



To: Neighbourhoods and City Development

From: Adrian Davis

Date: 22/06/12

Subject: Essential Evidence on a page: 84 Physical Activity compensation in British 8–13 year olds

Top line: There is no evidence among young people that becoming more physically active through certain activities leads to a compensating reduction in other activities. Active travel also allows children to leave their low-activity homes to play or visit friends.

There is a general need to increase level of physical activity across the population.¹ For the age group 5-18 the recommendation is that they should engage in moderate to vigorous intensity physical activity for at least 60 minutes and up to several hours every day. Vigorous intensity activities, including those that strengthen muscle and bone, should be incorporated at least three days a week. All children and young people should minimise the amount of time spent being sedentary (sitting) for extended periods. Using self-report data, which is likely to over-estimate the amount of physical activity undertaken each week, less than a third of children reach the minimum of 1 hour per day.

Consequently, when particular physical activities are being promoted there is a need to ensure that there is no compensation effect, that is, because a child may have started walking or cycling to school instead of being driven, could it result in them giving up playing football or swimming which might result in a lower total physical activity level? Evidence for activity compensation among children and young people has been mixed.

A recent UK study found, in a sample of 345 8–13 year olds, school breaks and out-of-home play made particularly large contributions to total daily moderate/vigorous physical activity (MVPA), reflecting the comparatively large proportion of children's time spent in these behaviors.² Higher total daily breaks, school /non-school active travel, sport or play may translate into increased total MVPA was also independently predicted by time spent in PE/games lessons, school active travel, non-school active travel and structured sports. None of these behaviors showed evidence of activity compensation but children using active travel on weekdays were more active at other times.

The study adds to the evidence that increasing time spent in PE/games, school breaks, school/non-school active travel, sport or play may translate into increased total moderate/vigorous physical activity. The findings further suggest that in addition to its direct contribution to MVPA, active travel also allows children to leave their low-activity homes to play or visit friends' homes. This evidence of activity synergy extends previous analyses of questionnaires from a sub-sample of the research team's study population, in which children allowed to go out alone were more likely to report 'often' going outdoors or visiting friends. Moreover, this evidence builds on that undertaken through the PEACH study³ using objective data monitoring which provided evidence that the journey to school is purposeful and contributes to higher total physical activity and MVPA in children.

¹ Department of Health, 2011. *Start Active, Stay Active. A report on physical activity for health from the four home countries' Chief Medical Officers*. London: DH.

² Goodman, A. et al 2011 Activity compensation and activity synergy in British 8–13 year olds, *Preventive Medicine* 53: 293–298.

³ Cooper, A. et al 2010 Mapping the Walk to School Using Accelerometry Combined with a Global Positioning System, *American Journal of Preventive Medicine*, 38(2):178 –183.