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EDUCATIONAL WORTH OF PHYSICAL EDUCATION AND SPORT PARTICIPATION: A REVIEW

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ABSTRACT

The views of three academics on the educational value of Physical Education (PE) and School Sport (PESS) were assessed. Green explores the supposed effect of PE on current and future participation in sport and concludes that PE teachers cannot attach themselves so deeply to such a weak claim that might be impossible to show. Bailey alleged that the benefits of PESS has been made in such assertive tones that a bystander might think that nothing more can be said. Bailey and Hardman believe that it has not been proven scientifically that PESS contributes to the holistic development of the child. The present article attested the educational worth of PESS. A literature study of mainly primary sources in the field of PE was conducted. The methodology can be typified as qualitative research within the interpretative science paradigm. An educational rationale for the inclusion of PE in curricula is provided by the validation of the Arnoldian dimensions. The arguments offered by Bailey, Hardman and Green are to a great extent rejected. Most of the viewpoints in this paper are in line with Arnold's rationale for the inclusion of PE in curricula. The inclusion of a subject in curricula relates to the envisaged values concerning the unique content and aims, learning programmes and the actuality and value of the outcomes.

Key words: Physical education; School sport; Educational value of physical education and school sport; Holistic development.

INTRODUCTION, PROBLEM STATEMENT AND METHODOLOGY

In this review article the views of three academics (Ken Green, Richard Bailey and Ken Hardman) on the benefits and/or outcomes of physical education (PE) and school sport will be explored. In the second part of the article a counterplea on their viewpoints is made.

Differences exist between the use of terminology, such as 'PE', 'sport', 'PA', etc. (Bailey *et al*., 2009:2). In this article the definition of Bailey *et al*. (2009:2) will be applicable:

> "… PESS [physical education and school sport] as an inclusive, generic descriptor for those structured, supervised physical activities that take place at school and during the (extended) school day".

Green (2012b:1) explores what he calls the 'PE effect', that is, "the *supposed* effect of PE on young people's current and future participation in sport". Green (2012a) alleges that for the improvement of the engagement in physical activity (PA) by the youth, now and in adulthood, school PE is often depicted as a potentially major, even crucial, agent. He refers to

what he calls the "taken-for-granted assumption", which finds expression among PE teachers and also in government policies internationally (Green, 2012a:2).

According to Green (2012a) the precise nature of the link between physical education and school sport (PESS) and lifelong participation in sport have never been examined explicitly, but mostly treated as an unmistakable truth. In lieu of two vital and obvious reasons any probe into the link between PESS is certain to result in guesswork. Firstly, various variables with multifaceted interrelationships have the potential to effect sport participation, which prevents the isolation of causal factors. Secondly, even if a causal link is found, research methodologies are so flawed that vast difficulty will be experienced in discovering any underlying 'reality' (Green, 2012a:2-3).

The prospect of identifying a causal link has been brought into sharper focus by the growth of quantitative cross-sectional research (Green, 2012a). However, Green (2012a:16) refers to Marshall (2009) in his notes who claims that cross-sectional research has failed to deliver credible and convincing, let alone indisputable, evidence for a causal relationship. Other studies, according to Green (2012a), have identified trends in youth sport participation by employing longitudinal data. However, although strong positive links between PESS *may* show a causal relationship, they may not. Any relationship between PESS may, in fact, be 'caused' by additional factors, such as age, social class, gender, friends, facilities, family socialisation, etc. Even if it was likely to determine that a strong correlation was a sign of causality, it would not be clear in which direction 'causation' was working. For example, it is reasonable to state that advances in youth sport in the 1970s and 80s led rather than stemmed from changes in PE (Green, 2012a).

Some studies (De Knop & Martelaer, 2001, cited in Green, 2012a:5) have sought to enhance quantitative data with qualitative research in order to triangulate the nature of the many kinds of links between PESS. Qualitative research, mainly interviews, is useful to determine the importance of family and friends in youth sport practices, as well as how PE has, or has not, impacted on sport careers (Green, 2012a). Qualitative studies often produce data that has the potential to explain why it may be acceptable to move beyond any correlations to talk in terms of 'causal' relationships, although at the level of probability (Green, 2012a).

It is very likely that some young people would simply not take part in any sport without the impact of PE. There is a wealth of subjective evidence from PE teachers, elite players and youth that reinforces this view. Thus, PE may be vital for particular young people for whom it offers the only chance to participate in sport or other forms of physical activity (Green, 2012a). However, Green (2012a:14) believes that:

> "It is unlikely, nevertheless, that there will be one process within PE that explains how school sport influences youngsters' sporting and physical recreation behaviours outside school, let along later in life…"

Green (2012a) further postulates that sport participation is seldom the product of a single cause. As an intervention, PE may work for some but not for others and will work in some settings. For example, youth on the margins who have not been hugely socialised into sport by their families may have some skill and social assets to draw on, but not those youth who have been 'locked-out' by virtue of class/ethnic/gender/family socialisation. A far better stake

than PE as a major 'cause' of sustainable participation in sport seems to be family socialisation into sport engagement. Therefore, it is wrong for PE specialists to attach themselves so intensely to a claim that appears so weak and may well be shown to be, at worst, unachievable and, at best, impossible to show (Green, 2012a).

In the following section the views of Bailey *et al*. (2009) and Hardman (2010) on PESS will be explored in conjunction with each other. Bailey *et al*. (2009) asks the question: Can PESS provide that which is claimed in its name? There has been a tendency to make undue claims for the benefits of PESS all the way through history. These claims have been made in such assertive tones that an innocent bystander might take them as being definite and that nothing more is to be said about the matter (Bailey *et al*., 2009).

In the review of Bailey *et al*. (2009), the emphasis is on four broad domains: physical, social, affective and cognitive, in other words, what PE specialists commonly regard as the holistic or embodied view on human beings. According to Bailey *et al*. (2009) and Hardman (2010) there is a general understanding that the unique contribution of PESS lies within the physical domain. Hardman (2010:10) alleges that:

> "The physical focus has shifted over time from [a] health-related fitness rationale, through performance-related considerations, to impacts of sedentary behaviours with PA as a public health issue and in the political limelight with lifelong engagement in physical activity as a widely accepted goal, even though evidence of significant benefits from physical education programmes and experiences as a foundation for life-long activity is scarce, limited or not scientifically proven".

The claims made for the social benefits of PESS, in essence, centre on developing children's abilities to interact positively with others, which can result in widespread gains for themselves, schools and communities. However, it is important to note that central to the social learning process is the role of the PESS teacher (Bailey *et al*., 2009). Claims on the social benefits have led to questions regarding the nature of the evidence supporting these claims (Bailey *et al*., 2009). There is a need not only to determine the *product* of participation but also the *process* of change. Moreover, more knowledge is needed about how the benefits can be ascribed to a specific initiative, or how other factors influence the effect (Bailey *et al*., 2009). Hardman (2010) is also of the opinion that the mechanisms that lead to improved social behaviour need to be better understood.

Whether any relationship between PA and affective development is causal or casual is difficult to conclude. Additional research investigating *why* and *how* affective development happens within activity-specific contexts is necessary (Bailey *et al*., 2009; Hardman, 2010). Research on the cognitive benefits focus on the development of learning skills and academic performance linked to participation in PESS. A small number of studies seek to discover the mechanisms that might cause cognitive benefits, or ways in which these mechanisms might be initiated by various types of PA and different ways they are presented. Other studies fail to make a distinction between correlation and causation (Bailey *et al*., 2009; Hardman, 2010). The link between PESS and cognitive outcomes needs further research (Bailey *et al*., 2009; Hardman, 2010). According to Bailey *et al*. (2009:16) it can be concluded that:

> "… increased levels of PESS do not interfere with pupil's achievement in other subjects (although the time available for these subjects is consequently reduced), and in some sub-groups outcomes may be associated with improved academic performance".

In summary, it can be stated that according to the review articles of these three prominent academics, PE as a school subject has no real educational value as it does not contribute towards the holistic development of the child. With this brief background discussion in mind, the aim of this review was to focus on the holistic benefits of school PESS in an attempt to prove its educational worth within educational systems. This research was conducted by means of a literature study of mainly primary, as well as secondary sources in the field of PE and curriculum studies. The methodology applied in this study can thus be typified as qualitative research within the interpretative science paradigm.

COUNTER ARGUMENTS

According to Pope (2011), clout should begin with what a subject means, not with what it claims it does or can do. Pope contends that there will always be rivalry, regardless of whether PESS are considered from within a philosophical, sociological, pedagogical or historical background. The worth of sport, as well as PE, is constantly changing as political, commercial or strategic forces at work make sure that what it means today will not necessarily be the same tomorrow (Pope, 2011).

The aim of schools is to safeguard the growth and development of learners and to prepare them for life. Like all other school subjects, PE shares this aim by focusing more on the socio-motor aspects within an inclusive educational process (Dupont *et al*., 2009). PE that offers a balanced methodology to educate the child holistically is consistent with the educational mission of schools globally (Ennis, 2011), notwithstanding the fact that schools are not only educational settings. Thorburn and MacAllister (2013), on the other hand, believe that there is unease about the educational contribution of PE.

The link between PESS is one of the most long-drawn-out and sensitive topics (Pope, 2011). If anything, the status of PESS have been obscured rather than enlightened by research. The supporting sentiment and the related tension between the PE and sport metonymy is not unique to a specific country and could be applied to many contexts (Pope, 2011). Trudeau and Shephard (2008a) and Haerens *et al*. (2010) allege that fostering lifelong participation in PA is one of the central aims of PE, whereas Ennis (2011) alleges that it is one of the most elusive educational goals of PE. These researchers are correct as current and future participation in PA is but one aim in an array of outcomes related to school PE (Fairclough *et al*., 2002; Penney & Jess, 2004; Ennis, 2011).

The vision of Penney and Jess (2004) concerns the joy of being active; to be able to stay active and to live a 'healthy' and 'full' life no matter how one views such a life. Their vision specifically relates to a life of *learning*, not just activity, which relates to Ennis's (2011) viewpoint that the primary focus of PE should be on learning. Through curricula and teaching styles that are deliberate, systematic and seamless, PE is in a position to achieve personal and developmental assets (Weiss, 2011). The PE fraternity should consider the ways and places in which activity and learning opportunities that are applicable to all people in various life

circumstances with differing, diverse and ever changing 'activity and health-related learning' needs can be facilitated (Penney & Jess, 2004:277).

According to Ennis (2011:6) the content scope of the PE curriculum should emphasise:

> "… in-depth instruction in a range of physical activities that students [learners] *need* to learn to be physically active; *want* to learn because the activities lead to opportunities in competitive sport and recreation; and *enjoy* learning because the activities are meaningful and relevant in their lives today".

Penney and Jess (2004) believe that *education* cannot be pre-defined, pre-prescribed or simplistically 'delivered' in a specific shot; it materialises as a lifelong undertaking where the concern is with a process and not a fixed product. In PE, a shared commitment to develop educated learners who are proficient to critically engage with activity agenda, opportunities and barriers experienced during the course of their lives should develop. An 'all encompassing' view of PA should be endorsed by the PE fraternity and be made aware of the varied types of PA that people are involved in for various and wide-ranging reasons (Penney & Jess, 2004).

A holistic educational approach towards the child implies that PE specialists not only advocate daily engagement in moderate to vigorous PA but also the skills, knowledge and perceptions of physical self-worth that cultivate healthy, active lifestyles (Penney & Jess, 2004; Ennis, 2011). For the achievement of health-related goals in PE, transfer of learning needs to take place so that learners will participate in PA beyond the curriculum and the school (Haerens *et al*., 2010). Weiss (2011:55) contends that PE should contribute to *both* motor skill development *and* health outcomes related to participation in PA. Behavioural change can be supported by developmentally appropriate affective and skill-based knowledge presented within an eloquent context (Ennis, 2011).

Le Masurier and Corbin (2006) allege that medicine arose as the renaissance profession in the 20th century because of a sound scientific base. The role of PA in disease prevention and healthy lifestyle promotion is supported by substantial scientific evidence (Le Masurier & Corbin, 2006). Furthermore, to provide all children with PA experiences that promote PA now and for a lifetime, quality PE signifies to be the best prospect (Siedentop, 2009; Trost & Van der Mars, 2009/10). Yet, PE professionals need to do a better job of recording the evidence on the link between quality PE and present and future PA involvement (Le Masurier & Corbin, 2006; Trudeau & Shephard, 2008a), and distribute it as widely as possible (Bailey & Dismore, 2005).

An educational rationale for the inclusion of PE in school curricula is provided by the justification of the Arnoldian dimensions. Arnold understood the marginalised view on PE and via an intrinsic validation suggesting that PE activities were worthy in and of themselves, he instead confronted the educational legitimacy of subject matter (Brown, 2013). Several present-day PE curricula are either underpinned philosophically or implicitly informed by the Arnoldian notions of education "in, through and about" movement (Brown, 2013:22), which relate to the physical, social, affective and cognitive domains and denotes a holistic approach to teaching PE.

Arnold (cited in Brown, 2013:25), claims that education initiates learners into journeys that are valuable from an 'academic' or intellectual and 'physical' or practical viewpoint for their own sake. This is an important perspective as it acknowledges that education is more than the pursuit of a narrow idea of knowledge that is being academic or intellectual (Brown, 2013).

Rational enquiry is the main focus of education 'about' movement. It is an activity that studies movement form various perspectives, which include anatomical, physiological, sociological or philosophical knowledge of human movement. Arnold claims that education 'about' movement can act as an analytical, as well as a critical and evaluative tool (Brown, 2013).

Brown postulates that education 'through' movement is perhaps the dimension that is most effortlessly linked with PE. As a means to an end, this dimension uses movement as a way to meet other objectives. Purposes that are not related to any intrinsic values but oriented towards extrinsic values can be achieved in the physical, emotional, cognitive and social domains through participation in carefully chosen and focused PAs (Brown, 2013).

The intrinsic values of PA per se are the main concern of education 'in' movement. The participation perspective of the individual is highlighted by this dimension, which can be defined as an 'inside' perspective. Consequently, from the perspective of the individual, PAs are worthwhile in and of themselves. This dimension allows the individual to realise him-/herself in unique, pleasing and bodily related situations as a process of understanding their own embodied cognisance, which is a benefit to education. These are personal views that are 'good-in-themselves,' as well as 'good-for-me' (Brown, 2013). Learning 'in' movement, therefore, refers to experiential outcomes where learners gain knowledge, understandings and skills as a result of thoughtful participation in PA, such as applying tactics and strategies in a game, assessing the physical capacities and requirements of an activity (Brown & Penney, 2012).

There is a link between participation 'in' movement (through the body) and understanding it (through rational knowledge) (Brown & Penney, 2012; Brown, 2013). According to Arnold, movement must be entered into for its own sake where it's intrinsic worth and qualities can be experienced and its values made obvious. These experiences can move the individual towards self-actualisation and can expand his or her horizons. On the contrary, in denying an individual this world of bodily action and meaning is to deny the possibility of becoming more completely human (Brown, 2013). Brown (2013:34) states that:

> "Indeed the development of qualities and characteristics of the body in movement contexts that posit a more intrinsic and subjective value of PA, enhances the educational prospects and pedagogical potential of the field, as it acknowledges that different ways of knowing exists in PE and movement.

According to Lu and De Lisio (2009), PE is quite literally education through the physical (bodily movement). A range of well-planned PAs for all children is the trade mark of a quality PE programme, which recognises the importance of developing physically literate individuals capable of sustaining an active and healthy lifestyle. Although PE does not have the sole right on physical literacy, it must embody the overall goal of every PE class. It is necessary to note that the concept of physical literacy is sometimes referenced as "movement

literacy" (Lu & De Lisio, 2009), or movement vocabulary (*my insert*). PE that contributes to the making of the 'physically educated' or 'physically literate' must go together with enhancements to raise the quality of the teaching and learning processes, as well as PE teacher education and training (Hardman, 2010).

Lu and De Lisio (2009:173) describe another important benefit of PE:

> "… it can promote literacy across the curriculum and elicit an alternative approach to educating children as opposed to the traditional method of teaching each subject in isolation: by integrating instruction from another subject area …".

For example, classes could explore a cultural dance to add to a discussion involving cultural identity and with a little creativity mathematics and science, or any other school subject for that matter, could be integrated into the development of a personal fitness programme. Such an approach whereby the gap between mathematics, science, language, social studies, and others is bridged will assist every child to develop the knowledge, skills and attitudes necessary to lead an active healthy lifestyle (Lu & De Lisio, 2009). A learner-centred 'teaching for understanding' approach is more suitable to achieve these outcomes (Fairclough *et al*., 2002). In an effort to accomplish the greater goal of PE, it is vital for teachers to think critically, as the level of success in PE through a developmentally appropriate teaching practice will intrinsically motivate learners and accordingly enhance their enjoyment of PE (Lu & De Lisio, 2009).

Although further research might be necessary to better comprehend the educational offerings of PESS, it clearly has the potential to make a significant contribution to the education and development of children in many ways (Bailey & Dismore, 2005; Trudeau & Shephard, 2005). PE has distinctive features that no other learning or school experience shares (Talbot, 2001; Trudeau & Shephard, 2008a). Hardman (2010) alleges that it is widely accepted, contrary to earlier references to dis-benefits and negative outcomes and mixed research findings messages, that PA can positively influence physical and psycho-social health and hence, is important to all stages in the life-cycle. Over the past 40 years, according to Weiss (2011), extensive research has drawn a firm association between youth engagement in PA and positive behavioural and psycho-social outcomes. Holistically, PESS have an intense and positive effect on the physical, affective, social and cognitive domains (Bailey & Dismore, 2005; Bailey, 2006; Ennis, 2011; Brown, 2013). For the PESS activists, these findings provide backing and comfort (Bailey & Dismore, 2005; Bailey, 2006).

Bailey (2006) alleges that fundamental movement and physical skills are necessary precursors of participation in PA and, therefore, it is suggested that PESS have the potential to make distinctive contributions to the development of these skills. PESS can also support the development of social skills, self-esteem and pro-school attitudes and, in certain circumstances, cognitive development when appropriately presented (Bailey, 2006). According to Stodden *et al*. (2008) a shared notion is that children 'naturally' learn fundamental movement skills. The same applies to social skills, self-esteem, pro-school attitudes and cognitive development (Stodden *et al*., 2008). Yet, the claim that these effects will occur automatically is *not* supported by scientific evidence (Bailey, 2006). Whether or not the youth experience these aspects and whether or not they attain the great potential of

PESS will largely depend on the actions and interactions of teachers, parents and coaches (Fairclough *et al*., 2002; Penny & Jess, 2004; Bailey & Dismore, 2005; Bailey, 2006).

In the words of Bailey (2006:397):

> "Contexts that emphasise positive experiences, characterised by enjoyment, diversity, and the engagement of all, and that are managed by committed and trained teachers and coaches, and supportive and informed parents, significantly influence the character of these physical activities and increase the likelihood of realising the potential benefits of participation".

Bailey (2006) claims that it is unclear through which mechanisms active youth become active adults, while Kirk (2005) contends that lifelong participation in PA largely depends on early learning experiences. Indeed, an analysis of retrospective and longitudinal studies indicates that PESS participation in childhood and youth represents an important predictor of later activity (Trudeau & Shephard, 2005; Bailey, 2006; Scheerder *et al*., 2006; Trudeau & Shephard, 2008a). It was also found that exclusion from PESS during childhood and youth can be related to a legacy of inactivity and associated ill-health in the adult years (Bailey, 2006; Scheerder *et al*., 2006). In comparison to educational level or parental socio-economic status, PA participation during adolescence is a better predictor of the involvement of adults in PA (Scheerder *et al*., 2006).

The effects of movement on academic performance and cognitive development are often underestimated (Hendricks, 2004; Frededricks *et al*., 2006). According to Bailey (2006) and Ennis (2011), more research is still required to verify the claims that PESS can enhance academic performance. Yet, for both adults and children contemporary studies do suggest a positive link between intellectual functioning and regular participation in PA (Bailey, 2006). According to Trost and Van der Mars (2009/10:60) it is believed that:

> "Eliminate PE to increase time for reading and math, the theory goes, and achievement will rise. But the evidence says otherwise".

The notion that time in PE lowers test scores has been boosted by the *No Child Left Behind* (NCLB) in the US. The NCLB created a situation in which the so-called practical subjects like PE, Music and Arts were viewed as secondary to the so-called academic subjects, because it linked federal funding to schools' yearly progress in reading and mathematics (Trost & Van der Mars, 2009/10).

The question is whether the idea of reducing PE time to improve academic performance is sound. Evidence reveals the opposite. Academic performance remained unaffected by reductions in time allotted to PE (Brown *et al*., 2008; Budde *et al*., 2008, Ericsson, 2008; Siedentop, 2009). On the contrary, studies indicate that by increasing PE time resulted in improvements in academic performance (Bailey, 2006; Trudeau & Shephard, 2008b; Trost & Van der Mars, 2009/10; Hardman, 2010). There is a growing body of research indicating that purposeful movement expand brain function and learning, which makes movement a prerequisite for learning readiness (Krog & Krüger, 2011). Within the scope of this review, the lack of space does not allow for an elaboration on brain functions and learning.

Hendricks (2004) found that the Grade 1 learners in the experimental group, compared to the other groups, showed a greater improvement in reading and mathematical skills after an eight week intervention programme (a developmental movement programme), that was presented for 20 minutes a day. Additionally, the classroom teachers reported that these learners were more alert and quicker in their responses after the exercise period. Certain learning experiences of Grade 1 learners will be improved when movement programmes target those systems that are crucial to a child's ability to learn (Fredericks *et al*., 2006; Ericsson, 2008; Trudeau & Shephard, 2008b).

In the study of Pienaar *et al*. (2011) among 40 four- to six-year old children, they found that a Kinderkinetics programme significantly improved body awareness, gross and fine motor skills, coordination, balance, bilateral integration, locomotor skills and spatial awareness, as well as selective cognitive concepts and attentive and observational skills. Du Toit *et al*. (2011) found a positive relationship between physical fitness components and academic achievement in 212 South African primary school children aged 9- to 12-years. More significant correlations were found among girls compared to boys, and among older boys and girls.

Certain limitations exist in research on the link between PE and academic performance (Trost & Van der Mars, 2009/10). Firstly, there is a lack of research piloted in secondary schools. Secondly, the amount of time spent in PE is used as the key independent variable in most studies, without considering the *quality* of instruction. Lastly, these studies often lack what is called *ecological validity* (transferability of findings). For example, if a study was conducted in a laboratory, the research finding may not transfer to school PE settings. The same applies if the type, amount or intensity of PA in the study differed significantly from a typical school PE lesson (Trost & Van der Mars, 2009/10).

Perhaps, most importantly, too little is known about the PE effect on academic performance among learners at a high risk for obesity, as well as children from low socio-economic milieus and those from black, Latino, American Indian and Pacific Islander families (Trost & Van der Mars, 2009/10). It is important to remember that from kindergarten to secondary school, PE is the only PA that most children are exposed to, which is particularly true for PESS in deprived areas (Kirk, 2005; Dagkas & Stathi, 2007; Trudeau & Shephard, 2008a). Dagkas and Stathi (2007) claim that participation prospects for learners from lower socio-economic ranks are limited in comparison to their counterparts from higher socio-economic ranks. Schools in economically deprived areas need to provide better and a wider provision of structured PA to compensate for lower participation levels in PA outside school (Dagkas & Stathi, 2007; Stodden *et al*., 2008). The future economic health of societies depends on a strong academic education. However, a delicate balance exists between a nation's economics and public health (Trost & Van der Mars, 2009/10). Trost and Van der Mars (2009/10:63) explain:

> "It is indefensible to support an education system based primarily on promoting economic productivity in people who will likely be too unhealthy to enjoy whatever benefits come their way".

The longitudinal study of Roebers *et al*. (2013) reveals a substantial association between fine motor skills and intelligence in pre-school and kindergarten children. They propose that

executive functioning (EF) (information processing speed, attention and/or the mastery of speed-accuracy trade-offs), in both fine motor tasks and intelligent tests are shared devices. It was surprising how strong the link between EF and academic achievement was (Roebers *et al*., 2013). EF, as a "common domain-general factor", underlies the motor-cognitive achievement link and explicitly highlights mathematical achievement (Roebers *et al*., 2013:11). Their study established that EF is an essential factor for explaining (a) the motor-cognitive link and (b) the predictive influence of fine motor skills for early academic success (Roebers *et al*., 2013).

Those in power who shape the education and future of children can no longer overlook the link between PA and academics, as well as the severe negative health concerns of reducing PE (Trost & Van der Mars, 2009/10). Both academic achievement and PA are independent determinants of a child's health (Trudeau & Shephard, 2008b). Future generations of healthy people can only be shaped by PA and, therefore, PE has a legitimate claim to a part of the school day (Trost & Van der Mars, 2009/10).

In some respects, owing to the distinctive contexts of PESS, the holistic effect is unique. Therefore, for those who accept the value of PESS, there is a duty to act as activists for its place as an indispensable feature of the education of all children. They must not just argue for the inclusion of PESS within the curriculum and for sufficient time on the school time table. They also need to stress the meaning of the *quality* of programmes and share information on the benefits of PESS among administrators, parents and policy makers (Bailey, 2006). Key components of quality PE programmes are learning opportunities, and meaningful and appropriate instruction (Le Masurier & Corbin, 2006).

Le Masurier and Corbin (2006) are of the opinion that PE, taught by specialists in PE, will increase the PA levels of youths. Just as any other school subject, quality PE provides learners with the required skills needed in the real world. Self-management skills that help young people take on healthy living practices and manage their day-to-day activities is among the most important skills (Trudeau & Shephard, 2005; Le Masurier & Corbin, 2006; Siedentop, 2009).

The context and structure of quality PE, which can vary extensively between countries, to a large degree, governs learners' attitude towards PE (Kjønniksen *et al*., 2009). During the secondary school years a definite decline in participation levels with an increase in age exists in both genders, which may cause a related decrease in a positive attitude towards PE. Amid boys and girls, the reasons for the changes in attitude towards PE may also differ (Kimball *et al*., 2009; Kjønniksen *et al*., 2009; Pannekoek *et al*., 2013).

When it comes to participation in PA, boys have more positive attitudes than girls, which may reveal the observation that PE curricula favour boys more than girls. It could also be that specific cultural gender roles might affect the participation levels of girls more negatively than those of boys (Kirk, 2005; Kimball *et al*., 2009; Kjønniksen *et al*., 2009; Haerens *et al*., 2010). Kjønniksen and co-workers found that at the ages of 13 to 16 years both boys and girls had a positive attitude towards PE after which it declined for both genders (Trudeau & Shephard, 2005; Kjønniksen *et al*., 2009). During adolescence, attitude towards PE was moderately related to participation in sport. Although the proportion of explained variance

was very small, both positive attitudes towards PESS significantly predicted PA in adulthood (Kjønniksen *et al*., 2009).

Many learners receive their first movement experiences in regular PA in PE where they develop attitudes towards the subject. Participation in activities outside of school may be influenced by these experiences and result in more positive attitudes towards PA. Thus, in upholding a physically active lifestyle outside school, positive attitudes shaped in PE may play a vital role (Kjønniksen *et al*., 2009). Conversely, Kjønniksen *et al*. (2009) alleges that the opposite can also be true. Adolescents may transfer skills evolving from participation in sport into PE, which may account for some of the positive and consistent patterns of attitude towards PE.

PE curricula that only communicate the message that it is just relevant to competent movers interested in competitive sport are in danger. Many lower skilled girls (and boys – *my insertion*) might feel uncomfortable participating in team-based curricula and the patriarchal practice of an overemphasis on competition might create such an environment (Kimball *et al*., 2009). Haerens *et al*. (2010) claims that PE teachers need to increase their efforts to enhance girls' self-determined motivation. Haerens *et al*. (2010) found that the motivational profiles of high school learners did correlate with their PA levels in early adulthood and, therefore, the profiles of these learners are likely to relate to their future PA patterns. When learners find enjoyment and meaning in their learning, they build a positive attitude towards PA and will persist in these practices throughout their life time (Dupont *et al*., 2009).

There is a tendency among people to think that PE is PA and that teaching PE is nothing more than just presenting a cluster of PAs. PE, from a conceptual perspective, is not just any PA or sport. An individual will need the indispensable foundation as fostered through a quality PE programme in order to maintain an active healthy lifestyle (Lu & De Lisio, 2009). A limited and indefensible idea of the role of PE is the extensive practice in PE curricula to offer experiences, which only serve to strengthen achievement-orientated competition sport (Hardman, 2010). If the educational potential of school sport rather than its competitive side was emphasised, it would appeal to more learners (Trudeau & Shephard, 2008b).

A crucial site for learners to develop positive feelings of physical self-worth and perceived competence, associated with motor skills and fitness, is PE. Physical self-worth and perceived competence can lead to a more positive attitude towards PA and learners who perceive themselves to be skilled will participate in more diverse activities. For continued participation and enjoyment in PA these perceptions appear essential. PE provides environments for children to judge self-competence in skill, sport and PA in nurturing mastery-oriented environments. Positive, effective beliefs about ability and competence appear to influence effort and decisions to select PA over sedentary quests and are more likely to lead to long-term commitment to PA (Wallhead & Buckworth, 2004; Bailey, 2006; Stodden *et al*., 2008; Trudeau & Shephard, 2008a; Dupont *et al*., 2009; Ennis, 2011; Weiss, 2011).

Jaakkola *et al*. (2012) allege that although the importance of PE has been recognised, only a few longitudinal studies analysed the role of perceptions of school PE in the development of PA patterns in adolescence. How these variables are related may be better understood by investigating the motivational factors over long periods of time (Jaakkola *et al*., 2012;

Pannekoek *et al*., 2013). The purpose of the study of Jaakkola *et al*. (2012) was to analyse the motivational experiences of Grade 9 learners in PE to determine their self-reported PA behaviours. More specifically, they wanted "to investigate the role of task- and ego-involving motivational climates measured in Grade 7, perceived competence measured at Grade 7 and intrinsic and extrinsic motivations measured at Grade 8 as antecedents of self-reported PA measured at Grade 9" (Jaakkola *et al*., 2012:136). They hypothesised that self-reported PA would be positively and successively predicted by a perception of task-involving climate, perceived competence and self-determined motivation (Dupont *et al*., 2009; Jaakkola *et al*., 2012). Perceptions of autonomy, competence and relatedness are determined by social factors, which in turn determine the level of self-determination (Dupont *et al*., 2009).

Jaakkola *et al*. (2012) claims that by creating a task-involving motivational climate, for example, by emphasising learners' effort, progress and learning, PE teachers are in a position where they can facilitate learners' self-reported PA. The learners' need for competence can be facilitated in these climates, which in turn fuels intrinsic motivation and eventually leads to the increase of self-reported PA. Studies have shown that qualified PE teachers can positively contribute to a number of PA-related outcomes by creating a task-involving climate (Kirk, 2005; Jaakkola *et al*., 2012). Individuals will be in a position to access and engage actively in the physical culture of society when physical competencies are developed in the early years. Jaakkola *et al*. (2012) conclude that the motivational experiences the adolescents had explained 18% of their self-reported PA at Grade 9, which is not extraordinarily high, but indicates that PE has a role to play in motivating learners towards PA. The results suggest that for adolescents' perceived competence, PE motivation and PA patterns, the perception of task-involving motivational climate is important (Jaakkola *et al*., 2012). According to Dupont *et al*. (2009:37) autonomy and competence "positively predicted intrinsic motivation to know, intrinsic motivation towards accomplishment, intrinsic motivation to experience stimulation and identified regulation".

Stodden *et al*. (2008) contends that the idea of actual motor competence is overlooked in theoretical modes on the determinants of PA. They remind us that perceptions of competence are contextually based. The notion of task difficulty is not just dependent on self-perceptions of ability, but rather linked to actual motor competence (Stodden *et al*., 2008). If a child does not have the prerequisite skills to be successful at a task, the task at hand becomes difficult. In understanding why individuals choose to be either active or inactive, Stodden *et al*. (2008) believe that developing motor competence or skilfulness is vital. Hendricks (2004) alleges that if children do not gain confidence in their motor competence, problems may occur in the other domains of being human (cognitive, emotional and social domains).

Dupont *et al*. (2009) asserts that a positive effect exists between integrative negotiation (teacher-student negotiations) and learners' self-determined motivation towards PE, and that the learner's perception of his or her autonomy is either completely or partially facilitated by this influence (Weiss, 2011). Dupont *et al*. (2009:40) elaborates:

> "More precisely, the perception of having learned during PE classes is positively predicted by intrinsic motivation to know, by identified regulation and by perceived enjoyment, while perceived enjoyment is positively influenced by intrinsic motivation to experience stimulation, external regulation and amotivation".

Four key points of intervention for youth participation in PA are (Weiss, 2011:58):

> "… to develop *competence*, provide opportunity for *autonomy* or choice, promote positive adult and peer *relationships* and maximise *enjoyment* and minimise anxiety".

The acronym CARE can be created if we take the first letters of these four key areas, namely competence, autonomy, relationships and enjoyment, which provides an appropriate label for PE teachers to increase PA and positive health outcomes (Weiss, 2011).

Stodden *et al*. (2008) contend that a causal mechanism, partially responsible for the health-risk behaviour of PA, can be found in the degree of motor skill competence. Moreover, it is critical to focus on the constructive or destructive developmental routes of PA and the precursor-ensuing mechanisms of why people choose to be either active or inactive. These relations are rooted in and swayed by other contextual factors (environment, family, peers, socio-economic status, culture, nutrition, self-efficacy, etc.), that affect the likelihood to be active (Stodden *et al*., 2008). Two additional questions need to be answered:

> "Will the strengths of these relationships continue to increase over the lifespan (i.e., throughout adolescence and adulthood)? Or, will other factors change the nature of these relationships as we age"? (Stodden *et al*., 2008:303)

CONCLUDING COMMENTS

The arguments surrounding PESS offered by Bailey *et al*. (2009), Hardman (2010) and Green (2012) are to a great extent rejected. That various variables with multifaceted inter-relationships impact on sport participation as stated by Green (2012) cannot be disputed and, therefore, the link between PE and sport participation, now and in future, will always be elusive. Green (2012a:14) further claims that family socialisation is a far better stake than PE as a major 'cause' of sustainable participation in sport. The author is in agreement with Green, but wishes to add that collaboration between parents and schools in this regard becomes of utmost importance to ensure future healthy lifestyles for the majority of societies around the world.

According to Bailey *et al*. (2009) the role of the PE teachers is central in the social learning process. Why would they want to state this in a negative sense? By means of a holistic approach to teaching PE, quality programmes driven by properly trained and qualified, enthusiastic teachers, it can materialise. No development will happen automatically. Thorburn and MacAllister (2013) refer to unease about the education contribution of PE. On this note the author would like to encourage the reader to study the rest of the discussion provided below.

In line with most of the viewpoints discussed in the previous section and the Arnoldian dimensions in Brown (2013) an educational rationale for the inclusion of PE in school curricula was presented by Van Deventer in 2002 in a keynote address at the 12th Commonwealth International Sport Conference. This view on quality PE (Van Deventer 2002) will be briefly discussed in the sections that follow.

Physical education

The rationale for any subject to be included in the school curriculum relates to the envisaged values associated with broad, unique content and aims (What), learning programmes (How), and the actuality and merit of the outcomes (Why). *What* should be taught relates to the *motor* and *physical domains* that are unique to PE, while the *affective*, *social* and *cognitive domains* are essential to ensure an educational and holistic approach to learning. The word 'physical' in PE implies *active participation*. The goals are:

- to discover, master and refine performance of *fundamental* (natural/maturation) *movements* and a wide variety of *specific movement skills* and *movement forms* [learn TO move];
- to stimulate growth and develop the body through participation in physical activities.

The word 'education' in PE implies *guiding* learners through a formative process where the goals are:

- to gain knowledge and understanding (*cognitive*) of the body and physical activity [learn ABOUT movement];
- to develop positive behaviour by gaining personal meaning (*affective*: body image, self-image, enjoyment, lifestyle); and
- to develop social meaning (*social*: coping with co-operation, collaboration, competition) based on sound social and cultural values [learn THROUGH participation].

The *How* of PE concerns effective and formative learning programmes geared to educate the child for an active and healthy lifestyle. The programme should be:

- child-centred (general needs, abilities, interests, aspirations);
- learner paced; and
- content-based with a knowledge structure, domain specific and process orientated.

Teaching-learning strategies with a *holistic approach* and an emphasis on skills, knowledge and attitudes are required to achieve these programme goals (Van Deventer, 2002). The teaching learning experiences should take place within the existing and developing *context of the movement culture* of a society (macro-level) and a particular community (micro-level) as it exists outside the school (DNE, 1993; Crum, 1998; ICSSPE, 1999a).

Why PE should be taught relates to the specific objectives which are based on the various domains (DNE, 1993; ICSSPE 1999b).

Quality requirements

'Quality' signifies 'high status' and a 'high grade of excellence'. Being awarded "status" in the education system is often based on the acceptability of the values associated with broad, unique content and aims, effective and formative programmes and the actuality and merit of the outcomes envisaged (What? How? Why?) (Van Deventer, 2002). 'Excellence' is dependent on the expertise available (trained specialists) to operate the system, adequate time and frequency (scheduling) and the availability of the necessary facilities (Who? When?

Where?). The finding of the *Worldwide Audit* revealed that neither 'status' nor 'excellence' is a feature of PE programmes.

Quality PE would thus, it seems, depend very much on what, how, why, when and where. To my thinking, what is being taught, how, why, when and by whom it will be taught, will contribute more to the quality of the educational process than where. Quality PE is dependent on qualified PE specialists, rather than on equipment and facilities (Burnett, 2000; Solomons, 2001). Talbot (2001:47) also believes that "human resources are more effective than physical ones". Crum (1998) alleges that quality PE can only be guaranteed by structuring it as a teaching-learning enterprise as in other school subjects. Just as languages introduce learners to a language culture, PE can qualify learners for an emancipated, satisfying and lifelong participation in a movement culture (Van Deventer, 2002:16).

> "Quality PE is not teaching, [it] is not rocket science; it's much harder" (Ennis, 2011:16).

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