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Published online: 11 May 2023.

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Research Article

'Works for some but not others' A qualitative study on teachers' perspectives and perceived pupil experience of a North West London school-based run/walk programme

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ABSTRACT

Developing physical literacy (PL) in childhood is a key to develop lifelong physical activity. Teachers' play an important role in supporting children's PL and are at the forefront for continued participation in school-based interventions. This study aimed to discuss teacher-perceived pupils' experiences of a London-based run/walk intervention and explore its contribution to PL. Semi-structured interviews were developed to explore school delivery and teacher perceptions. Six themes developed: perceived experiences, perceived outcomes of participation, teacher attitudes, fidelity/adherence, logistics and intervention suggestions. A novel insight is that the intervention 'works for some but not others' and the importance of self-select pace.

Introduction

Regular physical activity (PA) results in health-related outcomes (i.e. reduced risk of obesity and heart disease [Biddle et al. 2019]), improved cognitive function (e.g. attention and academic performance [de Greeff et al. 2018]) and general wellbeing (e.g. reduce depression/depressive symptoms [Biddle et al. 2019; Dale et al. 2019; de Greeff et al. 2018]) social and emotional wellbeing (Kliziene et al. 2021; Rodriguez-Ayllon et al. 2019). Developing health-related habits in childhood tracks into adolescence and adulthood (Hesketh, Lakshman, and van Sluijs 2017) making childhood (pre-adolescence) a popular focus for developing participation in PA. However, many children fail to meet the recommended PA guidelines (55.1%, [UK Chief Medical Officer Physical Activity Guidelines 2019; Physical Activity Data Tool: Statistical Commentary, March 2021. 2021]).

There is growing interest in the concept of physical literacy (PL) as a gateway to PA engagement (Edwards et al. 2017; Longmuir et al. 2015). PL is commonly defined as 'the motivation, confidence, physical competence, knowledge and understanding to value and take responsibility for engagement in physical activities for life' (IPLA 2017). Someone progressing within their PL journey is more likely to enjoy PA participation, understand the importance of engagement and participate in a range of activities across a variety of environments with others or alone (Whitehead 2019). Developing these core principals of PL is thought to be critical at childhood in order to develop lifelong participation (Belanger et al. 2018; Shearer et al. 2021).

Schools are key environments for introducing interventions as children spend a substantial portion of their day there (Naylor et al. 2015; Shah et al. 2017) so there is an opportunity to introduce programmes to enhance PL such as in PE (Green et al. 2018; Tremblay and Lloyd 2010), break time and in-class activities (Naylor et al. 2015; Shah et al. 2017). When provided with the opportunity to meaningfully engage in PA, children can begin to refine and develop their PL capabilities (physical, affective and cognitive) allowing meaningful embodiment within the context and environments (Cairney et al. 2019; Edwards et al. 2017; Rudd et al. 2020; Whitehead 2019). Schools and school-based PA interventions should enable children to engage in positive experiences across a variety of activities that contribute to PL embodiment and PA participation (lifelong) (Green et al. 2018; Tremblay and Lloyd 2010). However, there are limited studies that consider PL experiences in already developed PA intervention settings so it is unclear if these interventions could contribute to PA engagement throughout life.

Teachers' play a key part in encouraging and supporting a young child's PL journey (Whitehead 2019) and equally are at the forefront for continued participation in many school-based interventions (Nathan et al. 2018). Considering the vital role teachers play in the intervention and policy process, involving teachers in discussions relating to PL development will increase their understanding and enhance the quality of reflection, enabling future challenges to be negotiated for the individuals PL journey (Green et al. 2018) and intervention implementation (Nathan et al. 2018). Therefore, exploring teachers' perspectives of intervention experiences would provide an important insight into how these activities could enhance these key PL experiences for children and in turn contribute to lifelong PA engagement.

Alongside other skills, running is one movement competencies necessary for PL development (Sherar et al. 2020). Sherar et al. (2020) has highlighted that whilst the actions of walking, jogging and running alone will not develop PL as a whole, the skill could contribute to broader competency development which schools should provide opportunities for in other ways (PE and clubs, etc.). School-based run/walk programmes such as The Daily Mile (TDM) and Marathon Kids (MK) have shown a potential to be successful school-based interventions that contribute to impacting selected PL qualities such as physical-related outcomes (Anico et al. 2023) like daily PA behaviour (Chesham et al. 2018), fitness (Brustio et al. 2019, 2020; Chesham et al. 2018; de Jonge et al. 2020), muscular endurance and power (Mønness and Sjølie 2009). However, PL is a multifaceted concept consisting of physical, affective and cognitive domains thus single component research alone does not provide sufficient understanding of potential PL development. Since its launch in 2012, TDM in particular has grown significantly in popularity in the UK and across the world with approximately 7666 schools in England alone participating each day (*The Daily Mile*, 2022). Run/walk programmes are one example of a simple teacher led interventions that many schools already take part in. By understanding the potential contributions run/walk interventions may have on pupils' PL qualities could be of benefit to policy holders and schools in understanding the contributions intervention participation could have on lifelong PA engagement.

In 2014, Barnets golden kilometre was introduced in London, Barnet as a public health initiative with the overarching aim to get more children in the borough participating in regular PA. Barnets golden kilometre is based on the success of TDM project and involves all children in Barnet's primary schools walking, jogging or running 1 km per day every day during school, led by school teachers. In 2019 the intervention relaunched which saw new promotions for schools to take part, therefore opening a gap in research to investigate. To date, examining the effects of run/walk interventions has been quantitative-based and less so qualitative (Anico et al. 2023; Breslin et al. 2023). Edwards et al. (2018) has said that qualitative research is more in line with the holistic nature of PL and may allow research to understand complex interactions with the environment that quantitative measures cannot capture. Understanding practicalities of intervention design like Barnets Golden kilometre can also identify the key characteristics of interventions that contribute to successful implementation (Ma et al. 2021) and highlight characterises that could contribute to potential PL development. The qualitative research that exists in run/walk interventions has provided insight

into pupil experiences and parental, school and teacher perspectives including practicalities, feasibility and delivery (Chalkley et al. 2018; Harris, Milnes, and Mountain 2020b; Malden and Doi 2019; Marchant et al. 2020; Ryde et al. 2018; Schirmer et al. 2023). However, these studies have also highlighted the importance to understand the unique intervention deliveries and the influence it has on pupil experiences (Chalkley et al. 2020a; Ma et al. 2021; Marchant et al. 2020). To date, few have discussed teacher experiences on run/walk delivery and its impact on pupil's participation. In addition, no studies have explored how these intervention characteristics could influence pupils PL or in Barnets Golden kilometre intervention. These findings could provide a better understanding on long-term intervention participation and PA engagement for pupils.

Therefore, the aims of this qualitative research study were to discuss teacher perceived pupils' experiences of participating in Barnets Golden kilometre and its potential contribution to PL development. The secondary aim was to examine the implementation of Barnet Golden km including barriers, facilitators and daily running of the intervention to understand how this may shape pupil experiences. The findings of this study can be used to contribute to the development of the intervention and similar programmes and provide evidence for larger evaluation studies.

Method

The authors engaged in reflexivity throughout the study process and the reflexivity statement is included in supplementary file one. The study also adhered to the COREQ checklist (Tong, Sainsbury, and Craig 2007) included in supplementary file two and ethical approval was granted by the institutional ethics committee.

Research design

Phenological qualitative methods were used to identify teachers' perceptions and lived experiences of Barnet's Golden kilometre. Semi-structured interviews were conducted and question guides were developed based on existing intervention and PL studies (Malden and Doi 2019; Marchant et al. 2020; Stanec and Murray-Orr 2011; Tristani 2014; Veall 2015). The questions aimed to determine how schools deliver the initiative and how it is perceived by teachers including perceived benefits for pupils participating and their experiences when completing the intervention as well as barriers/facilitators to participation for staff and pupils. The question guide was designed by one researcher (SA) and reviewed by a member of the research team (LS). One teacher participated in the pilot interview which prompts/probing questions were adjusted for depth in discussion. The interview guide is included in supplementary file 3.

Participant selection

A purposive sample strategy was employed to recruit participants for the study. Teachers from primary schools involved in Barnet's golden kilometre research project and who taught pupils in school years 3–6 were invited for interviews as these were the school year groups currently completing the intervention.

The study took an inductive approach to research thus determining the sample size or 'sample size saturation' prior to the data collection process could be problematic and may limit the exploration of phenomena (Braun and Clarke 2021; Sim et al. 2018). In line with Braun and Clarke (2021) and Sim et al. (2018), a provisional 'upper sample size' was considered prior to the study commencing that may have generated adequate data for the study aims. Two schools were currently taking part in Barnets Golden kilometre research study and were recruited to take part. Across the two schools, the number of staff involved in the dissemination of the intervention or engaged with participating pupils was totalled. In the schools, there were PE leads ($n = 2$), years 3–6 class teachers ($n = 10$) and teaching assistants ($\sim$2 per day in each school). Teaching assistants were approached for

recruitment but declined due to staff restrictions (this included being needed for one-to-one pupil care throughout the school day and on temporary agency work) so were removed from the potential sample. Therefore, the final upper sample size was determined to be 12 teachers that would be applicable for interviewing. Between September and December 2021, 12 teachers were approached after an intervention launch assembly to take part in the study. The member of staff in charge of the intervention launch also received information sheets and email templates to share with participants for recruitment. In total, five out of 12 teachers agreed to participate, two participants were unable to participate due to being on temporary staff placement in the school and a further five were unable to participate due to timetable and workload commitments.

Participants included three female and two male teachers, of which two were PE leads (1 male and 1 female), one from each school involved and both in charge of Barnet's golden kilometre research project at their school. The remaining participants included one year 3 class teacher, year 5 class teacher and the Head of Learning/year 2 and 4 teacher. Participant teaching experience ranged from 2 to 15 years.

Setting

The current study received ethical approval from the London Sports Institute ethical committee, Middlesex University. (McNamara 1999) General guidelines for conducting interviews and eight steps for preparation were followed for the interviews. After giving written consent, interviews were conducted with teachers on school grounds in a comfortable environment, this was either in their usual teaching classroom or staff office. The interviewer then explained the purpose of the interview including the aims of the research, confidentiality and format of the interview itself (time, contact and questions). Participants were then asked if they had and questions and final verbal consent was given. Only the participant and lead researcher were present during the interviews. Data collection was conducted between October and November 2022 in two primary schools.

In Table 1, school characteristics summarise the included school capacity, eligibility for free school meal and intervention implementation. It is recognised that there is a difference between schools in terms of access to facilities and resources such as playground space, also eligibility for free school meals and capacity which may influence how the intervention is implemented within the setting. To identify if the responses and themes that arouse were school specific the results were colour coded and presented in supplementary file 4.

Data collection and analysis

All interviews were audio-recorded using a Dictaphone ($M = 16$). One researcher (SA) conducted all interviews and transcribed the interviews verbatim in Microsoft Word. Throughout the interview process, SA kept field notes on a university laptop and interview reflections were written after each.

Inductive thematic analysis was performed using the Braun and Clarke (2006, 2022) six phases of analysis to be 'data-driven' and provide a platform for participants to share their lived experiences

Table 1. School characteristics based on statistics from (GOV UK 2022).

	Location	School capacity and % eligible for free school meals	Year groups completing the intervention	School facilities	Intervention daily completion
S1	Suburban	390 (34.2%)	Years 3–6	– No access to greenspace within the school grounds but access to local parks	– Pupils completed by running laps of the playground
S2	Semi-rural area	120 (0%)	Years 3 and 4	– No access to greenspace within the school grounds but access to local parks	– Pupils completed by running lengths of the playground

without confirming or reviewing theory like deductive approach (Braun and Clarke 2022). Described by Braun and Clarke (2019) as a method for organising patterns of meaning which can be themed across data and allow readers to make sense of the experiences. Familiarisation with the data was conducted by SA. This included transcription, repeat reading of the transcriptions and noting initial ideas for codes. Initial codes were made by coding the entire data set and organise the data into meaningful groups based on themes in interview guides. Codes were defined as stated by (Braun and Clarke 2022) as outputs that 'capture an analytic insight from researcher's systematic engagement with their data'. Concentre codes were identified as factual information and conceptual codes as explanations of meaning/experiences (Braun and Clarke 2022). As part of the reflexive process, codes were refined and transcripts were revised throughout data analysis.

SA then independently searched for themes by collating codes and relevant data. The codes were printed and grouped by hand to help visualise codes into themes. To respect the inductive approach, the researcher (SA) did not engage in literature relevant to the research field (topics relating to PL, PA and of qualitative design) in the early stages of analysis to prevent the process being driven by the theoretical interests or preconceptions of the researchers (Braun and Clarke 2006). Two researchers from the research team participated in sense checking throughout (EE and LW) to provide alternative perspectives and refine codes and themes, and this was a continual process that occurred throughout the analysis (Braun and Clarke 2022). The three research members continued to review and define themes before interpretation began. NVivo Wise-mapping software was used to establish general dimensions and subsequent themes in the data.

To ensure trustworthiness in the research study, Lincoln and Guba's (1985) four-step criteria of trustworthiness was followed and the steps are presented in Table 2. The work of Lincoln and Guba (1985) is much-regarded and referred to by many for ensuring quality in qualitative research (Loh 2013; Raskind et al. 2019).

Results

Themes

Six themes were identified: perceived experiences, perceived outcomes of participation, teacher attitudes, fidelity/adherence, logistics and intervention suggestions.

Perceived experiences

Overall teachers reported mixed experiences for pupil involved and five sub-themes were identified: interest in/lack of motivation, pupil ability, pupil age, gender differences and taking part with friends.

Table 2. Lincoln and Guba's (1985) four-step criteria of trustworthiness.

Trustworthiness	How	Completed by
Credibility	– Engage in school environment to build trust and rapport with teachers	SA participated in intervention launch day and assembly at each school as well as taking part in informal staff introduction meetings and providing information sheets with contact information throughout
	– Peer debriefing and member-checking	SA participated in member reflection and peer debriefing. Participants were provided final reports to clarify interpretations and then given a written summary
Dependability	– Inquire Audit	All data were examined by two researchers throughout (LW and EE)
Confirmability	– Audit trail	An audit trail was kept by SA to provide metaisl for the sense checking by LW and EE. The audit trail included: raw data, process notes and development information
	– Reflexivity	SA engaged in reflexivity through and kept an reflexive journal. See reflexive statement in additional materials
Transferability	– Thick descriptions	Thick descriptions were used to create transferability in the data

Teachers mentioned that pupil's motivation to take part would often influence their participation and experiences of the intervention. This was reported in both positive and negative lights and grouped as a sub-category 'interest in/lack of motivation'. Children's motivation to take part was often associated with pupil's enjoyment levels.

> … . the fact we had a whole school assembly had a massive impact, the children were really keen and buzzing and you know it was and the fact that we had an official launching ceremony technically helped and you know the little flags (p2)

Teachers reported that the intensity in which the intervention was completed (self-select nature) would vary based on sex. Boys tended to be more competitive than girls, choosing to sprint or run the kilometre or even cheat to try finish before their peers. Whereas girls would take a varied pace (walk, jog and run) and were more likely to cheer each other on than cheat or try to finish first.

> … the boys you know are very competitive so in the begging they always sprint even if we explain they should be jogging and pacing themselves but anyway they sprint for 2/3 laps then they get really really tired … . Some girls are a little more sensible and some boys that have been jogging slowly and pushing themselves (p2)

Taking part with friends was seen to influence participants willingness to take part, PE leads noted that pupils were less likely to participate if their friends were present. Social setting appeared to aggravate competitiveness, which would lead to cheating in intervention participation as pupils wanted to be the first back.

> they often loose interest if it's not with everyone else and they're like 'oh but my friend in the other year isn't doing it … I feel like at that age a lot of them are just interested in friends like 'oh you're doing it, maybe I should as well' (p5)

Perceived outcomes of participation

Following the introduction of the IPLA definition of PL teachers when then asked what perceived outcomes of pupil's experiences as a result of participating. In total, six different sub-categories were developed, these included outcomes both relating to PL, PA and other health-related measures and were grouped as physical-related outcomes, concentration, healthy lifestyle, understanding and knowledge, confidence and motivation and general PA benefits.

Outcomes related to confidence and motivation were most commonly mentioned and featured in all interviews. Teachers explained that completing the kilometre would improve pupil's confidence and self-belief that they can complete the distance and in-turn motivate pupils to achieve a kilometre and continue to challenge themselves with the self-selected pace.

> Well I think it would help their motivation and confidence in their own abilities to sort of run a set distance because they might initially start off by think a kilometre that's just miles I can possibly run that, then pretty soon they'll realise exactly how far it is and then suddenly realise too I did it today and it wasn't as hard as I thought, maybe I could run two kilometres by this time next week (p3)

Teachers also noted that the kilometre would help pupils to build confidence in their own physical ability in relation to their stamina and running technique. One teacher mentioned that the self-select nature of the intervention enabled pupils to work at their own level without anyone watching.

> … the run is quite good because there is no one is really looking at them. Everyone's sort of taking part and everyone's in their own little bubble and they're not, no one's looking at them. The focus isn't on them so their able to just sort of comfortably do it and I saw some I can definitely say some children did develop their confidence in this area (p1)

Physical-related outcomes were also commonly reported and featured in all interviews, elements such as stamina, physical competence and motor control/coordination were all suggested to improve as a result of participating in the intervention.

… it definitely does build their physical competence, even if its just their stamina with running and being able to maintain that (p1)

Interestingly, one teacher reported general PA benefits and did not associate the outcomes directly to the intervention and instead discussed how any forms of activity would results in the above benefits.

If they can do anything for a year you're bound to start seeing results and improvement (p4)

Teacher attitudes

The sub-categories were found within teacher attitudes: teacher PL, teachers past negative experiences of PA and punishment.

When discussing perceived outcomes and experiences, teachers were asked to reflect on the concept of PL and how the intervention may or may not impact pupils' journeys. All teachers were introduced to the IPLA definition in the interview and asked if they had any questions regarding the concept. Overall, teachers reported that the definition seemed straightforward and was respective to the concept and its underpinning domains. Only one PE lead was familiar with the term of PL prior to the interview and all other teachers had not heard of the concept before but most suggested it would be associated with physical demand.

I guess learning about fitness or something along those lines (p4)

Throughout the interview's teachers were often reflecting on their own past experiences of PE and PE. Often, non-specialist PE teachers reflected negatively of on their own experiences of PA, when discussing pupils' experiences of the intervention it was suggested that the kilometre aspect may not suit all pupils and in turn could put some off rather than benefit performance.

I think they'll be put off trying certain running activities because they are always the last and always the slowest … Speaking as someone who was always picked last for netball ha-ha (p4)

Well you know just thinking about when I was a kid at school and just having to do something in PE that you don't want to do can kind of demoralise you a little bit and if you think you are not very good at it and perhaps not fit enough then you're going to find it hard to keep going. In the old days we didn't have teachers to encourage us ha-ha which obviously doesn't happen now ha-ha. Erm but you know a lot of PE in those days was kind of abusive and demoralising for kids so even now they can see other people doing it better than them so that can always set people back a little bit and impact their self-confidence (p3)

Fidelity/adherence

Four sub-themes were identified within fidelity/adherences. These were: why the school opted to take part, variation in distance and/or pace, frequency and cheating.

Both schools aimed to follow the same principles and protocol for the intervention but the initial reasoning for the uptake of the intervention varied between the two, see Table 1.

No one does anything other than me (PE lead) so yeh a bit. I mean if I asked them to help I'm sure they would but I don't need any. Other than the headteacher saying 'PE lead, are you doing this?' and I go 'yep' (p5)

The distance and/or pace of the intervention between classes and schools varied. One participant noted that focus of the intervention was on the distance covered and not the intensity at which it was completed. Another class teacher instead noted that the distance the class covered varied in order to tailor to children abilities and therefore the full distance (1 km) many not have been covered.

Erm when we started it off we did 10 laps but it became too much so we reduce the number of laps the first week then started to build back up to 10 … We do have some children that will only do 3 laps but they are meeting their set target as last week they may have only been walking it. The majority of children do 8 (p1)

Interestingly, a PE lead shared that pupils would not want to do the intervention if they thought it was just running, the self-select nature appeals to more pupils and was more enjoyable than 'just running'. The teacher's behaviours in providing these instructions was suggested to influence pupil autonomy.

> It's just trying to make it fun in a way that you're just not running for running's sake erm like if I tell them to run they won't want to run. But if I say you can run, you can walk it, you can jog it but just need to get it done then they definitely enjoy it more (p5)

Cheating was believed to be a problem that meant participants were not completing the full kilometre distance each time. The causes of cheating varied but were often associated with pupils motivation, pupils were also responsible for counting the number of laps in S2 so teachers questioned the accuracy of self-reported numbers from the children.

> someone was leading it but I think the children were counting their own … I'd love to know if what the children counted and they actually ran were the same though! (p4)

Neither schools had a route or markings for the intervention which was perceived to contribute to completion. The lack of route markings was suggested to be a potential mediator for cheating.

Teachers also mentioned that the frequency of the intervention often varied from the intended 5X per week. Instead teachers reported that they were aiming but not always for 3–4 times per week, this was not measured in any school and reported to not be consistent each week although it was clear that 5X per week was more than often not met. Both schools expressed similar thoughts on frequency and mentioned the curricular restrictions affect the frequency of completion.

> Err we be aiming for at least 4 times … Erm we have been aiming but not always (p2)

Logistics

Within this theme, four sub-categories arose that were: staff, time, space and weather and the intervention being simple to implement.

Often when frequency of participation was raised, teachers mentioned that the classes may miss completing the intervention on days when the usual class teachers were not present and the staff in place were not aware. This was mentioned to occur most often when classes were shared by different teachers or supply staff were stepping in.

> Yeh if they have different class teachers in the class on different days if they are not aware of the routine you know sometimes erm Yeh it happens to skip it (p2)

Both schools mentioned an optimum time for completing the intervention would be in the afternoon or straight after play. This was because of pupil attitudes, it was explained that pupils may be less likely to drop out, focus more in class and take their time in the intervention.

> Sometimes children need to have that run destress, burn off the energy and come back into class. So, it can positively impact their learning in class as well (p1)

Space and weather were mentioned to be two of the main hindrances in intervention participation. For the school that had a small playground area, space was a limitation in completing the intervention and pupils were having to run several lengths of the playground.

> … In an ideal world, it would be very lovely if they could go out and run around the block but space/staffing for this is tricky (p4)

Often, if there was bad weather, completing the intervention outside was unrealistic for both schools due to unsuitable surfaces, e.g. playground slippery or flooded and thus unsafe to use. It appeared that poor weather conditions would aggravate the barrier of limiting space as the included schools do have additional/suitable facilitates to use.

It's sometimes our playground is very quiet slippy so it can get quite dangerous. So, if it's too wet on the floor or icy we'll avoid (p5)

The lack of instruction and resources needed to implement the intervention meant that staff knew how to roll out the programme and it was simple to model so children were able to complete it themselves with little guidance and teaching time.

It's pretty straight forward I think (p4).

Intervention suggestions

Teachers were asked at the end of the interview if they had any suggestions or ideas on how to adapt the intervention for pupils. The ideas discussed were grouped into three sub-categories: route, reward systems and not just running.

Having a clear route to complete the kilometre including start and finish lines and dedicated playground space was raised by both PE leads and class teachers. It was suggested that having a clear route would help pupils to stay on track, prevent boredom and visualise the end in both schools. The school with less space mentioned that the small school playground may make the kilometre seem boring for some pupils and instead having a clear route or park/bigger space to run around would be more beneficial.

perhaps those markings or little start and finish lines maybe as signs would defiantly be beneficial (p2)

Allowing children to monitor their progress and also providing prizes or rewards such as stickers when children achieve certain milestones was suggested to help with motivation and also make the intervention a more meaningful experience for children.

… if children were able to track their run and keep record like today I've done this much and tomorrow I've been able to exceed that. Maybe if children were able to see and track how much they were doing it might motivate them all a little more. And it might make it more meaningful for them (p1)

Not just running was also suggested throughout to prevent boredom and increase enjoyment for those pupils that do not like the idea of running. One PE teacher discussed altering the course to include more obstacles or challenges throughout.

… it's kind of like not just running but having like doing things whilst running if that makes sense? (p5)

Discussion

This study presented teachers perceived experiences of Barnet's golden kilometre intervention and is the first study to explore its potential influence on perceived pupil PL. A novel insight is that teacher own past experiences influence intervention perceptions and PL experiences. The study highlights the importance of self-select pace and the intervention 'works for some but not others'.

Teachers expressed how the self-select pace allowed children to work at their own level and challenge themselves without worrying about others watching which was thought to then help develop their confidence in their own physical capabilities. In settings where self-select pace was not highlighted, teachers expressed concerns that the pupils may feel less motivated to take part and perceive the intervention as 'competition'. In similar run/walk intervention research, Chalkley et al. (2018) has highlighted that interventions like MK are adjusted by schools to suit their needs and 'no 'one size fits all'' approach has been suggested for pupil motivation and engagement. Our findings agree and add that for positive pupil experiences, the implementation of these types of interventions should highlight the importance of self-selected pace as one set pace would not suit all pupils needs. One theory that can be used to understand pupil's motivation in PA settings is self-determination theory (SDT) (Ryan and Deci 2000). SDT specifies six forms of motivation with intrinsic being the most autonomous form of motivation whereby the individual is active by

choice and inherent interest (Ryan and Deci 2000; Sebire et al. 2013). Child research shows autonomous motivation is positively associated with an increase PA and SDT proposes three basic needs for its progression (Ryan and Deci 2000; Sebire et al. 2013). These are 'autonomy' (perceived ability to have choice and input), 'relatedness' (perceived social connection and support from significant others) and 'competence' (perceived ability to meet the demands of the environment) (Ryan and Deci 2000). Existing research on school-based run/walk programmes has suggested that the self-select design and participation alongside classmates could promote pupil autonomy and encourage PL progression through increased motivation and confidence in pupil's own ability (Chalkley et al. 2020a; Sherar et al. 2020). Similarly, teachers expressed how children would be motivated to challenge themselves to complete the activity (such as varying from walk to run) when they see and feel themselves improving (stamina development) and increase their self-belief when they participate at self-selected pace. In order for interventions to encourage these basic needs, the way teachers set up the intervention is clearly important and should enable choice (self-select) (Chalkley et al. 2018; Malden and Doi 2019; Ryde et al. 2018).

Run/walk intervention research shows that teachers who have autonomy over delivery and implementation have better intervention adherence and pupil experiences (Brustio et al. 2018; Chalkley et al. 2018; Malden and Doi 2019; Ryde et al. 2018). Our findings agree and highlight the importance of effective teacher delivery in facilitating positive pupil experiences and supporting motivational processes. For example, teachers reported that without support and autonomy-focused motivation, some pupils could have negative experiences when completing the intervention. Teachers expressed that a more standardised approach to delivery would 'work for some but not others' and some children may be put off by the activity if they were to perceive it as a competition. Teachers did note several positive characteristics that worked for the intervention implementation and promoted pupil autonomy, these were: highlighting the importance of self-selected pace and freedom of movement, taking part with friends and flexibility and simplicity in delivery (for pupils and staff).

In young children, teacher engagement and peer support are believed to influence motivation and PA participation. Research shows social contextual factors can influence autonomous behaviour (Ryan and Deci 2000; Sebire et al. 2013). This study along with other run/walk interventions have confirmed the importance pupil and staff influence on participation (Chalkley et al. 2020b; Malden and Doi 2019). Teachers reported girls in particular were seen to provide one another with social support whilst boys were more likely to challenge each other. One teacher reported how younger year groups (years 3–4) were keener to take part without guidance compared to older years (5–6) who required greater teacher support throughout participation. However, some teachers were concerned that the intervention could be demoralising and negatively impact self-confidence if pupils perceive others to be better than them and 'finishing last' could put pupils off participation by encouraging dropping out or giving up. According to SDT, in a social context where these three needs are not met/supported, it can result in a negative impact on intrinsic motivation (Ryan and Deci 2000). Teachers reported that their encouragement (teacher behaviour) in this scenario would be key to participation and one teacher highlighted the importance of conveying the message of the self-select nature again to avoid pupils 'running for running sake' or leading to competition in performance.

Interestingly, teachers attitude towards the intervention and PE also appeared to coincide with their perceptions of pupil's experiences and outcomes. Two non-specialist teachers reflected on their own negative experiences of PE and PA as a child in which they discussed how some pupils could feel similar emotions through negative experiences in the intervention. For example, one teacher stated how pupils may feel dishearten if they were to finish last in which they related to how they were picked last for physical activities as a child. Studies have indicated that personal school experiences of PE and PA can potentially affect teachers attitudes and practise in the subject (Elliot et al. 2013; Keating, Silverman, and Kulinna 2002; Morgan and Bourke 2008). Teacher socialisation theory (Zeichner and Gore 1989) states how past positive and/or negative

experiences in school can affect teacher's belief into their careers which may indicate why those teachers who have negative experiences of PE as a child may feel the intervention could have a similar impact on pupils now. Research that has looked into non-specialist teachers experiences in PE specifically have often found those that negative experiences of PE, lack confidence to teach the subject and can have negative views towards PA/PE engagement (Barber et al. 2022; Morgan et al. 2019; Morgan and Bourke 2008). Given the influence that teachers have on pupil's PL and PA behaviours in school, teachers' past experiences on PE and PA participation could be a key contributing factor to how school-based interventions are implemented within schools (Barber et al. 2022; Elliot et al. 2013; Morgan et al. 2019). One interesting finding that arouse is how a teacher's PL could influence their implementation of the intervention. Research has suggested that teachers perceived PL influences their teaching behaviours in PE settings (Choi et al. 2020; Yıldızer & Munusturlar, 2022) which may suggest that teachers who have no prior knowledge of PL combined with their own negative experiences of PE or PA (poor PL) may not be able to adequality support pupils PL experiences. Although, these teachers were able to recognise the need for intervention adaption to suit all abilities based on their own past experiences. Understanding teachers own PL journeys as well as their perceptions of the concept of PL could enhance teacher efficacy in delivering interventions like Barnet's golden kilometre where implementation in a motivation-supportive climate is key to pupil experiences.

The final two themes that developed were in relation to the implementation and daily completion of the intervention. These were fidelity/adherence and logistics. Teachers expressed that finding time in the day with a busy workload impacted the time available to complete the intervention but the flexibility of the intervention design was useful. Similar studies on TDM (Harris, Milnes, and Mountain 2020a) and school-based PA programmes (Naylor et al. 2015) have also reported that teacher workload can be a barrier but have shown that adaptability can support implementation. Overall teachers reported that their school still did not undertake the intervention every school day as planned but rather on average 3/4 times. These findings appear to be consistent across school-based interventions aimed for 5X completion per week (Brustio et al. 2019, 2020; de Jonge et al. 2020; Ryde et al. 2018) which could suggest further consideration should be paid to wider curriculum aims as time is a common reported limitation. Despite the decrease in daily completion, TDM research has shown 3X completion per week to improve cardiovascular fitness (Brustio et al. 2019, 2020; de Jonge et al. 2020) which is thought to contribute to wider health benefits and potential PL progression (Marques et al. 2018; Ruiz-Ariza et al. 2017). A key perceived outcome of participation from teachers was improved pupil motivation and self-confidence too as children are able to focus on their own performance without external pressures. These findings suggest the 3/4X completion could be beneficial to performance and PL experiences whilst still acknowledging the demands of curriculum time, however, further research is needed to clarify these findings.

Practical implications

Based on the findings of this study, we have proposed practical recommendations for schools to facilitate with the implementation of the intervention. These are: To conduct an assembly for staff and pupils to drive the project and establish teachers' roles in participation. Identify the aims of the intervention to be self-select pace, non-competitive and highlight the potential unintended outcomes if this is not adhered too (e.g. likely hood of dropout and importance of PL development). Where possible, engage pupils and staff in the implementation and design of the intervention route and discuss the flexibility that suit each class completed (e.g. time of day).

Strengths and limitations

The recruitment for this study poses some limitations and highlights potential selection bias in the sample potentially towards the success of the intervention and limits the representation of the

findings in the study. At the time of interview, schools have just reopened after the COVID-19 closure which is thought to have influenced recruitment due to increasing timetable pressures from missed/online teaching. Many of the teachers and other school staff approached were also on temporary staff contracts at the school due to a lack of full-time staff over the COVID-19 period so were unable to participate. Although, this study did record both positive and negative responses to the intervention so feel we have captured truth from the sample. Future research, however, would benefit from recruiting across more schools and a range of participants including teaching assistants, head teachers and children to provide a deeper insight into the implementation of the intervention in different settings.

Secondly, it is important to address that the research can never truly be inductive because of researcher training and beliefs. By engaging in reflexivity and sense checking throughout, attempts were made to limit researcher bias although it is recognised that this may still be present. Future research may benefit from ethnographic qualitative approach including observations and interviews to identify social phenomena and unique school experiences/implementation of the intervention.

Conclusion

Barnet's Golden kilometre intervention appeared to have several successful elements that could contribute to successful PA and PL progression in young children. The results of this study highlighted how the self-select pace plays an important role in encouraging pupil motivation and confidence in an individual's physical capabilities. The simplicity of design and flexibility were highlighted as a key contributor to its implementation and should be considered for future research exploring 5X per week implementation. A key take-home message from the study is the role teachers play in the implementation and how the context in which the intervention is implemented as well as teachers own PL experiences could impact pupils' PL development. This study highlights the importance of the self-select pace of Barnet's Golden kilometre intervention and recommends further research investigates how teachers own PL journeys may influence intervention delivery and the effective ways to implement interventions in these settings.

Disclosure statement

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