Practical Idea for Schools to Promote Physical Activity among Children for the Prevention of Childhood Obesity

-Through Investigation of "Health Promoting School" in Kent, U.K.-

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Objective: This study explore perspectives on the promotion of physical activity for the prevention of obesity in childhood. Specifically how schools can effectively encourage children-both girls and boys from different social and cultural backgrounds, to engage in more physical activity will be investigated.

Methods: To generate practical idea to promote physical activity among young children, between March and November in 2004, interviews were employed with the heads of Physical Education departments from four secondary schools in the United Kingdom suggested by Kent Health and Education Partnership.

Results: The following themes were identified; The provision of written school policy; health promotion through walking to school: gender issues; psychosocial environment; inclusion of parents: enjoyment of physical activity: the provision of a variety of physical activities: the relationship between staff and children: Physical environment: Equality of Opportunity: Improvement of teaching in primary schools: Teaching health benefits of physical activity.

Conclusions: It could be concluded as follows: the provision of a written school policy could be useful to remind teachers of the ways of promoting an active life among children. Friends or parents should be included to encourage school children to engage in physical activity; Efforts to improve the quality of school staff should be made. The importance of the relationship between teachers and children is to be taken accounts into; A variety of physical activities should be provided to encourage children from different social and cultural backgrounds to engage in physical activity, regardless of age, sex, ability and social background; Appropriate facilities and equipment should be provided so that all the children have access to physical activity easily, without barriers, regardless of their ability level, sex and size; Efforts should be made to improve teaching in primary schools where children develop their exercise ability. In addition, teaching health benefits of physical activity should be continued to provide an opportunity for children to think of a healthy life style.

Keywords: school health, physical activity, obesity

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I. Introduction

There is growing evidence that levels of overweight and obesity are increasing. In the past decade, the increasing prevalence of obesity among boys and girls in the United Kingdom (U.K.) has become substantial¹⁾. There is considerable debate about the reasons for them. Possible explanations include an increase in sedentary lifestyles and changes in dietary patterns and eating habits influenced by a wide range of cultural, social and environmental factors. In fact, physical activity has also been identified as an important determinant of weight control and

School Health Vol.11, 9-19, 2015 http://www.shobix.co.jp/sh/hpe/main.htm obesity in childhood²). It is important, to see young peoples' behaviour in the social and cultural context³). Socioeconomic inequalities are understood to be of key importance to the patterning of health among children in U.K.

Obesity is a growing concern which requires coordinated actions across government departments, if it is to be effectively tackled⁴). It is well established that schools have the potential to contribute to the health of young children by providing instruction, programmes and services that promote enjoyable, lifelong physical activity^{5) 6}). Schools are efficient vehicles for providing physical activity instruction and programmes because they reach most children and adolescents ^{7) 8)}. In almost every community, schools are settings where children spend a great deal of their time. It should be noted that schools can not take all the responsibility and it is necessary to cooperate with others such as community and policy makers. Schools are settings where education and health programmes can have their great impact on children, because they influence students at such important stages in their lives. In the European regional consultation concerning the development of a World Health Organization global strategy on diet, physical activity and health⁹, it is stated "Comprehensive health promoting schools programme should contain elements concerning nutrition and physical activity. Governments should adopt a staged approach to establishing standards."

The English National Healthy School Standard also underpinned the following aspects to promote physical activity¹⁰:

- The school has a whole school approach to the promotion of physical activity
- The school offers all pupils, whatever their age or ability, two hours of physical activity a week within and outside the national curriculum
- The school is aware of a range of relevant initiatives and networks and takes advantage of appropriate opportunities to promote and develop physical activity
- The school encourages its staff, pupils, parents/ carers and other adults, for example, sports development officers, to become involved in promoting physical activity and develop their skills, abilities and understanding through appropriate training.

II. Objective

The purpose of this study is to investigate how schools can effectively encourage children to engage in more physical activity. In particular, it focused on differences between girls and boys from different social and cultural backgrounds, for the prevention of obesity in childhood.

III. Methods

To generate practical idea to promote physical activity among young children, semi-structured interviews were employed with the heads of Physical Education (PE) departments from four secondary schools (School A, B, C and D) in East Kent, the U.K. between March and November, 2004. Heads of secondary school PE departments were asked to have an in-depth interview, which included the questions which are adapted from indicators to that the theme of physical activity is addressed, suggested by Kent Health and Education Partnership¹¹. It took 15-20 minutes to complete each interviews. Analysis was proceeded by two researchers: English: Japanese.

The main questions are as below:

- 1. Does the school have a written policy for physical activity?
- 2. Does the school provide opportunities for the parents/carers to become involved in physical activity?
- 3. Does the school target any specific groups to encourage physical activity such as gender group and socioeconomic status (SES) groups?
- 4. Do you have any idea how schools could more effectively encourage children - both girls and boys, from different social and cultural backgrounds, to engage in physical activity?
- 5. Does the taught PE curriculum address the health benefits of exercise in addition to skill acquisition?
- 6. Are extra-curricular opportunities offered, and are they open to all pupils regardless of ability?
- 7. Does the school actively promote the health benefits of walking and safe routes to school?
- 8. What in your view is the best solution to promote children to engage in physical activity more and more?

All the conversations were transcribed and investigated in-depth. The text was read and reread and writer recorded noteworthy comments. These comments might summarise the statements, identifying possible patterns, connections or contradictions with other comments, or highlight specific uses of language or metaphors. The initial notes and comments were generalised to a higher level of analysis, by translating them into concise phrases that capture the key features of the text. At this stage, the whole of the first transcript was approached as raw data, and no attempt was made to edit or select particular sections of the text. Also, there was no expectation of identifying themes for every section of the text. The frequency of themes was dependent upon the richness of the data. The next stage involved listing the emerging themes and seeking to identify connections between them. Firstly, the themes were listed in the order they appeared in the text. Then, they were listed in such a way as to make sense of the clustering them according to meaning. In doing this, the researcher could identify the clusters of themes about which the participant was most concerned. At each stage, the researcher continued to refer back to the original transcript and to ensure that the theme - building genuinely related to the primary source. Once all texts had been analysed, a final list of themes was generated and organized, with reference to examples within the text. The organisation of these themes was not determined by their appearance in the text or by their frequency of appearance. Other factors, such as the richness of the data they represented and logic of their location in relation to other themes were more relevant

In terms of ethical issues, the proposal was reviewed by the Research Degrees Subcommittee in the University of Kent and approval was for the research as scientifically scale and ethically obtained.

IV. Results

The following themes were identified as a result of the analysis: the provision of written school policy: health promotion through walking to schools: gender issues: psychosocial environment; inclusion of parents; enjoyment of physical activity: the provision of a variety of physical activities: the relationship between staff and children: Physical environment: Equality of Opportunity: Teaching health benefits of physical activity: and Improvement of teaching in primary school (**Table 1**).

1. Provision of written school policy

Only one school had their own written policy for PE (School D). Within this policy, the school encourages children to get involved in activities of all the different levels. Teachers thought it very useful to remember how the school can get children be involved in physical activity. No other three schools have their own school policy to promote physical activity among school children School A, B and C. These schools provided the national curriculum as a policy which they follow.

Table 1The themes and main findings through the investigation of whole qualitative data of interviews with headsof PE of 4 secondary school in Kent, U.K.

	Theme	Main finding
1	The provision of written school policy	Written policy for PE could be useful as a reminder for teachers of the way of
		promoting active life among children.
2	Health promotion through walking to school	None of the schools has these sorts of service. Promotion through walking to
		school may not be realistic, because some children are still driven in a long
		distance. Other children take bus with friends.
3	Gender	Girls were found to be less active. Gender issues were substantial in all of
		the schools.
4	Psychosocial environment	
(1)	Inclusion of parents	Use of parental skill on sports, Parental involvement of sports by both
		playing and watching.
(2)	Enjoyment of physical activity	All the activities should be related to.
(3)	The provision of a variety of physical	A variety of physical activity were important factor.
	activities	
(4)	The Relationship between staff and	The quality of staff was found to be important. The staff should be aware of
	children	what children demand in reality.
5	Physical environment	Access to physical activity, the appropriate equipment and the facilities were
		found to be very important in encouraging children to be physically active.
6	Equality of opportunity	None of the schools targeted at any specific group in terms of size, ethic
		background on ability.
7	Improvement of teaching in primary	There could be a difference in physical skill when children entered their
	school	secondary school.
8	Teaching health benefits of physical	It could provide an opportunity for children to think of a healthy life style.
	activity	

In particular, the head of PE in School B said, "What we do is follow the national curriculum which we must copy, we must cover certainly. Government said we have to follow certain activity and we do that what is required".

On the other hand, the teacher in School A discussed restriction of the national curriculum:

"National curriculum could be restrictive in terms of what we deliver and how we deliver PE to children. Why don't we just play something? Without using some framework? Children just want to enjoy themselves. Not testing, not grading all the time, unless then chosen it as exam subject".

2. Health promotion through walking to school

None of the schools has these sorts of service. Heads of PE department in School A and C said,

"This is because secondary schools draw children from a large geographical area."

However, School B has got a breakfast club, and said,

"They encourage children to get to school early... so what the plan is....students gets here till 8:00 and they have half an hour for physical activity before school which is getting used."

Walking to school could be also good opportunity for children to be physically active (School B). However, promotion through walking to school may not be realistic, because some children are still driven in a long distance. Other children take bus with friends.

3. Gender

It has been commonly said that girls were less active, therefore to promote PA at school, girls might be targetted. Two teachers clearly stated that there were intentions to encourage girls to be active. It is difficult to motivate girls to be active. This is because they may not like being outside, or they prefer to be friends.

4. Psychosocial environment

1) Inclusion of parents

In terms of the inclusion of parents to become involved in physical activity, one school reported that they use parental skills in relation to sports, such as coaching (School A). However, other schools do not provide any opportunity for both children and parents to participate in certain sports. Interestingly, two schools have set up fitness clubs which are open to parents at the reduced rate. PE teachers think it valuable to encourage parents to get involved in physical activity.

The head of PE teachers at school B mentioned, "Parents of students have an opportunity to join gym'. Similarly, school links to the sports centre. In fact, lots of parents and children belong to the sports centre."

He also said, "Yes, it does help children to be active.

Because it has been proving that children are looking at parents' involvement. And if a child everyday sees their parents are physically fit, it, encourages physical fitness within the family not just physically but also mentally."

Moreover, School C encourages parents to watch children playing sports at PE, although they do not provide opportunities for both parents and children to engage in sports or physical activity together.

2) Enjoyment of physical activity

It is often stated that all the activities should be related to fun.

In School D, "Enjoyment, maybe fun and goodness. The staff should make them feel comfortable. They are happy to come out working close with us. If staff delivered a variety of activity, children play a lot outside."

Teacher in School A stated, as the best solution to promote children to engage in physical activity;

"One of the biggest things is it's got to be Fun... they got to enjoy what they are doing."

3) Provision of variety of physical activity

A variety of physical activities were also an important factor. A variety of physical activities should be provided to encourage children from different social and cultural background to engage in physical activity (School A).

4) The relationship between staff and children

The quality of staff was also found to be important. The staff should be aware of what children demand really. Therefore the staff should try to make children comfortable, as children are happy to come out to work in the nice condition. In addition, the importance of the good relationship between staff and children was addressed.

PE teacher in School B said, "I think it is very important the staff are good. I think the staff have a

good relationship to student and I think it important if we are asking students to go out a field when we teach and we go out."

Furthermore, there was a comment that other subject teachers also could be included to promote physical exercise among children.

"It would help if other staff were involved too, they would not just see PE teachers who are supposed to be good at sports/PE...they also would see French teachers who does not seem to be good at being involved in something...like aerobics and that's really promoting physical activity (School A)."

5. Physical environment

Access to physical activity, the appropriate equipment and the facilities were found to be very important in encouraging children to be physically active. The head of PE in School D reported,

"The major thing is being accessible. There should be no barriers."

Also, a teacher in School B said, "This is the fact that there are enough indoor facilities without thinking of weather....it can be quite fun. Particularly, in girls, even for lots of boys they don't enjoy it if it is freezing outside. So you know it is good indoor basis and lots of good quality equipment, if they think they got things nice equipment, that's going to motivate them."

In School C: "I would say to have PE lessons everyday to have something active everyday either at start of the day or at some stage during the day and to try to get parents involved as well. We get more sporting activities at sports centre. We tried to cater more activities, which they want to do. We have a large population of people living in a large village where no sports centre or no activity centre at all. If they don't have a car, they can not get into the place".

6. Equality of opportunity

In terms of targeting specific groups (e.g. SES, gender) to encourage physical activity, none of the schools targeted any specific group in terms of size, ethnic background or ability (School A, B and C). However, the head of the PE department in School B said, "There has been an issue that girls were not taking part in outside school activity for one reason to another." Therefore, in this sense, School B targets girls. Same points were raised in School D which

was trying to encourage girls to be more active. On the other hand, in School C, they said, they might be targeting particular year groups.

The heads of PE departments in School A and C stated,

"It is unrealistic and impossible to target any specific group, in particular overweight or obese children. This is because they are concerned with the embarrassment of them against the fact they are targeted because of being overweight or obese." As a difficulty in targeting specific groups, the head of the PE department in School B reported,

"One of students comes from their parents not necessarily particularly well off financially so parents are working. This means obviously it has lots of effect on us....means children when they leaves school sometimes they havesometimes they have to go home early and pick up younger brothers and younger sisters from their school. It has lots of effects on their ability for their study because they had work to dofinancial goings on outside work, sometimes working which also contribute to families' income."

The head of PE department in School D stated, "It's hard listening to them. The fact is that they don't want to be somebody's team engaged. They don't want to be outside cold. They love things like fitness really, as it is new. They like girl's type of activity like trampling which is popular. Within that, give those of ranges of things. It is not necessary to be uncomfortable. All extra-curricular opportunities are accessible to everyone in all the schools.

7. Improvement of teaching in primary school

One teacher suggested how improvements in the quality of PE lessons in the primary schools might occur (School C). "What we need is more specific teaching in primary schools. Once we get children from primary schools, they have a very various experiences of physical activity. Someone already got to play nearly all the games, others don't have any clues. If we can get them into PE lessons early, they all come into us with much more competitive attitude.

Government stated that we have to follow certain activity and we do that what is required."

8. Teaching health benefits of physical activity

All the schools reported that they teach the health

benefits of physical activity in their PE lessons regularly (School A, B, C and D). A PE teacher in School D stated, "PE is always driving into health education as well."

All of teachers found it useful to teach health benefits of physical activity. In particular, there could be a provision for children to wear heart rate monitor (School D). However, a teacher in School C stated, "They all know exercise is good. They should be doing it, they know this sort of activity 3 times a week...they try to make time for it. I think parentshome background also affects. If parents play sports, children more likely go to play sports."

As difficulty in teaching health benefits, the head of the PE department at School B said, "Obviously when we produce something which is slightly new...maybe children aren't used to doing it. This is obviously a period of time which goes through where children adjusting to." Likewise, the head of PE in school C warned that PE teachers should be careful not to let children think that teachers are talking about certain obese children.

V. Discussion

Schools offer a logical and plausible location for the implementation of a health promotion strategy. The state school system is seen to offer a rare setting in which the full socio-economic spectrum of the population can be reached and where health inequality can be addressed. In the U.K., schools influence 40-45% of youngsters' waking time, a portion that is only secondary to the time spent in the home¹²⁾. Schools also provide a unique context for learning when receptiveness and capacity for attitudinal and behavioural modification is probably at its greatest¹²). In this study, attempts to investigate what could be done in the context of health promoting school in relation to physical activity were made through interviews with the heads of PE departments from four schools.

1. Provision of written school policy

Policies can provide formal and informal guidance for schools and communities in planning, implementing and evaluating physical activity programmes for young people.

The European regional consultation on the global strategy for diet and physical activity put forth several

recommendations to be taken into consideration when developing the global strategy⁹⁾. The following points could be adapted to form a 'whole school approach to the promotion of physical activity':

- Policies should be tailored to specific groups and settings.
- Physical activity should be promoted through appropriate economic and regulatory instruments.
- Policies for physical activity should take into consideration the fact that physical activity should be enjoyed with confidence.
- Accessibility, availability and affordability should be taken into consideration, when developing diet and physical activity policies. Less privileged groups should have access to healthy choices. Equity between and within countries should be pursued.
- Transport, leisure facilities and community planning policies need to take into account the public health goals.

In terms of the provision of a written school policy, only one school had a written policy to promote exercise among pupils in this study. The interview with one school which has a written policy identified the usefulness of this policy in reminding teachers of the ways of promoting an active life among children in relevant settings at school. The National Healthy School Standard also suggested development of a whole school policy for promoting physical activity, development of a physical activity plan and taking steps to ensure that the environment and ethos of the school are conducive to physical activity and these can reinforce and supports its values¹⁰. In relation to health related exercise in the National Curriculum, it is stated that teachers should be encouraged to develop policies that are feasible and appropriate for their particular school¹³).

2. Health promotion through walking to school

The walking to school is an opportunity for increasing children's daily physical activity. There are substantial benefits of walking to and from school¹⁴⁾. By leaving the car at home, parents can help to protect the environment and reduce the exposure of their children to air pollution. It should be noted that walking to or from school can be a sociable opportunity for children or parents to communicate with each other¹⁵⁾. A strategy to promote walking or cycling to school should be developed.

However, the concerns about safety were important in influencing parents' decisions about whether they let their children walk to school or not¹⁶). It is essential to develop safe routes to schools to encourage walking¹²). In particular, this is because promoting walking or cycling to school can help to increase opportunities for children to gain physical exercise ¹⁷):

- Increase pupils' activity levels and contribute to the recommended one hour a day of physical activity, as well as instilling the habit of integrating walking into their everyday lifestyles;
- Reinforce the message that activity is a high priority for the school.

However, in terms of the walking bus which would involve pupils being supervised by approved school staff and parents as they walk along a set route to school. none of the schools has these sorts of services in this study. Heads of PE departments stated commonly that this is because secondary schools draw children from a large geographical area. None of the schools monitored what percentages of children walked or cycled to school.

3. Gender

The interviews with PE teachers suggested that gender issues were substantial in all of the schools. The head of the PE department in School B said, there had been an issue that girls are not taking part in outside school activities for one reason or another. Therefore, in this sense, the school B targets girls. The same points were raised in School D, which is trying to encourage girls to be more active.

Initial research shows that the curriculum in many Specialist Sports Colleges has been broadened to get a better balance between games and other activities on National Curriculum of PE¹⁸⁾. What the research does not show is whether the wider range of activities is offered to both girls and boys, or more importantly, what the nature of pupils' experiences is. Although there is evidence that the Nike Girls into Sports project has produced some innovative practice in relation to girls' PE in Specialist Sports Colleges, it appears that teachers in Specialist Sports Colleges are no more likely than PE teachers elsewhere to address gender inequalities in their practice¹⁹.

It is important to recognize the significance of girls' early experiences of physical activity and it is often within the context of school PE lessons where understanding of individual sporting identity is developed²⁰). Evidence suggests that from an early age, differences in gender-based attitudes towards and opportunities for sports and physical activities can have a significant influence on children's participation²⁰). Many researches also show that many girls develop a progressive disillusionment with the subject as they move through secondary school. There are a number of possible reasons for this, including boys' dominance in certain activities and a perception that the National Curriculum for PE is biased towards traditionally 'male' activities, combined with social pressure to conform to standards of femininity and a low priority given to female sporting achievement in society²¹).

Previous studies suggest that a key factor in whether girls engage in and sustain physical activities was whether they had a same-sex friend with whom to participate²²⁾. This may, in part, be due to the support structure that such shared experiences can offer, especially during adolescence, when many girls consider reducing their commitment to physical activities, they are most anxious about being rejected or excluded from same-sex friendships²³⁾. For girls, physical activities often become less important in their lives as they, encouraged by pressure from their peer group, seek other activities associated with their preferred perceptions of femininity²⁴⁾. It was found to be difficult to encourage girls to be physically active. As discussed²¹, there is a need to explore how the school curriculum is experienced by different girls and what kinds of pedagogical practice is successful in helping girls to develop active lifestyles in and out of schools.

The social construction of the ideal femininity and masculinity can influence young people's perceptions and esteem and affect how others interact with them. As noted²⁵, PE teachers are influential in constructing and reproducing discourses of health, obesity and the body that are also gendered and require critical analysis and investigation.

Within schools, gender stereotypes appear particularly entrenched in relation to physical activity. A more gender sensitive management of PE, in which the needs and concerns of young women are taken more seriously, may have an impact on their feelings about physical activity and about playing games with boys¹⁵.

4. Psychosocial environment

It has been suggested that the decision to participate or not appear to be influenced by perceptions of competence, by external constraints, such as money and opposite sex friends, degree of support from significant others and past experiences, including school PE²⁶). Negative memories of school PE included feelings of boredom and incompetence, lack of choice and negative evaluation from peers²⁶. It is stated that a lack of participation was related to negative memories of PE including boredom, lack of choice, negative evaluation from peers and feelings of stupidity in particular among girls²⁷⁾. Therefore, it can be stated that PE has an important role to provide the most appropriate psychosocial environment with school children. As a result of interviews, the following themes were highlighted: inclusion of parents, enjoyment of physical activity, the provision of a variety of physical activities, a good relationship between staff and children. There will be discussions on each theme below.

1) Inclusion of parents

A variety of research has also shown that parents play an important positive role in the early development of young children's participation in sport. They can be supportive of involvement in particular activities, for example, by providing money and transport²⁸⁾. Parents' engagement was viewed as an important factor for children to get involved in physical activity. The National Healthy School Standard recommended that the school encourage parents/carers to become involved in promotion of physical activity and develop their skills, abilities and understanding through appropriate training¹⁰.

2) Enjoyment of physical activity

In this study, teachers commonly suggested that all of the activities should be based on fun. This study which investigated psychosocial factors, also indicated a significant correlation between perceived importance of fun and activity levels. In a large study in Italy with over 2500 participants in youth sports, responses to open ended questions showed that enjoyment was reported as a reason for participation by 49.2 % of the sample²⁹⁾. As stated above, importance of enjoyment for children to engage in physical activity was highlighted³⁰⁾. It is also suggested that physical activity among young people is best promoted through greater emphasis on enjoyment, fun and social aspects of physical activity rather than on health benefits, since the former were considered to be more attractive and appealing by the majority of young people interviewed¹⁶.

3) Provision of a variety of physical activities

A variety of physical activities should be provided to encourage children from different social and cultural backgrounds to engage in physical activity, regardless of age, sex, ability and social background. In the National Healthy School Standard¹⁰⁾, it is stated that it is important to provide a variety of activity experiences for all pupils which included both curricular PE and a range of additional activity opportunity. The National Healthy School Standard also underpinned the notion that the school should offer all pupils, whatever their age or ability, two hours of physical activity a week including the National Curriculum for PE and extra curricular activities.

4) Relationship between staff and children

The interviews with the heads of PE highlighted the importance of the quality of school staff. The relationship between teachers and children is important. The PE teaching staff were found to have a key role in influencing young people's participation in school based physical activity. Some review and revision of the components of initial and in-service education and training for teachers of PE may be appropriate to help improve the relationship between students and PE teachers¹⁶. It is suggested that the challenges facing teachers are how to acquire and refine the skills that develop these different psychosocial factors¹².

Staff professional development needs are important, ensuring that all those who lead physical activity programmes have relevant qualifications and encourage and support others who wish to become involved to take appropriate qualifications¹⁰.

There was also a statement about the inclusion of teachers who specialized in other subjects and that this was useful in promoting physical activity among children.

5. Physical environment

The interviews confirmed that appropriate facilities and equipment should be accessible to all children, without barriers, regardless of ability level, gender and size.

There should be the provision of the appropriate environment by improving facilities and equipment according to individual children's needs. Effective learning and teaching in PE is in part reliant upon the provision of facilities and equipment. Both charters (Council of Europe, Articles 4 and 5; UNESCO, Article 5) urge appropriate provision for PE with adequate and sufficient material in schools and that government and non-governmental agencies should co-operate in planning and provision³¹.

In Europe, PE is commonly faced with the challenge of inadequate facilities and poor maintenance of existing teaching sites but there are marked sub-regional and intra-country differences and there are specific facility problems, in particular, in small rural schools³¹). The levels of sports provision in many English and Welsh schools is grossly inadequate and that playing fields suffer from low levels of maintenance and drainage problems³²).

It is found through interviews with children, that more facilities are needed in which young people can meet after school and during weekends¹⁶.

For example, both younger and older respondents enjoyed dancing with friends. The lack of places in which to go dancing with friends was a problem, especially for those in secondary schools. Their respondents suggested that clubs of various kinds could be used as a venue for young people to participate in dancing and other social events. The general improvement of local parks and the provision of more park keepers and attendants were recommended by parents.

Health promotion as a setting approach is not just reduced to the individual school³³⁾. The resources arising from the participative networking of schools and external cooperation partners are also important. In this sense, the community also should be involved so as to provide the appropriate environment for school children.

6. Equality of opportunity

Equal opportunities for children to get to know the enjoyment of physical activity and engage in physical activity should be provided, regardless of age, sex, ability and social background. In terms of targeting specific groups (e.g. SES, gender) to encourage physical activity, none of the schools targets at any specific group in terms of size, ethnic background and ability (School A, B and C). Likewise, the head of the PE department in School B said, there has been an issue that girls are not taking part in outside school activities for one reason or another. Therefore, in this sense, school B targets girls. The same points were raised in School D which is trying to encourage girls to be more active. On the other hand, in School C they said they might be targeting particular year groups.

Teachers commonly discussed that opportunities for children to be physically active should be provided regardless of ability, gender and social background. On the other hand, difficulties in targeting at any vulnerable people group such as overweight or obese children at school were also pointed out. The appropriate procedures should be investigated in collaboration with family, community and clinic.

7. Improvement of teaching in primary school

Improvement of teaching in primary school was suggested by one teacher. This is because there could be a difference in physical skills when children entered secondary school. The transition of pupils from primary to secondary school is probably the greatest source of discontinuity in the education of pupils. It is suggested that how information about PE is exchanged between secondary schools and their perspective feeder primary schools should be identified; what information is exchanged and how this information is used³⁴⁾. Their results showed there was a significant positive relationship between engagement in liaison activities and information received about the PE curriculum followed by pupils³⁴⁾. On the other hand, talent identification should be paid more attention³⁵⁾.

8. Teaching health benefits of physical activity

Teaching the health benefits of physical activity could provide an opportunity for children to think about healthy lifestyles. In particular, it is suggested that schools can make a commitment to healthrelated exercise within the national curriculum by implementing structured and co-ordinated programmes that emphasize enjoyable participation in physical activity and help pupils to develop their knowledge, understanding, physical competence, behavioural skills, positive attitudes and confidence needed to adopt and maintain physically active lifestyles¹³). There are suggestions of appropriate content and expectations for health-related exercise issues in PE¹³). In Key stage 1, children should be encouraged to know that regular exercise improves health in the following ways: (1) makes you feel good (e.g. happy, pleased, content); (2) helps body parts (e.g. bones and muscles) grow, develop and work well.

9. Limitation and further research

This survey was administrated between March and November, 2004. The data is apparently old, however even now the problem related to obesity in childhood is substantial. Since 2004, several reports on obesity and physical activity among children were issued³⁶⁾. There is no formal change to physical education policy in secondary schools. However, schools are now guided to address the issue of low levels of physical activity and associated issues such as obesity.

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Membership in Learned Societies:

- The Japanese Association of School Health
- Japan Society of Physical Education and Health and Sports Sciences
- Japan Outdoor Education Society