

Kids Who Spend Too Much Time On The Couch Have Poorer Motor Coordination

A study published in the *American Journal of Human Biology* shows that children who are sedentary for over three-quarters of their time, watching TV or spending time in front of the computer have up to nine times poorer motor coordination compared to those who are active.

The study revealed that it is not sufficient to combat the negative effect of sedentary behavior on basic motor coordination skills like walking, throwing or catching with physical activity alone. These activities are thought to be the basis to more complex movements.

Leading researcher Dr Luis Lopes, from the University of Minho, said:

"Childhood is a critical time for the development of motor coordination skills which are essential for health and well-being. We know that sedentary lifestyles have a negative effect on these skills and are associated with decreased fitness, lower self-esteem, decreased academic achievement and increased obesity."

The team involved 110 girls and 103 boys, between the ages of 9 to 10 years, from 13 urban Portuguese elementary schools and objectively measured the children's sedentary behavior and physical activity by using accelerometers over 5 consecutive days. Accelerometers small devices attached to the waist that quantifies movement counts and intensities. In addition, they assessed the children's motor coordination by using the KTK test (Körperkoordination Test für Kinder), which involves assessing their balance, jumping laterally, shifting platforms and hopping on one leg over an obstacle.

The children's parents were surveyed with regard to their offspring's health variables, after which the team entered the results into 3 models to calculate odd ratios for predicting motor coordination. The findings were then adjusted for physical activity and accelerometer wear time, waist to height ratio and home variables.

The findings showed that the children spent an average of 75.6% of their time being sedentary. However, the effect on motor coordination was observed to be greater on boys than girls. Girls who spent 77.3% or more time being sedentary had a 4 to 5 times higher risk of not having normal motor coordination compared with girls that were more active, yet the risk for boys who were sedentary for over 76% is 5 to 9 times higher of having normal motor coordination compared with boys who are active.

Lopes remarked:

"It is very clear from our study that a high level of sedentary behavior is an independent predictor of low motor coordination, regardless of physical activity levels and other key factors. High sedentary behavior had a significant impact on the children's motor coordination, with boys being more adversely affected than girls."

Few studies so far have researched the association between sedentary behavior and motor coordination. However, the results show that physical activity did not counteract the negative impact of high levels of sedentary behavior on motor coordination.

Lopes concludes:

"The results demonstrate the importance of setting a maximum time for sedentary behavior, while encouraging children to increase their amount of physical activity. We hope that our findings will make a valuable contribution to the debate on child health and encourage future investigations on this subject."