

EXPLORING THE CONTRIBUTION OF MULTIDIMENSIONAL SCHOOL AND PE-BASED CORRELATES TO ADOLESCENTS' PHYSICAL ACTIVITY.

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Background

Regular physical activity participation is an important contributor to a healthy lifestyle for children and adolescents. In recognition of health related benefits associated with physical activity, guidelines have been developed to encourage participation. The primary recommendation is that children and young people accumulate at least 60 minutes of moderate-to-vigorous physical activity (MVPA) each day (NASPE, 2004; NICE, 2009). However, current evidence suggests that young people often engage in low levels of physical activity, and sedentary lifestyles remain a problem (Muller-Riemenschneider et al., 2008). Schools are highlighted as important settings for the promotion of physical activity as within this context young people are exposed to a variety of opportunities for physical activity engagement (Cohen et al., 2008). One such opportunity is Physical Education (PE) which can directly and indirectly influence young people's physical activity levels (Stratton et al., 2008). However, the fact that many young people currently do not meet public health physical activity guidelines suggests that there is a need for school and PE-based correlates of youth physical activity to be better understood.

Research Questions

The study employed two major research questions: (1) What is the contribution of school and PE-based correlates to adolescents' physical activity levels?; and (2) How and why do identified school and PE-based correlates influence youth physical activity?

Methods

One-hundred and thirteen Year 8 and 9 students (83 girls, 30 boys; aged 12-14 years) from three schools in North West England participated in this study. The schools were community secondary schools of similar size, following the English National Curriculum for Physical Education. The study received institutional ethics committee approval and employed a mixed quantitative and qualitative approach. Physical activity predictor variables were measured including gender, body mass index (BMI), year group, biological age (Mirwald et al., 2002), deprivation score, Perceived PE Worth and Perceived PE Ability (Hilland et al., 2009), physical activity in PE (PAQ-C; Crocker et al., 2007), out of school physical activity impact and awareness, and school environment. Additionally, all students wore a uni-axial accelerometer for seven consecutive days to determine the outcome variable, which was number of daily minutes engaged in MVPA. Once the significant school and PE-based correlates of youth physical activity had been determined, four student focus group interviews were conducted in each school. Focus groups consisted of between 4 and 6 students, who were purposefully selected from the initial pool of 113. In order to obtain views from students with a wide range of PE competencies, students were selected based on their PE teachers' ability ratings. A semi-structured interview format was adopted, providing depth through probe questions. The principal investigator conducted all focus groups. Each interview was recorded and later transcribed verbatim.

Frame

The study was set within the theoretical framework of Welk's (1999) Youth Physical Activity Promotion Model (YPAPM). Within the YPAPM physical activity participation is predicted by interactions among four hierarchical categories of factors labelled predisposing, reinforcing, enabling and personal demographics. These factors consist of established youth physical activity correlates. This conceptual framework may be applied to the PE setting as PE is identified as an important context to help promote youth physical activity (Welk, 1999).

A two-level (pupil, school) multilevel analysis was used to assess the impact of the predictor variables on minutes of MVPA, utilising a simple, best fit model. The focus group data analysis was carried out according to thematic analysis and data were organised using the NUD*IST NVIVO application. Raw data themes were initially identified and coded, and were then categorised under higher order themes using a deductive approach, based on established theory and research findings.

Research findings

Minutes of MVPA were significantly predicted by gender [-15.819 (4.576) boys], Perceived PE Ability [9.079 (3.055)] and number of students on roll [0.009 (0.004)]. Specifically, the most active students were boys with higher Perceived PE Ability, from schools with higher student numbers. In addition, BMI and deprivation score were retained as they significantly improved the model fit. Analysis of the focus group transcripts revealed a number of positive and negative themes associated with students' Perceived PE Ability. The main positive themes included positive teacher and peer feedback, perceptions of competence, sports team selection, improvement, enjoyment, success, and comparisons with peers. Negative themes included perceptions of incompetence, difficult activities/sports, problems external to self, negative teacher feedback, comparison against peers/teachers, and lack of enjoyment. Reasons for the gender difference in MVPA may relate to girls' perceptions of barriers to physical activity and their numerous reasons for disliking PE, as on both of these topics, girls highlighted more issues than boys.

There are a number of implications from this research for PE teachers, including promoting students' Perceived PE Ability, as this was a key correlate of physical activity. This may be achieved by giving quality instruction, praise and encouragement (Chase, 1998), providing a range of activities that students feel competent in, and facilitating opportunities for each student to experience success (Carroll and Loumidis, 2001). Other strategies may involve focusing upon personal improvement, and the mastering of tasks and effort applied, rather than social comparison (Ntoumanis, 2001). Moreover, to help increase girls' physical activity levels there is a need to focus on reducing perceived barriers towards physical activity such as boredom, lack of time, lack of opportunity and information, negative experiences, access and transportation. Intervention strategies based on a whole school approach should be explored to help girls overcome these perceived barriers.