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Observation of children's physical activity levels in primary school: Is the school an ideal setting for meeting government activity targets?

- **Michael Waring** Loughborough University, UK
- **Peter Warburton** Durham University, UK
and
- **Martin Coy** Durham University, UK

Abstract

Given the commitment (and funding) by the British government to promote physical activity among all ages, and despite the inevitable political manipulation of physical education (PE) and school sport, there is now an ideal opportunity to focus on primary schools as a key target group for the future. This study determined the physical activity levels of a sample of pre-adolescents over time in a primary school setting. 374 children (5-11 yrs) were directly observed for a total of 30,650 minutes. Continuous observations of 374 primary PE lessons, 374 break times and 215 lunch times were undertaken between 1999 and 2004. The actual intensity and type of activities taking place were also recorded in five-minute blocks of time. The children were engaged in activity of at least moderate intensity for 11.8 percent of the total time observed, being more active in PE lessons and break times than in lunch times. Boys were shown to be more active than girls, recording activity of at least moderate intensity for 13 percent of total time compared to 10 percent for girls. Given the available data, the primary school is not delivering on its potential to be a good setting to promote physical activity.

Key-words: Observation • physical activity • primary physical education teacher education • policy

Introduction

A physically active lifestyle among young people has been shown to positively impact on the development of strong bones, healthy joints and an efficient heart (European

Heart Health Initiative, 2001). Furthermore, obesity and heart disease have also been shown to have their roots in childhood, making the levels of activity in this group particularly important to the long-term impact on public health (Seefield et al., 2002). Despite the knowledge that activity levels track into adulthood (Logan et al., 2000) there remains a need to develop a better knowledge of young people's participation in activity (Green, 2004). In the process, initiatives (new and old) that might be appropriately introduced to increase activity levels across this population group in a valued and sustainable manner need to be identified, reducing the marginality of such health-based physical activity interventions to the physical education (PE) curriculum (and Cale and Harris, 2005; Harris and Cale, 1997).

Through 'Game Plan' (2002), the British government has set a clear objective that requires 70 percent (currently 30 percent) of the population to be moderately active five times per week for a minimum of thirty minutes by 2020. In the case of the more active child this latter figure would remain at one hour in line with the recommendations of the 'Young and Active' policy document of 1998 (DCMS Strategy Unit, 2002). To achieve this target Sport England has identified seven key drivers for change, education being one of them (Sport England, 2004). To best 'utilise education' the government has set a target to increase the percentage of children in England who spend a minimum of two hours per week on high quality PE and school sport within and beyond the curriculum to 75 percent by 2006. Currently about 25 percent of schools provide this at Key Stage 1 and 40 percent at Key Stage 2 (Department for Education and Skills, 2003).

There can be little doubt that the school should be an ideal setting to promote physical activity and appropriate long-term health behaviours. The full socioeconomic spectrum is present on a regular basis for at least eleven years and schools have access to young people for a large proportion of their waking life. The school also has a primary function as a place of learning (Fox and Harris, 2003). However, within this setting there remain many social challenges that will need to be addressed if physical activity targets are to be met (Rowe et al., 2004). These challenges include gender and social class differences, household fragmentation, the growing ethnic mix and a 'connected' yet 'fearful' society (Henley Centre, 2003). The crucial role of the school with its captive audience might become even more important in the promotion of activity if one accepts Cale and Harris's (2001) observations that it cannot be assumed that young people, when left to their own devices, will be able to make time, will wish to or will find suitable opportunities to exercise for one hour daily.

Early learning experiences are crucial to continuing involvement in physical activity. Therefore, a child's experiences of curricular and extracurricular opportunities in school, offered within PE and sport and activity programmes, are extremely important. Unfortunately research indicates that there is a large variation in the quality of children's experiences both between and within schools (Kirk, 2004). Kirk has suggested that this is due almost entirely to the contradictions contained within government policy and subsequent actions. For example, while calling for increased levels of physical activity, the government has allowed the time allocated to

the training of primary school teachers within PE to significantly decline (Caldecott et al., 2006a, 2006b). The reduced hours allocated to training programmes have led OFSTED to report that primary teachers have inadequate subject knowledge, limited understanding of progression and a weak grasp of assessment (Office for Standards in Education, 1998). To compound this the increased workload of primary school teachers, coupled with the greater attention and time spent on numeracy and literacy in the primary school curriculum, means that many teachers are unable to provide quality early PE learning experiences that will also foster positive attitudes and subsequent physical activity.

Recent literature reviews of children's physical activity levels have established a number of key findings and consistent trends in activity behaviour (Fairclough and Stratton, 2005a; Harris et al., 2004). Harris et al. (2004) have highlighted that over 50 percent of boys and 33 percent of girls are appropriately active when compared with current physical activity guidelines. National (Balding, 2001; Gregory and Lave, 2000; Sport England, 2000) and international (Cavil, 2001; WHO, 2000) surveys have also revealed relatively good levels of participation amongst young people. However, in conjunction with these apparently positive findings there are a number of potentially worrying trends. For example, polarization of activity appears to be common in children, with groups of very active and very inactive youngsters. There is a gender difference, in that boys are more active than girls. However, physical activity declines with age, with the teenage years being the time of greatest decline. There is also the sporadic and highly transitory nature of their physical activity patterns, with the majority of time being spent in low intensity activity. The evidence pertaining to tracking of activity beyond childhood is not strong and the cumulative research does not allow the authors to state, with any certainty, whether there has been a consistent decline in activity over a number of years or whether the decline, highlighted in some studies, is a recent phenomenon (Boreham and Riddoch, 2001). Therefore, the purpose of this study was to expand on the present knowledge pertaining to the physical activity levels of pre-adolescents with data gathered over a more sustained period of time. In so doing it contributes to the current debate and concern over the potential obesity crisis in young people (Kirk, 2006; Marshall et al., 2004).

Method

Continuous direct observations of 374 young children (177 girls and 197 boys) aged 5 to 11 was undertaken in 20 primary schools in the North-East of England between 1999 and 2004. The aim of the study was to assess the physical activity levels of these pre-adolescents. Recordings were also made of the main activity these young children were involved in every five minutes during each observation. The observations were made up of 374 PE lessons, 374 break times and 215 lunch times.

The data was collected using continuous direct observational method where intensity of exercise was noted every fifteen seconds and recorded as either moderate or vigorous. Observer training consisted of a six-hour workshop led by two of the

authors. The first hour involved a lecture-based activity to familiarize the trainee observers with operational definitions, activity level discrimination, notation and coding conventions. The next two hours involved a shared field-based observation using the observational instrument in 'real time'. The final three hours of the workshop involved reviewing and comparing the outcomes of the process, addressing any shift in conventions and reducing inter-observer disagreement.

Continuous, direct observation is especially useful for studies of young children who have not yet themselves developed the cognitive ability to accurately recall detailed information for any length of time. The technique is also particularly successful when used in confined spaces as with the school halls, fields and playgrounds in this study. The method has been shown to be both reliable and valid (Kohl et al., 2000). For the purpose of this study moderate activity was deemed to be equivalent to brisk walking, an activity level that might be expected to leave the participant feeling warm and slightly out of breath. Vigorous activity was deemed to be at least equivalent to slow jogging, leaving the participant feeling out of breath and sweaty. In assessing levels of appropriate physical activity, the study used the recommendations outlined in the policy document *Young and Active* (HEA, 1998). The Health Education Authority recommended that all young people should participate in physical activity of moderate intensity for a minimum of one hour per day and, at least twice a week, the children should engage in activities that helped to enhance and maintain muscular strength, flexibility and bone health. Where a child was initially deemed to be sedentary the engagement in physical activity could be reduced to half an hour per day.

Results

In this study 374 children were observed for a total of 30,650 minutes. During this time the children engaged in physical activity of at least moderately intense activity for 11.8 percent of the total time observed. Table 1 outlines the average time of each observation together with the average time spent in moderate or vigorous physical activity. The children were engaged in moderate activity for an average of 3.7 minutes per session and in vigorous activity for 1.2 minutes. Differences in boys' and girls' levels of activity were statistically significant in relation to levels of vigorous and moderate activity ($t = 4.34$, d.f. = 958.8, $p = .000$; $t = 4.33$, d.f. = 960.8, $p = .000$ respectively) with boys demonstrating greater levels of activity than girls, although the magnitude in the differences in the means was very small (eta squared = .02).

Table 2 reviews the breakdown of PE lessons by identifying average lesson length and child engagement in moderate and vigorous physical activity. There was considerable variation in the amount of activity engaged in by the young children: the range for moderate activity was 0–21 minutes and for vigorous activity 0–20.2 minutes. In 65 percent of observations of moderate activity and 92 percent of observations of vigorous activity the young children were only engaged in 0–5 minutes of activity. Some children failed to record any appropriate levels of physical activity in a lesson.

Table 1 Mean time of each observation and time spent in moderate and vigorous activity (PE lessons, breaks and lunch times)

Total no. of observations	<i>n</i> = 959	Males <i>n</i> = 514	Females <i>n</i> = 445
Mean total observed time (mins)	31.8	32.1	31.5
Mean moderate activity (mins)	3.7 (3.7)	4.3 (3.9)	3.2 (3.4)
Mean vigorous activity (mins)	1.2 (2.3)	1.4 (2.5)	0.8 (2.1)

Standard deviations in parentheses.

Table 2 Duration of PE lessons and student engagement in moderate and vigorous activity

	Total	Males	Females
Total no of observations	374	201	173
Mean total observed time (mins)	36.9	37.3	36.6
Mean moderate activity (mins)	5.29 (4.8)	5.9 (4.8)	4.8 (3.6)
Mean vigorous activity (mins)	1.53 (2.8)	1.79 (2.8)	1.22 (1.9)

Standard deviations in parentheses.

In fact only one child achieved 21.45 minutes of moderate activity and another 20.15 minutes of vigorous activity. Differences in boys' and girls' levels of activity were statistically significant in relation to levels of vigorous and moderate activity ($t = 2.27$, $d.f. = 371.8$, $p = .043$; $t = 2.27$, $d.f. = 360.04$, $p = .02$ respectively), with boys demonstrating greater levels of activity than girls, although the magnitude in the differences in the means was very small ($\eta^2 = .01$).

Engagement in moderate and vigorous physical activity was low across all PE curriculum activity areas. Table 3, by outlining the lesson type by curriculum area, identifies levels of moderate and vigorous activity. It highlights that the curriculum was dominated by games lessons: 61 percent of the lessons were games based, allowing for 5.4 minutes and 1.8 minutes of moderate and vigorous activity respectively. Health related activity lessons (7.8%) provided the greatest opportunity for appropriate physical activity (6.9 minutes and 1.7 minutes of moderate and vigorous activity respectively).

In an attempt to explore these findings further, Table 4 considers the specific child behaviour that took place in PE lessons, together with the average amount of time for each behaviour. By far the most common activity undertaken was the development of motor skills (45.9%), whilst passive activities such as watching and

Table 3 PE lessons by curricular activity area

Curriculum area	No. of lessons observed	% of total lessons observed	Average moderate activity (min)	Average vigorous activity (min)
Athletics	1	0.3	1.3	3.15
Dance	46	12.3	3.7	0.6
Games	228	61	5.4	1.8
Gymnastics	65	17.4	3.7	0.7
Health related activity	29	7.8	6.9	1.7
Outdoor and adventurous activities	4	1.1	1.7	1.9
Swimming	1	0.3	7.0	1.0

talking took up 18 percent of total time. Given that 76 percent of total time was spent on motor skills, warming up and game situations (playing matches), coupled with the extremely low levels of moderate and vigorous physical activity observed in this study, there is ample justification to recommend a review of the delivery of these aspects of PE lessons.

Of the lessons observed, 44 percent lasted for less than 30 minutes and on average children engaged in activity of at least moderate activity for 14 percent of the total time. Table 5 outlines the average time for each break and lunch time, identifying levels of moderate and vigorous physical activity by gender. At break times boys were shown to be more active than girls, with boys spending 20 percent of their time in moderate and vigorous activity as opposed to 13 percent of the girls. Independent *t*-tests again revealed statistically significant differences in levels of moderate activity for boys and girls, but differences in levels of vigorous activity were not statistically significant. Moderate activity: $t = 3.7$, d.f. = 373, $p = .000$, eta squared = .04. Vigorous activity: $t = 1.63$, d.f. = 372, $p = .104$. The results from this study identify that the children were most active in lessons and least active during lunch times using mean levels of moderate and vigorous activity in relation to mean time observed.

Whilst lunch times were the longest observation period, they were the least effective in facilitating appropriate physical activity. As with the PE lessons and break times, the boys were more active than the girls and the differences were statistically significant for both moderate and vigorous activity respectively: $t = 3.04$, d.f. = 210.15, $p = .003$, eta squared = .04; $t = 3.91$, d.f. = 159.5, $p = .000$, eta squared = .07. On average, 11 percent of total lunch time was spent in moderate or intense activity by the pupils.

Figures 1 and 2 demonstrate changes in mean levels of children's moderate and vigorous activity over a period of five years from 1999 to 2004, with increases in 2003 and 2004. Using one-way ANOVA for the whole data sets (including breaks, lunch times and lessons), there are statistically significant differences in the levels of activity

Table 4 The nature and time of specific student behaviours during PE lessons

Student behaviour	Total time (min)	% lesson
Chasing	450	3.3
Listening	955	6.9
Match	2240	16.2
Organization	450	3.3
Skills	6355	45.9
Talking	90	0.7
Warm up	1785	12.9
Watching	835	6.0
Imagination	50	0.4
Queuing	90	0.6
Toilet	25	0.2
Cool down	510	3.6

Table 5 Student engagement in moderate and vigorous activity during break and lunch times

Break time observations	n = 374	Boys n = 197	Girls n = 177
Mean total observed time (mins)	15.48	15.6	15.4
Mean moderate activity (mins)	1.94 (2.2)	2.3 (2.1)	1.51 (2.1)
Mean vigorous activity (mins)	.67 (1.9)	.82 (1.3)	.49 (2.4)
Lunch time observations	n = 211	n = 116	n = 95
Mean total observed time (mins)	51.35	51.3	51.5
Mean moderate activity (mins)	4.3 (4.1)	5.08 (4.4)	3.46 (3.4)
Mean vigorous activity (mins)	1.35 (2.7)	1.95 (3.3)	.64 (1.4)

Standard deviations in parentheses.

across the years in question for both moderate and vigorous levels of activity respectively: $F = 13.9$, d.f. = 5,958, $p = .000$, effect size moderate (0.07); $F = 9.4$, d.f. = 5, 958, $p = .00$, effect size small (.05).

The general pattern for both breaks and lesson times, when examining mean levels of moderate and vigorous activity amongst pupils, is one of oscillations, with the years 2000 and 2002 showing much lower levels of activity followed by overall recovery and growth in years 2003 to 2004. The levels of activity at lunchtime overall show a stepped pattern, also with lower rates of activity in year 2000 similar to the pattern for break and lesson time. Levels of vigorous activity during lunch times declined in year 2003 although levels of moderate activity were maintained.

When analysing overall trends it is prudent to omit the 1999 figures based on very small sample sizes ($N = 4$). Considering trends from 2000–2004, the overall trend in levels of activity is one of increase, with moderate and vigorous activity levels for break times increasing by 150 and 400 percent respectively. For lunch times the figures are 200 and 600 percent respectively and for lesson times 200 and 300 percent.

Discussion

The children spent as little as 11.8 percent of the available time in at least moderate activity which, when set in minutes, evidences that an average of 15 minutes of the school day was spent in appropriate activity to promote health where the day included a PE lesson. Considering the PE lessons, children were moderately or vigorously active for approximately 18 percent of the time available, which equates to an average of 6.6 minutes per lesson. This figure falls well short of the official recommended targets advocated in the USA (US Department of Health and Health Science, 2000) and the unofficial ones in England presented by a national working party on health related exercise (Harris, 2000) that pupils should be physically active for 50 percent of each PE lesson. It also offers only a minimal contribution to the hour of daily activity recommended by the HEA (1998).

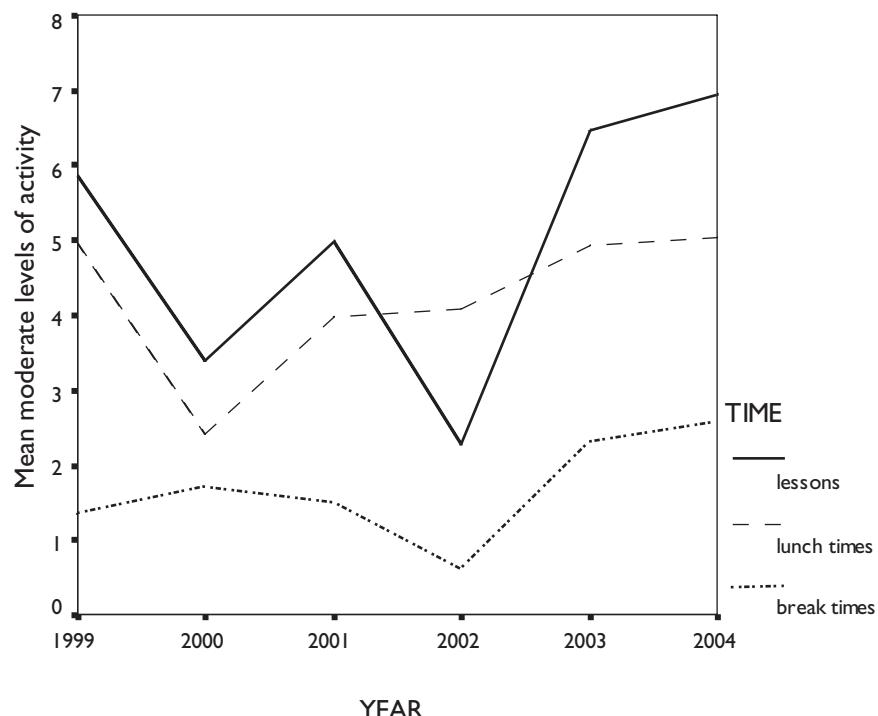


Figure 1 Mean moderate levels of activity over time

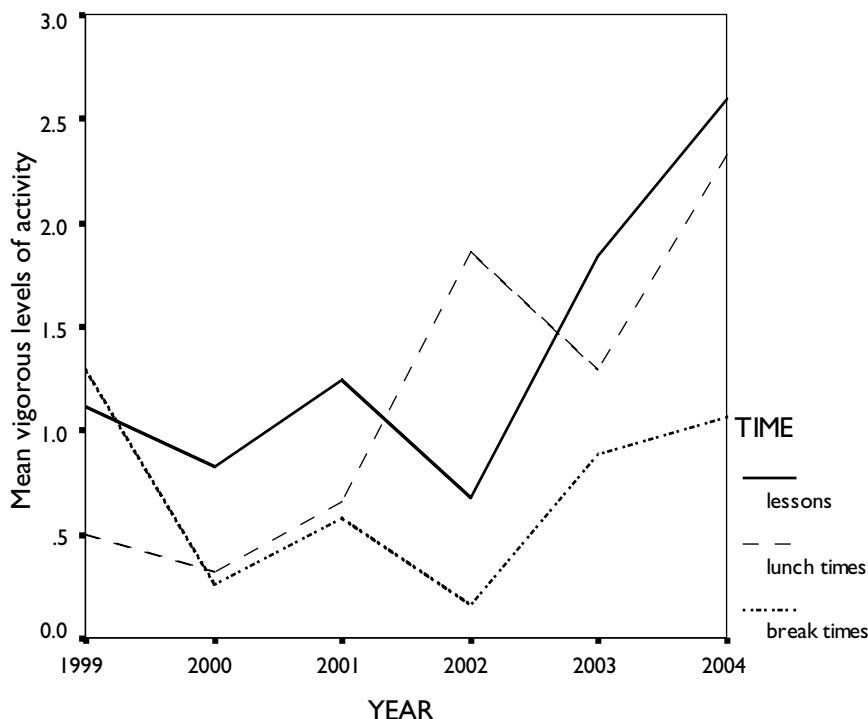


Figure 2 Mean vigorous levels of activity over time

There are, however, conflicting views as to the role of PE in promoting physical activity. Mallam et al. (2003) suggest that the total amount of physical activity a child takes part in does not depend on the PE lesson, as children have been shown to compensate for a lack of activity in this area by increasing activity in the home environment. In contrast, Sleaf and Warburton (1996) provide evidence that children are almost twice as likely to engage in at least moderate activity in a PE lesson than they are in the home environment. Fairclough (2003) adds to the debate by arguing that teachers have pressure on them to meet a whole series of goals within PE beyond just the promotion of physical activity and that these include the needs to develop individual skill, to foster appropriate levels of enjoyment and to deliver lessons that have educational value. This holistic position is further compounded by the minimal or lack of input within primary initial teacher training for PE which now makes it doubtful whether primary school teachers have the knowledge and understanding to deal with such a complicated and shifting agenda. Poor initial training is supplemented by adherence to traditional out-of-school, short course, in-service training which Armour and Yelling (2003) describe as having serious limitations in terms of improving teachers' practice. Finally, whilst accepting that teachers generally have positive views towards the promotion of physical activity, the majority of teachers

would appear to have a limited understanding of how to increase physical activity in their own school (Cale, 2000).

In 1996 the Labour government stated that central to their policy within PE was the need for a broad and balanced programme. Results from this study, when set against the work of Sleaf and Warburton (1996), suggest the scope of activities is decreasing. Table 3 evidenced that 61 percent of all lessons observed in this study were games, whereas earlier research reported it to be just under 50 percent. Other studies (Hastie and Trost, 2002; Hodges-Kulinna et al., 2003; McKenzie et al., 2004) reveal that moderate to vigorous physical activity during team invasion games was generally greater than other types of activity area. One might consider this to be a positive aspect. However, one has to consider how such a dominant games-based culture undermines a broad and balanced curriculum, as well as failing to acknowledge participatory trends of young people towards lifestyle activities and non-competitive, more recreational sporting forms and away from competitive performance-based sports (Green, 2002).

Of all PE lessons observed, 85 percent started with a warm up and 79 percent ended with a cool down. Furthermore, in considering all lessons, the transition and management of time activities such as listening, talking and queuing was 18 percent, which is an improvement when set against the 23 percent recorded in the earlier work of Sleaf and Warburton (1996). Accepting this to be the case, it reinforces the concern over activity levels, given that despite this potentially positive change overall, activity levels in this research study were considerably lower than those reported in the earlier studies. The children in these earlier studies were shown to be marginally more active in break times than in PE lessons. The most popular activities during both lunch times and break times were football and chasing games. These activities promoted high levels of activity; however, the fact that many children, particularly girls, did not take part in these games is often hidden and cannot be ignored. The situation is admirably illustrated by the example of one child (a boy) spending 37 minutes of a lunch break in activity of at least moderate intensity, playing football, whilst other children (females), monitored over the same period, achieved no activity at all preferring to stand, watch and talk.

The lack of activity amongst girls is perhaps the most alarming statistic within this research study. While the boys took part in at least moderately intense activity for 13 percent of the time they were observed, the girls recorded only 10 percent. It is evident within this study that there were gender variations. Boys were shown to be more active than girls even though they were being monitored in the same PE lesson doing the same activities. Other studies have noted similar findings; however, unlike this study they have acknowledged that the difference between the activity levels of boys and girls could be skewed because of the different types of activity each took part in (Fairclough and Stratton, 2005b; McKenzie et al., 2004). There were very low levels of vigorous activity evident in the overall activity levels of boys (4.3%) and girls (2.5%). It should also be noted that, even though the differences in levels of activity demonstrated in the current study were significant, the degree of difference was not dramatic as evidenced by the means.

Whilst confounding factors may include sociocultural issues during the free time periods of break and lunch, this is less of a case within PE lessons, where 5 percent of boys' and 3 percent of girls' time was spent in vigorous activity. Lee (2002) suggests that confidence in one's own ability can lead to higher levels of activity and it could be that this, and the predominantly mixed lessons of the primary school, may be mitigating against the generally less confident girls. Williams et al. (2000) take the issue further by suggesting that factors such as PE kit, the learning environment and particularly the style of teaching are likely to influence activity levels. Whatever the marriage of factors which impact on the lack of involvement in physical activity among girls, it is unlikely that a publicity campaign targeting girls, as suggested in 'Game Plan' (DCMS Strategy Unit, 2002) will resolve these obdurate and deeply sedimented issues (Kirk, 2004).

Conclusion

At present, given the available data, the school is not delivering on its potential to be an effective setting to promote physical activity. However, given the commitment (and funding) by the government to promote physical activity among all ages, and despite the inevitable political manipulation of PE and school sport, there is now an ideal opportunity to focus on primary schools as a key target group for the future. It remains imperative that children are introduced to and allowed to explore developmentally appropriate learning experiences around an active lifestyle.

In reviewing the six years of data collected within this research project there has been some increase in physical activity in the last two years. However, one has to be cognizant of the mean scores masking a wide variation in activity between individuals, a feature evident in this study. In any event the figures for appropriate activity remain alarmingly low when set against national targets.

The PE lesson should remain a fundamental target in the future regarding the enhancement of physical activity. It is a regularly occurring window of opportunity for young children to be involved in physical activity at moderate and vigorous intensities (Fairclough and Stratton, 2005a). However, there remain serious concerns as to whether teachers have the knowledge to deliver effective learning experiences that incorporate appropriate levels of physical activity. Findings here suggest that large parts of PE lessons are spent statically developing skills. This will be something of a challenge to change given the routinized/ingrained practice and relatively superficial knowledge base of most primary school teachers delivering PE. The almost universal use of warm ups means that this aspect of any lesson should remain a focus for increased activity. In addition when considering this curriculum area, it would appear imperative that teachers understand the need to promote activity, particularly among girls (Flintoff and Scratton, 2001; McKenzie, 2001). McKenzie et al. (2000a and b, 2004) reinforce this by suggesting that special attention needs to be given by teachers and administrators to ensure PE lesson content and instructional strategies are designed to address the physical activity, skill and emotional needs of girls. This should involve a range of opportunities for the girls to be physically active beyond

'sport' and particularly team games in the curriculum. Examples of attempts to facilitate this include the Nike/Youth Sport Trust Girls in Sport (GIS) Project (Kirk et al., 2000). Its aim is to encourage more and increasingly motivated participation of 11–14-year-old girls in PE and school sport. It involves support materials and other assistance to guide and assist teachers and pupils to create an action plan to develop policy and delivery of PE. In the US there are examples such as the Trial of Activity for Adolescent Girls (McKenzie, 2001).

The free time available within school during break times and lunch times is clearly being underutilized in the context of promoting physical activity. Sleaf et al. (2000) and others (Ridgers and Stratton, 2005a and b; Stratton and Ridgers, 2003) have suggested and reported on a number of proactive steps that could help to address this situation that included: maximizing the use of school grounds; introducing colourful and creative playground markings; allocating particular areas of the playground to different groups and activities; utilizing lunchtime supervisors to teach children active games and making small equipment available on a regular basis.

While the school is not the only arena where action is needed to address activity levels and ultimately the health of young people, it certainly has a potentially unrivalled position and privileged opportunity to make a better contribution to the health of future generations.

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Résumé

Observation des niveaux d'activité physique chez des enfants d'école primaire.

L'école est-elle le lieu idéal pour atteindre les objectifs d'activité gouvernementaux?

Etant donné l'investissement (y compris financier) du gouvernement britannique pour promouvoir l'activité physique à tout âge, et malgré l'inévitable manipulation politique de l'éducation physique et du sport scolaire, c'est le moment idéal de se concentrer sur les écoles primaires en tant que groupe cible privilégié pour le futur. Cette étude a déterminé les niveaux d'activité physique d'un échantillon de pré-adolescents sur la durée dans une école primaire. 374 enfants de 5 à 11 ans ont été directement observés sur un total de 30 650 minutes. Des observations continues de 374 séances d'éducation physique primaire, 374 récréations et 215 pauses-déjeuner ont été effectuées entre 1999 et 2004. L'intensité réelle et le type d'activités pratiquées ont aussi été enregistrés par blocs de 5 minutes.

Les enfants ont été engagés dans une activité au moins modérée sur 11,8 % du temps total observé, étant plus actifs durant les séances d'éducation physique et les récréations que pendant les pauses-déjeuner. On a constaté que les garçons étaient plus actifs que les filles, enregistrant une activité d'une intensité au moins modérée sur 13 % du temps total, à comparer à 10 % pour les filles. Selon les données disponibles, l'école primaire ne tient pas ses promesses d'espace potentiellement positif pour promouvoir l'éducation physique.

Resumen

Observación de los niveles de actividad física de los niños en la escuela primaria. ¿Representa la escuela el lugar ideal para acoger iniciativas gubernamentales?

Dado el compromiso (y consolidación) del Gobierno Británico en la promoción de la actividad física a lo largo de la vida, y a pesar de la inevitable manipulación política de que son objeto la educación física y el deporte escolar, existe ahora una oportunidad ideal para situar a las escuelas primarias como grupos de referencia de cara al futuro. Este estudio determinó los niveles de actividad física de una muestra de pre-adolescentes durante el tiempo transcurrido en la escuela primaria. Un total de 374 niños (5-11 años) fueron observados durante 30,650 minutos. Entre los años 1999 y 2004 se realizaron observaciones continuas de 374 clases de educación física, 374 períodos de recreo y 215 períodos dedicados a la comida. La intensidad y tipos de actividades realizadas fueron también registradas en bloques de 5 minutos de tiempo. Los niños fueron expuestos a actividades de, al menos, una intensidad moderada en el 11,8% del total del tiempo observado, siendo más activos en las clases de educación física y en los períodos de recreo que en los períodos dedicados a la comida. Los niños se mostraron más activos que las niñas reportando una actividad de intensidad moderada para el 13% del tiempo total, en comparación al 10% de

las niñas. A la vista de los resultados, parece que la escuela primaria no está utilizando su potencial para erigirse en un ámbito adecuado para la promoción de la actividad física.

Zusammenfassung

Die Beobachtung der körperlichen Aktivität von Kindern in der Grundschule.

Ist die Schule der ideale Rahmen, um die Ziele der Regierung im Bezug auf die körperliche Aktivität zu erreichen?

Durch den Einsatz und die finanzielle Unterstützung der britischen Regierung, die körperliche Aktivität von Menschen jeden Alters zu fördern, und trotz der notwendigen politischen Manipulation von Sportunterricht (in und ausserhalb der Schule), gibt es nun eine ideale Möglichkeit, um den Fokus auf die Grundschule als Zielgruppe der Zukunft zu legen.

Diese Studie legt den Level der körperlichen Aktivität einer Stichprobe von Jugendlichen in einer Grundschule fest.

374 Schüler im Alter zwischen 5 und 11 Jahren werden für 30,650 Minuten direkt beobachtet. Kontinuierliche Beobachtungen von 374 Stunden Sportunterricht in der Grundschule, 375 Pausen und 215 Mahlzeitpausen wurden zwischen 1999 und 2004 vorgenommen. Die aktuelle Intensität und der Typ der körperlichen Bewegung wurden in 5 Minuten-Blöcken aufgenommen.

Die Schüler wurden in ihrer körperlichen Aktivität in mindestens 11,8 % der Gesamtzeit beobachtet und waren in ihren Sportstunden und in den Pausen aktiver als in den Mahlzeitpausen. Jungs waren aktiver als die Mädchen in 13% der Gesamtzeit im Vergleich zu den Mädchen in 10%.

Entsprechend der vorhandenen Daten, bietet die Grundschule keinen guten Rahmen für die Entwicklung und Förderung körperlicher Aktivität.

Dr Michael Waring is currently Senior Lecturer of Physical Education in the School of Sport and Exercise Sciences, Loughborough University.

Address: School of Sport and Exercise Sciences, Loughborough University, Loughborough, Leicestershire LE11 3TU, UK. [email: m.j.waring@lboro.ac.uk]

Dr Peter Warburton is Director of Sport at Durham University.

Address: The Graham Sports Centre, Maiden Castle, Durham University, Durham, DH1 3SE, UK. [email: P.A.Warburton@durham.ac.uk]

Martin Coy is a student in the Department of Sport at Durham University.

Address: Department of Sport, School of Applied Social Sciences, Durham University, 42, Old Elvet, Durham City, DH1 3HN, UK. [email: m.j.coy@durham.ac.uk]
