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An evaluation in UK schools of a classroom-based physical activity programme - TAKE 10! ®: A qualitative analysis of the teachers' perspective

The increasing prevalence of obesity among adults and children is a major public health concern both nationally and internationally (UK Department of Health 2008 and 2011a; WHO, 1997). Within the UK, it has been anticipated that 25% of children aged 2-15 will be obese, and 30% overweight, by 2050 (Foresight, 2007). Obesity prevention strategies are clearly needed to stem these perturbing projections.

Early childhood is thought to be one of the critical time periods for the development of obesity (Dietz, 1997), and therefore a pivotal time for obesity prevention efforts. It is thought that lifestyle behaviours that promote well-being and healthy body weight (i.e. increasing physical activity (PA) and reducing sedentary behaviours; Malina, 1996) that are established during this time are more likely to persist (track) into adulthood (Dietz, 2004), thereby decreasing the risk for obesity and other health conditions later in life.

Engaging young people in PA is a key behavioural goal for obesity prevention. Schools are a particularly attractive and popular setting for the implementation of childhood obesity interventions. Moreover, teachers are thought to be in an ideal position to deliver these strategies and influence pupils' attitudes and beliefs regarding health behaviours. Consequently, a number of research initiatives have been developed that aim to increase physical activity within a school setting using teachers as facilitators.

One example of this is TAKE 10!, a classroom-based programme that integrates 10-minute sessions of PA into primary school educational curriculum. More specifically, the programme provides teachers with age-group-specific physical activities to be completed within class time that are linked to core subject area objectives.

This programme, designed by the International Life Sciences Institute Center for Health Promotion (ILSI CHP), was first piloted in the United States in 1999. Since this time several articles have reported the outcomes of the TAKE 10! programme. A recently published review of studies examining TAKE 10! over the past 10 years highlights the feasibility of integrating movement within academic studies in elementary school classrooms. Furthermore, TAKE 10! has been shown to be particularly effective in helping students focus on learning and enabling improvement in PA levels (Kibbe et al., 2011).

The purpose of this study was to add the teachers' viewpoint, that has not been previously studied, to the existing literature. The implementation of the TAKE 10! Programme, with the UK schools National Curriculum, was explored using a qualitative analysis of the teachers' perspective.

Methods

Participants

Participants for the study included 8 teachers from the two schools in the Yorkshire region that were recruited to take part in the Take 10! intervention. Of these teachers, two taught year 3 (ages 7-8), two taught year 4 (ages 8-9), two taught year 5 (ages 9-10) and two taught year 6 (ages 10-11). The teachers varied in gender (4 females/4 males) and years of teaching experience (from 6 months – 37 years). All teachers received training in the TAKE 10! standardised format and were asked to deliver TAKE 10! sessions to the pupils in their class for a minimum of 3-4 times per week for one school

year. However, post-study interviews revealed that the average number of times the TAKE 10! sessions were carried out was 1.5 times per week.

Qualitative Data Collection

Participants were interviewed using a semi-structured format on three occasions throughout the school year (one interview per term). The interview guide focused on the teachers' experience of implementing TAKE 10! While every effort was made to follow the proposed guides, the interviewer was mindful of Berg's (2004) definition of the semi-standardized interview where questions are "typically asked of each interviewee in a systematic and consistent order, but interviewers are allowed the freedom to digress; that is, the interviewers are permitted (in fact, expected) to probe beyond the answers to their prepared standardized questions." Therefore, some questions were posed in a different order depending on each individual interview. For example, some of the answers given by participants covered several questions and certain responses prompted the early insertion of later questions. The interview schedules encouraged the interviewees to tell their own story. All interviews lasted between 10-15 minutes and were audiotaped (with permission) and transcribed in their entirety.

Consent and Ethical Approval

Consent was obtained from all participants and ethical approval was obtained from Leeds Metropolitan University Research Ethics Committee.

Qualitative Data Analysis

Transcripts were analysed using the thematic analysis procedure described by Braun and Clarke (2006). Firstly, the data were read carefully to identify and code interesting features of the transcripts. Secondly, the different codes generated were sorted into potential themes and all data relevant to each potential theme were collated. Finally, the data were systematically reviewed to ensure that a name and clear definition for each theme were identified and that these themes worked in relation to the coded extracts.

Results

The thematic analysis identified two overarching themes evident across all teacher transcripts, suggesting a consensus of opinions from the two schools regarding the implementation of TAKE 10!, namely, 1) barriers and 2) benefits. These themes are described below:

Barriers to Implementing TAKE 10!

Overloaded Curriculum leads to Time Constraints

There was agreement that the main barrier to implementing TAKE 10! was insufficient time to accommodate any extra activities into what they describe as *"an already overloaded school curriculum."* One teacher describes the feeling echoed in most transcripts:

"There just is not enough time in core subjects like English and maths, in an hour's lesson, 10 mins is a long time. You only want to give the children an input of 15 mins but then if they have had 10 mins of TAKE 10! that's 25 mins, and then you take into account drinks cause they are tired, and equipment set up and putting it away things like that, it becomes a half hour job."

This excerpt eloquently raises the frequently stated view that TAKE 10! takes more than 10 minutes which diverts what the teachers describe as "much needed time" away from actual teaching in those core fundamental subjects. In other words, the teachers did not view TAKE 10! as a further extension to their teaching or as another way to deliver the information in the core subjects. One teacher describes: *"We are pushed for time as it is trying to cover all we need to in those core subjects."*

However, when asked if more time would aid the implementation of TAKE 10!, the teachers responded that they would rather *"fill it with more curricular-based activities"* further highlighting the disconnect with the teachers seeing the value if TAKE 10! as a 'curricular-based' activity! The reasoning behind their preference to focus on core subjects became apparent throughout the interviews and will be discussed within the next sub-theme.

The pressures, to maintain the overloaded curriculum, are increased by additional activities that are "squeezed" in. For example, the teachers spoke of periods when time constraints are exacerbated due to timetable changes:

"It's been just an absolute nightmare because of all the Christmas stuff – extra singing practices, longer assemblies….It's been difficult enough to get through the lessons more than anything else."

The agreement between the teachers was, during these times when the lessons are disrupted and they are not in their usual routine, if something has to be compromised they would *"unfortunately, trim the TAKE 10! down."*

Other activities cited as causing interference to the timetable and limiting their core subject teaching time, (and limiting their ability to conduct TAKE 10!), were assessments (i.e. SATS), school trips, OFSTED, rehearsal, teachers' strike, residentials, sports day, and charity events. Furthermore, TAKE 10! was not delivered when the teachers were off sick and there was a supply teacher covering or when the teacher was out of the class due to other commitments such as managerial duties.

Teachers at one school explained how there have been a number of new initiatives put in place in their school that same year. One teacher described: *"You have to fit in 10 mins of this and 10 mins of that and there is a limit of how many 10 mins you can fit in!"*

The general feeling among the teachers was for TAKE 10! to work there needs to be a *"routine"* and *"structure"* and an *"uninterrupted" "normal"* school week. It became evident that at each time-point that the interviews were conducted (i.e. each term) there appeared to be some event that further stretched the teachers' ability to deliver the core curricular subjects and thus diverting the teachers' time away from delivering TAKE 10!

School Judged on Academic Achievement rather than Physical Health

The major emphasis placed on teaching core subjects appeared to stem from the fact that the teachers, and their schools, are judged on how well their students perform in these key areas. The transcripts revealed an underlying pressure placed on the teachers to obtain good grades from their classes. Teachers commented*: "we have to meet targets"*; *"we have the pressure of the curriculum and demands of standards, targets etc."*; "preparing for assessments have to take priority"; *"We're cramming in everything right now. There is a pressure to get all this done"*; *"Physical activity can't take the place of the academic teaching that you need to do."*

Furthermore, if certain children or their class in general, are behind in key areas such as maths or English, the teachers felt any extra time should be "best to spent getting the child up to speed on these and not engaging in 'fun' activities." Such comments give the impression that the majority of teachers did not see the value of TAKE 10! as a tool to further embed learning in these subjects but rather takes time away from their teaching. One teacher remarked "some content cannot be adapted into a physical format." Another said "In subjects like literacy, they need to master core skills like writing and to get pens on paper, not be jumping up and down!"

Viewed as an Extra Demand

This highlights a key criticism that the teachers shared about TAKE 10!, that is, its contents did not link to their school's curriculum and the lessons they were teaching in a *"meaningful way"*. So, in order to deliver the sessions, the teachers were adapting the TAKE 10! session plans to fit what they had planned in that particular lesson. The teachers reported that they did not really use the manual provided much other than to gain some ideas as to the concept and then they planned their own sessions;

> *"I didn't always take the sessions straight from the pack, I have adjust them to fit what we are doing. I feel more confident with the ones I write myself"; "I have obviously modified some of the ideas in there but the content didn't necessarily fit our curriculum all that well"; "It is all my own things because then it fits in with my teaching agenda. More time-effective than searching through the folder for links."*

This acted as a considerable barrier to delivery for the majority of teachers. They explained:

> *"It's another planning task to have to do. Planning and prep time is taken up with planning and prep for core subjects. I don't have the time for extra planning"; "I am up at 6am and get home at 6.45pm and have had a 10 min lunch break. How can I fit in extra time and have a good work-life balance?"; "To be honest it's been an extra demand - It's brainpower and thinking how can I do this today?"*

While the teachers agreed that TAKE 10! doesn't easily fit with all lessons, the teachers utilised it most in maths. This teacher's comment reflects the views of many: *"It fits in nicely with maths and doesn't take away from the*

content that they would be teaching already. It doesn't add an extra task!"

Conflict with Existing Physical Activity within School

There were mixed views as to whether the teachers felt the children already did enough physical activity in their school day and whether initiatives like TAKE 10! are therefore not needed. The differences in opinions seemed to be directly related to whether the teacher saw themselves as a PE specialist or not, with those who advocated the need for more physical activity tending to be the former.

The chosen schools were already engaging in other daily physical activity initiatives. It was these examples that the teachers would refer to in the defence of their argument that they didn't see the need to do TAKE 10! as the children were getting extra activity through these schemes. *"We already have this activity; we don't need to do both!"*; *"I think we do enough physical activity already."*

Constraints of Delivery Environment

Another key barrier in the implementation of TAKE 10! was the delivery environment. Due to large class sizes (29-35 pupils), the teachers felt that the classrooms were not designed, size-wise, to accommodate some of the TAKE 10! activities. Furthermore, some were mobile classrooms which raised further problems;

"There are health and safety implications of doing these activities in a mobile classroom with 34 kids especially with year 6 kids who are big kids"; "The walls are very thin in these classrooms so noisy activities can disrupt the class next door – noise and the shaking of room!"

The majority of the teachers preferred to do TAKE 10! outside but with that came other issues:

"The weather has been terrible so we've not been able to get out on the yard so space has been an issue"; "We could not go outside as year 6 were doing SATS and they were complaining we were making too much noise"; "When the weather's bad and we can't go outside - what I had planned doesn't adapt to our small classroom so I end up not doing it"; "Outside is better but takes more time."

Benefits of Implementing TAKE 10!

Enjoyment and Engagement of Pupils

Generally, the response from the teachers was the majority of the children were eager to engage in TAKE 10! One teacher commented:

"They like to get involved in anything that doesn't involve sitting at their desks with a pen!" Another said*: "You get the odd moan now and again but they do get on with it."*

The children who engaged the most were those who were seen as the 'active' children. Conversely, the ones that *"don't like to get involved don't generally engage in PE lessons either"* or the children that *"typically don't have a good attitude to work."* It was also observed that boys tended to give more energy to the activities and the girls were inclined to be embarrassed or less confident.

The teachers noticed that engagement in the TAKE 10! sessions were increased when the children were allowed to lead the sessions. One teacher described:

"I think they enjoy it now they are planning it…They have more ownership, like when the other children are marching around telling them they are not doing it right that has a bigger impact than if it was me saying it. The children can get away with saying more things to get the other children moving more than I could!"

Improvements as a Result of TAKE 10!

Generally, when asked whether the teachers had noticed any differences in the children in their class as a result of TAKE 10! the majority commented *"not really"* or *"no differences that they could say with confidence were directly as result of doing TAKE 10!"* One teacher said: *"It helps them to expend energy and get it out of their system but I am not sure what is making the difference as there are lots of other changes going on."*

However there were some positive improvements reported such as:

"There were 4 maths lessons that were unusually quiet. The group focused more"; "When the children have finished these sessions they are refreshed and ready to settle down and do work again"; "One or two children who have difficulty concentrating, I think they are concentrating a little better and more focused"; "They are more alert some of them. Engaged and awake. It helps to focus their attention again."

The majority of teachers felt that any differences from TAKE 10! are no different from when they have playtime or other short physical activity sessions. While for the majority of children TAKE 10! may infer positive benefits, there were a small proportion of the children for whom it had an opposite effect. *"Some are calmer but it has the opposite effect on others – who get giddy and over-excited."* This leads to further disruptions in class.

It is difficult to draw conclusions as to the effectiveness of TAKE 10! in deriving health-related benefits from participation. While the teachers aimed to deliver 4 sessions of TAKE 10! per week, on average they completed 2 sessions per week. This eventually dwindled to an average of 1 session per week at the third time interval. One teacher did comment "Because I haven't been doing it consistently or regularly enough I can pin point any specific differences in the children from doing TAKE 10!"

Strengthens Learning

Another positive benefit from delivering TAKE 10! was that it seemed to strengthen learning in certain children. For example:

> *"Some of the ones who don't normally engage in timetables really engage when we do it connected with activity. You're not tricking them into doing it, you are just engaging them, stimulating them. So it does work"; "Some children may get the concept better or remember the information better by associating times tables with fun or activity. They can maybe physically see it and remember it, for example, visualise dividing half of the group up for fractions."*

Discussion

A range of largely external factors relevant to the implementation of the TAKE 10! programme were reported. Teachers commonly reported being overloaded and that the Take 10! programme was like *"extra work"*. Some articulated that the resources were *"big and bulky"* and *"not very user friendly"* demonstrating the importance of understanding the local audience needs. Several teachers talked about the key targets in school being literacy and numeracy as well as attainment. It was felt the pursuit of these targets left little in the way of time for other activities like TAKE 10!

Many comments by the teachers suggested that they felt pupils already participated in enough physical activity, with the use of PE and the *"wake and shake"* programme. A survey by the Department for Education (2010) showed that, in 2009/10, 55% of pupils participated in at least 3 hours of high quality PE per week and out of hours schools sports. These data question the attitudes of teachers that children get enough activity each day especially when the recommendation is for children to achieve at least 1 hour a day of physical activity (Dept. of Health, 2011).

At an individual level the question of perception vs. reality of physical activity in school pupils by teachers is important, as noted in a study by Corder (2010) which reported the differences in perceived vs. real levels of physical activity. The data showed that parents' perceptions of activity levels were much greater than in reality. It should be acknowledged that it is difficult to determine whether pupils are 'active enough' as they do not spend all their time at school and that there is a lack of awareness of the necessary thresholds of unhealthy or healthy behaviours like physical activity. Other studies suggest that adults tend to overestimate their physical activity levels by as much as 48-61%, which demonstrates a general overestimation of physical activity levels for health benefits to be obtained (Sluijs, Griffin & Poppel 2007). This research does demonstrate that the perception vs reality gap for physical activity does exist and needs to be addressed across a range of groups including teachers and parents.

In 2012, the UK targets for five hours of PE each week were removed by the government; this demonstrates a continued move towards greater degrees of autonomy in schools. However, it is clear given many of the attitudes of the teachers we worked with that the opportunities of pupils to engage in physical activity may be reduced even further with such changes.

Despite the range of challenges that were presented, all teachers felt the children enjoyed the TAKE 10! sessions and felt they benefited from them. Some teachers reported observations of the positive impact on pupils' learning capabilities through the TAKE 10! programme. These perceived benefits require further understanding and communication to teachers given the potential positive impact on pupils learning. With that being said, it was also interesting to note that in several statements made by teachers about the impact of TAKE 10! they appeared to acknowledge some benefits from the TAKE 10! sessions but they did not attribute all the positive elements they observed to the TAKE 10! session. However, they were unable to attribute the benefits to any other factors. It may be that the teachers have a

narrow view of the impacts of physical activity and therefore felt it was not possible to attribute these outcomes to the Take 10! session. This demonstrates the importance of communication especially related to the objectives of the teachers, but also the contributions made by the TAKE 10! programme or regular participation in physical activity.

It is unfortunate that the balance of positive and negatives associated with the TAKE 10! implementation from the teachers' perspective is tipped towards the negative side. It appears that teachers saw value in physical activity; however the range of barriers presented could suggest physical activity has a lower degree of priority within the educational system as a whole, by individual schools and/or by teachers. Other potential issues include teachers' confidence and competence delivering physical activity or the degree to which physical activity impacts on learning, for example some teachers' comments imply that their expectations on the benefits to learning (particularly related to primary targets) will be limited. A study by Morgan and Bourke (2005) reported that primary school teachers possessed only moderate levels of confidence to teach PE and felt that they were ill-equipped following their teacher training. This demonstrates a major system issue which limits the foundational principles of physical activity promotion within the school curriculum. In addition, a review by Treadau and Shephard (2008) found that academic achievement was improved despite the extra time allotted to it. In contrast, they also found that more time in academic subjects did not improve academic achievements. Yu and colleagues (2006), however, did not find any relation between physical activity participation and school conduct. This further demonstrates the challenges of achieving the evidence necessary to support practices based on evidence rather than opinion, even those of teachers.

A worrying observation was the cancelling or withdrawal of a TAKE 10! session for poor behaviour. Whilst evidence is limited on this issue, the National Association of Sport and Physical Education have published a position statement (2009), which suggests it is inappropriate to withhold physical activity as a form of punishment. Another comment demonstrates more worrying attitudes of some teachers about the value they attribute to physical activity *"best spent getting the child up to speed on these and not engaging in 'fun' activities"*. It is likely that these attitudes will send the wrong message to children and young people about the value and importance of physical activity.

Conclusion

In summary, the teachers thought the 'idea' of TAKE 10! was worthy "in principle" saying "Theoretically, it would be good". However, the overwhelming feeling was it is just not "practical" given the range of pressures that these teachers faced within their current role. A significant amount of work has gone into the development of the TAKE 10! programme to enable teachers to overcome many of the practical barriers they may face in implementing the programme. These include the development of user-friendly resources, training support and the inclusion of themes aligned to curricular subjects and themes so that the Take 10! activities complement learning. Some of the comments from teachers suggested they had not fully engaged in the training or the reviewing of the resources. Whilst it is accepted that modifications to the TAKE 10! programme can be made, the majority of the comments reflected educational system issues/barriers and a culture that suggests a low priority given to physical activity. It appears that the cultural challenges are very important factors to the effective implementation of TAKE 10! , this is despite comments from the teachers that many of the pupils enjoyed and benefited from the programme. It is unclear the degree to which more can be done as part of the overall programme delivery to facilitate the greater use of TAKE 10! in the UK without cultural changes in the educational system and primary school staff.

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