

Nuovi spazi per l'educazione dei bambini da 0 a 6 anni: cosa pensano gli insegnanti del parco giochi come luogo di educazione formale e non formale

New environments for the education of 0-6 year old children: What teachers think about the playground for formal and non-formal education

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ABSTRACT

Physical activity in children 0-6 years old can prevent health disease and educate to healthy lifestyles. In spite of international recommendation children move only a total of 60 minutes in the week. Teachers involved in a project in the playground "Primo sport 0246" of Treviso (Italy) suggest that the playground might be an educational opportunity for children to increase movement and other important aspects of child development during school activity, working in connection to school programs. The teachers consider the playground a formal and non-formal environment also providing opportunities for facilitating inclusion of all children, particularly those missing movement or sport facilities out of school.

L'attività fisica nei bambini da 0 a 6 anni può prevenire problemi di salute e educare ad un sano stile di vita. Nonostante le raccomandazioni internazionali i bambini si muovono mediamente solo 60 minuti alla settimana. Gli insegnanti coinvolti nel progetto al parco giochi "Primo Sport 0246" di Treviso (Italia) suggeriscono che il parco giochi possa essere un'opportunità educativa per incrementare il movimento nei bambini e altri importanti aspetti dello sviluppo, in connessione con i programmi scolastici. Gli insegnanti considerano il parco giochi un luogo di educazione formale e non formale anche per favorire l'inclusione di tutti i bambini, soprattutto di coloro che non hanno possibilità fuori da scuola.

KEYWORDS

Education, Physical Activity, Cognitive Development, Playground, Preschool Children.

Educazione, Attività fisica, Sviluppo cognitivo, Parco giochi, Bambini pre-scuola.

1. Introduction

Obesity and overweight are significant health problems also affecting small children (Ogden, Carrol, Curtin, McDowell, Tabak & Flegal, 2006). Early overweight predicts adult obesity and associated health problems (Baker, Olsen, Sorensen, 2007) and interferes with young child interest for physical activity. Inactivity also

hampers the development of fundamental motor skills (Haywood, Getchell, 2009) and coordination of both fine and gross motor skills required for adult activities (Vedul-Kjesas, Sigmundsson, Stensdotter, Haga, 2011). In a vicious circle, lack of motor competence has negative effects on amount and intensity of physical activity performed by children and their level of physical fitness (Stodden, Langendorfer, Robertson, 2009; Wrotniak, Epstein, Dorn, Jones & Kondilis, 2006) whereas children who perceive to be motor competent are more motivated to practice physical activity (Hands, Rose, Parker & Larkin, 2010; Tortella, Tessaro, Fumagalli, 2012). The global perception of the self is also related to motor competence (Cantell, Smyth & Ahonen, 2003) and studies by Haga (2008) confirm a strong relationship between physical fitness, motor competence and self-perception in children.

To be motor competent also offers opportunities to find new friends, a very important feature of childhood (Blatchford, 1998). With physical plays and games children may learn the fundamental skills for social competence, (Doll, 2009 as cited in Couper, 2011). Furthermore, recent studies demonstrate a strong relationship between early gross motor competences and later cognitive development, especially in working memory (Piek, Dawson, Smith & Gasson, 2008; Campos, Anderson, Barbu-Roth, Hubbard, Hertenstein & Witherington, 2000). Tuckman & Hinkle, (1986) found that aerobic running improved cognitive flexibility and creativity in 8-12 years old children.

Executive functions also develop during the early years of life. Executive functions such as cognitive flexibility, inhibition (self-control, self regulation), working memory, problem solving, reasoning, planning are critical for success throughout life, in career, marriage, for mental and physical health (Prince & Lancet, 2007; Eakin et al., 2004; Kusche, Cook & Geenberg, 1993 cited in Diamond & Lee, 2011). In children cognitive skills are important for school readiness, and predict math and reading competence throughout all school age (Gathercole, Pickering, Knight & Stegmann, 2004). Early executive functions training is necessary to avert the widening of the achievement gaps at later age and it is very useful especially to those children that display poor executive functions (Diamond & Lee, 2011). Diamond *et al.*, (2011) highlight that physical development associated with the practice of aerobic martial arts and yoga improves executive functions, thus highlighting the requirement for adequate physical activities and experiences during the daily activities of small children.

1.1. *Physical activity*

In most of the western countries small children spend most of their daily time in kindergarten (Brown, Pfeiffer, McIver, Dowda, Addy & Pate, 2009) thus charging the School and the educators of the great responsibility of promoting movement-based experiences in order to improve health behaviors and attitudes about physical fitness (Bandura, 2004; Pate, Pfeiffer, Trost, Ziegler & Dowda, 2004).

Structured (organized by educators) and unstructured (free) play covers most of the time spent at school by small children. According to Burdette and Whitaker, (2005), the active free play is important for cognitive, social, emotional development but little is known on the effects on motor development and acquisition of motor skills. Activities may be performed in- or out-door and some studies suggest that children who spend time outdoor are more active (Potwarka, Kaczynski & Flack, 2008). The positive effects of having opportunities for outdoor activities is also indicated by data showing that children living close (within one ki-

lometer) to a playground with equipments have 5 times larger chances to have normal BMI (Potwarka et al., 2008) and children with ADHD living in or exposed to natural surroundings feel less psychological distress and improve attention, (Mole, Marshall, Pietrowsky & Lutzenberger, 1995).

Several studies have tried to determine the best conditions to increase physical activity levels and acquisition of motor skills at schools. In general, playing outdoor is associated to higher levels and duration of physical activities than inside context (Brown et al., 2009); interestingly, when children are engaged in free play while staying outdoor, they are less active than expected, spending most of the time in sedentary activities and a minimal part only of their time is devoted to moderate to vigorous physical activity (MVPA) (Sallis, Patterson, McKenzie and Nader, 1988; Brown, et al., 2009). The role of structured playing as an efficient strategy for increasing levels of motor skills has been highlighted by recent studies (Cardonm Van Cauwenberghe, Labarque, Haerens & De Bourdeaudhuij, 2008; Parish, Rudisill, & St. Onge, 2007). Recently we have shown that outdoor structured activities led by trained staff also induced an increase in motor skills (Tortella, Tessaro & Fumagalli, 2012).

2. Motivation

The National Association for Sport and Physical Education (NASPE, 2013), the American Heart Association Recommendations for Physical Activity in Adults (AHA, 2010) and the American Association of Pediatrics (AAP) have issued line guides for preschoolers (3-5 years) children recommending at least 30-60 minutes/day of mild to moderate intensity structured physical activity and at least 60 minutes/day of unstructured physical activity (Hodges, Smith, Tidwell & Berry, 2013). Despite national campaigns to increase levels of physical activities at all ages, data indicate that in child cares and kindergarten physical activity levels are lower than recommended (Oliver, Schofield, & Kolt, 2007).

With this study we investigated the believes of educators toward physical activities of 6 kindergarten of the city of Treviso in northern Italy. The schools were involved in a new educational program based on the use of "Primo Sport 0246", an outdoor playground specifically dedicated to support motor development in 0-6 years old children. With this study we intended to analyze the beliefs and attitudes of educators toward physical activity, the significance attributed by teachers on playground and on structured physical activities in the context of their educational goals.

3. Method

Context: One hundred sixty one 5 y old children of six kindergarten of Treviso (Italy), participated in 2012 to a three months program of physical activity in the playground "Primo Sport 0246", a special park built designed to favor motor development for 0-6 years old children (Tortella et al., 2011). The activities (one hour, once a week) were conducted by professional sport instructors. Each session consisted of 30 min of structured activities and 30 min of free play. Forty-five educators/preschool teachers accompanied the children during the visits; they were asked not to call or help the children during the activities, their function was limited to cases of need.

Participants: The 45 teachers of the 6 kindergarten were assessed using questionnaires, informal interviews and focus groups. The aim was to know their beliefs about children physical activity and about the playground. Teachers were of different age, experience (years) of teaching and qualification.

Table 1 - Age of teachers

Age	Frequency	Percentage
20-30	3	7
31-36	6	14
37-43	12	27,9
43-60	22	51,2

Table 2 - Years of teaching

Years of teaching	Frequency	Percentage
0	2	4,7
1-5	9	20,9
6-10	5	11,6
11-16	4	9,3
17-23	12	27,9
24-30	8	18,6
31-40	3	7

Table 3 - School qualification

School qualification	Frequency	Percentage
High school	29	67,4
Bachelor	1	2,3
Undergraduated school	11	25,6
Specialization in handicap	2	4,7

4. Results

Most of the teachers refer that children practice physical activity for one hour a week, in the classroom, in the gym or outside in the garden (when the weather is good). Children activities mentioned by the teachers were subsequently divided in four categories: manual dexterity, mobility, balance, and symbolic game.

Table 4

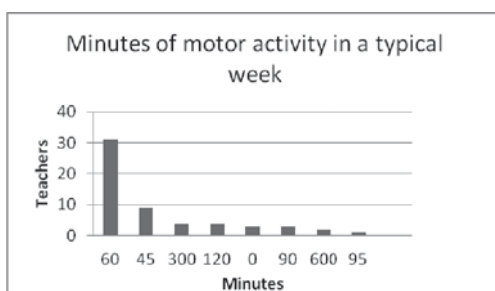
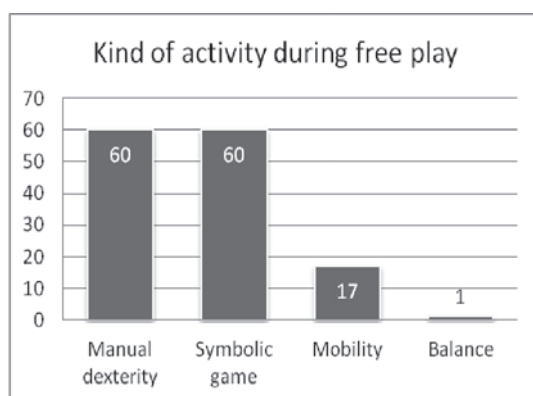


Table 5



The teachers consider the playground a good environment to increase important aspects of child development, such as: social skills, psychological health, motor development, self esteem, autonomy, new experiences, new relations, movement, motor skills, manual dexterity, to move many parts of the body, to become more conscious, as shown in the table below.

Table 6

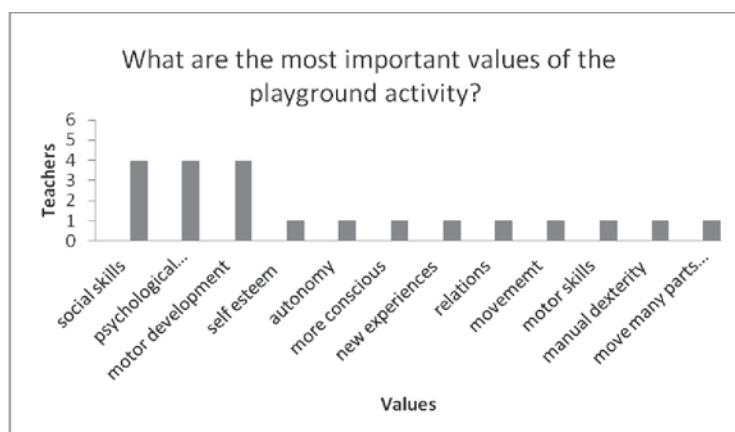
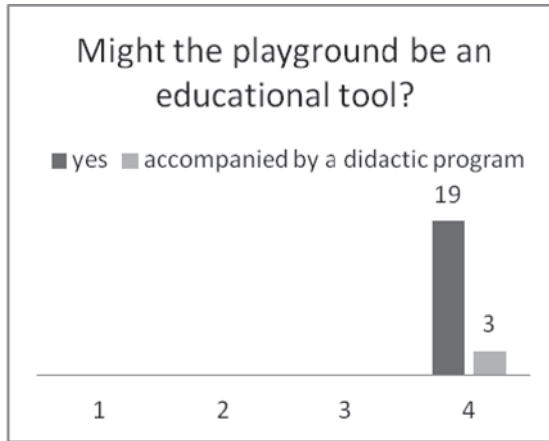
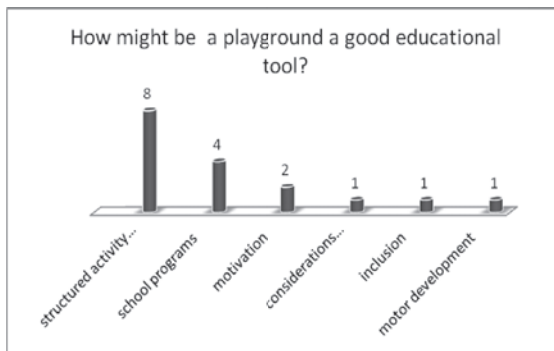


Table 7



For teachers the playground can be an educational tool and they suggest to propose to children both structured activity and free play and to connect the activities to school programs. Teachers recommend also to take time at the end of the experiences to listen children considerations about the activity. They highlight that the playground is a very good opportunity to provide inclusion of all children, also those with special needs. This is due to the environmental organization but also to the activities organization, that provide opportunities of motor development for every child involved.

Table 8



5. Discussion

Scott-Little & Kagan, (2006), cited in Brown et al., (2009) noticed that the educators consider motor development and physical fitness to be less important for children than school readiness. It has been seen a positive association between increased education and experience of teachers and children’s physical activity (Dowda, Brown, Melder, Pfeiffer, O’Neill, Addy *et al.*, 2009). Some authors (Owen, Glanz, Sallis, & Kelder, 2006) recommend to policy makers and practitioners to in-

tegrate appropriate health-related evidence-based physical activities throughout the preschool day. Brown et al., (2009) noticed in a study that rarely teachers encouraged children to be physically active and arranged activities to increase physical activity. They also observed that when the adults were not present or involved with the group of preschoolers, children were more involved in non-sedentary physical activity and when teachers (very rarely) were involved by organizing, modeling, encouraging and acknowledging children's physical activity with a goal, children were more active. Children were also more active when teachers were better informed about preschoolers' general health, physical well-being and children's physical activity. Other studies (Cardon Van Cauwenberghe, et al., 2008) highlighted that children, particularly girls were less active when more teachers were supervising them during play in the playground. The authors supposed that it could be due by the fact that the teachers were passive, supervising sitting down or standing still. Diamond *et al.* (2011), suggest also that the most effective way to improve EF and academic achievement in children is probably to address children's emotional and social development, as it might be possible through physical activity curricula. Children might be involved in passionate activities, bringing them joy and pride; can practice vigorously exercise; have a sense of belonging and social acceptance, have opportunities to repeatedly practice at progressively more-advanced levels.

Our results are in line with the premises about teacher having little knowledge on the importance of physical activity for children (Dowda *et al.*, 2009). Teachers say that children practice physical activity only one hour a week, while international recommendations recommend at least one hour of free play and one hour of structured physical activity every day. The most part of the activities during free play is dedicated to manual dexterity and symbolic game, with very little mobility and balance activity. This aspect demonstrates the low level of moderate or vigorous physical activity, and a lack of attention to the various motor skills and physical fitness fundamental for motor development. Teachers consider the playground Primo Sport 0246 a good educational tool with the opportunity to develop motor, social and psychological skills. To improve the educational opportunities offered by the playground teachers suggest to integrate physical activity with school programs. Attention to motor development, structured activity, children motivation and inclusion and discussion after play are fundamental. Although teachers declare the importance of motor activity, children dedication to movement during school time is low.

6. Conclusion

Obesity and overweight are very important problem for the future of children and to avoid them children need to move more. Although teachers declare the importance of physical activity, children don't have enough opportunities of movement at school. The playground could be a good opportunity to improve children physical activity combining free play and structured activity, as teachers suggest. They consider the playground a possible educational tool, a place of formal and informal education for children. As the recent evidences demonstrate that physical activity is important for child development, for health, self-perception, social skills, school readiness and academic success, it is necessary to encourage preschool teachers in organizing appropriate physical education training programs.

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