

Original paper

Engaging adolescent girls from linguistically diverse and low income backgrounds in school sport: A pilot randomised controlled trial

Dean A. Dudley^{a,b,c,*}, Anthony D. Okely^{b,c}, Philip Pearson^{b,c}, Jennifer Peat^{b,c}

^a School of Human Movement Studies, Faculty of Education, Charles Sturt University, Australia

^b Child Obesity Research Centre, University of Wollongong, Australia

^c Faculty of Education, University of Wollongong, Australia

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Abstract

The purpose of this study was to determine the feasibility, acceptability, and potential efficacy of a school-based physical activity program delivered during school sport time among adolescent girls from low income predominately linguistically diverse backgrounds in New South Wales, Australia. Using a 3-month, 2-arm, parallel-group pilot RCT design, 38 adolescent girls (Year 11) were recruited to participate in the program and randomised into intervention ($n = 17$) or control groups ($n = 21$). The intervention program aimed to increase physical activity by improving enjoyment, physical self-perception and perceived competence. Baseline and follow-up (12 weeks) assessments included enjoyment of physical activity, physical self-perception, and objectively measured physical activity during school sport sessions. Process data were collected through observations of lessons, attendance records, and interviews with participants and staff. Recruitment (63%) and retention (68%) goals were less than anticipated but similar to other studies. Participation was higher for the intervention (72%) than the control (60%) group and the intervention group reported high levels of satisfaction with the program. At follow-up, girls in the intervention group, compared with the control group, showed greater improvement in their enjoyment of physical activity during school sport (adjusted mean difference = 3.8, 95% Confidence Interval [CI] -2.4, 10.1; Cohen's $d = 0.42$ standard deviation units) and body image (adjusted difference mean = 1.0, 95% CI -0.4, 2.3; $d = 0.50$). There was a smaller decline in participation in physical activity during school sport (adjusted mean = 13.6, 95% CI -21.8, 48.9; $d = 0.24$). This study highlights major barriers confronting adolescent girls' participation in school sport. Some of these include teacher attitudes and support, activities and programming, purpose and distinction, and student input. Negotiating these barriers and overcoming them in a school setting appears feasible with support from the entire school community.

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1. Introduction

The NSW Schools Physical Activity and Nutrition Survey (2004)¹ found that participation in physical activity declined precipitously among adolescent girls, especially from lower socio-economic and non-English speaking backgrounds from Year 8 to Year 10. Furthermore, among Year 10 girls the prevalence of adequate activity was markedly lower among those from Asian and Middle-Eastern cultural backgrounds compared with those from English-speaking and European backgrounds.

Sociocultural, organisational and environmental influences on school-based physical activity play an important role in determining a school's ability to run an effective school sport program. School sport, being an integral part of secondary schooling in Years 7–11 in New South Wales (NSW), Australia, can be problematic in its administration and operation. It is a separate curriculum to Personal Development, Health, and Physical Education (PDHPE) and accounts for 80–120 min of teaching time per week.²

School sport is often taught and staffed by teachers from a variety of subject faculties, with a range of backgrounds and perceptions. Teachers responsible for its organisation are confronted with many obstacles, ranging from student participation, teacher supervision, budgeting, venue book-

* Corresponding author.

E-mail address: ddudley@csu.edu.au (D.A. Dudley).

ing, truancy, timetabling, and uniform policies. This study was focused on a public secondary school for girls situated in south-west Sydney, with a high proportion of students from low income and linguistically diverse backgrounds. Teaching staff had expressed concerns about the effectiveness of their school sport curriculum in engaging their students in regular and meaningful physical activity. Little-to-no research has been conducted on school sport curriculum in Australia and its implementation in secondary schools, yet it remains as a focus of physical activity in most secondary schools in NSW.

The purpose of this study was to determine the feasibility, acceptability, and potential efficacy of a school-based physical activity program delivered during programmed school sport time and designed to meet the general needs and interests of adolescent girls as well as function effectively within the constraints of the school environment.

2. Methodology

This study was a 3-month 2-arm parallel-group pilot randomised controlled trial in a single-sex (girls) secondary school situated in south-west Sydney. The school had expressed concerns about the high level of absenteeism by the students on days when school sport was timetabled. They had also expressed concerns about the lack of engagement by students who did attend on these days.

The population comprised all Year 11 (non-compulsory schooling age) students at the school. To be eligible for the study girls needed to have a low level of enjoyment of physical activity (defined as scoring less than 60 on the PACES physical activity enjoyment questionnaire where scores could range from 16 to 90. This indicated that they did not tick 'enjoy' or 'really enjoy' on any of the questions).³ Participants were randomised into control or intervention groups after baseline measurements were taken using a computer-based random-number producing algorithm and the bias coin method, which is designed to overcome problems of unequal group numbers whilst maintaining the advantages provided by randomisation.⁴ The control group continued with the existing school sport program whilst the intervention group received the program. Pre- and post-intervention assessments occurred from October 2005 to April 2006.

Formative data were obtained through a series of focus group interviews conducted with eligible and consenting participants prior to randomisation and were used to aid the design of the intervention. These focus groups asked about their interests in physical activity and how they would like to see school sport structured in their school. It also investigated the positive and negative aspects of the existing school sport program. Several themes emanated from this research that suggested teacher knowledge and attitudes, type of activities, purpose and programming, and lack of student input were barriers to engaging in school sport.

The intervention was based on Social Cognitive Theory (SCT),⁵ which focuses on the interplay between personal, behavioural, and dynamic factors. Development and implementation of the intervention were structured around these three factors. In addressing the personal factors identified in SCT, the intervention program sought to influence the value systems that reinforce the low emphasis and importance of school sport within the curriculum. This was in particular reference to the values held by adolescent girls, non-physical education teaching staff and the school's executive faculty. Behavioural factors associated with participation in school sport were addressed by having participants feel competent about their physical activity and enjoying these experiences⁶. The intervention also allowed the teachers to participate freely in the activities and to enjoy the physical activity experiences with their students. Finally, the environmental factors were addressed by utilising existing community sporting infrastructures that were not used by the school and modifying existing school sporting infrastructures in order to make them more accommodating for the school sport curriculum without any additional capital outlay.

The intervention was implemented during school sport over the course of an 11-week school term. There were six fortnightly sessions over the term with each lasting 90 min. School sport was programmed to take place immediately after the scheduled Thursday lunch break. Participants discussed what physical activities they enjoyed, or were interested participating in during focus groups prior to randomisation. The researcher and teaching staff from the school designed a sport program to reflect those areas of enjoyment and interest identified in the focus groups. To incorporate the needs of adolescent girls from non-English speaking backgrounds (predominately Asian and Middle-Eastern), this intervention was designed to address both their interests and the sensitivities of dealing with such cultural groups. In an attempt to be sensitive to these issues, the intervention did not focus on obesity prevention. As a result of the formative research, the intervention consisted of enjoyable, challenging, and new activities such as yoga/pilates/dance sessions run in a classroom using commercially purchased instructional videos, an introductory tennis-coaching course, and aquatic games run at a local council swimming pool. The design and conduct of these sessions involved constant negotiation and collaboration with the participants.

A female physical education teacher aged in her twenties who was involved in the development of the program taught the intervention program. This teacher ran prepared sessions, designed by her and the researcher, using resources from within the school and within the immediate neighbourhood. The teacher's role was to act as a facilitator and role model for physical activity by participating in the activities with the girls. For example, whilst each of the sessions was planned, she had the flexibility to negotiate changes in the actual delivery of the sessions based on participant feedback.

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