

# Influencing factors on children's physical activity

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## *What makes them move?*

Today children have a lack of physical activity. Of all Dutch children, nearly 50% does not meet up with the physical activity suggestion of 60 minutes a day, twice a week moderate physical activity (Maffeis & Castellani, 2007; NISB, 2011). The international perspective is not better, only 18% of the American Children meets the National Association for Sport and Physical Education guideline, which is a minimum of 60 minutes physical activity every day (Ogden & Carroll, 2010).

A few studies indicate physical activity changes consistently with age. There is an increase from 3 to 8 years of age, but after the age of 8 to 18 there is a decline in physical activity (Dencker and Andersen, 2008).

Today we know which health related risks come with a lack of physical activity and excessive diet intake (Livingstone, 2001). It causes overweight and obesity and is a real problem because of its comorbidity with a lot of diseases: diabetes type II, hypertension, cardio vascular diseases and locomotors dysfunction (Kiess et al, 2001; Miller, Rosenbloom & Silverstein, 2004; Tamsma, Nieuwdorp, Huisman & Stroes, 2005). Another common reported effect is children having psychosocial issues and develop sleeping problems, because of the appearance they're getting picked on by peers (Bluk-Bunschoten, Render, Leerdam & Hirasing, 2005).

The prevalence of obesity among children is increasing. 17% of American children (Ogden and Carrol, 2010) compared to 14% in The Netherlands (TNO, 2009), 18% in United Kingdom and 24% in Italy (WHO, 2011). So obesity is becoming a huge problem in Europe too. The prevalence of overweight in children worldwide is 20 – 35 % (Maffeis & Castellani, 2007)

With this information in our minds, the question is which interventions can we use to increase physical activity in order to decrease the number of obese children? How can we prevent our children from becoming obese?

### **Which factors are influencing the physical activity?**

In the quest for answers one must first know what the influencing factors on physical activity for children are, and what factors don't have an influence on the daily physical activity of children.

### **The effect of different built environments on physical activity**

People often think that the built environment that children grow up in, is an indicator for physical activity levels (Maffeis & Castellani, 2007), mostly because of the fact that rural adults are less physically active than adults in urban areas (Sandercock, Angus & Barton, 2010). Sallis, Prochaska & Taylor (2000) provide us with a consensus given by a systematic review: access to sports facilities and programmes and time spent playing outdoor is consistently associated with the physical activity of children. But is that really a matter of living environment from children? And can we find differences in rural, sub urban and urban environments? The study of Sandercock et al (2010) gives us an answer in his systematic review in which he compares children's physical activity in countries all over the world. There is no difference in physical activity found in relation to where children live. Another study (Jones, van Sluijs, Ness, Haynes & Riddoch, 2010) defines a smaller environment, the neighbourhood. The main question was if physical activity would be influenced by how the neighbourhood was derived. Their answer is plain and simple; there is no relation between how the neighbourhood is defined and the amount physical activity children.

There is obviously no reason to think that living environments have an effect on children's physical activity levels which leads us back to the question: what does influence it then?

### **What is the influence of parents and teachers for physical activity of children?**

Lifestyle and physical activity levels of children is commonly affected by their parents (Maffeis & Castellani, 2007). If parents support their children to be physically active, for example when parents give their children the opportunity to perform sports, prevent them to play with computer games, or encourage their children to imitate lifestyle physically active peers, the behaviour of the children will be influenced and they will become more active (Maffeis & Castellani, 2007).

The influence of teachers may also not be underestimated. While school lunchtime provides children a perfect opportunity to engage in physical activity (Willenberg et al, 2010). The intensity, in which children play at the playground of school, increases with 5-fold in boys, and 4-fold in girls when a teacher is supervising at the yard. (Sallis et al, 2001).

This tells us both parents and teachers have the influence to change the physical activity levels of children. This is an intervention-opportunity.

### **How can playground markings and physical structures influence children's physical activity?**

The setting in which children attend to perform physical activity should be very differential, according to Wiersema (2007). But does classification of the playground influence on physical activity, and how should the playground be defined to get optimal results? Study of Willenberg et al (2010) shows that playground markings and structures affect the physical activity of children. Also colourful lines that define a playground show effect.. Stratton & Mullan (2005) did research in how playgrounds with multi-coloured markings affected physical activity levels of children, and they showed a significant increase of physical activity. Painting the existing playground markers to colourful markings caused this increase.

When a playground is divided into different areas; a red sports area; a blue multi-activity area and a yellow quiet play zone, children's physical activity increases significantly(Statton & Mullen, 2005).

This tells us that a well designed playground with preferably, multi-coloured ground markings and challenging physical objects can influence children's physical activity greatly.

## **Conclusion**

The aim of this paper was to find out which factors could influence physical activity levels of children and how we could prevent children from becoming obese.

It is known that environmental built factors have no influence on the physical activity of children. The availability of sport and play facilities in a neighbourhood are more of value (Sallis, Prochaska & Taylor, 2000).

This paper provides an answer on how parents and teachers can be an important factor on increasing physical activity. It has shown that they both have the influence to increase the physical activity and this gives an opening for a future intervention. But the most important conclusion can be found in the last paragraph. It tells that the influence of playground structures and multi-coloured are of great value when it comes to influencing the physical activity of children during recess.

As closure I think the answer to the question how we can prevent our children of becoming obese can be found in the question: what makes these children move?

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