The importance of a physically active lifestyle is now well recognised with comprehensive reviews revealing physical activity (PA) in children and young people to have both physical and psychological benefits (e.g. Janssen & LeBlanc, 2010; National Institute for Clinical Excellence [NICE], 2007; Stensel, Gorely & Biddle, 2008; United States Department of Health and Human Services [USDHHS], 2008). Despite this, there are ongoing concerns globally over the PA levels of many youngsters. For example, the most recent World Health Organization’s Health-Behaviour in School-aged Children (HBSC) Survey reported less than half of young people in almost every country meet current PA recommendations (Currie et al., 2008).

If young people are to enjoy and benefit from a physically active lifestyle, they need to be equipped with the knowledge, skills, competence and confidence to do so. Few would argue that an appropriate avenue for this is through physical education (PE) and that teaching about active lifestyles should therefore be a key component of PE curricula. Indeed, the adoption and maintenance of a physically active lifestyle is an established goal of the subject in many countries (e.g. Australian Curriculum, Assessment and Reporting Authority [ACARA], 2012; Department for Education, 2013; National Association for Sport and Physical Education [NASPE], 2004), with governments increasingly looking to schools as a convenient form of public health investment (Armour & Harris, 2013).

This chapter focuses on teaching about active lifestyles as an explicit objective of PE. First, it considers the PE context and the opportunities the subject affords in this regard. It then summarises and critiques the evidence on the effectiveness of PE in positively influencing young people’s PA, before considering some of the issues faced in teaching about active lifestyles. This includes critiquing current pedagogy and some common practices, notably the practice of fitness testing. The chapter concludes with a summary of the key findings and some key questions with respect to teaching about active lifestyles.

**PE as a context for teaching about active lifestyles**

PE provides a very suitable context for teaching about active lifestyles for a number of reasons. Via its dual focus on ‘learning to move’ and ‘moving to learn’, it provides opportunities to be active and educates students about and through physical activity (Harris, 2010). PE is also compulsory or at least a well established component of the school curriculum in many
countries, thus providing a captive audience and access to all or most young people at a time of high receptiveness (Cale & Harris, 2005; Fox & Harris, 2003). At the same time, caution is needed concerning what the subject can realistically achieve (Cale, Harris & Chen, 2014; Harris, 2010). PE has a range of objectives and providing and teaching about health and health-related PA is only one of its many goals (Lounsbery, McKenzie, Trost & Smith, 2011). Furthermore, PE accounts for less than 2% of young people’s time (Cale & Harris, 2013; Fox & Harris, 2003), at least half of which can justifiably involve only light or physically passive activity (Stratton, Faircloth & Ridgers, 2008). Given such constraints, it is suggested that whilst PE clearly makes a contribution to young people’s PA, it cannot by itself address their PA needs (Fox, Cooper & McKenna, 2004; McKenzie & Lounsbery, 2009) nor ensure they meet PA recommendations.

Indeed, the role of PE in promoting active lifestyles and public health more broadly, has and continues to be debated (Armour & Harris, 2013; O’Sullivan, 2004; Quennerstedt, 2008). O’Sullivan (2004) notes that, although there seems to be agreement that PE should promote health-enhancing PA, there are disagreements over the degree to which it should focus on public health goals. Armour and Harris (2013, p. 209) argue that “much of the international PE community is uncertain about the precise nature of appropriate health knowledge to be covered in PE, the proper role for PE in health and the level of responsibility the profession should accept for children’s (let alone adults’) health outcomes”. Others, meanwhile, are critical of PE’s unquestioned ‘allegiance to health’, how it legitimates itself on this basis, and the uncritical, simplistic and narrow way in which schools and teachers engage in health issues in the curriculum and in their pedagogical practices (Burrows & Wright, 2004; Evans, 2007; Evans & Rich, 2011; Gard & Wright, 2001; Wellard, 2012). This latter issue and some pedagogical practices are explored later in the chapter.

The effectiveness of PE in promoting active lifestyles

A review of the evidence base concerning the effectiveness of PE in promoting active lifestyles provides some indication of what the subject can realistically achieve. A number of studies have evaluated the effectiveness of PE or other school-based PA interventions over the years and reviews of these have been published (e.g. Almond & Harris, 1998; Cale & Harris, 2005; 2006; De Meester, van Lenthe, Spittaels, Lien & De Bourdeauhuij, 2009; Demetriou & Honer, 2012; Dobbins et al., 2009; Dobbins, Husson, DeCorby & La Rocca, 2013; Harris & Cale, 1997; Kahn et al., 2002; Kriemler et al., 2011; Stone, McKenzie, Welk & Booth, 1998; van Sluijs, McMinn & Griffin, 2007). Whilst most focused on school-based or PA interventions broadly, all include studies in which PE has been the key intervention. The interventions themselves generally included providing information about the benefits of physical activity, increasing the amount of time pupils spent on PA during the school day, as well as increasing the amount of PA during existing PE lessons or PA sessions. Some of the specific teaching strategies and means by which they did this are outlined later.

The early reviews conducted by Harris and Cale (1997) and Almond and Harris (1998) included studies of formally evaluated health-related PE programmes. The authors reported that such programmes can achieve positive outcomes in physiological, clinical, behavioural, cognitive and affective measures (Almond & Harris, 1998; Harris & Cale, 1997), concluding the evidence to be “encouraging and sufficiently convincing” (Harris & Cale, 1997, p. 99). Stone et al. (1998) conducted a review of PA interventions in youth that included a total of 14 school-based studies. Improvements in knowledge and attitudes related to PA were generally found and some studies reported significant increases in moderate to vigorous (MV) PA during PE classes (see
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Li, Chapter 38, this volume). Few positive findings, however, were reported for out-of-school PA. Kahn et al. (2002) undertook a systematic review of the effectiveness of various approaches to increasing PA in which 13 of the 26 studies evaluated the effectiveness of modified PE. They concluded that there is strong evidence that school-based PE can be effective in increasing PA levels and improving physical fitness.

Based on previous reviews and the evidence, Cale and Harris (2005; 2006) highlighted the trends, characteristics and issues concerning school-based interventions designed to increase young people's PA. The authors reaffirmed earlier reviews that school-based PE programmes can achieve a range of positive outcomes and be effective, highlighting meaningful improvements in young people's PA, fitness, knowledge and attitudes (Cale & Harris, 2005; 2006).

In 2007, van Sluijs et al. (2007) conducted a systematic review on the effectiveness of interventions to promote PA in children and adolescents. They identified 57 studies, 47 of which were school-based. Effective interventions documented increases ranging from an additional 3 minutes of PE-related PA to 283 minutes per week of overall PA, and a 59% increase in the number of participants being regularly active (van Sluijs et al., 2007).

De Meester et al.'s (2009) review summarised the effectiveness of PA interventions among European teenagers, identifying a total of 20 studies and including 15 school-based. The review revealed school-based interventions to be effective in improving PA levels in the short term. However, these improvements were limited to school-related PA with no conclusive transfer to leisure time PA (De Meester et al., 2009).

The review by Kriemler et al. (2011) both summarised recent reviews of school-based PA or fitness interventions and systematically reviewed newly published intervention studies. The authors identified 20 new studies with the interventions being implemented by PE experts, classroom teachers or a combination. The results revealed 47–65% of the interventions to be effective, with the effect mostly seen in school-related PA. All 20 studies revealed a positive intervention PA effect in-school, out-of-school or overall, and 6 of 11 studies showed a fitness increase. Kriemler et al. (2011) concluded that the results provide strong evidence for the positive effect of school-based interventions on children and adolescents' PA.

Demetriou and Honer (2012) reviewed the effectiveness of school-based interventions with a PA component on three target levels: health and fitness; psychological determinants; and PA. The review identified 129 intervention studies implemented during PE or regular school hours, the majority of which were found to achieve significant effects on motor performance (69.7%), PA (56.8%) and knowledge of PA (87.5%).

Dobbins et al. (2009; 2013) conducted two systematic reviews examining the effectiveness of school-based interventions in promoting PA and fitness in children and adolescents. The 2013 review included 44 school-based studies. The authors concluded there is some evidence to suggest that school-based PA interventions are effective in increasing the proportion of children who engage in MVPA during school hours. Intervention group participants were also found to spend more time in MVPA, less time watching television, and to have improved aerobic capacity or fitness.

Collectively the above reveal that school-based PA interventions, many of which include PE as a key component, can provide positive outcomes for young people. It is noteworthy though that most reviews report interventions to be successful in increasing PA during school hours and in PE, but less so in influencing PA out of school. The exception is the recent updated review by Kriemler et al. (2011) which shows intervention effects beyond school-based PA. From a public health perspective this is an important finding which suggests schools and PE may have a greater influence on PA than previously thought. Scholars, however, acknowledge the need for further research and for more high quality interventions (De Meester et al., 2009; Demetriou...
Despite the short-term effects, researchers have also failed to provide evidence of the long-term impact of school-based interventions (De Meester et al., 2009; Dobbins et al., 2013; Kriemler et al., 2011). This has led some authors to be more sceptical about the impact of PE on PA (e.g. Armour & Harris, 2013; Trost, 2006). For example, Armour and Harris (2013) note there is little “evidence to suggest that PE in most countries has achieved anything significant in terms of encouraging lifelong engagement in PA” (p. 202). That said, one notable Canadian study conducted in the 1970s, the Trois-Rivières Pont-Rouge study, examined the long-term health consequences of a PE intervention and provides at least some evidence of sustained impact (Trudeau et al., 1998; 1999). At follow-up over 20 years later, the intervention students demonstrated better motor fitness and reported better health and more positive attitudes towards PA (Trudeau & Shephard, 2008).

Noteworthy is that the reviews consistently highlight the potential of multicomponent interventions in promoting PA in particular, rather than isolated education or curricular changes (De Meester et al., 2009; Kriemler et al., 2011; van Sluijs et al., 2007). Whilst varying greatly, the interventions often focused on one or more changes, for example, to the school curriculum, PE lessons, routines, the environment, or involved teacher training and/or educational materials. PE interventions or components typically involved more lessons or lesson time, changing lesson content or pedagogy, enhancing curriculum materials or incorporating classroom-based instruction. From the reviews and studies, however, it is not possible to identify which specific components are effective or more effective. Scholars have acknowledged the limited information often provided about the interventions themselves, notably in terms of their content and mode of implementation, as problematic (Cale & Harris, 2005; De Meester et al., 2009; Stone et al., 1998; van Sluijs et al., 2007). On one level, this hampers stratification and analyses of potential effective components and on a practical level, it makes study replication and guidance for future research, interventions and practice difficult (Cale & Harris, 2005). With limited guidance, schools are reluctant to implement new programmes. Indeed, Lounsbery et al. (2011) identified the difficulties in encouraging the widespread adoption of evidence-based PE programmes by schools.

In their review, Cale and Harris (1998) observed that where programme content was outlined, it was often not especially innovative or the type which would appeal to many young people. From the more recent reviews (e.g. Dobbins et al., 2013; van Sluijs et al., 2007) this also still seems to be the case. For example, vigorous activity, endurance training/exercise or didactic instruction and repetitive activity featured in some programmes (e.g. see studies by Bayne-Smith et al., 2004; Dorgo et al., 2009; Ewart, Young & Hagberg, 1998; Stephens & Wentz, 1998; Walther et al., 2009; Wang et al., 2008; Weeks, Young & Beck, 2008, summarised and cited in Dobbins et al., 2013). Whilst such activities may positively influence short-term fitness gains, they are narrow in focus, may be inappropriate and unappealing to many young people, and are therefore unlikely to be successful in promoting lifetime PA. Other studies meanwhile relied heavily on classroom or computer-based theoretical instruction (e.g. see studies by Frenn et al., 2005; Palmer, Graham & Elliott, 2005; Perry, Kelder & Klepp, 1994 summarised and cited in van Sluijs et al., 2007), the drawback of which is that such instruction is sedentary and focuses on information transmission rather than experiential learning.

More encouragingly, a number of studies cited within the reviews did incorporate more positive approaches. For example, some programmes provided tailored interventions and feedback and lower intensity and non-competitive PA with emphasis on fun, well-being, variety or choice (see Haerens et al., 2006; Sallis at al., 2003; Simon et al., 2004; Story & Honer, 2012; Fox & Harris, 2003; Kriemler et al., 2011; van Sluijs et al., 2007) as limitations and risk of bias in the studies are recognised (Dobbins et al., 2013).
et al., 2003, summarised and cited in van Sluijs et al., 2007), or peer-led or self-directed sessions (see Pangrazi, 2003; Perry et al., 1987 in van Sluijs et al., 2007). Similarly, other studies included the development of self-management and behavioural skills for PA such as self-monitoring, goal setting and/or the enhancement of self-esteem and confidence (e.g. Angelopoulos, Milionis, Grammatikaki, Moschonis & Manios, 2009; McManus et al., 2008; Peralta, Jones & Okely, 2009; Wilson et al., 2011; Young, Phillips, Yu & Haythornthwaite, 2006 in Dobbins et al., 2013).

**Pedagogy underpinning teaching about active lifestyles**

A number of factors are clearly important in determining the effectiveness of PA interventions and programmes and their subsequent successful, wider adoption into schools and PE curricula. Not least, this includes the underpinning pedagogy and quality of their delivery. However, limitations in the pedagogy traditionally applied to teaching about active lifestyles have been acknowledged and knowledge about effective PE-for-health pedagogies or models has been identified as a significant gap in the field (Armour & Harris, 2013; Haerens, Kirk, Cardon & De Bourdeaudhuij, 2011). Armour and Harris (2013) note how, although there has been much interest in health-focused curriculum activities and interventions, less attention has been paid to the development of pedagogies to be used in the health dimension of PE. Additionally, they claim that the curriculum, programmes and activities have traditionally been the driver to the educational process, rather than the needs of the learners, yet they argue implicit in effective PE-for-health pedagogies should be a reversal of this, with pedagogy and learners’ needs being at the core (Armour & Harris, 2013).

In the absence of knowledge about appropriate pedagogies, it is perhaps not surprising that concerns have been expressed over the teaching of the area in practice. Further, a few notable factors seem to be heightening these concerns and hampering progress. First, Alfrey and Gard (2014) and Kirk (2010) argue that the PE profession is resistant to change and it is widely acknowledged how sport techniques, competitive sport and team games which focus on performance and fitness have dominated, and continue to dominate PE and teachers’ philosophies and practices (Green, 2009; Kirk, 2010; McKenzie & Kahan, 2004; Trost, 2006). When teaching about active lifestyles, scholars suggest many apply the same sport, performance and fitness oriented approach (Alfrey, Cale & Webb, 2012; Harris & Leggett, 2015 Puhse et al., 2011), centring on narrow, limited, instrumental and sometimes questionable outcomes and activities. Alfrey and Gard (2014, p. 4) note how literature has portrayed a picture of the profession as “steadfastly resistant to change away from the dualistic and instrumental understandings of health and the body”, towards more “progressive and student-centred practices and pedagogies”. Rather, Haerens et al. (2011) and Quennerstedt (2008) highlight the need for a broader approach which focuses on development in the cognitive, psychomotor, behavioural and affective domains and the adoption of a socially critical perspective to teaching and learning about active lifestyles.

Scholars have furthermore raised concerns over many PE teachers’ inadequate health knowledge and narrow, limited and even flawed understandings, arising from their often limited training and/or engagement in relevant professional development (Alfrey et al., 2012; Armour & Harris, 2013; Castelli & Williams, 2007; McKenzie, 2007; see also Chapter 31 by Haerens et al.). If PE teachers lack the knowledge, training and pedagogies to deliver the area well, as evidence suggests many do, then it seems unlikely that health aspirations, in this case enhanced student learning and engagement in PA, will be realized (Armour & Harris, 2013). In recognition of this issue, Haerens et al. (2011) are developing a learner-centred pedagogical model for health-based PE, the central theme of which is ‘valuing a physically active life’ (see also, Sun, Chen, Zhu &
L. Cale

Ennis, 2012; see also Thorburn, Chapter 6; Ennis, Chapter 8). However, more work on establishing effective pedagogies for health is required (Armour & Harris, 2013).

As a result of the above, many PE teachers’ delivery of active lifestyles is likely to be traditional, narrow and simplistic, and may involve some questionable or undesirable practices which may also mitigate against young people’s learning and engagement in PA. Examples of such practices include adopting a hardline approach to exercise, forcing young people into strenuous exercise, fitness regimes involving dull, boring and repetitive drill type activities, weighing and measuring, and fitness testing (Cale & Harris, 2009b; Rich, 2010). One of these alleged questionable practices, namely fitness testing, remains a standard feature of PE practice (Gard & Wright, 2001) and is therefore given particular consideration.

The role of fitness testing in teaching about active lifestyles

Fitness testing is commonplace within PE and is mandatory in some countries and states (Alfrey & Gard, 2014; Cale et al., 2014; Cooper et al., 2010; Corbin, 2010). Indeed, a recent study in Australia found fitness testing to be the most popular context for teaching about health (Alfrey & Gard, 2014). Yet, controversy has surrounded fitness testing in young people for many years and it has and continues to be a popular topic of debate (e.g. Cale et al., 2014; Cale & Harris, 2009a; Cohen, Voss & Sandercock, 2014; Liu, 2008; Lloyd, Colley & Tremblay, 2010; Naughton, Carlson & Greene, 2006; Silverman, Keating & Phillips, 2008; Wrench & Garrett, 2008). Cale and Harris (2009a) note the issues raised most commonly with fitness testing focus on the type, validity, reliability, ethics and value or purpose of testing young people. The latter is primarily the focus here in so far as the value or purpose of testing serves to contribute to teaching about (and promoting) active lifestyles.

Advocates of fitness testing in schools claim that it promotes healthy lifestyles, physical fitness and PA, learning and educational goals, positive attitudes, motivates young people to maintain or enhance their physical fitness or PA, and facilitates goal setting and self-management skills (Australian Council for Health, PE and Recreation [ACHPER], 2004; Corbin, 2010; Keating, Silverman & Kulilna, 2002; Silverman et al., 2008). A further rationale for testing and for which there is now growing support is the link between health-related fitness and health outcomes in children (Lloyd et al., 2010; Ortega, Ruiz, Castillo & Sjostrom, 2008; USDHHS, 2008). Whether fitness tests do actually serve many of these purposes is, however, debatable and their value has been questioned (e.g. Cale & Harris, 2009a; Keating, 2003; Naughton et al., 2006; Rice, 2007; Stewart Stanec, 2009). Keating (2003) cites three facts that cast doubt on the role of fitness testing in improving fitness and PA levels: a) children have failed to show improvements in fitness and have become less physically active; b) the percentage of overweight youth has increased substantially in recent years; and c) the proportion of inactive adults has also increased dramatically. Similarly, based on a review of the literature and a study of the views and experiences of stakeholders and experts in the field, Cale and Harris (2009a) noted there was little evidence to support the notion that fitness testing promotes healthy lifestyles and PA. To the contrary, they and others have cautioned that testing can be counterproductive to this goal in that it can be unpleasant, uncomfortable, embarrassing and meaningless for many young people, and that scores can be inaccurate, misleading, unfair and de-motivating (Cale & Harris, 2009a; Naughton et al., 2006; Rice, 2007). Cale and Harris (2009a) concluded that fitness testing may therefore represent a misdirected effort and that PE time could be better spent.

Equally, Cale and Harris (2009a) and Silverman et al. (2008) recognise the potential educational role of fitness testing, viewing this as an essential outcome if testing is to be justified and afforded precious PE time. The educational worth of fitness testing can be considered in
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terms of what young people learn through testing, their experiences of testing, and the impact of these. Surprisingly, researchers have paid relatively little attention to these aspects and when they have, the findings appear to be mixed. Hopple and Graham (1995) investigated children’s perspectives and understanding of the mile run test. They found that children generally showed little or no understanding of why they were being asked to complete the test and that many disliked taking it. Likewise, Luke and Sinclair (1991) reported unfavourable attitudes towards fitness tests, whilst Keating (2003) reported some youngsters did not value or take testing seriously. More recently though, Mercier and Silverman (2014) found students overall to hold a slightly positive attitude towards testing, although acknowledged that amongst these were students with highly negative attitudes. Prospective and qualified PE teachers have furthermore reported many young people to dislike or not enjoy fitness testing (Alfrey & Gard, 2014; Cale & Harris, 2009a; Corbin, 2010; Wrench & Garrett, 2008). Reflecting on the potential dangers of institutional testing, Corbin (2010) expressed concern over the percentage of elementary teachers reporting children crying during testing whilst, based on their findings, Wrench and Garrett (2008) concluded how the “continuing unproblematic use of fitness testing in schools and universities might actually cause more pain than pleasure” (p. 342). These concerns are significant given that young people’s enjoyment and experiences of fitness testing are likely to impact upon their future participation and motivation to participate in PA (Keating et al., 2002; Silverman et al., 2008; Wiersma & Sherman, 2008). Students’ perspectives and attitudes within PE and how these influence their engagement are explored in Part VIII.

Additional issues regarding fitness testing include the individualistic nature and performative culture reflected in and reinforced through fitness testing, as well as the use of some questionable testing practices (Alfrey & Gard, 2014; Cale & Harris, 2009a; Cale et al., 2014; Wrench & Garrett, 2008). Targeting the individual and individual behaviour change fails to acknowledge factors in the physical and social environment that influence PA. Because young people have little control over, or decision-making opportunities with respect to their lifestyles and behaviours (Cale & Harris, 2009a), this also raises questions over the efficacy and ethics of curricula that assume this level of personal control (Gard & Wright, 2001; Wrench & Garrett, 2008). Key concerns with the performative culture (which celebrates comparison, measurement, assessment and accountability) in testing are that it reduces health to variables which can be measured, and puts individuals under pressure to work on, evaluate and judge their bodies against unattainable social ideals and to meet standards over which they have little or no control (Evans, 2007; Evans & Rich, 2011).

Cale et al. (2014) identified a number of questionable and potentially problematic ‘performative’ fitness testing practices, for example, the use of maximal fitness tests (most notably the multistage fitness test which is a progressive shuttle run test which requires individuals to exercise to exhaustion), the public posting of fitness test scores, and the public monitoring of students’ weight or body composition. Questions have been asked over the appropriateness of the multistage fitness test for young people in that it was developed for use with elite, adult populations (Winsley, 2003), carries an element of risk (Association for Physical Education, 2008; Eve & Williams, 2000) and can be overly public and misused (Cale & Harris, 2009b; Pangrazi, 2006; Wrench & Garrett, 2008) and thereby undermine the confidence of, and embarrass some young people (Cale et al., 2014). On the issue of monitoring weight, Cale and Harris (2009b, p. 143) argue that it is not necessary to “measure children … to tell them something that they already know, and more importantly, no child needs to be measured to be helped to enjoy being physically active”. The continued uncritical focus on testing is thus questionable on pedagogical grounds and suggests that the needs of many learners are being overlooked. Interestingly, some teachers themselves are now questioning the role of fitness testing and certain fitness testing
practices (Alfrey & Gard, 2014; Cale et al., 2014). In their study, Alfrey and Gard (2014) found that some health and PE teachers had reservations about fitness testing, were unsure why they used tests, and had begun to reflect on the dangers and shortcomings of testing as a context for learning.

So far a rather bleak picture has been painted with regard to the value of fitness testing in PE, raising questions as to why the practice continues. Arguably a sound reason for fitness testing is the belief that it can potentially enhance learning about, as well as engagement in, active lifestyles. Silverman et al. (2008) are of the view that fitness testing can be used in positive ways to enhance the educational experience as well as promote good attitudes in children, whilst Lloyd et al. (2010) advise that the fear of assessment should not outweigh the potential pedagogical benefits to students. Rather than simply being critical of school-based testing, we therefore need to take a look at the pedagogical approach to the testing and testing practice. In recognition of inappropriate and poor fitness testing practice, Corbin (2010) argues that quality PE that allows students to practise, understand and prepare for testing is essential if they are to see the value and personal benefits. In addition, it is imperative that any testing is learner- rather than activity-centred, which should consequently help to eradicate some of the possible pitfalls and negative experiences. In sum, scholars argue that if testing is appropriately employed, subjected to informed critique, and incorporated as just one component of a broad and holistic educational programme, it can be a valuable component of the PE curriculum and play a role in promoting active lifestyles (Cale & Harris, 2009a; Cale et al., 2014; Lloyd et al., 2010; Rowland, 2007; Silverman et al., 2008).

Finally to ensure best practice, teachers need access to training, guidance, support and opportunities for open professional dialogue about fitness testing (Alfrey & Gard, 2014; Cale & Harris, 2009b; Cale et al., 2014; Silverman et al., 2008). Various fitness testing guidelines for young people have been published over the years, including some recent recommendations by Cale et al. (2014) which focus on ‘monitoring’ within the PE curriculum more broadly, and which cover health and PA monitoring as well as fitness testing. The recommendations include key principles, messages and values teachers should strive to adopt in their practice plus guidance on content, organisation and delivery (Cale et al., 2014). Crucially, they encourage a holistic, critical and learner-centred approach, and for teachers to encourage their students likewise to be critically reflective of practice.

**Summary of key findings**

To summarise, below are the main findings, points and some key questions stemming from this chapter with respect to teaching about active lifestyles.

- It is generally accepted that PE provides a suitable context for teaching about active lifestyles. However, there is ongoing debate over the specific role and responsibility it should have for public health and health outcomes.
- Evidence reveals that school-based PA interventions, many of which include PE as a key component, can be effective and provide a number of positive outcomes for young people.
- Gaps in the evidence and limitations in the studies to date make it difficult to replicate studies and identify which types or aspects of school-based programmes are effective or most effective.
- Scholars consider the underpinning pedagogy and quality of delivery also to be key in PA and PE interventions and programmes. Unfortunately, researchers acknowledge limitations...
in the pedagogy traditionally applied to teaching about active lifestyles and a lack of knowledge about effective PE-for-health pedagogies or models.

- In the absence of knowledge about appropriate pedagogies, concerns have been expressed about the way active lifestyles are taught and teachers' ability and effectiveness to deliver this area effectively. Additional factors which heighten these concerns include the PE profession's resistance to change, some PE teachers' sport, performance and fitness philosophies, and their limited health knowledge, training and/or engagement in relevant professional development.

- As a consequence, many PE teachers' delivery of active lifestyles is likely to be traditional, narrow and simplistic, and involve some misinformed, questionable or undesirable practices.

- Some scholars see fitness testing within PE as a questionable practice and yet it is commonplace and continues to be an ongoing topic of debate.

- Advocates of fitness testing in schools have justified its use on various grounds. Notably they argue that it promotes healthy lifestyles and PA, although there is little evidence to support this claim.

- The main issues discussed here with fitness testing relate to the value or purpose of testing young people in so far as it contributes to teaching about (and promoting) active lifestyles, the individualistic nature and performative culture reflected in and reinforced through testing, and to some questionable testing practices.

- Some scholars argue that if fitness testing is appropriately and critically employed, and incorporated as just one component of a broad and holistic educational programme, it can be a valuable component of the PE curriculum and play a role in promoting healthy lifestyles and PA.

- To ensure best practice, teachers need access to and opportunities for training, guidance, support and open professional dialogue about fitness testing in young people.

**Reflective questions for discussion**

1. When teaching about active lifestyles, what student learning outcomes are realistic for PE?
2. How can teachers maximise PE's potential to engage young people in active lifestyles?
3. How can scholars and researchers support PE teachers to adopt evidence-based PA and PE programmes and draw on research to inform their practice?
4. How can scholars, curriculum developers and specialists encourage and support PE teachers to develop effective PE-for-health pedagogies?
5. What learner-centred pedagogical practices are most likely to engage children and youth in in-class physical activity?
6. How can instructional practices be modified and adapted to encourage less fit and lower ability students to engage meaningfully in physical activity?

**References**


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