CARDIORESPIRATORY FITNESS IN FLEMISH ADOLESCENTS AND ITS RELATIONSHIP WITH LEISURE-TIME PHYSICAL ACTIVITY, ACTIVE TRAVEL TO SCHOOL AND SCREEN-BASED SEDENTARINESS.

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Introduction
Cardiorespiratory fitness is a key component of overall physical fitness and has been identified as a powerful health index in youth (Anderssen et al., 2007). The apparently obvious positive association between cardiorespiratory fitness and physical activity still requires further research. Therefore, the main objective of this study was to evaluate the association of cardiorespiratory fitness with leisure-time physical activity, active travel to school and screen-based sedentary behaviour in a sample of Flemish adolescents.

Methods
Participants were 11- to 13-year-old boys (N=138) and girls (N=180). Cardiorespiratory fitness was indirectly assessed using a 20-m endurance shuttle run test. A self-reported questionnaire was used to assess gender, age, Body-Mass-Index, leisure-time physical activity, active commuting to school and screen-based media use. A linear regression analysis was performed to check which variables could significantly predict performance on the 20-m endurance shuttle run test.

Results
In boys, the significant parameters in the age-adjusted regression model to predict cardiorespiratory fitness were Body-Mass-Index (Beta = -.320, $p<.001$) and the degree of leisure-time physical activity (Beta = .390, $p < .001$) (total adjusted R squared = .320). In girls, Body-Mass-Index (Beta = -.294, $p<.001$), leisure-time physical activity (Beta = .272, $p < .001$) and screen-based sedentary behaviour (Beta = -.198, $p<.01$) were identified as significant predictors of their performance on the 20-m endurance shuttle run test (total adjusted R squared = .186). In girls, cycling to school tended to be positively associated with the level of cardiorespiratory fitness (Beta = .129), but this association did not reach the level of statistical significance ($p = .079$).

Discussion
This study confirmed that physical activity is positively associated with cardiorespiratory fitness in youth, irrespective of gender (Ortega et al., 2008). The present study also showed that the amount of screen-based sedentary behaviours was inversely related with the level of aerobic fitness, particularly in girls. This finding was also consistent with a study in Australian school children (Hardy et al., 2009). In contrast to some other studies (Cooper et al., 2006; Voss & Sandercock, 2010), however, no clear significant relationship was found between performance on the 20-m endurance shuttle run test and active commuting to school. Nonetheless, our findings support the idea that increasing physical activity and reducing sedentary behaviour could be a promising strategy to enhance the level of aerobic fitness and to promote health in adolescents.

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