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The Promotion of Physical Activity within Secondary Boys’ Schools in the Kingdom of Saudi Arabia

By

Rashid M. Jassas

A thesis submitted in partial fulfilment of the requirements for the award of Doctor of Philosophy of Loughborough University

School of Sport, Exercise and Health Sciences

2012
Acknowledgement

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Abstract

Background
There are concerns over the low proportion of young people in the Kingdom of Saudi Arabia [KSA] who regularly participate in physical activity [PA] (Al-Hazzaa, 2004; Al-Hazzaa, et al., 2011). Schools have a unique opportunity to promote PA and provide adequate PA opportunities for young people via the formal/informal curriculum, school sports programmes, and out-of-hours PA (Dobbins et al., 2009). However, implementing effective PA promotion programmes in schools is a challenge and requires consideration of a range of factors. In Saudi Arabia context, the secondary boys’ school PE programme comprises two main elements: 1) the PE curriculum which is compulsory for all students and includes one 45 minute PE lesson per week; 2) the extra-curricular programme which is optional and comprises the Internal Physical Activity Programme (IPAP) and the External Physical Activity Programme (EPAP). The IPAP activities occur during breaks between lessons whilst the EPAP takes place after school. Both are delivered by PE teachers.

Research Aims
The aims of this study were:
1) To investigate the nature and extent of the promotion of PA in boys’ secondary schools in Saudi Arabia.
2) To explore physical education teachers’ perspectives on the promotion of PA in boys’ secondary schools in Saudi Arabia.
3) To identify the factors that influence the promotion of PA in boys’ secondary schools in Saudi Arabia.

Theoretical Framework
The theoretical framework for the study was based on Social Cognitive Theory (Bandura, 1997) which presumes that PA behaviour is influenced by: personal characteristics; behavioural factors; and environmental factors. In addition, the Active School model (Cale, 1997; Cale & Harris, 2005) was utilised as a conceptual framework, guiding the investigation of PA promotion within schools and the analysis of data.

Methodology
In order to investigate the research questions, a two phased ‘mixed method’ (Creswell, 2009) research project was carried out. Phase one involved a detailed survey questionnaire, informed by the Active School model, which was designed to gather information about PE teachers’ policies, practices and views with respect to the promotion of PA. The questionnaire’s validity was enhanced via a number of Saudi experts who confirmed its appropriateness for use in the Saudi context. Moreover, a pilot study was undertaken to obtain valuable feedback relating to the format, content and clarity of both the survey questionnaire and interview schedule before the main study. The questionnaire was distributed to all secondary boys’ schools in Riyadh in KSA (N=181 schools). The response rate was 52%. The Statistical Package for Social Sciences (SPSS) version 17 was employed in the analysis of the data.
Phase two involved semi-structured interviews. Prior to conducting these, the interview schedule was piloted at one secondary school. Six PE teachers drawn from the survey sample were interviewed and the interview data were then transcribed and analysed using MAXQD10 software.
Research Findings
The survey revealed that two thirds of the secondary boys’ schools had a plan or policy for the promotion of PA, and almost 70% of PE teachers thought that their school significantly contributed to the promotion of PA. Games activities (e.g. football) dominated the PE curriculum, and the majority of schools also organised inter-school games competitions (e.g. league). In contrast, exercise and fitness-related activities (e.g. circuit training) were less common within the schools’ PE curricula. The PE curriculum was viewed by the teachers as the most important avenue to promote PA, followed by the IPAP and EPAP (95%, 91% and 73% respectively). Sports/activity facilities varied between schools, particularly in terms of indoor facilities, and over half of the PE teachers considered their indoor and outdoor facilities to be inadequate for promoting PA (54% and 57% respectively). The vast majority (90.3%) of the schools did not offer PA opportunities to parents/families. Furthermore, three quarters of the teachers expressed a need for professional development specifically in the area of PA promotion. On a positive note, headteachers and local PE supervisors were reported to be supportive of efforts to promote PA in the schools and provided support for both the IPAP and EPAP. All PE teachers, who were interviewed, considered the time allocated to PE programme to be insufficient for promoting PA amongst pupils. Further, some teachers viewed PE lessons as ‘time off’ from serious school subjects and ‘entertaining time’. Most teachers reported that parents considered PE as ‘unimportant’ and/or ‘playtime’.

Discussion/Conclusion
PE teachers’ views on role of schools’ in the promotion of PA were generally positive. The ways in which the teachers practiced the promotion of PA varied and maybe have been due to their narrow understanding of the whole school approach to PA promotion. The teachers focused on the PE curriculum and the PE extra-curricular programmes as the main avenues through which to promote PA within their schools, and gave less attention to other avenues such as the whole school environment. Almost all of the teachers had a sporting philosophy for PE leading them to privilege competitive sports. Although the teachers reported to have support from head teachers and local PE supervisors, many schools were not as conducive to PA promotion as they could be due to the narrow range of physical opportunities on offer, and the teachers’ lack of relevant professional development, the limited sports facilities and the insufficient maintenance of these. In addition, the status of, and time allocated to PE were found to be an issue influencing the promotion of PA in schools. It was concluded that actions could be taken to broaden PA promotion within Saudi schools. For example, policy update and development for PA promotion could be improved to address clothing and changing, traffic/transport, and playground bullying; establish links with outside sports agencies and professionals; and increase PA opportunities before or after school, or at weekends. The findings suggest that if the descriptor ‘comprehensive’ which is widely used to distinguish whole school approaches from curriculum-only models of PA promotion is to be fully realised, schools need to make a clear and explicit effort to promote PA within the social/cultural environment. Further that research is needed on the social and cultural values, norms and perspectives affecting PA promotion in schools.

Key words: secondary school, PA promotion, social cognitive theory, Saudi Arabia, Active School model, PE teachers’ perspectives
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<th>Full Form</th>
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<tbody>
<tr>
<td>BMI</td>
<td>Body Mass Index</td>
</tr>
<tr>
<td>CDC</td>
<td>Centre for Disease Control and Prevention</td>
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<tr>
<td>DiEE</td>
<td>Department for Education and Employment</td>
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<tr>
<td>ELO</td>
<td>Education and Learning Office</td>
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<td>EPAP</td>
<td>The External Physical Activity Programme</td>
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<td>HRE</td>
<td>Health Related Exercise</td>
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<tr>
<td>IPAP</td>
<td>The Internal Physical Activity Programme</td>
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<tr>
<td>KSA</td>
<td>Kingdom of Saudi Arabia</td>
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<td>LEA</td>
<td>Local Education Authorities</td>
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<td>LEAP</td>
<td>Lifestyle Education for Activity Program</td>
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<td>MoE</td>
<td>Ministry of Education</td>
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<td>NHS</td>
<td>National Health Information Centre</td>
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<td>NCPE</td>
<td>National Curriculum for Physical Education</td>
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<td>PA</td>
<td>Physical Activity</td>
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<td>PE</td>
<td>Physical Education</td>
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<tr>
<td>QCA</td>
<td>Qualifications and Curriculum Authority</td>
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<td>SCPE</td>
<td>Document of Physical Education in General Education</td>
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<tr>
<td>SCT</td>
<td>Social cognitive theory</td>
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<tr>
<td>SPARK</td>
<td>Sports, Play, and Active Recreation for Kids</td>
</tr>
<tr>
<td>TAAG</td>
<td>Trial of Activity for Adolescent Girls</td>
</tr>
<tr>
<td>UK</td>
<td>United Kingdom</td>
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<tr>
<td>US</td>
<td>United States</td>
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<td>WHO</td>
<td>World Health Organisation</td>
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CHAPTER ONE

INTRODUCTION

1.1. The background to the study
A high prevalence of physical inactivity has been reported in numerous countries around the world. The World Health Organisation [WHO] has estimated that less than 60% of the world's population is not undertaking at least 30 minutes of moderate intensity physical activity [PA] daily and approximately 3.2 million people die each year due to physical inactivity (WHO, 2004; 2011). Moreover, although statistics on PA from England in 2008 revealed that participation had increased among men and women since 1997, just a quarter (24.3%) of adults in England reported that they had participated in PA for 30 minutes at least five times per week (National Health Information Centre [NHS], 2011). In terms of children and young people aged 4-15 years old, it has been found that few engage in PA (NHS Information Centre, 2011; Stamatakis, 2003).

With respect to the Kingdom of Saudi Arabia [KSA], the country has witnessed economic growth at an incredible rate in recent times which has affected all aspects of individuals’ lives, and changes in PA and eating habits have occurred and contributed to the emergence of patterns of inactivity and sedentary lifestyles amongst Saudis (Al-Hazzaa, 2002). A study of sedentary habits among Saudis aged 30-70 years revealed that 96% of adults do not undertake 30 minutes or more of moderate-intensity PA at least three times per week (Al-Nozha et al., 2007). This high percentage of inactivity among adults is perhaps not surprising as Al-Hazzaa and Al-Rafae (2001) had previously reported that nearly 81% of Saudis aged 20 years and older did not exercise on a regular basis. Thus, the WHO (2011) has estimated that 66.3% of Saudi people may suffer from non-communicable diseases because of their physical inactivity. Even at a younger age, it has been reported that Saudis aged 5-15 years do not meet the minimal weekly requirement for moderate to vigorous PA (Al-Hazzaa et al., 2011). Indeed, from a health perspective, the proportion of Saudis whose
health is thought to be at risk through inactivity is higher than those at risk of hypertension, hypercholesterolemia, coronary heart disease and cigarette smoking (WHO, 2011; Al-Hazzaa, 2004; Al-Hazzaa & Al-Rafae, 2001).

Another point for consideration is the increase in obesity rates in many countries (WHO, 2011). For instance, in the United States [US], a marked increase in obesity and overweight has occurred, and there is a trend towards more obesity and overweight among young Americans (Ogden, et al., 2006). In Bahrain, the prevalence of obesity and overweight among adolescents is relatively high, with approximately 21% of males and 35% of females being classified as obese (Al-Sendi et al., 2003). According to Al-Hazzaa and Al-Rasheedi (2007), the majority of Saudi pre-school children, both girls and boys, have high levels of fat. Furthermore, the trends in body fatness and obesity among Saudi primary school boys increased significantly from 3% in 1988 to 24% in 2005 (Al-Hazzaa, 2007), and a similar increase has occurred among intermediate and secondary school boys (Al-Rukban, 2003; Al-Hazzaa, 2007b). In general, the prevalence of obesity among Saudi boys is higher than among girls (19.3% versus 11.8% respectively) (Al-Almaie, 2005). Indeed, the rise in the prevalence of childhood obesity and weight gain among young Saudi has become a national health concern (Al-Rukban, 2003; Al-Almaie, 2005; Al-Hazzaa, 2007; Al-Hazzaa, 2007b). Al-Nozha et al. (2005) considers that, in order to achieve a reduction in obesity and overweight more Saudis should be encouraged to participate in PA. Thus, obesity and physical inactivity have become a source of concern in KSA and action would seen to be required at different levels to minimise the potential negative health impacts of these on the Saudi nation.

The education system is viewed as ‘critical in educating and providing opportunities for young people to become independently active for life’ (Harris & Penney, 2000, p252). In particular, Physical Education (PE) has been recognised as having a key role to play. For instance, Green (2002, p.95) refers to the ‘taken-for-granted role of PE in health promotion’, and similarly McKenzie (2001) views PE as the most suitable vehicle for the promotion of activity and healthy lifestyles amongst youngsters. According to Fox and
Harris (2003, p.182), the school system is ideally situated to promote health and physical activity, because it:

- offers one of the few settings where the full socio-economic spectrum is both represented and in attendance, where sustained exposure to healthy messages and a healthy experience can be achieved;
- occupies a large proportion of the day for youngsters – school can influence the behaviour of children for 40-45% of their waking time;
- has a primary function to provide a context for learning at a time of development that is characterised by high receptiveness.

However, interventions which focus solely on the PE curriculum to change PA behaviour in youth are recognised to have limitations. For example, Cale (1997) considered that the PE curriculum is just one avenue within schools for activity promotion and other areas such as schools' policies and ethos, can also successfully contribute to increasing PA levels amongst students and school personnel. Harris and Fox (2003, p188) agreed that ‘the focus on physical education provides only one part of the solution’ and that activity promotion should be addressed from different angles in order to achieve optimal levels of physical activity in children.

Moreover, a review by Biddle et al. (2004) of health-related PA in children and adolescents revealed that PE interventions alone are not likely to provide sufficient activity for significant health benefits to be accrued, mainly because the majority of young people’s activity takes place after school hours. Rather, Salmon et al.’s (2007) summary of the effectiveness of PA interventions confirmed that the majority of successful interventions with children are those that integrate both school and family based components. For adolescents, intervention studies show positive outcomes when family and community elements are combined with school-based PA programmes (Salmon et al., 2007). This finding is furthermore consistent with the results of earlier reviews of PA interventions (Wechsler et al., 2000; Timperio et al., 2004).

An understanding of the factors that influence PA is ‘expected to provide information that will allow us to intervene more effectively’ (Sallis & Owen, 1997, p.110). However, young
people’s behaviour, in this case PA, is influenced by a number of interacting biological, psychological, social and environmental factors (Armstrong & Welsman, 1997). As a result, a multilevel approach to PA promotion is recommended, as it acknowledges the notion that such behaviour is influenced by multiple facets of the intrapersonal, interpersonal, physical, and policy and legislative environments (Bandura, 1986; Sallis & Owen, 1999). Furthermore, it portrays PA behaviour as being influenced by the interplay between environmental settings (Spence & Lee, 2003). Indeed, data acquired from qualitative research has highlighted that intrapersonal, social, and environmental factors are very important, and need to be considered thoughtfully in order to help young people to increase their PA participation (Humbert et al., 2006, 2008).

In this respect, the concept of the Active School represents a whole-school approach to the promotion of PA and extends beyond the PE curriculum to consider wider influences on PA. The Active School is a school that is supported by innovative policy that is designed to increase PA participation in a way that is likely to have a positive and sustained impact on activity habits (Fox, 1996). According to Cale (1997), the process of becoming an Active School involves exploring and exploiting seven major avenues through which PA can be promoted: schools' policies; ethos; environment; curriculum; extra-curricular programmes; care and support; and community links. These avenues are intended to be used flexibly to facilitate schools in identifying priorities and planning, selecting and guiding PA promotion efforts that are the most appropriate for them (Cale, 1997; Cale & Harris, 2005).

1.2. Definition of terms: health, physical activity, and physical activity promotion

The literature offers a number of definitions for the terms ‘health’ and ‘physical activity’. The term ‘health’ can be defined as a multi-factorial concept which includes physical, mental and social dimensions. The WHO (1948) defined health as ‘a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity’. Health was later defined by the WHO (1984, p.1) as ‘a resource for everyday life, and not the objective for living, and a positive concept emphasising social and personal resources as well as physical capacities’.
With respect to the term ‘physical activity’, the U.S Department of Health and Human Services (1996, p.20) has defined it as ‘any body movement produced by skeletal muscle actions that results in energy expenditure above the basal level’. Ross et al. (1985) distinguished between types of physical activities in terms of the number of participants involved. For instance, ‘lifestyle activity’ in their view included ‘those activities that may readily be carried over into adulthood because they generally need only one or two people’ (p76). Similarly, Coalter (1996) considered lifestyle activities to be those that are individual, flexible, non-competitive and fitness-oriented. For the purpose of this research, the term ‘physical activity’ is used broadly to refer to competitive sports including team and individual sports and games such as football, basketball and badminton, as well as lifestyle physical activities such as aerobics, cycling and walking.

To gain a good understanding of what is meant by PA promotion, it is firstly useful to look more generally at the concept of health promotion. Health promotion espouses to encompass ‘any planned combination of educational, political, regulatory, and organizational support for actions and conditions of living conducive to the health of individuals, groups, or communities’ (Green & Kreuter, 1991, p.432). This would involve interventions at different levels including the environment, social organisations and individuals (Kelly, 1993). Harris and Cale (2005, p.8) noted how health promotion is concerned with ‘making healthier choices, easier choices’ and how in the same vein, PA promotion should be concerned with ‘making active choices, easier choices’. Griffin (2007) stated that, amongst other factors, health promotion has a role to ‘facilitate the process of engaging individuals or communities in increasing their uptake of sport and physical activity’ (cited in Griffin et al., 2007, p11), while Harris and Cale (2005) also highlighted the need to motivate individuals or groups to participate in PA, as well as develop a physical environment which is conducive to PA participation.
1.3. Research aims and questions

The aims of this research are as follows:

Research Aim 1: To investigate the nature and extent of the promotion of physical activity in boys’ secondary schools in Saudi Arabia. In order to achieve this aim, the following research questions were asked:

1. What types of PA opportunities are offered within boys’ secondary schools in Saudi Arabia?
2. What avenues are used to promote PA in boys’ secondary schools in Saudi Arabia?
3. To what extent do boys’ secondary schools in Saudi Arabia promote PA?

Research Aim 2: To explore physical education teachers’ perspectives on the promotion of physical activity in boys’ secondary schools in Saudi Arabia. In order to achieve this aim, the following research questions were asked:

1. What do physical education teachers understand by the term PA promotion?
2. What are physical education teachers’ views on the promotion of PA?
3. What are physical education teachers’ views on the role of the whole school in the promotion of PA?
4. What are PE teachers’ views on the role of PE in the promotion of PA?

Research Aim 3: To identify the factors that influence the promotion of PA in boys’ secondary schools in Saudi Arabia. In order to achieve this aim, the following research questions were asked:

1. Which factors facilitate the promotion of PA in boys’ secondary schools in Saudi Arabia?
2. Which factors constrain the promotion of PA in boys’ secondary schools in Saudi Arabia?
1.4. The importance of the research
There have been two revisions of the Saudi Curriculum for PE [SCPE] which have considered PA promotion as a key objective of the subject (Ministry of Education [MoE], 1998; 2002). In addition, the increase in inactivity and obesity rates among Saudi people has led to a recommendation for school-based prevention programmes based on PA and diet (Al-Hazzaa, 2002, 2007; Al-Rukban, 2003; Almaie, 2005). For instance, Al-Rukban (2003) drew the government’s attention to schools’ responsibility to promote lifelong participation in PA and healthy behaviour amongst young people, yet also expressed doubt about the effectiveness of Saudi schools to do so. He stated that ‘as the majority of them [young Saudi people] are studying in schools, it is recommended to find out what schools are doing to promote healthy eating and encourage physical activity’ (p.32). This particular study addresses this need by exploring the promotion of PA within Saudi secondary boys’ schools.

1.5. Scope of the research
According to the Saudi Curriculum for PE (MoE, 2002), the school PE programme comprises two main elements. The first is the PE curriculum which is compulsory for all students and includes PE lessons of forty-five minutes per week. The PE curriculum comprises units of study covering athletic activities, games activities, gymnastic activities, outdoor activities and health and fitness. The second main element of the PE programme is the extra-curricular component which is optional and encompasses the Internal Physical Activity Programme (IPAP) and the External Physical Activity Programme (EPAP) (See Figure 1.1).
The IPAP activities are organised by the PE teacher and often occur during breaks between lessons. The EPAP, however, usually takes place after school and mainly involves athletic students who demonstrate outstanding performance and who are willing to participate in sports competitions and leagues, organised between schools (MoE, 1998). In line with the research aims and questions, and due to their relevance to the topic being investigated, all components of the PE programme (the PE Curriculum and the Extra-Curricular Programmes) are investigated in this study.

In addition, and drawing on the main components of the Active School model (see figure 1.2), the study investigates the schools’ policies, ethos, and environment in terms of how schools promote PA via these avenues. Moreover, the care and support afforded to PA promotion, whether this be inside the school setting or beyond, is also examined.
1.6. Theoretical framework

Social cognitive theory [SCT] assumes that if a particular behaviour is to be promoted, it is important to understand the interaction between people and their environment, knowing what individual, social and environmental factors influence individuals (McAlister et al., 2008). While SCT posits that environments (e.g., physical and social) determine behaviours, it also stresses people’s potential capability to alter and construct environments to suit their own purposes. SCT has been implemented in the school setting (Timperio et al., 2005; Lubans et al., 2008; Brown & Summerbell, 2009) and has also frequently been used by interventionists promoting PA for health, particularly among young people at risk of physical inactivity (Stone et al., 1998; Strong, 2005; Sluijs et al., 2007; Salmon et al., 2007; Dobbins et al., 2009). In the school context, PE teachers’ understanding, attitudes and views on the whole school approach to PA promotion are important as their perceptions are likely to influence the nature and extent of PA promotion within schools (Cale, 2000). In addition, SCT suggests that a school’s physical and social environment can influence pupils’ behaviour positively. Thus, the health focus includes aspects relating to the wider school environment such as PE provision, facilities and social norms. As government policies for PE may influence the promotion of PA within schools, it is also
necessary to include both government and school policies in the examination of PA promotion, so that a fuller understanding of PA promotion can be achieved.

1.7. Personal background of the author

I was born in KSA and educated throughout Saudi schools. I frequently reflect on my PE and PA experiences, in particular, how such experiences led me to undertaking a PhD project focused on the promotion of PA in schools. In general, my personal experience of secondary school PE was positive in terms of psychological (e.g. enjoyment) and social (team work) dimensions. As a sports enthusiast, the physical environment for PE at my secondary school was inviting as it had a large pitch, a multiple sports court and large changing rooms. In addition, PE extra-curricular activities offered a range of sports, including football, basketball, volleyball and table tennis.

My positive experiences of PE at secondary school level encouraged me to enrol into the College of Sport and Physical Education in Riyadh which specialises in preparing PE teachers. The teacher education programme was broad and included theoretical and practical models of sport psychology, physiology and sociology, as well as practical sessions in which I was trained to coach a variety of sports.

My first work experience was at the Main Office of the General Presidency of Youth Welfare in Riyadh which provides administrative support and promotes effective management of sports clubs in the Riyadh region. In my post, I was responsible for fulfilment of the Office’s philosophy and reporting on the functioning of sports clubs. In 2004, I moved to the King Saud University in Riyadh to teach PE and sport pedagogy to prospective PE teachers. This involved supervising trainee teachers in schools during their initial teacher training course. Bringing together theoretical and practical knowledge from a variety of contexts to create informed and critically reflective PE teachers was a challenge. As a consequence of my previous experiences and qualifications, the King Saud University offered me a studentship to carry out a research project which focused on the teaching of PE and sport within schools. This project addressed key issues associated with PE such as inclusion, performance and health promotion. A few years later, I undertook a Master
degree in PE at Loughborough University in 2006, which was significant in my professional development as it assisted me in considering the importance of PA, PA guidelines for young people, and whole school approaches for PA within schools. There is no doubt that my experiences, knowledge and interest were important considerations in my choice of subject for my PhD.

1.8. The structure of the thesis
This thesis is organised into eight chapters. This first chapter has provided a background for this study and the primary issues relating to the promotion of PA within schools. It has also identified the aims of the research and the theoretical framework which guided the study. Chapter two reviews the relevant literature including the health benefits of PA to establish the rationale for promoting PA amongst young people, young peoples’ PA levels with reference to current PA recommendations, and the role of schools in the promotion of PA. Chapter three explains the theoretical framework drawn upon to understand the promotion of PA within schools. Chapter four provides an overview of the history and structure of the education system in the Kingdom of Saudi Arabia, and highlights a number of influencing factors within the Saudi context. Chapter five explains the research methodology, including the research approach, data collection procedures, and the process of data analysis. Chapter six presents the findings of the study and chapter seven discusses the findings with reference to the research aims, the literature and the theoretical framework. Finally, chapter eight draws conclusions based on the findings and proposes recommendations for future research.
CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction
This chapter reviews the literature relevant to the promotion of PA within schools. The chapter is divided into four main sections. The first reviews the health benefits of participation in PA. The relationship between health and PA is important as it constitutes the foundation for promoting PA among young people. The second considers PA recommendations for young people, which are of importance in PA promotion because they indicate the duration and intensity of PA that produce positive health outcomes. The third section addresses young people’s PA levels, and the final section explores the role of the schools in the promotion of PA, as well as different approaches to promoting PA within schools.

2.2. Benefits of physical activity for young people
Physical inactivity is the fourth leading global risk factor for mortality, behind high blood pressure, tobacco use, and equal to high blood glucose (WHO, 2002; 2009; 2011). Indeed, PA has consequences for the health of all age groups, including children and adolescents (O’Donovan et al., 2010; Janssen & Leblanc, 2010). However, while the link between exercise and health has been well established in adults, the scientific evidence for such a relationship is still growing for children and adolescents (Rowland, 2007; Janssen & Leblanc, 2010). With this in mind, Blair et al. (1989) suggested a model to examine the effects of PA on young people, based on three key benefits arising from adequate childhood PA:

- The direct improvement of childhood health status and quality of life.
- The direct improvement of adult health status by, for example, delaying the onset of chronic disease in adulthood.
• An increased likelihood of maintaining adequate activity into adulthood, thus indirectly enhancing adult health status.

With respect to the model mentioned above, a variety of PA health outcomes such as improved cardiovascular health and reduced risk factors, skeletal, and mental health are considered.

2.2.1. **Cardiovascular disease and risk factors**

According to the US Surgeon General’s Report (1996), regular PA leads to cardiovascular fitness, which decreases the risk of cardiovascular disease mortality in general, and coronary artery disease mortality in particular. Among adults, Warburton et al.’s (2006) review of the health benefits of PA revealed that observational studies provide compelling evidence that regular PA and a high fitness level are connected with a reduced risk of premature death. Moreover, randomized controlled trials in adults have demonstrated that exercise has a beneficial influence on lipids/lipoproteins (Kraus et al., 2002) and blood pressure (Whelton et al., 2002). However, debate continues regarding the intensity and type of PA needed to achieve the most favourable health gains. This issue will be considered later when the levels of PA among young people are discussed. With respect to young people, Andersen et al. (2011) reviewed the effects of exercise on blood lipids and concluded that cross-sectional studies indicate beneficial effects. However, Riddoch (1998) found PA to have only a weak association with serum lipid and lipoprotein concentration in adolescents. Further, Twisk (2000) acknowledged that there is equivocal evidence that physical fitness has some positive effects on lipid levels. Indeed, the claim of a weak association was supported by the findings of the majority of studies. Tolfrey et al. (2004) studied the effects of exercise volume on pre- and early pubertal children’s lipoprotein profiles and concluded that ‘imposed regular exercise has little, if any, influence on the lipoprotein levels of children and adolescents’ (p. 100). Similarly, Strong et al. (2005) reviewed studies which revealed a weak relationship between PA and total cholesterol, HDL-C, low-density lipoprotein cholesterol (LDL-C) and triglyceride levels. In addition, with the exception of LDL-C levels, Strong et al. (2005) reported that intervention studies,
including clinical or school-based trials (randomized and non-randomized), pointed to a small beneficial effect of PA on HDL-C and triglyceride levels.

High blood pressure is another risk factor which is a major underlying cause of cardiovascular complications and mortality. Regular PA is considered to be a cornerstone in the prevention and management of hypertension among adults (Chobanian et al., 2003). Epidemiological studies have indicated that greater PA or fitness is associated with lower blood pressure. Furthermore, meta-analyses of randomized controlled trials have shown that chronic dynamic aerobic endurance training is able to reduce blood pressure (Pescatello et al., 2004). Similarly, Cornelissen and Fagard (2005) performed a comprehensive meta-analysis and concluded that aerobic endurance training favourably affects blood pressure, body weight, body fat, waist circumference, blood lipids and insulin sensitivity, supporting the general view that PA is important, not only for the prevention of cardiovascular disease, but also in the management of hypertension.

In young people, PA has been found to be associated with lower blood pressure amongst active children (Andersen et al., 2011; Hofman et al., 1987; Fraser et al., 1983). For example, Hofman et al. (1987) measured the hypertension and physical fitness of 2,061 children over a 12 month period and found that their level of systolic and diastolic blood pressure was associated with their level of physical fitness. However, Alpert and Wilmore (1994) analysed the relationship between activity and blood pressure and concluded that aerobic training had only a weak relationship with blood pressure in the normal range. Moreover, Riddoch (1998) reviewed empirical research published from 1992 to 1997 and found two studies that reported no association and six studies that revealed a positive association. Kelley et al. (2003) adopted a meta-analytic approach to examine the effects of exercise on blood pressure in youth and confirmed that there was no clear association between PA and reduction of blood pressure in normotensive young people. In this respect, Despres et al. (1990) claimed that the majority of young people have normal blood pressure levels that are not amenable to change via exercise. Similarly, Kang et al. (2002) highlighted that the encouraging effects of exercise may be more evident in those youth with especially unfavourable risk levels at baseline. This suggestion is also supported by
the findings from a randomized intervention study demonstrating a beneficial effect of physical training in decreasing systolic blood pressure (Ewart et al., 1998). Likewise, Kelley et al.’s (2003) review of youth with systemic hypertension indicated a beneficial effect of aerobic activity programmes of 12 to 32 weeks duration on blood pressure. In an attempt to explain such inconsistent findings, Tolfrey et al. (2000) pointed to two issues that most likely influence the effects of exercise on children: differences in assessment methods employed by studies that preclude a definitive answer, and the level of PA or exercise needed to provide favourable effects. Furthermore, the relationship between physical fitness and CVD risk may be a reflection of ‘genetic predisposition for low levels of fitness and increased CVD risk in susceptible individuals independent of physical activity’ (Biddle et al., 2004, p.681). Nevertheless, the accumulated evidence gained from studies of CVD risk in youth contributes positively to establishing the relationship between PA and youth health. For instance, Kelley et al. (2003) found that a PA intervention with a duration (at least 30 minutes), frequency (3 times/week), and intensity sufficient to improve aerobic fitness (approximately 80% of maximal heart rate) can reduce blood pressure in youth with mild hypertension. On the other hand, their findings suggested that short-term exercise does not appear to reduce resting systolic and diastolic blood pressure in children and adolescents. It has been suggested that the concern regarding youth cardiovascular health can only be addressed by future longitudinal studies that include frequent and accurate assessments of PA and longer follow-up periods into adulthood (Riddoch, 1998; Biddle et al., 2004).

2.2.2. Overweight and obesity

Overweight and obesity are major risk factors for premature mortality and several chronic health problems that reduce the overall quality of life. The WHO (2006) defines obesity and overweight as abnormal or excessive fat accumulation that presents a risk to health, and they are commonly assessed in research and clinical settings using the Body Mass Index [BMI] which is ‘the anthropometric measurement most widely used to assess total body fatness…’ (McGuire & Ross, 2010, p.21). BMI is calculated by dividing body weight in kilograms by height in meters squared. Measuring overweight and obesity in children is
challenging, because there is no standard definition of childhood obesity applied internationally (WHO, 2006).

Despite the difficulty of developing an international standardized definition of obesity in young people, the proportion of obese and overweight youth is reported to be increasing. The WHO (2006) has estimated that approximately 20 million children under the age of 5 years and at least 1.6 billion adults (age 15 and over) are overweight. Wang et al. (2002) examined the growth trends of weight in youth aged 6–18 years from the United States [US], Brazil, China, and Russia, and found that the prevalence of young people classified as overweight increased during the study periods in Brazil (from 4.1% to 13.9%), China (from 6.4% to 7.7%), and the US (from 15.4% to 25.6%). In particular, in the US, estimates of obesity in children and adolescents based on national measurements of weight and height revealed that the prevalence of overweight in youth had doubled between 1999 and 2004 and that 17% of two to nineteen year olds were overweight (Ogden et al., 2006). Although the highest prevalence of overweight was found in the US compared with 13 European countries (Lissau et al., 2004), the weight increase amongst the population in other countries such as KSA is significant and may be similar to that in the US (Al-Almaie, 2005). For instance, an analysis of two sets of KSA data from 1988 to 2005 recorded a significant increase in the proportion of obese boys (fat ≥25% of body weight) from 3.4% in 1988, to 24.5% in 2005 (Al-Hazzaa, 2007).

The increasing prevalence of overweight or obese youth is worrying because obesity is associated with a variety of health conditions such as dyslipidaemia (Stensel et al., 2001) and an increased risk of type II diabetes mellitus (Sinha et al., 2002). Furthermore, there is a likelihood of young people progressing from being overweight to obese. Petit and Berthelot (2005) for example, followed a large sample of people over an eight year period to determine the proportion who shifted from being overweight to obese and found that 28% of women and 20% of men who had been overweight became obese during this time. Similarly, Whitaker et al. (1997) noted that ‘for children three through nine years of age, the child’s and the parents’ obesity status were both important predictors but, as the child aged, the child’s obesity status became the more important predictor’ (p.872). Whitaker et
al. (1997) argued that the probability of obesity in adulthood exceeded 50% for obese children, as compared with about 10% for non-obese children. Furthermore, being overweight in adolescence predicts a broad range of adverse health effects that are independent of adult weight (Must et al., 1992). In particular, with insulin, triglyceride, glucose and diastolic blood pressure, weight gain during adolescence is closely associated with some adverse cardiovascular risk factors (Yarnell et al., 2000), an increased risk of coronary death and non-fatal myocardial infarction (Rosengren, 1999), and the incidence of diabetes, gallstones, colon cancer, and strokes (Field et al., 2001a).

Studies have examined the role of exercise in the management of childhood obesity and findings suggest that the relationship may vary among individuals, depending on obesity status. Owens et al. (1999) found that during physical training, obese children accumulated significantly less visceral adipose tissue as compared with non-exercising controls. Hemmingsson and Ekelund (2007) reported that BMI is found to be significantly associated with PA in obese youngsters, but among non-obese individuals the association is weak. Furthermore, Ekelund et al. (2004) observed an independent association between PA and body fatness, and found the effect of exercise to only be significant for the amount of time spent in moderate and vigorous PA. With respect to PA intensity, Gutin et al. (2002) concluded that there is no evidence to confirm that high-intensity physical training is more effective than moderate-intensity physical training in enhancing young people’s body composition. As a result, Gutin and colleagues (2002) argued that moderate-intensity activity apparently reduces fat percentage to an equivalent degree as vigorous exercise. In summary, studies have indicated that greater amounts of vigorous exercise may be required to have a favourable effect on adiposity in normal weight youth, whereas for obese children, intervention programmes that provide moderate-intensity PA appear to be effective (Strong et al., 2005).

It should be noted however, that the language which medical researchers use to discuss obesity has been criticised for transforming the case of overweight from ‘a sign or symptom’ to a ‘disease on its own’ (Jutel, 2009; Gard, 2011). For instance, Jutel (2009) conducted a review of medical publications from 1964 to 2004 and noted exaggeration in
language used in professional publications over time, including terms such as ‘identification, evaluation and treatment of overweight’, ‘risk factors for overweight’ which became common in research and government reports (Jutel, 2009, p.63). Similarly, Gard (2011, p.2) highlighted that obesity discourse has ‘catapulted obesity out of the medical B grade, occupied by the likes of toenail fungus and back pain, and into the big league alongside AIDS, cancer and heart disease’. According to Gard (2011), the way that obesity is considered by the medical community and media suggested that the world faces a serious obesity epidemic unless measures are taken at the official, institutional and individual levels. For example, one high profile organisation such as the Centers for Disease Control and Prevention [CDC] stated that:

While the U.S. Surgeon General has identified the obesity epidemic as one of the greatest health problems facing the nation today, educators have had their attention elsewhere….. Schools cannot achieve their primary mission of education if students and staff are not healthy and fit physically, mentally, and socially. Thanks to the efforts of these educators and policy-makers, many schools are making important contributions to our nation’s struggle against the obesity epidemic (CDC, 2004, p.4).

The quotation above explicitly enters obesity into a very popular discourse regarding the mission of education, and perhaps narrows the aim of health promotion within schools to managing or/and decreasing pupils’ weight.

According to Nihiser et al. (2007, p.1), BMI is ‘often used [in schools] to assess weight status because it is relatively easy to measure and it correlates with body fat’. Evans and Rich (2011, p.65-67) argued that despite uncertainty associated with the use of BMI as a measure, it has become ‘a central tool in defining ourselves and others as corporeally inadequate or potentially ill’. Evans and Rich (2011, p.70) believe that BMI contributed to ‘pressures that leave some children feeling overly anxious and upset about trying to be the right shape’. In addition, they concluded that some PE teachers equated a thin body not just with being healthy but as an indication of a commitment both to the subject of PE and the aims of losing weight (Evans and Rich, 2011). Cale and Harris (2011) recommended PE teachers adopt a critical awareness of the obesity debates when addressing childhood obesity in their schools, and they proposed that teachers:
• Adopt a broad and holistic approach to health, health education and promotion. Recognise the importance of all dimensions of health rather than allow weight and weight status to dominate.

• Examine your own attitudes, beliefs, values and prejudices concerning the overweight/obese and seriously and honestly question any biases, the foundations on which these are based and the influence they may have on your practice (e.g. in terms of the information and messages you give). Avoid transmitting weightist prejudices but rather try to counteract and challenge them, including any shown by others.

• Carefully consider the health information and messages you give, the validity of these, how they may be received, interpreted and made sense of and how they may make young people feel about themselves and their bodies.

• Avoid sensationalising ‘obesity’ or ‘weight’ and adopt a sensitive, caring approach in which you focus on inclusion and learning through physical activity to try to enable all young people to engage, enjoy and achieve within the physical activity and physical education context.

• Avoid focusing on ‘weight’ as a problem. Outside of the extremes (of thinness and fatness), people can be healthy at any weight if they engage in moderate amounts of physical activity and have a healthy diet. Adopt and promote the view ‘health at any size’ and the message that ‘it is better (and healthier) to be in shape than to be a particular shape’.

• Help all young people, regardless of their size or weight, to feel good about their bodies in order to build their competence, confidence and sense of control. Promote the message ‘learn to like your body’ and help them to see the body not as the enemy but as part of the whole person.

• Provide young people with specific guidance about the importance of physical activity, its contribution to healthy weight management and how to go about becoming more active.

• Consider how ‘obesogenic’ or physical activity promoting, the school and physical education environments are. Focus efforts on making the environment more conducive to physical activity.

(Cale & Harris, 2011, p.14)
2.2.3. Skeletal health

Osteoporosis is a systemic, skeletal disease characterised by low bone density and micro-architectural deterioration of bone tissue, with a consequent increase in bone fragility (Kanis et al., 1994). Skeletal fragility can result from:

- Failure to produce a skeleton of optimal mass and strength during growth.
- Excessive bone resorption resulting in decreased bone mass and microarchitectural deterioration of the skeleton.
- An inadequate formation response to increased resorption during bone remodelling. (Raisz, 2005, p.3318)

Osteoporosis does not produce symptoms until it is noticeably clinically in the form of overt fractures (Hootman, 2007). According to the International Osteoporosis Foundation, osteoporosis is a major and growing health problem in the US, and estimated to affect 10 million people over the age of 50 by 2010 and about 34 million are at risk (www.nof.org, accessed on 02/04/2012). In Europe, the number of osteoporotic fractures was estimated at 3.79 million in 2000, of which 0.89 million were hip fractures. The consequent direct costs of these were estimated at £21 billion (Kanis & Johnell, 2005). Furthermore, based on the expected changes in the demography of Europe, by 2050 such costs are expected to increase to £51 billion (Kanis & Johnell, 2005).

Although twin and family studies have suggested that approximately 85% of the variance in bone density between individuals is genetically determined, factors such as diet and PA can contribute to bone growth (Heaney, 2000; Ralston, 1997, 2001). There is increasing evidence to support the potential role of weight-bearing exercise during growth to reduce osteoporosis risk later in life (The National Institutes of Health, 2001; Karlsson, 2004). Weight-bearing exercise is defined as ‘high impact exercise, attainable in a range of youth sports and activities or in brief sessions of jumping activity’ (MacKelvie et al., 2002, p.256). For instance, aerobics, circuit training, jogging, jumping, Dancing, volleyball and other sports that generate impact to the skeleton can be classified as weight-bearing exercise (Hind & Burrows, 2007). Strong et al. (2005, p.735) point out that ‘The tensile and
compressive forces associated with muscular contractions during weight-bearing activities and specialized exercises such as strength/resistance training have a favourable influence on skeletal tissue’. Consequently, the exercise stimulus needs to be weight-bearing in order to gain the most favourable skeletal benefits.

Furthermore, Strong et al. (2005, p.735) have reported that ‘case studies, correlational studies, retrospective studies of activity in childhood in relation to bone mass in adulthood, comparisons of habitually active and inactive children and adolescents, and comparisons of elite young athletes with less active youth, indicate a beneficial effect of PA on skeletal health’. For instance, the results of the majority of intervention studies of bone mineral density in children and adolescents reviewed by French et al. (2000) showed a significant improvement for the femoral neck, total bone mineral density and lumbar spine. In addition, Boreham and Riddoch (2001, 2003) have reported that the size of the effect of PA on bone mineral density in children and adolescents is, in general, between 5% and 15%, whilst Bass (2000) has recorded an increase ranging from 2% to 30%. The issue of the long-term influences of impact-loading exercise on bone quantity and quality in young people has only recently been investigated. Fuchs and Snow (2002) reported that children who attended seven months of high-impact training maintained 4% greater femoral neck bone and 4% mineral density. Similarly, Nurmi-Lawton et al. (2004) found evidence of sustained higher bone mineral mass throughout the years of puberty in girls undertaking impact-loading gymnastic training. More recently, Gunter and colleagues (2008) confirmed that three years after an intervention (a jumping exercise) with boys and girls aged 8 years, the intervention group had 2.3%, 3.2%, 4.4% and 2.9% greater bone mineral content than controls at the lumbar spine, total hip, femoral neck, and the whole body respectively (p < 0.05), when the confounders of age, maturity and tissue mass were controlled for. The lesson to be learnt from the evidence above is that ‘If this intervention became a regular activity within a mandatory physical education curriculum, children who choose not to engage in sport or physical activity outside of school would gain skeletal benefit’ (Gunter et al., 2008, p.717).
2.2.4. Mental health

The concept of mental health includes ‘subjective well-being, perceived self-efficacy, autonomy, competence, intergenerational dependence, and self-actualization of one's intellectual and emotional potential, among others’ (WHO, 2001, p.5). For young people, mental health has a broad definition and ‘incorporates psychological, social and moral development, the capacity to enter into and sustain satisfying personal relationships and limit distress and maladaptive behaviour to appropriate levels for the child’s age and context’ (The National Health Service, Health and Advisory Service, 1995). Mental and behavioural disorders are estimated to account for 12% of the global burden of disease, and approximately 450 million people suffer from a mental or behavioural disorder (WHO, 2001). With respect to young people, a survey of nearly eight thousand children and adolescents in the UK found approximately 10% to have a mental health disorder to clinically significant levels (Green et al., 2005).

According to the Mental Health Foundation (1999, p.6), a child who is mentally healthy has the ability to:

• Develop psychologically, emotionally, creatively, intellectually and spiritually.
• Initiate, develop and sustain mutually satisfying personal relationships.
• Use and enjoy solitude.
• Become aware of others and empathise with them.
• Play and learn.
• Develop a sense of right and wrong.
• Resolve (face) problems and setbacks and learn from them.

The Department of Health (2004) meanwhile defines mental health difficulties in relation to their impact on a child’s abilities:

Mental health problems may be reflected in difficulties and/or disabilities in the realm of personal relationships, psychological development, the capacity for play and learning and in distress and maladaptive behaviour. They are relatively common, and may or may not be persistent (cited in Action for Children, 2007, p.3).
The Health Advisory Service (1995) categorised the following mental and behavioural disorders in children:

- Emotional disorders (e.g. phobias, anxiety states and depression).
- Conduct disorders (e.g. stealing, and anti-social behaviour).
- Hyperkinetic disorders (e.g. disturbances of activity or attention).
- Developmental disorders (e.g. delay in acquiring skills such as speech).
- Eating disorders (e.g. pre-school eating problems, anorexia nervosa).
- Habit disorders (e.g. sleep problems).
- Post traumatic syndromes (e.g. post-traumatic stress disorder).
- Somatic disorders (e.g. chronic fatigue syndrome).
- Psychotic disorders (e.g. manic depressive disorder).

Atkinson & Hornby (2002, p.6) noted that children’s mental health is important because:

- Mental health difficulties cause distress and may impact on many or all aspects of children’s lives, as well as affecting children’s emotional development, their physical and social development and their educational progress.
- Children’s mental health difficulties have implications for all those involved in their care, as well as those who come into contact with them on a daily basis such as teachers and other pupils.
- Problems unresolved at this early stage can have long-term implications and may lead to a disrupted education, poor socialisation and a lack of mental well-being in adulthood.
- Mental health problems in children increase demands on other services such as social services, educational and juvenile justice services.

The effects of PA or exercise training on young people’s mental health can be analysed from two perspectives; firstly, the role of PA in the prevention of mental illness; and secondly, the relationship between PA participation and good mental health, as well as social and moral development. Mutrie and Parfitt (1998) reviewed the literature on young people and mental, social and moral health, and reported PA to be positively associated with good mental health, especially self-esteem. This suggests that being physically active will diminish the likelihood of suffering from mental health problems (Mutrie & Parfitt, 1998). Similarly, Tortolero et al. (2000) reviewed 48 studies and found a strong to moderate association between young people’s PA and fitness and numerous psychological
outcomes such as improved self-efficacy, a decrease in depression and stress, positive self-concept and positive self-esteem. A review by Strong et al. (2005) concluded that, although cross-sectional studies showed a weak positive association between PA and lower scores on the scales of symptoms of anxiety and depression, strong positive influences of PA and improvement on measures of anxiety and depression symptoms were indicated by quasi-experimental studies.

In terms of young people’s academic achievements, several cross-sectional studies have observed the potential association between PA and direct measures of academic achievement (Mutrie & Parfitt, 1998; Sallis et al., 1999; Daley & Ryan, 2000; Dwyer et al. 2001; Field et al., 2001b). Direct indicators of academic achievement include grade point averages, scores on standardized tests, grades in specific courses and measures of concentration, memory and classroom behaviour (Strong et al., 2005). However, the potential effect of PA or exercise training on youth academic performance has been found to have mixed results. For instance, Mutrie and Parfitt (1998) found little evidence to support the claim that promoting PA can enhance cognitive or academic ability. Sallis et al. (1999) assessed the effects of a two year health-related school PE programme on standardised academic achievement scores in 759 children and found that the programme had no effect on children’s academic achievement. Similarly, Coe et al. (2006) and Ahamed et al. (2007) agreed that academic achievement was not significantly related to PA, and Dwyer et al. (2001, p.235) argued that ‘physical activity and fitness would, at best, make a modest contribution to academic performance’.

However, Carlson et al.’s (2008) longitudinal study of the relationship between time spent in PE and the academic achievement of girls and boys revealed a small but significant improvement in academic achievement in mathematics and reading for girls enrolled in higher amounts of PE (70-300 min per week) but not for boys. Nelson and Gordon-Larsen (2006), meanwhile, analysed data collected from more than 11,000 American adolescents and found that active adolescents were more likely to have higher grades.
2.3. Physical activity recommendations for young people
Regular PA has been recognised as an important component of a ‘healthy’ lifestyle. As a result, various PA guidelines for children and adolescents have been established. Historically, in 1998, the Health Education Authority in the UK proposed recommendations for the PA of young people aged between five to eighteen years. The primary recommendation was that all young people should participate in PA of at least moderate intensity for one hour per day and that young people who currently do little activity should participate in PA of at least moderate intensity for at least half an hour per day (HEA, 1998). Moderate activity was described as ‘activity usually equivalent to brisk walking, which might be expected to leave the participant feeling warm and slightly out of breath’ (Biddle et al., 1998, p.2). Furthermore, a secondary recommendation was that at least twice a week, some of these activities should help to enhance and maintain muscular strength and flexibility, and bone health (Health Education Authority, 1998). More recently, the Department of Health (2011) have produced revised recommendations for young people taking into account the most up to date scientific evidence available as well as the current PA patterns of young people. According to the Department of Health (2011, p.26):

- All children and young people 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.

In comparison with the previous version, the new guidelines (Department of Health, 2011) state more clearly the health benefits of vigorous intensity activity and they also provide a new recommendation on sedentary behaviour.

In addition, several other national-based guidelines have been developed for young people based on scientific rationales. For example, in the United States [US], Healthy People 2010
(U.S. Department of Health and Human Services, 2000) and Physical Activity for Everyone (CDC, 2011) comprise national guidelines to increase the proportion of children and adolescents who engage in vigorous PA that promotes cardiorespiratory fitness three or more days per week for twenty or more minutes per occasion. Similarly, in England, the PE School Sport and Club Links Strategy was launched in 2002 (Department for Education and Skills [DfES], 2008) with the objective of increasing young people’s participation in sporting opportunities. The initial target was for 85% of children to experience a minimum of two hours high quality PE and school sport within and beyond the curriculum each week by 2008; which was achieved (School Sport Survey, 2007). Following this, the PE School Sport and Club Links Strategy was developed into the PE and Sport Strategy for Young People, which aimed to:

- Create a new ‘5 hour offer’ for all 5-16 year olds. We will continue to increase the number of 5-16 years olds taking part in at least two hours high quality PE and sport at school each week; and create new opportunities for them to participate in a further three hours each week of sporting activity, through school, voluntary and community providers.
- Create new opportunities for all 16-19 years olds to participate in three hours each week of sporting activities through their colleges or in local clubs.

(Department of Education, 2008, p.1)

Reviews of PA guidelines for young people have been published (Cale & Harris, 2001; Twisk, 2001) and issues associated with them have been raised. For instance, Twisk (2001) critically reviewed the rationale behind any proposed guidelines and indicated that the scientific evidence on which guidelines are based is rather weak, because of marginal evidence that PA during youth is related to adult health status. As a result, Twisk (2001) suggested that guidelines should focus on aspects other than possible health benefits, such as the establishment of physical habits. Whilst acknowledging their potential use and value, Cale and Harris (2001) expressed concern over the implementation of PA guidelines and highlighted the importance of the adoption of an individualised and differentiated approach when applying them in practice. According to Cale and Harris (2001), such an approach ought to help young people to set attainable and short-term goals as well as encourage engagement in the types and amounts of PA that are appropriate for them. It is worth
mentioning that some of these issues have now been improved upon in the most recent guidelines. According to the Department of Education (2011, p.27), ‘the evidence base is growing rapidly; recent large-scale epidemiological studies, utilising valid measures of physical activity, have demonstrated stronger associations than have been observed previously and have helped to clarify dose–response relationships between activity and specific health outcomes’. Moreover, accompanying the guidelines are suggestions to enhance their appropriate implementation. The quotation below taken from the guidelines illustrates this:

Activities also need to be varied and should provide physical challenges appropriate for each age and stage of development. For young people and those approaching adulthood, physical activity becomes more structured, including regular physical education, sport, dance and active travel, whereas play is a key activity in younger children (Department of Education, 2011, p.28).

2.4. Young people’s physical activity levels
Although the benefits of PA have largely been constructed around epidemiological and experimental data with adults, concerns have increasingly been expressed about the levels and patterns of activity of young people, and their potential impact on both present and future health (Fox & Riddoch, 2000). These concerns have perhaps in part been fired by the divergent viewpoints sometimes found in the literature concerning children’s and adolescents’ PA participation. For instance, an international network of research teams in collaboration with the WHO Regional Office for Europe conducted a study that aimed to provide a unique insight into the health behaviour of young people aged 11, 13 and 15, including PA (Currie, 2004). The study revealed that in all countries and regions and across all three age groups, only 40% of all boys and just over a quarter of all girls met the guidelines of one hour of at least moderate PA on five or more days a week. Moreover, in the vast majority of countries, the proportions meeting the current guidelines declined with age (Currie, 2004).

In England the National Diet and Nutrition Survey which involved a nationally representative sample of young people aged 4-18, estimated that approximately 40% of
males and 60% of females failed to meet the PA recommendation proposed by the Health Education Authority in 1998 (Gregory & Lowe, 2000). Furthermore, it found activity decreased with age for both males and females and that, particularly from early adolescence, girls were much less active than boys. Similarly, in the United States, the Youth Risk Behavior Surveillance System covered a nationally representative sample of students (13,953) aged 14-18 and monitored six categories of priority health-risk behaviours, including physical inactivity (Centers for Disease Control and Prevention [CDC], 2009). Overall, the data from the Youth Risk Behavior Surveillance System showed that the proportion of students who had met the recommended levels of PA for adolescents proposed by Sallis and Patrick (1994) ranged from 17.0% to 27.8% across state surveys (median: 23.7%).

On the other hand, in Europe, Riddoch et al. (2004) objectively monitored the physical activities of approximately 2,185 school-aged children from Denmark, Portugal, Estonia, and Norway, using an accelerometer. They found that 81% of 15-year old boys and 62% of 15-year old girls achieved the minimum activity standard of 60 minutes of accumulated moderate to vigorous PA per day. Although Riddoch and colleagues’ (2004) findings are inconsistent with the self-reported studies mentioned above, such as the National Diet and Nutrition Survey and the Youth Risk Behavior Surveillance System, the differences have been explained by the varying methods of monitoring PA were employed in these studies (Welk, 2002; Armstrong & Welsman, 2006).

In Saudi Arabia, PA and sedentary living among the Saudi population have not been fully investigated and few studies have been conducted (Al-Hazzaa, 2004). Yet, attempts to clarify the current situation regarding PA levels within Saudi, and particularly for young people, have been made. For instance, one study aimed to assess the level of PA among Saudi 7 to 12 year-old boys (Al-Hazzaa, 1993) by monitoring the children’s heart rates outside of school time for 8 hours, two or three times a week on weekdays. The results indicated that boys spent on average 14.6 minutes in vigorous PA and just over 29 minutes in MVPA. Similarly, in 1995, a group of 220 young children between the ages of 7 and 12 participated in a self-report study. Based on the data obtained from parents, it was found
that approximately 24% of children spent more than five hours a week in PA (Al-Hazzaa, 1995). More recently, Al-Hazzaa (2007) measured the PA levels of Saudi primary school boys aged 10 and 12 years using pedometers for three continuous weekdays. The findings of this study revealed that approximately half (47.1%) of participant did not accumulate 13000 step per day (equivalent to 60 minutes moderate-intensity PA) and concluded that a high prevalence of physical inactivity amongst Saudi boys.

Although it is not possible to make direct comparisons between the above studies because they employed different methods to measure PA, they can nonetheless provide PA promoters and policy makers with a general indication of the PA patterns of Saudi young people. However, in order to gain a more complete picture, efforts should be directed to address the current gaps in knowledge and understanding. For instance, there is a dearth of information regarding the PA patterns of adolescent boys and girls, with studies to date primarily limited to boys aged 7 to 12 years. Regardless of the limited research base in KSA, though there has been a well documented and active interest by researchers and governments in other countries in examining children’s as well as adolescents’ PA patterns (Riddoch et al., 2004; Gregory and Lowe, 2000; CDC, 2006). One fact that emerges through both objective and self-reported monitoring methods is that adolescents are less active than young children. Consequently, it is suggested that the priority in terms of future research in Saudi Arabia should be given to investigating adolescents’ PA levels and to establishing their activity profiles. This may help policy makers to tackle increased levels of inactivity, obesity and overweight among young people (Al-Rukban, 2003; Al-Almaie, 2005).

2.5. The role of the school in promoting physical activity amongst young people

As indicated in the section above, the low level of PA participation amongst many young people is a challenge many countries face. The promotion of PA amongst young people would thus seem to be an important public health issue. The Health Education Authority’s policy framework for the promotion of health-enhancing PA for young people, ‘Young and Active’ (Biddle et al., 1998) identified the education sector as one of the key organisations
which has a vital role to play in promoting health-enhancing PA. According to the policy, the role of the education sector in promoting PA relates to:

- The planning, delivery and support of the curriculum in health education and physical education;
- The delivery of whole-school approaches to promoting physical activity;
- Developing sustained links with providers in the local community.  
  (Biddle et al., 1998, p.8)

Indeed, schools have been acknowledged as the preferred environment for promoting PA (Sallis et al., 2001). In particular, an obvious context through which the activity levels of pupils may be increased is the school PE curriculum. McKenzie (2001) views PE as the most suitable vehicle for the promotion of active, healthy lifestyles among young people. Similarly, extra-curricular PE offers additional opportunities for pupils to engage in various types of activities across the academic year (Curtner-Smith et al., 2007). According to the CDC report (1997, p.1), ‘comprehensive school health programs have the potential to….help students establish lifelong, healthy physical activity patterns’. In this respect, and as briefly outlined earlier (see chapter 1, section 1.5), Cale (1997, p.63) presents an Active School model in which she identifies a range of contexts and avenues for the promotion of PA in schools. These include:

- School policy (e.g. traffic/transport policy).
- School ethos (e.g. positive attitude toward the concept).
- The environment (e.g. facilities available for use during lunchtime, playground);
- The curriculum (e.g. sufficient time allocated to PE).
- The informal curriculum (e.g. provision of access for all students to extra-curricular activities).
- Care and support (e.g. an Active School committee; CPD for staff).
- Community links (e.g. activity opportunities provided for staff and parents).

The following section, therefore, considers some developments relating to the promotion of PA within a whole-school setting and explores the potential that the school has for promoting PA both within and beyond the curriculum.
2.5.1. A whole school approach to promoting physical activity

School is a multi-context setting where the behaviour of all those associated with it, such as pupils, teachers, governors and parents consistently interact with social and environmental factors. A school’s curriculum represents a vitally important context which contributes to the development of health-related behaviour. However, it cannot be expected to change young people’s PA and fitness (Biddle & Mutrie, 2001; Cale, 2000). For instance, Corbin (2002) argued that PE classes are not able to get children active enough because firstly, very little time is afforded during PE to providing children with the activity it takes to dramatically increase PA levels; and secondly, there are factors beyond the control of physical educators that have an effect on the PA carried out beyond class (such as heredity and age), and which limit the ability of PE to make children more active. During curriculum time, teachers usually implement educational approaches that provide students with information about the health benefits of PA and perhaps involve students in learning self-management and regulatory skills such as programme planning and goal setting, and there is no doubt that such skills are critical to changing PA behaviour (Corbin, 2002). However, these approaches only address the issue on an individual level and ignore the important influence of environmental and social factors on PA participation.

Ideally, and if it is to be effective, PA promotion should be considered from different perspectives, including individual, social, and environmental (Cale, 1997, Pate et al., 2006; van Sluijs et al., 2007; Ridgersa et al., 2007; De Bourdeaudhuij et al., 2011). In this respect, the study of PA determinants which seek to identify the range of factors that are associated with participation in PA is worth mentioning. Sallis et al. (2000) reviewed all studies published on young people between 1970 and 1998 where determinants were investigated in terms of their association with a measure of PA. Sallis et al.’s review (2000) showed that PA determinants are varied and can be demographic and biological (e.g. sex, socio-economic status), psychological (e.g. self-efficacy), behavioural (e.g. healthy diet), social (e.g. parental support) and physical environment (e.g. playground marks, sport facilities). Therefore, Cale (1997, p.66) emphasised that to increase the likelihood of PA promotion being successful and leading to sustainable behaviour change, ‘it must go beyond the
individualistic framework the curriculum tends to afford, to address in addition, the social and environmental determinants of PA behaviour’.

The idea of focusing on the school as a health-promoting environment is well established. The literature on the social ecology of health promotion suggests:

Firstly, the healthfulness of a situation and the wellbeing of its participants are assumed to be influenced by multiple facets of both the physical environment (e.g. geography, architecture and technology) and the social environment (e.g. culture, economics and politics). Secondly, analysis of health and health promotion should address the multidimensional and complex nature of human environments (Stokols, 1992, p.7).

In the field of health promotion and PA promotion, the effect of the school environment is critical because ‘many aspects of the school can either promote or inhibit the adoption of an active lifestyle and understanding gained through the formal curriculum can either be reinforced and supported or completely undermined by the environment’ (Cale & Harris, 2005, p.172). Thus, the central issue for a health-promoting or healthy school is ‘to achieve healthy lifestyles for the entire school population (pupils, staff, governors and parents) by developing supportive environments conductive to the promotion of health’ (Cale & Harris, 2005, p.173).

2.5.2. The active school

From the preceding section, it would seem that programmes that incorporate whole-school approaches including curriculum, policy and environmental strategies, appear to be more effective than those that incorporate curriculum-only approaches (Salmon et al., 2007; Timperio et al., 2004). With the limitations of a purely curriculum approach in mind, other avenues of the school need to be considered and adapted to promote PA and it is in recognition of this that the concept of an ‘Active School’ was established. According to Fox (1996), an Active School is aware of the need to promote PA in all children and will constantly be developing strategies that provide children with activity opportunities and increase their desire and knowledge base to sustain active lifestyles. As noted earlier, Cale (1997) presented the notion of the Active School in the form of a model in which PA is
facilitated through seven major avenues. According to Fox (1996), the Active School model illustrates an approach to PA promotion within the school setting in which the school physical environment, ethos, curriculum and extra-curricular activities that the school offers all combine for the operation of successful PA promotion. Moreover, it encompasses all opportunities and avenues available within school to maximise the exposure of children, as well as all who are associated with the school, to positive physical experiences in an effort to increase their desire to develop an active lifestyle. As a result, it is perhaps not surprising that an Active School model to promote PA has the support of a number of researchers (e.g. Fox & Harris, 2003; Naylor et al., 2006).

Advocates of the Active School model, such as Fox et al. (2004), argue that firstly its implementation can encourage innovation and creativity in schools in terms of the use of new delivery techniques and vehicles to attract less active young people into PA participation. Secondly, the benefit of involvement in PA including sport is highlighted in the Active School model and students are taught to value their participation in PA as an important feature in their lifelong development. Thirdly, it encourages students to develop an active lifestyle by increasing their knowledge-base of activity patterns such as active travel, play at break times, involvement in sports clubs and teams, and by encouraging a broad range of active leisure activities.

Despite increasing support for and attempts to develop and promote the notion of the Active School model (Cale, 1997; Fox & Harris, 2003; DfES & DCMS, 2003; Naylor et al., 2006), comparatively limited attention appears to have been paid to the concept (Cale & Harris, 2005). This may be because there are some challenges to its implementation in schools (Fox et al., 2004; Cale & Harris, 2005). For example, schools have various and generally conflicting pressures, purposes, and motives that place multiple demands on them. In addition, the teachers’ working environment is undoubtedly challenging in many schools which might prevent them from making changes to their practice, particularly when such changes require them to acquire new skills (Fox et al., 2004).
Another important issue concerning the promotion of PA within schools and the adoption of the Active School model is related to ‘the context of competing educational objectives and practice’ (Fox et al., 2004, p.351). Penney and Evans (1999) contend that the high government expectation of schools’ capacity to meet the educational objectives of the school curriculum has led some schools to restructure their school day by altering the length of classes or the length of breaks in order to address the increasing and competing demands on time. In particular, there is evidence that the time allocated to PE has been restricted and, historically, its low subject status and the attitudes of headteachers, other teachers and parents towards PE have been sources of concern (Hardman & Marshall, 2000). Teachers also face difficulties in acquiring and updating their health-related knowledge and skills to promote an active lifestyle (Ward, 2008). Furthermore, teachers, pupils, and parents’ diverse cultural values regarding participation in PA and sport could run the risk of a conflict of values in which PA becomes a contested arena (e.g. dress code). The above may all have served as potential barriers to the adoption of the Active School model (Fox et al., 2004). Schools, therefore are recommended to deal with these conflicting, contradictory, and sometimes negative societal attitudes prior to any move towards becoming an Active School (Fox et al., 2004).

Finally, Fox et al. (2004) argued that if the Active School model is to be effective, it ought to influence PA beyond its topographical boundaries and needs to cope with the social and environmental challenges that the locality presents. However, this may be difficult to achieve due to the interrelation that exists between young people’s PA behaviour and their community outside school (Sallis et al., 1998). Pate et al. (2000) highlighted the urgent need to clarify the link between community-based interventions and school-based programmes promoting PA activity. Further, Cale and Harris (2005) pointed out that the central issue is that any PA improvement initiative which focuses on individuals, whether community-based or not, is not likely to have a marked effect if it operates within an environment that does not value PA.
2.5.3. **Physical activity promotion within the curriculum**

According to Zeigler (1999), the aims of PE are varied and can accommodate 13 ‘principal principles’ representing a diverse range of ideologies relating to aspects of fitness, citizenship, relaxation, aesthetics, and lifelong PA. The long-standing debates surrounding the nature and purpose of PE have contentiously revolved around the place of sport in PE, and the supposed role of PE in health promotion (Kirk, 2003; Green, 2003). In particular, one of the more intense waves of debate relates to the role of the school curriculum in the promotion of PA (Fairclough et al., 2002; Fox et al., 2004). Promoting PA among young people in order to enhance their health has consistently been a long-term objective of the school PE curriculum, despite the relatively weak evidence of the tracking of activity patterns from childhood to adulthood (Shephard & Trudeau, 2000). Trost (2004) stated that the link between school PE and public health can be traced back to as early as 1850s. Green (2003) reported that the promotion of active lifestyles or lifelong participation in PA is broadly accepted as one of the main purposes of PE. Furthermore, Harris and Penney (2000, p.252) described the potential role of PE in health and PA promotion as ‘critical’ because of its contribution to ‘educating and providing opportunities for young people to become independently active for life’.

With regards to the promotion of PA in the curriculum in England, the National Curriculum for Physical Education [NCPE] brought the promotion of a healthy lifestyle to prominence when health became formally recognised as a statutory component of the NCPE (Department of Education and Science [DfES] & the Welsh Office, 1992; Qualifications and Curriculum Authority [QCA], 1999, 2008). Health within the PE curriculum is commonly referred to as Health-Related Exercise [HRE] which is considered to be directly concerned with the promotion of current and lifelong participation and ‘embraces the teaching of knowledge, understanding, skills (psychomotor and behaviour), attitudes and confidence associated with the promotion of current and future involvement in health-promoting PA’ (Harris, 1998, p.11).

Despite attention to HRE within the NCPE, its impact on schools’ practice and delivery is questionable. Indeed, the potential influence of the NCPE on the commitment of schools to
PA promotion has been examined in two studies by Harris (1995) and Cale (2000b). Harris (1995) surveyed over 1000 secondary schools and found that only 40% of schools had a specific policy for the promotion of PA and just over a third claimed working towards health was an important cultural practice. As a result, she drew the conclusion that much HRE teaching was unstructured within PE.

Cale’s (2000a) study conducted in 42 English secondary schools similarly found that working towards health was an important cultural practice in a third of schools and that approximately 40% had a written policy for the promotion of PA. Cale’s study also revealed that schools varied in the amount and nature of the PA opportunities they provided to pupils. With respect to health promotion in the curriculum, nearly half of PE heads of department stated that the teaching of HRE was fully structured within their departments, while 45% claimed it was partially so. Variations were also evident in the general ethos and policies schools had adopted, the formal and informal curricular, the care and support available for PA promotion, the school environment, and in the community links they had established. From this, it seems that a substantial proportion of schools may not be maximising their efforts to promote PA, and that the environment and policies in schools are not always conducive to PA participation.

With regards to the PE teachers, their understanding of PA promotion is also worthy of attention. According to Harris (1997) and Leggett (2008), in England HRE is often narrowly interpreted by PE teachers and oriented towards fitness for sports performance rather than a fitness for life philosophy. Moreover, the delivery of PE was found to be equated with the following: vigorous activity such as cross-country running; fitness testing; safety and hygiene issues such as warming up and cooling down and showers; and lifting and carrying equipment. Indeed, with such restricted interpretations, it is perhaps not surprising that undesirable practices such as forced fitness regimes and inactive PE lessons, which focus on theory and class management rather than the creation of opportunities for students to be active, exist (Harris, 1997; 2000).
In order to address some of the above concerns and assist teachers in delivering a broad and balanced PE programme, practical guidelines in the form of a curriculum resource for teachers were produced (Harris, 2000). The guidance material was developed by a working group that consisted of representatives from schools, higher education and the advisory service, plus key sport, health and PE organisations whose remit was to review and make recommendations about the teaching of HRE (Harris, 1997). Yet, following it production, an examination of the impact of the curriculum resource on the HRE policies and practices of 500 PE heads of department indicated that, while more than two thirds revealed a favourable opinion of the resource, few reported changes in their teaching philosophy and planning (16% and 33% respectively) (Cale et al., 2002). Cale et al. (2002) proposed that the reasons PE heads of department may not have changed their views or practices may have been due to the following: firstly, the fact that the school system is complicated and any changes need time to accrue; and secondly, the domination of traditional practice and teachers’ resilience to change. In this respect, they recommended the following in order for the resource to achieve more widespread changes to practice:

- Resources are supported as a minimum, by relevant INSET and/or further CPD and resources should encourage teachers to constantly challenge and question policy and practice.
- Teachers are encouraged and given the time to:
  - reflect upon their beliefs, values, ideologies and philosophies.
  - familiarise themselves with and reflect upon the resources.
  - consult with colleagues about the need for change, the nature of change and how it should be implemented.
- Resources are produced in response to an identified need and with relevant partners and the support of, and/or endorsement of key agencies.

(Cale et al., 2002, p.155)

In summary, the research suggests that changing teachers’ practice concerning health is neither straightforward nor easy. The latest revision of the NCPE in England, which came into force in schools on September 2008, recognises the development of a healthy and active lifestyle as one of the key concepts of the subject and represents an even greater emphasis on the development of healthy, active lifestyles by maximising pupils’ understanding of PA’s contribution to health and wellbeing (QCA, 2007). Moreover, it
encourages teachers to not only teach pupils motor skills and tactics, but also to create learning experiences where pupils learn and discover ‘what they like to do, what their aptitudes are at school and how and where to get involved in physical activity [which] helps them make informed choices about lifelong physical activity’ (QCA, 2007, p.199).

With regards to the promotion of PA in the curriculum in Gulf Corporation Countries, it is encouraging to discover that PE is recognised by most educational systems as a core and compulsory subject in secondary schools. However, in the Sultanate of Oman, the education system comprises statutory programme of study for school sports (covering athletics, football, aerobics, team games and healthy culture), but participation in the programme is not compulsory (Sultanate of Oman Ministry of Education, 2012). A number of projects to promote health within schools have been developed during the last few years in Bahrain (Bahraini Ministry of education, 2009) and Qatar (Supreme Education Council, 2010). For example, the Ministry of Education in Bahrain has developed a PE curriculum specifically for secondary school which identifies five main themes in which students are required to make progress. Those include physical preparation, athletics, football, basketball, gymnastic and table tennis. In particular, the physical preparation component addresses children’s health and includes topics such as physical fitness, the structure of the human body, circuit training, and weight measurement tools. Other themes of PE focus predominately on games. With a view to increase fitness and games, the Bahraini government could be contributing to the imbalance in the PA opportunities offered for less fit, overweight, and talented students.

In Qatar, the Supreme Education Council has published curriculum standards in four subjects: Arabic, English, mathematics and science, and has drafted a version of the PE curriculum (Supreme Education Council: Curriculum Standards, 2008, 2012). In general, the curriculum standards specify what students should know, understand and be able to achieve at each grade level. With respect to PE, the standard is intended to guide teachers’ efforts in the promotion of healthy active lifestyles across three dimensions. The first is ‘PA skills and strategies’ in which teachers teach a wide range of physical/sports skills. The second is ‘active and healthy lifestyle’ which provides students with health knowledge
and seeks to develop their behavioural skills to facilitate participation in PA (e.g. the health benefits of PA, healthy diet, and stress management strategies). The last dimension is ‘personal, social and cultural growth of children’ which emphasises the importance for young people of learning about themselves and of working in groups to overcome barriers to active lifestyles. The teachers are accountable and required to work through these dimensions. The standard also illustrates the form of learning activities for each grade. For example, the promotion of health at grade twelve includes:

1- Sessions which describe theoretical concepts related to physical fitness (e.g. cardiovascular endurance, muscular strength and endurance, flexibility and healthy weight);
2- Practical contexts in which students demonstrate good understanding of their body functions (e.g. fitness training and tests);
3- Providing students with knowledge about sedentary behaviour, so they become aware of the health risks of an inactive lifestyle (e.g. overweight and/or obesity, diabetes)

(Supreme Education Council: Curriculum Standards, 2008, p.99)

In addition, the standard (Supreme Education Council: Curriculum Standards, 2008) provides guidance related to other avenues beyond the PE curriculum which can promote PA. For example, it recommends that teachers might consider the influence of school policy on young people’s attitude towards, and participation levels in PA. Consequently, it urges schools to establish innovative policies of sports provision particularly in extracurricular activities to engage more young people in a variety of popular health-promoting lifetime PA (e.g. during break-time programmes, sports days). Schools may develop an inclusive policy which includes students, teachers and principals in their efforts to promote health knowledge and behaviours. It furthermore highlights that schools should take into account any negative behaviour management strategies which may discourage young people from PA (e.g. using PA as student punishment). Further, PA promotion may be integrated across curriculum areas, providing relevant health knowledge which enriches PA
efforts to promote PA within PE (Supreme Education Council: Curriculum Standards, 2008).

Indeed, the nature of PA offered to pupils during the PE curriculum is critical in terms of its potential to be carried over into adult life (Fairclough & Stratton, 2005). The PE curriculum has an essential role to play in affording young people with appropriate PA opportunities, information and guidance and encouraging and empowering them to follow a healthy lifestyle (Cale & Harris, 2005; 2011). In particular, increasing student participation in PA has been justified in terms of the taken-for-granted role of PE (Cale, 2000; Shephard & Trudeau, 2000; McKenzie, 2001). The positive relationship between school PE activity and pupils’ PA, however, requires the exposure of students to a wide range of health-giving forms of PA in order to have a favourable long-term impact on activity patterns during adulthood (Shephard & Trudeau, 2000). In this respect, Fairclough et al. (2002) observed the provision of PE programmes in secondary schools in the north-west of England and found schools placed considerable emphasis on team games, often at the expense of lifetime activities. Consequently, the PE curriculum provided significantly less opportunity for pupils to engage in lifetime activities. Yet, evidence from the US as well as England has questioned the relevance of competitive sports and team games to many youngsters (Cale, 2000; Green, 2002; Fairclough, et al., 2002; CDC, 2006).

In recognition of this issue, Green et al. (2005) argue in favour of PE provision that provides students with a wider range of physical activities because it offers greater choice for young people. Furthermore, they contend that sport-based PE programmes can be ‘viewed more optimistically if and when they are considered alongside trends in participation among young people as well as their leisure lifestyles in general’ (p.28). Thus, they assessed sport-based PE in terms of facilitating lifelong participation and stated that:

What is important is not so much what we might anticipate young people will be doing as adults – or even what they are doing now…… What seems to matter more is providing young people with a repertoire or portfolio of sports and physical activities. Some of these will endure whilst others will be replaced, supplemented or even dropped as their lives unfold (Green et al., 2005, p.40).
Smith and Parr (2007) explored young people’s views on the nature and purpose of PE and found that young people held an ‘amalgam’ and a multidimensional conceptualisation of views regarding the subject. Pupils’ perceptions revolved around fun, enjoyment, health promotion, and the development of game- and sport-related skills and knowledge. With respect to health promotion, there appeared to be a widely held consensus among pupils that PE played a crucial role. Further, the importance of exercising and ‘being active’ in PE to improve and maintain health was evident. Nonetheless, Smith and Parr’s study (2007, p.46) noted how fitness activities offered during PE were limited in term of promoting understanding of health and generating an interest in participation in PA, and that some pupils did not like such activities because they were ‘hard’ and involved ‘sweating’.

Another limiting factor regarding the role of PE in the promotion of PA is time. Indeed, due to limited time, schools might face difficulties in teaching students all the skills required for participation in a healthy active lifestyle and their confidence in promoting PA thus may be reduced (Piotrowski, 2000). Saudi schools are no exception to this. According to Marshall and Hardman’s (2000) world-wide survey of the state of PE in schools:

Physical education has been pushed into a defensive position. It is suffering from decreasing curriculum time allocation, budgetary controls with inadequate financial, material and personnel resources, has low subject status and esteem, and is being ever more marginalized and undervalued by authorities. At best it seems to occupy a tenuous place in the school curriculum: in many countries, it is not accepted on a par with academic subjects concerned with developing a child’s intellect (p.222-223).

Nevertheless, the School Sport Survey (Quick, 2010) in England has revealed an increase in the average time spent on PE, and there is also evidence of the effective use of curriculum time for PE to impact on students’ PA levels through the subject (Fairclough & Stratton, 2005). In addition, it is important to recognise that the aim of PE is not to impose a strict exercise regime on students to increase their activity levels. Rather, the aim is to satisfy young people’s PA needs and to ensure that pupils are empowered and equipped with the necessary knowledge, skills and understanding to be able to actively participate in,
and make informed choices about their PA participation within and beyond schools, both now and in the future (Harris & Cale, 2005).

2.5.4. Physical activity promotion within extra-curricular physical education

Considering the time that extra-curricular PE can afford during school break times, lunchtimes and after school, it clearly plays a key role in the promotion of PA and provides a promising opportunity to address the health-related PA needs of almost all young people (Cale, 1997, 2000; Bass & Cale, 1999; Trudeau & Shephard, 2005). Penney and Harris (1997, p.42) defined extra-curricular PE as ‘the provision of activities outside of the formal PE curriculum, most often after school and at lunchtime, but also in some schools, at the weekend and/or before school’. Extra-curricular PE is often presented as a fundamental link between curricular PE and young people’s participation in sport and PA in their leisure time (Smith et al., 2007). For instance, in the UK, extra-curricular PE is portrayed as significant in developing habits of lifelong participation in sport and PA among young people (Bass & Cale, 1999; Fairclough, et al., 2002; Penney & Harris, 1997).

In her study of 50 secondary schools in central England, Cale (2000b) found that all but one school reported offering extra-curricular activities on a regular basis, that the majority offered activities at lunchtime and after school, and that more than half also ran activities at weekends. Similarly, Sport England (2003) conducted a survey entitled ‘Young People and Sport in England’ which provided information on young people’s participation in PE, sports, and PA during school lessons, extra-curricular time and leisure time, as well as on their attitudes towards PA and sport. One of its key findings was that all secondary schools offered sports and physical activities out of lesson time for pupils. In addition, the PE and Sport Survey 2009/10 (Quick, 2010) mentioned earlier indicated that almost all schools reported that they held at least one sports day or an equivalent event during the 2009/10 academic year.

In terms of levels of participation in extra-curricular PE, Cale’s study (2000b) revealed that half of the PE heads of department ‘thought that between 5 and 30% of pupils regularly took part in the extra-curricular activities the department offered’ (p.75). Sport England
revealed that the percentage of young people taking part in extra-curricular sport between 1994 and 2002 increased from 36 to 42% respectively, whilst more recently the PE and Sport Survey 2009/2010 (Quick, 2010) found that overall, 55% of all pupils in schools participated in at least three hours of PE and out of school hours sport in a typical week. In addition, Smith et al. (2007) examined the levels and types of participation in extra-curricular PE of a cohort of 15–16 year old British secondary students found that 3 out of 10 pupils spent between 6 and 15 hours weekly in extra-curricular PE. However, Smith et al. (2007) argued that a more revealing picture of the state of extra-curricular PE in the UK becomes evident when weekly or more frequent participation is examined. For instance, evidence suggests that at secondary level, whilst approximately one-third of young people participate in extra-curricular PE on a weekly basis, on a regular basis half or more of secondary students are actively doing very little and about a quarter are doing none at all (Smith et al., 2007). Indeed, based on observations in Scotland, Littlefield et al. (2003, p.219, cited in Smith et al., 2007) reported that figures ‘hide large differences between schools and regions’. Certainly in the UK, the gap between regions is evident within the PE and Sport Survey reports published in 2007, 2008 and 2010 where participation rates are higher in rural than in urban areas, and differences are evident between government regions.

Another possible explanation for variations between pupils’ participation in extra-curricular PE may be due to gender differences. With respect to boys’ and girls’ participation, Daley (2002) found boys were involved in extra-curricular activities on more occasions and for longer periods of time than girls (34.9% of boys and 48.8% of girls reported spending no time in extra-curricular PE). According to the PE and Sport Survey 2009/10 (Quick, 2010), differences in participation rates were observed between ‘girls only’ schools and ‘boys only’ or mixed schools, and participation rates were lower in girls’ schools than in others. Interestingly, Smith et al. (2007) suggested that there were no gender differences in terms of hours of weekly participation between male and female students at secondary level, and that students of both sexes were most likely to spend between one and five hours a week in extra-curricular PE.
Cale (2000) highlighted the importance of the school ethos with respect to extra-curricular participation. Similarly, Smith et al. (2007) revealed the proportion of young people who reported participating in extra-curricular PE to vary according to the school. For example, they found pupils from ‘Specialist Sports Colleges’ were more involved in extra-curricular PA. According to the Department of Children, Schools and Families [DCSF] (2008), Specialist Sports Colleges should have a rich curriculum that: increases participation levels and interest in PE and PA; extends out-of-hours learning opportunities; and collaborates with appropriate local partners such as clubs, governing bodies and schools in order to develop sustainable sporting opportunities which promote both participation and achievement in PE and community sport. On the basis of these findings, it would seem that becoming a ‘Specialist Sports College’ may be a means by which a school can diversify the extra-curricular PE opportunities available to young people (Smith et al., 2007).

With respect to the extra-curricular PE opportunities available to young people, Cale (2000b) found that the most common activities schools offered to both boys and girls were games including football, hockey, basketball and tennis. Furthermore, she noted that relatively few schools offered gymnastics, dance, swimming, outdoor education, and exercise activities including circuit training, aerobics and weight training. According to the PE and Sport Survey 2009/10 (Quick, 2010), the top six sports or physical activities provided in extra-curricular PE in secondary schools are football, dance, athletics, gymnastics, cricket and rounders. Thus, it is evident that most schools’ extra-curricular PE provision is generally dominated by competitive, performance-oriented team sports that remain fairly consistent and heavily gendered (Bass & Cale, 1999; Cale, 2000; Sport England, 2003b). Penney and Harris (1997) commented that research findings demonstrate that the provision of extra-curricular PE appears to have a rather specific focus on competitive sports, and consequently schools tend to offer limited opportunities and experiences to a small number of students. Therefore, schools do not seem to be maximising their potential to promote PA through the extra-curricular programme in terms of lifestyle activity.
Clearly, the content of extra-curricular PE should be selected thoughtfully and involve the promotion of a broad range of activities including lifestyle PA during school time (Harris, 1997). In this respect, Fox and Harris (2003) identified some features which should be considered when designing such a programme. These include:

- Introducing more individual sports and fitness activities.
- Providing activities acceptable to a range of adolescent subcultures.
- Teaching the ‘why’ of physical activity in the extra-curricular.
- Helping youngsters to develop self-management skills that equip them to make lifestyle changes.
- Creating a learning environment in which young people can develop a sense of responsibility.

(Fox and Harris, 2003, p.195)

2.6. Summary
This chapter has reviewed a number of key themes relating to the promotion of PA within schools. In general, the chapter established that enhanced health can be an important outcome of PA and is associated with numerous health benefits, including improved cardiovascular fitness, skeletal and mental health. PA recommendations for young people indicating the amount of PA required to gain health benefits have been proposed and have been critiqued by health and PA researchers. These critiques have focused on the rationale for the recommendations and concerns about the implementation of the guidelines which do not fully appreciate differences between young people. However, more recent PA guidance includes recommendations on applying them in practice (Department of Education, 2011). Many young people’s PA participation is lower than the recommended amount.

Schools have been recognised as ‘the primary institution with responsibility for promoting PA in young people’ (Cale & Harris, 2005, p.162), and in particular, the PE curriculum has a key role in providing and promoting PA for young people. Yet, there are a number of factors which appear to limit PA promotion in schools such as limited time allocated to PE (Marshall & Hardman, 2000) and a bias towards games and competitive sports (Fairclough et al, 2005). Whole-school approaches to PA promotion, such as the Active School, could
maximise the effectiveness of schools in promoting PA as they recognise the multiple influences within and beyond the school environment on children’s PA.
CHAPTER THREE

THEORETICAL FRAMEWORK

3.1. Introduction
This chapter presents and justifies the theoretical framework drawn upon in this study to explore the promotion of PA behaviour within schools. The study draws on SCT (Bandura, 1986) which emphasises the interactions between individuals and their environments and human capabilities for learning and adaptation (McAlister et al., 2008). This interaction is known as the ‘triadic reciprocal determinant’ principle. According to SCT, behaviour is influenced by numerous interacting factors ranging from personal variables (e.g., cognitions, expectations) to environmental factors (e.g., physical, social). Thus, this chapter discusses the main dimensions of SCT for understanding human behaviour including personal, behavioural and environmental dimensions. Moreover, it examines findings of selected PA interventions which implemented SCT, and highlights a number of potential limitations of SCT with respect to PA promotion research. Finally, a comprehensive theoretical framework for analysing the promotion of PA within schools is developed in light of the SCT principles of behaviour change plus the concept of the Active School (Cale, 1997).

3.2. Theories of health promotion
A theory is ‘a set of interrelated constructs (variables), definitions, and propositions that presents a systematic view of phenomena by specifying relations among variables, with the purpose of explaining natural phenomena’ (Kerlinger, 1986, p.9). In general, relationships among variables are stated in terms of magnitude and direction, which suggest a systematic view of phenomena (Creswell, 2003). Although theories are naturally abstract and do not depend on specified content, they become functional when filled with practical topics, goals and problems (Glanz & Rimer, 2005). In addition, theories can assist researchers to analyse, predict or explain a particular phenomenon and clarify the ways in which change
occurs in individuals, communities, organisations and societies (Earle et al., 2007). Glanz et al. (2002, p.25) summarised the purposes of theories in health promotion as follows:

- They help the researcher during the various stages of planning, implementing and evaluating an intervention.
- They shape the pursuit of answers to why? what? and how?
- They can help pinpoint what the researcher needs to know before developing and organising an intervention programme.
- They provide insight into how to shape programme strategies to reach people and organisations and make an impact on them.
- They help to identify what should be monitored, measured or compared in a programme evaluation.

With respect to health intervention programmes, Glanz et al. (2002) suggested two types of theories: explanatory theories and change theories. The former describe and identify why a problem exists, and seek modifiable factors such as knowledge, attitudes, self-efficacy, social support and lack of resources to explain what drives a person to change or maintain behaviour. The latter provide health promoters with guidance on design, operation and development intervention. However, Glanz et al. (2002) considered that health behaviour and the guiding concepts for influencing it are too complex to be explained by a single theory. Painter’s (2008) systematic review of the use of health behaviour theories in health research revealed that frequently utilised theories include: the Trans-Theoretical Model/Stages of Change, SCT, the Health Belief Model, the Theory of Reasoned Action/Theory of Planned Behaviour, and Social Networks/Social Support.

Rawson (2002) pointed out that health promotion imports theories from different disciplines such as sociology and psychology. Naidoo and Wills (2005) have commented on the wide choice of theories available in health promotion noting that practitioners are often eclectic and use different models [theories] reflecting the way in which they frame issues. For instance, the Health Belief Model represents a narrow and sharp focus and highlights the function of beliefs in decision-making (Tones & Tilford, 2001). The Theory of Reasoned Action and Planned Behaviour focuses only on predicting health habits, and not on illustrating how changes in health behaviour occurred (Hausenblas et al., 1997;
Hagger et al., 2002; Bandura, 2005). Indeed, any given theory should offer both predictors and principles on how to inform, enable, guide, and motivate people to adopt habits that promote health and reduce impediment factors. As a result, SCT was developed as a comprehensive framework for understanding human behaviour as well as the factors that influence behaviour (Bandura, 1986).

### 3.3. Social cognitive theory: a historical development

In 1913, John Watson began campaigning for behavioural thought in psychology. Watson’s point of view was that psychology should focus only on the study of ‘observable behaviour that all could agree upon, and the aim of psychology should be to describe, predict, understand and control behaviour’ (Malim & Brich, 1998, p.8). Behaviourists choose not to be concerned with the internal mechanisms that occur inside the human, and argue that human beings are shaped through constant interactions with the environment (Malim & Brich, 1998). The operant conditioning [conditional approach] to learning, which is ‘a learning paradigm in which the consequences of behaviour determine whether a behaviour is repeated in the future’, was developed through experimental studies that were conducted on animals (Kail & Cavanaugh, 2005, p.12). Skinner suggested two forms of consequences that particularly influence behaviour: firstly, a ‘reinforcement which is a consequence that increases the future potential of the behaviour that it follows’; and secondly, a ‘punishment which is a consequence that decreases the future likelihood of the behaviour that it follows’ (Kail & Cavanaugh, 2005, p.12).

Indeed, Skinner’s theory of operant conditioning successfully demonstrated that animal behaviour becomes dependent on certain environmental stimuli, and consequently highlighted the importance of the environment in behaviour change. However, the insights derived from operant conditioning were not sufficient in accounting for the development of complex human social behaviours (Malim & Brich, 1998). Further, Bandura (1977) as well as other theorists such as Walter (1973), criticised the principles of operant conditioning for ignoring the cognitive processes which are a distinctive and important feature of human behaviour.
In order to widen the scope of learning theory, which was based on the operation of conditioning principles of learning within the human, the concept of observational learning was proposed and a new form of learning called social learning emerged (Eysenck, 2009). In contrast to operant conditioning, which argues that most human learning requires individuals to produce responses that are then rewarded or punished, observational learning occurs as a result of observing the behaviour of some other person or model (Bandura, 1977, 1986). As a result, Bandura (1986) combined concepts from cognitive concepts (e.g., expectations, self-efficacy) with operant conditioning and established SCT. Kail and Cavanaugh (2007, p.13) favoured the concept of observed learning over operant conditioning and stated that ‘the operant conditioned person who responds mechanically to reinforcement and punishment has been replaced by the social cognitive person who actively interprets these and other events’.

3.4. Behaviour change from a social cognitive perspective
Bandura (1978) proposed a framework of reciprocal determinism in which people’s conceptions, behaviours and environments are reciprocal determinants of each other. The framework assumes ‘individuals are neither powerless objects controlled by environmental forces nor entirely free agents who can do whatever they choose’ (Bandura, 1978, p.357). SCT emphasises the social origins of much human thought and action, and recognises the influential causal contribution of thought processes to human motivation, affect and action (Bandura, 1986). In addition, it proposes that human's cognitive processes are influenced by people’s knowledge of health risks and the benefits of health practices; perceived self-efficacy; perceived outcomes; and perceived expectancy of outcomes within the context of their personal goals, morals and standards, which mediate how and if behaviours will be performed (Bandura, 1986; Weinberg & Gould, 2007). Therefore, it is very important for PA promoters to understand the concepts of changing behaviour that have been formulated for SCT. In the following three sections, the personal, behavioural and environmental dimensions that influence PA behaviour are discussed respectively.
3.4.1. Personal dimension

A mediator is defined as an intervening causal variable that is necessary to complete a cause-effect pathway between an intervention and PA behaviour (Bauman et al., 2002). In interventions, mediators are essential to enhance programme effectiveness because they clarify the relations between theoretical variables (e.g., environmental factors) and outcomes (e.g., PA behaviour), and allow researchers to determine which components of a programme contribute to behaviour change (Bauman et al., 2002). An evaluation of the mediators of behaviour in interventions to promote PA among children and adolescents categorized mediators into three main groups: cognitive, behavioural and interpersonal mediators (Lubans et al., 2008). According to Lubans et al. (2008, pp.464-65), cognitive mediators include constructs related to participants' thoughts and feelings about physical activity and their ability to overcome barriers to participation (e.g. self-efficacy, outcome expectancy, enjoyment, perceived barriers, perceived benefits and attitudes). For instance, the outcome expectation is a main determinant of behaviour. It refers to ‘beliefs about the likelihood of various outcomes that result from the behaviours that a person might choose to perform, and the perceived value of those outcomes’ (McAlister et al., 2008, p.172). People tend to anticipate positive or negative outcomes for behaviour according to the value of the consequences of behavioural choices (Baranowski et al., 2002). Outcome expectations take three different forms: positive and negative physical, social, and self-evaluative outcomes. In this respect, Bandura (2006) pointed out that positive expectations serve as incentives, and negative ones as disincentives. Outcome expectations predict behaviour initiation which is in turn influenced by various factors ranging from environmental, social, and behavioural.

Another cognitive variable is self-efficacy which has been consistently associated with PA behaviour. The term self-efficacy refers to ‘beliefs about personal ability to perform behaviours that bring desired outcomes’ (McAlister et al., 2008, p.171). Self-efficacy is central to SCT and is most widely known as the powerful determinant of human behaviour (Bandura, 1986). In contrast to self confidence, self-efficacy is a ‘task and situation specific’ form of self confidence (Buckworth & Dishman, 2002, p.200). Self-efficacy is important for behaviour change because it gives an indication of how much effort is
invested in a given task and what level of performance is attained (Bandura, 1997). According to Bandura (2006, p.307), the efficacy belief system is ‘not a global trait but a differentiated set of self-beliefs linked to distinct realms of functioning’. Further, perceived self-efficacy is a judgment of capability to execute given types of performances; outcome expectations are judgements about the outcomes that are likely to flow from such performance (Bandura, 2006).

Perceived efficacy has a major role in human functioning, because it directly and indirectly impacts on other determinants such as goals and aspirations, outcome expectations, affective proclivities, and perceptions of impediments and opportunities in the social environment (Bandura, 2006). In addition, Bandura (2005, p.143) stated that:

Self-efficacy beliefs affect each of the basic processes of personal change whether people even consider changing their health habits, whether they mobilize the motivation and perseverance needed to succeed should they do so, their ability to recover from setbacks and relapses, and how well they maintain the habit changes they have achieved.

Four mechanisms have been recommended to alter self-efficacy: performance attainment; vicarious experience; persuasion; and minimising emotional arousal (Lewis, 2002). In particular, performance attainment has consistently been found to be an effective means of altering self-efficacy (Zimmerman, 2000). Therefore, Carroll et al. (2009) suggest fostering self-efficacy among children at an early age for sustainable increases and involvement in appropriate academic and school-related activities (e.g., PA offered in and out of schools).

3.4.2. Behavioural dimension
SCT emphasises the role of self-regulatory roles in behaviour change. According to SCT, self-control requires the acquisition of concrete skills for managing PA behaviour and not necessarily ‘will power’ (McAlister, 2008, p.172). These include generic skills for diagnosing task demands, constructing and evaluating alternative courses of action, setting proximal goals to guide one’s efforts, and creating self-incentives to maintain engagement in difficult activities and to control stress and disturbing thoughts (Bandura, 2006). Goal-
setting, self-monitoring, commitment to planning, stimulus control and counter conditioning have been found to be as effective as short-term behaviour change strategies (Biddle & Mutrie, 2008; Lubans et al., 2008).

McAlister et al. (2008) summarised Bandura’s thoughts regarding the enhancement of self-regulation in six main ways. These were: 1) self-monitoring is a person’s systematic observation of their own behaviour; 2) goal-setting is the identification of incremental and long-term changes that can be obtained; 3) feedback is information about the quality of performance and how it might be improved; 4) self-reward is a person’s provision of tangible or intangible rewards for him/herself; 5) self-instruction occurs when people talk to themselves before and during the performance of a complex behaviour; and 6) enlistment of social support is achieved when a person finds people who encourage their efforts to exert self-control (McAlister et al., 2008, p.174).

Buckworth and Dishman (2002) remind health promoters that behaviour is purposive or goal directed and is guided by forethought. In addition, individuals are able to self-regulate, modify their own behaviour and their environment, and can adopt personal standards to guide behaviour and motivate themselves (Buckworth & Dishman, 2002). Thus, self-efficacy has an important role to play in self-control in terms of selecting the extent of behaviour change and the practice of building confidence in self-regulation (Glanz et al., 2002).

3.4.3. Environmental dimension
SCT has a reciprocally deterministic viewpoint that the environment influences and shapes health behaviour (Bandura, 1986; Wechsler et al., 2000; McNeill et al., 2006). In this respect, SCT hypothesises that ‘no amount of observational learning will lead to behaviour change unless the observers’ environments support the new behaviour’ (McAlister et al., 2008, p.172). Furthermore, the social and physical environments rooted in a society may impose a particular image of the environment on people who consequently formulate a perception of the facilitators and impediments that determine their behaviours (Bandura, 2004; Sallis et al., 2000).
Ways of environmental change to modify behaviour are a primary construct in SCT. One basic form is ‘incentive motivation’ or ‘reinforcement’ through the provision of rewards or punishments for wanted or unwanted behaviour (McAlister et al., 2008, p.172). In psychology, the term reinforcement refers to ‘the process whereby reinforcement increases the likelihood of a response’ (Malim & Brich, 1998, p.128). For instance, having visible, safe and interesting walking destinations or playing areas have been found to influence adherence to, and participation in PA among young people (Sallis et al., 2000). It seems that the availability of PA facilities also positively reinforce the potential for a person to perform the behaviour. SCT incorporates three types of reinforcement: direct reinforcement (e.g., the desired behaviour is made more likely if followed by positive reinforcement), vicarious reinforcement (behaviour is reinforced by the behaviour of a model), and self-reinforcement (behaviour is reinforced by the performer his/her-self) (Glanz et al., 2002, p.171).

Bandura (1998) suggested providing new structures or resources to facilitating behaviours or making them easier to perform. Unlike reinforcement which seeks to manipulate behaviour through external control, the facilitation approach is empowering in nature (McAlister et al., 2008). Two stages for facilitation have been suggested: firstly, recognising barriers to health promoting behaviour change; and secondly, identifying ways in which those barriers can be removed or overcome (McAlister et al., 2008).

3.5. Application to physical activity promotion

SCT has been identified as the underlying theoretical framework for a number of health promotion programmes. In particular, it has been the most common theoretical framework applied in young people’s PA interventions carried out in different settings including the school, family and community (Salmon et al., 2007, 2009; Lubans, et al., 2008). The wide implementation of SCT in PA promotion programmes is due to the fact that:

- It synthesises previously disparate cognitive, emotional, and behaviouristic understandings of behavioural change.
- The constructs and processes identified by SCT suggest many important avenues for new behavioural research and practice in health education.
• It permits the application to health behaviours and behavioural change of theoretical ideas developed in other disciplines such as psychology, thereby benefiting from their insights and understanding.

(Baranowski, 2002, p.167)

According to Breinbauer and Maddaleno (2005), the implementation of SCT in studies regarding health behaviour change, including PA conducted in schools, has three theoretical principles. The first suggests that the socio-environment and personal variables (e.g., cognitions, expectations) have an impact on a person’s behaviour patterns towards PA in schools. Personal and socio-environmental factors must be supportive and facilitate the adoption of PA. The second theoretical principle emphasises that the significant influence of social-environmental factors (e.g. support of school community and sports facilities) upon behavioural responses is reliant on cognitions which work as mediators of behaviour change. In this case, a person’s response to social-environmental factors is not automatic. The person makes a personal decision whether to change his/her PA behaviour or maintain their current behaviour. This highlights the key role of cognitive factors in PA behaviour, and suggests that enhancing the person’s cognitive capacities and skills is equally an essential part of promoting PA. The third theoretical principle is that both environmental and personal factors are influenced by people’s behaviour patterns.

Empirical studies have shown promising findings with SCT in PA promotion resulting in the explicit, dynamic interplay among personal, behavioural and environmental influences (King et al., 2002). For instance, Sluijs et al. (2007) reviewed interventions to promote PA in young people and found that a multi-level approach (e.g. incorporating school-based interventions with family or community involvement, and educational interventions with policy and environmental changes) was effective in increasing activity among adolescents. Similarly, Dobbins et al. (2009) reported positive effects on PA behaviour resulting from interventions which targeted personal factors (e.g., knowledge of the health benefits of PA) as well as environmental factors (e.g., the school curriculum), whilst De Meester et al. (2009) found that including parents, peers and environmental changes enhanced the effectiveness of school-based interventions and led to an increase in the level of children’s PA. Clearly, the findings of these reviews support the SCT’s core assumptions of
behaviour change, and the influence the behavioural, personal and environmental factors simultaneously have on PA promotion in schools (Timperio et al., 2004; Salmon et al., 2007).

3.6. Multi-component physical activity interventions

Given the growing importance of personal, behavioural and environmental dimensions as influential factors affecting PA behaviour (Baranowski et al., 2002), any efforts to promote PA would seem to require consideration all of these. As noted in the previous chapter (see chapter 2, section 2.5.1), Cale (1997, p.66) emphasised that to increase the likelihood of physical activity promotion being successful and leading to sustainable behaviour change, ‘it must go beyond the individualistic framework that the curriculum tends to afford, to address in addition, the social and environmental determinants of physical activity behaviour’.

The development and implementation of school-based PA promotion programmes have been guided by several models and theories. Theories and models explain the mechanisms of children’s PA behaviour change and how to modify the programmes to promote PA participation among them (Baranowski & Jago, 2005). As highlighted earlier, SCT uses ‘triadic reciprocality in which three broad factors influence one another: cognitive or personal factors within the individual, behavioural skills of the individual, and environmental factors’ to explain and predict influences on physical activity (Ward et al., 2007, p.23). Thus, it stresses a multidimensional perspective for understanding PA behaviour and developing intervention programmes.

Evaluations of theory-based interventions employed in schools have been explored to clarify the intervening effects of such interventions on the proposed personal, social, and behavioural mediators. For instance, Sallis et al.’s (1997) programme entitled ‘Sports, Play, and Active Recreation for Kids’ [SPARK] was a school-based multi-component intervention delivered in the US which aimed to increase elementary children’s PA during PE classes and outside of school. The intervention schools designed innovative PE classes to promote high levels of physical activity and teach movement skills. Furthermore, PE and
non-specialist teachers were trained via in-service training courses and received supervision and feedback from the investigators. To encourage students’ participation in PA outside of school, self-management classes were introduced to facilitate PA behaviour adoption and students were given the opportunity to assess and record their own fitness levels to enhance their motivation. Furthermore, those who met weekly activity goals were rewarded with prizes and parent interaction and support were stimulated by monthly newsletters. The SPARK programme (Sallis et al., 1997) was found to be effective in increasing students’ PA levels at school, which suggests a positive influence of some aspects of the school’s physical environment on students’ PA behaviour. Sallis (2001) concluded that schools which enhanced their physical environments and social resources were effective in attracting students to the playground and stimulating PA. Also, the SPARK programme influenced students’ PA outside of school through the behavioural skills training, parent involvement, and reward system. Correlation studies of the children’s PA furthermore revealed that their participation in PA was most directly controlled by parental PA, access to facilities and programmes, and time spent outdoors (Sallis et al., 2000; Ferreira et al., 2006).

Another example of a school-based multi-component intervention is the ‘Lifestyle Education for Activity Program’ [LEAP]. LEAP was theoretically designed on the basis of a social ecological model that was drawn primarily from SCT (Pate, 2005). It targeted young people’s PA behaviour at different levels. The intervention focused on six components: changing PE; providing health education; creating a supportive school environment; school health services; staff health promotion; and family based and community based activities, conducted primarily through two channels: instruction and school environment. The instructional channel involved changes in the content and the delivery of PE and health education. The LEAP PE component was designed firstly, to enhance physical activity self-efficacy and enjoyment, secondly, to teach the physical and behavioural skills needed to adopt and maintain an active lifestyle and thirdly, to involve girls in moderate-to-vigorous PA during PE time. In addition, LEAP health education lessons were taught to complement the PE input (e.g. skills for adopting and maintaining a physically active lifestyle). With respect to the environmental component, activities such as
role modelling by faculty and other staff, communication about PA, promotion of PA by the school nurse, and family-and-community based activities were adopted by the participant schools.

LEAP was found to successfully influence self-efficacy and goal setting among pupils and to increase their participation in PA (Pate, 2005). Family and parental involvement in LEAP were also found to support young people’s PA participation. Indeed, parental support was consistently related to adolescent PA participation levels (Sallis et al., 2002). It was noted how it was the interaction of influences across types of individual, social and environmental factors that led to the positive improvements in PA behaviour.

A third multidimensional intervention worthy of highlighting is the ‘Trial of Activity for Adolescent Girls [TAAG]’. TAAG was designed to prevent the decline in PA in middle school girls (Webber et al., 2008). It was based on incorporated operant learning theory, SCT, organizational change theory, and the diffusion of innovation model in a social-ecologic framework. It was a two year programme designed to create more opportunities, improve social support and norms, and increase self-efficacy, outcome expectations, and behavioural skills to facilitate PA. Thirty six schools in six geographically diverse areas of the US participated in the intervention. PA was measured using accelerometers. TAAG had five interlinked components: programmes linking schools and community agencies, PE, health education, social marketing, and Program Champion (Webber et al., 2008). Firstly, a range of programmes (e.g., after school step-aerobics class and basketball camp) were delivered on and off the school site, before or after school. Secondly, health education classes were designed to enhance behavioural skills such as self-monitoring and goal setting and thirdly, PE teachers were encouraged to dedicate at least half of the lesson time to PA and to promote PA outside of lessons. Fourthly, media and promotional events were organised by TAAG interventionists to promote awareness of and participation in activities and finally, the Program Champion advocated for TAAG activities with policy makers and school-and community-level implementers (Webber et al., 2008).
TAAG increased the level of physical activity for girls in the intervention schools compared to girls in the control schools (Webber et al., 2008) with the percentage of time devoted to physical activity during PE classes also being higher. In addition, TAAG improved the self-efficacy and goal setting of girls, and consequently successfully influenced their PA behaviour. Furthermore, the Program Champions directed the intervention for a further one year, during which time the increase in girls’ PA was successfully maintained (Webber et al., 2008).

3.7. Limitations in research on social cognitive theory
Despite SCT’s strengths and widespread use in PA interventions, limitations have also been identified with SCT. A number of behaviourists and educators have claimed that SCT is very broad and ambitious in that it seeks to provide explanations for almost all human phenomena (Bandura, 1986). As a result, it has not been tested comprehensively (McAlister et al. 2008). Smith and Biddle (2008, p.96) noted that ‘few researchers have measured changes in the constructs of the theory inspiring their intervention, or when they have done so, they measured only one construct to capture the totality of the theory’. In this respect, Sharma (2006) urged researchers to include all concepts and contracts within a theory in order to enhance the effectiveness of interventions and clarify what components contribute to behaviour change. Glanz et al. (2002, p.181) recommend that researchers implementing SCT ‘must specify the range of phenomena to which it applies, examine the situations in which the theory does not apply, and limit their claims about the utility of SCT to those that are supported by empirical evidence’.

Welk (1999, p.12) described the concept of behaviour change in SCT as ‘the interaction between a person’s attitude, the social norm, and surrounding influences’. Sallis et al. (2008) however, have criticised SCT for rarely addressing the role of physical communities or the organisational environment in which behaviours take place, and for focusing primarily on the social environment. The term environment from a SCT point of view is defined as ‘any factor outside the individual and includes both the physical and the social environment’ (Ward et al., 2008, p.27). Practically, most of the PA interventions that have employed SCT as a basis of their design have made changes at the physical environmental
levels in order to encourage the PA behaviour. For instance, Trost et al. (1997) and Pate et al. (2005) changed the PE curriculum and the school environment to encourage participation in PA.

3.8. Comprehensive framework for promoting physical activity within schools

SCT is the framework drawn upon in this study because it takes into account many potential factors contributing to the promotion of PA amongst young people. Indeed, the idea of reciprocal determinism suggested by SCT implies the promotion of PA through changing the social and physical environment, as well as the cognitive processes and the behaviour of a person. Thus, in its fullest form, SCT compliments and reflects the whole school approach in which behaviour, cognitive, other personal factors, and the environment all operate as determinants of PA behaviour.

In the school context, SCT can be exemplified in practical terms through the interactions between a school and its teachers and pupils. Take a scenario where a school develops a new attractive playing area with a range of sports equipment (thus intervening at the environmental level). Given this, PE teachers may also dedicate more of their curriculum time to organising and delivering physical activity using the playing area (thus influencing teachers’ behavioural factors which in turn address pupils’ PA behaviour). The outcome may be that more pupils become interested in and motivated to participate in the activities offered (thus influencing pupils’ personal factors). The behaviour of the PE teachers continues to shape pupils’ PA behaviour, and the school environment continues to shape both the behaviour of the teachers and pupils. If the school environment is supportive, and the teachers translate this support into more PA opportunities, the pupils’ interest and motivation is likely to strengthen. On the other hand, if the school environment is not conducive to PA, the teachers’ behavioural influence is likely to be more limited.

The notion of triadic reciprocality is too complex to be explained in one example. Indeed, Bandura (1986, p.25) noted how ‘the personal, behavioural and environmental factors of triadic reciprocality do not operate in the manner of a simultaneous holistic interaction’. Merrell (2002) commented on this point and claimed that there are times when personal
factors of behaviour are the prominent influence in the reciprocal interaction, whilst at other times environmental factors may be dominant.

Information compiled in a Fact sheet ‘Youth Physical Activity: The Role of Schools’ provides insight into a number of practical issues associated with PA promotion (CDC, 2009). According to CDC (2009, p.2), schools are recommended to promote physical activity via the following:

- Policies that provide time for organized physical activity and free play.
- Information to parents about the benefits of physical activity in messages sent home and at school events.
- Encouraging staff to be active as they are role models for students.
- Encouraging families and local groups to be involved in school-based physical activities and events.

CDC (2009) recommendations show recognition of some of SCT principles of reciprocal determinism and observing learning. In terms of the environment, for example, CDC encourages schools to develop a policy for PA and encourages staff to be active, positive role models. However, CDC overlooks the personal dimension which addresses the critical question of how schools motivate parents and staff to participate in its activities. At this point, it is important to highlight the need to ideally incorporate all the SCT dimensions of behaviour change in developing PA promotion programmes.

As highlighted earlier, Cale (1997) recommended addressing personal factors (e.g. pupils’ attitudes, expectations, belief and enjoyment), social factors (e.g., interpersonal relationships and alliances within the school and in the community), and environmental factors (the schools’ policies) which influence children’s opportunities to take advantage of physical activities. SCT allows for consideration of all of these and the link between them. It also lends itself to the applications of the Active School model. Indeed, SCT and the Active School model are compatible. For example, the Active School model provides guidance about how to design PA promotion programmes, whereas SCT illustrates how to
identify mechanisms for promoting PA behaviour (e.g., reinforcement), and critically analyses the programmes’ outcomes.

3.9. Summary
SCT takes into account the multiple influences of personal, behavioural and environmental factors on young people’s behaviours. Working from this perspective, the promotion of PA within schools should involve multiple dimensions, moving beyond curriculum-only approaches toward broader approaches that draw on the whole school environment. In the school context, one example of a whole school approach to PA promotion is the Active School model which considers the broader school environment and promotes PA via various avenues. Thus, the Active School model is used as a conceptual framework for the data collection, whereas SCT is drawn upon to help understand the factors which influence the promotion of PA within schools.
CHAPTER FOUR

THE EDUCATION SYSTEM IN THE KINGDOM OF SAUDI ARABIA

4.1. Introduction
This chapter is concerned with the education system in Saudi Arabia. Firstly, the chapter presents the history of education in Saudi since the 1900s, highlighting the significant developments which have contributed to the establishment of the current system such as the establishment of the MoE in 1953. It then presents the philosophy and objectives of PE programme in Saudi schools, since the first Saudi PE curriculum was published in 1954. In particular, it highlights the development of health promotion within the PE programme. Finally, it presents a number of influencing factors (e.g. religion and economy) that have their roots in the system.

4.2. The education system before the Ministry of Education
According to Al-Hamed et al., (2007), education before the unification of KSA took place in 1932, was undertaken Kuttab, local government and private schools. The Kuttab schools accepted children at an early age, and mainly focused on the teaching of the Quran verses and Islam principles. In addition, some of Kuttabs’ teachers expanded the curriculum and taught the principles of reading and writing. The local government schools which were found in the Hejaz and East regions of the Arabian Peninsula were under the Ottoman Empire control before the Second World War and the Ottoman local government funded and supported these schools. Interestingly, these schools imposed Turkish education regulation and language on Arab students and taught religion, history and even Arabic language courses in Turkish. However, the Ottoman schools did not last for long, due to changes in the political power that removed the Ottoman government, including the education system. Following the Ottoman schools, the Alhosain bin Ali’s government controlled the Hejaz region and established its own education system in 1915 (Al Hakeel, 2003).
The community of Hejaz was not satisfied with the Turkish curriculum content of the Ottoman schools or the poor academic base of the Alhosain bin Ali and Kuttab schools. For instance, many Hejaz families refused to send their children to Ottoman schools, fearing they would be conscripted into the Ottoman army (Al-Hakeel, 2003). Therefore, Hejaz merchants established private schools in Jeddah, Mecca and Medina, which offered a wider range of subjects in Arabic (Al-Sallom 1995). The founders of these schools claimed and showed a desire to develop an education system that provided students with a new and comprehensive curriculum content. The schools relied on financial support and grants from the local community and gifts and presents from the pilgrimages and visitors of the two holy sanctities of Mecca and Medina. In contrast to the government schools, the private schools enjoyed a level of independence from local government authority as a result of self-funding. In addition, they were more socialised than Ottoman schools in terms of utilising Arabic in teaching and communication. However, Al-Hakeel (2003) found that some private schools encountered a lack of financial support and resorted to charging parents fees to educate their children.

The conquest of Arabia by ‘Abdul Aziz bin Abdul Rhman Al Saud’ involved thirty years of warfare between 1902 and 1932. In 1926 and shortly after he had unified the country, King Abdul Aziz Al Saud established a General Directorate of Education to supervise educational matters throughout the Kingdom and built new government schools (Adulwasa, 1970). The General Directorate of Education had control over all schools in the Kingdom, including the private schools in the Hejaz region. The formal Saudi education system materialised after the General Directorate of Education established the first comprehensive education system in 1927 (Al-Hakeel, 2003). The earliest system consisted of three types of school: firstly, preparatory schools where pupils were taught for three years; secondly, elementary schools which were for four years; and lastly secondary schools, which offered pupils four years of education. Students who wished to carry on their study beyond the secondary level were required to attend an extra year. In 1943, elementary education was expanded and a different type of school was introduced. The new schools included: elementary schools for Quran memorising (three years in duration), rural schools (four years in duration), and elementary schools (six years in duration). The
classification took into account the schools’ geographical locations and the curricula offered. In addition, higher education was introduced through the establishment of two Shriah and Islamic studies colleges in Mecca and Riyadh. Nonetheless, the Saudi government continued sending Saudis who completed secondary school to study in international universities in Egypt and the US (Al-Hakeel, 2003).

The General Directorate of Education shared the responsibility for education with the Education Council (Adulwasa, 1970). The Education Council dealt with the budget for the General Directorate of Education, the appointment of the schools’ teachers, selecting the schools’ curricular, sending Saudis to study abroad, and supervising the schools’ final examinations. According to Al-Sonbol (2004), the division of responsibility led to insufficient development and lack of co-ordination. In 1936, the Saudi government therefore made the decision to grant the General Directorate of Education full authority for the Saudi education system, and gave the Education Council a consultative role predominantly associated with technical issues. The Saudi government made a further step forward in 1953, when the General Directorate of Education was developed into the Ministry of Education [MoE]. Al-Sonbol (2004) strongly favoured reform of the General Directorate of Education into the MoE, and considered it to be a landmark in the development of the Saudi education system.

4.3. The education system under the supervision of the Ministry of Education

The MoE is entrusted with the administration of general education for boys and girls, and the supervision and training of schools’ teachers and administrators. During the early period and particularly between 1954 and 1970, the MoE made significant changes to the Saudi system created by the General Directorate of Education. Abduwase (1970, p.5) acknowledged the MoE’s leading role in advancing the education system:

The establishment of the Ministry of Education was accompanied by a comprehensive reform in the field of education and radical changes in the content of syllabuses and methods of teaching, all with a view to bringing the school system into line with modern systems of education already operating in other Arab countries.
There is little doubt that this initial educational reform encouraged the opportunities and later efforts to advance the Saudi education system. For instance, at the administrative level, the MoE established the first Regional Educational Administrations in the two Saudi major cities of Riyadh and Jeddah in 1954. Further Regional Educational Administrations were opened and the number reached twenty four in 1973. At present, there are forty two separate Regional Educational Administrations for boys and 36 for girls spread across the kingdom (Alsaloom, 1996). These constitute different departments dealing with issues such as employment in schools and offer supervision and training courses to school staff.

In addition, further important developments occurred in 1963 when a High Committee for Education Policy was established. The committee was mainly responsible for planning, authorising and developing educational policy. The committee included the Saudi King as a chairman and five other Ministers. In 1970, the committee introduced the most significant policy in Saudi’s educational history to date called ‘the Kingdom of Saudi Arabia Education policy’. The policy was intended to serve as a standard to control the educational system and to direct development and assessment procedures (Mostafa, 2007).

4.3.1. Level and type of education in Saudi Arabia
A modern education system was announced in 1997. According to Al-Hakeel (2003), the Saudi education system included seven sections. The first section cited the aims and objectives for the system and highlighted the relationship between the school head-teacher, administrators, teachers, pupils and the General Directorate of Education. It also emphasised the notion that education was free and equally open for all Saudis and non-Saudi citizens. The second section explained enrolment. Interestingly, the enrolment age was high and children were allowed to join schools even up to the age of sixteen. The third section considered issues associated with school types and school regulations. In this respect, the system identified two types of school: pre-elementary (three years in duration) and elementary schools (four years in duration). The fourth and fifth sections were concerned with students’ behaviour and suggested a number of actions to deal with difficult students. The sixth section focused on student assessment and suggested a range of methods to assess students’ academic achievement. Finally, general regulations concerning
the school calendar (duration, starting time), staff holidays and movement between schools were covered in the seventh section. Furthermore, a new educational ladder was introduced (Al-Hakeel, 2003); starting with pre-elementary schools which work mainly to prepare children for school over one or two years. However, parents can choose whether to send their children to pre-elementary school and the children’s right to enrol in the next stage is not affected by this decision. The second stage involves elementary schools for six years and for children when they reach the age of six. The third stage, intermediate education is three years in duration and open to students who have obtained the basic education. The fourth stage, secondary education is three years in duration, marks the end of a child’s general education. Normally, students enrol in secondary school at 15 years of age.

In addition, there is technical education which includes: industrial, business education, and agricultural education. The duration of study in technical education is three years and is conditional on acquiring the intermediate school certificate (for industrial education), or secondary school certificate (for business and agricultural education). There are also adult education and literacy centres which give learners the freedom to choose the time and age at which they want to start their education. The adult education courses are four years in duration. Special education is also available and operates at separate specialist schools; this education is particularly designed for students who are mentally, visually or hearing impaired. Finally, private education includes elementary, intermediate, and secondary schools, and adult education. Moreover, it operates institutes for teaching English language.

4.4. The physical education programme in boys’ secondary schools in Saudi Arabia

4.4.1. The physical education curriculum
According to Saati (1998), the Saudi Sharia Institute in Makah was the first educational institute which offered a curriculum for sports and social science to pupils in Saudi Arabia in 1949. At the Saudi national level, the first comprehensive curriculum for schools was introduced in 1926 and included Sciences, History, Geography, Language and Islamic subjects, yet PE was only offered in some private schools in Makah (Saati, 1998). An
extensive programme of publicly funded secondary schools was initiated by the MoE in 1954, which introduced PE in public schools (Federal Research Division, 2004; Saati, 1998). The first PE curriculum aimed to:

- Make every student physically fit according to their capabilities.
- Provide the best training and coaching for talented students to achieve championship level.
- Offer a broad range of sports activity to ensure that every student develops a sporting custom.
- Enhance students’ health welfare by providing safe school playgrounds for participation in sports.
- Enhance students’ psychological welfare through success in sport activities.

(Saati, 1998, p.56)

These early objectives of PE suggested that the philosophy underpinning PE in Saudi revolves around two main concepts, to improve pupils’ physical fitness and to promote participation in sports for health. This is consistent with the observed tendency in 1950s in which objectives of PE such as promoting physical fitness ‘came to the fore at the expense of a concern for health’ (Cale & Harris, 2005, p.162).

The most recent PE curriculum, the Document of PE in general education, was published in 2002 by the MoE, and outlines the philosophy of the PE curriculum (MoE, 2002). Firstly, Islam is a guide for a person in every aspect of their life, including their physical behaviour. Secondly, the PE curriculum focuses on developing social norms which do not contradict with Islam. Thirdly, PA is an essential part of the PE curriculum and is important for developing a person’s body, particularly during a time of technological advances which may impact negatively on health (MoE, 2002, p.20). These three dimensions of PE philosophy were considered as cornerstones for the development of PE’s general aims. According to The Document of PE (MoE, 2002, p.20), the purposes of PE are to:

- Promote the Islamic values related to physical activity.
- Develop positive psychological and social aspects through physical activity.
- Develop and maintain students’ physical fitness.
• Develop motor skills that allow students to participate in physical activity after leaving school.
• Develop cognitive concepts related to students’ participation in physical activity.

Therefore, the government expects the secondary school PE curriculum to achieve the following outcomes:

• To enhance Islamic knowledge associated with physical activity behaviour.
• To establish positive attitudes towards participation in physical activity.
• To engage in activities leading to the development of health-related components of physical fitness.
• To show efficiency in performing sports skills.
• To recognize the concepts of health and physiology associated with physical activity.
• To identify the technical, tactical skills and roles important to participation in sports.

(MoE, 2002, p.132)

Thus, health within PE is an obvious theme in the Saudi PE curriculum’s philosophy and objectives. Indeed, the latest iteration of the Document of PE (MoE, 2002) formally recognised the role of PE in promoting participation in PA among pupils and introduced the ‘Health and Physical Fitness Unit’ as a statutory component of PE in both primary and secondary schools (MoE, 2002). It is afforded the status of a separate programme of study within the PE curriculum which covers various aspects in which pupils must make progress, including knowledge and understanding of fitness and health (see table 4.1).
Table 4.1: Health and physical fitness unit in the secondary school PE Curriculum.

<table>
<thead>
<tr>
<th>Grades</th>
<th>Goals</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ten 15 years old</td>
<td>• To know how to measure height, weight and BMI.</td>
<td>Five</td>
</tr>
<tr>
<td></td>
<td>• To know the benefit of regular participation in physical activity.</td>
<td></td>
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<tr>
<td></td>
<td>• To know the negative consequences of smoking on health.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• To know how to identify exercise intensity and frequency required to develop agility.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• To practise physical training to promote physical fitness related to health.</td>
<td></td>
</tr>
<tr>
<td>Eleven 16 years old</td>
<td>• To know the daily intake of carbohydrates, fats and proteins.</td>
<td>Six</td>
</tr>
<tr>
<td></td>
<td>• To know the role of physical activity in weight management.</td>
<td></td>
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<tr>
<td></td>
<td>• To know some ways to combat smoking behaviour.</td>
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<tr>
<td></td>
<td>• To know how to choose the places and times that are most appropriate for physical activity.</td>
<td></td>
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<tr>
<td></td>
<td>• To know how to determine the type, intensity, duration and frequency of training required for the development of cardiorespiratory fitness.</td>
<td></td>
</tr>
<tr>
<td>Twelve 17 years old</td>
<td>• To recognise the sources of banned drugs.</td>
<td>Seven</td>
</tr>
<tr>
<td></td>
<td>• To know the type and quantity of food required to participate in physical activity.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• To know how to count calories for a range of physical activities.</td>
<td></td>
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<tr>
<td></td>
<td>• To recognise the basic principles of resistance training.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• To design and evaluate a physical activity programme for the purpose of improving health.</td>
<td></td>
</tr>
</tbody>
</table>


As can be seen from the table 4.1, the Saudi PE curriculum has a clear focus on health and physical fitness-related issues. However, research has highlighted concerns over the value, content and delivery of the PE curriculum in Saudi in terms of its focus on sports performance and fitness over health promotion. For example, Alsagheir (2005) examined the value orientations of PE among PE teachers in Riyadh and found five value orientations including: Disciplinary Mastery; Learning Process; Self-Actualization; Social
Reconstruction; and Ecological Integration. Of these, the Disciplinary Mastery value was considered to be the most important value among the teachers. Alsagheir’s (1999) studied the perceptions of Saudi PE teachers regarding the goals of the PE program and found that the primary school teachers’ gave most importance to engaging pupils in health-enhancing PA and maintaining physical fitness, but in contrast, the secondary school PE teachers rated developing skills in various sports; learning how to learn new skills; and developing emotional stability as the most important goals of PE. Further, Alsagheir (2003) recommended examining which aspect of the Disciplinary Mastery value (e.g., Sport Education, Movement Analysis, and Fitness Education) teachers considered to be the most important objective in PE.

In addition to teachers’ value orientations, Flores-Koulish (2005, p.27) has emphasised the importance of teachers’ knowledge in developing ‘a wider understanding and schemata of a topic to know how to challenge a variety of students’. Yet, Alsagheir (2002) also highlighted PE teachers’ lack of knowledge for the effective delivery of the PE curriculum in Saudi Arabia. Further, the PE teachers in Alsagheir’s study (2002) rated content knowledge as their first priority and pedagogical content knowledge as the second. Pedagogical content knowledge is about ‘the ways of representing and formulating the subject that make it comprehensible to others and also is content specific, developed through teaching experience and in-service training courses and differs from knowledge of generic teaching skills (Darling-Hammond & Bransford, 2005). Content knowledge refers to ‘the amount and organization of knowledge per se in the mind of the teacher’ (Shulman, 1986, p.9). It is debatable as to what the consequences are of limited PE teachers’ knowledge with regard to the interpretation, organization and delivery of the PE curriculum and the Health and Physical Fitness Unit. Although no study has examined the potential influence of teachers’ knowledge on the promotion of PA and health within the Saudi context, this issue has been investigated in Australia (Brown, 2003), North America (Castelli & Williams, 2007; National Association for Sport and Physical Education [NASPE], 2004) and England (Alfrey, 2012). For example, Castelli and Williams (2007) conducted a study which involved teachers taking a cognitive health-related fitness test and a self-efficacy questionnaire. The teachers were found to be confident about their health
knowledge, with most thinking that they would pass a test which was designed for ninth grade pupils (14 years old), despite this, only just over a third actually did so. It was therefore concluded that teachers’ relatively limited knowledge of PA promotion within schools had an influence on their interpretation of the area. According to Harris (2000, p.85), limited knowledge make PA promotion also narrow in terms of content and can ‘lead to undesirable practice such as forced fitness regimes, directed activity with minimal learning, inactive PE lessons involving excessive theory or teacher talk, or dull, uninspiring drills; or an overemphasis on issues relating to safety and hygiene’. Indeed, both the knowledge of content and teaching methods are important, if teachers are to promote learning about health effectively during PE.

4.4.2. The Internal and External physical education programmes

Extra-curricular PE is defined as the organisation and provision by teachers of activities beyond the formal PE curriculum (Penney & Harris, 2000). Historically, some schools in Saudi (Hejaz region) have provided extra-curricular activities in the form of sports competitions (e.g. running and rope pulling) since 1935, which is approximately sixteen years before PE as a school subject was offered to pupils in Saudi schools (UM Al-Qura, www.uqn.gov.sa, accessed on 29/03/2012). Now, as mentioned earlier (see Chapter 1, section 1.5), the secondary school PE programme in Saudi Arabia includes an extra-curricular programme, comprising Internal and External PE Programmes. The Internal PE programme includes activities inside the school setting or outside, and is intended to complement the PE curriculum via providing further opportunities for pupils to practise sports skills during breaktimes. PE teachers are responsible for organising the programme and are required to encourage pupils to participate in its activities. In this regard, PE teachers are required to:

- Design an Internal PE programme at the beginning of the school term, including a range of individual and group games and sport and physical activity events.
- Motivate and encourage pupils to participate in the programme’s activities.
- Inform pupils and staff of the Internal PE programme timetable and sports competition results, taking place within the school setting or in the community.
- Assess the Internal PE programme at the end of the school term.

(MoE, 1998, p.35)
With respect to the External PE programme, the PE Curriculum Document (MoE, 1998) describes its purposes as ‘to complement, not replace, the Internal PE programme’. It comprises two main aspects: firstly, friendly matches which normally take the form of after-school sports clubs oriented towards inter-scholastic sporting matches organised by PE teachers (e.g., a one day programme that includes a football match with neighbouring schools); secondly, formal matches which similarly take the form of after-school sports, but the matches are oriented towards sporting competitions which are organised by PE supervisors in the Educational and Learning Office. Schools are expected to participate in the local sports competitions. Consequently, PE teachers select the ‘more skilful pupils’ to take part in the External PE programme activities to compete at the local level (MoE, 1998, p.36).

Of interest to the promotion of PA within Saudi schools is that the most recent government publication (MoE, 2002) did not mention the Internal and the External PE programmes, and only focused on the PE curriculum (namely PE lessons). Further, it did not specify specific goals, content and knowledge for the Internal and the External PE programmes (MoE, 2002). However, the previous edition of the PE Curriculum (MoE, 1998) recognised the Internal and External PE programmes as essential parts of the school PE curriculum in Saudi schools. It seems that the MoE now believes that one PE lesson a week is enough and a suitable vehicle for the promotion of active, health lifestyles among young people (MoE, 2002). This could be disadvantageous in terms of the future provision and quality of health-related learning and activity opportunities for young people. Indeed, whilst the PE curriculum has a key role to play in PA promotion, it is not the only area of the school curriculum (e.g. extra-curricular programme and Islamic, Sciences and Arts curriculum), that is able to, and has the potential for, providing appropriate PA opportunities, information and guidance to pupils (Fox and Harris, 2003; Cale, 2000). In addition, the extra-curricular programmes represent a valuable opportunity for parents/families engagement in PA promotion. Therefore, it is important to obtain an accurate and detailed picture of the state and content of extra-curricular PE more broadly in Saudi Arabia, particularly given the publication of the Document of PE (MoE, 2002).
4.5. Factors influencing the Saudi education system

4.5.1. The influence of religion on Saudi education policy

It is necessary to understand the nature of philosophical thinking underpinning the Saudi education system, in particular, the influence of Islam on the system objectives and policies. KSA is an Arabic and Islamic country and Islam is perceived as faith, law, worship, and a complete system of life. The root of education in Saudi Arabia ‘goes deep into the Islamic education which started in the mosques [the Kutab] and led to the establishment of schools and universities around their pillars’ (Al-Sallom, 1995, 37). Such connection between the system and Islam is evident in the Ministry of Education’s [MoE] vision of its roles:

Engendering of a new generation of male and female youth who embody the Islamic values in their persons, both theoretical as well as practical, who are equipped with the necessary knowledge, skills, and endowed with the right orientations, capable of responding positively to, and interacting with the latest developments, and dealing with the latest technological innovations with ease and comfort.


The Saudi education system is guided by the Kingdom of Saudi Arabia Education Policy which was first published in 1970. This written policy constitutes a total of 236 articles explaining in detail the Saudi education aims, directions, administration, and schools’ curriculum, funding, and responsible agencies (Alsaloom, 1996). Mostafa (2007) summarised the policy articles into ten major principles. The first principle of Saudi education is to build a religious faith in Allah, Islam and the messenger of Allah Mohammed, peace and blessings be upon him. Indeed, this is not surprising as the KSA is an Islamic state with one hundred percent of the Saudi nation following Islam. The second principle of education is concerned with the construction of Islamic morals. The third principle emphasises the concept of offering equal educational opportunities to the new generation. The fourth principle highlights that Islam is a key reference for Science. This entails teaching Islamic knowledge across all general education (elementary, intermediate

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1 This is a religious prayer that must be cited, whenever the name of the messenger of Allah is mentioned.
and secondary) and requires pupils to develop an Islamic understanding of science. The fifth principle sheds light on the scientific aspect of education. In other words, it indicates that there is a proportional association between education and advances in technical, health, and economic levels. The sixth principle views education as a fundamental creator of the development of Saudi society, and hence links education with the country’s development strategies. The seventh principle stresses the importance of education in promoting the Islamic and Arabic identity among the Saudi society and seeks to clarify the strong position of the KSA in the Islamic world. The eighth principle deals with issues of humanity of education and in this respect, the policy identifies that the Saudi government and citizens should spread Islam over the world with wisdom. The ninth principle revolves around educating Saudi people about social responsibility and involves respecting people’s rights to choose a way of life that is appropriate for them. In addition, it encourages respecting human rights such as living in a peaceful society and encouraging co-operation between members in the Saudi society. The final principle calls teachers to strengthen pupils’ morals and beliefs and to take care and enhance pupils’ physical characteristics such as strength and endurance (Mostafa, 2007).

Islam continues to be influential in today’s education policy, mission, type of education (e.g. only single sex education is allowed in Saudi Arabia) and the school curriculum in Saudi. Indeed, the MoE’s (2005, p.12) vision for the next ten years (2004-2014) states that the key purpose of education is ‘the graduation of male and female students with Islamic values and the appropriate knowledge and practice’. The prevalence of such a vision has led the MoE (2005, p.12) to develop a ‘syllabi based on Islamic values’ which promotes ‘the development of male and female students’ personality and their integration in society as well as to the achievement of scientific and thinking skills and life characteristics resulting in self-education and lifelong learning’.

The status and value of participation in PA as an established Islamic cultural practice is demonstrated in its support for PE as an appropriate subject within the Saudi curriculum. For example, direct references to sport and PA, including riding, shooting, swimming,
hunting, fencing, running and wrestling are found in several prophetic Hadith\(^2\). Furthermore, the Messenger of Allah, Mohammed (peace and blessings be upon him) had encouraged people to maintain a healthy body. In a Hadith, the Messenger of Allah (peace and blessings be upon him) said to his companions that ‘A strong believer is better and more beloved to Allah than a weak one’ (reported by Muslim, p.2664). In a well known story amongst Muslims, the Messenger of Allah, Mohammed (peace and blessings be upon him) raced with his wife Aa'ishah (may Allah be pleased with her\(^3\)) twice in two different incidents (Reported by Abo Noaim). In addition, one of the great companions of the Messenger, Umar (may Allah be pleased with him) raced with people at Al-Mukhammas in 'Usfaan and Umar won the race. Then, the companions raced for the second time and Ibn Az-Zubayr (may Allah be pleased with him) defeated Umar. Similarly, Benn (1996, p.9) has noted how ‘there is much support for physical activity in Islam; for example, care of the body, and exercise and promotion of healthy lifestyles are important for males and females’. All of these examples illustrate the value of participation in PA as an Islamic cultural practice.

At the same time, Islam does present some challenges for PE and PA participation. Despite the Hadith text containing examples from the Messenger’s life and his companion that support PA participation and equality of opportunity for both genders, the PE curriculum is only offered in boys’ schools in Saudi Arabia. In the UK context, Carroll (1998, p.325) refers to constraints on participation arising from potential cultural ‘clashes’ between PE teachers and Muslim pupils resulting from many of the traditional practices in PE, such as changing into suitable kit, showering after lessons, practicing in extra-curricular activities, and making a full effort all the time during Ramadan when Muslims fast from dawn to sunset. Equally, Benn (1996) has reminded PE teachers of the Islamic requirement that modesty should be respected by young people after puberty, requiring adapted dress and single-sex activities. Given the above, Green (2008) has provided guidance to assist PE

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\(^2\) Prophetic Hadith embraces reports of the words and deeds of the messenger of Allah Muhammed, peace and blessings be upon him.

\(^3\) This is a religious prayer that must be cited, whenever the names of the messenger of Allah’s wives and/or companions are mentioned.
teachers in accommodating ethnic minority groups including young Muslims within PE. According to Green (2008, p.180), PE teachers should include:

- More single-sex activities.
- A relaxation of dress codes (allowing the wearing of tracksuit trousers, shalwars and secured hijabs).
- The introduction of less strenuous activities such as table tennis during Ramadan.
- Greater individual privacy in changing and showering arrangements, where possible, and incorporating such arrangements in new sport buildings.
- Different expectations towards vigorous physical exertion.
- The incorporation of greater choice of activities among older pupils.

Green’s (2008) guidance might be usefully applied to the Saudi context, because Islamic principles regarding young people’s participation in PA are similar in most Islamic countries. Thus, PE teachers working in Saudi Arabia, as elsewhere, should consider what cultural factors (e.g. religion) which influence Muslims’ PA participation. Clearly any attempts to promote PA in the school setting needs to take into account Islamic values and views.

4.5.2. The influence of socio-economic status

Another important influencing factor on education is the Saudi economy which has rapidly grown since the exploration of oil in the 1950s. Worldwide, KSA is among the largest crude oil producer in the world and the largest crude oil exporter. Oil revenues play a vital role in economic development and still represent a large share of the state budget. According to the Ministry of Economy and Planning (2009), the Crude Oil and Gas Sector generated 196,696 billion Riyal in 2004, leading to an annual growth rate of 2.6% (see table 4.1).

<table>
<thead>
<tr>
<th>Activity</th>
<th>Riyal Billion</th>
<th>Average annual growth rate %</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Non-Oil Sectors</td>
<td>433,193</td>
<td>525,267</td>
</tr>
<tr>
<td>B Crude Oil and Natural Gas Sector</td>
<td>173,102</td>
<td>196,696</td>
</tr>
</tbody>
</table>

Indeed, the oil industry fundamentally contributes to the development of Saudi society, including the education system. For example, in 2004, the Saudi government announced a plan to invest 168,600 billion Riyal in the Education and Training sector which is equivalent to 24% of the general budget (Ministry of Finance, www.mof.gov.sa, accessed on: 08/03/2012). A further illustration of the contribution of the growing economy to the development of Saudi education is the King Abdullah bin Abdulaziz Public Education Development Project [KAPEDP] which the MoE lunched in 2005. KAPEDP is a comprehensive programme for education reform (MoE, 2005), the outcomes of which are intended to:

1. Establish high-quality world class standards for the education system.
2. Develop an integrated system which evaluates and assesses the quality of learning in schools.
3. Develop the educational process at various elements:

   - To develop school curricular in line with current developments in sciences and technology to fulfil young people’s needs in terms of values, knowledge, profession, psychological, physical and mental health and living.
   - To rehabilitate teachers and prepare them to carry out their duties; in order that they can achieve the goals of the developed curriculum.
   - To improve the learning environment in schools via integrating digital technology into curriculum and classrooms, so it becomes more conducive to learning.
   - To provide extra-curricular activities that offer opportunities to enhance students’ skills, innovation, and talent; and help to improve their personal, social and national associations with the society.

   (MoE, Tatweer Project, www.tatweer.edu.sa, accessed on: 28/03/2012)

KAPEDP adopted a multi-dimensional approach involving teachers, pupils, school environment which is consistent with Maroun et al.’s (2008, p.1) recommendation to
combine various elements of the social and physical environments to reform the education system in Saudi Arabia:

- A socioeconomic environment in which social and economic priorities can be translated into a viable education strategy and related goals.
- An operating model for the education sector, in which operating entities, good governance, and funding allow for the sustainability of education goals.
- An infrastructure (e.g., quality teachers and curricula, reliable assessment and performance measures, and a good learning environment) ready to make such goals attainable.

It was encouraging that KAPEDP included the introduction of the National Saudi School Sports Strategy which is a partnership between the MoE, Tatweer, itiK, and Rise Global (MoE, 2005). The strategy is facilitated by PE teachers in schools with the support of PE supervisors in the Educational and Learning Offices [ELO], and involves the development of six avenues to ‘upgrade’ school sports, including scholastic sports, wellness and fitness, special PE, PE, exercise, sport and science, and school sports. According to the MoE, the strategy aims to:

- Raise awareness of and promote physical activity in the form of physical education and scholastic sports among school-age children and the community at large to integrate health, leisure and competitive environments.
- Develop Scholastic sports to enhance level, increase participation and excel in generating results in the regional and international arena.
- Develop an effective physical education platform by developing skills, effectiveness and performance.

(MoE, Tatweer Projects, www.tatweer.edu.sa, accessed on: 28/03/2012)

Clearly, the Saudi School Sports Strategy (MoE, 2005) could help maximise PA opportunities for young people, primarily in schools but also in the local community. Thus, schools should have access to advice and guidance on the development of links with sports clubs and sports organisations in the local community. Further, an investigation of the
potential barriers and/or facilitators for the establishment of school-club links is important. Overall, KAPEDP has the potential to make a significant contribution to the development of the education system in Saudi Arabia, particularly PE and sports.

Another contributory factor to the development of education in Saudi is the rapid growth in the Saudi population especially in major cities such as Riyadh, Makah and Dammam. For example, the population of Riyadh has increased significantly over the last 40 years. It grew by almost five times from an estimated 500,000 in the middle of last century to 5,254,560 million in 2010 (Central Department of Statistics & Information, 2010). Historically, Riyadh was selected as a capital for the second Saudi state in the year 1824 after the destruction of the first one, Al-Dereia. In 1862, William Palgrave wrote that the town (Riyadh) was rectangular in shape with two main streets, one running from north to south and the other extending from east to west. In 1919, John Philby reported that Riyadh was less than one square kilometre in area with a population of 11,500 inhabitants. After King Abdu Al-Aziz unified the regions to form KSA in 1932, Riyadh witnessed a high degree of construction work reflecting its importance as the capital city. In 1957, the building areas doubled in size and practical residential buildings were established in the north of the city (e.g., Elaya, Malaz and Murabba) to accommodate the new arrival of workers. These were mainly workers of various Ministries and government departments who had been moved from Jeddah on the west coast region to Riyadh. Recent government data show that the majority of people living in Malaz and Batha are non-Saudi, whereas Alrawdah and Elaya are mainly occupied by Saudi (High Commission for the Developmental of Arriyadh, 2006). This spatial expansion of the city is not limited to these quarters only and there were also areas in the east and the west of the city such as Al Eraja and Al Nassem. In comparison to the central, west and east, the new neighbourhoods at the north have special areas devoted to public utilities such as schools, public parks, hospitals and mosques.

An increase in population challenges the Saudi government which seeks to provide an appropriate education for young people from increasingly different cultural backgrounds.
Figures 4.1 and 4.2 below show the rapid increase in the number of schools, classes, pupils and teachers over the period 1980 to 2009.

Figure 4.1: The growth in class and school numbers during 1980 to 2009 in the Riyadh Educational Region.

Figure 4.2: The growth in pupil and teacher numbers during 1980 to 2009 in the Riyadh Educational Region.

According to Al-Sembi et al. (2004), the reasons behind this growth has been the establishment of the MoE and policies for education, the high number of immigrants to
Riyadh, and oil revenues which have secured the flow of money into the Saudi economy. With respect to migration, a huge influx of labourers seeking job opportunities in the city is believed to be the major cause for the growth in the Riyadh population. According to the Central Department of Statistics & Information (2010), there are 2,037,030 million non-Saudis living in Riyadh city. Table 4.2 reveals that there is now an international pupil for every ten Saudis enrolled in boys’ secondary schools in Riyadh.

Table 4.2: Number of boys’ secondary schools, pupils, classrooms and teachers in Riyadh

<table>
<thead>
<tr>
<th>School Type</th>
<th>Schools</th>
<th>Classroom</th>
<th>Saudi pupils</th>
<th>Non-Saudi pupils</th>
<th>Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>A State</td>
<td>101</td>
<td>1.549</td>
<td>51.777</td>
<td>10.942</td>
<td>3.902</td>
</tr>
<tr>
<td>B Private</td>
<td>89</td>
<td>1.528</td>
<td>33.055</td>
<td>3231</td>
<td>988</td>
</tr>
<tr>
<td>Total</td>
<td>190</td>
<td>3.032</td>
<td>84.832</td>
<td>13.183</td>
<td>4.890</td>
</tr>
</tbody>
</table>


Al-Sembi et al. (2004) highlighted the impact of immigrants on the Saudi policies for education. For instance, the MoE gave approval for the establishment of the ‘International School’ which teaches international curricula such as American and Canadian. However, this study focuses on schools which deliver the Saudi curriculum.

In addition, the increase in the number of pupils in schools has in part led to the production of ‘rented building school’; which refers to a state or private schools situated in a residential building (Al-Hamid et al., 2007). These are either rented by the MoE or private sector. According to Al-Hamid et al. (2007), approximately half (47%) schools in Saudi Arabia situated in rented building (see Table 4.3).
Table 4.3: Number of schools situated in rented building from 1989 to 2006 (adopted from Al-Hamid et al., 2007)

<table>
<thead>
<tr>
<th>Type of building</th>
<th>School years</th>
<th>1989/90</th>
<th>1994/95</th>
<th>2000/01</th>
<th>2005/06</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>%</td>
<td>Number</td>
<td>%</td>
<td>Number</td>
</tr>
<tr>
<td>Governmental</td>
<td>3026</td>
<td>51%</td>
<td>3214</td>
<td>45%</td>
<td>3876</td>
</tr>
<tr>
<td>Rented</td>
<td>2967</td>
<td>49%</td>
<td>3963</td>
<td>55%</td>
<td>4200</td>
</tr>
<tr>
<td>Total</td>
<td>5993</td>
<td></td>
<td>7177</td>
<td></td>
<td>8076</td>
</tr>
</tbody>
</table>

School PE has become news-worthy and attention was on rented building schools being not conducive to PE programme (Al-Hamid et al., 2007; Al-watan Newspaper, 2011, www.alwatan.com.sa). For example, Al-Zeaber’s study (2000) revealed that 40% of rented buildings were inadequate for the delivery of the PE programme. The reason for this was that most of rented building schools lack in space, and sport, changing and showers facilities.

Another influencing factor on education might be the rise in Saudi’s personal income. According to the Central Department of Statistics & Information (2007), the average monthly income of Saudi households is 11,092 Riyal (£1,706). At the regional level, Saudi households living in the Riyadh region came second after the eastern region in terms of the average monthly income (13,053 and 13,619 Riyal respectively). People built private accommodation in the form of villas which was a new style of building in Saudi, in the neighbourhoods of Malaz, Murabba and Badia'h. In the north west of Riyadh, the Nasiriyah area was selected as the location of the Royal palaces, five kilometres from the centre of Riyadh. These buildings were unique in style and attracted others seeking luxurious palaces and housing, resulting in the establishment of new districts such as Ulayshah and Mather south of Nasiriyah. In addition, in 1974 the Saudi government provided financial assistance to low–middle income citizens via the establishment of the Land Development Box which gave them easy access to housing loans. Saudi citizens were able to borrow 300,000 Riyals (£46,153) to build a house and were given 25 years to repay the loan in instalments. More recently, the Land Development Box has increased the total loan to 500,000 Riyals (£67,923) to meet the rapid increase in land prices and construction costs (Ministry of
Finance, 2011). Nowadays, there are 831,000 housing units in Riyadh city, of which villas and apartments comprises 55% and 41% respectively (High Commission for the Developmental of Arriyadh, 2008). Three municipalities Malaz, Batha and Arrowdah have witnessed the largest increases in housing.

4.6. Summary

The education system in Saudi Arabia has been gradually developing in terms of type, structure, the number of schools and pupils since the establishment of the MoE in 1953. It is encouraging that PE is a core school subject in Saudi schools, and the recent revision of the curriculum includes the promotion of health as a statutory component of the subject (MoE, 2002). However, the government has extracted the Internal and External PE programmes from the PE programme which may negatively affect PA promotion within schools. The publication of the Education Policy in 1970 was a benchmark in the development of the system as it set the aims and objectives for education in Saudi Arabia. Further, Islam and the Saudi government’s perspectives on schools’ role in developing a healthy Saudi nation continues to be influential in today’s education policy and presents challenges to schools in terms of the promotion of PA among young people and their parents/families. Another influencing factor is the continued growth in the Saudi economy which resulted in major educational reform such as KAPEDP in 2005. Finally, the increase in the Saudi population has placed pressure on the Saudi government to meet the demand on public education. This also resulted in the existence of rented schools which have been criticised in terms of their unsuitability for PE.
5.1. Introduction
It is critical for any researcher to establish an understanding of how social research should be conducted and what it entails. This chapter involves consideration of the nature of the relationship between theory and research and epistemological issues that relate to what is regarded as appropriate knowledge about the social world (Bryman, 2008). The chapter outlines the methodological approach adopted in the study. In particular, it defines and explains the rationale for selecting a mixed methods approach to explore PA promotion within schools. Moreover, it describes the processes which the researcher has undertaken, including undertaking pilot studies before the main study, administration of research instruments, data collection and analysis. Finally, the chapter discusses a number of ethical issues related to the research.

5.2. Theory in social research
Bernard (2000) pointed out that the link between theory and social research appears at the very first stage of research design when a researcher chooses the research questions. According to Punch (2005), there are two ways to develop research questions: firstly, working deductively from general to specific questions by identifying a research area and topic and then developing questions within that area; secondly, working inductively, beginning with some specific questions and working from these back to more general questions.

With respect to the first approach, Bryman (2008) stated that the deductive theory symbolizes the most common view of the nature of the relationship between theory and social research. In this scenario, the researcher develops a hypothesis based on an existing theory related to the subject of interest, and then the hypothesis is subjected to empirical
enquiry. In other words, theory and the hypothesis deduced from it come first, and drive the data gathering process. Clearly, the researcher’s reflections on her/his findings will be influenced by the theory that prompted the whole research. However, there have been many discussions concerning the structure of inquiry in this way. For instance, Punch (2005, p.38) contended that ‘we should only have hypotheses when it is appropriate to do so’ and that is only ‘when we have an explanation [a theory] in mind behind our hypotheses’. SCT, which guides this study, encompasses an assumption of promoting a given behaviour that is ‘a triadic, dynamic, and reciprocal model in which socio-environmental, personal or cognitive, and behavioural factors all interact’ (Breinbauer & Mddaleno, 2005, p.119). Thus, this study assumes that PA promotion within schools is multidimensional.

With the inductive approach, the theory is the outcome of the research. In this model of research, the aim is to generate a theory, developed systematically from the data and involves weaving between data and theory in order to establish the condition in which a theory does or does not hold. This process is known as ‘Grounded Theory’ and is a theory generation research strategy which was developed by Glaser and Strauss in 1967. There have been attempts to link the inductive strategy with a qualitative approach, and the deductive strategy with quantitative research. In this respect, Punch (2005, p.16) commented that:

While that correlation is historically valid, there is no necessary connection between purpose and approach. That is, quantitative research can be used for theory generation (as well as for verification), and qualitative research can be used for theory verification (as well as for generation).

Punch (2005) clarified the point that what directs a researcher to theory generation research is either that a new area is being studied or the topic lacks appropriate theories. Indeed, an induction process is likely to entail an aspect of deduction, and similarly deduction entails a modicum of induction. Bryman (2008, p.13) recommended that deductive and inductive strategies are possibly better thought of as tendencies rather than ‘hard-and-fast distinctions’. In this study, whilst the Active School model illustrates how schools promote
PA amongst young people, ‘schools are certainly not expected to address all aspects or adhere to a rigid Active School framework’ (Cale, 1997, p.65). Therefore, the researcher used this model to guide efforts in exploring PA promotion within Saudi secondary schools.

5.3. Differences between research paradigms: epistemological considerations

The landscape of social scientific inquiry has involved a long-standing debate about what is regarded as acceptable knowledge or ‘epistemology’, and how we come to understand the world around us or ‘ontology’ (Sparkes, 1992, p.9). Many scholars such as Cuba and Lincoln (2005) and Creswell (2003) linked epistemology and ontology with the concept of social research paradigms. Paradigms ‘provide particular sets of lenses for seeing the world and making sense of it in different ways’ (Sparkes, 1992, p.12). According to Guba and Lincoln (2005), paradigms that attract theoretical writers’ attentions and which have been discussed at length are: positivism, constructivism, and more recently pragmatism.

According to Morgan (2007, p.52), the current vision of paradigms treats epistemological stances such as positivism and constructivism as ‘distinctive belief systems’ that influence how research questions are asked and answered. For instance, the positivist paradigm depicts the epistemological position that advocates the application of methods of natural science to the study of social reality and beyond (Bryman, 2008). In particular, it relies on five major principles:

- Only phenomena and hence knowledge confirmed by the senses can genuinely be warranted as knowledge.
- The purpose of theory is to generate hypotheses that can be tested and thereby allow explanations of laws to be assessed.
- Knowledge is arrived at through the gathering of facts that provide the basis for laws.
- Science must be conducted in a way that is value free.
- There is a clear distinction between science statements and normative statements and a belief that the former are the true domain of the scientist.

(Bryman, 2008, p.13).
In contrast to positivism, constructivism views epistemological issues from different perspectives. Constructionists argue that:

- Knowledge is constructed, there is no objective truth waiting to be discovered.
- Truth or meaning comes into existence in and out of engagement with realities in our world.
- Meaning is not discovered, but constructed.

(Crotty, 2003, pp.8-9).

Creswell (2005, p.9) added that constructionists address the ‘process’ of interaction among individuals and focus on understanding the historical and cultural settings of participants. Furthermore, the researcher’s intention is to develop an understanding of the meanings participants have about the topic under investigation.

The two paradigms (positivism and constructivism) have been linked to particular methodologies. In this regard, Creswell (2005) reported that since the late 19th century until the present day, methodologies of enquiry associated with quantitative research were those that invoked the post-positivist perspective (post-positivism is the intellectual heir to the positivism paradigm). On the other hand, constructivists approached their studies with a certain paradigm that is qualitative research (Creswell, 1998). Morse and Field (1995, p.3) stated that ‘each of the qualitative and quantitative paradigms has its own set of assumptions, its own established methodologies, and its own set of experts’.

Indeed, the concept of paradigm purity is highlighted by authors such as Smith (1983) who argued that:

One approach takes a subject-object position on the relationship to subject matter; the other takes a subject-subject position. One separates facts and values, while the other sees them as inextricably mixed. One searches for laws, and the other seeks understanding. These positions do not seem compatible (Smith, 1983, p.12, cited in Tashakkori & Teddlie, 1998).

Paradigm purists contend that quantitative and qualitative approaches cannot be mixed due to the incompatibility and differences in their underpinning philosophical assumptions.
Therefore, they advocate mono-method studies which exclusively employ one of the predominant paradigms (Tashakkori and Teddlie, 1998). On the other hand, Verma and Mallick (1999, p.27) argued that:

Quantitative and qualitative are not mutually exclusive. If a researcher decides to use a quantitative approach to the investigation of a problem, there is no obligation to ignore any qualitative data that are collected in the process. Similarly, if in another study, it was decided that a qualitative approach was best suited to the topic being investigated, it could still include quantitative data.

Onuegbuzie and Leech (2005) criticised the positivists for their narrow definition of the concept of ‘science’ and accused them of building barriers between paradigms. Similarly, Morgan (2007, p.52) described the current vision of paradigms as limited and stated that they do not ‘tell us about more substantive decisions such as what to study and how to do so’.

Another philosophical movement towards historical strands for the social sciences is pragmatism which embraces plurality of method and multiple methods (Onwuegbuzie & Leech 2005). According to Tashkki and Teddlie (2003), pragmatism started during the latter decades of the 19th century with the American philosopher Charles Sander Perice. The pragmatist’s point of view regarding methods, logic, and epistemology of paradigms rejects ‘the forced choice between positivism (including post-positivism) and constructivism’ (Tashkki & Teddlie, 2003, p.21). Pragmatists deem research questions to be more significant than either the research methodologies or the paradigm that is theoretically assumed to underlie such methodologies (Tashkki & Teddlie, 1998). Therefore, some authors favour pragmatism because it offers ‘an interesting and fruitful foundation for ontological and epistemological questions inherent in social research’ (Greenwood & Levin, 2000, p.53).

The ontological and epistemological position of the author was that of pragmatism. The author rejected ‘the traditional philosophical dichotomies of realist versus idealist ontology and subjective versus objective epistemology’ (Coe, 2012, p.8). As a pragmatist, the author deemed the research questions to be more significant than either the research methods or
the paradigm that is theoretically assumed to underlie such methods. With reference to this study, the author considered that the subject of the study was influenced by external factors (e.g. physical and social environments) as well as individual factors (e.g. values, norms, beliefs, perspectives, and outcomes).

5.4. Mixed methods research: definition and rationale

According to Sadelowski (2000), the idea of combining qualitative and quantitative approaches stimulated much interest and debate following an increasing in the number of studies incorporating both approaches. The combination of qualitative and quantitative methods is most commonly known as ‘mixed methods research’ (Johnson et al., 2007). Nonetheless, the concept of mixing methods is defined differently within the literature. Johnson et al. (2007) conducted a content analysis of definitions of mixed method research in order to identify gaps in these definitions and develop a comprehensive one. According to Johnson et al. (2007, p.123), mixed methods research is:

The type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration.

Clearly, this suggests that both quantitative and qualitative approaches equally form the intellectual and practical basis for mixed methods research. Furthermore, it highlights the link between the three well known paradigms (positivism, constructivism, pragmatism) and supports the pragmatic argument of paradigm compatibility. It indicates the important and essential role of positivism and constructivism paradigms in providing mixed methods research with ‘a choice that often will provide the most informative, complete, balanced and useful research results’ (Johnson et al., 2007, p.129).

The rationale for conducting mixed methods research has been systematically reviewed (Rossman & Wilson, 1985; Greene et al., 1989; Collins et al., 2006; Bryman, 2008). For example, Rossman and Wilson (1985) identified three reasons for combining quantitative and qualitative research: firstly, to corroborate (provide convergence in findings); secondly,
to elaborate (provide richness and detail); and thirdly, to initiate new findings from the other method. More recently, Collins et al. (2006) examined published mixed methods research in selected special education journals and identified four rationales: participant enrichment (e.g. combining quantitative and qualitative research to optimise the sample by recruiting more study participants); instrument fidelity (e.g. maximising the appropriateness and/or utility of the research instruments); treatment integrity (e.g. assessing the fidelity of intervention); and significance enhancement (e.g. enhancing the researcher’s interpretation of the data and statistical analyses). Bryman (2008) went further and noted sixteen rationales for employing a mixed methods research approach. Nonetheless, four purposes that were common to those of Rossman and Wilson (1985), Greene et al. (1989), and Collins et al. (2006), for combining the two approaches were: enhancement, completeness, triangulation, and sampling.

This study employed mixed methods research for a number of reasons. The first reason was due to the nature of the research question which focused on the nature and extent of the promotion of PA in boys’ secondary schools in Saudi Arabia. It was felt that a survey was an appropriate means of obtaining information on this topic. The second rationale was enhancement in which the researcher corroborated qualitative outcomes from interviews to enhance the findings. The third rationale was to facilitate the sampling of research; the researcher used the survey data to select the sample for the qualitative phase and inform the interview schedule.

5.5. The nature of quantitative, qualitative and mixed methods approaches
Quantitative research is confirmatory, deductive, structured, closed-ended, controlled and linear (Jonhson & Turner, 2003). Typically, quantitative research is associated with research that deduces a hypothesis from a theory and then tests it. Some researchers consider that a cross-sectional study using social survey research instruments does not require a specific hypothesis (Bryman, 2008). Punch (2005, p.64) agreed that pre-specified hypotheses may be less needed in some forms of quantitative research, but he emphasized that the researcher needs to develop a framework that determines ‘the conceptual status to
the things being studied, and their relationship to each other’. These are influenced by the assumed statistical value of quantitative research.

Typical quantitative research accepts concepts that are measurable and can be converted to variables. In turn, the variables are translated into numbers and are examined using statistical tests. One reason for numerical data being favoured is that data can be analysed in an objective way using statistical techniques. The major characteristics of quantitative research are summarized as follows:

- It conceptualises reality in terms of variables and relationships between them.
- It relies on measurement, and therefore pre-structures data, and usually research questions, conceptual frameworks and design.
- The sample is typically larger than in qualitative studies and generalisation through sampling is usually important.
- It does not see context as central, typically stripping data from their context, and it has well developed and codified methods for data analysis.
- Its methods in general are more un-dimensional, and are more easily replicable.

(Punch, 2005, p.237)

In contrast, qualitative research is exploratory, inductive, unstructured, open-ended, naturalistic and free-flowing (Johnson & Turner, 2003). Punch (2005, p.238) identified a range of characteristics associated with the qualitative approach including:

- It deals more with cases.
- It is sensitive to context and process, to lived experience and to local grounded and the researcher tries to get closer to what is being studied.
- It aims for in-depth and holistic understanding in order to do justice to the complexity of social life.
- Samples are usually small, and its sampling is guided by theoretical rather than probabilistic considerations.
- Pre-structuring of design and data is less common, and its methods are less formalised than those in the quantitative approach.
- It is more multidimensional, more diverse and less replicable.
- It has greater flexibility.
Whilst mixed methods research has its own characteristics, considering the characteristics of both approaches is required to mix methods in an effective manner. In this respect, Johnson and Onwuegbuzie (2004) and Johnson and Turner (2003) argued that understanding the strengths and weaknesses of quantitative and qualitative research is essential to ensuring the resulting mixture is complementary. In this context, the findings of a mixed methods study can be superior to those of a mono-method study (Johnson & Onwuegbuzie, 2004). It is at this point that the debate over the value of mixed methods in the social sciences is significant. For instance, Bryman (2008) argued that researchers select the research approach and design that is appropriate to use for answering the research questions and pointed out that more data does not necessarily mean better research.

5.6. Mixed methods research design: an overview

Ragin (1994, p.191) indicated that the research design is ‘a plan for collecting and analysing evidence that will make it possible for the investigator to answer whatever questions he or she has posed’. Cohen et al. (2007) emphasized the inherited reciprocal association between the research question, methodology and the design. Indeed, the research questions determine the methodology and design selected.

As mentioned, both quantitative and qualitative approaches act collectively to form the basics of mixed methods research. In the latter, the questions often include where, why, and what are appropriate combinations to expand the research scope (Sandelowski, 2000). Mixed methods research may be operationalised at the technique level, sampling, data collection, and data analysis stages (Sandelowski, 2000). Therefore, there are important steps a researcher is recommended to consider prior to designing mixed methods research. For instance, to establish their rationale for the use of each individual method as well as for combining methods (Wolley, 2009).

Having clearly identified the underlying rationale for mixed methods research, there is a great deal of work to do answering the research questions via integrating parts of the research process including the analysis and findings. Yin (2006) suggested a framework for integration across all steps, including the research questions being addressed, the definition
of the units of analyses, the structure of the samples being studied, the instrumentation and data collected, and the analysis of the data. From this, Yin (2006, p.41) argued that the more methods are integrated into each of these procedures, the stronger the ‘mix’ of methods achieved. Indeed, this view is consistent with that of Creswell et al. (2004, p.212) who emphasised that:

Mixed methods study involves the collection or analysis of both quantitative and/or qualitative data in a single study in which the data are collected concurrently or sequentially, are given a priority, and involve the integration of the data at one or more stages in the process of research.

In particular, the idea of mixing quantitative and qualitative approaches at the methods level is worthy of attention. Morse (2003) suggested four mixed methods research designs: (1) preliminary qualitative methods in a quantitative study; (2) preliminary quantitative methods in a qualitative study; (3) follow-up qualitative methods in a quantitative study; and (4) follow-up quantitative methods in a qualitative study. These models are merely examples of how research methods can be combined. However, it has been suggested that acknowledging that there are chief and supplementary data in a study may suggest that one set of data is more important than the other, which could weaken the research validity on the grounds that supplemental data are given less rigorous care (Morse, 2003). Another concern is that the mixed research approach requires decisions to be made prior to conducting the empirical research. Thus, the researcher should decide what the principal data-gathering tool is, and which method comes first; however, ‘this is not necessarily possible in all research’ (Bryman, 2008, p.607).

5.7. Research design: the quantitative phase

A survey’s capacity for generating quantifiable information on a wide population in order to examine theories or hypotheses has been viewed by many practitioners as ‘a means of capturing many of the ingredients of a science’ (Bryman, 1988, p.11). Survey research seeks to ‘gather data at a particular point in time with the intention of describing the nature of existing conditions, identifying standards against which existing conditions can be compared, or determining the relationships that exist between specific events’ (Cohen et
Moreover, the survey is able to seek factual information such as background, biographical and behavioural information, and could ask about attitudes, values, opinions and beliefs (Punch, 2005). Questionnaires have been considered as appropriate in a variety of contexts where relatively simple, generally quantitative data, are required from a large population. Gratton and Jones (2004, p.117) identified a number of advantages which support the choice of a questionnaire as a method for data collection, these being:

- **Accessibility**: the postal questionnaire allows a researcher to collect data from a geographically dispersed sample group at a much lower cost than by interviewing a similar sample.
- **Potential reduction in bias**: with a well-designed questionnaire, there is little opportunity to introduce bias in the results, as may be the case with interviews.
- **Anonymity**: the presence of the researcher expressing interest in certain sensitive issues may inhibit the respondent.
- **Structured data**: questionnaires tend to provide highly structured quantitative data that are easily comparable, either between subject groups or between the same groups studied over an extended time period.

Moreover, May (2001) believed that questionnaires offer a relatively cheap method of data collection over other types and provide an outlet for respondents to take their time completing the questionnaire and considering their answers.

May (2001) has noted that three main type of questionnaire are commonly employed in social studies: mail or self-completion questionnaires, telephone surveys, and face-to-face interview schedules. This study used self-completed questionnaires for a number of reasons. Bruce et al. (2008, p.165) noted that there are numerous merits to the implementation of the self-completion questionnaire over structured interviews, in that they: firstly, are quicker and cheaper, because many can be mailed or distributed at the same time; secondly, they avoid interview bias; and finally, they are more convenient for respondents, because they can be completed at a time which suits the participants. Yet, questionnaires also have disadvantages such as potentially low response rates. May (2001, p.97) noted how ‘unless people have an incentive, then response rates are likely to be low.
and the figure of a 40% response rate, is not uncommon’. Helpful triggers to increase the response rate are to send a covering letter which explains the objectives of the questionnaire and highlights the need for co-operation and the confidentiality of replies (May, 2001). Furthermore, Gratton and Jones (2004, p.119) recommended that:

As a rule of thumb, you should try to keep the questionnaire as short as possible, yet ensure that it will provide all of the necessary data, do not be tempted to include questions that are not required, even if you consider them to be interesting! You should be able to justify the inclusion of each question, and identify how that question will help answer your research. You also need to think ahead in terms of how you intend to analyse your data.

In terms of the type of questions that are included in questionnaires, several types are proposed. May (2001) and Bryman (2008) classified questions into various types. Firstly, factual questions which include: 1) personal factual questions, which ask the respondent to provide personal information such as age and education, and are often referred to as demographic information; 2) factual questions which seek personal information about others; and 3) informant factual questions which place a respondent in the position of informant. For instance, the respondent answers a question about the size of the school in which they work. It is recommended to consider whether the demographic questions should be asked at the beginning of the questionnaire or at the end after eliciting the respondent’s opinion. The second type of questions relate to opinion and include questions about attitudes, beliefs, and normative standards and values. Respondents might be asked about their attitudes towards a particular phenomenon, what principles of behaviour influence them, and possibly about their religious or political beliefs. The structure of opinion questions requires careful consideration to be given to the words used, because wording alterations can easily elicit different answers. The final type of questions are concerned with knowledge, often used to examine respondents’ knowledge of a particular subject. According to May (2001, p.100), the way to distinguish between different types of question is ‘to construct them unambiguously and to be clear in our [researchers] own mind what the question is for, who it is to be answered by and how you intend them to interpret it’.
At the heart of questionnaire construction is whether to ask questions in an open or closed format. The former gives respondents great freedom to respond to the question because they answer according to their understanding (May, 2001). Other advantages of open questions are that they permit unusual responses and do not suggest certain types of answers to respondents; thereby enabling the researcher to explore new areas. However, open questions are time consuming for researchers as they have to be coded. Another disadvantage is that they require greater effort from respondents, which could exacerbate the problem of low response rates (Bryman, 2008).

In contrast, closed questions provide the researcher with information in its simplest format which is easy to analyse, and also provide easily structured data. Furthermore, they are easier for respondents and take less time than other question formats to complete (Gratton & Jones, 2004). In addition, they enhance the comparability of answers by offering respondents certain codes which are genuinely comparable. However, the drawbacks of closed questions are that they limit the number of possible interesting replies that are not covered by the fixed responses provided (Bryman, 2008). Therefore, one recommendation is to mix closed and open questions so that a number of answers are provided but ensuring also that the respondent has an opportunity to provide an alternative response if they are not able to find one that they think applies to them (Gratton & Jones, 2004). In this study, it was decided to employ a survey questionnaire comprising a variety of closed, open-ended, and mixed questions.

5.7.1. Designing the survey questionnaire

In order to obtain information from the schools on the promotion of PA, it was decided to use a self-completed questionnaire (Appendix A). The Active School model was adopted to guide the design of the survey questionnaire (see Chapter 1, section 1.6). The first section of the questionnaire sought general information about the schools and asked personal information regarding the respondents’ qualifications and work experience. This section comprised mainly closed questions. The following sections reflected the seven different avenues of the Active School model (Cale, 1997) and included a mix of closed and open-end questions. For example, the second section focused on PA promotion within the whole
school. The third and fourth sections addressed the PE Curriculum and the Internal and External PE Programmes respectively, whilst school provision for PE, sport and PA, and staff training and support were covered in the fifth and sixth sections. The final two sections explored school ethos and policy as well as partnerships and community links.

5.7.2. Questionnaire reliability and validity

The data generated via any measures employed in research must as far as possible be reliable and valid. A survey questionnaire is no exception, where issues relating to reliability and validity must be considered thoroughly. Reliability is concerned with the issue of consistency (Punch, 2005). According to George and Mallery (2008, p.242), it addresses ‘the issue of whether the instrument will produce the same results each time it is administered to the same person in the same setting’. There are two prominent factors involved when considering whether a measure is reliable (Punch, 2005). The first factor is stability which entails determining whether a measure is stable over time. In this respect, the researcher can conduct a test-retest approach by two administrations of the same instrument on two occasions. However, Bryman (2008) pointed out that there are a number of problems with such an approach to evaluating reliability. For instance, respondents’ answers in the first test may influence how they respond in the second test. Therefore, with the exception of a longitudinal study, the vast majority of researchers do not conduct the test of stability. The second factor is ‘internal consistency’, which asks ‘whether the indicators that make up the scale are consistent and respondents’ scores on any one indicator tend to be related to their scores on the other indicators’ (Bryman, 2008, p.150). Internal consistency can be assessed via various measures of internal reliability such as Coefficient Alpha which is the most common test. Alpha Coefficient gives a number ranges between 0.0 and 1.0 (George & Mallery, 2008). The closer the Alpha Coefficient is to 1.0, the better the internal reliability of the instrument. George and Mallery (2008, p.251) provided the following rules of thumb for the alpha coefficient (α): ‘α > 0.9 - Excellent, α > 0.8 - Good, α > 0.7 - Acceptable, α > 0.6 - Questionable, α > 0.5 - Poor, and α < 0.5 – Unacceptable’.
In this study, the coefficient alpha was selected to assess the research reliability of questionnaire for a number of reasons. Firstly, Bryman (2008) considered issues associated with test-retest reliability and concluded that ‘there are no clear solutions to these problems, other than by introducing a complex research design and so turning the investigation of reliability into a major project in its own right’ (p.150). Secondly, according to Punch (2005), either or both (the test-retest reliability and coefficient alpha) can be utilized to estimate the reliability of a measuring instrument. The alpha test is presented in this chapter in section 5.12.

In addition to reliability, another central concept of relevance in measurement, is that of validity. Bryman (2008) indicated that validity is concerned with whether a measurement of a concept really measures that concept. Belson (1986) highlighted two key points to consider regarding the validity of a survey questionnaire: firstly, whether the respondents complete the questions accurately; and secondly, whether those who fail to return their questionnaires would give the same distribution of answers as did the returnees. In the research methods literature, two types of validity are discussed: face validity and content validity. Face validity involves asking a sample of the research population whether the instrument appears appropriate to measure what the researcher intends to measure at first glance. By contrast, content validity requires asking experts in the field to judge and determine whether the content seems to reflect the concept studied (Bryman, 2008). In this study, content validity was addressed and copies of the questionnaire were sent to four Saudi lecturers working in King Saud University for validation. These lecturers were selected based on their experience of the Education system in Saudi and of school PE. They were provided with copies of the questionnaire and a covering letter explaining the aims of the research (Appendix B, C). This letter asked them to review the clarity of the instructions, presentation and the content. Two of the participants made a suggestion regarding the appropriateness and wording of questions in sections one and two. As a result, it was decided to remove one question and amend other questions.

For example, one of the lecturers made a suggestion regarding question two in section one. The question was as follows:
What is the geographical location of your school in Riyadh City?

- North
- West
- East
- South
- Centre

He commented that he did not think that there are significant differences between schools based on their location because schools are normally close to each other, and it is easy to find several schools in one district.

Another lecturer suggested re-wording questions 2.4 and 2.5. He believed that the structure of the questions was difficult to understand and might lead respondents to omit them. He also suggested removing option four (the community) from the option list. Thus, it was decided to re-word the questions and keep option four as it was deemed important for the researcher to gain information about the extent of PA promotion within the local community.

The questions were revised as follows:

2.4 In your view, how would you rate the importance to your school of promoting PA among the following groups? (please tick (√) one box only on each line)

<table>
<thead>
<tr>
<th>Group</th>
<th>Important</th>
<th>Of some importance</th>
<th>Not important</th>
</tr>
</thead>
<tbody>
<tr>
<td>School pupils</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School staff</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parents/families</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community (e.g. groups/residents within the locality)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2.5 In your view, **how well** do you feel your school promotes PA among the following groups? (please tick (√) one box only on each line)

<table>
<thead>
<tr>
<th>Group</th>
<th>Very well</th>
<th>Reasonably well</th>
<th>Not very well</th>
</tr>
</thead>
<tbody>
<tr>
<td>School pupils</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>School staff</td>
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<tr>
<td>Parents/families</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community (e.g. groups/residents within the locality)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5.8. **Research design: the qualitative phase**

The interview is one of the main data collection techniques commonly employed in qualitative research and was also adopted for the purpose of this study. According to May (2001, p.120), the interview ‘yields rich insights into people’s biographies, experiences, opinions, values, aspirations, attitudes and feelings’. It is considered to be ‘a very good way of assessing people’s perceptions, meanings, definitions of situations, and construction of reality’ (Punch, 2005, p.168). Researchers commonly employ interviews in studies that explore questions of ‘why and ‘how’, rather than ‘how many’ and when’ (Gratton & Jones, 2004, p.41).

There are different forms of interview which are classified according to the degree of freedom given to the interviewees. Briefly, these are: the structured interview, semi-structured interview, unstructured and the focus group (Fontana & Frey, 2005). The interview as a method of data collection has the following advantages:

- It enables participants to talk about their own experiences in their own words and allows them to elaborate on any areas of particular interest or importance.
- It can be more insightful than other methods, because respondents provide information from their own perspective.
- It allows unexpected data to emerge by enabling the subject to reveal insights into their attitudes and behaviour that may not readily be apparent.
- It allows researchers to assess the participant’s body language, facial expressions, tone of voice, etc. which may be useful in some cases.
- It allows the researcher to investigate target groups that may be less able to complete surveys, such as younger respondents.

(Gratton & Jones, 2004, p.142)

Although the interview offers advantages, it also has a number of potential weaknesses. These drawbacks are summarised by Gratton and Jones (2004, p.143) as follows:

- It requires more resources than the questionnaire in terms of time and travelling costs.
- It is possible that the researcher may add bias as a result of his/her verbal and non-verbal reactions.
- The interviewer may become dominant and lead the interviewee in unwanted directions.
- A reliable and valid analysis of qualitative interview data may be more difficult, especially where there may be ambiguity.
- As with all self-report measures, the quality of the data is dependent upon the responses of the interviewee.
- Interviewees are subject to problems of recall, misperception and incorrect knowledge.

It is recommended that to enhance the interview outcomes researchers construct a clear interview schedule. In this respect, Gratton and Jones (2004) considered the process of designing the interview schedule to be broadly similar to the process of designing a questionnaire. They recommended the researcher to begin by identifying what information is required and how the research will acquire that information via an interview. Hence, Bryman (2008) pointed out that the content and construction of the schedule may vary, depending on how structured the interview is. For instance, a brief list of memory prompts of areas to be covered is often employed in unstructured interviews, whereas more structured or semi-structured interviews require a list of issues to be addressed or questions to be asked.

Gratton and Jones (2004) highlighted some technical issues that warrant consideration when constructing an interview schedule. They recommended that researchers:
• Introduce the purpose and structure of the interview beforehand.
• Ensure that the questions are clearly worded, unambiguous and understandable to the interviewee.
• Group questions about the same concept together, and try to avoid jumping back and forwards between topics.

(Gratton & Jones, 2004, p.144)

Successful implementation of interviews also requires a researcher to meet some necessary conditions (Kahan & Cannell, 1983; May, 2001). The first condition is ‘accessibility’, which refers to the participant’s awareness of the subject under investigation. A lack of information may make the participant feel under stress and uncomfortable, resulting in a gap between the interviewer’s and interviewees’ forms of understanding. In such a situation, the interviewer is recommended to make a decision whether to continue the line of questioning or end the interview. The second condition is ‘cognition’, which refers to whether the interviewee understands the purpose of the interview and the research itself. If the ethical and theoretical issues are clarified, the atmosphere of the interview will be more comfortable and reflect positively on the participant’s responses. The third condition is raising the interviewee’s ‘motivation’, which entails making them feel that their participation is essential to the research and that their responses are appreciated (May, 2001, pp.127-129).

In addition, Gratton and Jones (2004, p.145) commented on the importance of a researcher acting with professionalism, enthusiasm and confidence towards the participants and stated that:

Both appearance and demeanour are important in projecting. As well as being smartly dressed, you should ensure that you appear knowledgeable about the subject under discussion, and can discuss this confidently.

The location should be relatively private so that there will be no bias from the presence of others and it needs to take place where the interviewee is comfortable answering questions, such as their own home or office. Although ‘these skills and conditions may seem relatively easy to achieve in an informal social setting, the artificial nature of an interview makes them harder to attain’ (Gratton & Jones, 2004, p.146). Therefore, researchers are
urged to develop multi-skills and to have a well-developed questioning technique in order to be able to establish rapport when they first contact interviewees. It is also recommended to conduct a pilot interview in which researchers gain feedback from interviewees to enhance their skills (Gratton & Jones, 2004).

5.8.1. Designing the interview
For the purpose of this study, a semi-structured interview was selected. The reasons for choosing this interview format to gather the research data were: firstly, it can be conducted using check lists and coding sheets, acquiring all the characteristics of a verbally administrated questionnaire (McQueen & Knussen, 2002); secondly, although the semi-structured interview design includes questions which are read out by the researcher who records the responses, the respondents can seek clarification over questions that may be unclear or ambiguous (Gratton & Jones, 2004); finally, it permits respondents to answer more in their own words, but still offers a clear structure for comparability (May, 2001).

Two semi-structured interview schedules were designed (Appendix D). The first schedule was designed to use with those schools which, from the questionnaire data, seemed to be promoting PA whereas the second schedule was to be used with schools in which there seemed to be limited attention given to PA promotion. The reason for having different interview schedules was that the preliminary analysis of the questionnaires showed diversity in the schools’ responses concerning the promotion of PA. For example, some schools appeared to be more interested in promoting PA, and had taken steps to develop a policy specifically for PA promotion whereas others had not. It was important that the interview questions were appropriate to the context of each school and the work they were doing with respect to the promotion of PA. Thus, schools that offered a range of PA opportunities were asked more about the factors that facilitated their work. On the other hand, schools that seemed not to be fully promoting PA were asked more about the obstacles. Nevertheless, both interview schedules explored how PE teachers viewed the school’s role in promoting PA, and asked about their schools’ future plans for promoting PA.
5.8.2. Interview trustworthiness

Creswell (2009, p.219) reported that ‘writers on mixed methods advocate for the use of validity procedures for both the quantitative and qualitative phases of the study’. With regards to qualitative research, the problem of how to assess research is even more complex. Flick (2006, p.367) raised questions such as ‘should qualitative research be assessed with the same criteria and concepts as quantitative research or are there any specific ways of how to assess qualitative research’. In this respect, Graneheim and Lundman (2004, p.109) believed that measures for achieving trustworthiness differ between qualitative and quantitative approaches, and criticised qualitative researchers for the use of concepts related to the quantitative approach (e.g. validity, reliability and generalizability), because this ‘causes confusion and paradigmatic uncertainty among authors and readers of scientific papers’. Cohen et al. (2007, p.149) commented that ‘this is a contentious issue… Purists might argue against the legitimacy, relevance or need for this [equivalent terms] in qualitative studies’. Coe (2012, p.42) emphasised:

Nevertheless, there is a core idea, that interpreting data in particular ways should be explicitly justified, which is essentially common to both traditions and a requirement of any good research wherever its paradigmatic stance.

Qualitative researchers have proposed alternative constructs of validity and reliability to ensuring trustworthiness: credibility and dependability (Lincoln and Guba 1985). With respect to credibility, Guba and Lincoln (1989, p.237) define it as ‘the match between an evaluator’s representations and the constructed realities of respondents or stakeholders’. Flick (2006, p.370) proposed the following procedures to demonstrate that the textual evidence is consistent with the interpretation in order to increase research credibility. Firstly, the origin of data needs to be explicated in a way that makes it possible to check the participants’ responses and where the researcher’s interpretation begins; secondly, procedures in the interview need to be made explicit and re-checked in order to improve the comparability of different interviewers’ or observers’ conduct. Therefore, Flick (2006) recommended that researchers document in detail the research process, and train the interviewers with, and check the interview schedule in a pilot interview.
Another aspect of trustworthiness is dependability. According to Lincoln and Guba (1985, p.299), dependability seeks ‘means for taking into account both factors of instability and factors of phenomenal or design induced changes’. It is based on determining whether the findings are accurate from the perspective of the investigator, the respondents, or the readers of an account (Creswell and Miller, 2000). Several means are available to check the accuracy of findings, including:

- triangulating different data sources of information by examining evidence from the sources and using it to build a coherent justification of themes;
- clarifying the bias the researcher brings to the study;
- using peer debriefing to enhance the accuracy of the account.

(Creswell, 2009, p.191)

In this study, the trustworthiness of the interview was addressed via triangulation, clarifying the author’s interests and history regarding the PA promotion within schools (see chapter 1 section 7) and via the researcher’s supervisors. Triangulations considered to be ‘an excellent strategy for ensuring trustworthiness’ (Pitney & Parker, 2009, p.64) and in this respect the author verified that the findings from interviews were consistent with those of the questionnaire. For example, the study examined barriers and facilitators to PA promotion within schools through questionnaires and interviews. This triangulation of methods provided a fuller understanding of the barriers and facilitators to PA promotion perceived by PE teachers. In addition, the research supervisors, who are experienced in qualitative research, examined all aspects of the study to ensure it was carried out in an appropriate and systematic way and investigated transcripts ‘quotations’, data-analysis procedures and the researcher’s interpretations and findings.

5.9. Research population and sampling

Research population refers to ‘the universe of units [this includes people, companies, countries etc.] from which the sample is to be selected’ (Bryman, 2008, p.168). When the population is large, surveying every case is extremely unlikely because of limitations such as time, capacity and cost. Therefore, a representative sample of the whole population is
needed. The research sample includes ‘the segment of population that is selected for investigation; it is a subset of the population’ (Bryman, 2008, p.168). A sampling frame contains every unit in the population from which the sample will be selected and is defined by specific criteria (David & Sutton, 2004). According to David and Sutton (2004), there are different sampling techniques that can be used to select a research sample and these can be classified into two main categories; firstly, probability samples which are dependent upon each case in the population being provided with an equal chance of being selected; and secondly, non-probability samples which are used when it is difficult to identify all possible cases in a population.

With respect to probability samples, Dyer (1995) and David and Sutton (2004, pp.13-14) suggested four types. The first is random sampling which involves individual units being randomly selected using a method of choice based on a mathematical formula that grants all units an equal chance of being selected. This is most appropriate when there is a large population with a quality sampling frame. It offers great scope for making generalisations from the findings because each unit of the population has the same chance of selection. The second type of probability sampling is systematic sampling, which requires a complete list of individual units in the form of a completed sampling frame, but instead of using a table of random participants, the sampling procedure involves drawing individuals at regular, predetermined intervals from the sampling frame. It is an easier technique for sample selection than the simple random sampling technique. The third form is stratified sampling which entails constructing the sampling frame according to characterising variables. The selection of the variables is determined by the survey aims. After classifying the sample frame according to the selected variables, the proportion of individual units is then determined through a systematic sampling technique or random sample. The fourth type of sampling is cluster/multi cluster sampling which is a convenient sampling technique frequently employed when the geographical spread of the population is large and where time and cost issues are of magnitude. When a complete sampling frame is not available, but the universe to be sampled is capable of being organised hierarchically, the cluster sampling technique enables a representative sample to be selected (David & Sutton, 2004, pp.13-14).
With regards to non-probability samples, Bryman (2008, P.183) indicated that the sample is ‘an umbrella term to capture all forms of sampling that are not conducted according to the canons of probability sampling’. David and Sutton (2004) explained that non-probability samples are employed when there are no suitable frames of the population available or time and cost restrictions mean that the surveying of a broadly spread population is not practical. In contrast to probability sampling, it is weak in terms of its ability to produce a representative sample (Dyer, 1995).

David and Sutton (2004) defined three types of non-probability sample. The first form is convenience sampling which is simply when easily accessible individual units are chosen as cases. Findings generated from such a sample however, cannot be generalised to the population. The second form is quota sampling, which is a technique that entails choosing cases by opportunity based selection methods, according to some pre-defined features of the population. In other words, the sample is selected because it possesses certain characteristics rather than the basis of a standard process. The third form is purposive sampling when the cases are selected according to the researcher’s own knowledge and judgement of which member of a population will be suitable for investigation. The final form is snowball sampling which involves the researcher making initial contact with a small group of people who are relevant to the research topic and then using them to contact others.

5.10. The sample

The research question defines the research sample within a particular population. This study sought to explore the promotion of PA within boys’ secondary schools in KSA. Thus, the population frame consisted of secondary schools in KSA. However, the Kingdom occupies about four-fifths of the Arabian Peninsula, with a total area of over 2,250,000 kilometres square. With limitations of time and cost, it was decided that a multi-stage selection technique would be adopted, beginning with the identification of one region within the Kingdom. KSA is geographically divided into five regions: central, western, eastern, southern, and northern. A review of the literature established that the central
region, particularly Riyadh, was the most appropriate place to conduct the study for the following reasons:

- According to the initial findings of the Saudi Census (2010), Riyadh is the largest city in Saudi Arabia in terms of population; also, it has the largest proportion of non-Saudis.
- The general Saudi Census (1992 and 2004) indicated that over a third of Riyadh’s population were young people aged less than 15 years (47.9% and 39.7% respectively).
- An increased prevalence of physical inactivity among children in Riyadh is reported in the literature.
- Analyses of studies conducted between 1988 and 2005 on young people attending primary schools in Riyadh revealed significant rising trends in obesity.
- Cross sectional studies conducted in Riyadh have indicated that 16% of Saudi school boys are classified as obese.

  (Al-Rukban, 2003; Al Hazzaa, 2007, 2007b)

The Saudi MoE’s most recent statistics for the 2009 academic year revealed that there were 183 secondary boys’ schools in Riyadh (Appendix F). All these schools were involved in the questionnaire survey. For the subsequent stage of the research process, which involved the interviews, a purposive sample technique was used and six secondary schools were selected based on their responses to the questionnaire. The researcher carried out an initial analysis of the questionnaire data and, from this, identified three schools that seemed to be promoting PA and a further three schools that appeared to be doing less to promote PA. For example, a school was considered to be an ‘Active School’, if the questionnaire data revealed: a positive attitude amongst teachers towards PA promotion [in response to question.2.1]; organised PA in curriculum time and beyond [in response to question.3.6 and 4.5]; a plan or policy for the promotion of PA [in response to question.7.1]; and established links with outside sport organisations [in response to question.8.3].’ An ‘inactive school’ was deemed to be one for which there were negative responses to the mentioned questions.
5.11. The research strategy

As mentioned, this study involved a mixed methods approach combining quantitative data (survey) and qualitative data (interviews). A sequential mixed design was adopted in which research stages were conducted in a particular sequence (Creswell, 2003). The survey phase was conducted first and was followed by phase two which was the interview phase (see Table 5.1). Table 5.1 summarises the research data collection procedure which took place in Saudi Arabia between March and July 2009.

Table 5:1 Action plan to collect the research data

<table>
<thead>
<tr>
<th>Phase One: Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 2009</td>
</tr>
<tr>
<td>Contact Saudi researchers working in King Saud University in Riyadh to approve questionnaire. Pilot and amend questionnaire as necessary.</td>
</tr>
<tr>
<td>April 2009</td>
</tr>
<tr>
<td>Administer main survey questionnaire. Send follow-up letter to non-respondents. Contact non-respondents via telephone as necessary.</td>
</tr>
<tr>
<td>May 2009</td>
</tr>
<tr>
<td>Preliminary analysis of questionnaire data. Amend interview schedule as necessary. Identify interview sample. Contact interviewees.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Phase Two: Interviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>June - July 2009</td>
</tr>
<tr>
<td>Pilot interviews and revise interview schedule as necessary. Conduct main interviews.</td>
</tr>
<tr>
<td>Transcribe interviews. Categorise and sort data.</td>
</tr>
</tbody>
</table>

5.11.1. The pilot study: roles and sample

The pilot study is a small scale study carried out prior to the actual research. Bryman (2008, p.247) makes the point that ‘it is always desirable, if at all possible, to conduct a pilot study before administering a self-completion questionnaire or structured interview schedule to your sample’. As noted by Ryan (1995, p.163), ‘once respondents have replied, there is generally little opportunity to go back to clarify responses, or to correct possible misinterpretations of questions’. Gratton and Jones (2004, p.127) identified a number of advantages to piloting a questionnaire:
• To check that the wording of the questionnaire is clear, unambiguous and understandable to the intended sample.
• To check that the sequence of the questionnaire is clear and logical to respondents.
• To assess the likely completion time of the questionnaire.
• To check the administration of the questionnaire, from its initial distribution to receiving the completed questionnaire.
• To allow a ‘dry run’ at analysing the data collected from the questionnaire.

With respect to piloting the interview schedule, Bryman (2008) indicated that this can provide the interviewer with an opportunity to practise using it and to detect any problems that may emerge in future interviews; it can also lead to a greater sense of confidence. In addition, it may assist the researcher by identifying areas which respondents may feel uncomfortable being asked about or in detecting questions that may stimulate or resume the respondents’ interest.

In this research and prior to the main data collection, a pilot study was undertaken in order to obtain valuable feedback relating to the format, content, and clarity of the questions of both the survey questionnaire and interview schedules. Non-probability sampling is considered acceptable for piloting a survey questionnaire as a prelude to a main study (Cohen et al., 2007). However, the pilot study should be conducted in the same conditions and with as similar a sample group as possible (Gratton & Jones, 2004) and, the pilot study sample should not be part of the final sample because this may affect the representativeness of any subsequent sample (Bryman, 2008). The pilot questionnaire was administered to PE teachers in three boys’ secondary schools in Riyadh who were asked their opinions regarding the layout, sequencing, and types of questions posed. All the teachers stated that the wording of the questionnaire was clear and easy to understand. They also thought the questionnaire was quite long, but that the logical sequence of the parts helped in completing it. The interview schedule was piloted in one secondary school in Riyadh. The schools were chosen for convenience in terms of location and accessibility. The purpose of this pilot was to check the structure, clarity and accuracy of the interview schedules. The pilot interview lasted for forty five minutes. The interviewer asked the PE teacher for his views on the clarity of the questions. Following the pilot, the researcher made a note of any
issues that it was felt may influence future interviews such as noise, distractions by pupils or staff, and mobile phone calls. In addition, the questions were separated into the following three categories to help enhance respondent engagement: 1) PE teachers’ opinions and perspectives on PA promotion; 2) factors that facilitated the promotion of PA; 3) factors that hindered the promotion of PA. Finally, question number one in the interview schedules was re-worded to improve its clarity. The revised question was as follows:

1- Can you please tell me about the philosophy or ethos of the school towards PE, sport or PA?

5.11.2. The administration of the quantitative phase
The researcher contacted the King Saud University, met the Head of the College of Education, and submitted a formal request to the college administration department to gain its support for the research. The University agreed to issue a support letter to the MoE (Appendix G). The researcher then contacted the MoE to obtain permission to conduct the study and submitted an application as well as the University’s letter of support to the Department of Planning and Educational Development at the MoE for approval. The Ministry approved the study and issued an official letter that requested all boys’ secondary schools in Riyadh to facilitate the researcher’s work (Appendix H).

In Riyadh, there are seven Educational and Learning Offices [ELO] which work as a link between the MoE and the schools. The researcher contacted the ELOs in order to define how many schools were registered in each office and to discuss issues regarding the procedures for administering the questionnaires. Following this contact, the ELOs agreed to post the questionnaires to the schools and provided the researcher with a ‘Post Box’ where the questionnaires were to be returned and kept safe.

Each of the ELOs was provided with copies of the final questionnaire based on the number of schools registered in the 2009 school year. The ELOs then sent the questionnaires to the schools in their area. Accompanying the questionnaires were two letters; the first was from the MoE encouraging schools to complete the questionnaire within a two week period, and
the second letter was a ‘cover letter’ from the researcher explaining the importance of the research and encouraging the schools to participate in the study (see Appendix I).

The researcher regularly visited each ELO and collected the completed questionnaires. In this respect, he noted that there was a low return rate from some ELOs. For instance, the ELO in the South of Riyadh had returned only three out of fifteen questionnaires. Searching the non-respondent schools’ post boxes at the ELO showed that some schools had not collected their post. To address this problem, the researcher met university staff and employees at the ELOs to discuss potential solutions. They recommended the researcher deliver and collect the questionnaires in person. They also recommended the researcher initiate follow up contact with non-responding schools to urge them to complete and return the questionnaires. As a result, the following actions were undertaken: first, a request was sent to the General Administration Learning Authority in Riyadh to obtain information about the non-responding schools’ locations and telephone numbers. Once this information was obtained, telephone calls were made to the schools and arrangements were made to visit them. After the follow up, the number of completed questionnaires from the ELOs was 94, representing a 52% response rate.

5.11.3. The implementation of the qualitative phase
Prior to the interviews, the researcher visited each school and met the headteacher and the PE teacher to be interviewed, and informed them that they had been selected for this research. Moreover, the researcher discussed the research aims and some details, including why the school was selected, the participant’s right to withdraw from the study, and confidentiality. The date and time for the interviews were also agreed during the visit (see Appendix J). The researcher had some difficulty in arranging the interviews because the second semester examinations had begun and the teachers were very busy assessing pupils at that time of the school year.

The researcher started each interview by thanking the interviewees for their participation and reminding them that any information they provided would be treated in confidence and that the findings would not be presented in any way that would identify them or their
schools. With the interviewees’ permission, all the interviews were recorded using a cassette tape recorder. In addition, the researcher kept notes of non-verbal behaviour during the interviews such as any hesitations or visual expressions. The average length of the interviews ranged between one and two hours.

5.12. Questionnaire analysis
Coding of the questions was required in advance of using the Statistical Package for the Social Sciences [SPSS] version 17 (Brace, 2009). Each question was given a coding number; for example, with respect to school type; a public school was represented by 1 and a private school by 2. After coding all questions, the survey data were entered into the SPSS version 17 (Brace, 2009). A variety of statistical tests were applied to analyse the data. These tests involved:

- Descriptive Analysis: for identifying the number of participants who fell into particular categories of response. Moreover, descriptive analysis helped in describing the demographic variables in relation to the whole sample (See Appendix K).
- Alpha Coefficient: to measure the reliability of the items of the questionnaire.
- Mann-Whitney and Kruskal-Wallis tests: to test the difference between respondents (schools and PE teachers) in variables concerning school policy for PE, the PE teachers’ views on the promotion of PA, and the PA opportunities offered within the schools (see Appendix L).

According to Barce et al. (2009, p.406) Mann-Whitney and Kruskal-Wallis tests are nonparametric tests which denote: 1) nominal and ordinal level of measurement; 2) data that may be measured on ratio or interval scales but do not meet the other assumptions (equality of variance and normality of distribution) underlining the parametric statistical tests. In this research, Mann-Whitney was used as an inferential statistical test to analyse nonparametric data for two-sample independent groups designs, whereas the Kruskal-Wallis test was used to test for differences in research designs involving more than two groups. The score of statistical significance of the correlation coefficient should be 0.05 or higher for it to be considered significant (Choen et al, 2003, p. 118).
5.12.1. Reliability of the questionnaire

According to Choen et al (2003), a reliable instrument will yield similar data from similar respondents over time. A reliability test such as alpha measures internal consistency amongst the research sample. Internal consistency reliability refers to the 'extent to which each question within a measure is actually measuring the same phenomenon' (Gratton & Jones, 2004, p. 86). The internal consistency reliability of the survey questionnaire was calculated for each section. Table 5.2 shows the results of the reliability tests for all sections, plus for the questionnaire overall. According to the alpha test, teachers’ responses relating to the level of support they received from the headteachers and the local PE supervisors scored the highest level of consistency (0.781 alpha), while the consistency amongst teachers’ responses concerning the importance of the school’s PE programme scored the lowest (0.535 alpha). The overall alpha score for the whole questionnaire was 0.917. In conclusion, the alpha scores indicated that the questionnaire was a reliable instrument for measuring the promotion of PA within boys’ secondary schools (see Table 5.2).
Table 5.2: Reliability of each section of the survey questionnaire

<table>
<thead>
<tr>
<th>Sections</th>
<th>Dimensions</th>
<th>No. of Partici.</th>
<th>No. of Items</th>
<th>Alpha Test</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>TWO: Whole school PA promotion</td>
<td>I. The importance of school’s PE programme</td>
<td>91</td>
<td>3 (Q 2.1)</td>
<td>0.535</td>
<td>2.85</td>
</tr>
<tr>
<td></td>
<td>II. The contribution of school's PE programme</td>
<td>91</td>
<td>4 (Q 2.2, Q2.3)</td>
<td>0.709</td>
<td>2.50</td>
</tr>
<tr>
<td></td>
<td>III. The importance to school of promoting PA among school’s community</td>
<td>90</td>
<td>4 (Q 2.4)</td>
<td>0.646</td>
<td>2.20</td>
</tr>
<tr>
<td></td>
<td>V. The quality of school PA promotion</td>
<td>89</td>
<td>4 (Q 2.5)</td>
<td>0.753</td>
<td>1.8</td>
</tr>
<tr>
<td>THREE: PE curriculum</td>
<td>I. PA offered in PE curriculum time</td>
<td>91</td>
<td>4 (Q3.2)</td>
<td>.648</td>
<td>2.06</td>
</tr>
<tr>
<td></td>
<td>II. Level of priority in PE curriculum</td>
<td>92</td>
<td>5 (Q3.3)</td>
<td>0.77</td>
<td>2.36</td>
</tr>
<tr>
<td>FOUR: IPEP &amp; EPEP</td>
<td>I. PA offered in the IPEP</td>
<td>89</td>
<td>6 (Q4.4)</td>
<td>.670</td>
<td>2.03</td>
</tr>
<tr>
<td></td>
<td>II. PA offered in the EPEP</td>
<td>93</td>
<td>3 (4.5)</td>
<td>.657</td>
<td>2.06</td>
</tr>
<tr>
<td>FIVE: School provision for PE, sport and PA</td>
<td>I. Adequacy of school sport facilities</td>
<td>89</td>
<td>4 Q (5.2)</td>
<td>.699</td>
<td>1.53</td>
</tr>
<tr>
<td>SIX: Staff training and support</td>
<td>I. Support to the IPEP and EPEP</td>
<td>89</td>
<td>4 Q(6.5 + 6.6)</td>
<td>.781</td>
<td>2.61</td>
</tr>
<tr>
<td>SEVEN: School ethos</td>
<td>I. School ethos</td>
<td>93</td>
<td>5 Q(3.4+3. 5+7.3+7. 4+7.5)</td>
<td>.596</td>
<td>2.04</td>
</tr>
<tr>
<td></td>
<td>II. PA offered to staff</td>
<td>94</td>
<td>3 Q (7.7)</td>
<td>.576</td>
<td>1.78</td>
</tr>
<tr>
<td></td>
<td>Overall alpha</td>
<td></td>
<td></td>
<td>0.917</td>
<td>2.15</td>
</tr>
</tbody>
</table>
5.13. Interview data analysis

A wide variety of software programmes are available to support qualitative data analysis (e.g. NVvio, Atlas, MAXQD). The MAXQD was selected because it supports the Arabic language. The interviews were transcribed and entered into the MAXQD version 10 software programme (see Appendix M). It provided techniques and tools that assisted the researcher in coding, categorising and ordering the data into themes. Researchers are recommended not to rush the analysis of qualitative data until all interviews have been completed and transcribed (Lofland & Lofland, 1995). Thus, all the interviews were transcribed prior to analysing any data which was a time consuming process that took approximately five to six hours for each hour of interview data.

The thematic approach was employed to analyse the interviews. According to Boyatzis (1998, p.vii), thematic analysis is a process of encoding qualitative information; it is desirable because:

- It enhances the clarity of results or findings and the ease of communication.
- It provides access to discoveries and insights generated through qualitative methods.
- It expands the possible audience for the communication and dissemination of ideas and results.
- It allows researchers using quantitative methods to incorporate operant and open-ended measures or forms of information collection into their designs.

There were three steps involved in the thematic analysis of the interviews. First, all the interview scripts were read one at a time. Second, the script was re-read to enable coding of the data which required breaking down the data into units of information for analysis. Third, each unit of information was categorised into themes based on the topics and meanings. A theme is ‘a pattern found in the information that as minimum, describes and organises the possible observation and at a maximum, interprets aspects of the phenomenon’ (Boyatzis, 1998, p.4). Table 5.3 provides a practical example of the analytical process.
Table 5.3: Example of the coding process

<table>
<thead>
<tr>
<th>Theme</th>
<th>PE teachers’ perspective on PA promotion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category</td>
<td>Health promotion</td>
</tr>
<tr>
<td>Sub-category</td>
<td>The health benefits of exercise: reduce obesity rate, increase physical fitness</td>
</tr>
<tr>
<td>Codes</td>
<td><em>I think PE has a role in health promotion, that is to educate young people on the health benefits of exercise and a healthy diet.</em> PE should cover all components of fitness such as stretching, flexibility,</td>
</tr>
</tbody>
</table>

- The author read the data making note of the various topics embedded in the data. He observed that the purposes of PE varied between PE teachers. In this respect, the author examined the data line by line and coded phrases such as “*educate young people on the health benefits of exercise and a healthy diet*”, “*teaching sport skills*”, “*time off from serious subjects*”, “*refresh pupils’ minds*” and “*entertaining time*”.
- Related items were then organised into three categories to facilitate a deeper analysis of teachers’ view on PE and PA promotion. The categories were as follows: 1) health promotion, 2) sport performance, and 3) leisure.
- Finally, an overall theme was constructed and was entitled “teachers’ perspectives on PA promotion” (see Appendix M).

5.14. Integration of questionnaire and interview data

O’Cathain et al. (2007) argued that mixed methods research offers the potential to produce data that is ‘unavailable to qualitative or quantitative studies undertaken independently’ (p.147). However, the authors acknowledged how gaining such new knowledge requires an
explicit plan for integrating the analysis, interpretation and the findings. Indeed, to produce findings that are greater than the sum of quantitative and qualitative approaches, data should be integrated within a complementary rationale (Woolley, 2009). Without such integration, it is possible that each method sits in parallel, potentially leading to multiple studies and not the desired ‘mixing’ of methods (Yin, 2006, p.41). According to O’Cathain et al. (2007), a comprehensive integration of quantitative and qualitative data using mixed methods research is seldom seen in published research. In this respect, it is believed that still too little has been written about mixed methods research processes and techniques by which ‘genuine integration’ can be achieved (Woolley, 2009, p.8). Woolley (2009) proposes that the way forward for mixed methods research is to practise what he calls a complementary rationale.

In this study, themes that emerged from the interview data were integrated with the results of the questionnaire data to form an in-depth understanding of the phenomena. Whilst some interview data clarified the overall findings of the questionnaire, some also added new themes which helped to provide a more comprehensive picture of the promotion of PA within the schools.

5.15. Ethical considerations

Ethical responsibility is a matter that requires social researchers’ consideration and actions in order to protect participants’ dignity as human beings. According to Cohen et al. (2007, p.57), ethical considerations:

Pervade the whole process of research; these will be no more so than at the stage of access and acceptance, where appropriateness of topic, design, methods, guarantees of confidentiality, analysis and dissemination of findings must be negotiated with relative openness, sensitivity, honesty, accuracy and scientific impartiality.

In particular, researchers are required to consider four main areas: whether there is harm to participants; whether there is a lack of informed consent; whether there is an invasion of privacy; and whether deception is involved (Diener & Crandall, 1978).
This study, involved the researcher administering a questionnaire and conducting interviews with a sample of PE teachers at boys’ secondary schools in Riyadh. Consequently, there were some ethical considerations to be taken into account and procedures to be followed. Firstly, the researcher had to complete the Ethical Clearance Checklist provided by the Ethical Advisory Committee at Loughborough University (see Appendix N). Secondly, although the researcher’s access to schools and ELOs was granted by the MoE, and the schools were requested to participate in the study, the participants were informed of their entitlement to decline to participate and to withdraw from the study for any reason at any stage. Thirdly, with respect to the confidentiality of records, the identities of the participants were protected and records were kept as confidential after completing the study.

5.16. Summary
This chapter started with a discussion of the role of theory in developing questions for social research and the differences between research paradigms (e.g. positivism, constructivism and pragmatism), in terms of their epistemological and ontological notions. It concluded this discussion with justifications for considering pragmatism as an appropriate paradigm for this research. The chapter then explored the advantages of a mixed methods approach over purely qualitative or/and quantitative approaches. It then described the research design which included two phases, a quantitative phase (survey) and a qualitative phase (interviews), and the development of instruments for each. The research design also involved ensuring that the instruments were valid and reliable for the research via conducting two pilot studies. The chapter provided justifications for selecting Riyadh city for the research, and the sampling technique in which participants were recruited for the quantitative phase (schools), as well as the qualitative phase (PE teachers). In addition, the chapter outlined the data collection procedures which lasted for five months and took place in Saudi Arabia before identifying the statistical tests employed to analyse the findings. Finally, it highlighted a number of ethical issues the research took into consideration, such as the right of participants to withdraw from the research and confidentiality.
CHAPTER SIX

RESULTS

6.1. Introduction
This chapter presents the findings from both phase one of the research, the survey, and from phase two, the interviews. The chapter is organised according to the three main research areas: 1) the nature and extent of the promotion of PA in schools; 2) teachers’ perspectives on the promotion of PA in schools; and 3) the factors that influence the promotion of PA in schools. The survey data are presented to set the general scene for the promotion of PA in schools. Selected survey data were used to distinguish between ‘active’ schools and ‘not fully active’ schools, and this helped to select the sample for the interviews. The interview data clarify and expand upon the findings from the survey. Statistical tests were undertaken to examine the differences between schools in terms of specific aspects of PA promotion. Finally, the chapter concludes with a concise summary of the key findings arising from this study.

6.2. Demographic background of respondents

6.2.1. School type
Of the 94 schools involved in the study, 46 (49%) were state and 48 (51%) were private secondary boys’ schools in Riyadh.

6.2.2. School size
With respect to the size of the schools, the largest proportion of schools comprised between 301-600 pupils, and just over a quarter (25.8%) had up to 300 pupils (see table 6.1).
Table 6.1: Size of the schools

<table>
<thead>
<tr>
<th>School size (number of pupils)</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Up to 300</td>
<td>24</td>
<td>25.8</td>
</tr>
<tr>
<td>B 301 - 600</td>
<td>41</td>
<td>44.1</td>
</tr>
<tr>
<td>C 601 - 900</td>
<td>20</td>
<td>21.5</td>
</tr>
<tr>
<td>D More than 900</td>
<td>8</td>
<td>8.6</td>
</tr>
</tbody>
</table>

6.2.3. PE teachers’ qualifications

Just over three quarters (78.7%) of the PE teachers had bachelors degrees in PE (see table 6.2).

Table 6.2: PE teachers’ qualifications

<table>
<thead>
<tr>
<th>Teachers’ qualification</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Diploma</td>
<td>10</td>
<td>10.6</td>
</tr>
<tr>
<td>B Bachelors</td>
<td>74</td>
<td>78.7</td>
</tr>
<tr>
<td>C Master</td>
<td>10</td>
<td>10.6</td>
</tr>
</tbody>
</table>

6.2.4. PE teachers’ teaching experience

Over two thirds (71.1%) of the PE teachers had ten or more years of teaching experience (see table 6.3).

Table 6.3: PE teachers’ teaching experience

<table>
<thead>
<tr>
<th>Teaching experience</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A 1 to 5 years</td>
<td>9</td>
<td>9.7</td>
</tr>
<tr>
<td>B 6 to 10 years</td>
<td>18</td>
<td>19.4</td>
</tr>
<tr>
<td>C Over 10 years</td>
<td>66</td>
<td>71.1</td>
</tr>
</tbody>
</table>
6.2.5. The number of PE teachers working in the schools

Over sixty present (62%) of the secondary schools had one PE teacher, close on a third (30%) had two PE teachers, and just 8% of schools had more than two PE teachers (see table 6.4).

Table 6.4: The number of PE teachers in the schools

<table>
<thead>
<tr>
<th>PE teachers</th>
<th>1 teacher</th>
<th>2 teachers</th>
<th>3 teachers</th>
<th>More than 3 teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Type</td>
<td>State</td>
<td>Private</td>
<td>Frequency</td>
<td>%</td>
</tr>
<tr>
<td>State</td>
<td>28</td>
<td>30</td>
<td>58</td>
<td>62</td>
</tr>
<tr>
<td>Private</td>
<td>17</td>
<td>11</td>
<td>28</td>
<td>30</td>
</tr>
<tr>
<td>Frequency</td>
<td>4</td>
<td>2</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

Almost two thirds (63%) of the PE teachers considered that the number of PE teachers in their schools was adequate for PA promotion. However, a fifth (20%) and mostly those in state schools considered the number to be inadequate (see table 6.5).

Table 6.5: Perceived adequacy of the number of PE teachers for promoting PA

<table>
<thead>
<tr>
<th>Adequacy level</th>
<th>School Type</th>
<th>School Type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>State</td>
<td>Private</td>
</tr>
<tr>
<td>Adequate</td>
<td>25</td>
<td>34</td>
</tr>
<tr>
<td>To some extent adequate</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Inadequate</td>
<td>13</td>
<td>6</td>
</tr>
</tbody>
</table>

6.3. The nature and extent of PA promotion within the schools

6.3.1. Types and frequency of PA opportunities offered within the schools

The PE teachers were asked how frequently they offered a range of different types of PA during PE curriculum time. As table 6.6 indicates, the most frequently offered activities within PE curriculum were games activities (84%) and gymnastic activities (37.6%).
Nearly two thirds (65.2%) of the schools reported that they had never included exercise/fitness activities within the PE curriculum.

Table 6.6: Activities within the PE curriculum

<table>
<thead>
<tr>
<th></th>
<th>Often</th>
<th>Sometimes</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
<td>Frequency</td>
</tr>
<tr>
<td>A</td>
<td>Games activities (e.g. football, volleyball)</td>
<td>79</td>
<td>84.0</td>
</tr>
<tr>
<td>B</td>
<td>Athletic activities (e.g. running, jumping, throwing)</td>
<td>12</td>
<td>13.0</td>
</tr>
<tr>
<td>C</td>
<td>Exercise/fitness activities (e.g. aerobics, circuit training)</td>
<td>3</td>
<td>3.3</td>
</tr>
<tr>
<td>D</td>
<td>Gymnastic activities (e.g. balancing, rolling)</td>
<td>35</td>
<td>37.6</td>
</tr>
</tbody>
</table>

The most frequently offered physical activities within the Internal PE Programme were games activities (88.3%) and inter-school games competitions (84.9%). In comparison, almost a fifth (19.4%) of the schools ‘often’ offered exercise/fitness activities, and few ‘often’ offered athletic activities (6.5%) and gymnastic activities (2.2%) (see table 6.7).

Table 6.7: Activities within the Internal PE Programme

<table>
<thead>
<tr>
<th></th>
<th>Often</th>
<th>Sometimes</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
<td>Frequency</td>
</tr>
<tr>
<td>A</td>
<td>Athletic activities (e.g. running, jumping)</td>
<td>6</td>
<td>6.5</td>
</tr>
<tr>
<td>B</td>
<td>Games activities (e.g. football, volleyball)</td>
<td>83</td>
<td>88.3</td>
</tr>
<tr>
<td>C</td>
<td>Gymnastic activities (e.g. balancing, rolling)</td>
<td>2</td>
<td>2.2</td>
</tr>
<tr>
<td>D</td>
<td>Exercise/fitness activities (e.g. aerobics)</td>
<td>18</td>
<td>19.4</td>
</tr>
<tr>
<td>E</td>
<td>Inter-school games competitions (e.g. league)</td>
<td>97</td>
<td>84.9</td>
</tr>
<tr>
<td>F</td>
<td>Inter-school non-competitive events or displays (e.g. gym)</td>
<td>8</td>
<td>8.7</td>
</tr>
</tbody>
</table>
As with the Internal PE Programme, games activities were the most frequently offered type of activities within the schools' External PE Programme. Over half (56.4%) of the schools ‘often’ offered games activities, and over a third (35.1%) of the schools ‘sometimes’ did. In comparison, few schools (13.8%) reported that they ‘often’ offered exercise activities in their External PE Programme, and just over a third (34%) reported that they never did (see table 6.8).

Table 6.8: Activities within the External PE Programme

<table>
<thead>
<tr>
<th></th>
<th>Often</th>
<th></th>
<th>Sometimes</th>
<th></th>
<th>Never</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
<td>Frequency</td>
<td>%</td>
<td>Frequency</td>
<td>%</td>
</tr>
<tr>
<td>A</td>
<td>Team training sessions (for selected players)</td>
<td>22</td>
<td>30.1</td>
<td>43</td>
<td>46.2</td>
<td>28</td>
</tr>
<tr>
<td>B</td>
<td>Games activities (e.g. football, volleyball)</td>
<td>53</td>
<td>56.4</td>
<td>33</td>
<td>35.1</td>
<td>8</td>
</tr>
<tr>
<td>D</td>
<td>Exercise/fitness activities (e.g. aerobics)</td>
<td>13</td>
<td>13.8</td>
<td>49</td>
<td>52.2</td>
<td>32</td>
</tr>
</tbody>
</table>

Under half (45.7%) of the schools reported to have organised events (e.g., active day, sports day) beyond curriculum time which involved the promotion of PA (see table 6.9).

Table 6.9: PA organised in or beyond curriculum time

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th></th>
<th>No</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
<td>Frequency</td>
<td>%</td>
</tr>
<tr>
<td>A</td>
<td>In curriculum</td>
<td>86</td>
<td>91.5</td>
<td>8</td>
</tr>
<tr>
<td>B</td>
<td>Beyond curriculum</td>
<td>43</td>
<td>45.7</td>
<td>51</td>
</tr>
</tbody>
</table>

In terms of PA opportunities offered by schools to staff, the most frequent types of activities were games with most schools offering these ‘often’ (29.8) or ‘sometimes’ (47.9%). In contrast, only one school ‘often’ offered exercise activities to staff. The vast majority (90.3%) of the schools ‘never’ offered PA opportunities to parents/families (see table 6.10).
Table 6.10: PA opportunities offered by schools to staff and parents

<table>
<thead>
<tr>
<th></th>
<th>Often</th>
<th></th>
<th></th>
<th>Sometimes</th>
<th></th>
<th></th>
<th>Never</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
<td>Frequency</td>
<td>%</td>
<td>Frequency</td>
<td>%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>Games activities</td>
<td>28</td>
<td>29.8</td>
<td>45</td>
<td>47.9</td>
<td>21</td>
<td>22.3</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Exercise activities</td>
<td>1</td>
<td>1.1</td>
<td>23</td>
<td>24.7</td>
<td>69</td>
<td>74.2</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Staff-student friendly games competitions</td>
<td>20</td>
<td>21.5</td>
<td>56</td>
<td>60.2</td>
<td>17</td>
<td>18.3</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Physical activities to parents/families</td>
<td>2</td>
<td>2.2</td>
<td>7</td>
<td>7.5</td>
<td>84</td>
<td>90.3</td>
<td></td>
</tr>
</tbody>
</table>

The PE teachers were asked to report any events in curriculum time that had been organised during the school year which involved the promotion of PA. The vast majority (91%) of the schools held these types of events during the year.

6.3.2. PA provision at breakfast-times

Sport equipment was provided for pupils to use at breakfast-time and breakfast-time supervision took place in over 60% of the secondary schools (see table 6.11).

Table 6.11: Support for pupils to be active during breakfast-times

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th></th>
<th></th>
<th>No</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
<td>Frequency</td>
<td>%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>Providing sport equipment for pupils to use at breakfast-times</td>
<td>62</td>
<td>66.7</td>
<td>31</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Providing breakfast-time supervision</td>
<td>58</td>
<td>63</td>
<td>34</td>
<td>37</td>
<td></td>
</tr>
</tbody>
</table>

During the interviews, the teachers provided many reasons for promoting PA during breakfast-times such as: to select talented pupils for school sport teams; to tackle the increasing obesity rate; and to prevent antisocial behaviour. Notably, increasing pupils' PA level was not explicitly referred to during the interviews. The quotations below illustrate the teachers' views:
Yes, PE teachers need to organise sport activity [during breakfast-time], to discover talented football, basketball, volleyball players. (Saad, Active School 3, 6-10 years teaching experience).

Organising sport competitions is necessary during breakfast-time to build my school sport teams. I select distinguished players to join the school sport teams which represent us in the local competitions such as Mobiliy Football League (Ahmmed, Active School 1, >10 years teaching experience).

PA during breaktimes is required, [because] unfortunately obesity has spread abnormally among society (Ali, Active School 2, >10 years teaching experience).

The headteacher supports promoting physical activity during breakfast-times to avoid students’ misbehaviour. He wants me [PE teacher] to keep students busy doing sports, so they do not get involved in any poor behaviour (Saad, Active School 3, 6-10 years teaching experience).

I think, if breaktimes were not occupied by sports, problems may occur and perhaps some students may come to some harm. (Salem, Not fully Active School 2, >10 years teaching experience).

6.3.3. Breaktimes at the schools
The duration of breakfast-time varied between schools, ranging from 10 to 45 minutes (see figure 6.1). The average length of breakfast-time was 25 minutes and very few schools had a breakfast-time lasting more than 40 minutes (see figure 6.1). Furthermore, almost half (46%) of the schools offered pupils an additional breaktime.
Figure 6.1: The length of breakfast-time in the schools

6.3.4. The duration of extra-curricular PE activities
The schools spent between 1 to 4 hours a week on Internal PE Programme activities and, on average, schools offered 1.48 hours a week of such activities. Few schools (6.4%) offered more than 4 hours of Internal PE programme activities per week (see table 6.12).

Table 6.12: Duration of extra-curricular PE activities

<table>
<thead>
<tr>
<th>Time</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Less than 2 hours</td>
<td>55</td>
<td>58.5</td>
</tr>
<tr>
<td>B Between 2 - 4 hours</td>
<td>33</td>
<td>35.1</td>
</tr>
<tr>
<td>C Over 4 hours</td>
<td>6</td>
<td>6.4</td>
</tr>
</tbody>
</table>

6.3.5. Delivery time of extra-curricular PE activities
Only a minority of schools offered PA opportunities before (7%) or after (9%) school, or at weekends (3%) (see figure 6.2).
6.3.6. The appeal of the activities offered at the schools

Almost half (49%) of the PE teachers believed that their school offered a wide range of activities which were appealing to all pupils, whereas 43% considered that they only partially did. In addition, only around a third of the PE teachers (36.6%) estimated that more than half of their pupils were involved in the Internal PE Programme, and less than half (40%) estimated that 30-50% of their pupils participated in the programme (see figure 6.3).

Figure 6.3: Estimation of pupils' participation in the Internal PE Programme
During the interviews, teachers reported that their schools offered a range of extra-curricular activities (e.g. sports, arts) and that pupils were entitled to choose amongst those offered. One PE teacher who was keen to attract pupils to the PE extra-curricular programme reported:

*My school arranged a visit to a local sports club. Twenty pupils participated in the visit. The main aim of the trip was to encourage all pupils with different sports abilities to join the PE activities during breaktimes. So, this encouraged [less able] pupils to participate in breaktime PA alongside our talented players and school sports teams (Saad, Active School 3, 6-10 years teaching experience).*

In addition, two teachers in two different schools stated that a notable proportion of their pupils requested that exercise activities be included in the Internal PE programme. The voice of pupils who preferred exercise activities over competitive games led one teacher to organise a table tennis competition at breaktime. The teacher explained:

*In fact, limited sport activity during the PE curriculum and breaktimes was an issue. Some pupils dislike football, volleyball and basketball, and are bored of these for many reasons. So, I organised table tennis games to encourage them to participate in the programme (Eied, Not Fully Active School 3, >10 years teaching experience).*

6.4. PE teachers’ perspectives on the promotion of PA in schools

6.4.1. PE teachers’ views on the promotion of PA in schools

Over two thirds (70%) of the PE teachers thought that the school made a significant contribution to the promotion of PA, and over a quarter (28%) considered that it made some contribution (see figure 6.4).
Figure 6.4: PE teachers’ views of the contribution of the whole school to the promotion of PA

The majority of the PE teachers felt that the PE curriculum and the Internal and External PE Programmes were important in promoting PA but, of the three, the External PE Programme was deemed slightly less important (94.6%, 91.4%, and 72.8% respectively) (see table 6.13).

Table 6.13: PE teachers’ views on the importance of the PE programme in promoting PA in the schools

<table>
<thead>
<tr>
<th></th>
<th>Important</th>
<th>Of some importance</th>
<th>Not important</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
<td>Frequency</td>
</tr>
<tr>
<td>A PE curriculum</td>
<td>88</td>
<td>94.6</td>
<td>5</td>
</tr>
<tr>
<td>B Internal PE Programme</td>
<td>85</td>
<td>91.4</td>
<td>8</td>
</tr>
<tr>
<td>C External PE Programme</td>
<td>67</td>
<td>72.8</td>
<td>32</td>
</tr>
</tbody>
</table>

Over half of the PE teachers thought that the PE curriculum and Internal PE Programme contributed to the promotion of PA to a great extent (57.0% and 60.2% respectively). However, only one third of the teachers (32.6%) considered that the External PE Programme greatly contributed to the promotion of PA (see table 6.14).
Table 6.14: PE teachers’ views on the extent of the promotion of PA within the PE programme

<table>
<thead>
<tr>
<th></th>
<th>To a great extent</th>
<th>To some extent</th>
<th>Not at all</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
<td>Frequency</td>
</tr>
<tr>
<td>A PE curriculum</td>
<td>53</td>
<td>57.0</td>
<td>38</td>
</tr>
<tr>
<td>B The Internal PE Programme</td>
<td>56</td>
<td>60.2</td>
<td>34</td>
</tr>
<tr>
<td>C The External PE Programme</td>
<td>30</td>
<td>32.6</td>
<td>53</td>
</tr>
</tbody>
</table>

Most of the PE teachers (93.5%) thought that promoting PA amongst pupils was important, but only a third (38.0%) considered it important amongst school staff and only a minority judged it to be important amongst parents/families (16.1%) and the community (12.0%) (see table 6.15).

Table 6.15: PE teachers’ views on the importance of promoting PA amongst the school community

<table>
<thead>
<tr>
<th></th>
<th>Important</th>
<th>Of some importance</th>
<th>Not important</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Frequency</td>
<td>%</td>
</tr>
<tr>
<td>A School pupils</td>
<td>87</td>
<td>5</td>
<td>93.5</td>
</tr>
<tr>
<td>B School staff</td>
<td>35</td>
<td>51</td>
<td>38.0</td>
</tr>
<tr>
<td>C Parents/families</td>
<td>15</td>
<td>46</td>
<td>16.1</td>
</tr>
<tr>
<td>D Community</td>
<td>11</td>
<td>49</td>
<td>12.0</td>
</tr>
</tbody>
</table>

In addition, almost three quarters (73.4%) of the PE teachers felt that PA was very well promoted among pupils. However, most teachers considered that PA was not very well promoted among parents/families (73.6%) and the local community (71.4%) (see table 6.16).
Table 6.16: PE teachers’ views on how well schools promote PA amongst the school community

<table>
<thead>
<tr>
<th></th>
<th>Very well</th>
<th></th>
<th>Reasonably well</th>
<th></th>
<th>Not very well</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
<td>Frequency</td>
<td>%</td>
<td>Frequency</td>
<td>%</td>
</tr>
<tr>
<td>A School pupils</td>
<td>69</td>
<td>73.4</td>
<td>16</td>
<td>19.1</td>
<td>7</td>
<td>7.4</td>
</tr>
<tr>
<td>B School staff</td>
<td>18</td>
<td>19.6</td>
<td>43</td>
<td>46.7</td>
<td>31</td>
<td>33.7</td>
</tr>
<tr>
<td>C Parents/families</td>
<td>4</td>
<td>4.4</td>
<td>20</td>
<td>22.0</td>
<td>67</td>
<td>73.6</td>
</tr>
<tr>
<td>D Community</td>
<td>2</td>
<td>2.2</td>
<td>24</td>
<td>26.4</td>
<td>65</td>
<td>71.4</td>
</tr>
</tbody>
</table>

All of the teachers interviewed considered that PA should be promoted within the local community. For example, Ahammed (Active School 1, >10 years teaching experience) referred to ‘the urgent need for promoting PA among the community’. Nonetheless, the teachers thought that schools were not doing enough to promote PA among parents/families or the community. Indeed, two of the teachers who were interviewed pointed out that the government [in the Document of PE] does not explicitly specify the role of the school in the promotion of PA among parents/families or community. The teachers also asserted that PE teachers focus their efforts on offering PA within the school context, and divert the responsibility for promoting PA outside the school context to other governmental and sport agencies. The quotations below illustrate some of the teachers' views:

I would say that the Summer Centres and the District Evening Clubs have responsibility for organising PA among the community (Ahamed, Active School 1, >10 years teaching experience).

The General Presidency for Youth Welfare, the Federation of Sports for All, and sport clubs are the organisations which are directly responsible for the promotion of PA among the community. These are to be held responsible for the lack of physical activity among people (Mostafa, Not fully Active School 1, 6-10 years of teaching experience).
In summary, there was some debate about the extent to which PE teachers and schools are responsible for promoting PA to parents, families and the community.

6.4.2. PE teachers’ understanding of the promotion of PA

The emphasis by the PE teachers on team games as an avenue for the promotion of PA among pupils was evident. All the teachers encouraged pupils to participate in PA through the medium of sports competitions and believed that pupils could become more physically active through involvement in sports competitions during the PE curricular and extra-curricular programmes. The quotations below illustrate the teachers’ views:

I think organising a sport league encourages pupils to participate in PA during breaks. I also offer video games such as PlayStation 3 to encourage pupils, who like such games, to become physically active. I think these sporting contexts make pupils like sports. Also, offering prizes for participation makes sport more appealing to pupils, in particular, those in favour of the social aspects of sport. For example, I give prizes for the best match player and clean playing (Saad, Active School 3, 6-10 years teaching experience).

Students are naturally competitive and very keen to win the sport competitions which the school organise during breaktimes. They like playing games and enjoy the sporting atmosphere which itself motivates them to participate in sport (Salem, Not fully Active School 2, >10 years teaching experience).

I [PE teacher] encourage pupils to play football, basketball and volleyball in breaks via scheduled matches between classes. These make pupils move and become physically active (Ali, Active School 2, >10 years teaching experience).

I think football provides an excellent context for learning. I also think video games such as the Sony PlayStation can encourage participation in sport. For example, I organised two football leagues during breakfast-time: matches and video games. I set up an organising committee which was responsible for organising games and
announcing the results at the school’s assemblies. I think those who participated in the leagues became physically active and more motivated to get involved in sport than others. (Ahmmed, Active School 1, >10 years teaching experience).

Further, one teacher taught games in PE lessons because the majority of pupils favoured games because they were ‘fun’, whereas he thought that health promotion involving a focus on physical fitness would be an unpleasant experience for some pupils. He explained:

I think teaching students fitness activity in PE lessons is a mistake because it deprives them of something else that is important to them. Students need to have fun after serious subjects (Ali, Active School 2, >10 years teaching experience).

On the other hand, another teacher had a different view, describing what was being taught in PE about health as ‘only basic knowledge’, and being in favour of providing additional fitness activities during PE classes:

PE should cover all components of fitness such as stretching, flexibility, waist muscle exercises [e.g. sit ups], and other exercise forms (Salem, Not fully Active School 2, >10 years teaching experience).

6.4.3. The role of the PE curriculum in the promotion of PA among pupils
Over half (56.4%) of the PE teachers viewed the main priorities of PE to be increasing pupils’ awareness of the health benefits of PA, acquiring and developing students’ skills (53.8%), and promoting positive attitudes in students toward PA (47.9%). Nearly a third (29.8%) of the teachers considered improving pupils’ health-related fitness to be their highest priority (see table 6.17).
Table 6.17: Teachers’ priorities in the PE curriculum

<table>
<thead>
<tr>
<th>Objectives</th>
<th>High</th>
<th>Moderate</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
<td>Frequency</td>
</tr>
<tr>
<td>A Acquiring and developing students’ skills</td>
<td>50</td>
<td>53.8</td>
<td>36</td>
</tr>
<tr>
<td>B Improving students’ skill-related fitness (e.g. agility, balance, speed)</td>
<td>41</td>
<td>44.1</td>
<td>42</td>
</tr>
<tr>
<td>C Improving students’ health-related fitness (e.g. cardiovascular fitness)</td>
<td>28</td>
<td>29.8</td>
<td>49</td>
</tr>
<tr>
<td>D Raising students’ awareness of the health benefits of PA</td>
<td>53</td>
<td>56.4</td>
<td>35</td>
</tr>
<tr>
<td>E Promoting positive attitudes in students toward PA</td>
<td>45</td>
<td>47.9</td>
<td>43</td>
</tr>
</tbody>
</table>

During the interviews, when asked about their practice to encourage pupils to participate in PA, the teachers focused on increasing pupils’ knowledge of the importance of PA for health. The teachers adopted two approaches to the organisation of health-related learning in PE: 1) discrete health-related blocks of work and 2) integration within PE activities. For instance, three schools provided pupils with information during curriculum time on the health benefits of participating in PA, sport injuries, nutrition, and the negative impact of smoking on health. The quotations below illustrate the health-related knowledge and understanding that was taught within PE:

*I think PE has a role in health promotion, that is to educate young people on the health benefits of exercise and a healthy diet (Mostafa, Not fully Active School 1, 6-10 years teaching experience)*

*As a part of the PE curriculum, I measured pupils’ weight at the start and the end of the school term. I informed pupils how to get an optimal weight. I taught them a programme of exercises during PE which pupils practised in PE and outside school,*
if they wanted to reduce their weight (Ahamed, Active School 1, >10 years teaching experience).

The obese and overweight students are given written coursework that cover sport matters such as health benefits of PA and fitness components (Salem, Not fully Active School 2, >10 years teaching experience).

I lectured on the common sports and playground injuries during breaktimes. I spoke about them for two weeks. Every day, a group of students between twenty to thirty students attended the session (Saad, Active School 3, 6-10 years teaching experience).

Firstly, I drew overweight students’ attention to the positive health benefits of being physically active. Then, I gave them light exercises during PE lessons such as brisk walking and jogging on the track. Also, I told them stories about overweight students who reduced their weight through PE lessons (Ali, Active School 2, >10 years teaching experience).

It is worth noting that the quotations above revealed that different approaches seemed to have been developed to deal with obese/overweight pupils. Yet, two PE teachers decided to exempt pupils who have as ‘asthma’, ‘heart problems’ and ‘obesity’ from usual PE lesson activities, because of their ‘health difficulties’.

Some teachers clearly considered there to be a close link between children’s PA and fitness levels. For example, one teacher stated:

I think students are already active [physically] outside school. They live in the centre of Riyadh. I am sure, my pupils play in sports teams in the evening, so their fitness level is very good (Eied, Not fully Active School 2, 10> years teaching experience).
With respect to pupils’ fitness and PA levels, over a third (39.4%) of the teachers reported they had never recorded pupils’ fitness levels, and a quarter (25.5%) had never recorded pupils’ activity levels, but over half claimed they ‘sometimes’ did so (see table 6.18).

Table 6.18: Recording pupils’ fitness and PA levels in the schools

<table>
<thead>
<tr>
<th></th>
<th>Often</th>
<th></th>
<th>Sometimes</th>
<th></th>
<th>Never</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
<td>Frequency</td>
<td>%</td>
<td>Frequency</td>
<td>%</td>
</tr>
<tr>
<td>A Recording pupils’ fitness levels</td>
<td>3</td>
<td>3.2</td>
<td>54</td>
<td>57.4</td>
<td>37</td>
<td>39.4</td>
</tr>
<tr>
<td>B Recording pupils’ PA levels</td>
<td>6</td>
<td>6.4</td>
<td>64</td>
<td>68.1</td>
<td>24</td>
<td>25.5</td>
</tr>
</tbody>
</table>

6.5. Factors influencing the promotion of PA within schools

6.5.1. Government philosophy underpinning PE policy
Almost all of the PE teachers thought that government policies for PE and school sport determined the type and scope of PA promotion within their school. In particular, two government departments were considered to be directly involved in the development of school policy for promoting PA. All teachers reported that the PE Department at the MoE and the ELO informed the schools’ PE Programmes. The MoE policy was reported to be focused on PE lessons, while the ELOs’ policy was said to be concerned with school sports (the External PE Programme). The teachers noted how, both the MoE and ELOs shared an interest in the Internal PE Programme, but how each department insisted on schools promoting particular types of PA. For instance, the ELOs focused on developing pupils’ sport performance and requested that the teachers provide sports in PE lessons, plus organise sports competitions during breakfast-time to support pupils' learning. Moreover, the ELOs emphasised preparing pupils for participation in inter school sports competitions. All of the teachers implemented the ELOs’ policy for school PE in their PE curriculum, offering two group sports and single sports. For example, one teacher stated:
I selected the curriculum activities based on a plan which Educational and Learning Office prescribed for school PE. I taught two group and single sports in PE lessons (Saad, Active School 3, 7-10 years teaching experience).

In addition, the ELOs’ policy for PE appeared to have an influence on the schools’ policies for promoting PA during breaktimes. Some schools exclusively offered games/competitive sports during breaktimes, because the ELO seemed to favour competitive sports over lifestyle activities, as exemplified by the following quotations:

First, I studied the Educational and Learning Office plan for school sport, and then decided what PA I would offer during breakfast-times [Internal PE Programme]. For example, the Educational and Learning Office reported organising sports competitions in basketball. So, I organised a basketball competition during breakfast-times to pick up talented basketball players, who represented the school in the competition (Ahmad, Active School 1, > 10 years teaching experience).

Regarding the content of the Internal and External PE Programmes, I included sports which schools will be expected to compete against others in the Educational and Learning Office competitions (Saad, Active School 3, 7-10 years teaching experience).

The Document of PE (MoE, 2002) outlines the content to be taught within PE, including Games units and Health and Fitness units. Yet, all of the teachers reported that ELOs in Riyadh requested that their schools offer two group sports and single sports in the PE curriculum, and made no reference to the teaching of Health and Fitness units. Two teachers reported that the Document of PE had not been implemented in their schools, even though it had been published and taught in universities for eight years. One teacher (Saad, Active school 3, 6-10 years teaching experience) who had moved between three directorates of education (Riyadh, Eastern region and Alflaj) noticed that only the Directorate of Education in the Eastern region implemented the Document of PE in their
schools. The teacher considered that the ELOs had delayed implementing the Document of PE because the ELOs favoured games over lifestyle activities. As two teachers explained:

*The Ministry of Education published a guideline [The Document of PE] which illustrates how to design a broad PE curriculum, but the Educational and Learning Offices [ELO] in Riyadh have ignored it. PE supervisors in the ELO want two group sports and single sports to be taught in schools (Mostafa, Not fully Active School 1, 6-10 years teaching experience).*

*The ELOs do not follow the Document of PE. Actually, the ELO has a philosophy that offering two group and single sports during the school PE programme would promote health among students. Therefore, students should be taught sports at secondary schools (Saad, Active School 3, 6-10 years teaching experience).*

The experienced teachers seemed unaware of the Document of PE, as only the newer teachers referred to it during the interviews. The quotations below illustrate how some of the experienced teachers thought that there was no compulsory curriculum for PE in Saudi Arabia:

*There is no curriculum for PE. Well, even if PE has a curriculum, I will not implement it, because schools have to follow the Educational and Learning Office plan for PE (Ali, Active School 2, >10 years teaching experience).*

*I do not agree with those suggesting that PE should have a written curriculum. There are many schools which do not have adequate sport facilities, which may make the implementation of any PE curriculum extremely difficult (Eied, Not fully Active School 3, 10> years teaching experience).*

Another possible reason given for not implementing the Document for PE was that teachers and pupils valued competitive team sports over lifestyle activities:
I think many PE teachers and PE supervisors do not know how to implement the PE curriculum or they simply do not want it (Saad, Active School 3, 6-10 years teaching experience).

I have to include football in all PE lessons, otherwise two thirds of students will not participate in the lessons (Ali, Active School 2, >10 years teaching experience).

Frankly, pupils like playing football, basketball and volleyball. So football is an essential part of the school PE curriculum (Salem, Not fully Active School 2, >10 years teaching experience).

6.5.2. School policy and ethos
Over two thirds (70%) of the schools reported that they had a written policy or plan for the promotion of PA. Of those schools which did have a policy, less than half (44.7%) of the PE teachers reported that working towards PA promotion was an important cultural practice within their school (see figure 6.5).

![Figure 6.5: The importance of PA promotion in the schools](image)

All of the teachers reported that the policy for promoting PA focused on the delivery of an effective PE programme. Further, the school administration reviewed PE curriculum plans
and monitored teachers’ teaching skills on a regular basis. The quotations below outline the schools’ policies for PA promotion:

*The headteacher contacted the Ministry of Education to maintain the school sport facilities, so PE classes became effective. Also, he encouraged me to organise PA during breaktimes. My school policy for PA is to offer an effective PE class and provide pupils with plenty of PA during breaktimes (Ahmed, Active School 1, >10 years teaching experience).*

*The school administration has a positive attitude toward sports. It is the policy of my school that the school day should be enriched with sports activities and competitions which students can participate in, regardless of their skills (Ali, Active School 2, >10 years teaching experience).*

*Every week, the school administration reviews my plan for the PE programme. In particular, they insist on me recording student attendance at PE lessons (Eied, Not fully Active School 3, >10 years teaching experience).*

*It is important that the school administration provides PE teachers with financial support to buy the sport equipment needed to teach the PE curriculum. It also monitors my teaching skills during PE lessons on a monthly basis (Mostafa, Not fully Active School 1, 6-10 years teaching experience).*

*The school headteacher is determined that pupils have opportunities to participate in PA during breaktimes (Salem, Not fully Active School 2, >10 years of experience).*

Mann-Whitney and Kruskal-Wallis tests (Brace et al., 2009) were used to test the difference between respondents in a range of key variables, including: school policy for PE, PE teachers’ views on the promotion of PA, and the PA opportunities offered within the schools. The Mann-Whitney test revealed a significant difference in PE teachers’ views regarding the promotion of PA between those teaching in schools with and without a policy
for PA promotion. Generally, PE teachers working in schools with a policy for PA promotion held more positive views of their schools’ role in PA promotion (see table 6.19).

Table 6.19: Difference between PE teachers’ views on the promotion of PA in schools with and without policy for PA promotion

<table>
<thead>
<tr>
<th>PA promotion policy</th>
<th>Importance of PE programme in promoting PA</th>
<th>Importance of PA promotion among school’s community</th>
<th>Contribution of PE programme to PA promotion</th>
<th>Quality of school in PA promotion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>2.44</td>
<td>2.27</td>
<td>2.59</td>
<td>1.88</td>
</tr>
<tr>
<td>No</td>
<td>2.20</td>
<td>2.04</td>
<td>2.31</td>
<td>1.55</td>
</tr>
</tbody>
</table>

Mann-Whitney Test  | 479.5                                     | 617                                                 | 577.5                                      | 520.5                            |
Significant        | .000                                      | .022                                                | .009                                       | .002                             |

In addition, the schools with a policy for PA promotion generally offered more PA opportunities (within the PE curriculum and the Internal and External PE Programmes) than schools without a policy. The Mann-Whitney test demonstrated that this difference was statistically significant (see table 6.20).

Table 6.20: Difference between PA opportunities offered in schools with and without a policy for PA promotion

<table>
<thead>
<tr>
<th>School Type</th>
<th>PE curriculum PA</th>
<th>The Internal PE programme PA</th>
<th>The External PE programme PA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>2.16</td>
<td>2.12</td>
<td>2.15</td>
</tr>
<tr>
<td>No</td>
<td>1.81</td>
<td>1.82</td>
<td>1.85</td>
</tr>
</tbody>
</table>

Mann-Whitney Test | 394              | 429                         | 588.5                       |
Significant       | .000             | .000                        | .012                        |

With respect to the PA ethos of the schools, over half (56.4%) of the PE teachers claimed that they often reported or displayed the results of school sports competitions (e.g., in
assemblies and newsletters) and approximately one third (34.4%) claimed that they sometimes did this. Also, the teachers often (61.7%) or sometimes (36.2%) reported or displayed details of other PA or sports which were taking place in school. However, approximately half (48.9%) of the teachers reported that they never provided information to pupils about sporting and PA opportunities available to them in the local area (see table 6.21).

Table 6.21: Provision of information about PA participation and sporting achievements in the schools

<table>
<thead>
<tr>
<th></th>
<th>Often</th>
<th></th>
<th>Sometimes</th>
<th></th>
<th>Never</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
<td>Frequency</td>
<td>%</td>
<td>Frequency</td>
<td>%</td>
</tr>
<tr>
<td>A School sports competitions</td>
<td>53</td>
<td>56.4</td>
<td>32</td>
<td>34.4</td>
<td>8</td>
<td>8.6</td>
</tr>
<tr>
<td>B Other PA or sports events</td>
<td>58</td>
<td>61.7</td>
<td>34</td>
<td>36.2</td>
<td>2</td>
<td>2.1</td>
</tr>
<tr>
<td>C Local PA and sports opportunities</td>
<td>16</td>
<td>17</td>
<td>32</td>
<td>32</td>
<td>46</td>
<td>48.9</td>
</tr>
</tbody>
</table>

The interviews revealed that, in four of the six schools, pupils were rewarded for PA or sports participation and achievements. The quotations below illustrate some of the ways in which schools rewarded their pupils:

*After each game, prizes are given for the best players and teams. Also, their names are announced in the morning assembly attended by the school headteacher and staff. This motivates either active or less active students to participate in sports activities (Ahamed, Active School 1, >10 years teaching experience).*

*I have issued about 60 certificates this term to every pupil who participated in the sport competitions. Just a moment ago, a student came to the PE Room and asked for their certificate (Salem, Not fully Active School 2, >10 years teaching experience).*
One teacher indicated that recognition of pupils’ participation and achievement helped to increase their motivation and interest in school sport and PA. Moreover, one school had an award for school staff to recognise and reward participation or achievement in PA. The PE teacher at this school explained:

*The school administration encouraged staff to participate in PA during breakfast-time by offering gifts to participant teachers. Consequently, the number of teachers participating in the school table tennis competition increased to 13; 16 teachers took part in the volleyball competition; and 23 teachers participated in our football league. All were rewarded for their participation (Saad, Active School 3, 6-10 years teaching experience).*

Moreover, the same PE teacher reported:

*Every month, the school administration collected information regarding teachers’ attendance at PA events, how many extra-curricular activities the teachers had organised, and the teachers’ achievements at the local level (Saad, Active School 3, 6-10 years teaching experience)*

In contrast, other schools seemed to not fully appreciate PE teachers’ efforts in the promotion of PA. For instance, the PE teacher at one school, which was the champion of the Riyadh region in volleyball for three successive years, was challenged by other teachers for reducing his teaching load (12 PE teaching units per week) to allow him time to run training sessions and sports activities. The teacher clarified his position stating that:

*A number of staff were not satisfied with their teaching load, and complained about it to the headteacher. They said mine was lower than theirs, and I should be given extra classes. Well, I have never ever arrived to school later than 6:15 am. They know that I frequently come in afternoons to train school sport teams, so the school has achieved a good position in the school sports competitions (Ali, Active School 2, >10 years teaching experience).*
6.6. PE teachers’ characteristics

The Kruskal Walls test (Brace et al., 2009) was used to test differences between the PE teachers’ characteristics (e.g. qualifications and teaching experience) and PA promotion within schools. The Kruskal Walls test revealed no statistically significant difference between PE teachers’ views on the promotion of PA and their qualifications. Moreover, there was no statistically significant difference in the PA opportunities offered by schools with teachers of different qualifications (see Appendix K). However, the Kruskal Walls test revealed that there was a statistically significant difference between the number of years teaching experience and the importance attached to promoting PA in the PE programme. In particular, the PE teachers with 6 to 10 years of experience rated the importance the teachers of PE in promoting PA higher than the less experienced (1 to 5 years) and more experienced teachers (over 10 years) (see table 6.22).

Table 6.22: Difference between PE teachers’ views on the promotion of PA and their teaching experience

<table>
<thead>
<tr>
<th>Experience</th>
<th>Importance of PE programme in promoting PA</th>
<th>Importance of PA promotion among school’s community</th>
<th>Contribution of PE programme to PA promotion</th>
<th>Quality of school PA promotion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – 5 Y</td>
<td>2.22</td>
<td>1.88</td>
<td>2.49</td>
<td>1.69</td>
</tr>
<tr>
<td>6 – 10 Y</td>
<td>2.51</td>
<td>2.29</td>
<td>2.66</td>
<td>1.94</td>
</tr>
<tr>
<td>&lt; 10 Y</td>
<td>2.34</td>
<td>2.24</td>
<td>2.46</td>
<td>1.77</td>
</tr>
<tr>
<td>Chi-square</td>
<td>7.510</td>
<td>5.193</td>
<td>4.003</td>
<td>2.204</td>
</tr>
<tr>
<td>Significant</td>
<td>.023</td>
<td>.075</td>
<td>.135</td>
<td>.332</td>
</tr>
</tbody>
</table>

In addition, a marginal difference was found between the less and more experienced teachers and the PA opportunities offered within the PE curriculum and the Internal PE programme (.076 and .067 respectively). The PE teachers with 6 to 10 years of experience included more PA opportunities within their PE programmes than the less and more experienced teachers (see table 6.23).
Table 6.23: Difference between PA opportunities offered in the schools and teachers’ experience

<table>
<thead>
<tr>
<th>Experience</th>
<th>PE curriculum PA</th>
<th>The Internal PE programme PA</th>
<th>The External PE programme PA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – 5 Y</td>
<td>1.83</td>
<td>1.83</td>
<td>1.92</td>
</tr>
<tr>
<td>6 – 10 Y</td>
<td>2.20</td>
<td>2.13</td>
<td>2.18</td>
</tr>
<tr>
<td>&lt; 10 Y</td>
<td>2.06</td>
<td>2.03</td>
<td>2.05</td>
</tr>
<tr>
<td>Chi-Square</td>
<td>5.144</td>
<td>5.414</td>
<td>1.729</td>
</tr>
<tr>
<td>Significant</td>
<td>.076</td>
<td>.067</td>
<td>.421</td>
</tr>
</tbody>
</table>

6.7. In-service training

Over half of the PE teachers (55.9%) had not attended any courses involving PA or health promotion but most (76.1%) considered that they needed INSET in this area (see table 6.24).

Table 6.24: PE teachers’ In-service training (INSET)

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>%</td>
<td>Frequency</td>
</tr>
<tr>
<td>A Courses specifically in the area of PA or health promotion</td>
<td>41</td>
<td>44.1</td>
</tr>
<tr>
<td>B Courses including references to PA or health promotion</td>
<td>40</td>
<td>43.0</td>
</tr>
<tr>
<td>C Need for INSET</td>
<td>70</td>
<td>76.1</td>
</tr>
</tbody>
</table>

The teachers’ lack of knowledge relating to the area of PA or health promotion was reflected in the interviews, with many of the teachers considering that they needed to know more about the promotion of PA and health. The quotations below are representative of most of the teachers who were interviewed:

*Of course, I need to know more information about training approaches, diet and weight loss plans to help pupils lose weight and keep fit. I feel that I am not well*
prepared to teach diet and fitness in a professional way (Mostafa, Not fully Active School 1, 6-10 years teaching experience).

We [PE teachers] have got insufficient knowledge. I have forgotten a lot of basic knowledge. The training science is changing probably on a monthly basis, yet I still use the old theories and methods of training in my lessons. I would like to attend courses that provide me with up to date information on training methods, sport psychology, movement science, physiology and biology. Such information would boost teachers’ performance in the PE curriculum and consequently enhance pupils' knowledge and performance of sports (Ahmed, Active School 1, >10 years teaching experience).

As reported in this section, opportunities for INSET associated with the promotion of PA may exist, but the teachers seemed to be unaware of them or considered they did not need them. The quotations below generally illustrate the PE teachers’ views:

As far as I remember, there were no training courses offered....well, in fact, I did not search for courses on PA promotion, because I think it is a matter of practice, isn’t it? For example, I have taught basketball to pupils during PE lessons for the last seven years, so I do not think I need anybody to train me how to teach basketball (Mostafa, Not fully Active School 1, 6-10 years teaching experience).

There are no training courses offered to PE teachers on PA promotion. If you know any, please tell me about them. I know PE teachers need training in many areas. I wish the Ministry [of Education] would hire a number of experts to train teachers to teach all physical activities and sports (Eied, Not fully Active School 3, >10 years teaching experience).

I have attended several in-service training courses on class management and leadership skills, but I do not think there were courses that specifically addressed the
promotion of PA within school. Well, there might have been some courses offered, which I am not aware of (Ali, Active School 2, >10 years teaching experience).

While the above quotations suggest a limited awareness of formal INSET amongst the teachers, they reported rather to rely on informal resources and personal experiences to gain knowledge related to PA promotion. The quotations below are representative of most of the teachers who were interviewed:

*I went to a local sports club and recorded their tactical and fitness training sessions. Then, I implemented the ideas in my PE lessons (Ahmad, Active School 1, >10 years teaching experience).*

*During the previous term, I organised a table tennis competition between the school staff during breaktimes. I got the idea from a website called ..... which provides teachers with creative ideas to deliver an effective PE programme (Eied, Not fully Active School 3, >10 years teaching experience).*

With regard to the teachers’ experiences of INSET courses which addressed sport and PA in general, one teacher (Saad, Active School 3, 6-10 years teaching experience) stated that ‘I have attended a number of training courses, but they are repeated over the years.’ Another teacher (Eied, Not fully Active School 3, >10 years teaching experience) argued that the content of INSET courses was neither relevant to his school nor offered him the knowledge he needed for effective delivery of the PE curriculum. The teachers clearly expressed their need for practical knowledge. According to Eied (Not fully Active School 3, >10 years teaching experience), valuable INSET addresses 'how a teacher teaches sports skills and performance when he is not perfectly physically fit'.

**6.8. School social environment**

The Kruskal Wallis test was used to examine the difference between characteristics of the school social environment such as school size and type. The test revealed no statistical difference between the size of school and the PE teachers’ views on PA promotion. It also
revealed that there was no statistical difference between the physical activities offered in the PE curriculum and the Internal and External PE Programmes in the smaller and larger schools (see Appendix K).

The results of the Mann-Whitney test revealed a significant difference between the type of school and the PE teachers' views on PA promotion. The PE teachers in the private schools considered the promotion of PA as more important than the teachers in the state schools (see table 6.25).

Table 6.25: Difference between the type of school and PE teachers’ views on PA promotion

<table>
<thead>
<tr>
<th>School Type</th>
<th>Importance of PE programme in promoting PA</th>
<th>Importance of PA promotion among school’s community</th>
<th>Contribution of PE programme to PA promotion</th>
<th>Quality of school in PA promotion</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
<td>2.17</td>
<td>2.18</td>
<td>2.49</td>
<td>1.73</td>
</tr>
<tr>
<td>Private</td>
<td>2.55</td>
<td>2.24</td>
<td>2.53</td>
<td>1.86</td>
</tr>
<tr>
<td>Mann-Whitney Test</td>
<td>-6.880</td>
<td>-0.839</td>
<td>-0.444</td>
<td>-1.438</td>
</tr>
<tr>
<td>Significant</td>
<td>.000</td>
<td>0.401</td>
<td>0.657</td>
<td>0.150</td>
</tr>
</tbody>
</table>

In addition, there was a significant difference between the state and the private schools in the PA opportunities they offered within the PE curriculum and the Internal and External programmes. In general, the private schools offered more PA opportunities within PE than the state schools (see table 6.26).

Table 6.26: Difference between the type of school and PA opportunities offered

<table>
<thead>
<tr>
<th>School Type</th>
<th>PE curriculum PA</th>
<th>The Internal PE programme PA</th>
<th>The External PE programme PA</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
<td>2.02</td>
<td>1.91</td>
<td>1.94</td>
</tr>
<tr>
<td>Private</td>
<td>2.11</td>
<td>2.15</td>
<td>2.19</td>
</tr>
<tr>
<td>Mann-Whitney Test</td>
<td>-1.265</td>
<td>- 3.300</td>
<td>- 2.048</td>
</tr>
<tr>
<td>Significant</td>
<td>.206</td>
<td>.001</td>
<td>.041</td>
</tr>
</tbody>
</table>
All of the teachers highlighted that the support provided by the headteacher for PE was an important factor in promoting PA within their schools. The majority of headteachers were reported to be considerably supportive of both the Internal and External PE programmes (86% and 74% respectively). Similarly, the schools’ local PE supervisors (who work within the ELOs) were found to be as supportive as the headteachers towards the schools’ PE Internal and External programmes, with over half providing considerable support (60% and 58% respectively). With respect to support for INSET, the majority of the schools’ headteachers were reported to be either considerably supportive (81%) or supportive to some extent (13.2%) of INSET (see table 6.27).

Table 6.27: Staff training and support for the promotion of PA in the schools

<table>
<thead>
<tr>
<th>Support</th>
<th>Considerable support</th>
<th>Some support</th>
<th>No support</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
<td>Frequency</td>
</tr>
<tr>
<td>A</td>
<td>Given by the headteacher to the Internal PE programme</td>
<td>81</td>
<td>86</td>
</tr>
<tr>
<td>B</td>
<td>Given by headteacher to the External PE programme</td>
<td>66</td>
<td>74</td>
</tr>
<tr>
<td>C</td>
<td>Given by the local PE supervisor to the Internal PEP</td>
<td>57</td>
<td>60</td>
</tr>
<tr>
<td>D</td>
<td>Given by the local PE supervisor to the External PEP</td>
<td>54</td>
<td>58</td>
</tr>
<tr>
<td>E</td>
<td>Given by the headteacher for INSET</td>
<td>74</td>
<td>81</td>
</tr>
</tbody>
</table>

The headteachers were reported to provide support in several ways, including via securing financial resources; providing official approval for organising PA during or beyond curriculum time; and encouraging PE teachers to promote PA during extra-curricular programmes. The quotations below are representative of most of the teachers who were interviewed:
The school administration is very supportive. For example, the headteacher covers PE activities costs from the school budget. He insists that every pupil is rewarded for their participation in school sports. Also, he contacted the Ministry of Education several times to present the school’s urgent need for maintaining its football pitch (Ahmed, Active School 1, >10 years teaching experience).

The headteacher has a positive attitude toward PE. I cannot emphasise the importance of his support to PE. Simply, if the headteacher is on your side, PE will not suffer from insufficient funds or resources. For example, he regularly contacted the Ministry of Education [MOE] until the MOE refurbished the school’s playing area, which made the school more appealing for pupils and consequently improved students’ participation in PE (Ali, Active School 2, >10 years teaching experience).

My school has participated in a number of sports competitions over this year, including the Mobily Football League, the School Football and Volleyball Competition in Alswadi District, the LEO Football Competition, and the Almarai Volleyball Competition. In addition, the school organised competitions in football, athletics, table tennis, and play station during breaktimes. This is evidence of the school administration’s supportive attitude toward sports, isn’t it? (Saad, Active School 3, 6-10 years teaching experience).

The headteacher has a positive view towards PE. He financially and morally supports PE. He always praises me for making students physically active during breaktimes (Mostafa, Not fully Active School 1, 6-10 years teaching experience).

With respect to the PE supervisors’ support for the promotion of PA, all of the teachers interviewed stated that the PE supervisors at the ELOs assisted their schools in promoting PA via arranging opportunities for the schools to meet and compete in sport competitions. In addition, one teacher reported that the PE supervisor fostered co-operation between his school and a local leisure centre which provided pupils with free access to its sport facilities. Moreover, some PE supervisors convinced a number of business companies to
sponsor the ELOs’ sports activities. The quotations below illustrate the PE supervisors’ contributions to the promotion of PA within the schools:

*I think the PE supervisor has a positive role in promoting PA within schools. In particular, his role is obvious on the External PE programme. He encourages schools to offer PA in their extra-curricular programme, and prepares different teams for sport competitions. This is one reason why PE supervisors are so important for PE (Saad, Active School 3, 6-10 years teaching experience).*

*The PE supervisor works as a coordinator between the ELO, schools, and local sport centres and business companies. For example, he convinced Mobily Company to financially support the ELO football competition which was recently named the Mobily Football League. In addition, he encouraged schools to play in the competition (Ali, Active School 2, >10 years teaching experience).*

*The PE supervisor plays an important role in the promotion of PA. For example, he organised a swimming competition between the schools in the west part of Riyadh which included schools from three districts: Alswady, Al-badiah and Aloraja. You know, we very rarely get a swimming pool at our schools. For example, the PE supervisor contacted the Saud Sport Centre at Al-badiah, which allowed pupils to have access to its swimming pool free of charge (Mostafa, Not fully Active School 1, 6-10 years teaching experience).*

*The PE supervisor makes a formal competition schedule and arranges a suitable place for the matches. He also encourages schools to participate in the competitions (Salem, Not fully Active School 2, >10 years teaching experience).*

**6.9. School physical environment**

The sports facilities varied amongst the schools, particularly in terms of indoor facilities. Only one third of schools had a hall or sports hall (30.9% and 33.0% respectively) and less
than 10% had a gymnasium or fitness room. Overall, schools had more outdoor than indoor facilities with over 60% of the schools having a hard play area (see figure 6.6).

![Figure 6.6: The schools’ sports facilities](image)

The majority of the PE teachers considered that their indoor, outdoor and changing facilities were inadequate in terms of promoting a broad range of PA (54%, 57%, and 69% respectively) (see table 6.28).

<table>
<thead>
<tr>
<th>Facilities</th>
<th>Adequate</th>
<th>To some extent</th>
<th>Inadequate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Frequency</td>
<td>%</td>
</tr>
<tr>
<td>Indoor facilities</td>
<td>17</td>
<td>26</td>
<td>18</td>
</tr>
<tr>
<td>Outdoor facilities</td>
<td>11</td>
<td>28</td>
<td>12</td>
</tr>
<tr>
<td>Changing facilities</td>
<td>8</td>
<td>21</td>
<td>9</td>
</tr>
</tbody>
</table>

During the interviews, two teachers claimed that insufficient sports facilities restricted the PAs offered. The quotations below illustrate the influence of deficient sports equipment and facilities on PA promotion within some of the schools:

*I wish my school was well equipped with sports facilities and training equipment and I would be able to get pupils to play a wider range of sports including athletics.*
Unfortunately, my school only has a small hall 600 metres in size, and it is always full and crowded. The hall is not appropriate for PE activities such as athletics. Indeed, the school cannot effectively promote PA, because it does have enough sport facilities (Salem, Not fully Active School 2, >10 years teaching experience).

Obstacles for promoting PA within school, well, I think the lack of sport facilities is a major barrier. Do you know that neither a proper playing field nor sports equipment is available in my school? Believe me, if my school had facilities such as a sport hall, gym and playing field, the promotion of PA amongst pupils would be so easy (Eied, Not fully Active School 3, 10+ years teaching experience).

In contrast, other schools had good facilities which appeared to positively influence the PA offered in the PE curriculum and extra-curricular activities. One teacher stated that his school environment was conducive to the promotion of PA because:

Honesty, my school has all the sports equipment required for effective PA promotion. There is a large sports hall, a gymnastic centre and a fitness centre. Since these facilities have been available in the school, pupils play all types of sports such as athletic games, gymnastics, football, basketball, volleyball, tennis and weight lifting (Saad, Active School, 6-10 years teaching experience).

Just over a quarter (26%) of the PE teachers reported the maintenance of their schools’ sporting facilities to be poor, whilst 35% considered them to be just adequate (see figure 6.7).
The maintenance of the schools' facilities appeared to be another influencing factor in the promotion of PA. One teacher described how the poorly maintained playing field presented him with some problems. He stated:

*There are several holes in the football pitch which have caused three knee injuries among pupils. I am unsure whether to encourage the pupils to play or worry about their safety (Ahmad, Active School, >10 years teaching experience).*

Similarly, one teacher reported that the school’s playground was poorly maintained which led him to suspend most PA and sports events. He explained:

*Some schools have not organised any PA or sports activities in curriculum time because their playing areas are not safe. The new school year starts in September and the playing area in my school still has not been maintained (Eied, Not fully Active School, >10 years teaching experience).*

### 6.10. Links and partnerships

Few schools had established PA or sports links with, or enlisted any support from, outside agencies or professionals. Over a quarter of the PE teachers (27.7%) reported links with local sports clubs, 20% with professional coaches, and 10% referred to support from higher
For over 60% of the schools, the only links they had were with other schools (see figure 6.8).

Figure 6.8: Links between/with outside agencies

The PE teachers were asked how many hours access the community were given to the schools’ sports facilities per week. Just less than a half of schools (48%) did not permit local community access to their sports facilities (see figure 6.9).

Figure 6.9: Local community access to school sport facilities

For those schools providing some community access to their facilities, figure 6.10 illustrates how many hours access the local community had. The time varied between schools, with some (11%) giving over four hours access per week and others providing
between two and four hours access. On average, schools offered 3 hours and 20 minutes access to their sports facilities to the local community per week.

![Pie chart showing local community access hours to schools' sports facilities]

**Figure 6.10: Local community access hours to schools’ sports facilities**

Within the interviews, two teachers reported that their school allowed local community access to their sport facilities. These were recognised by the MoE as District Centre Schools [DCS]. The teachers spoke positively of the DCS in terms of the promotion of PA among parents, and commented on the increased number of parents participating in PA. The quotations below illustrate these teachers' views of the DCS initiative to promote PA among the community:

*The DCS focused on promoting PA among students at the beginning, but as so many parents attended its activities, the Ministry of Education allowed PA to be offered to parents as well. I think the DCS provided a valuable opportunity for the promotion of PA among parents, because it equally took care of pupils and their parents (Ahmed, Active School 2, >10 years teaching experience).*

*I worked at a District Centre School as a physical educator. Most parents came and played with their children, while some only attended the activities. However, at the end of the day, all of the parents joined us in the activities. I wish there were many DCS in Riyadh, so more opportunities could be offered to parents to be physically*
active who could then encourage their children to do more physical activity after school (Salem, Not fully Active School 2, >10 years teaching experience).

Although some PE teachers had positive views about the promotion of PA within the local community, a number of factors limited the extent of this in practice. The quotations below illustrate these:

*The education system clearly states that schools open at 6:30am and close at 1:30pm. So, schools are not allowed to open beyond 1:30pm, unless they gain the MOE’s approval. In addition, many schools are not able to open their doors in the evening, because of the high demand on the school’s budget by subjects. For example, if my school is going to organise evening activities, it would have to pay a lot of money for organisers, security, and the cleaners (Mostafa, Not fully Active School 1, 6-10 years teaching experience).*

*People who live near a District Community School [DCS] complained to the Ministry of Education that there were not enough car parking spaces for the DCS’s visitors. In addition, some of the residents did not like seeing strangers hanging around in the evening times. As a result, the DCS had to be closed (Saad, Active School 3, 6-10 years teaching experience).*

*I wish every school could become a DCS, but shortage of sports facilities limits my school’s role in promoting PA amongst the community. I mean, my school cannot be a DCS, because it does not have a sport hall and appropriate changing and showering facilities (Salem, Not full Active School 2, >10 years teaching experience).*

### 6.11. Time and status for PE

The limited time allocated to PE in Saudi schools was reported to be a concern in terms of its potential negative consequences for pupils’ health. Four of the PE teachers who were interviewed considered that the time allocated for PE in their schools hindered and
diminished their efforts to deliver an effective PE programme. The quotations below illustrate these teachers' views on this matter:

Some teachers argue that the PE curriculum is not effective in promoting health. Well, this is wrong. PE has not been given enough time for enhancing pupils’ health. One PE lesson a week is absolutely not enough. I did not have time to promote health, and my pupils did not have adequate time to practise sports to benefit their health (Ahmad, Active School 1, >10 years teaching experience).

Unfortunately, the time allocated for PE is very short in middle and secondary schools. Both only have one PE lesson a week. I wish my school added an additional two or three PE lessons (Eied, Not fully Active School 3, >10 years teaching experience).

Practically, PE may not be able to change pupils’ health status and reduce their weight. It is a very difficult task because of the very limited time schools give to PE. Typically, schools offer one PE lesson of 45 minutes a week (Mostafa, Not fully Active School 1, 6-10 years teaching experience).

PE is not enough to enhance pupils’ health, because of the short time allocated to it, 45 minutes once a week (Ali, Active School 2, 6-10 years teaching experience).

With respect to the purpose of PE, some of the PE teachers believed that the subject should not only be concerned with pupils’ health and sport performance, but offer opportunities to ‘refresh’ pupil’s minds and provide ‘time off’ from ‘serious subjects’ such as Maths and Science (Eied, Not fully Active School 2, >10 years teaching experience). Others perceived PE as ‘entertaining time’. Examples of the teachers’ views on the purpose of PE include:

PE helps break up a long school day. I think engaging pupils in PA that is enjoyable and fun is an important goal for PE. I think giving pupils physical [fitness] training during PE is a mistake. Schools only offer one PE lesson a week, thus it must be fun (Ahmed, Active School 1, >10 years teaching experience).
I think students need to have fun after serious subjects (Ali, Active School 2, >10 years teaching experience).

Students spend hours studying maths, sciences and history and so on. So, they need time off from such serious subjects (Salem, Not fully Active School, >10 year teaching experience).

Parental attitudes towards PE were also highlighted by the teachers as an issue, in that most of the teachers reported that the majority of parents perceived PE as 'play time'. In addition, the teachers reported that most parents did not show personal interest in the schools’ PA, by for example, supporting school sports teams or watching sessions. The quotations below are typical of the teachers’ views on parental support for PA promotion:

In fact, the majority of parents do not attend school sports activities, including the most popular one, the Mobily Football League. My school organised a sports day last term. Surprisingly, parents attended that event (Mostafa, Not fully Active School 1, 6-10 years teaching experience).

Some parents visit the school, ask about their children’s performance in school subjects including PE, but the majority have no interest in PE. They do not recognise PE as a core subject (Salem, Not fully Active School 2, >10 years teaching experience).

Indeed, three teachers reported that some parents rejected formal requests from the school for their children to join school sports teams. The teachers considered that parents’ attitudes were rooted within the Saudi society’s perspective on PE and reinforced by the education system which does not include PE in the assessment of pupils’ progress. The teachers explained:
The society image of PE is wrong. Parents think that PE is no more than football and volleyball and that it has a negative influence on their children’s academic achievements. This image has a negative influence, that is parents do not encourage their children to take part in school sports (Eied, Not fully Active School 3, >10 years teaching experience).

The images of PE among parents concern me in relation to the promotion of PA. Some parents think PE has very little role to play in their children’s growth and think it is playing time. This is really annoying (Ali, Active School 2, >10 years teaching experience).

Most parents do not value PE, because PE is excluded from their children’s progress in education (Saad, Active School 3, 6-10 years teaching experience).

There is no objection from parents when their children do not participate in PE programme. For example, some pupils had withdrawn from PE lessons for stupid excuses, such as it was too hot outside; the playground was not good for me. In fact, pupils disrespectful PE because it has no influence on their progress in school (Ahmad, Active School 1, >10 years teaching experience).

The teachers proposed a number of suggestions to help improve parents’ attitudes towards PE and increase involvement in PA promotion, including the following:

I think organising PA for parents both inside and outside of schools is crucial. It will help to tackle the negative image about PE being no more than ‘football’ or ‘play time’ (Salem, Not fully Active School 2, >10 years teaching experience).

The General Presidency of Youth Welfare can play a major role in enhancing people’s views on PE and sport. Sport has a bad reputation as a result of the activities of some clubs and their members. We [PE teachers] must explain that players’ misbehaviours do not represent sports, but the individuals. We must
highlight successful pupils who have joined sports clubs, and become role models, respecting the social and religious customs of the society (Ahmad, Active School 2, >10 years teaching experience).

Schools do not offer parents opportunities to know about PE and the role of PE in developing a healthy child. Educating parents about the health benefits of PA and the role of PE in building health is important (Saad, Active School 3, 6-10 years teaching experience).

6.12. Summary

The survey revealed that games activities (e.g. football, basketball, volleyball) dominated the PE curriculum, and the majority of schools also organised inter-school games competitions (e.g. leagues). In contrast, exercise and fitness-related activities (e.g. circuit training) were less common within the schools’ PE curricula. The PE curriculum was viewed as the most important avenue to promote PA, followed by the IPAP and EPAP (95%, 91% and 73% respectively). Almost half (49%) of the PE teachers believed that their school offered a wide range of activities which were appealing to all pupils, whereas 43% considered that they only partially did. Furthermore, all the teachers who were interviewed encouraged pupils to participate in PA through the medium of sports and believed that pupils could become more physically active through involvement in sports competitions during PE curricular and extra-curricular programmes.

In addition, the survey revealed that two thirds of the schools had a plan or policy for the promotion of PA, and almost 70% of the PE teachers thought that their school significantly contributed to the promotion of PA. With respect to PA opportunities beyond curriculum time, only a minority of schools offered PA opportunities before (7%) or after (9%) school, or at weekends (3%). The survey also revealed that sports/activity facilities varied between schools, particularly indoor facilities, and over half of the PE teachers considered their indoor and outdoor facilities to be inadequate for promoting PA (54% and 57% respectively). A minority of schools had established PA or sports links with local sports clubs, professional coaches or higher education institutions (27.7%, 20%, 10% respectively).
respectively). On a positive note, the social environment in the schools was reported to be supportive, and key individuals such as headteachers and local PE supervisors were noted to provide support for both the IPAP and EPAP.

Finally, the survey revealed that three quarters (76.1%) of the teachers expressed a need for professional development specifically in the area of PA promotion. During the interview, the PE teachers considered that the time allocated to PE in their schools was limited and hindered their efforts to deliver and effective PE programme. Furthermore, there was some debate about the extent to which schools are responsible for promoting PA to parents, families and the community. Some teachers reported that the subject should be concerned with pupils’ health and sports performance, and also offers opportunities to ‘refresh’ pupils’ minds and provide ‘entertaining time’ and ‘time off’ from ‘serious subject’ such as Maths and Sciences. In addition, the role of parents in supporting PA promotion was also highlighted by the teachers as an issue.
CHAPTER SEVEN

DISCUSSION

7.1. Introduction
This chapter discusses the findings of the study in relation to the research questions, literature, and SCT (Bandura, 1986). The chapter consists of three sections, each of which addresses one of the research aims. However, some overlap between the sections is inevitable because of the multidimensional nature of the promotion of PA within schools and the reciprocal interaction between the individuals and their environments. The first section discusses findings on the nature and extent of the promotion of PA within the schools, including the types of PA opportunities and avenues and approaches the teachers used in the promotion of PA. The second section focuses on the PE teachers’ perspectives on, and understanding of the role of schools in the promotion of PA. The third section discusses a range of factors that facilitated and/or constrained the promotion of PA within the schools. Throughout, the chapter draws on SCT to understand the interactions between personal, behavioural and environmental influences on the promotion of PA within the schools.

7.2. The nature and extent of the promotion of PA within schools

7.2.1. Promoting participation in PA within the PE curriculum: Approaches
The study revealed that PE teachers themselves selected the approach to the promotion of PA within their schools. Although the MoE prescribes a curriculum for PE in secondary schools in Saudi Arabia, it permits flexibility in terms of how PA is promoted (MoE, 2002). This policy is in line with Cale and Harris’ (2005, p.168) view that PE teachers are well placed to make this decision, because they are ‘familiar with their own curriculum, colleagues and pupils’. In this respect, the teachers considered the capacity of their school environment (in terms of, for example, sports facilities and headteacher support) to
promote PA, prior to making decisions about how best to approach the promotion of PA. This concurs with SCT which suggests that the environment influences the promotion of behaviours in terms of facilitating and creating opportunities to participate in the promoted behaviour. Indeed, environmental changes that make PA easier to undertake within and beyond school are required to maximise the promotion of PA (Webber et al., 2008).

The teachers in this study incorporated ‘health’ in the PE programme through two approaches: a discrete unit of work in PE lessons and integration within other areas of PE. These findings are similar to those reported by Harris (1995) and Cale (2000) in their studies of secondary schools in England in which teachers addressed health through a combination of approaches. However, as found by Harris (1995), this study revealed that the promotion of PA was not incorporated within other areas of the school curriculum, suggesting that the PE programme is the only avenue for promoting PA amongst pupils in Saudi schools. This may be because cross-curricular links are not well established and thus, opportunities to promote PA are overlooked and/or marginalised by teachers.

An interesting finding in this study was that the teachers tended to encourage pupils’ participation in PA predominately through competitive sport. This is similar to findings in England, where Fairclough et al. (2002, p.77) noted that team games predominated over lifetime activities in secondary schools and concluded that the NCPE is ‘too restrictive in its present form’ in terms of promoting lifelong participation in PA. Moreover, Harris (2005) reported that PE programmes often include intensive activities such as cross-country running and fitness testing, arguably at the expense of more attractive approaches to promoting PA. This study revealed that the Saudi teachers prioritised acquiring and developing pupils’ sports skills and performance over exposing pupils to a variety of health-enhancing exercise activities or/and developing their fitness. The point here is not to suggest that fitness testing ought to be included in PE programmes in order to promote PA, as concerns have been expressed about this (see Cale & Harris, 2009), but teachers should consider involving pupils in a range of activities to help them understand health-related components of fitness in an attempt to generate an interest in PA participation. Thus,
teachers should develop in young people the knowledge, skills, competence and confidence to take part in PA both now and in the future.

This study also revealed that the PE teachers’ attitudes were influenced by the government policies and obesity discourse. For some PE teachers this has arguably limited the scope of PA promotion to a focus on reducing obesity and overweightness. For example, most of the teachers in this study cited the increase in obesity rates among young Saudi people as a key justification for promoting PA within their schools. Furthermore, some teachers measured pupils’ weight and used this as an indicator of their health. Also, in some schools, lifestyle activities were exclusively promoted to overweight pupils who were excluded from PE lessons, while pupils of normal weight took part in the usual PE lesson activities. In accordance with SCT, PE teachers' practices and views on PA promotion are influenced by the beliefs, customs and the discourse which a society portrays in the media and government policies (Gard & Wright, 2001). Clearly, PE teachers' views are a critical factor in PA promotion programmes (Green, 2003) and need to be addressed in INSET courses to encourage teachers to adopt and promote the concept of a physically active person (Ward et al., 2008).

This study furthermore provides evidence to support the claim that insufficient guidance for teachers on the teaching of health issues within the PE curriculum may lead to the area not being well implemented (Harris, 1995; Cale & Harris, 2005). For instance, there was some misunderstanding among teachers about incorporating computer and video games, which were inactive (e.g. Sony PlayStation), during breakfast-time to promote pupils’ participation in PA. The teachers appeared unaware of the negative consequences of the inactive video games on pupils’ participation, for example, that more pupils may become sedentary during breakfast-time. The justification for the inclusion of inactive video games in the extra-curricular PE programme was that the pupils enjoyed playing these games. However, and that said, there is some support for the role of active video games in PA promotion (Biddiss & Irwin, 2010), because they are appealing and informative, and can be accessible to many young people (Hamel et al., 2011; Wu et al., 2011). Active video games
offers promising opportunities in terms of promoting PA beyond the school boundary for pupils, parents/families and the local community (Barnett et al., 2011).

### 7.2.2. Promoting participation in PA within the PE curriculum: The content

Most schools in this study were found to be delivering a narrow PE curriculum dominated by competitive games. For example, the most frequently offered type of activities within the PE curriculum were games (84%), whereas exercise/fitness activities were not included in two thirds (65.2%) of the schools. This is consistent with the findings of Fairclough et al. (2002) whose research revealed that the PE curriculum in the vast majority of secondary schools in England privileges competitive sports. Whilst the PE and Sport Survey 2009-10 (Quick et al., 2010) found schools across England to offer nineteen different sports and PAs during PE curricular and extra-curricular activities, this revealed secondary schools in Riyadh to offer a much narrower range of activities, mainly competitive games.

From a SCT perspective, individuals acquire and maintain certain behavioural patterns via participation or observation. Thus, the promotion of PA should involve a process in which individuals learn to be physically active via directly participating in a broad range of PA opportunities and/or observing others such as peers, staff and parents being active. Schools which strive to promote PA effectively need to provide a variety of learning contexts and activities that advance pupils’ knowledge, physical competence and behavioural skills. In this study, the teachers were influenced by the ELOs plan for PE because it privileges competitive sport over lifestyle activities, which may partially explain the failure of many to implement the Document of PE (MoE, 2002). In addition, the Document of PE is in itself problematic because it promotes an imbalance in the allocation of PE curriculum time towards games, arguably at the expense of exercise and fitness activities. For example, it includes sixteen teaching units: ten to twenty units for games; five units for health and fitness; up to four units for athletics; and up to four units for gymnastics. Clearly, with few teaching units allocated to health and fitness, games makes up the majority of the PE time. It has been argued that whilst competitive team games offer valuable opportunities to engage pupils in PA, a limited provision of lifestyle activities within PE may alienate less
skilful young people from the subject (Johnston et al., 2007) and perhaps from PA participation beyond school (Stratton et al., 2009).

From a public health perspective, the promotion of a diverse range of activities during adolescence is considered to more effectively encourage future participation (Scheerder et al., 2006). This is because many young people enjoy experimenting with various types of PA and sports and prefer not to be forced to compete and win (Allender et al., 2006). Indeed, an important part of the process of developing an active lifestyle is that pupils experience a broad range of sports and exercise/fitness activities in school so that, as they mature, participation in PA becomes more of a volitional recreational choice. On this issue, Fairclough and Stratton (2005) suggested providing different type of PAs and a range of sports is a worthwhile aspiration, while MacPhail et al. (2003) claimed that it is essential for encouraging lifelong participation in PA. The findings of this study, however suggest that Saudi pupils’ future participation in PA may not be given full consideration by many secondary schools as they offer a limited range of lifestyle PAs. Thus, a broader and more balanced PE programme is recommended to enhance the promotion of PA amongst young people.

7.2.3. Promoting participation in PA within the schools’ extra-curricular PE programmes

In terms of extra-curricular, this study revealed that schools offered additional opportunities for their pupils to participate in PA beyond the curriculum. This is similar to the situation in England in which most secondary schools provide extra-curricular PE for their pupils (Department of Education [DoE], 2010), but different to the situation in the US where fewer secondary schools offer extra-curricular PE (National Youth Risk Behavior Survey, 2009). This is perhaps not entirely surprising as both Saudi and England have an education system in which PE is a compulsory school subject, whereas PE is optional in American schools. It is clearly important that schools explore different ways of increasing PA opportunities to contribute to the recommended 60 minutes of daily PA and to help foster lifelong participation in PA (Curtner-Smith et al., 2007), and the extra-curricular programme would seem to be an obvious avenue for this. Indeed, the high prevalence of
the IPAP within most of the schools in this study suggests that the provision of extra-curricular PE is a promising area for PA promotion within Saudi.

As was found within the PE curriculum, the schools’ extra-curricular PE was also found to predominantly focus on competitive sports, even though the teachers acknowledged the importance of providing pupils with a wide range of activities in extra-curricular time. For instance, team games (e.g. football, basketball and volleyball) were a common feature of the schools’ extra-curricular PE programmes, whereas only one in five schools offered exercise/fitness activities (e.g. aerobics and circuit training). This finding is somewhat similar to the situation in England, where the majority of activities provided in extra-curricular PE in secondary schools are games, including football, athletics, basketball, cricket and rounders (DoE, 2010). Indeed, concerns over the limited opportunities offered to pupils to participate in lifestyle PAs within extra-curricular PE have been highlighted (Harris & Penney, 1997), and Cale (2000, p.83) has argued that such a focus may ‘effectively be excluding many pupils, most notably the less able from much extra-curricular activity’. It is, therefore, not entirely surprising that nearly half of the PE teachers in this study considered that they only partially offered extra-curricular PE activities which were appealing to pupils of all abilities.

Related to the above and according to the teachers, the study further revealed that just over a third of the pupils in the schools participated in extra-curricular PE on a weekly basis. Whilst it is not possible to compare this figure over time as no previous studies have measured pupils’ participation levels in school extra-curricular activities in Saudi, this finding is similar to the participation levels reported in other countries such as Norway (Haug et al., 2010) and England (Department of Education [DE], 2009). For example, Haug et al.’s (2010) study of 130 secondary schools in Norway found over a third of pupils to be physically active during school breaks. In England, the participation level was found to be slightly higher than in both Saudi and Norway with 42% of pupils reported to participate in extra-curricular PE activities in a week (DE, 2009). However, this means that approximately two-thirds of young people in these countries (KSA, England, Norway) do little PA during school time beyond PE lessons. Although the findings of this study
demonstrate that Saudi pupils’ participation rates were similar to their counterparts in the UK, the data should be interpreted with caution as variation in estimates may be due to differences in the reference points used to define ‘regular participation’ between studies. In this study, the term ‘regular participation’ was left to the professional judgement of the individual teachers, whereas the School Sport Survey in England (2009, p.30) defined it as ‘taking part in extra-curricular activity at least nine times during the academic year’. Moreover, Littlefield et al. (2003) noted how there is likely to be considerable variation in pupils’ participation rate by region and school, therefore, any variation in the proportion of young people participating in schools across different countries should be treated with caution. There is also likely to be much variation in the range and nature of extra-curricular activities offered to young people between different schools, regions and countries. This concurs with SCT which highlights the importance of school-related factors (environmental factors) on the promotion of behaviour within schools. In this respect, it could be argued that the nature of extra-curricular provision influences the participation levels of pupils and thus the effectiveness of PA promotion within schools (Smith et al., 2007). As previously highlighted, the provision of a wide range of PAs is considered necessary to make PE extra-curricular programmes more appealing for most pupils (Harris, 2010). It is therefore, recommended that extra-curricular PE programmes in secondary schools in Saudi similarly include a wide range of PAs in order that they are attractive and effectively contribute to the promotion of PA.

7.3. PE teachers’ perspectives on the promotion of PA
The findings suggest that the PE teachers in this study accepted the importance of PE to public health. For example, according to the teachers the three main objectives of PE were to increase pupils’ awareness of the health benefits of PA, to acquire and develop students’ skills, and to promote positive attitudes in pupils toward PA. These findings are similar to those relating to PE teachers in secondary schools in England (Harris, 1997; Cale, 2000) which likewise revealed positive views amongst teachers towards PA promotion. At the same time, the findings of this study also revealed inconsistent views amongst the teachers about the role of schools in promoting PA. For example, although over half (57%) of the teachers agreed that the PE curriculum plays a role in establishing the basis for lifelong
participation in PA, less than a third (32.6%) considered that the extra-curricular programme (the External PE programme) was important in this respect. This view may be an illustration of ‘the traditional and stereotypical views about who can and should participate in what physical activity, and the critical role that not only teachers but also pupils, parents and ‘wider society’ play in either reinforcing or challenging these views’ (Penney & Harris, 1997, p.41). This may be related to the sport/games emphasis in the Saudi government policy for PE and school sports, as illustrated by the following:

Saudi schools’ sports focus is on taking physical education and scholastic sports to new heights by improving our physical educational focus and supporting our national sports federations by providing high level athletes to represent our country in the 2020 Olympic Games and 2022 Football World Cup. (MoE, Saudi School Sport, www.sport. tatweer.edu.sa, accessed on: 02/03/2012)

This suggests that the Saudi government’s sporting ideology is driven by a desire for winning national and international sport competitions, rather than the needs of the Saudi society more broadly, many individuals which are reported to be inactive (Al-Hazzaa & Al-Rafaee, 2001; Al-Hazzaa, 2004; Al-Nozha et al., 2007). Moreover, it suggests that the sporting philosophy expressed in Saudi education policies ‘trickles down’ to the school level, influencing PE teachers’ philosophies and practices (Langille & Rodgers, 2010, p.879). It seems that future major sporting events in the Gulf region such as the 2020 Olympic Games and 2022 Football World Cup in Qatar have reinforced Saudi government’s performance priorities in PE. This is perhaps not dissimilar to the current situation in England in which the 2012 Olympic Games has influenced PE and sports programmes in schools, with the Coalition Government strongly encouraging competitive sport in schools (DoE, 2010). These examples illustrate the influence of a strong sporting philosophy on schools’ PE programmes.

In this respect, the findings of this study seem to support the view and findings of Green (2003) who reported that sport and fitness ideologies permeate many PE teachers’ philosophies, leading them to privilege sport, often in the form of competitive team games over lifestyle activities. Furthermore, this picture is not only evident in England (Green,
but also in Australia (Tinning, 2005) and on doubt other countries, where it is suggested that PE teachers are primarily concerned with the development of sports skills and performance, reflecting a persistent sporting philosophy. The issue here is that an over emphasis on competitive sport at the expense of a broad and balanced curriculum might limit pupil learning and negatively affect the promotion of lifestyle activities in schools (Ward, 2008). Thus, if participation levels are to be increased, it is suggested that such a sporting ideology needs to be challenged, including in Saudi Arabia.

In this study, sport was not surprisingly then also viewed by the teachers as the main vehicle for the promotion of PA among young people. The relationship between sport and the enhancement of young people’s health was widely accepted by the teachers who assumed that regular participation in sport during childhood was positively correlated with PA participation in adulthood. This is again consistent with Green’s (2002; 2003) research on PE teachers' philosophies which revealed these to be heavily orientated towards competitive sports rather than lifestyle PA. With reference to this, Penney and Evans (1998) coined the phrase the 'privileged' position of school sport within PE.

The findings of this study revealed a low level of pupil participation in Saudi secondary schools’ extra-curricular programmes, which supports Harris and Penney’s (2007, p.41) call for ‘a need for changes in the philosophy underpinning extra-curricular provision’. Furthermore, Harris and Penney (2007) argued that the strong sporting orientation led to the 'disadvantgement of many pupils, particularly girls and those of lower ability in PE'. This seems to be true in Saudi where the schools’ sports provision within the External and Internal PA Programmes had a particular focus on traditional team games and consequently offered limited opportunities to a minority of pupils, generally the ‘more able’. Likewise, Green (2010, p.65) commented that 'in countries where extra-curricular PE revolves almost exclusively around competitive sports....., this orientation is believed to be a major reason for what are viewed as relatively low level of pupil engagement'.

The findings further revealed that the PE teachers generally did not go beyond the PE programme in terms of PA promotion, failing to recognise the potential of the whole school
to promote PA. For example, it was rare for PA to be promoted in other areas of the curriculum or to parents/families and the community. Most of the PE teachers believed that the promotion of PA beyond the school boundaries was not the school’s responsibility. One teacher asserted that ‘schools are not responsible for organising PA for parents in the local community’, believing rather that PE teachers’ responsibilities were in offering PA for pupils and staff only. However, research would suggest that this view may be somewhat misguided as the wider school environment plus the home environment and the local neighbourhood are also considered central to children’s PA (Fox, 2004). According to Cale (1997), schools wishing to promote PA should explore the range of opportunities available for doing so. She cited a number of examples by which schools can promote activity, including providing information to children and parents on walking and cycling routes, and offering incentive schemes to encourage children to walk to school in groups or with their parents. SCT assumes that parents' behaviour has an influence on their children's behaviour (Welk et al., 2003), thus ‘it is important to involve the parents/family and consider the factors that determine a parent's choice to encourage, become involved with, and facilitate their children’s PA’ (Dugdill et al., 2010, p.162).

In addition, the findings of this study suggest that the majority of the PE teachers not only held a narrow view of the avenues through which to promote PA but also of the aims of PA promotion which appeared to be founded on the perceived low levels of pupils’ physical fitness, rather than PA levels. For example, a PE teacher reported that ‘I think students are already active [physically] outside school…. I am sure, my pupils play in sports teams in the evening, so their fitness level is very good’. This supports research which indicates that PE teachers often focus upon fitness rather than the broader concept of health (Harris, 1994, 1997; Cale, 2000; Capel, 2007; Green, 2008; Leggett et al., 2008). Yet, a focus on fitness may be misguided, because there is no evidence that fitness and activity are closely correlated in young people (Armstrong & Welsman, 1997; Armstrong & Van Mechelen, 1998; Armstrong, 2011). It seems that the teachers’ philosophies (Capel, 2007; Green, 2003) may have limited their understanding and development of PA promotion and as already mentioned, reduced the focus to sport, as well as to the ‘product’ of physical fitness rather than to the ‘process’ of lifestyle PA (Leggett, 2008; Alfrey et al., 2012). This finding
supports those of Alfrey et al. (2012) which also found that teachers tend to focus on the production of ‘fit’ individuals and which contradicts research that advocates a multidimensional approach to PA promotion (e.g., Sallis et al., 1997; Welk, 1999; Stevens et al., 2005). Saudi schools are, therefore, urged to adopt a broad perspective to explore all avenues for PA promotion.

7.4. Factors influencing the promotion of PA within secondary schools

7.4.1. School policies for PA promotion

According to SCT, ‘humans desire to control their life circumstances, and this desire for personal control is the root of most human action…..because it [control] either fosters an intended desired outcome or minimizes an unintended, unpleasant outcome’ (Farkas, 2011, p.429). Policies for PA promotion can be viewed as ‘illustrations of human capacity to control the environmental and social factors that influence health behaviour and health outcomes’ (McAlister et al., 2010, p.170). On this issue, it was encouraging to discover that over two thirds of the schools in the study had a plan for the promotion of PA, which suggests that PA promotion was important to most schools. This finding is consistent with that reported in Lee et al.’s (2007) study of a nationally representative sample of American secondary schools in fifty states which indicated a high prevalence of PA promotion policy (75.1%). In England, fewer (40%) secondary schools were found to have a written policy for the promotion of PA (Cale, 2000). It is interesting to note that the concept of the ‘Active School’ draws schools’ attention to the importance of ‘… constantly working towards devising and operating policy that will increase the physical activity levels of children and staff in a way that is likely to have a positive and sustained impact on their PA habits’ (Cale, 1997, p.62). This study further revealed that those schools with a policy for PA promotion offered more opportunities to participate in PA than schools without. These included the provision of PA opportunities during breaktimes and monitoring pupils’ attendance in PE lessons. This finding concurs with that of Huge et al. (2010) who suggested the positive influence of policy on schools’ PA, and clearly supports the development of PA policies in schools as an important strategy to increase PA levels.
among young people (Cale, 2000). Thus, it is recommended that all secondary schools in Saudi commit to developing policies for PA promotion.

Yet, the findings of this study suggest that whilst two thirds of the schools had a general PA policy, these were limited in their scope for promoting PA as they did not embrace social/cultural and environmental dimensions. The Saudi government policies for PE (MoE, 1998, 2002) generally included a focus on the school environment such as providing sports equipment to pupils during breaktimes, but social and personal dimensions were not explicitly mentioned. In this study, the teachers considered that pupils should wear PE kit but showering after PE lessons or breakfast-time PA was optional, probably due to the fact that over two thirds of the teachers considered the schools’ changing facilities were inadequate. Furthermore, it should be realised that Saudi pupils’ religious needs may reduce their participation in PA. Despite this, there is no clear reference within Saudi PE policy to clothing, changing and showering routines, which may in part explain the ‘observed resistance of Muslim girls [and boys] to active lifestyles’ (Essa, 2011, p.158). School policies that include reference to clothing and changing/showering routines are relevant to efforts to promote PA (Cale, 2000), yet in Saudi they appear to have been overlooked. It is argued that the creation of active young people requires actions across all dimensions, including social/cultural and environmental dimensions in school policies, because these have consistently been found to be positively correlated with young people’s PA participation (Sallis et al., 2000; Ferreira et al., 2006).

Nonetheless, the findings of this study highlighted the potential positive impact of some educational policies on PA promotion within schools. For example, the teachers reported that more pupils in grade eleven (sixteen year olds) and grade twelve (seventeen year olds) participated in the PE programme than pupils in grade ten (fifteen year olds). According to the teachers, the reason for this was likely to be due to the inclusion of PE in pupils' academic progress reports at grades eleven and twelve which may have improved the status of PE amongst the pupils, and perhaps also their parents/families. This is consistent with claims made by socio-ecologists for interaction across different levels of society, advocating targeting educational policies at the macro level to influence PA promotion at
the micro level of the school (Sallis et al., 2008). The interaction between policies at different levels in the promotion of PA/health within schools should not therefore be underestimated by the Saudi government.

It was revealing to find that some teachers in this study were not aware of the Document of PE (MoE, 2002), even though it had been published eight years previous. The MoE is challenged to implement the Document of PE in schools because of ‘the expansive nature of the Saudi education system’ which encompasses thirteen Directorates of Education spread over the Kingdom of Saudi (Alhkeel, 2003, p.274; Alsanbal, 2004). In addition, concerns have been expressed by Alsanbul et al. (2004, p.63) that ‘some of the Directorates of Education make no serious attempt to implement some of the educational policies’. This study confirmed that this was the case for the ELOs in Riyadh. In particular, a gap was apparent between the MoE’s policies for PE and the ELOs’ plans for schools in terms of the nature of the PE programmes. Most schools were not adhering to the Document of PE (MoE, 2002) as they were providing pupils with only a limited range of PAs within their PE programmes. This raises questions about the effectiveness of the Document of PE (MoE, 2002) in bringing about changes to PE teachers’ practices within curricular and extra-curricular programmes.

In addition, this study revealed that elements of the policies which Cale (1997) highlighted in the Active School model, such as those relating to equal opportunities and traffic/transport, were not apparent. The relatively limited content of the policies for PA promotion within the Saudi schools may be due to the extent to which the division of responsibility for educational decision-making is concentrated in the MoE departments (Alhaqeel, 2003; Alsanbal, 2004). The consequence of this is that schools tend not to develop institutional policy that reflects the diverse nature and needs of their school communities (Bell & Stevenson, 2005), but instead they operate policies that have been prescribed by the ELOs. The SCT emphasises the dynamic relations between different factors at the personal, behavioural and environmental dimensions in the efforts to alter and promote behaviours (Bandura, 1997). Thus, schools wanting to promote behaviours such as PA should address the multiple levels of influence on the school’s population (pupils, staff,
governors, parents/families), including personal, behavioural, socio-cultural, and physical environment factors (McAlister, 2008).

The finding of this study revealed that in practice many opportunities for PA promotion were being missed or overlooked by the schools which suggest the social/cultural and environmental dimensions may challenge Saudi schools’ compliance to promoting PA. For example, despite Saudi schools open at 6:30 am (two hours before national working time) and close at 1:30 pm which provide a potential opportunity for PA before and after the school day, only a minority offered PA opportunities before (7%) or after (9%) school or at weekends (3%). Moreover, promoting active commuting to schools was another overlooked opportunity for PA promotion in most schools. This challenge is consistent with Naylor’s findings (2006, p.413) in Canada which revealed ‘moderate levels of compliance’ by schools to promoting PA. If Saudi schools are to be truly effective in promoting PA and contributing to public health, they need to ‘expand from a restrictive, one-dimensional focus on traditional curricular physical education and sport to a model in which the social/culture and environmental dimension of the school is centred in their efforts to promote PA. As these findings suggest, and as recognised by Armour & Harris (2008), there is still some ambivalence about the role of schools in public health and the level of responsibility they are willing to accept for delivering health outcomes.

School breaktimes form part of a multidimensional environment which encompasses different types of resources such as human (e.g. supervision) and physical resources (e.g. sports facilities and playground markings). This study revealed the schools to provide a range of PA opportunities during breakfast-times and to utilise the resources available to stimulate pupils’ participation in extra-curricular activities. This is consistent with the findings of other studies in which enhancements to school playgrounds such as markings (Ridgers et al., 2007), sports equipment (Taylor et al., 2011) and supervision have been found to influence pupils’ participation in PA during breaktimes. This study revealed that schools which had a policy for PA promotion offered more PA opportunities during breakfast-time than those without. From a SCT perspective, barriers which include personal, behavioural and environmental impediments influence a given behaviour
(Bandura, 1997). With respect to pupils’ PA participation, schools may be able to better foster participation in PA during breaktimes if they identify and address external and internal barriers and opportunities for PA, including poorly maintained and/or unsafe facilities. Indeed, poorly maintained and inadequate facilities were highlighted to be an issue by many teachers in this study.

In addition, this study revealed that some teachers had concerns about pupils' misbehaviour, including bullying during breakfast-time, a finding which is consistent with that of Blatchford and Sharp (1994) who highlighted breaktimes as the single behaviour-related problem that schools encounter. Despite playground bullying being recognised as an issue in a number of secondary schools, it was encouraging that, in an attempt to tackle this, most of the schools in this study promoted PA during breakfast-time. Whist playground bullying has been reported to prevent some pupils from participating in PA during breaktimes (Parrish et al., 2011; Stanley et al., 2012), the MoE seems unaware of the extent of bullying in schools as it has been overlooked in the Saudi Strategy for PE and School Sport (MoE, 2011). Indeed, from a public health perspective, breaktimes represent a valuable opportunity for PA promotion and contribute towards the achievement of the recommended one hour of PA per day for young people (e.g., Saudi schools offer 10-40 minutes breakfast-time). Therefore, the MoE should recognise bullying as an issue that needed to be addressed and one way of doing this is to promote PA during breaktimes as well as implement training sessions for staff on managing pupils’ behaviour and dealing with bullying.

### 7.4.2. School ethos

Establishing a positive ethos towards PA in schools can increase PA participation (Cale, 1997). The findings of this study suggest that most of the schools had a positive ethos towards PA, conveying at least to some extent their commitment to health with an emphasis given to health matters both within PE and beyond. For example, the attention most teachers gave to providing PA at breaktimes indicated a high awareness of the importance of exploring ways of engaging young people in PA. A positive ethos towards PA was also evident in the way in which over half of the teachers reported the results of
school sport competitions in assemblies and on noticeboards. This finding is consistent with Story et al.’s (2009) analysis of schools in the US, which found the school ethos to have a positive impact on pupils’ participation in PA.

A key role of schools should be to stimulate interest, enjoyment, knowledge and expertise in PA and sport for health and well-being (Fox et al., 2004). The positive ethos towards promoting PA in some of the schools in this study was largely due to the collective action of the school community, including the headteachers, PE teachers and pupils. This concurs with the concept of collective efficacy proposed by SCT which explains how the collective actions of individuals promote a given behaviour. In the context of PA promotion, collective action is essential for comprehensive PA promotion because it contributes to enabling schools to generate more interest among pupils in PA participation. Indeed, schools which have a truly positive ethos towards PA will expand the level of PA promotion to groups and members in school and perhaps also amongst more groups and members of the local community. Yet, despite there being a generally positive ethos in most schools, it was still evident that in the majority PA promotion had not been fully integrated into the school curriculum, and that cross-curricular links had largely been overlooked. Furthermore, most of the schools rarely involved parents or families in their endeavours to promote active lifestyles, despite strong evidence to support their involvement (Sluijs et al., 2007). According to Harris (2010), PA promotion should be the collective responsibility of teachers, pupils, parents, coaches and youth leaders, whilst Story et al. (2009, p.90) advocate the inclusion of parents, pupils, the public, school administrators, the board of education, and local community sport organisations to achieve a ‘high level of buy-in and cooperation’. Specific actions could be taken to broaden PA promotion within Saudi schools, including a focus on the social and physical environments, for example by establishing links with parents/families, outside sports agencies and professionals. Thus, if increasing the attention given to improving pupils’ health is the ultimate aim of PA promotion in Saudi Arabia, the ethos of the schools would seem to be a further area for development.
7.4.3. Links with outside agencies and professionals

The expertise and facilities available at local sports clubs and within the local community represent a valuable opportunity for the promotion of PA. It was thus encouraging to see that some schools (27.7%) had established links with outside agencies and that 20% had received support from professionals (e.g. sport coaches) concerning PA promotion. Nonetheless, there remained a large number of schools that had not established such partnerships. According to Cale (2000, p.85), ‘successful links have many potential benefits for both staff and pupils, including increased knowledge, increased awareness of local opportunities, increased enthusiasm and motivation and, for pupils, links may encourage continued participation outside of school’. Recently in Saudi, the increasing value attached to PE and school sport has been evidenced by extensive government investment in the National Saudi Strategy for School Sport (MoE, 2011) which seeks to develop school sport by encouraging young people to increase their participation and excel in scholastic sports at school-age and within the community at large. Similarly, in England, the former National PE, School Sport and Club Links Strategy for Young People [PESSCL] (DCSF & DCMS, 2002) attempted to transform the landscape of PE and sport by creating a national infrastructure of school sport partnerships to facilitate young people’s participation in a broad range of PAs. Indeed, PESCL could be viewed as an inspiring initiative that increased the number of young people who had access to opportunities in sport clubs (Quick, 2010). The government in England have since cut the funding for PESSCL and have more recently adopted a 'decentralised approach' to school sport (DoE, 2011, www.education.gov.uk, accessed on: 04/02/2012). Interestingly, the decentralised approach is similar to the approach in Saudi Arabia in which PE supervisors encourage more competitive sport so that it becomes an essential part of PE extracurricular programmes in schools.

In addition, the number of sports clubs in Saudi seeking to provide support for schools is expected to increase rapidly in the coming years because of the recent cooperation between the General Presidency for Youth Welfare and the MoE (Department of Educational Services in Royal Commission in Jubail, 2009). The General President of Youth Welfare plans to build a number of Sport clubs and cities in the main cities in Saudi Arabia such as
King Abdullah Sport City in Jeddah, and sport cities in the Dawaser Valley, Alkarj, Najran and Aljof (High Commission for the Development of Arriyadh, 2011). A Sport City is similar to an Olympic Village which comprises a sports campus for hosting sport and PA events. Indeed, enormous potential appears to exist for schools to expand their role in providing young people with additional PA by building partnerships with the General President of Youth Welfare. The co-operation represents a good opportunity for schools seeking to establish partnerships with sports organisations and coaches, providing high quality facilities to schools, and so enabling parents/families to support young people’s participation in PA. For instance, the General President of Youth Welfare could make Sport clubs’ and Sport City’s facilities available to pupils and staff after-school, at weekends, and during holiday periods. Schools could also collaborate with the General President of Youth Welfare in promoting PA programmes to pupils and their parents/families. Furthermore, schools could collaborate with the General President of Youth Welfare with regard to transportation to ensure that pupils have the opportunity to participate in PA programmes beyond the school.

7.4.4. The status and time allocated for PE

This study revealed that despite PE being a compulsory component of the school curriculum, had relatively low status and it was not perceived as vital to pupils' intellectual growth. Its low status was evidenced in the belief among the teachers that PE represented ‘time off’ from serious school subjects and ‘playtime’. These views have also been identified in the US (Grossman, 2009) and Brazil (Cost & Tubino, 2005). Further, Hardman and Green (2011, p.15) reported that ‘notably in the Middle East and North American regions, all countries/states indicate that PE’s actual status is perceived to be lower than that of other school subjects’. If PE teachers are to be successful in promoting lifelong participation in PA, positive attitudes towards PE and PA and recognition of their importance are essential.

Moreover, this study revealed that parents also considered PE to be unimportant, with some feeling that their children’s participation in PE would negatively affect their academic achievement which they considered to be core and essential. Hardman and Green (2011,
p.15) similarly found that ‘a mere antidote to academic subjects are evident in parental pre-
dispositions to favouring academic subjects with time spent on physical education
perceived as a threat to academic achievement….’. In keeping with the findings of Garcia-
Dominic et al.’s (2010) study which contended that parents’ perceived low value of their
roles in promoting PA constrained their contributions to PA promotion, this study suggests
that few schools considered parental involvement in their planning, design and delivery of
PA promotion. Also, it is argued that the PE teachers’ limited understanding of whole
school approaches to PA promotion in this study may have been in part be due to their
underestimation of the impact that parents/families, and perhaps the wider society, can
have on young people’s participation in PA, a point which has been acknowledged in the
literature (Sallis et al., 2000; Strong et al., 2005; Ferreira et al., 2006). Parents’
participation in school PA programmes could be improved if attention was given to
addressing potential barriers to parental involvement, including parents’ perceived low
value of their role in PA promotion (Garcia-Dominic et al., 2010).

Given the general concerns about the low status of PE, this study further found that only a
limited number of PE teachers were employed to deliver the PE programme, suggesting
that PE might be viewed as relatively unimportant by the MoE. For example, this study
found that the average Saudi secondary school in the study comprises 600 pupils, yet
approximately two thirds (62%) of schools had only one PE teacher. Further, all schools
just provide a 45 minute PE lesson per week, which is far less than the average time (102
minutes per week) most other countries allocate to the subject (Hardman & Green, 2011).
Indeed, for many years there has been only one PE lesson per week in middle and
secondary schools in Saudi, even following the MoE’s recent curriculum reforms (Tatweer,
2006) and given the continuing low percentage of Saudis who regularly take part in PA
(Al-Hazzaa, 2004; Al-Nozha et al., 2007).

In addition, the study revealed wide variation between schools in the time allocated for
extra-curricular PE, ranging from 60-240 minutes per week. Only a third of schools
provided between two and three hours a week of extra-curricular PE. In comparison to the
UK (Quick et al., 2010), this time allocation is relatively low. Data from England suggest
that increasing pupils’ participation to three hours of PE and school sport per week within and beyond the curriculum is an achievable target (Quick et al., 2010). For schools to effectively promote PA, it is suggested that they should consider offering PA before school, after school, and/or at weekends which would increase the amount of time afforded to PA overall. Future developments such as these to extra-curricular PE provide promising opportunities for promoting PA within Saudi secondary schools.

7.4.5. Teachers’ in-service training

The Saudi government has emphasised the importance of PE teachers’ skills and knowledge for the success of the future of the PE and School Sports Strategy (MoE, 2010). However, the findings from this study suggest that many of the PE teachers did not have the necessary knowledge to teach pupils about health and that their understanding of the promotion of PA across the whole school was limited. In particular, they lacked knowledge in the area of health-related exercise, including exercise physiology, fitness testing and PA guidance for young people. A similar finding has been reported by Cale (2000) and Green (2003). Given that over half of the teachers had not experienced any formal relevant INSET, it was surprising that the majority nonetheless felt confident about PA promotion. This perceived confidence appeared to be related to their years of experience in teaching. However, their efforts to promote PA rarely went beyond organising sports competitions, reporting the results on the school notice board, and setting up a committee for school sport. This confirms concerns about teachers’ health knowledge reported elsewhere, namely in Australia (Brown, 2003), North America (Castelli & Williams, 2007; National Association for Sport and Physical Education, 2004) and England (Alfrey et al., 2012). For example, Castelli and Williams (2007) revealed that, whilst teachers were confident about their health-related knowledge, in practice this knowledge was limited.

Given the responsibility placed on Saudi PE teachers by the MoE to promote active lifestyles, the lack of engagement by the teachers in relevant INSET would seem to be an issue. Indeed, this study found that the teachers had a limited awareness of the opportunities for PA promotion INSET. These findings concur with Alfrey et al.’s (2012) study which demonstrated the relative absence of health-related INSET amongst the
professional development profiles of many PE teachers in England as well as their lack of awareness of those opportunities that were available to them. Less effective delivery of PA promotion is considered to be the result of teachers’ limited engagement with health-related INSET along with the continued privileging of sport and fitness-related activities (Green, 2003; Smith et al., 2007; Harris, 2010). Therefore, if schools are to ensure that PA promotion policy reflects practice, relevant INSET needs to be provided to update teachers’ health knowledge and to challenge persistent philosophies (Alfrey et al., 2012). However, teachers clearly cannot access opportunities unless they exist and are made aware of them.

Despite the majority of the teachers reporting limited INSET experiences, it is perhaps still encouraging that most (76%) reported they would value INSET in the area of PA or health promotion. Rather than through INSET, the teachers in this study gained their PA promotion knowledge through more informal means such as personal experience, the internet and sport media. These findings are similar to those of O’Sullivan (2005), Tsangaridou (2006) and Rich (2011) who reported that the experiences which had prepared teachers to promote health tended to be from general life experiences as opposed to experiences gained from formal INSET. For example, one PE teacher in this study imitated the actions of sports club coaches and sporting media, organised sports conferences during breaktimes, and set up a transfer law which allowed pupils to join other classes’ sport teams. This process of learning that ‘operates within a wide variety of social institutions and formats including sports and entertainment media, cable television networks, churches’ [Mosques] is referred to as ‘public pedagogies’ (Giroux, 2004, p.497). The influence of such pedagogies upon PE teachers’ knowledge and understanding of PA promotion should not be underestimated, and equally the limitations of acquiring knowledge via these means and not via formal INSET opportunities is recognised (Rich, 2011). Consequently, if the PE and Saudi Sport Strategy (MoE, 2010) is to raise standards of teaching and learning in PE and effectively promote PA amongst all young people, it needs to develop and promote INSET opportunities for teachers and encourage them to challenge their sporting ideologies and perspectives on health and PA promotion. The inclusion of a dedicated INSET programme for PE teachers which aims to enhance and update their health knowledge and understanding of PA promotion would seem to be important.
7.4.6. The physical environment in the schools

If schools are to have a health promoting role, the physical environment should be conducive to PA participation (Cale, 2000). According to SCT, ‘socio-environmental factors play a significant role in the onset of behaviours’ (Breinbauer & Maddaleno, 2005, p.119). In the context of PA promotion in schools, the focus should include aspects relating to the wider school environment such as the provision of sports equipment during breaktimes, providing access to school sports facilities beyond curriculum time and providing adequate sports, changing and shower facilities. This study revealed that half of the teachers considered their school's facilities for PE to be inadequate in terms of PA promotion. For example, the schools’ sports facilities varied, particularly in terms of indoor facilities, with few schools having a gymnasium or fitness room and only a third having a school hall or sports hall, thereby reducing potential PA opportunities. This finding is similar to that of Huge et al.’s (2010) study of 130 schools in Norway where few secondary schools had indoor facilities; nonetheless, the schools with more outdoor facilities were better able to promote PA than those without. Research further indicates that young people’s PA levels are associated with the availability of sports equipment in schools (Sallis, 2001; Nichol et al., 2009; Xu et al., 2010); in the home (Patnode et al., 2010); and in the local community (Davison et al., 2006). Indeed, Nichol et al. (2009) found that a positive physical school environment facilitates pupils’ PA behaviour in and out of the school setting. Given the lack of information regarding the process by which the MoE distributes its budget between schools (Alsanbl, 2004), it is difficult to understand the reasons underpinning the variation in facilities and resources between the schools. In this study private schools may have had access to more financial resources, and this may have explained why they provided more PA opportunities than state schools.

Given the concerns highlighted earlier over the limited PE curriculum time and offered in which Saudi pupils can participate in PA, targeted efforts to promote PA via the school physical environment would appear warranted and in fact have been advocated by Sallis et al. (2001), Fein et al (2004), Van Der Horst (2007) and Haug et al (2010). For example, Haug et al. (2010) revealed sports facilities to be associated with pupils’ PA participation levels. In particular, the findings of this study suggest that the limited indoor facilities may
have affected efforts to promote PA during extreme weather conditions, as are often experienced in Saudi Arabia, where high temperatures may prohibit outdoor PA. This is consistent with Naylor et al.’s (2008) findings in Canada which revealed that participation in PA is negatively affected by seasonal and weather conditions. Given the lack of indoor facilities within many schools, the time of day chosen for PE lessons, breaktimes, and school sports programmes is a key consideration for the promotion of PA within Saudi schools. Thus, to maximise pupils' participation in PA schools are urged, where possible, to incorporate PE lessons, breaktimes and sports at the beginning of the school day when it is cooler.

Maintenance of facilities is also an issue likely to affect participation in PA. This study suggests that the promotion of PA in many of the secondary schools may have been hindered by inadequate maintenance of the schools’ facilities. Indeed, due to economic recession, most of the schools had suffered from a reduction in government funds for maintaining their facilities which had impacted on their ability to promote PA. The MoE is therefore encouraged to set adequate funds aside to ensure adequate maintenance of schools’ PE and sports facilities.

Related to the adequacy of facilities, this study furthermore suggests that some schools, notably those which rented their buildings, may have suffered more than others in terms of PA promotion because of insufficient space to deliver the PE programme and promote a wide range of PA. For example, most of the teachers were challenged by the environment in terms of finding appropriate places for PA and in meeting social and religious requirements for changing and showering. This finding is similar to that of Al-Zeaber (2000) who revealed that 40% of rented buildings were inadequate for the delivery of PE. According to the Saudi government’s data, one in ten state schools in Riyadh is situated in rented buildings (MoE, Statistical Department, 2009). The growing number of rented school buildings is believed to be a result of the shortages in the Saudi government budget during the Gulf Wars which forced the government to make significant cuts in its expenditure, including to the funds allocated to New School Building projects (Cordesman, 2003; Alsanbal et al., 2004).
The MoE has now started to build new schools in the playing fields of other schools due to the poor state of existing rented school buildings and the limitations of the budget for buying land in residential areas. Currently, approximately a quarter of state schools have to share their sports facilities and equipment with other schools (MoE, www.moe.gov.za, accessed on: 01/02/2010). Given the findings of this study revealed that half of the teachers considered their school's facilities for PE to be inadequate in terms of PA promotion, this study argues that the MoE plans for new fit for purpose school buildings may add further pressure on existing schools in terms of PA promotion. Given that, Sallis et al. (2001), Ferreira et al. (2006), and De Bourdeaudhuij (2011) have revealed a positive association between schools’ environmental characteristics (e.g., area type, size) and young people’s PA, the MoE is recommended in the short term, to secure adequate provision of facilities for PE and PA for those schools which playing fields are no longer available to them.

7.4.7. The social environment in the schools

It was encouraging to find in this study that the majority of the headteachers were supportive of the PE programmes in their schools, which indicates a positive social environment for the promotion of PA. The teachers conceptualised social support in the form of moral support (e.g. via subjective appraisals) and tangible support (e.g. partnerships with other departments or schools). The PE supervisors who worked within the ELOs were also found to be supportive of PE. This is promising because, as noted previously, whole school approaches to the promotion of PA require cooperation between key individuals associated with schools, including headteachers, PE teachers, school staff, PE supervisors and pupils’ parents/families. However, this study also revealed that the degree of liaison between the PE teachers and the PE supervisors was limited in terms of developing the PE teachers’ pedagogical skills and knowledge. Similar findings have been reported by Cale (2000) who found that the degree of liaison between PE teachers and health co-ordinators was limited or non-existent in 30% of English schools.

The findings of this study did however, suggest that PA promotion was less prominent in those schools which lacked financial resources. For instance, pupils who attended private schools were offered more PA time and opportunities during their extra-curricular
programmes than their counterparts in state schools. SCT highlights the influence of socioeconomic status on whole family health (Ferreia et al., 2007; Host et al., 2007). For example, socio-economic status is inversely associated with young people's PA in several countries, including in South Africa (McVeigh et al., 2004), France (Lioret et al., 2007), England (Riddoch, et al., 2007) and the US (Singh et al., 2008), and given the difference found in provision between private and state schools here, it seems this may also be the case in Saudi. Gordon-Larsen, et al. (2006) suggested that schools establish links with local sports clubs and organisations to address some of the financial barriers that exist for young people in lower socioeconomic. Furthermore, De Bourdeaudhuij (2001) indicated that PA promotion programmes which improved active transportation increased total PA levels amongst the low socio-economic pupils. Indeed, schools in deprived areas require extra consideration from the MoE as poorer families may be unable to offer their children opportunities to participate in PA.

As previously mentioned (Chapter 3, Section 4.4), within the Saudi education context PE is not part of girls’ education and religious attitudes persist against the intermingling of the genders. Therefore, from a public health perspective, PE could be viewed as being partly responsible for educating and promoting PA among parents/families, and in particular mothers. SCT highlights the importance of acknowledging cultural norms in promoting behaviours. This study highlighted some cultural and organisational issues which caused tensions between the schools and the MoE, such as inadequate maintenance of school buildings, playing fields and changing rooms. The Muslim Council of UK (2007) suggests that schools which respond positively to the social and cultural needs of Muslim children can contribute positively to their personal as well as behavioural development. Yet, the teachers in this study suggested that such cultural norms were not taken into account in designing showers and changing facilities in their schools, describing the current facilities as ‘inappropriate’. They observed that pupils ‘spent a great amount of PE lesson time dressing for PE and taking showers’. It has been acknowledged how PA activity becomes more appealing for pupils when organisational issues pertaining to clothing and changing/showering practice meet social norms (Carroll, 1998; Allender et al., 2006). In the case of PA promotion in schools, the provision of individual cubicles for changing
facilities, plus wearing PE kit which covers ‘awrah’ (the part of a man’s body that must be concealed in public) during PE programme activities should be considered. Indeed, without a supportive social environment, important contributors to the promotion of PA such as a PA policy and curricular and extra-curricular programmes play a more limited role in influencing children’s PA behaviour.

From a SCT perspective, parents act as positive or negative role models for their children and children directly observe parental behaviour. The teachers in this study reported that parents did not directly encourage their children to participate in PA, which perhaps may be explained by the perceived low status of PE amongst parents. According to the teachers, most parents considered PE as ‘unimportant’ and/or ‘playtime’ and that it negatively affected their children’s academic achievements. This confirms a general concern about the lack of understanding of the rationale for disease prevention measures among some Saudi females (Ede & Sanli, 1991). In addition, the findings of this study suggest that parents were not directly encouraged by the majority of schools to become involved in their efforts to promote PA, mainly because parents lacked sports skills and physical fitness and most work during mornings. This finding is consistent with Garcia-Dominic et al.’s (2010) study of barriers that prevented parental involvement in a school-based health promotion programme; however, following modification of the type, structure and location of the programme’s activities, parental involvement doubled from 17% to 37% overall. Saudi schools may want to consider procedures for involving parents including via: face-to-face educational programmes or parent training; family participatory exercise programmes; telephone communication; organised activities; or educational materials sent home (O’Connor et al., 2009). Indeed, it is imperative that schools in Saudi consider the type, structure and location of programmes (e.g. inside or/and outside of school), and deliver culturally appropriate PA programmes in order to maximise the influence of their efforts to promote and increase parental involvement in PA. With respect to the type of activities, Mittelstaedt et al. (2006, p.211) recommended:

Those responsible for programme design must realise that Muslims come from traditions rich in activities such as badminton, filed hockey. However, coed [mixed
gender] activities that require exposing large amount of the body such as swimming or gymnastics cannot be considered.

Thus, the MoE should engage in dialogue with parents and the General Presidency of Scholarly Research Ifta, as well as with non-government agencies to obtain advice for advancing participation and developing school PA promotion programmes which involve the family.

7.5. Summary
This chapter has discussed the findings from the study. These have revealed that most schools had a policy for the promotion of PA and gave recognition to PA participation and sporting achievements. The most frequently offered type of PA in the schools was competitive games which dominated the PE curriculum and the Internal and External PE Programmes. The extent of PA promotion was found to be limited beyond PE curriculum time, with schools offering limited range of PAs and sports during extra-curricular programmes, and few links were established with outside organisations and professionals. In addition, few opportunities were offered to parents/families or the community in general become involved in PA promotion.

PE teachers’ views concerning the promotion of PA within the schools were generally positive and the PE programme was considered by the teachers as a cornerstone to the promotion of PA. However, the teachers viewed sports, particularly competitive team games, to be the main vehicle for promoting PA. The findings further revealed that the teachers had a somewhat limited understanding of PA promotion and a narrow view of the role of schools in the promotion of PA. For instance, whilst most of the PE teachers thought that promoting PA amongst pupils was important, just over a third considered it important amongst school staff and only a minority judged it to be important amongst parents/families and the community.

The analysis of the schools’ PA promotion practices revealed that many potential avenues for PA promotion had been overlooked. For example, the physical environment was generally not conducive to PA promotion in most of schools and the promotion of PA was
found to be constrained as a result. In particular, the schools’ indoor facilities were often limited and not conducive to the promotion of PA. On the other hand, the schools’ social environments were generally positive, and conducive to PA promotion with both headteachers and PE supervisors being reported to support the promotion of PA.

Finally, the PE teachers were generally unaware of opportunities for INSET relating to PA promotion and over half had not yet attended any courses involving PA or health promotion. The teachers consequently relied mainly on their experience and knowledge gained outside of the professional context to promote PA. Moreover, many were not aware of changes to the PE curriculum. For example, the Document of PE had not been implemented by the teachers interviewed, even though it had been published eight years previous. Finally, the status and time allocated to PE was found to be an issue influencing the promotion of PA in the schools with PE being perceived by teachers, parents and the government as less important than other subjects.
CHAPTER EIGHT

CONCLUSION AND RECOMMENDATIONS

8.1. Introduction
This chapter draws together the study and focuses on its key findings as well as implications. The first section presents a concise summary of the research findings in relation to the research aims. The second section outlines the contribution of the research to the field of study and its implications. The third section addresses the methodological limitations of the study, whilst the last section suggests a number of recommendations for future research relating to the promotion of PA within schools.

As highlighted in chapter one, the study aimed to explore the promotion of PA within secondary boys' schools in Saudi Arabia. The main aims were as follows:

- To investigate the nature and extent of the promotion of physical activity in boys’ secondary schools in Saudi Arabia.
- To explore physical education teachers’ perspectives on the promotion of physical activity in boys’ secondary schools in Saudi Arabia.
- To identify the factors that influence the promotion of physical activity in boys’ secondary schools in Saudi Arabia.

These aims were addressed through the collection and analysis of school documentation and questionnaire and interview data. The Active School model was used to help frame the collection of the data and included reference to: school policy and ethos; the curriculum; the extra-curricular programme; community links; care and support; and the environment. SCT was the basis of this study’s theoretical framework which helped to understand the factors which influenced the promotion of PA within the schools.
8.2. A summary of key findings

The main findings from the study are summarised below, and their source (e.g. questionnaire or interview) is indicated alongside.

- **Research aim 1: The nature and extent of the promotion of physical activity in boys’ secondary schools in Saudi Arabia.**

The findings revealed that the approaches to PA promotion in most secondary boys’ schools in Saudi Arabia were limited in that:

- The majority (84%) of the schools were delivering a narrow curriculum dominated by competitive games (questionnaire).
- All teachers reported that their PE programmes were predominantly focused on competitive sports (interviews).
- Few schools often offered lifestyle PAs within the Internal and External PA programmes (19.4% and 13.8 respectively) (questionnaire).
- In the majority (88.3%) of the schools, the Internal PA programme often focused predominantly on competitive games (questionnaire).
- Few teachers (two out of six) offered additional opportunities for pupils to participate in PA during the Internal PE programme (interviews).
- The majority of teachers (five out of six) acknowledged the importance of providing pupils with a wide range of PAs (interviews).
- Half (56.4%) of the schools often offered games activities during the External PE programme (questionnaire).
- All teachers overlooked and/or marginalised opportunities for PA promotion within other areas of the curriculum (interviews).
- Only a minority of schools offered PA opportunities before (7%) or after (9%) school, or at weekends (3%) (questionnaire).
- The majority (90.3%) of schools had never offered PA opportunities to parents/families (questionnaire).
None of the teachers provided PA opportunities to the local community (interviews).

- **Research aim 2: PE teachers’ perspectives on the promotion of PA in boys’ secondary schools in Saudi Arabia**

The findings revealed PE teachers’ acceptance of the importance of PE to public health. The teachers considered that PE offered pupils opportunities to learn sports skills and gain the health knowledge necessary for establishing lifelong participation in PA. However, the ways in which the PE teachers practised the promotion of PA varied between schools which may have been due to a limited perspective on the role of the whole school in the promotion of PA. Key findings included:

- All teachers expressed a sporting philosophy which permeated their views and was consistent with government sporting policy for PE (interviews).
- The relationship between sport and the enhancement of young people’s health was widely accepted by all teachers (interviews).
- The majority of teachers (five out of six) prioritised competitive sport within their PE programmes (interviews).
- Competitive games were viewed as the key avenue for promoting PA among young people (interviews).
- The majority of teachers (five out of six) held a narrow understanding of PA promotion (interviews).
- Half of teachers (three out of six) considered that PA promotion beyond the school was not their responsibility (interviews).

- **Research aim 3: The factors that influence the promotion of physical activity in boys’ secondary schools in Saudi Arabia**

A number of environmental, personal and behavioural factors influenced the promotion of PA within the schools including:
- **Schools policies**

It was encouraging to find that over two thirds (70%) of schools had a policy for PA promotion. Key findings included:

- None of the teachers implemented the Health and Fitness component of the Document of PE which had been published eight years earlier (MoE, 2002) (interviews).
- All teachers reported that their schools’ policies for PA promotion only focused on providing sports equipment to pupils during breakfast-times (interviews).
- All teachers reported that their school policies did not include reference to the environmental dimension of PA promotion (e.g. traffic/transport policy) (interviews).
- All teachers reported that their schools did not explicitly target the social/cultural dimension of PA promotion (e.g. individual and/or society beliefs on PA, religious requirements relating to PA behaviour) (interviews).

- **School ethos**

The majority of the teachers thought that a positive ethos towards PA in their schools largely stemmed from the collective effort of headteachers, PE teachers and pupils. Key findings included:

- Over half (56.4%) of schools acknowledged PA participation and sporting achievements (questionnaire).
- Half of teachers (three out of six) considered that social and psychological elements (e.g. interactions with peers and enjoyment) raised the profile of PA throughout the schools, and encouraged pupil participation in PE programme activities (interviews).
- The status and time allocated for PA promotion

All the teachers considered that the time allocated to PE in the curriculum was inadequate to promote PA participation. Key findings included:

- All teachers considered the time allocated to the Internal PA programme to be insufficient for promoting PA amongst pupils (interviews).
- The majority of teachers (four out of six) viewed PE lessons as ‘time off’ from ‘serious’ school subjects and ‘entertaining time’ (interviews).
- The majority of teachers (five out of six) reported that parents felt PE as ‘unimportant’ and/or ‘playtime’ and considered that participation in PE activities negatively affected their children’s academic achievements (interviews).

- Teachers’ in-service training

The teachers’ experiences of INSET had typically focused upon teaching games and few had accessed INSET relating to the promotion of PA. Key findings included:

- Most PE teachers (76.1%) considered that they needed INSET in the area of health promotion.
- All teachers were unaware of any formal INSET associated with the promotion of PA (interviews).
- The majority of teachers (four out of six) had attended INSET on sport pedagogy within their Educational and Learning Office and their experiences of this were generally negative (interviews).
- The majority of teachers (four out of six) claimed to have a high degree of confidence in their ability to promote PA, but less confidence in their health knowledge associated with physiology, fitness testing, and PA guidance for young people (interviews).
- Half of the teachers (three out of six) gained their PA promotion knowledge from informal sources (interviews).
- **The physical environment in schools**

  The schools’ physical environment was not generally conducive to PA promotion. Key findings included:

  - The sports and changing facilities were limited in over half of the schools, including the indoor, outdoor and changing facilities (54%, 57% and 69% respectively) (questionnaire).
  - Half of teachers (three out of six) reported that rented school buildings were particularly challenging in terms of PA promotion, giving insufficient space to deliver a broad and varied PE curriculum (interviews).
  - The majority of teachers (four out of six) reported that inadequate maintenance of the facilities caused problems for them in terms of PA promotion (interviews).

- **The social environment in schools**

  The nature of the schools’ social environment was generally found to be supportive for PA promotion. Key findings included:

  - The majority of headteachers were found to be supportive of the PE Internal and External programmes (86% and 74% respectively) (questionnaire).
  - Private schools provided more PA opportunities to pupils than state schools which suggest that financial resources limited the ability of many schools to promote PA (questionnaire).
  - All teachers reported that taking showers after PE lessons and/or breakfast-time PA was optional, because their facilities were not appropriate to accommodate cultural norms (interviews).
  - The majority of teachers (five out of six) reported that parents did not directly encourage their children to participate in PA (interviews).
8.3. The contribution and implications of the study

The strength of this study is that it has identified a range of personal, behavioural and environmental dimensions which influence the promotion of PA within secondary schools in Saudi Arabia. This information has not previously been available. In addition, the study employed SCT to help to understand the multiple influences on PA promotion with schools.

The findings could be used by PE teachers, teacher educators, the MoE, the Presidency for Youth Welfare, the Ministry of Health and Local businesses to more effectively promote PA within Saudi schools. For example, given that the physical environment was not practically conducive to PA promotion in most of the schools in this study, the MoE plans for new fit-for-purpose school buildings may provide further pressure on schools to secure adequate facilities for PE and PA. The MoE should support schools in creating more PA opportunities via promoting PA beyond their boundaries. For example, the findings of this study suggest that opportunities for PA were missed such as before or after school or at weekends. In addition, active commuting to schools could be a promising area for promoting PA, not only for pupils, but also for parents/families and staff. Cooperation between the MoE and the Ministry of Transportation and Ministry of Interior to provide safe routes to schools could increase the proportion of pupils actively travelling to school (e.g. walking, bicycling).

Another implication of this study is the need to focus on teachers’ professional development relating to PA promotion which should in turn help to improve the nature and extent of PA promotion within schools. For example, this study found PA promotion to be limited in part due to teachers’ sporting philosophies, narrow understanding of PA promotion, and lack of health-related knowledge. These could be addressed via relevant INSET which challenges PE teachers’ philosophies, and broadens and enhances their understanding and knowledge of PA promotion. Given that half of the teachers in the study had not attended any INSET on PA promotion, it is recommended that the PE Department and the Health School Administration at the MoE help teachers access such INSET to guide their approach to PA promotion.
In addition, this study explored PA promotion within schools using the Active School model proposed by Cale in 1997. However, it is proposed that the Active School model is limited in its current form as it does not fully address the social/cultural dimension of PA promotion. For example, whilst the model identifies the physical environment as a key avenue to promote PA within schools, it overlooks and/or marginalises the influences of the social/cultural environment on young people’s PA behaviour (e.g. in this case religion and Arabic culture of the Saudi society). Given the evidence from this study and previous literature of PA promotion, it could be argued that schools could exert the greatest influence on young people’s PA behaviour if social/cultural dimension is also addressed in efforts to promote PA. Thus, this study suggests that if the descriptor ‘comprehensive’, which is widely used to distinguish whole school approaches from curriculum-only models of PA promotion is to be fully realised, schools must make a clear and explicit effort to promote PA within the social/cultural environment. Figure 8.1 represents a revision of the original Active School model to include this additional dimension.

![Figure 8.1: A revised and comprehensive Active School model to promote PA within schools](image-url)
8.4. Limitations
This research, in common with other social research, has a number of limitations. The main ones are outlined below:

- Due to financial and time constraints, the sample for this study was limited to schools in one geographical region of Saudi. With further funding and time, data could have been collected from different geographical regions of the country. Thus, the research may not be representative of all boys’ secondary schools in Saudi.
- As PA behaviour is influenced by the social and cultural contexts of a society, the findings and implications of this study may only apply to other Gulf countries and perhaps Muslim countries which share the influence of similar cultural, behavioural and environmental factors.
- The empirical evidence for this study was drawn from PE teachers. The findings, therefore, reflect the views and perceptions of the participating teachers only, and not necessarily those of other PE teachers, or of teachers of other subjects, pupils or parents/families. The evidence also only reflects the teachers’ views and perspectives, not their actions and behaviours.

8.5. Recommendations for future research
The findings of this study suggest a number of possible avenues for future research, including:

- A national survey in the Kingdom of Saudi Arabia to compare PA promotion in schools across different geographical regions.
- An extension of this study to the Gulf Corporation Council countries which share the influence of similar personal, behavioural and environmental factors.
- Research on policies affecting PA promotion in schools such as those relating to clothing and changing, traffic/transport and playground bullying.
- Research on the social and cultural values, norms, perspectives and needs affecting PA promotion in schools.
• Research on the influence of socioeconomic factors on PA promotion within schools.
• Exploring opportunities for and barriers to establishing links with sports coaches and organisations in the community.
• Research on parent/families’ engagement with school-based PA promotion programmes.
• Identifying sources of information PE teachers use and need to promote PA in schools.
• Investigating the views of pupils, teachers of other subjects, headteachers, PE supervisors, parents/families, and governors at the MoE on PA promotion in schools.
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## APPENDICES

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Appendix A: The survey questionnaire English version
The Promotion of Physical Activity in Boys’ Secondary Schools in Saudi Arabia

The term ‘physical activity promotion’ within this questionnaire refers to any activity or information which might encourage and/or facilitate physical activity (PA) participation within the school community (e.g. amongst pupils, staff, and/or parents).

Section One: General Information about You and Your School

Please tick (✓) one box only:

1.1 What type of school do you teach in?
   
   State
   
   Private

1.2 What is the size of the school?
   
   Up to 300 pupils  301 - 600 pupils  601 – 900 pupils  More than 900 pupils

1.3 How long do your pupils have for breakfast-time (in minutes)? (please write number of minutes in the boxes)
   
   minutes

1.4 Does your school have break-times (excluding breakfast-time) in the school day?

   Yes  No
1.5 What qualification(s) do you have? (please tick (✓) all boxes that apply)

Diploma
Bachelors degree
Masters degree

Other (please specify) ......................................

1.6 How many years experience do you have of teaching Physical Education (PE)?

1 – 5 years       6 – 10 years       Over 10 years

1.7 How many PE teachers does your school have?

1.8 How adequate do you consider the number of PE teachers in your school to be?

More than adequate       Adequate       Inadequate

Section Two: Whole School Physical Activity Promotion

2.1 In your view, how would you rate the importance of the following programmes in terms of promoting PA in your school? (please tick (✓) one box only on each line)

Important       Of some importance       Not important

PE Curriculum
The Internal PE Programme
The External PE Programme
2.2. In your view, **to what extent** do your current programmes promote PA in your school? (please tick (√) one box only on each line)

   PE Curriculum
   The Internal PE Programme
   The External PE Programme

2.3. In general, how would you rate the **contribution** your whole school makes to the promotion of PA?

   Significant contribution  Some contribution  No contribution

2.4. In your view, how would you rate the **importance** to your school of promoting PA among the following groups? (please tick (√) one box only on each line)

   Important  Of some importance  Not important
   School pupils
   School staff
   Parents/families
   Community (e.g. groups/residents within the locality)

2.5. In your view, **how well** do you feel your school promotes PA among the following groups? (please tick (√) one box only on each line)

   Very well  Reasonably well  Not very well
   School pupils
   School staff
   Parents/families
   Community (e.g. groups/residents within the locality)
2.6. Would you say that your school generally offers a wide range of PA which are appealing to all pupils? (please tick (√) one box only)

Yes it does  It partially does  No it does not

Section Three: PE Curriculum

3.1 How adequate do you consider the amount of time pupils spend on curriculum PE to be?

More than adequate  Adequate  Inadequate

3.2 How frequently are the following PA offered to your pupils in PE curriculum time?
(please tick (√) one box only on each line)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Often</th>
<th>Sometimes</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Athletic activities (e.g. running, jumping, throwing)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exercise/fitness activities (e.g. aerobics, circuit training)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Games activities (e.g. football, volleyball)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gymnastic activities (e.g. balancing, rolling)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3.3 What level of priority do you give to each of the following within your PE curriculum?
(please tick (√) one box only on each line)

<table>
<thead>
<tr>
<th>Priority</th>
<th>High</th>
<th>Moderate</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acquiring and developing students’ skills</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improving students' skill-related fitness (e.g. agility, balance, speed)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improving students' health-related fitness (e.g. cardiovascular fitness, muscular endurance)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raising students' awareness of the health benefits of PA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Promoting positive attitudes in students toward PA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others (please specify)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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3.4 How frequently do you record pupils' **fitness levels**?

- Often
- Sometimes
- Never

3.5 How frequently do you record pupils' **physical activity levels**?

- Often
- Sometimes
- Never

3.6 Have any events been (or are being) organised during the previous or current academic year in **curriculum time** which involved (involve) the promotion of PA (e.g. a sponsored event, sports week/day)?

- Yes
- No

3.6.1. If yes, please specify what events have been/are being organised.

.................................................................
.................................................................
.................................................................

**Section Four: PE Internal and External Programmes**

4.1. In an average week, how much time would you say your school spends on Internal PE Programme activities? (please tick (✓) one box only)

- Less than 2 hours
- Between 2 - 4 hours
- Over 4 hours
4.2. When does your school offer the Internal PE Programme activities? (please tick (✓) as many boxes as apply)

Before school At breaktimes After school At weekends

4.3. Approximately what percentage of pupils would you say regularly take part in your school’s Internal PE Programme activities? (please tick (✓) one box only)

Less than 30% Between 30 and 50% More than 50%

4.4. How frequently are the following physical activities/sports run by your school during the Internal PE Programme? (please tick (✓) one box only on each line)

Often Sometimes Never

Athletic activities (e.g. running, jumping, throwing)
Exercise/fitness activities (e.g. aerobics, circuit training)
Games activities open to all abilities (e.g. football, volleyball)
Gymnastic activities (e.g. balancing, rolling)
Inter-school games competitions (e.g. league)
Inter-school non-competitive events or displays (e.g. gym, martial arts)
Others (please specify) ……………………………

4.5. Have any events been (or are being) organised during the previous or current academic year beyond curriculum time which have involved the promotion of physical activity? (e.g. active day, sports day)

Yes No
4.5.1. If yes, please specify what events have been/are being organised.

………………………………………………………………………………………………
………………………………………………………………………………………………
……
………………………………………………………………………………………………

4.6. How frequently are the following activities run by your school during the External PE Programme? (please tick (√) one box only on each line)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Often</th>
<th>Sometimes</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Team training sessions (for selected players)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Games activities open to all abilities (e.g. football, volleyball)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exercise activities suitable for, and open to all abilities (e.g. aerobics, circuit training)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others (please specify)</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

Section Five: School Provision for PE, Sport, and Physical Activity

5.1 What sports and exercise facilities are available at your school? (please tick (√) as many boxes as apply)

- School Hall
- Gymnasium
- Sports Hall
- Fitness Room/Centre
- Playing Fields
- Hard Play Area (tarmac)
- Others (please specify) ...........................................
5.2 How adequate do you consider the facilities at your school to be for promoting physical activity? (please tick (√) one box only on each line)

<table>
<thead>
<tr>
<th>More than adequate</th>
<th>Adequate</th>
<th>Inadequate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indoor Facilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outdoor Facilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Changing Facilities</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5.3 How would you rate the maintenance of the facilities at your school? (e.g. are they kept clean, and safe?)

<table>
<thead>
<tr>
<th>Good</th>
<th>Adequate</th>
<th>Poor</th>
</tr>
</thead>
</table>

5.4 Does your school provide any of the following? (please tick (√) one box only on each line)

- Sports equipment for pupils to use at break-times (e.g. balls, bats)
- Break-time supervisors who encourage sport, physical activity and/or active play

**Section Six: Staff Training and Support**

6.1. Have you attended any In-service Training (INSET) courses specifically in the area of physical activity or health promotion during the previous or current academic year?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>
6.2. Have you attended any INSET courses that have included references to physical activity or health promotion during the previous or current academic year?

Yes               No

6.3. Do you consider that you need any (or further) INSET in the area of physical activity or health promotion?

Yes               No

6.4. What level of support does your head teacher give to INSET in PE?

Considerable support       Some support       No support

6.5. What level of support does your head teacher give to the Internal and External PE Programmes? (please tick (√) one box only on each line)

Considerable support       Some support       No support

The Internal PE Programme
The External PE Programme

6.6. What level of support do non-PE staff in your school give to the Internal and External PE Programmes? (please tick (√) one box only on each line)

Considerable support       Some support       No support

The Internal PE Programme
The External PE Programme
6.7. What level of support does the local PE monitor within your local authority generally give PE/sport and physical activity in your school?

Considerable support    Some support    No support

Section Seven: School Ethos and Policy

7.1 Does your school currently have a plan or policy for the promotion of physical activity?

Yes    No

7.2 Would you say that working towards physical activity promotion is currently an important cultural practice within your school?

Yes    Partially    No

7.3 How frequently does your school report or display the results of school sports competitions? (e.g. in assembly, via school newsletters)

Often    Sometimes    Never

7.4 How frequently does your school report or display details of other physical activities or sports events which take place in or out of school?

Often    Sometimes    Never
7.5 How frequently does your school provide information to pupils about the local sport and physical activity opportunities which are available to them in the area? (e.g. in assembly, via school newsletters)

Often    Sometimes    Never

7.6 To what extent does your school encourage pupils and staff to take part in the physical activity opportunities that are available to them in or out of school? (please tick (✓) one box only on each line)

To a great extent    To some extent    Not at all

Pupils
Staff

7.7 How frequently does your school run the following activities for staff? (please tick (✓) one box only on each line)

Games activities (e.g. football, volleyball)
Exercise activities (e.g. aerobics, circuit training)
Staff-student friendly games competitions

Often    Sometimes    Never

7.8 How frequently does your school offer any physical or sporting activities to parents/families?

Often    Sometimes    Never
Section Eight: Partnerships and Community Links

8.1 How important is it to your school to promote physical activity within the local community?

Important  Of some importance  Not important

8.2 How frequently does your school allow the local community to access its sport facilities?

Often  Sometimes  Never

8.2.1 If applicable, how many hours access to the sports facilities are given over to the community per week?

Up to 2 hours  Between 3 - 4 hours  Rather than 4 hours

8.3 Does your school currently have (or have had in the previous academic year) physical activity/sporting links with or support from any of the following outside agencies/professionals? (please tick \(\checkmark\) one box only on each line)

Yes  No

Local sports clubs
Professional coaches
Other schools

Higher education institutions/
universities

Others (please specify) .................................
Thank you very much for completing this questionnaire. Your co-operation is much appreciated. Please return the completed questionnaire by............................... in the envelope provided to:

The Communication Department  
Schools’ Post Boxes Office  
The Educational and Learning Office in ……………………………

Yours sincerely,

Rashid Jassas  
PhD Student  
Loughborough University
Appendix B: The survey questionnaire Arabic version
تعزيز الأنشطة البدنية في مدارس البنين الثانوية في المملكة العربية السعودية

مصطلح تعزيز النشاط البدني: في هذا الاستبيان يشير إلى أي نشاط أو معلومات يمكن أن تشجع أو تسهل ممارسة النشاط البدني داخل المجتمع المدرسي (التلاميذ، المعلمين وأولياء الأمور)

القسم الأول: معلومات عامة عنك ومدرستك

فضلًا، ضع علامة (√) في الخانة المناسبة

1.1 ما نوع المدرسة التي تدرس فيها؟
   - حكومي
   - أحيائي

1.2 ما حجم المدرسة؟
   - يصل إلى 300 تلميذ
   - 301-600 تلميذ
   - 601-900 تلميذ
   - أكثر من 900 تلميذ

1.3. كم المدة التي تعطي للطلاب لتناول وجبة الإفطار (الفضحة الصباحية)؟ (فضلًا، أكتب العدد في المربيع أسفل)
   - دقيقة

1.4. هل يوجد في مدرستك خلال اليوم الدراسي وقت للإستراحة غير الفضحة الصباحية؟
   - فضلًا، ضع علامة (√) في الخانة المناسبة
   - نعم
   - لا

1.5. ما مؤهلاتك التعليمية؟
   - دبلوم
   - بكالوريوس
   - ماجستير
القسم الثاني: تعزيز النشاط البدني في كامل المدرسة

فضلا، وضع علامة (✓) واحدة في كل صف.

2.1. في رأيك، كيف تقيم أهمية البرامج التالية من حيث تعزيز النشاط البدني في مدرستك؟
- مادة التربية البدنية
- النشاط الرياضي الداخلي
- النشاط الرياضي الخارجي

2.2. في رأيك، إلى أي مدى برامحك الحالية تعزز النشاط البدني في مدرستك؟
- بدون أي مدى
- إلى حد كبير
- مهم إلى حد ما
- مهم
- غير مهم

2.3. بشكل عام، كيف تقيم مساهمة مدرستك في تعزيز النشاط البدني؟
- مساهمة كبيرة
- مساهمة قليلة
- لا مساهمة

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2.4. في رأيك، كيف تقييم أهمية المدرسة في تعزيز النشاط البدني بين الفئات النثائية؟
فضلاً، ضع علامة (أ/أ) واحدة في كل صف

- مهم
- مهم إلى حد ما
- غير مهم

المعلمين
الموظفون (مثال: المعلمين، الإداريين)
أولياء الأمور والعائلة
المجتمع (مثال: موطنين يسكنون حول المدرسة)

2.5. في رأيك، هل مدرستك تعزز الأنشطة البدنية بصورة جيدة بين الفئات النثائية؟
فضلاً، ضع علامة (أ/أ) واحدة في كل صف

- جيدة جداً
- جيدة
- ضعيفة
- ضعيفة جداً

المعلمين
الموظفون (مثال: المعلمين، الإداريين)
أولياء الأمور والعائلة
المجتمع (مثال: موطنين يسكنون حول المدرسة)

2.6. هل يمكن القول بأن مدرستك تقدم مجموعة واسعة من الأنشطة البدنية التي تعتبر جاذبة لجميع التلاميذ؟

- نعم تقدم
- تقدم جزئياً
- لا تقدم

القسم الثالث: منهج التربية البدنية

فضلاً، ضع علامة (أ/أ) في الخانة المناسبة

3.1. كيف ترى كفاءة الوقت الذي يقضيه التلاميذ في منهج التربية البدنية؟

- كافي
- كافي إلى حد ما
- غير كافي

3.2. هل الأنشطة البدنية والرياضية النثائية تُرتب بين التلاميذ بصورة متكررة في وقت محدد إدارة التربية البدنية؟
فضلاً، ضع علامة (أ/أ) واحدة في كل صف

- أحياناً
- من حين لآخر
- أبداً

ألعاب رياضية (مثال: كرة قدم، كرة طائرة)
ألعاب القوى (مثال: الجري، القفز، الرمي)
ألعاب الجمباز (مثال: التوازن، الدحرجات)
أنشطة مرتبطة باللياقة البدنية (مثال: تمرينات رياضية، تدريب دانري)
3.3 ما مستوى الأولوية التي تعطيها لكل من الأهداف التالية في مادة التربية البدنية الخاص بك؟

<table>
<thead>
<tr>
<th>المستوى</th>
<th>معتمل</th>
<th>عالٍ</th>
</tr>
</thead>
</table>

- اكتساب وتطوير المهارات الرياضية
- تحسين عناصر اللياقة البدنية المرتبطة بالأداء (مثل: السرعة، التوافق
- تطوير عناصر اللياقة البدنية المرتبطة بالصحة (مثل: اللياقة القلبية التنفسية) زيادة رياضيًا في الفوائد الصحية لممارسة الأنشطة البدنية
- إكساب التلاميذ مواقف إيجابية تجاه الأنشطة البدنية

أخرى، من فضلك ذكرها.

3.4 هل تقوم بتسجيل مستوى اللياقة البدنية للتلاميذ؟
- دائمًا
- أبدا

3.5 هل تقوم بتسجيل مستوى النشاط البدني للتلاميذ؟
- دائمًا
- أبدا

3.6 هل تم تنظيم أي فعاليات رياضية خلال السنة الحالية أو السنة الماضية أثناء اليوم الدراسي تضمنت تعزيز المشاركة في الأنشطة البدنية؟ (مثل: الأسبوع الرياضي، اليوم الرياضي)
- نعم
- لا

3.6.1 إذا كانت الإجابة بنعم، يرجى ذكر الفعاليات التي تم تنظيمها
القسم الرابع: البرامج المدرسية الرياضية الداخلية والخارجية

فضلاً، ضع علامة (√) في الخانة المناسبة

4.1. في الأسبوع العادي، كم من الوقت تقضيه مدرستك في برنامج النشاط الرياضي الداخلي؟
- أقل من ساعتين
- بين 2 – 4 ساعات
- أكثر من 4 ساعات

4.2. متى تقدم مدرستك النشاط الرياضي الداخلي؟
- قبل طباور الصباح
- بعد المرة

4.3. ما نسبة التلاميذ الذين يشاركون بانظام في النشاط الرياضي الداخلي لمدرستك؟
- أقل من 30%
- بين 30 - 50%
- أكثر من 50%

4.4. ما مدى تكرار ما يلي من الأنشطة البدنية والرياضية في النشاط الرياضي الداخلي لمدرستك؟
- دائمًا
- من حين لآخر
- أبداً

ألعاب القوى (مثال: الجري، القفز، الرمي)
ألعاب رياضية متوفرة لكل التلاميذ (مثال: كرة القدم، كرة طائرة)
ألعاب الجمباز (مثال: التوازن، التحراجات)
أنشطة اللياقة البدنية للصحة (مثال: تمارينات رياضية، تدريب دايري)
مسابقات رياضية داخلية (مثال: بطولة كرة قدم بين الصفوف)
أنشطة بدنية غير تنافسية استعراضية (مثال: ألعاب الدفاع عن النفس)
أخرى، من فضلك اذكرها...........................................

4.5. ما مدى تكرار ما يلي من الأنشطة البدنية والرياضية في النشاط الرياضي الخارجي لمدرستك?
- دائمًا
- من حين لآخر
- أبداً

 حصص تدريبية (تنمية من التلاميذ)
ألعاب رياضية متوفرة لكل التلاميذ (مثال: كرة القدم، كرة طائرة)
أنشطة اللياقة البدنية للصحة (مثال: تمارينات رياضية، تدريب دايري)
4.6. هل تم تنظيم أي فعاليات رياضية أو بدنية خلال السنة الحالية أو السابقة بعد انتهاء اليوم الدراسي تضمنة على تعزيز المشاركة في الأنشطة البدنية (مثال: الأسابيع الرياضية، اليوم النشط)؟

نعم
لا

1.4.6.1. إذا كانت الإجابة بنعم، يرجى ذكر الفعاليات التي تم تنظيمها

القسم الخامس: المرافق والأدوات الرياضية

فضلاً، ضع علامة (✓) في الحانة المناسبة

5.1. ما المرافق والأدوات الرياضية المتاحة في مدرستك؟
- صالة داخليّة عامة
- صالة رياضية
- صالة جميلة
- مركز اللياقة البدنية يحتوي أجهزة رياضية ممتعة
- لاعبين خارجيّة (مثال: رياضة عربيّة، مزروعة)
- لاعبين خارجيّة (رياضة صلبة)

5.2. كيف ترى كفاية المرافق الرياضية في مدرستك من جهة تعزيز النشاط البدني؟

فضلاً، ضع علامة (✓) واحدة في كل صف

لكفاية غير كافّة
لكفاية إلى حد ما
لكفاية

المرافق الداخلية
المرافق الخارجية
مرافق تغيير الملابس والغسل

5.3. كيف تقيم صيانة المرافق في مدرستك? (مثال: هل تبقى نظيفة وأنظمة؟)

جيدة
مقبولة
رديئة
القسم السادس: تدريب ودعم المعلمين

5.4 هل توفر مدرستك أي من التالية؟

- نعم
- لا

أدوات رياضية يستخدمها الطلاب في وقت الاستراحة (مثل: كرات، حبال).

مشروطون وقت الاستراحة يعلمون على تشجيع الطلاب على المشاركة في النشاط الرياضي.

6.1 هل حضرت خلال السنة الدراسية الحالية أو السابقة أي دورات تدريبية متخصصة في تعزيز النشاط البدني؟

- نعم
- لا

6.2 هل حضرت خلال السنة الدراسية الحالية أو السابقة أي دورات تدريبية تضمنت إشارات إلى تعزيز النشاط البدني؟

- نعم
- لا

6.3 هل تعتقد أنك تحتاج إلى دورات تدريبية تركز على تعزيز النشاط البدني؟

- نعم
- لا

6.4 ما مستوى الدعم الذي يقدمه مدير المدرسة للبرامج التدريبية المخصصة لمادة التربية البدنية؟

- دعم كبير
- دعم قليل
- لا دعم

6.5 ما مستوى الدعم الذي يعطيه مدير المدرسة للأنشطة الرياضية الداخلية والبدنية الداخلية والخارجية؟

- دعم كبير
- دعم قليل
- لا دعم

- النشاط الرياضي الداخلي
- النشاط الرياضي الخارجي

6.6 ما مستوى الدعم الذي يعطيه المشرف التربوي لمادة التربية البدنية للأنشطة الرياضية في مدرستك؟

- دعم كبير
- دعم قليل
- لا دعم

- النشاط الرياضي الداخلي
- النشاط الرياضي الخارجي
القسم السابع: السياسة العامة للمدرسة

فضلاً، ضع علامة (\(\checkmark\)) في الخانة المناسبة.

7.1 هل المدرسة لديها خطة أو سياسة عامة لتعزيز النشاط البدني؟
نعم لا

7.2 هل يمكنك القول أن العمل على تعزيز النشاط البدني ممارس داخل مدرستك؟
نعم جزئياً لا

7.3 هل تعرض مدرستك نتائج المسابقات الرياضية المدرسية؟ (مثل: في لوحة الإعلانات، الإذاعة المدرسية)
فدامن من حين لآخر أبداً

7.4 هل تعرض مدرستك تفاصيل عن الأنشطة البدنية أو المنافسات الرياضية التي تنظم في المدرسة؟
فدامن من حين لآخر أبداً

7.5 هل تزود مدرستك التلاميذ بالمعلومات حول الفرص المتاحة لهم في الحي لممارسة الأنشطة الرياضية والبدنية؟
فدامن من حين لآخر أبداً

7.6 هل تزود مدرستك التلاميذ والمعلمين على المشاركة في الأنشطة البدنية المتاحة لهم في المدرسة؟
فدامن من حين لآخر أبداً

7.7 هل تتنظيم مدرستك موظفتها أي من الأنشطة التالية؟
فدامن من حين لآخر أبداً

- ألعاب رياضية (مثل: كرة قدم، كرة طائرة)
- أنشطة بدنية غير تنافسية (مثل: تمارينات، تدريب دائرى)
- مسابقات رياضية ودية تجمع الطلاب والمعلمين
هل تتوفر المدرسة أي من الأنشطة الرياضية أو البدنية لأولياء الأموال؟

دائمًا
من حين لآخر
أبداً

القسم الثامن: الشراكات والروابط

فضلاً، ضع علامة (√) في الخانة المناسبة

8.1 هل تشجيع المجتمع على ممارسة الأنشطة البدنية مهم لمدرستكم؟

مهم
مهم إلى حد ما
غير مهم

8.2 هل تسمح مدرستكم للمجتمع باستخدام منشآتكم الرياضية؟

دائمًا
من حين لآخر
أبداً

8.2.1. إذا كانت مدرستكم تسمح باستخدام منشآتكم، فكم ساعة تعطي المجتمع على مدى الأسبوع؟

أقل من ساعتين
بين 2 – 4 ساعات
أكثر من 4 ساعات

8.3 هل المدرسة حالياً (أو كان في السنة الدراسية السابقة) لديها روابط مع أي من الجهات التالية؟

فضلاً، ضع علامة (√) واحدة في كل صف

نعم
لا

الأنشطة الرياضية المحلية
مدرب رياضي محترف
مدرسة أخرى
معاهد أو جامعات

أخرى، من فضلك ذكرها..............................

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شكرًا جزيلاً على تعاونكم والمشاركة في إنجاح هذا البحث من خلال الإجابة على الأسئلة.
أرجو وضع الاستبيان في الظرف المرفق، و إرساله إلى مكتب التربية والتعليم الذي يتبع له المدرسة
بموعد أقصاه يوم الموافق 4-1430 هـ

الباحث
راشد محمد بن جساس
جامعة فيبرا
بريطانيا
Appendix C: Letter to Saudi experts to validate the survey questionnaire
ساعة الدكتور/ سعادة الله

السلام عليكم ورحمة الله وبركاته، وبعد

يقوم الباحث، إذن الله تعالى بدراسة حول تثبّت وتعزيز المشاركة في الأنشطة البدنية في مدارس البنين الثانوية في المملكة العربية السعودية. وذلك استكمالاً لمطالب الحصول على درجة الدكتوراه

في تخصص مناهج التربية البدنية. وتدفّد الدراسة إلى التالي:

1- دراسة تعزيز الأنشطة البدنية من خلال المدارس الثانوية.
2- استكشاف آراء مدرسي التربية البدنية حول تعزيز الأنشطة البدنية في المدارس الثانوية.
3- تحديد العناصر التي تؤثر على تعزيز الأنشطة البدنية في المدارس الثانوية.

ونظراً لما نتمتعون به من اهتمام بالجوانب التربوية والتعليمية، فضلاً عن خبرتكم العملية في المجال، فقد تم ترشيحكم ضمن الأساتذة المحكّمين للإسْتِبٍانِيَّة المرفقة. لذلك أرجو من سعادتكم إبداء رأيكم حيال مدى مناسبة العبارة لأهداف الدراسة، وسلامة الصياغة اللغوية ووضوحها، واقتراح ما ترون من تعديلات لحذف العبارة، أو تصويبها، أو نقليها إلى محور آخر.

أرجو تسليم اقتراحاتكم على الإسْتِبٍانِيَّة لسُكرَتِيَّة قسم المناهج وطرق التدريس -كلية التربية جامعة الملك سعود- الأستاذ/ أحمد الحمي.

شكرًا ومقداراً سلماً، حسن تعاونكم، وتجاوزكم . . .

الباحث

راشد محمد بن حسّن
جامعة ليفرا، بريطانيا
0555007411/ r.jassas@lboro.ac.uk
Appendix D: The interview schedules English version
INTERVIEW SCHEDULE
(1)

School names: 17, 48, and 64
Description: schools promoting physical activity (PA)

The Research Focus
1. The promotion of PA in boys' secondary schools in Saudi Arabia.
2. Physical Education (PE) teachers' views on the promotion of PA in boys' secondary schools in Saudi Arabia.
3. Factors/aspects that facilitate the promotion of PA in boys' secondary schools in Saudi Arabia.

Introduction
My name is Rashid Jassas and I am a PhD student at Loughborough University in the United Kingdom. I am working on a research project which is investigating PA promotion in boys' secondary schools in Saudi Arabia.

Thank you very much for completing the questionnaire and agreeing to the interview. The questionnaire was phase one of the research and the interview that we will conduct today is phase two, which is the final phase of the research. Six PE teachers have agreed to participate in the interview.

In order to develop the credibility of the interpretation of interview data, the interview will be recorded and transcribed. In respect of the interview transcript, it will be returned to you (the participant) to confirm the accuracy of the recording. Please note that any information you provide will be treated in strict confidence and that the findings will not be presented in any way that will identify you or your school. Finally, you have the right to withdraw from this study at any stage for any reason, and you will not be required to explain your reasons for withdrawing.
The Interview Questions

1. Can you please tell me about the philosophy or ethos of the school towards PE, sport or PA?
   - Attitude towards PE, Sport and PA by the school head-teacher/senior management, non PE staff;
   - Whole school policy for the promotion of PA;
   - Recognition/status given to PE.

2. Do you feel there is a need to promote PA to pupils?
   - Pupils' health, fitness and activity levels;
   - Awareness of the importance of PA to health;

3. Do you feel there is a need to promote PA to parents/local community?
   - People PA level; overweight/obesity levels

4. What is your view on the role of school in the promotion of PA among pupils?
   - Does school have a role to play (major/minor)?
   - Does PA promotion have a place in the PE curriculum, Internal and External PE programmes?
   - Health or PA promotion-who's responsibility?

5. What is your view on the role of school in the promotion of PA among parents?
   - Does school have a role to play (major/minor)?
   - Does PA promotion among parents have a place in the External PE programme?
   - Health or PA promotion-who's responsibility?
6. What is your view on the role of school in the promotion of PA among the local community?
   - Does school have a role to play (major/minor)?
   - Does PA promotion among the community have a place in the External PE programme?
   - Organisation of health-focused school event?

7. What factors do you feel facilitate PA promotion among pupils in your school?
   - PE teachers’ philosophy/knowledge/skills/training/professional development
   - Support from the school head-teacher/senior management, non PE staff, the local PE monitor, and others (please give examples).
   - The school environment (e.g. sport facilities, changing facilities).

8. What factors do you feel facilitate PA promotion among staff in your school?
   - PE teachers’ philosophy/knowledge/skills/training/professional development
   - Support from the school head-teacher/senior management, non PE staff, the local PE monitor, and others (please give examples).
   - The school environment (e.g. sport facilities, changing facilities).

9. What factors do you feel facilitate PA promotion among the local community?
   - PE teachers’ philosophy/knowledge/skills/training/professional development
   - Support from the school head-teacher/senior management, non PE staff, the local PE monitor, and others (please give examples).
   - Parent/family interest and involvement;
   - School liaison with community (please give examples).
10. Have you encountered any issues/problems in promoting PA?
   - Lack of knowledge/expertise in area-how to promote;
     PA/training/professional development;
   - Lack of information/methods;
   - Lack of support/staff/head teacher/local PE monitor;
   - Pupils' views/interests;
   - Staffs' views/interests;
   - Resources.

11. Does your school have any plans for the promotion of PA in the future?
   - To develop policies.
   - To make changes to the PE curriculum, and the Internal and External PE programmes;
   - To develop or provide new facilities/resources;
   - To develop links/partnerships.
School name: 17, 33, and 88
Description: schools not promoting physical activity (PA)

The Research Focus
1. The promotion of PA in boys' secondary schools in Saudi Arabia.
2. Physical Education (PE) teachers' views on the promotion of PA in boys' secondary schools in Saudi Arabia.
3. Factors/aspects that constrain the promotion of PA in boys' secondary schools in Saudi Arabia.

Introduction
My name is Rashid Jassas and I am a PhD student at Loughborough University in the United Kingdom. I am working on a research project which is investigating PA promotion in boys’ secondary schools in Saudi Arabia.

Thank you very much for completing the questionnaire and agreeing to the interview. The questionnaire was phase one of the research and the interview that we will conduct today is phase two, which is the final phase of the research. Six PE teachers have agreed to participate in the interview.

In order to develop the credibility of the interpretation of interview data, the interview will be recorded and transcribed. In respect of the interview transcript, it will be returned to you (the participant) to confirm the accuracy of the recording. Please note that any information you provide will be treated in strict confidence and that the findings will not be presented in any way that will identify you or your school. Finally, you have the right to withdraw from this study at any stage for any reason, and you will not be required to explain your reasons for withdrawing.
The Interview Questions

1. Can you please tell me about the philosophy or ethos of the school towards PE, sport or PA?
   - Attitude towards PE, Sport and PA by the school head-teacher/senior management, non PE staff;
   - Whole school policy for the promotion of PA;
   - Recognition/status given to PE (please give examples to illustrate this).

2. Do you feel there is a need to promote PA to pupils?
   - Pupils' health, fitness and activity levels;
   - Awareness of the importance of PA to health.

3. Do you feel there is a need to promote PA to parents/local community?
   - People PA level; overweight/obesity levels.

4. What is your view on the role of school in the promotion of PA among pupils?
   - Does school have a role to play (major/minor)?
   - Does PA promotion have a place in the PE curriculum, Internal and External PE programmes?
   - Health or PA promotion-who's responsibility?

5. What is your view on the role of school in the promotion of PA among parents?
   - Does school have a role to play (major/minor)?
   - Does PA promotion among parents have a place in the Internal or External PE programmes?
6. What is your view on the role of school in the promotion of PA among the local community?
   - Does school have a role to play (major/minor)?
   - Does PA promotion among the community have a place in the External or Internal PE programmes?
   - Involvement in any health-focused school event?
   - Organisation of and open access activities.
   - Health or PA promotion-who's responsibility?

7. Have you encountered any issues/problems in promoting PA to pupils?
   - Lack of knowledge/expertise in area-how to promote; PA/training/professional development;
   - Lack of information/ methods;
   - Lack of support/ staff/head teacher/local PE monitor;
   - Pupils' views/interests;
   - Resources.

8. Have you encountered any issues/problems in promoting PA to staff?
   - Lack of knowledge/expertise in area-how to promote; PA/training/professional development;
   - Lack of information/ methods;
   - Lack of support/ staff/head teacher/local PE monitor;
   - Staff views/interests;
   - Resources.

9. Have you encountered any issues/problems in promoting PA to parents?
   - Lack of time;
   - Lack of information/ methods;
   - Lack of knowledge/expertise in area-how to promote PA/training/professional development;
   - Lack of support/ staff/head teacher/local PE monitor;
10. Have you encountered any issues/problems in promoting PA to the local community?
   - Lack of time;
   - Lack of information/methods;
   - Lack of knowledge/expertise in area-how to promote PA/training/professional development;
   - Lack of support/staff/head teacher/local PE monitor;
   - Resources.

11. What do you feel the school can and should do to solve the issues/problems encountered in promoting PA?
   - To improve the school environment (e.g. sport facilities, changing facilities);
   - To offer training/professional development.

12. What opportunities do you feel the school have to promote PA?
   - The school environment (e.g. sport facilities).
   - PE curriculum; Internal/External PE Programmes.
   - School curricular (e.g. sciences, Arts, religion).
   - Links/partnerships.

13. Does your school have any plans for the promotion of PA in the future?
   - Develop policies;
   - Any specific plans to make changes to the PE curriculum, and the Internal and External PE programmes;
   - Develop or provide new facilities/resources;
   - Develop links/partnerships.
Appendix E: The interview schedules Arabic version
استمارة مقابلة
رقم (1)

اسم المدرسة: 17, 48, 64
وصف المدرسة: مدرسة تعزيز الأنشطة البدنية

أهداف البحث
1- استكشاف تعزيز الأنشطة البدنية بمدارس البنين الثانوية في المملكة العربية السعودية.
2- أراء مدرس التربية البدنية حول تعزيز الأنشطة البدنية بمدارس البنين الثانوية في المملكة العربية السعودية.
3- العوامل التي تسهل أو تعقي تعزيز الأنشطة البدنية بمدارس البنين الثانوية في المملكة العربية السعودية.

المقدمة
أنا رائد محمد بن جساس، أحضر الدكتوراه في التربية البدنية، بجامعة لافبرا ببريطانيا. أعمل حالياً على مشروع بحث يهدف إلى دراسة تعزيز الأنشطة البدنية بمدارس البنين الثانوية في المملكة العربية السعودية.

في بداية قلنا الطيب إن شاء الله، أود أن أقدم شكري وتقديري لك يا أستاذ على مساهمتك البناء في إنجاح البحث من خلال إكمال الاستبيان، الذي نقل الجزء الأول من البحث. ولا شك أن موافقتك على المشاركة في المقابلة، والتي تتمثل الجزء الثاني من الدارسة دليل على وعك باهتمام البحث العلمي في تطبيق وتطوير العمل التربوي بشكل عام، والتربيه البدنية بشكل خاص. وقد تم اختيار ستة مدرسي تربية بنية، وأخذت موافقتهم على المشاركة في المقابلة.

سوف أقوم بتسجيل المقابلة على شريط كاسيت، ومن أجل تحقيق دقة تفسير المعلومات التي ترد في المقابلة، وحتى تتمكن الاستفادة من المعلومات بشكل أكبر، و kako يمكن للباحث من التركيز والتفاعل البشري مع المشارك. وعليه فإن أستاذك في تسجيل المقابلة. فيما يتعلق بالتسجيل، إذا رغبت سوف تسلم لك نسخة مكتوبة من المقابلة، لك تتأكد من صحة ودقة المعلومات الواردة في التسجيل. ولعلك يا أستاذ، أن جميع المعلومات التي تقدمها سرية، حيث لن تذكر اسماء أو مواقع أو معلومات يمكن أن تحدد عن طريقها هوية المصدر (مثال: المدرسة، المعلم). بل ستمنح كل مدرسة أو معلم مشارك في الدراسة رمز (أحرف أو أرقام)، يستخدم أثناء المناقشة وعرض نتائج البحث. وفي الختام، فإن للمشارك الحق في الانسحاب من المقابلة في أي وقت لاي ظر برأ، ولن يطلب بالتقديم أو شرح أسباب الانسحاب.
أسئلة المقابلة:

السؤال الأول
من فضلك اخبرني عن فلسفة و أخلاقيات المدرسة تجاه التربية البدنية، الرياضة و الأنشطة البدنية؟
- موافقة مدير المدرسة , الجهاز الإداري، المعلمين تجاه التربية البدنية، الرياضة، و الأنشطة البدنية.
- سياسة المدرسة تجاه تعزيز الأنشطة البدنية؟
- مكانة التربية البدنية.

السؤال الثاني
هل تعتقد أنه يوجد حاجة لتغذية الأنشطة البدنية بين التلاميذ؟
- صحة، مستوى اللياقة البدنية، و الأنشطة البدنية التلاميذية.
- الوعي بأهمية الأنشطة البدنية للصحة.

السؤال الثالث
هل تعتقد أنه يوجد حاجة لتغذية الأنشطة البدنية بين أولياء الأمور، المجتمع؟
- مستوى المشاركة في الأنشطة البدنية;
- نسبة زيادة الوزن، السمنة.

السؤال الرابع
ما رأيك حول دور المدرسة في تعزيز الأنشطة البدنية بين التلاميذ؟
- هل المدرسة دور تلعبه في هذه القضية (كبير، صغير).
- هل تعزز المشاركة في الأنشطة البدنية لديه مكان في منهج التربية البدنية، نشاط المدرسة الرياضي الداخلي، أو الخارجي؟
- من المسؤول عن تعزيز الأنشطة البدنية في المدرسة؟

السؤال الخامس
ما رأيك حول دور المدرسة في تعزيز الأنشطة البدنية بين أولياء الأمور؟
- هل المدرسة دور تلعبه (كبير، صغير).
- هل تعزز المشاركة في الأنشطة البدنية لديه مكان في منهج التربية البدنية، نشاط المدرسة الرياضي الداخلي، أو الخارجي؟
- من المسؤول عن تعزيز الأنشطة البدنية بين أولياء الأمور؟

السؤال السادس
ما رأيك حول دور المدرسة في تعزيز الأنشطة البدنية بين المجتمع؟
- هل المدرسة دور تلعبه (كبير، صغير)؟
هل تعزيز وتوريد المشاركة في الأنشطة البدنية لديه مكان في منهج التربية البدنية، نشاط المدرسة الرياضي الداخلي، أو الخارجي.

السؤال السابع

ارجع أن تتعلق حول أراء زملائك (مثل مدير المدرسة، المعلمين) عن دور المدرسة في تعزيز الأنشطة البدنية؟

- ثمة رؤية إيجابية / محيدة / سلبية;
- رؤية مدير المدرسة نحو تعزيز الأنشطة البدنية بين التلاميذ / أولياء الأمور / المجتمع;
- رؤية المعلمين الآخرين حول تعزيز الأنشطة البدنية بين التلاميذ / أولياء الأمور / المجتمع.

السؤال الثامن

من وجهة نظرك، ما العوامل التي تسهل تعزيز الأنشطة البدنية بين التلاميذ في مدرستك؟

- معلم التربية البدنية: فلسفة، معلومات، مهارات، تدريب;
- دعم مدير المدرسة، المعلمين، مشرف التربية البدنية، أو أخرين (من فضلك أعط أمثلة);
- بيئة المدرسة (مثال: المرافق الرياضية، النظافة وغيرها).

السؤال التاسع

من وجهة نظرك، ما العوامل التي تسهل تعزيز الأنشطة البدنية بين المعلمين في مدرستك؟

- فلسفة، معلومات، مهارات، تدريب مدرس التربية البدنية.
- الدعم من مدير المدرسة، المعلمين، مشرف التربية البدنية، أو أخرين (من فضلك أعط أمثلة).
- بيئة المدرسة (مثال: المرافق الرياضية، النظافة وغيرها).

السؤال العاشر

من وجهة نظرك، ما العوامل التي تسهل تعزيز الأنشطة البدنية في المجتمع؟

- فلسفة، معلومات، مهارات، تدريب مدرس التربية البدنية.
- الدعم من مدير المدرسة، المعلمين، مشرف التربية البدنية، أو أخرين (من فضلك أعط أمثلة).
- بيئة المدرسة (مثال: المرافق الرياضية، النظافة وغيرها).

السؤال الحادي عشر

هل واجهتك عواقب أثناء تعزيز الأنشطة البدنية؟

- نقص في الخبرة أو المعلومات حول كيف تعزز الأنشطة البدنية.
- نقص في تدريب وتطوير للمعلم على رأس العمل.
- ضعف في المعلومات، والمعلمين، المشرفين، الأنشطة البدنية.
- قلة الدعم المقدم من المعلمين، مدير المدرسة، المشرف على المادة.
- رأي ورغبات التلاميذ.
• رأي و رغبات المعلمين
• الموارد

ملاحظة: (إذا لم تواجه المعلم أي مشاكل أو لم يستطع أن يحدد المشاكل التي واجهته، انتقل إلى السؤال رقم 12)

السؤال الثاني عشر
من وجهة نظرك، ماذا يجب على المدرسة أن تفعل لتحل المشاكل والمعوقات التي تواجهها في تعزيز الأنشطة البدنية؟
• تحسين البيئة المدرسية (مثال: الأدوات الرياضية، مراكز تغيير الملابس الخ)
• تدريب للمعلمين

السؤال الثالث عشر
من وجهة نظرك، ما الفرصة المحتملة في المدرسة لتعزيز الأنشطة البدنية؟
• الإمكانيات والجهزيات في المدرسة (الأدوات والمرافق الرياضية الخ)
• منهج التربية البدنية، برنامج النشاط الداخلي، الخارجي.
• المناهج المدرسية (مثال: مناهج العلوم، الأدب، الدين)
• روابط وشراكات مع مدارس، مؤسسات رياضية

السؤال الرابع عشر
ما خطط المدرسة المستقبلية حول تعزيز المشاركة في الأنشطة البدنية؟
• تطوير سياسات
• إحداث تغييرات في منهج التربية البدنية، وبرامج الأنشطة الرياضية المدرسية الداخلية والخارجية.
• تحسين و توفير المرافق والأدوات الرياضية
• إيجاد علاقات وروابط من مؤسسات رياضية وغيرها.
استمارة مقابلة
رقم (2)

اسم المدرسة: 17، 33، 88
وصف المدرسة: مدرسة لا تعزز الأنشطة البدنية

عناصر البحث

1- تعزيز المشاركة في الأنشطة البدنية بمدارس البنين الثانوية.
2- أراء مدرس التربية البدنية حول تعزيز الأنشطة البدنية بمدارس البنين الثانوية في المملكة العربية السعودية.
3- العوامل التي تسهم أو تعقي تعزيز الأنشطة البدنية بمدارس البنين الثانوية في المملكة العربية السعودية.

المقدمة

أنا رائد محمد بن جسام، أخصب الدكتور في التربية البدنية، بجامعة لافبرا ببريطانيا. أعمل حالياً على مشروع بحث يهدف إلى دراسة تعزيز الأنشطة البدنية بمدارس البنين الثانوية في المملكة العربية السعودية.

في بداية قفنا الطيب إن شاء الله، أود أن أقدم شكري و تقديري لك يا أساتذة على مساهمتكم البناء في إنجاح البحث من خلال إكمال الاستبيان، الذي شكل الجزء الأول من البحث، ولا شك أن موافقتك على المشاركة في المقابلة، والتي تمثل الجزء الثاني من الدارسة دليل على وعيكم بأهمية البحث العلمي في تقييم وتطوير العمل التربوي بشكل عام، و التربية البدنية بشكل خاص. وقد تم اختيار ستة مدرسين تربوي بنينية، وأخذت موافقتهم على المشاركة في المقابلة.

سوف أقوم بتسجيل المقابلة على شريط كاسيت، من أجل تسجيل دقة تفسير المعلومات التي ترد في المقابلة، وحتى تساند استعداد من المعلومات بشكل أكبر، والتي يمكن الباحث أن يركز والتفاعل مع المشارك. وعلى أي أساتذتك في تسجيل المقابلة. فيما يتعلق بالتسجيل، إذا رغبت سوف تسلم لك نسخة مكتوبة من المقابلة، لكي تتأكد من صحة ودقة المعلومات الباردة في التسجيل. ولعلك يا أساتذة، أن جميع المعلومات التي تقدمها سرية، حيث لن تذكر اسماء أو مواقع أو معلومات يمكن أن تحدث عن طريقها ليا المصدر (مثال: المدرسة، المعلم) بل ستمنح كل مدرسة أو معلم مشارك في الدراسة رمز (أحرف أو أرقام)، يستخدم أثناء المناقشة وعرض نتائج البحث، وفي الختام، فإن للمشارك الحق في الانسحاب من المقابلة في أي وقت لأي سبب برأوا، وإن يطلب تقديم أو شرح أسباب الانسحاب.
أسئلة المقابلة

السؤال الأول
من فضلك اخبرني عن قانونية و أخلاقيات المدرسة تجاه التربية البدنية، الرياضة والأنشطة البدنية؟
- مواقف مدير المدرسة ، الجهاز الإداري، المعلمين تجاه التربية البدنية، الرياضة، والأنشطة البدنية.
- سياسة المدرسة تجاه تعزيز الأنشطة البدنية;
- مكانية التربية البدنية.

السؤال الثاني
هل تعتقد أنه يوجد حاجة لتعزيز الأنشطة البدنية بين التلاميذ؟
- صحة التلاميذ، مستوى اللياقة البدنية و الأنشطة البدنية;
- إدراك أهمية الأنشطة البدنية لصحة

السؤال الثالث
هل يوجد حاجة لتعزيز الأنشطة البدنية بين أولياء الأمور، المجتمع؟
- مستوي المشاركة في الأنشطة البدنية;
- نسبة زيادة الوزن، السمنة.

السؤال الرابع
ما رأيك حول دور المدرسة في تعزيز الأنشطة البدنية بين التلاميذ؟
- هل للمدرسة دور في تعزيز الأنشطة البدنية (كبير ، صغير)؛
- هل تعزيز الأنشطة البدنية لديه مكان في منهج التربية البدنية، نشاط المدرسة الرياضي الداخلي، أو الخارجي;
- من المسؤول عن تعزيز الأنشطة البدنية في المدرسة؟

السؤال الخامس
ما رأيك حول دور المدرسة في تعزيز الأنشطة البدنية بين أولياء الأمور؟
- هل للمدرسة دور في تعزيز الأنشطة البدنية (كبير ، صغير)؛
- هل تعزيز الأنشطة البدنية لديه مكان في منهج التربية البدنية، نشاط المدرسة الرياضي الداخلي، أو الخارجي;
- من المسؤول عن تعزيز الأنشطة البدنية بين أولياء الأمور؟

السؤال السادس
ما رأيك حول دور المدرسة في تعزيز الأنشطة البدنية في المجتمع؟
- هل للمدرسة دور في تعزيز الأنشطة البدنية (كبير ، صغير)؟
- هل تعزيز الأنشطة البدنية لديه مكان في منهج التربية البدنية، نشاط المدرسة الرياضي الداخلي، أو الخارجي؟
السؤال السابع
ارجو أن تطرق حول آراء زملائك؟ (مثل مدير المدرسة، المعلمين) عن دور المدرسة في تعزيز الأنشطة البدنية؟

- رؤية مدير المدرسة نحو تعزيز الأنشطة البدنية بين الطلاب/أولياء الأمور/المجتمع;
- رؤية المعلمين الأخرين حول تعزيز الأنشطة البدنية بين الطلاب/أولياء الأمور/المجتمع.

السؤال الثامن
ما العوائق التي تواجه عند تعزيز الأنشطة البدنية بين التلاميذ؟

- نقص في الخبرة أو المعلومات حول كيفية تعزيز الأنشطة البدنية;
- نقص في تدريب وتطوير المعلم على رأس العمل;
- ضعف في المعلومات حول طرق واساليب تعزيز الأنشطة البدنية;
- قلة الدعم من مدير المدرسة، المعلمين، مشرف التربية البدنية;
- رأي ورغبات التلاميذ;
- الموارد.

السؤال التاسع
ما العوائق التي تواجه عند تعزيز الأنشطة البدنية بين المعلمين؟

- نقص في الخبرة أو المعلومات حول كيفية تعزيز الأنشطة البدنية;
- نقص في تدريب وتطوير المعلم على رأس العمل;
- ضعف في المعلومات حول طرق واساليب تعزيز الأنشطة البدنية;
- قلة الدعم من مدير المدرسة، المعلمين، مشرف التربية البدنية;
- رأي ورغبات المعلمين;
- الموارد.

السؤال العاشر
ما العوائق التي تواجهها عند تعزيز الأنشطة البدنية بين أولياء الأمور؟

- نقص في الخبرة أو المعلومات حول كيفية تعزيز الأنشطة البدنية;
- نقص في تدريب وتطوير المعلم على رأس العمل;
- ضعف في المعلومات حول طرق المدرسة، تعزيز الأنشطة البدنية;
- قلة الدعم المقدم من مدير المدرسة، المعلمين، المشرف على المادة;
- الموارد.
السؤال الحادي عشر
ما العوائق التي تواجهها عند تعزيز الأنشطة البدنية في المجتمع؟

- ضيق الوقت;
- نقص في الخبرة أو المعلومات حول كيفية تعزيز الأنشطة البدنية;
- نقص في تدريب وتقويم المعلم على رأس العمل;
- ضعف في المعلومات حول طرق المدرسة تعزيز الأنشطة البدنية;
- قلة الدعم المقدم من مدير المدرسة، المعلمين، المشرف على المادة;
- الموارد.

السؤال الثاني عشر
من وجهة نظر، ماهو على المدرسة فعلها لكي تتحلى وتجاوز العوائق التي تواجهها عند تعزيز الأنشطة البدنية؟

- تطوير البيئة المدرسية (مثال: المراكز الرياضية، الخدمية);
- تدريب المعلمين.

السؤال الثالث عشر
ما الفرص التي تملكها المدرسة تعزيز الأنشطة البدنية؟

- البيئة المدرسية (مثال: المراكز الرياضية);
- منهج التربية البدنية، برنامج النشاط الرياضي الداخلي، برنامج النشاط الرياضي الخارجي;
- المواد الدراسية (مثل: العلوم، الأدب، الدين);
- الروابط والعلاقات.

السؤال الرابع عشر
ما خطة المدرسة المستقبلية حول تعزيز الأنشطة البدنية؟

- تطوير سياسات;
- إحداث تغييرات في منهج التربية البدنية، وبرامج الأنشطة الرياضية المدرسية الداخلية والخارجية;
- تحسين وتوفر مراكز وأدوات رياضية جديدة;
- إيجاد علاقات وروابط مع مؤسسات رياضية وغيرها.
Appendix F: List of boys’ secondary schools in Riyadh
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Appendix G: King Saud University support letter
محترم

سعادة مدير عام إدارة التربية والتعليم (بني) بمنطقة الرياض

السلام عليكم ورحمة الله وبركاته.

أفيد سعادتك بأن الأستاذ راشد بن محمد بن جاسم ، المبتعث من قسم المناهج وطرق التدريس بكلية التربية بجامعة الملك سعود ، يقوم بإجراء بحث عنوان (تعزيز المشاركة في الأنشطة البدنية في المدارس الثانوية في المملكة العربية السعودية).

عليه ، أرجو من سعادتك التكرم بمسااعدة الأستاذ راشد ، على تطبيق أداة البحث على المدارس الثانوية بمنطقة الرياض حيث أن البحث متتم للحصول على درجة الدستورية في مناهج وطرق تدريس التربية البدنية.

شاكراً لسعادتك حسن تفهمك وتقديرك.

وتقبلوا خالص تحياتي وتقدير...

عميد مدرسة التعليم

د. عبد الله بن إبراهيم العجاجي

P.O.Box 2458, Riyadh 11461, +4674819, Fax. 4674816

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Appendix H: The Ministry of Education approval
الملكة العربية السعودية
وزارة التربية والتعليم
الإدارة العامة للتدريب والتعليم
إدارة التخطيط والتطوير

الرقم: ٤١٣٢٠٣/١٩١٨
التاريخ: ١٨/٣/١٤١٦

المستلم:

إلى: مدير مدرسة الثانوية
من: مساعد المدير العام للشؤون التعليمية

بشأن: تسهيل مهمةباحث

 السلام عليكم ورحمة الله وبركاته:

بناءً على تعليم مفتي الوزارة رقم ٩٠٠٥٢٠٥ وتاريخ ١٨/٩/١٤١٦ إلى الباحث/ راشد بن محمد بن حسناء - المبتعد من قسم المناهج والدراسات، نتلقى إلينا الطلب من بطل بإجراء دراسة عنوان: "تعزيز المشاركة في الأنشطة البدنية في المدارس الثانوية بالمملكة العربية السعودية". وتتطلب الدراسة تطبيق أداء البحث على عينة من مديري ومعلمي المدارس الثانوية برتبة الرياض، مع إجراء مقابلة مع بعض المعلمين. ونطرأ لاكتساب الأوراق المطلوبة لتأقلم تسهيل مهمة الباحث، مع ملاحظة أن الباحث يتحمل كامل المسؤولية المتعلقة بمختلف جوانب البحث ولا يعني سماح الإدارة العامة للتدريب والتعليم موافقتها على مشروع البحث أو على الطرق والأساليب المستخدمة في دراستها ومراجعتها.

والله يحفظكم وبرعكم... 

د. محمد بن عبد العزيز السديري
Appendix I: The survey questionnaire cover letter
لا يخفى عليكم الأهمية البالغة للمدرسة في تعزيز صحة الطلاب والمعلمين على حد سواء. وقد بنيت عدد من الدراسات العلمية على أهمية الدور الذي تلعبه المدرسة في تعزيز النشاط البدني من خلال تشجيع التلاميذ والمعلمين على المشاركة في الأنشطة البدنية والرياضية التي تقام أثناء أو بعد اليوم الدراسي.

وحيث أن خبرتكم العملية تعد رافداً رئيساً، ومعيناً بإذن الله على تحقيق أهداف الدارسة عندما تجيبون على أسئلته هذه الإستبانة التي تحمل عنوان: (تعزيز الأنشطة البدنية في مدارس البنين الثانوية في المملكة العربية السعودية).

ويأمل الباحث التكريم بالإجابة على جميع فقرات هذه الاستبانة التي سعى إلى تصميمها بطريقة لا تتطلب زمناً طويلاً للإجابة، علماً بأن المعلومات التي ستستندي بها أخى المعلم، سرية، ولن نستخدم إلا لأغراض البحث العلمي فقط.

مع خالص الشكر والتقدير لتعاونكم ،،،،،، والله يحفظكم

الباحث

راشد محمد بن جساس
جامعة ليفربول، بريطانيا
0555007411
r.jassas@lboro.ac.uk
Appendix J: The interviews: date and location
<table>
<thead>
<tr>
<th>No</th>
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<th>Interviewing Date</th>
<th>Location</th>
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Appendix K: An example of SPSS data output (statistical tests)
### School type

Comparison between PE teachers’ views on the promotion of PA with respect to school type

<table>
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<th>School Type</th>
<th>Importance of PE programme in promoting PA</th>
<th>Importance of PA promotion among school’s community</th>
<th>Contribution of PE programme to PA promotion</th>
<th>Quality of school in PA promotion</th>
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Comparison between PA opportunities offered in schools with respect to school type

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<th>The External PE programme</th>
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### School size
Comparison between PE teachers’ views on the promotion of PA with respect to school size

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<th>Importance of PA promotion among school’s community</th>
<th>Contribution of PE programme to PA promotion</th>
<th>Quality of school in PA promotion</th>
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### Comparison between PA opportunities offered in the schools with respect to school size

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</table>
### PE teachers’ qualifications

Comparison between the PE teachers’ views on the promotion of PA with respect to their qualifications

<table>
<thead>
<tr>
<th>Qualifications</th>
<th>Importance of PE programme in promoting PA</th>
<th>Importance of PA promotion among school’s community</th>
<th>Contribution of PE programme to PA promotion</th>
<th>Quality of school in PA promotion</th>
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<tbody>
<tr>
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<td>Bachelors</td>
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<td>2.23</td>
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<tr>
<td>Masters</td>
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<td>.682</td>
<td>.266</td>
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Comparison between PA opportunities offered in the schools with respect to teachers' qualification

<table>
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<tr>
<th>Qualifications</th>
<th>PE curriculum</th>
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<tr>
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<td>2.00</td>
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PE teachers’ teaching experience

Comparison between PE teachers’ views on the promotion of PA with respect to their teaching experience

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<th>Experience</th>
<th>Importance of PE programme in promoting PA</th>
<th>Importance of PA promotion among school’s community</th>
<th>Contribution of PE programme to PA promotion</th>
<th>Quality of school PA promotion</th>
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</thead>
<tbody>
<tr>
<td>1 – 5 Y</td>
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<td>1.88</td>
<td>2.49</td>
<td>1.69</td>
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<tr>
<td>6 – 10 Y</td>
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<td>2.29</td>
<td>2.66</td>
<td>1.94</td>
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<tr>
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<tr>
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Comparison between PA opportunities offered in the schools with respect to teachers' experience

<table>
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<th>Experience</th>
<th>PE curriculum physical activity</th>
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<tr>
<td>6 – 10 Y</td>
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<td>&lt; 10 Y</td>
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School policy

Comparison between PE teachers’ views on the promotion of PA with respect to school policy

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<th>Importance of PE programme in promoting PA</th>
<th>Importance of PA promotion among school’s community</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>2.44</td>
<td>2.27</td>
<td>2.59</td>
<td>1.88</td>
</tr>
<tr>
<td>No</td>
<td>2.20</td>
<td>2.04</td>
<td>2.31</td>
<td>1.55</td>
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<tr>
<td>Mann-Whitney Test</td>
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<td>617</td>
<td>577.5</td>
<td>520.5</td>
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<tr>
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Comparison between PA opportunities offered in the schools with respect to school policy

<table>
<thead>
<tr>
<th>School Type</th>
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<td>.000</td>
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Appendix L: An example of an interview transcription
المقابل: السؤال الثاني : هل تعتقد أنه يوجد حاجة لتعزيز الأنشطة البدنية بين التلاميذ؟

المعلم: وضع السؤال أكثر

المقابل: من وجهة نظرك ، هل تلاميذ، مدربكم، يحتاجون لأنشطة البدنية ، وإذا كانوا يحتاجون لها فلماذا؟

المعلم: شفلي لاشك انهم يحتاجون لها ، لاكنهم ي يحتاجون لوقت اطول ، يحتاجون ل مكان مهيئ احسن . لان الوقت نوفمبر لحصة التربية البدنية ، تقريبا ، شبه غير كافي ، يحتاجون لوقت مساني ، يكون فيه ، يعني امتداد انشطتهم في الصباح ، و التواصل مع التربية البدنية بشكل عام ، يعني مدرسة فيها 650 طالب في مكان مقصد بالسكان ، يفترض انه ، يعني انه يكون امتداد للأنشطة الصباحية ، نادي مساني ايضاً.

المقابل: هل لديك نادي مساني؟

المعلم: لا ، هنا ما فيه ، لاكن نحن نحن نحن نحن نحن طلاب بحاجة ماسة ، خاصة أن النادي المساني يمكن تحقيق رغبات كثيره ، ما يقدر يكون يحققها في الصباح . من ناحية الوقت ، من ناحية المكان ، التهيئة بشكل عام .

المقابل: وضع الموانع ، عن اقامة النادي أو فتح أبواب المدرسة في العصر؟

المعلم: لا ، الا لابد تكون رسمية ، ادارة التعليم تحدد مدارس معينة ، تقيم فيها مثل هذي النوادي المسانية ، ونعني ان تكون الاندية المسانية عددها أكبر ، انة حتى الاندية المسانية ليست من الطالب وولي الأمر ، يمكن مشاركة أولي الامر . أنا شاهدت بعض الاندية المسانية ، مثل نادي الشفا المساني ، حتى على الوجة ، يعني مسمى نادي الشفا المساني للطلاب وأولياء امورهم . هذا يشجع كثير المجتمع كله لمحب الرياضي.

المقابل: كيف يتم اختيار النادي، المدرسة؟

المعلم: اختيار النادي ، يفترض انه يكون على حسب الموقع والكثافة السكانية الي حوله ، واهم شي الاهميات الموجودة ، لابد تكون المدرسة مهيئة . مثل ، لابد يكون فيها صالة رياضية مغلقة ، لا بد يكون فيها مساحات خارجية صالحة ، برضوه موافق السياسات كذلك مهمة.

المقابل: أنا سمعت بأن فيه تعليم ، يحدد من اقامة نشطة مسانية ، في فترة العصر ، هل وصلكم هذا التعميم؟

المعلم: واهي ، ما عندنا خلفية عنه ، عندنا خلفية أنه اذا كان عند الواحد ، يشعر ادارة المدرسة ، وأولياء الامور لموافقتهم ، لاكن ادارة التعليم ، قد يكون عن طريق ادارة المدرسة ، أنا كمعلمين نتعامل مع ادارة المدرسة ، ادارة المدرسة هي ادري.
لا يمكن طبعا تحقيق اقتراح الوزن بشكل مباشر عن طريق درس التربية الرياضية. هذه من الأمور التي تدبر، وهي خطة تقولك للسماحة لو درس التربية الرياضية مو فعال.

درس التربية الرياضية ينطلق ساعتين، إذا حقمنا نصف دقائق في أول الدروس، وخمس في آخر، تقريباً يحصلنا بالتحديد من 30 إلى 25 دقيقة، وهي مادة وسط حصة علمية، جادة. فيفترض أن يكون فيها عامل الترويج، ما يمكن تعطيل برنامج رياضي، وحتى لو عطته، اعتبره خطأ، يوم في الأسبوع، انت تعطيلية ثقافة رياضية، كيف يتعامل مع الوزن في بيته، في نفسه، هذا المطلب منه. لا أن ماهو المطلبان ان ندرب واحد، نزيد مثلًا، لا.

طبعا، غير راضيين، لا بإكس كثيرة تتطلب بيئة المجتمع، خارج المدرسة، سواء من ناحية التغذية، النوم، وأشياء كثيرة هي تدخل من ناحية الوزن، ونقص الياقة عند الطلاب. غير راضيين طبعة، لأن الإعداد كبرة، لأن الأعداد على أوزانهم زيادة عن الحد المقبول، لن ندري عنكم نقص لياقة، عدنهم كثير.

<table>
<thead>
<tr>
<th>المقابل: معلم</th>
<th>المقابل: طلاب</th>
<th>المقابل: معلم</th>
</tr>
</thead>
<tbody>
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<td>كأسطورة، تربية بديعة، هل انت راضي عن صحة طلابك، حول الوزن، مشاركتهم في الأنشطة البدنية، مستوؤهم</td>
<td>26 لا يمكن طبعا تحقيق اقتراح الوزن بشكل مباشر عن طريق درس التربية الرياضية. هذه من الأمور التي تدبر، وهي خطة تقولك للسماحة لو درس التربية الرياضية مو فعال.</td>
<td>27 نتفقيطين؟ المعلم: طبعا، ارضا ماوصلنا لمرحلة الرضي يعني، وهذا لايمكن طبعا تحقيق اقتراح الوزن بشكل مباشر عن طريق درس التربية الرياضية. هذه من الأمور التي تدبر، وهي خطة تقولك للسماحة لو درس التربية الرياضية مو فعال. درس التربية الرياضية ينطلق ساعتين، إذا حقمنا نصف دقائق في أول الدروس، وخمس في آخر، تقريباً يحصلنا بالتحديد من 30 إلى 25 دقيقة، وهي مادة وسط حصة علمية، جادة. فيفترض أن يكون فيها عامل الترويج، ما يمكن تعطيل برنامج رياضي، وحتى لو عطته، اعتبره خطأ، يوم في الأسبوع، انت تعطيلية ثقافة رياضية، كيف يتعامل مع الوزن في بايتك، في نفسه، هذا المطلب منه. لا أن ماهو المطلبان ان ندرب واحد، نزيد مثلًا، لا. طبعا، غير راضيين، لا بإكس كثيرة تتطلب بيئة المجتمع، خارج المدرسة، سواء من ناحية التغذية، النوم، وأشياء كثيرة هي تدخل من ناحية الوزن، ونقص الياقة عند الطلاب. غير راضيين طبعة، لأن الإعداد كبرة، لأن الأعداد على أوزانهم زيادة عن الحد المقبول، لن ندري عنكم نقص لياقة، عدنهم كثير.</td>
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<td>المقابل: معلم</td>
<td>المقابل: طالب</td>
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<tr>
<td>المقابل: هل حاولتم، في مدرستكم، ان تقاسم وزن الطلاب؟</td>
<td>هاية الفصل.</td>
<td>المعلم: هذا حصل من ستينين، قبل ستينين. احننا الازان اول الفصل، واخننا الوزان في ن</td>
</tr>
</tbody>
</table>
| المقابل: واعطوا الطلاب؟ | المقابل: حي电阻 البدنية؟ | المعلم: الناس التي استفادوا من هذا، ان المدرسة فيها 650، الي استفادوا طلاب محدودين هم عندهم الرغبة في مواصلة البرنامج خارج المدرسة. لا يمكن تنفيذ برنامج المدرسة، نذبك لو قلنا من برنامج المدرسة، قدنا نقص الوزن، نذبك لوقتنا، لا. اننا اعتنائنا برنامج بطيئة بشكل صحيح داخل الحصة، ونستكمله خلال أيام الأسبوع بري. | 30 المقابل: واعطوا الطلاب؟ | المقابل: حي电阻 البدنية؟ | المعلم: الناس التي استفادوا من هذا، ان المدرسة فيها 650، الي استفادوا طلاب محدودين هم عندهم الرغبة في مواصلة البرنامج خارج المدرسة. لا يمكن تنفيذ برنامج المدرسة، نذبك لو قلنا من برنامج المدرسة، قدنا نقص الوزن، نذبك لوقتنا، لا. اننا اعتنائنا برنامج بطيئة بشكل صحيح داخل الحصة، ونستكمله خلال أيام الأسبوع بري. | 31 المقابل: واعطوا الطلاب؟ | المقابل: حي电阻 البدنية؟ | المعلم: الناس التي استفادوا من هذا، ان المدرسة فيها 650، الي استفادوا طلاب محدودين هم عندهم الرغبة في مواصلة البرنامج خارج المدرسة. لا يمكن تنفيذ برنامج المدرسة، نذبك لو قلنا من برنامج المدرسة، قدنا نقص الوزن، نذبك لوقتنا، لا. اننا اعتنائنا برنامج بطيئة بشكل صحيح داخل الحصة، ونستكمله خلال أيام الأسبوع بري. | 32 المقابل: حي电阻 البدنية؟ | المعلم: الناس التي استفادوا من هذا، ان المدرسة فيها 650، الي استفادوا طلاب محدودين هم عندهم الرغبة في مواصلة البرنامج خارج المدرسة. لا يمكن تنفيذ برنامج المدرسة، نذبك لو قلنا من برنامج المدرسة، قدنا نقص الوزن، نذبك لوقتنا، لا. اننا اعتنائنا برنامج بطيئة بشكل صحيح داخل الحصة، ونستكمله خلال أيام الأسبوع بري. | 33 المقابل: حي电阻 البدنية؟ | المعلم: الناس التي استفادوا من هذا، ان المدرسة فيها 650، الي استفادوا طلاب محدودين هم عندهم الرغبة في مواصلة البرنامج خارج المدرسة. لا يمكن تنفيذ برنامج المدرسة، نذبك لو قلنا من برنامج المدرسة، قدنا نقص الوزن، نذبك لوقتنا، لا. اننا اعتنائنا برنامج بطيئة بشكل صحيح داخل الحصة، ونستكمله خلال أيام الأسبوع بري.
لتمارين البطن مثلاً، فقف، المشي، الأشياء التي يقدرها.

المقابل: أثناء درس التربية البدنية.
المعلم: علشان يطبقها بري، لا يمكنه على أنه إذا طبق في درس التربية البدنية، إن في نهاية السنة يصير نافض شيء، لا نهائياً. أنا أعطيه كيف يتعامل مع حالته خارج، إذا هو حاب يستمر في التمرين، أعطيه نموذج.

المقابل: هل تكون معك مدرس مثل مدرس العلوم، من يدرسون التغذية، هل كان فيه تعاون، عرض عليهم؟
المعلم: ما عرض، بحكم عند الواحد خبرة شيء في هذا الموضوع، فما كان يحتاج أنه ينطلق أحد.
المقابل: كيف كانت مساهمة المشرف في البرنامج هذا، مثلاً، خبرة جميلة، وماجري بعدها حتى يومك هذا؟
المعلم: مشرف التربية البدنية؟
المعلم: طبعاً هو يدعم الشيء هذا بشكل كبير، وبالعكس يعتبره، خطوة جيدة جداً، وهم حتى على هذا الشيء، يعني أصلاً، أساس البرنامج، الفكرة، جايه من عددهم. من عند المشرفين بشكل عام، ما ادري هو معلم على المشرفين كلهم، أو مشرفنا بالذات. ما ادري والله بالضبط.

المقابل: السؤال الثالث: نفس محورنا، هل تعتقد أن هناك حاجة لتعزيز الأنشطة البدنية بين أولياء الأمور والمجتمع؟
المعلم: هذا أكيد، وهذا تطرقته له في النادي المسرحي يوم ذكرت أولياء الأمور. بالعكس، إذا صارت عند ولي الأمر قداعة بالنشاط البدني والتربية البدنية بنالياً تلقائياً تندرج هذه القناعة على ابنه، والابن إذا شاف ابنه على التربية البدنية، سيكون هو احرص.
Appendix M: Code system
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- رأي المعلم حول دور المشرف
- رأي المعلم حول دور المشرف في تعزيز الأنشطة البدنية
Appendix N: Ethics checklist
Ethical Clearance Checklist
(TO BE COMPLETED FOR ALL INVESTIGATIONS INVOLVING HUMAN PARTICIPANTS)

If your research is being conducted off-campus and ethical approval has been granted by an external ethics committee, you may not need to seek full approval from the University Ethical Advisory Committee. However you will be expected to provide evidence of approval and the terms on which this approval has been granted.

If you believe this statement applies to your research, please contact the Secretary of the Ethical Advisory Committee for confirmation.

If your research is transferring into Loughborough University and approval was obtained from your originating institution, there is a requirement on the University to ensure that appropriate approvals are in place.

If you believe this statement applies to your research, please contact the Secretary of the Ethical Advisory Committee with evidence of former approval and the terms on which this approval has been granted.

It is the responsibility of the individual investigators to ensure that there is appropriate insurance cover for their investigation.

If you are at all unsure about whether or not your study is covered, please contact the Finance Office to check.

Section A: Investigators

Name, Status and Email Address of Senior Investigators (University Staff Research Grade II and above):
(Please underline responsible investigator where appropriate)
Dr. Jo Harris Dr. Lorraine Cale
Office ZZ002 Office ZZ109
Phone +44 (0)1509 223250 Phone +44 (0)1509 228454
Fax +44 (0)1509 226301 Fax +44 (0)1509 226301
Email J.P.Harris@lboro.ac.uk Email L.A.Cale@lboro.ac.uk

Department: School of Sport and Exercise Sciences

Name, Status and Email Address of Other Investigators:
Rashid M. Jassas; Research Student ; Email: R.Jassas@lboro.ac.uk

Department: School of Sport and Exercise Sciences

October 2008
Title of Investigation
The Promotion of Physical Activity within Saudi Secondary Schools

A1. Do investigators have previous experience of, and/or adequate training in, the methods employed?
   
   Yes ☑ No ☐  "If No, Please provide details below"

A2. Will junior researchers/students be under the direct supervision of an experienced member of staff?
   
   Yes ☑ No ☐  "If No, Please provide details below"

A3. Will junior researchers/students be expected to undertake physically invasive procedures (not covered by a generic protocol) during the course of the research?

   Yes ☐ No ☑  "If Yes, Please provide details below"

A4. Are researchers in a position of direct authority with regard to participants (eg academic staff using student participants, sports coaches using his/her athletes in training)?

   Yes ☐ No ☑  "If Yes, Please provide details below"

If you have selected one of the answers above marked with an ☑ please provide additional information on how you intend to manage the issues (please continue onto a separate sheet if required), then submit this checklist to the Secretary to the EAC:

Section B: Participants

Vulnerable Groups
Will participants be knowingly recruited from one or more of the following vulnerable groups?

B1. Children under 18 years of age  
   (please refer to published guidelines)  
   Yes ☑ No ☐

B2. People over 65 years of age  
   Yes ☑ No ☐

B3. Pregnant women  
   Yes ☑ No ☐

B4. People with mental illness  
   Yes ☑ No ☐

B5. Prisoners/Detained persons  
   Yes ☑ No ☐

B6. Other vulnerable group (please specify )  
   Yes ☑ No ☐

*If you have answered YES to any of the questions above please submit a full application to the Ethical Advisory Committee

October 2008
Chaperoning Participants
If appropriate, e.g. studies which involve vulnerable participants, taking physical measures or intrusion of participants' privacy:

B7. Will participants be chaperoned by more than one investigator at all times?
Yes ☐ No* ☐ N/A ☐  *If N/A, please provide details below

B8. Will at least one investigator of the same sex as the participant(s) be present throughout the investigation?
Yes ☐ No* ☐ N/A ☐  *If N/A, please provide details below

B9. Will participants be visited at home?
Yes* ☐ No ☐ N/A ☐  *If N/A, please provide details below

* Please submit a full application to the Ethical Advisory Committee.

If you have selected one of the answers above marked with an * please provide additional information on how you intend to manage the issues (please continue onto a separate sheet if required), then submit this checklist to the Secretary to the EAC:

Section C: Methodology/Procedures

To the best of your knowledge, please indicate whether the proposed study:

C1. Involves taking bodily samples
(please refer to published guidelines)
Yes* ☐ No ☒

C2. Involves procedures which are likely to cause physical, psychological, social or emotional distress to participants
Yes* ☐ No ☒

# If the procedure is covered by an existing generic protocol, please insert reference number here
If the procedure is not covered by an existing generic protocol, please submit a full application to the Ethical Advisory Committee

C3. Is designed to be challenging physically or psychologically in any way (includes any study involving physical exercise)
Yes* ☐ No ☒

C4. Exposes participants to risks or distress greater than those encountered in their normal lifestyle
Yes* ☐ No ☒

C5. Involves collection of body secretions by invasive methods, Yes* ☐ No ☒

C6. Prescribes intake of compounds additional to daily diet or other dietary manipulation/supplementation
Yes* ☐ No ☒

C7. Involves testing new equipment
Yes* ☐ No ☒

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C8. Involves pharmaceutical drugs
(please refer to published guidelines)
Yes [ ] No [x]

C9. Involves use of radiation
(please refer to published guidelines). Investigators should consult the University’s Radiological Protection Office before commencing any research which exposes participants to ionising radiation – e.g. x-rays).
Yes [ ] No [x]

C10. Involves use of hazardous materials
(please refer to published guidelines)
Yes [ ] No [x]

C11. Assists alters the process of conception in any way
Yes [ ] No [x]

C12. Involves methods of contraception
Yes [ ] No [x]

C13. Involves genetic engineering
Yes [ ] No [x]

* If you have answered ‘Yes’ to any of the above please submit a full application to the Ethical Advisory Committee

Section D: Observation/Recording

D1. Does the study involve observation and/or recording of participants?
Yes [x] No [ ] If No, please go to Section E

If Yes,

D2. Will those being observed and/or recorded be informed that the observation and/or recording will take place?
Yes [x] No [ ]

* Please submit a full application to the Ethical Advisory Committee

Section E: Consent and Deception

E1. Will participants give informed consent freely?
Yes [x] If yes please complete the Informed Consent section below.
No [ ] *If no, please submit a full application to the Ethical Advisory Committee.

Note: where it is impractical to gain individual consent from every participant, it is acceptable to allow individual participants to “opt out” rather than “opt in”.

Informed Consent

E2. Will participants be fully informed of the objectives of the investigation and all details disclosed (preferably at the start of the study but where this would interfere with the study, at the end)?
Yes [x] No [ ]

E3. Will participants be fully informed of the use of the data collected (including, where applicable, any intellectual property arising from the research)?
Yes [x] No [ ]

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E4. For children under the age of 18 or participants who have impairment of understanding or communication:
- will consent be obtained (either in writing or by some other means)?
  Yes ☐ No* ☐ N/A ☑
- will consent be obtained from parents or other suitable person?
  Yes ☐ No* ☐ N/A ☑
- will they be informed that they have the right to withdraw regardless of parental/guardian consent?
  Yes ☐ No* ☐ N/A ☑

E5. For investigations conducted in schools, will approval be gained in advance from the Head-teacher and/or the Director of Education of the appropriate Local Education Authority
  Yes ☑ No* ☐ N/A ☑

E6. For detained persons, members of the armed forces, employees, students and other persons judged to be under duress, will care be taken over gaining freely informed consent?
  Yes ☐ No* ☐ N/A ☑

* Please submit a full application to the Ethical Advisory Committee

Deception
E7. Does the study involve deception of participants (ie withholding of information or the misleading of participants) which could potentially harm or exploit participants?
  Yes ☐ No* ☐ If No, please go to Section F

If yes,
E8. Is deception an unavoidable part of the study?  Yes ☐ No* ☐
E9. Will participants be de-briefed and the true object of the research revealed at the earliest stage upon completion of the study?  Yes ☐ No* ☐
E10. Has consideration been given on the way that participants will react to the withholding of information or deliberate deception?  Yes ☐ No* ☐

* Please submit a full application to the Ethical Advisory Committee

Section F: Withdrawal

F1. Will participants be informed of their right to withdraw from the investigation at any time and to require their own data to be destroyed?  Yes ☑ No* ☐

* Please submit a full application to the Ethical Advisory Committee
Section G: Storage of Data and Confidentiality

Please see University guidance on Data Collection and Storage.

G1. Will all information on participants be treated as confidential and not identifiable unless agreed otherwise in advance, and subject to the requirements of law?
   Yes ☑ No ☐

G2. Will storage of data comply with the Data Protection Act 1998?
   (Please refer to published guidelines)
   Yes ☑ No ☐

G3. Will any video/audio recording of participants be kept in a secure place and not released for use by third parties?
   Yes ☑ No ☐

G4. Will video/audio recordings be destroyed within six years of the completion of the investigation?
   Yes ☑ No ☐

G5. Will full details regarding the storage and disposal of any human tissue samples be communicated to the participants?
   Yes ☐ No ☑

* Please submit a full application to the Ethical Advisory Committee

Section H: Incentives

H1. Have incentives (other than those contractually agreed, salaries or basic expenses) been offered to the investigator to conduct the investigation?
   Yes ☑ No ☐ 'If Yes, Please provide details below'

H2. Will incentives (other than basic expenses) be offered to potential participants as an inducement to participate in the investigation?
   Yes ☑ No ☐ 'If Yes, Please provide details below'

If you have selected one of the answers above marked with an ☑ please provide additional information on how you intend to manage the issues (please continue onto a separate sheet if required), then submit this checklist to the Secretary to the EAC:

October 2008
Section I: Declarations

Checklist Application only:
If you have completed the checklist to the best of your knowledge without selecting an answer marked with an * or †, your investigation is deemed to conform with the ethical checkpoints and you do not need to seek formal approval from the University’s Ethical Advisory Committee. Please sign the declaration below, and lodge the completed checklist with your Head of Department or his/her nominee.

**Declaration**
I have read the University’s Code of Practice on Investigations on Human Participants. I confirm that the above named investigation complies with published codes of conduct, ethical principles and guidelines of professional bodies associated with my research discipline.

Please sign below

---

Checklist with additional information to the Committee:
If, upon completion of the checklist you have ONLY selected answers which require additional information to be submitted with this checklist (indicated by a †), please ensure that all the information is provided in detail and send this checklist to the Secretary to the EAC.

---

Full Application Needed:
If on completion of the checklist you have selected one or more answers which require the submission of a full proposal please download the relevant form from the Committee’s web page.

A copy of this checklist, signed by your Head of Department should accompany the full submission to the Ethical Advisory Committee.

---

Signature of Responsible Investigator
[Signature]

Signature of Student (if appropriate)
[Signature]

Signature of Head of Department or his/her nominee
[Signature]

Date

---

Advice to Participants following the investigation

**Investigators have a duty of care to participants.**
When planning research, investigators should consider what, if any, arrangements are needed to inform participants (or those legally responsible for the participants) of any health related (or other) problems previously unrecognised in the participant. This is particularly important if it is believed that by not doing so the participants well being is endangered. Investigators should consider whether or not it is appropriate to recommend that participants (or those legally responsible for the participants) seek qualified professional advice, but should not offer this advice personally. Investigators should familiarise themselves with the guidelines of professional bodies associated with their research.

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