 1982). The level of parents’ education was divided into five categories from elementary school to the highest academic degree, and the family income was also divided into five categories, from the lowest (330 EURA) to the highest (2000 EURA).

Methods of data collection

Data for this study were collected in the school year 2009 /2010 by having parents, whose children attend a kindergarten in the Primorsko-goranska County, fill out of the questionnaire. Whether their children are enrolled in either the regular program or take part in a kindergarten sports program was taken into consideration. They filled out the questionnaire for the assessment of the level of physical activity during an organized meeting in the kindergarten. The participants were previously familiarized with the measurement protocol, purpose and measurement aims. After they were given the questionnaires, each question was explained in detail. During the completion of the questionnaires the participants could ask for help in case of possible obscurities. Since the survey was anonymous, encryptions were used for the questionnaires.

Methods of data processing

Basic descriptive parameters (mean and standard deviation) were calculated for each variable. Pearson's correlation coefficient was used to determine the relation between the degree of parental education and income level with indices of work, sports and leisure. The t-test for independent samples was used to determine the differences between the parents whose children attend the regular program and parents whose children attend an additional sports program. Normality of data distribution was tested by the Kolmogorov - Smirnov test.

Results and discussion

Research results are presented in the order of data processing, in accordance with the aims of the research.

The correlation results show a significant connection between the variables of household income and education level with indices of work, sports and leisure (only for fathers). While the correlation of household income and education level with the sports and leisure indices are positive, the correlation of income and education level with work index is negative. Apparently, the level of education determines the amount of income and provides a higher quality of leisure time and participation in sports activities with facilitated work conditions. Therefore people with a lower education level and a lower income work in more difficult conditions and have less opportunity to get involved in sports activities during leisure time. This can be explained by the fact that they work more and physically more strenuous jobs and earn less. Mahoney et al. (2005) point out that little research has been done to examine whether ethnicity, socioeconomic status and gender have an impact on the participation and development in an activity. However, it is pointed out that (Marsh & Kleitman, 2002) individuals whose families have a low income level will have more benefits from participating in organized leisure activities than children from families with a high income level.

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Differences between mothers and fathers whose children attend the regular program and those whose children who do not attend a sports program are shown in tables 3 and 4.

Table 3 Differences between mothers whose children attend the regular program and mothers whose children attend a sports program in the observed variables (S = level of education; D = income; WI1 = work index, SI2 = sports index; LT13 = leisure index, Mean RP arithmetic mean regular program; SP0 = arithmetic mean sports program, SDRP = standard deviation regular program; SDSP = standard deviation sports program; t-value = t-test; df = degrees of freedom; p = level of significance; *p 0.05).

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<tr>
<th></th>
<th>Mean RP</th>
<th>S</th>
<th>SP</th>
<th>SD SP</th>
<th>LT13</th>
<th>Mean SP</th>
<th>Mean SP</th>
<th>SD RP</th>
<th>SDRP</th>
<th>SD SP</th>
<th>t-value</th>
<th>df</th>
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<tr>
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<td>3.83</td>
<td>4.11</td>
<td>1.14</td>
<td>1.23</td>
<td>-1.19</td>
<td>11.00</td>
<td>0.00</td>
<td>0.24</td>
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<td>DE</td>
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<td>2.82</td>
<td>0.96</td>
<td>1.00</td>
<td>-1.05</td>
<td>10.40</td>
<td>0.00</td>
<td>0.30</td>
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<tr>
<td>WI1</td>
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<td>2.44</td>
<td>0.84</td>
<td>0.66</td>
<td>2.54</td>
<td>10.40</td>
<td>0.00</td>
<td>0.01*</td>
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<tr>
<td>SI2</td>
<td>2.20</td>
<td>2.23</td>
<td>0.57</td>
<td>0.58</td>
<td>-0.23</td>
<td>10.40</td>
<td>0.00</td>
<td>0.82</td>
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<tr>
<td>LT13</td>
<td>2.86</td>
<td>2.24</td>
<td>0.63</td>
<td>0.57</td>
<td>-1.45</td>
<td>10.40</td>
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<td>0.19</td>
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Table 4 Differences between fathers whose children attend the regular program and fathers whose children attend a sports program in the observed variables (S = level of education; D = income; WI1 = work index, SI2 = sports index; LT13 = leisure index, Mean RP arithmetic mean regular program; SP0 = arithmetic mean sports program, SDRP = standard deviation regular program; SDSP = standard deviation sports program; t-value = t-test; df = degrees of freedom; p = level of significance; *p 0.05).

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<thead>
<tr>
<th></th>
<th>Mean RP</th>
<th>S</th>
<th>SP</th>
<th>SD SP</th>
<th>LT13</th>
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<th>Mean SP</th>
<th>SD RP</th>
<th>SDRP</th>
<th>SD SP</th>
<th>t-value</th>
<th>df</th>
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<tr>
<td>S</td>
<td>3.83</td>
<td>4.11</td>
<td>1.14</td>
<td>1.23</td>
<td>-1.19</td>
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<td>-1.71</td>
<td>9.20</td>
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<td>0.09</td>
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<tr>
<td>WI1</td>
<td>2.98</td>
<td>2.87</td>
<td>0.78</td>
<td>0.69</td>
<td>0.71</td>
<td>9.20</td>
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<td>0.48</td>
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<tr>
<td>SI2</td>
<td>2.59</td>
<td>2.72</td>
<td>0.66</td>
<td>0.85</td>
<td>-0.82</td>
<td>9.20</td>
<td>0.00</td>
<td>0.42</td>
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<td>LT13</td>
<td>2.62</td>
<td>2.57</td>
<td>0.56</td>
<td>0.69</td>
<td>0.41</td>
<td>9.20</td>
<td>0.00</td>
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Analysis results show that there are no statistically significant differences between parents of children attending the regular program and parents whose children attend a kindergarten sports program. A statistically significant difference was found only among mothers in the variable work index. It can be stated that the level of education, income, and indices of work, sports and leisure time have no significant role in involving children in sports programs, but that the different social statuses independently affect the sports activity of children. Although until now it has been thought that this attitude is reserved for the educated sections of the society, the awareness about the importance of physical activity for health and proper development of anthropological characteristics of children has descended to the lower educational strata. Popularity of leisure time activity stems in part from the assumption that structured activities produce positive development outcomes (Lerner, 2005). Sport plays an important role because it builds character, creates respect and responsibility for the rules, teamwork, promotes healthy living and creates a feeling of success. In addition to attributing significance to the fact that participation in organized activities is associated with academic achievement, Hansen et al. (2003) argue that involvement in sports activities contributes to the emotional development and taking the initiative (including goal setting, effort, problem solving, time management). Given the fact that the child is still in the process of development, he needs support and assistance of adults in the formation of values, attitudes, interests, and habits. Arbulli (1998) believes that adult intervention is desirable when choosing a leisure time activity and the reason behind it is that adults have a social experience and knowledge on which they can recognize the affinities of the child. The child alone cannot be left to cope with and engage in leisure time activities, but should be provided with incentives and guidance. Also, favorable conditions for the development of his interest and inclination should be created for him in the field of sports activities, thereby promoting physical activity as a healthy lifestyle.

**Conclusion**

We can conclude that the parents regardless of their economic status prefer to include children in kindergarten kinesiology programs because they are obviously aware of the positive impact of these programs on the health of their children. They tend to spend quality leisure time, but we can assume that those parents who spend more time at work have less opportunity to spend their time with children. Also, it can be concluded from the obtained results that parents with higher income levels have the financial means that allow them to more easily include their children in additional sports programs. For this reason, we must not ignore the fact that every child has an innate need for movement and that the pre-school institutions are obliged to make this possible. We tend to think that in the future, those children whose parents are financially better equipped are more likely to be included in sports programs because they have a higher income and can additionally participate by paying for the program. For the purpose of humanization of the profession and the society in general, and for the benefit of the general health status of children, it is worth to think about the possibility that in the future well-designed kindergarten sports programs are offered to all children at no additional financial costs for the parents.

**References**

POVEZANOST RODITELJSKE TJELESNE AKTIVNOSTI SLOBODNOG VREMENA UZ SUDJELOVANJE DJECE U KINEZIOLOGIJSKIM PROGRAMIMA INSTITUCIONALNOG RANOG I PREDŠKOLSKOG ODGOJA

Sažetak
Cilj istraživanja bio je utvrditi kolika je povezanost razine tjelesne aktivnosti i slobodnog vremena roditelja s odlukom o uključivanju djece u kineziološke programe u predškolskih ustanovama. Istraživanje je provodeno na uzorku od 112 roditelja djece predškolske dobi od čega 77 majki i očeva čija djece pohađaju redovite sportanske aktivnosti u kineziološkim programima u predškolskim ustanovama. Procjena osobine razine tjelesne aktivnosti roditelja dobivene je poput Baeckovog upitnika putem kojeg su provjeravane slijedeće varijable: Radni indeks (WI1), Indeks sporta (SI2) i Indeks slobodnog vremena (D). Rezultati analize razlika pokazuju kako nema statistički značajnih razlika između roditelja čija djeca pohađaju redovite dječje sportске aktivnosti u predškolskim ustanovama i onih čija djeca taj prihodak nisu uključeni u dječije sportske aktivnosti. Statistički značajna razlika u odlukama o uključivanju djece u sportske aktivnosti u dječjim ustanovama je samo kod majki koji imaju redoviti sportski program u dječja vrtića.