

DOES JOINT PHYSICAL ACTIVITY IN MOTHER-CHILD PAIRS CONTRIBUTE TO CHILD'S QUALITY OF LIFE?

Tomašić Humer, Jasmina; Babić Čikeš, Ana; Šincek, Danijela

Source / Izvornik: **Život i škola : časopis za teoriju i praksu odgoja i obrazovanja, 2016, LXII, 79 - 90**

Journal article, Published version

Rad u časopisu, Objavljena verzija rada (izdavačev PDF)

Permanent link / Trajna poveznica: <https://um.nsk.hr/um:nbn:hr:142:553368>

Rights / Prava: [In copyright](#) / [Zaštićeno autorskim pravom.](#)

Download date / Datum preuzimanja: **2024-12-25**



FILOZOFSKI FAKULTET
SVEUČILIŠTE JOSIPA JURJA STROSSMAYERA U OSIJEKU

Repository / Repozitorij:

[FFOS-repository - Repository of the Faculty of Humanities and Social Sciences Osijek](#)



dabar
DIGITALNI AKADEMSKI ARHIVI I REPOZITORIJI

DOES JOINT PHYSICAL ACTIVITY IN MOTHER-CHILD PAIRS CONTRIBUTE TO CHILD'S QUALITY OF LIFE?

Dr. sc. Jasmina Tomašić Humer, znanstvena novakinja
Dr. sc. Ana Babić Čikeš, poslijedoktorandica
Doc. dr. sc. Danijela Šincek
Sveučilište Josipa Jurja Strossmayera u Osijeku
Filozofski fakultet
Osijek, Hrvatska

Abstract:

The aim of this research was to explore some patterns of physical activity (PA) in the mother-preschool child dyads, as well as contribution of different aspects of physical and sedentary activities to preschool children's quality of life (QoL). The participants were mothers who have at least one preschool child (N = 202) and their average age was M = 34,19 (SD = 5,21). Mothers fulfilled research questionnaire for themselves and their preschool children. The questionnaires contained some children/mothers demographic variables, measures of different joint mother/child physical/sedentary activities (indoor physical activities, outdoor physical activities, joint sedentary activities, and solitary sedentary activities) and child's quality of life. There were N = 202 children in the sample (46% boys and 54% girls). Mothers reported that 59% of them spent physically active time with their children on workdays and 78% on weekends. Employed mothers and mothers of older children spent less joint physically active time with a child. Furthermore, it was found that 32% of children regularly participated in some form of physically active behaviour. Mothers estimated their child's quality of life as very good in average M = 3,78 (SD = 0,558). Gender, outdoor physical activities and joint sedentary activities were significantly positive predictors of child's quality of life.

Keywords: physical activity, preschool children, sedentary activity, quality of life.

INTRODUCTION

Physical activity (PA) is defined as "any bodily movement produced by skeletal muscles that result in energy expenditure" (Caspersen, Powell and Christenson, 1985; p:126). World Health Organization (2010) recommended at least 60 minutes of moderate to vigorous-intensity PA for children and adolescents. PA in childhood is important to normal skeletal development (Oliver, Schofield and Kolt, 2007) and has an irreplaceable impact on growth and development in young age (Bungić and Barić, 2009). Insufficient PA, among adolescents and children, is a risk factor for a range of chronic conditions, including obesity (Basaldúa and Chiquete, 2008; Boreham and Riddoch, 2001; Wareham, Sluijs and Ekelund, 2005). The importance of PA is recognized by Ministry of Science, Education and Sport of the Republic of Croatia, and is the vital part the Pedagogical standards of preschool education (Official Gazette, No. 63/08) and National Curriculum Framework (NCF). NCF defines the purpose of the Physical and health area as "to equip students with the knowledge, skills and habits in the area of physical health and a positive attitude to physical activities and healthy lifestyle and thus prepare students for full realization of their physical and mental potentials" (NFC, pp. 187). In one UNICEF Croatia Publication (Pećnik and Pribela-Hodap, 2013) parents recognized the role of PA, but they noticed that the most of planned and formal PA are connected with height cost, and they cannot afford it. Combining these results with the finding that 60% of

adult Croatian do not engage in any kind of physical activity (Juracic and Heimer, 2012) investigation of joint PA of mothers and preschool children are important way of modelling healthy lifestyle. There are a lot of potential factor that can affect children PA and Gustafson and Rhodes (2006) emphasizes the importance of social factors (such as parents). Parents can affect their children directly and indirectly, influencing the physical, socio-economic, cultural and social-cognitive aspect of the environment (Taylor, Baranowski and Sallis, 1994). Social aspects of the environment like "lack of opportunities for physical activity" (Irwin et al., 2007), or safety concerns (Salmon, Salmon, Crawford, Hume and Timperio, 2007) are listed as barriers for PA. Furthermore, children with access to parks and recreational facilities engaged in more PA (Davison and Lawson, 2006; Ferreira et al., 2007).

Welk, Wood and Morss (2003) quoted that role modelling has been the most commonly studied source of parental influences on child PA which typically was examined by correlating parents and children activity levels. Durant, Baranowski, Johnson and Thompson (1994) found that preschool-age children have almost six times more chance to be physically active if their parents are regularly engaged in exercise. Simillar result got other researchers (Gustafson and Rhodes 2006; Kalakanis, Goldfield, Paluch and Epstein, 2001; Moor et al., 1991), but Trost, Sirard, Dowda, Pfeiffer and Pate (2003) did not found significant parental influences on child's PA behaviour.

Insufficient PA, except on physical, has negative effect on mental health as well (Mutrie and Parfitt, 1998; Gilliland et al. 2007). Because the quality of life (QoL) can be defined as a multidimensional construct that reflects one's self-perceptions of enjoyment and satisfaction with life (Varni, Burnwinkle and Seid, 2006), it can be appropriate and important criteria in the investigations of social and psychological adjustment in relation to PA. Assessing childhood QoL can provide insights into a child's physical, psychosocial, and overall functioning. Most of the researches on children's QoL are focused on health related QoL (e.g. Ravens-Sieberer et al., 2001). Shoup, Gattshall, Dandamudi and Estabrooks (2008) found in children (aged 8–12 years) that less physically active children (irrespective of weight status) had significantly lower psychosocial and total QoL.

Rowlands and Eston (2007) suggest that PA of preschool children tend to be sporadic, and that preschool-aged children spend more than three-fourths of their waking hours in sedentary activities (Kelly et al., 2007). It was found out that preschool children exhibit low levels of vigorous activity and high levels of inactivity (Oliver et al., 2007), and that boys are more active than girls (Metallinos-Katsaras, Freedson, Fulton and Sherry, 2007; Oliver et al., 2007; Sallis, Prochaska and Taylor, 2000; Sloomaker, Schuit, Chinapaw, Seidell and van Mechelen, 2009). Within preschool children's samples age and BMI were not found to have impact on PA (Hinkley, Crawford, Salmon, Okely and Hesketh, 2008).

Since most of aforementioned studies had used the samples of children that are seven years old or above, Van der Horst et al. (2007) recommended more research of PA on preschoolers, because they are likely to experience different influences on PA compared with older children (who may be influenced by school, peer, etc.). Furthermore, because sedentary behaviors have shown a moderate tendency to track over time from quite a young age (Janz, Burns and Levy, 2005; Kelly et al., 2007), developing strategies to reduce sedentary time and promote PA in preschool age may be beneficial for future health outcomes. To the best of our knowledge, there has not been any study in Croatia that researches the PA of preschool age group. Thus, the purpose of this study was to investigate the amount of physical and sedentary joint mother/child time per day and to determine which child (gender, age) mother (employment and marital status) and family (number of children, size of settlement) characteristics can contribute the quantity of joint mother/child PA. Furthermore, the intention was to observe whether some joint mother/child physical/sedentary activities contribute to child's QoL.

METHOD

PARTICIPANTS

Women who had at least one preschool age child (from Slavonia in Croatia) participated in this study. Psychology students interviewed participants. Snowball method was used for participants' recruit. Beyond the basic criteria (at least one preschool age child) participants differed in other variables as age, marital status, employment status, size of settlement, etc. Mothers fulfilled booklets with research questionnaires for themselves and their child. After exclusion of incomplete data, the available sample size was reduced to 202 women. Mothers average age was $M = 34,19$ ($SD = 5,21$; between 19 and 49) years. Almost one third (30,7%) participants had one child, 51% had two, 18,3% had three or more children. In total, 38,1% of the mothers lived in villages, 28,9% in small towns (<30 000 habitants), 17,0% in a bigger towns (30 000-100 000 habitants) and 16,0% in a big city (>100 000 habitants). Majority of the participants were employed (77,1%). Altogether 95,5% of the participants were married and 4,5% cohabitated.

Among children, there were 115 (46%) boys and 134 (54%) girls. Average age of preschool children was $M = 5,10$ ($SD = 1,244$; between 3 and 7) years.

INSTRUMENTS

DEMOGRAPHIC INFORMATION

Mothers answered some general questions about: a) themselves (weight, height, marital and employment status); b) child (age and gender) and c) family (number of children, size of settlement).

QUANTITY OF MOTHER/CHILD JOINT PHYSICALLY ACTIVE TIME

For the purpose of this study, questions for quantity of mother/child joint physically active time were created. Mothers estimated the quantity of physically active time with their child on workdays and weekend. Possible answers were: a) less than 20 minutes; b) 20-40 minutes; c) from 40 minutes to 1 hour; d) 1-2 hours and f) more than 2 hours. Also, they answered if their children participated in any planned and organized PA.

QUESTIONNAIRE OF MOTHER/CHILD JOINT ACTIVITY

A list of 15 commonly performed activities (e.g. walking, cycling, housework, working in the yard, reading books, playing with toys, etc.) was designed to investigate how mothers and children spent their joint time. For each activity, mothers estimated how often their child performed it in their joint time on a 5-point Likert type scale (1- never; 5- always). Higher scores were reflecting a greater level of listed activity. Those activities were divided into:

a) Child physical activity

Eight items were designed to measure child's PA in various situations children spent with their mothers. Physical activity was divided into: a) *outdoor physical activity*-which was measured with five items (e.g. cycling or running; Cronbach alpha was 0,722); and b) three

items for *indoor physical activity* (egg. housework or exercise in house; Cronbach alpha was 0,554).

b) Child non-physical activity

Child non-physical activity was measured with seven items. *Joint sedentary activities* (egg. playing with toys, reading books) were measured with five items (Cronbach alpha was 0,576). Two items included children's *solitary sedentary activity* (egg. watching TV, or playing on the phone; Cronbach alpha was 0,775).

CHILDREN'S QUALITY OF LIFE QUESTIONNAIRE

For the purpose of this study, according to infant Toddler Quality of Life Questionnaire (HealthActCHQ Inc., 2013), a short questionnaire for child's quality of life was designed. Eight statements about children's health (e.g. *My child is healthier than the other children I know.*) and behaviour (e.g. *Sometimes it is difficult to cope with my child's behaviour.*) were used. On a five point Likert type scales (1- "I strongly disagree" to 5- "I strongly agree") the mothers evaluated child's quality of life. Total score was formed as arithmetic mean, and higher scores represented greater level of quality of life (Cronbach alpha was 0,578).

In order to respond to the first problem, χ^2 test was used to test if different: a) child (gender, age); b) mother (mother's employment and marital status); or c) family (number of children, size of settlement) characteristics contribute the quantity of mother/child joint time and child participation in organized PA.

Although the Kolmogorov - Smirnov test showed that the distribution of some variables deviate from normal, since Petz (2004) states that the conditions of normality distribution may be violated if they are similar in distribution deviations from the normal distribution parametric procedures were used. For answering to second problem, multiple linear regression analysis was conducted to test which mother/child joint activity contributes to children's QoL. The level of statistical significance was set at $p < 0,05$. SPSS programme, ver. 20. was used for the analysis.

RESULTS AND DISCUSSION

QUANTITY OF MOTHER/CHILD JOINT PHYSICALLY ACTIVE TIME

Mothers' estimations of the quantity of joint PA time with their child (for workdays and for weekends) can be seen in the Table 1. On workdays, about 14% of mothers spent less than 20 minutes, 16% of them between 20-40 minutes, and 23% between 40 minutes to 1 hour. About 10% of mothers spent 1-2 hours of physically active time with their child. Majority of mothers (26%) spent more than 2 hours being physical active with their child. Furthermore, mothers spent more PA time with their child on weekends, than on workdays. On weekends, over 57% of mothers spent more than 2 hours in PA with their child and another 32% spent between forty minutes and two hours.

Table 1. Mother's estimation of the amount of child/mother physically active time on workdays and weekends and child/mother participation in organized PA

		frequency	percent
Amount of physically active time on weekdays	Less than 20 minutes	29	14,4
	20-40 minutes	33	16,4
	From 40 minutes to 1 hour	46	22,9
	1-2 hours	41	10,4
	More than 2 hours	52	25,9
	total	202	100
Amount of physically active time on weekends	Less than 20 minutes	13	6,6
	20-40 minutes	9	4,4
	From 40 minutes to 1 hour	22	11,1
	1-2 hours	51	20,7
	More than 2 hours	113	57,1
	total	198	100
Child involved in planned PA	Yes	65	32
	No	137	68

Mothers' estimations of the quantity of joint child/mother physically active time suggest that 36,3% of children on weekdays and 77,8% on weekends certainly complies with WHO recommendations about at least one hour per day of PA. Our results are comparable with those from the systematic review of Tucker (2008) who found that 54% of preschoolers were sufficiently physically active. Vale, Silva, Santos, Soares-Mirand and Mota (2010), also found that 93,5% of the preschool children achieved the recommended amount of moderate-to-vigorous PA on weekdays, although only 77,6% did so on weekends. Commenting our results, it should be taken into consideration that the children are also physically active at a time that they do not spend with their mothers, so the amount of PA time could be even higher. To get the whole picture about children's PA, data about time that children spent with other family members or in the kindergartens should be collected (Pate, Pfeiffer, Trost, Ziegler and Dowda, 2004). However, rather high obtained values of children's PA, could indicate the mothers' overestimation of physically active time (Tucker, 2008) so objective measures are needed to help us to understand the data found.

Additionally, 32% of children participated in some planned and/or organized PA and the most common were dancing (31%), cycling (27%), gymnastics (20%), swimming (10%) and other activity (12%). Although the number of participants who took part in planned PA is relatively small, Rowlands and Eston (2007) already suggested that preschool children tend to have sporadic PA, so we can hope that sporadic PA in this age probably adequately replace

planned PA. Moreover, unlike spontaneous child game which is necessary for healthy development, organized activities, structured by adults, can even ignore some of the children's needs (Berk, 2005).

QUANTITY OF MOTHER/CHILD JOINT PHYSICALLY ACTIVE TIME ACCORDING TO CHARACTERISTICS OF CHILDREN, FAMILIES AND MOTHERS

To test if there were any differences in the quantity of physically active child/mother joint time and their participation in planned/organized activities according to previously mentioned characteristics of children, families and mothers numbers of χ^2 tests were conducted.

Mothers spent more physically active time with their child if a child was younger ($\chi^2 = 29,51$, $p = 0,021$) and if they had more children ($\chi^2 = 19,36$, $p = 0,013$). Employed mothers ($\chi^2 = 16,55$, $p = 0,002$) spent less physically active time with their children. Child's dependence on mother is one of possible reasons why mothers of younger children spend more PA time with their children. As expected, mothers with more children and employed mothers spent less PA time with children, because they spend, in general, less time with their children, simply because they have more other obligations. However, those factors should be explored deeper, especially regarding other opportunities of PA (in the kindergartens or with other parent or older siblings).

Older children participated more regularly in planned PA than younger ones ($\chi^2 = 14,57$, $p = 0,006$) because more organized PA is available for older children, since they can more easily spend time without parents' supervision. Contrary to expectations and results of previous research, girls participated more often in planned PA than boys ($\chi^2 = 5,13$, $p = 0,024$). Previous research on preschoolers and older children mostly indicated that boys are more physically active (Metallinos-Katsaras et al., 2007; Oliver et al., 2007; Sallis et al., 2000; Sloomaker et al., 2009; Liao et al., 2002). But Oja and Jurimae (2002) found results similar to ours, in favour of girls PA. Gender differences in activity preferences could be explained/linked to this result: boys are socialized in preschool age to prefer wandering and environment exploring which is more attainable with spontaneous activities, while girls socialization is more tuned with planned PA in this age group. Dunton, Kawabata, Intille, Wolch and Pentz (2012) found that boys are more often participated in outdoor team sports, while girls are more involved in classes related to physical activity, such as dance or gymnastics. So, additional explanation, next to different socialization paths, could be that available organized activities are more attractive to preschool girls and, at the same time, preschool age boys are not old enough to participate in outdoor team sports. Also, maybe, data from fathers' joint time could give us different results.

As was expected, children from villages were less likely to participate in planned PA than those living in bigger settlements ($\chi^2 = 8,22$, $p = 0,042$), probably because they had less opportunity to participate in organized activities (Davison and Lawson, 2006; Ferreira et al., 2007; Irwin et al., 2007). However, we presume that, children in villages have more opportunities for outdoor PA with other children, because studies shown that the number of play areas within walking distance of the home were positively associated with observed levels of physical activity among preschool children (Sallis et al., 1993), but Sirard et al. (2005) did not find differences in rates of walking and biking to school for schools located in urban and suburban areas.

THE RELATIONSHIP BETWEEN JOINT MOTHER/CHILD ACTIVITY AND CHILD'S QUALITY OF LIFE

Mother's assessments of quantity of joint mother/child activities and mother's assessments of child's QoL were presented in the Table 2, as well as intercorrelations between variables.

Table 2. Descriptive statistic and interrelation for age, physical activities, sedentary activities and quality of life for N=202 preschool children

	M(SD)	min-MAX	K-S	2	3	4	5	6	7
Gender (1)	-			0,04	0,14*	-0,05	0,09	0,07	0,18*
Age (2)	5,1 (1,24)	3-7		-	-0,10	-0,07	-0,04	0,03	-0,08
Outdoor PA (3)	3,7 (0,67)	1-5	1,38		-	0,38**	0,05	0,45**	0,25**
Indoor PA (4)	2,7 (0,68)	1-5	1,71**			-	-0,03	0,36**	-0,01
Solitary sedentary activities (5)	2,6 (0,79)	1-5	3,01**				-	0,09	0,01
Joint sedentary activities (6)	3,9 (0,59)	2-5	1,57*					-	0,26**
Quality of life (7)	3,8 (0,56)	2-5	1,21						-

*- Significant at the 0,05 level (2-tailed); ** - significant at the 0,01 level (2-tailed).

As we can see in Table 2., of all kinds of joint mother-children activities that we explored (indoor and outdoor physical activities, solitary sedentary activities and joint sedentary activities), mothers estimated that they spent most time with their children in outdoor physical activities (M = 3,73, SD = 0,671) and joint sedentary activities (M = 3,85, SD = 0,598). As data were collected in the spring, it was expected that outdoor activities would be more frequent. It can be surprising that joint sedentary activities and outdoor physical activities are equally presented, but it is probably due to today's sedentary way of living. Outdoor physical and joint sedentary activities are very socially desirable because they indicate parents who spent quality time with their children, so it is possible that mothers overestimated time spent in these activities. Solitary sedentary activities, as watching television and playing computer games, are undesirable for good nurture, so it was possible that the mothers were trying to decrease (consciously or unconsciously) their amount in report. To clarify these results, objective data about involvement in different activities could be helpful. Vale et al. (2010) found that preschool children spent 83% of their time during the day in sedentary behaviour, but, yet most preschool children met the recommendations about daily PA. Furthermore, indoor and outdoor PA were correlated ($r = 0,382$, $p < 0,01$) and both of these variables were correlated with joint sedentary activities too ($r_{\text{indoor}} = 0,360$, $p < 0,01$; $r_{\text{outdoor}} = 0,454$, $p < 0,01$). Based on positive correlation coefficients for all kinds of children-parent joint activities, it seems plausible to conclude that mothers who are more involved in the organization of children's free time organize more PA as well.

As we can see in Table 2. average estimation of child QoL was 3,78 (SD = 0,558). QoL correlated with outdoor PA ($r = 0,248$, $p < 0,01$) and joint sedentary activity ($r = 0,255$, $p < 0,01$). It is reasonable to assume that parents' engagement in children's free time contributes

positively to their QoL. Or, to put it plainly, they are more involved in every aspect of their child's life and actively trying to improve it. However, methodological problem in this study was that mothers' evaluations are the only source of data for all these variables.

Although there are some researches that confirm connection between PA and different health conditions (Spuijbroek et al., 2011; Ortega et al., 2007), especially obesity (Dunton et al., 2012; Metallinos-Katsaras et al., 2007) at preschool and older children, there are not many studies relating correlation between children's PA and their QoL. The one that we found confirms the relationship between those variables (Shoup et al., 2008). However, we did not find any data of correlation between joint mother-child activities and children's QoL. Furthermore, some results revealed that the physical activity of mothers of preschool children contributes to mother's quality of life (Babić Čikeš, Tomašić Humer i Šincek, 2015).

Multiple regression analysis (Table 3) indicated that child's gender ($\beta = 0,139$, $p = 0,044$), outdoor PA ($\beta = 0,178$, $p = 0,026$), indoor PA ($\beta = -0,154$, $p = 0,043$), and joint sedentary activity ($\beta = 0,227$, $p = 0,004$) together explained 12,8% variance of the child's QoL ($F(5,196) = 5,73$, $p = 0,000$). Surprisingly, joint sedentary activity explained most of the QoL variance. Girls and children with higher estimation of outdoor PA and joint sedentary physical activity had higher QoL. Surprisingly, indoor PA negatively contributes to child's QoL ($\beta = -0,154$, $p = 0,043$), since this variable was not significantly correlated with the criterion, but was moderately associated with other predictors (outdoor PA and joint sedentary activities, Table 2) we assume that this was a suppressor variable. Contributions of all predictor variables were positive but rather small. It is interesting that estimations of girls' quality of life are higher than boys'. But we did not find a research on gender differences in children's QoL. Gender specific assessments of behaviour are expected, because boys are mostly seen as more aggressive and practicing more rough games (Turner and Gervai, 1995). One of the possible explanations of this difference could be that boys' more active behaviour results in more injuries, and therefore lower mothers' assessments of QoL. Other possible explanations could be connected to the fact that only data source in this study were mothers and they could differently value girl's QoL because of the same gender dyads in this case. Also, mothers could implicit the theory that better behaved child has better QoL.

Table 3. Results of the multiple linear regression analysis predicting child's quality of life

	Standardized Coefficients	t	Sig.
	Beta		
Age	-0,084	-1,242	0,216
Gender	0,139*	2,026	0,044
Outdoor PA	0,178*	2,244	0,026
Indoor PA	-0,154*	-2,042	0,043
Solitary sedentary activates	-0,050	-0,734	0,464
Joint sedentary activities	0,227**	2,920	0,004
$R = 0,357$, $R^2 = 0,128$, $F(5,196) = 5,73$, $p = 0,000$			

*. significant at the 0,05 level; **. significant at the 0,01 level.

We should certainly take into account that our research has some shortcomings, which can be overcome by using of representative sample, more reliable and objective methods of PA measuring (such as accelerometers and direct observations) and by collecting data from different sources, as fathers and other family members, or kindergarten teacher. Also, child's perspective of their QoL could be very different from mothers' perspective, but it should be appropriately measured (interview, charts etc.). More researches on this subject, especially in our specific cultural context, are necessary if we want to face this big health and social problem of physical inactivity.

CONCLUSIONS

The aim of this research was to explore some patterns of physical activity (PA) in the mother-preschool child dyads, as well as contribution of different aspects of physical and sedentary activities to preschool children's quality of life (QoL). Mothers reported that 59% of them spent physically active time with their children on workdays and 78% on weekends. Employed mothers and mothers of older children spent less joint physically active time with a child. Furthermore, it was found that 32% of children regularly participated in some form of physically active behaviour.

Mothers estimated their child's quality of life as very good in average $M = 3,78$ ($SD = 0,558$). Gender, outdoor physical activities and joint sedentary activities were significantly positive predictors of child's quality of life with higher estimated QoL for girls than for boys. Also, those children who spent more time in outdoor activities and joint sedentary activities have higher estimated QoL.

Considering an insufficient amount of research of PA of preschool children in Croatia, as well as research of relationship between PA and QoL in preschool age group, this research can give some guidelines for improvements and interventions in the local communities and for the future investigations in this area of research. For instance, result that children who live in villages participate less in planned PA than children from bigger towns is potentially very important for local government – it suggests that some resources (material, personal, etc.) should be relocated in villages to give children who live there equal opportunities.

As it was found that spontaneous PA is more present at preschool children, suitable infrastructure (like playgrounds and gyms) should be present in every local community. This is especially important during winter months, when outdoor activities are not so feasible. Beside the infrastructure, more organized or semi-structured activities should be offered for preschool children and the local community should finance these activities. In that way, children with unemployed parents would not be underprivileged. As indoor PA's are less frequent, it would be advisable to educate parents about the importance of PA and different ways of practicing physical activities at home with their children (like games and exercises).

REFERENCES

- Babić Čikeš, A., Tomašić Humer, J., & Šincek, D. (2015). Physical Activity and Quality of Life of Mothers of Preschool Children. *Collegium antropologicum. Supplement*. 39 (2). 419-426.
- Basaldúa, N., & Chiqueete, E. (2008): Common predictors of excessive adiposity in children from a region with high prevalence of overweight, *Annals of Nutrition and Metabolism*, 52(3).

- Berk, L. (2005). *Psihologija cjeloživotnog razvoja*. Jastrebarsko: Naklada Slap.
- Boreham, C., & Riddoch, C. (2001). The physical activity, fitness and health of children. *Journal of Sports Science*, 19(12), 915-929. doi:10.1080/026404101317108426
- Bunjić, M., & Barić, R. (2009). Tjelesno vježbanje i neki aspekti psihološkog zdravlja. *Hrvatski Športskomedicinski Vjesnik*, 24, 65-75. Dostupno na http://hrcak.srce.hr/index.php?show=clanak&id_clanak_jezik=73771
- Caspersen, C.J., Powell, K.E., & Christenson, G.M. (1985). Physical activity, exercise, and physical fitness: definitions and distinctions for health related research. *Public Health Report*, 100, 126-31.
- Davison, K.K., Lawson, C.T. (2006): Do attributes of the physical environment influence children's physical activity? A review of the literature, *The International Journal of Behavioral Nutrition and Physical Activity*, 3:19.
- Dunton, G. F., Kawabata, K., Intille, S., Wolch, J., & Pentz, MA. (2012). Assessing the Social and Physical Contexts of Children's Leisure-Time Physical Activity: An Ecological Momentary Assessment Study. *American Journal of Health Promotion*, 26 (3), 135-142. doi:10.4278/ajhp.100211-quant-43
- Durant, R.H., Baranowski, T., Johnson, M., & Thompson, W. O. (1994). The Relationship among Television Watching, Physical Activity, and Body Composition of Young Children. *Pediatrics*, 94(4), 449-55. doi:10.1097/00008483-199807000-00015
- Ferreira, I., van der Horst, K., Wendel-Vos, W., Kremers, S., van Lenthe, F., Brug, J. (2007): Environmental correlates of physical activity in youth - A review and update, *Obesity Reviews*, 8(2), 129-154. doi:10.1111/j.1467-789x.2006.00264.x
- Gilliland, M. J., Windle, M., Grunbaum J. A., Yancey, A., Hoelscher, D., Tortolero, S.R., & Schuster, M. A. (2007). Body Image and Children's Mental Health Related Behaviors: Results from the Healthy Passages Study. *Journal of Pediatric Psychology*, 32(1), 30-41. doi:10.1093/jpepsy/jsl008
- Gustafson, S. L., & Rhodes, R. E. (2006). Parental correlates of physical activity in children and early adolescents. *Sports Medicine*, 36(1), 79-97. doi:10.2165/00007256-200636010-00006
- HealthActCHQ Inc. (2013). ITQOL: Infant Toddler Quality of Life Questionnaire. Retrieved April 18, 2014 from: <https://www.healthactchq.com/itqol.php>
- Hinkley T., Crawford D., Salmon J., Okely A.D., & Hesketh K. (2008): Preschool children and physical activity: A review of correlates, *American journal of preventive medicine*, 34:435-441. doi:10.1016/j.amepre.2008.02.001
- IMPLEMENTATION OF THE STATE PEDAGOGICAL STANDARD OF PRESCHOOL EDUCATION (Official Gazette, No. 63/08).
- Janz K.F., Burns T.L., & Levy S.M. (2005): Tracking of activity and sedentary behaviors in childhood: The Iowa bone development study, *American journal of preventive medicine*, 29, 171-178. doi: 10.1016/j.amepre.2005.06.001
- Jurakić, D., Heimer, S. (2012). Prevalencija nedovoljne tjelesne aktivnosti u Hrvatskoj i u svijetu: pregled istraživanja. *Arhiv za higijenu rada i toksikologiju*, 63(3), 3-12. Dostupno na http://hrcak.srce.hr/index.php?show=clanak&id_clanak_jezik=135793
- Kalakanis, L.E., Goldfield, G. S., Paluch, R. A., & Epstein, L. H. (2001). Parental activity as a determinant of activity level and patterns of activity in obese children, *Research Quarterly for Exercise and Sport*, 72, 202 – 209. doi:10.1080/02701367.2001.10608953
- Kelly, L.A., Reilly, J.J., Jackson, D.M., Montgomery, C., Grant, S., Paton, J.Y. (2007). Tracking physical activity and sedentary behavior in young children. *Pediatric Exercise Science*, 19(1), 51-60. Dostupno na <http://www.humankinetics.com/acucustom/siteName/Documents/DocumentItem/6678.pdf>

- Liao, Y., Intille, S., Wolch, J., Pentz, M.A., and Dunton, G.F. (2002): Understanding the Physical and Social Contexts of Children's Non-School Sedentary Behavior: An Ecological Momentary Assessment Study, *Journal of Physical Activity & Health*, doi:10.1123/jpah.2011-0363
- Metallinos-Katsaras, E. S., Freedson, P.S., Fulton, J.E., & Sherry, B. (2007). The association between an objective measure of physical activity and weight status in preschoolers. *Obesity*, 15, 686–694. doi:10.1038/oby.2007.571
- Moore, L.L., Lombardi, D.A., White, M.J., Campbell, J.L., Oliveria, S.A., & Ellison, R.C. (1991). Influence of parents' physical activity levels on activity levels of young children. *Journal of Pediatrics*, 118, 215–9. doi:10.1016/s0022-3476(05)80485-8
- Mutrie, N., & Parfitt G. (1998). Physical activity and its link with mental, social and moral health in young people. In: Biddle S.J., Sallis J.F., & Cavill N., (Ed.), *Young and active?: Young people and health enhancing physical activity—evidence and implications*. London: Health Education Authority.
- Oja, L., & Jurimae, T. (2002). Physical activity, motor ability, and school readiness of 6-yr-old children. *Perceptual Motor Skills*, 95, 407–415. doi.org/10.2466/pms.2002.95.2.407
- Oliver, M., Schofield, G.M., & Kolt, G.S. (2007). Physical activity in preschoolers - Understanding prevalence and measurement issues. *Sports Medicine*, 37(12), 1045-70. doi: 10.2165/00007256-200737120-00004
- Ortega FB, Ruiz JR, Castillo MJ, & Sjörström M. (2008). Physical fitness in childhood and adolescence: a powerful marker of health. *International Journal of Obesity*, 32(1), 1-11. doi:10.1038/sj.ijo.0803774
- Pate, R. R., Pfeiffer, K. A., Trost, S. G., Ziegler, P. & Dowda, M. (2004). Physical Activity Among Children Attending Preschools. *Pediatrics*, 114 (5), 1258-1263. doi:10.1542/peds.2003-1088-l
- Pećnik, N. & Pribela-Hodap, S. (2013). *Accessibility and use of parenting support services and community services for young children*. Zagreb: UNICEF.
- Ravens-Sieberer, U., Gosch, A., Abel, T., Auquier, P., Bellach, B. M., Bruil, J., & Rajmil, L. (2001). Quality of life in children and adolescents: a European public health perspective. *Sozial-und Präventivmedizin*, 46(5), 294-302. doi:10.1007/bf01321080
- Rowlands A.V, & Eston, R.G. (2007). The Measurement and Interpretation of Children's Physical Activity. *Journal of Sports Science and Medicine*, 6(3), 270–276. Dostupno na <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3787276/>
- Sallis, J.F., Prochaska, J.J., & Taylor, W.C. (2000). A review of correlates of physical activity of children and adolescents. *Medicine & Science in Sports & Exercise*, 32, 963-975. doi:10.1097/00005768-200005000-00014
- Salmon, J., Salmon, L., Crawford, D., Hume, C., Timperio, A. (2007). Associations among individual, social, and environmental barriers and children's walking or cycling to school. *American Journal of Health Promotion*, 22(2), 107–113. doi:10.4278/0890-1171-22.2.107
- Shoup, J.A., Gattshall, M., Dandamudi, P., & Estabrooks, P. (2008). Physical activity, quality of life, and weight status in overweight children. *Qual Life Research*, 17(3), 407-12. doi:10.1007/s11136-008-9312-y
- Sirard, J.R., Ainsworth, B.E., McIver, K.L., Pate, R.P. (2005). Prevalence of active commuting at urban and suburban elementary schools in Columbia. *American Journal of Public Health*, 95:236–237. doi:10.2105/ajph.2003.034355
- Slootmaker, S.M, Schuit, A.J., Chinapaw M.J.M, Seidell, J.C., & van Mechelen W. (2009): Disagreement in physical activity assessed by accelerometer and self-report in subgroups of age, gender, education and weight status. *The International Journal of Behavioral Nutrition and Physical Activity*, 6, 17. doi:10.1186/1479-5868-6-17

- Spuijbroek, A.T.; Oostenbrink, R.; Landgraf, J.M.; Rietveld, E.; De Goede-Bolder, A.; Van Beeck, E.F.; Van Baar, M.; Raat, H. & Moll, HA. (2011). Health-related quality of life in preschool children in five health conditions. *Quality Life Research*, 20(5), 779-786. doi:10.1007/s11136-010-9806-2
- Taylor, W.C., Baranowski, T., & Sallis, J. F. (1994). Family determinants of childhood physical activity: A social-cognitive model. In: Dishman, R.K. (Ed.), *Advances in exercise adherence* (pp. 319-342). Champaign: Human Kinetics Publishers.
- Thompson, L., Jago, R., Brockman, R., Cartwright, K., Page, A. S. & Fox, K. R. (2010). Physically active families – de-bunking the myth? A qualitative study of family participation in physical activity. *Child: Care, Health and Development*, 36(2), 265–274. doi:10.1111/j.1365-2214.2009.01051.x
- Trost, S. G., Sirard, J.R., Dowda, M., Pfeiffer, K.A., & Pate, R.R. (2003). Physical activity in overweight and nonoverweight preschool children. *International Journal of Obesity*, 27, 834–839. doi:10.1038/sj.ijo.0802311
- Tucker, P. (2008). The physical activity levels of preschool-aged children: A systematic review. *Early Childhood Research Quarterly*, 23, 547–558. doi:10.1016/j.ecresq.2008.08.005
- Turner, P. J., & Gervai, J. (1995). A multidimensional study of gender typing in preschool children and their parents: personality, attitudes, preferences, behavior, and cultural differences. *Developmental Psychology*, 31(5), 759-772. doi:10.1037//0012-1649.31.5.759
- van der Horst, K., Oenema, A., Ferreira, I., Wendel-Vos, W., Giskes, K., van Lenthe, F., Brug, J. (2007). A systematic review of environmental correlates of obesity-related dietary behaviors in youth. *Health Education Research*, 22(2), 203-26. doi:10.1093/her/cyl069
- Vale, S., Silva, P., Santos, R., Soares-Miranda, L., & Mota. J. (2010). Compliance with physical activity guidelines in preschool children, *Journal of Sports Sciences*, 28(6), 603-608. doi:10.1080/02640411003702694
- Varni, J. W., Burnwinkle, T. M., & Seid, M. (2006). The PedsQL 4.0 as a school population health measure: Feasibility, reliability, and validity. *Quality of Life Research*, 15, 203–215. doi:10.1007/s11136-005-1388-z
- Wareham, N.J., van Sluijs E.M., & Ekelund, U. (2005). Physical activity and obesity prevention: a review of the current evidence. *The Proceedings of the Nutrition Society* 64(2), 229-247. doi:10.1079/pns2005460
- Welk, G. J., Wood, K., & Morss, G. (2003). Parental influences on physical activity in children: An exploration of potential mechanisms. *Pediatric Exercise Science*, 15, 19–33. Dostupno na <http://extranet.nuorisuomi.fi/download/attachments/3245041/Parental+influences+on+physical+activity+in+children.+an+exploration+of+potential+mechanisms.pdf>
- World Health Organization (WHO). Global Health Observatory (GHO). Prevalence of insufficient physical activity [pristup 10. prosinca 2014.]. Dostupno na http://www.who.int/gho/ncd/risk_factors/physical_activity_text/en/index.html

Doprinosi li zajednička fizička aktivnost parova majka - djetete djetetovoj kvaliteti života?

Sažetak: Cilj istraživanja bio je ispitati prakticiraju li majke i djeca fizičke aktivnosti tijekom zajedničkog vremena te utječu li neke osobine djeteta, majke i obitelji na količinu vremena provedenog u nekoj fizičkoj aktivnosti. Nadalje, provjeravano je doprinose li zajedničke aktivnosti majke i djeteta (sjedilačke / fizičke) kvaliteti djetetova života. Sudionice su bile majke koje imaju barem jedno predškolsko dijete (N = 202), prosječne dobi M = 34,19 (SD = 5,21). Ispitane su demografske varijable majke i djeteta, mjere različitih zajedničkih aktivnosti majke i djeteta (fizička aktivnost u kući, fizička aktivnost na otvorenom, zajedničke "sjedilačke" aktivnosti, samostalne "sjedilačke" aktivnosti djeteta) i djetetova kvaliteta života. Ukupan uzorak sastojao se od 46% dječaka i 54% djevojčica. Ukupno je 59% majki izjavilo kako zajedničko vrijeme provedeno s djetetom tijekom tjedna uključuje neki oblik fizičke aktivnosti, a tijekom vikenda taj je postotak i veći (78%). Zaposlene majke i majke starije djece provode manje fizički aktivnog vremena sa svojom djecom. Nadalje, 32% djece regularno sudjeluje u nekim oblicima fizičke aktivnosti. Kvalitetu života vlastite djece majke su procijenile vrlo dobrom M = 3,78 (SD = 0,558), a spol, količina fizičke aktivnosti na otvorenom i količina zajedničkih sjedilačkih aktivnosti bili su značajni prediktori djetetove kvalitete života.

Ključne riječi: fizička aktivnost, kvaliteta života, predškolci

Begünstigt gemeinsame körperliche Betätigung von Müttern und Kindern deren Lebensqualität?

Zusammenfassung: Betätigen sich Mütter und Kinder während der Zeit, die sie gemeinsam verbringen, körperlich? Bestimmen bestimmte Eigenschaften des Kindes, der Mutter oder der Familie wie viel Zeit miteinander verbracht wird? Begünstigen gemeinsame Aktivitäten von Mutter und Kind (sitzend/körperlich) die Lebensqualität des Kindes? Mit den genannten Fragen beschäftigt sich unsere Untersuchung. Die Teilnehmerinnen waren Mütter, die wenigstens ein Vorschulkind haben (N = 202), wobei das Durchschnittsalter M = 34,19 (SD = 5,21) beträgt. Untersucht wurden folgende Variablen: demographische Angaben von Mutter und Kind, Messungen verschiedener, gemeinsamer Aktivitäten (körperliche Betätigung im Haus, körperliche Betätigung im Freien, „sitzende“ Beschäftigungen, selbstständige, sitzende Beschäftigungen des Kindes) sowie die Lebensqualität des Kindes. Befragt wurden 46% Jungen und 54% Mädchen. Insgesamt 59% Prozent der Mütter erklärten, dass die unter der Woche verbrachte Zeit mit dem Kind eine körperliche Tätigkeit einschließt; am Wochenende liegt dieser Prozentsatz sogar höher (78%). Berufstätige Mütter und Mütter älterer Kinder sind mit ihren Kindern weniger körperlich aktiv. Die Untersuchung ergab außerdem, dass 32% Prozent der Kinder sich regelmäßig auf irgendeine Weise körperlich betätigen. Die Lebensqualität ihrer Kinder schätzten die Mütter als gut ein M = 3,78 (SD = 0,558), während das Geschlecht, die Dauer der körperlichen Tätigkeit im Freien und der Anteil gemeinsamer, sitzender Beschäftigungen wichtige Prädiktoren für die Lebensqualität der Kinder waren.

Schlüsselbegriffe: körperliche Betätigung, Lebensqualität, Vorschulkinder