Engaging adolescent girls in school sport: a feasibility study

Dean Dudley

University of Wollongong

Follow this and additional works at: https://ro.uow.edu.au/theses

Recommended Citation


Research Online is the open access institutional repository for the University of Wollongong. For further information contact the UOW Library: research-pubs@uow.edu.au
NOTE

This online version of the thesis may have different page formatting and pagination from the paper copy held in the University of Wollongong Library.

UNIVERSITY OF WOLLONGONG

COPYRIGHT WARNING

You may print or download ONE copy of this document for the purpose of your own research or study. The University does not authorise you to copy, communicate or otherwise make available electronically to any other person any copyright material contained on this site. You are reminded of the following:

Copyright owners are entitled to take legal action against persons who infringe their copyright. A reproduction of material that is protected by copyright may be a copyright infringement. A court may impose penalties and award damages in relation to offences and infringements relating to copyright material. Higher penalties may apply, and higher damages may be awarded, for offences and infringements involving the conversion of material into digital or electronic form.
ENGAGING ADOLESCENT GIRLS IN SCHOOL SPORT

A FEASIBILITY STUDY

By

DEAN DUDLEY

From

THE UNIVERSITY OF WOLLONGONG

FACULTY OF EDUCATION

2007

A research project submitted in partial fulfilment of the requirements for the award of the degree

MASTER OF EDUCATION (RESEARCH)
Abstract

Aim: 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 needs and interests of adolescent girls, as well as function effectively within the constraints of the school environment.

Methodology: 38 adolescent girls (Year 11) were recruited to participate in the program as either intervention (n=17) or control group (n=21) participants. The intervention program aimed at increasing physical activity by improving enjoyment, physical self-perception and perceived competence. Baseline and follow-up (11 weeks) assessments included enjoyment of physical activity (PACES), physical self-perception (PSPP), and physical activity (accelerometers). The study also contained qualitative data collection to formulate the intervention design and quantitative data to allow for greater understanding of the needs and wants of adolescent girls with regard to their school sport programs. This qualitative data was collected through focus group interviews, observations, and teacher/student commentary.

Results: The results were reported in terms of comparison between intervention and control groups based on the analysis of data from each of the collection instruments. Results also contain a discussion on the formative qualitative data.

Conclusions: Data 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.

Furthermore, the study showed that the intervention was able to achieve a positive medium effect on enjoyment of physical activity and perceived body image (0.42 and 0.50 respectively, using Cohen’s d). A novel finding of this research was a slowing in the decline of physical activity even though intervention and control groups were engaged in programs with significantly different estimated rates of energy expenditure. Intervention and control group mean energy expenditure was 4.25 and 6.2 respectively indicating that future physical activity interventions should focus on interest and enjoyment rather than programming for increased levels of intensity.
ACKNOWLEDGEMENTS

I wish to acknowledge and thank the following people, who have made significant contributions to this thesis. Firstly, I would like to thank Dr Tony Okely and Dr Philip Pearson (supervisors of this project). Their willingness to share their expertise and knowledge as well as provide guidance and direction to the study made this a very life changing and enriching experience.

To Leslie Pennicook, Alison Traill, Sandra Georges, and Mariam Ibrahim for sharing your passion to make physical activity in your school a priority and the countless sacrifices you all made in order for this study to be successful.

To Professor Jan Wright, Dr Valerie Harwood and the Faculty of Education at the University of Wollongong for their support and direction in the two additional research subjects that I studied during this project. They have true insight into the field of educational research and special thank you for the financial support received for this project.

To the staff and fellow research students in the Child Obesity Research Centre (CORe) at the University of Wollongong, special thanks, as your expertise and willingness to share that knowledge made this thesis possible.

Finally, to the some 160 girls who participated in this study in one facet or another. Thank you for allowing an unknown teacher to come and disrupt your already hectic academic and social schedules. I truly appreciate all the cooperation you have given me.
### TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstract</td>
<td>i</td>
</tr>
<tr>
<td>Acknowledgements</td>
<td>iii</td>
</tr>
<tr>
<td>Table of Contents</td>
<td>iv</td>
</tr>
<tr>
<td>List of Appendices</td>
<td>vii</td>
</tr>
<tr>
<td>List of Figures</td>
<td>viii</td>
</tr>
<tr>
<td>List of Tables</td>
<td>ix</td>
</tr>
</tbody>
</table>

**Chapter One:**

1. **Introduction**

   1.1 Purpose and aims of the study 4  
   1.2 Research questions 5  
   1.3 Research hypotheses 5  
   1.4 Significance of the study 7  
   1.5 Overview of methodology 7  
   1.6 Limitations 7  
   1.7 Delimitations 9  
   1.8 Definition of terms 9

**Chapter Two:**

2. **Literature Review** 11

   2.1 What are the health benefits of physical activity for people? 11  
      2.1.1 Relationship between adult physical activity and adult health 12  
      2.1.2 Relationship between adolescent physical activity and adult health 14  
      2.1.3 Relationship between adolescent physical activity and adult physical activity 15  
      2.1.4 Relationship between adolescent physical activity and adolescent health 16  
      2.1.5 Relationship between physical activity and adiposity in adolescent girls 17  
      2.1.6 Relationship between physical activity and skeletal health in adolescent girls 18  
      2.1.7 Relationship between physical activity and psychosocial health in adolescent girls 19  
      2.1.8 Relationship between physical activity and academic performance 20  
    2.2 Prevalence and patterns of physical activity in adolescent girls 21  
    2.3 Determinants of physical activity in adolescent girls 22  
      2.3.1 Individual factors 22
2.3.2 Interpersonal factors
2.3.3 Broader social and physical environmental factors
2.3.4 Historical factors
2.4 Secondary schools as sites for physical activity interventions
2.5 School sport (An opportunity for improvement)
2.6 Sport and physical activity in New South Wales secondary schools
2.7 Conclusions from literature review
2.8 Theoretical framework
  2.8.1 Competency Motivation Theory
      2.8.1.1 Competency Motivation Theory’s ability to explain physical activity behaviour
  2.8.2 Social Cognitive Theory
      2.8.2.1 Social Cognitive Theory’s ability to explain physical activity behaviour

Chapter Three:

3 Methodology

3.1 Research design of the study
  3.1.1 Sample Selection
      3.1.1.1 Selection of school
      3.1.1.2 Selection of participants
  3.2 Phase one instruments
      3.2.1 Physical Activity Enjoyment Scale
  3.3 Phase two instruments
      3.3.1 Physical Self Perception Profile
      3.3.2 Social Support Survey (Family and Peer Support Index)
      3.3.3 Accelerometry (MTI Actigraph)
  3.4 Formative research
      3.4.1 Staff focus group interview
      3.4.2 Participant focus group interview
  3.5 Procedures
      3.5.1 Authorisation
  3.6 Data collection
      3.6.1 Baseline data collection
  3.7 The intervention program
  3.8 Implementation of the intervention
  3.9 Intervention evaluation
  3.10 Data entry and analysis
      3.10.1 Survey data
      3.10.2 Accelerometry data
      3.10.3 Analysis of survey and accelerometry data
      3.10.4 Focus group data
      3.10.5 Analysis of focus group data
Chapter Four:

4 Results

4.1 Participants

4.2 The research questions

4.2.1 Research question one

4.2.1.1 Themes relating to adolescent girls participation in school sport

4.2.2 Research question two

4.2.2.1 Student participation

4.2.2.2 Teacher participation

4.2.3 Research question three

4.2.3.1 What worked well in the intervention?

4.2.3.2 What improvements could have been made to the intervention?

4.2.3.3 What was preventing school sport from being an effective source of physical activity in this school?

4.2.4 Research question four

Chapter Five:

5 Discussion

5.1 Research question one

5.1.1 Comparison with literature and explanation of findings

5.1.2 Recommendations

5.2 Research question two

5.2.1 Comparison with literature and explanation of findings

5.2.2 Recommendations

5.3 Research question three

5.3.1 Comparison with literature and explanation of findings

5.3.2 Recommendations

5.4 Research question four

5.4.1 Comparison with literature and explanation of findings

5.4.2 Recommendations

5.5 Strengths of the study

5.6 Weaknesses of the study

5.7 Conclusions

Reference List

Appendices
LIST OF APPENDICES

<table>
<thead>
<tr>
<th>Appendix</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Phase One Information Sheet and Consent Form</td>
<td>140</td>
</tr>
<tr>
<td>B</td>
<td>Physical Activity Enjoyment Survey (Motl, 2001)</td>
<td>144</td>
</tr>
<tr>
<td>C</td>
<td>Phase Two Information Sheet and Consent Form</td>
<td>145</td>
</tr>
<tr>
<td>D</td>
<td>The Physical Self Perception Profile (Fox, 1990)</td>
<td>149</td>
</tr>
<tr>
<td>E</td>
<td>Family and Peer Support Index (Sallis, 1999)</td>
<td>150</td>
</tr>
<tr>
<td>F</td>
<td>Staff Focus Group Questions</td>
<td>154</td>
</tr>
<tr>
<td>G</td>
<td>Participant Focus Group Questions</td>
<td>155</td>
</tr>
<tr>
<td>H</td>
<td>University of Wollongong Ethics Approval</td>
<td>156</td>
</tr>
<tr>
<td>I</td>
<td>NSW Department of Education and Training Approval</td>
<td>157</td>
</tr>
<tr>
<td>J</td>
<td>Evaluation Focus Group Questions</td>
<td>158</td>
</tr>
<tr>
<td>K</td>
<td>Evaluation Survey Form</td>
<td>159</td>
</tr>
</tbody>
</table>
LIST OF FIGURES

Figure 1: Model showing the relationship of physical activity and health
(Blair 1989) 11

Figure 2: Harter’s Competency Motivation Theory adapted for the
physical domain (Weiss 2000) 41

Figure 3: Social Cognitive Theory (Bandura, 1986) 45

Figure 4: Three-tier hierarchical organisation of self perceptions
(Fox & Corbin, 1989) 57

Figure 5: The Study Design 81
LIST OF TABLES

Table 1: SES and Cultural Background of Local Statistical Areas involved in study. (ABS, 2001) 52
Table 2: Timeline for the Study 67
Table 3: Intervention Timetable 71
Table 4: Estimated rates of energy expenditure during study period. (Ainsworth, et al. 2000). 75
Table 5: Details of Participants 80
Table 6: Baseline group characteristics 82
Table 7: Mean values of baseline and follow-up outcome measurements by group 99