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A SCOTTISH REVIEW OF PHYSICAL EDUCATION AND PHYSICAL ACTIVITY IN EARLY YEARS SETTINGS

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INTRODUCTION

Physical activity plays a pivotal role in the holistic development of children during their early years. The period from birth to five years old is characterised by rapid physical, cognitive, and socio-emotional growth, making it a crucial time for the establishment of healthy lifestyle habits. This report explores the significance of physical activity in early childhood, examining its impact on physical health, cognitive development, and social-emotional well-being. This report will focus on the increasing depth of evidence that recognises the benefits of physical activity during early childhood development.

Furthermore, the report will explore the attitudes to physical activity amongst early years practitioners across Scotland and the education provided during their initial practitioner training.

Public health agencies have acknowledged the importance of physical activity and have committed to ensure that every child has the best start in life. Historically, there has been limited research examining the role and impact of physical activity and sedentary behaviour in the early years. However, there is now increasing interest due to the rising prevalence of being overweight and obese in our society, especially among the young.

In 2011, the Chief Medical Officers [i] of the four home countries published physical activity and sedentary behaviour guidelines. For the first time specific guidelines were included for children under five.

These guidelines stated:

- Physical activity should be encouraged from birth, particularly through floor-based play and water-based activities in safe environments.
- Children of pre-school age who are capable of walking unaided should be physically active daily for at least 180 minutes (3 hours), spread throughout the day.
- All under-fives should minimise the amount of time spent being sedentary (being restrained or sitting) for extended periods (except time spent sleeping).

PHYSICAL ACTIVITY IN EARLY YEARS

Physical activity is essential for the overall wellbeing of young children. Regular engagement in developmentally-appropriate exercises / play contributes to the development of strong bones and muscles, helps maintain a healthy body weight, and fosters cardiovascular fitness. Research indicates that active children are less likely to experience obesity-related issues, such as diabetes and cardiovascular diseases. Additionally, physical activity promotes better sleep patterns, reducing the risk of sleep-related problems common in sedentary children.

The benefits of physical activity extend beyond the physical realm, influencing cognitive development. Active play enhances neurocognitive functions, including attention, memory, and problem-solving skills [ii]. Through activities that involve coordination and motor skills, children develop neural connections crucial for academic success. Studies have shown a positive correlation between physical fitness and academic achievement, emphasising the interconnectedness of physical and cognitive development during early childhood.

Furthermore, research indicates that physically active children often exhibit improved concentration and academic performance[iii].

[i] UK Chief Medical Officers' Physical Activity Guidelines (2011)
[ii] Field F. The Foundation Years: preventing poor children becoming poor adults. 2010;(December):1-107.
[iii] Bouchard C, Shepard RJ, Stephens T. Physical activity, fitness and health: the model and key concepts. In: Bouchard C, Shephard RJ, Stephens T, eds. Physical Activity, Fitness and Health: International Proceedings and Consesnus Statement. Champaign, Ill: Human Kinetics; 1994:77-88.

RESEARCH FINDINGS

Compared with older children or adults, relatively little research has been conducted on the health benefits of physical activity in early years. It is important to note that no existing evidence indicates that physical activity is harmful to children under five. In fact, it is quite the opposite, with benefits including:

- **Cardiovascular disease risk factors:** Evidence [iv] suggests that physical activity is associated with improved measures of blood cholesterol in girls and boys.

- **Weight status:** There is strong evidence [v] to suggest that physical activity is associated with weight, suggesting that physical activity is a protective factor against weight gain. Higher levels of physical activity offer the best protection.

- **Musculoskeletal health:** Evidence [vi] demonstrates that physical activity programmes to promote gross motor skills can improve bone health.

- **Fundamental motor skills:** Strong evidence [vii] shows that physical activity is positively associated with fundamental motor skills, all of which influence physical, social and cognitive development. Specifically physical activity is consistently associated with improved balance, motor skills and/or manipulative skills.

- **Cognitive development:** In older children, the link between physical activity and better measures of cognitive development and academic achievement is well established [viii], but there is less certainty in the early years. During the first years of life, the brain undergoes a rapid period of development and it is likely that physical activity plays a key role. The benefits of physical activity for brain development are likely to accrue through a variety of mechanisms including the formation of neural structures necessary for practising physical skills. Evidence in early years have linked physical activity with improved language, attention and self-regulation.

- **Psychosocial wellbeing:** The formation of neural structures are also necessary for children under five to practise social skills and express emotion. Research [ix] suggests that physical activity in the early years may be beneficially associated with self-concept, self esteem, behaviour and emotional and social competence.

- **Transition to school:** Despite a growing recognition of the importance of ensuring an effective transition from early years environments into primary school, Scotland does not have a national approach to measure the move to formal schooling. Public Health England [x] refer to school readiness as a developmental measure of how prepared a child is to succeed cognitively, socially and emotionally at school. Scotland does recognise the concept of school readiness however this is within the broader context of early years education and development.

- In Scotland, the early level of the Curriculum for Excellence and *Realising the Ambition* provide guidance on early childhood education, and schools should work closely with early learning and childcare settings to ensure awork closely with early learning and childcare settings to ensure a meaningful transition into formal schooling. The focus is on a holistic approach to children's development, encompassing not only academic skills but also social, emotional, and physical development.transition into formal schooling. The focus is on a holistic approach to children's development, encompassing not only academic skills but also social, emotional, and physical development.

- **Social-Emotional Wellbeing:** Physical activity provides opportunities for children to engage in social interactions and develop essential social skills [xi]. Group activities, such as team sports or cooperative games, foster communication, cooperation, and the ability to work in a team. Moreover, physical play contributes to the development of self-esteem and emotional regulation, as children learn to navigate challenges, build resilience, and experience the joy of achievement . These social and emotional skills form a foundation for positive relationships and mental wellbeing throughout life.

[iv] Ward DS, Vaughn A, McWilliams C, Hales D. Interventions for increasing physical activity at child care.
[v] Biddle SJH, Asare M. Physical activity and mental health in children and adolescents: a review of reviews. Br J Sports Med. 2011;45(11):886-895. doi:10.1136/ bjsports-2011-090185.
[vi] LeBlanc AG, Spence JC, Carson V, et al. Systematic review of sedentary behaviour and health indicators in the early years (aged 0–4 years). Appl Physiol Nutr Metab. 2012
[vii] Stodden DF, Goodway JD, Langendorfer SJ, et al. A Developmental Perspective on the Role of Motor Skill Competence in Physical Activity: An Emergent Relationship. Quest. 2008
[viii] Maude P. Physical literacy and the young child. In: Whitehead M, ed. Physical Literacy throughout the Lifecourse.
[ix] Eaton WO, McKeen NA, Campbell DW. The waxing and waning of movement: Implications for psychological development.
[x] Public Health England. Improving School Readiness: Creating a Better Start for London.; 2015
[xi] Eaton WO, McKeen NA, Campbell DW. The waxing and waning of movement: Implications for psychological development. Dev Rev. 2001;21(2):205-223.

The Scottish Perspective

In Scotland, physical activity is integral to combatting childhood obesity, a growing concern in the country [xiii]. The Scottish Government's "Active Scotland" initiative prioritises physical activity as a means of preventing and addressing health challenges in the early years. Engaging in active play and structured physical activities supports the development of healthy habits, addressing concerns related to childhood obesity and related health issues prevalent in contemporary Scottish society.

Childhood Obesity

In May 2018, former First Minister Nicola Sturgeon announced an ambition to cut childhood obesity by 50% by 2030. This landmark announcement set out a clear commitment to prioritise child health and recognised the importance of healthy weight.

The commitment was formally published in the Diet and Healthy Weight Delivery Plan in 2018 [v].

The latest available data paints a stark picture of a significant and growing issue of childhood obesity in Scotland, and demonstrates the country is indeed heading in the wrong direction. Data from the 2021 Scottish Health Survey (SHeS) reports that 18% of children are at risk of obesity, representing a 4% increase from the baseline.

For the target of halving childhood obesity in Scotland by 2030 this would require child obesity to be at 7%.

Cognitive Development and Education

The Scottish education system places a strong emphasis on the holistic development of children, recognising the connection between physical and cognitive domains. In Scotland, initiatives like the 'Daily Mile' encourage schools to incorporate physical activity into the daily routine, recognising its positive impact on both physical health and cognitive abilities. This approach aligns with the Curriculum for Excellence, fostering a well-rounded educational experience for young learners.

Socio-Cultural Factors

Community engagement in sports and recreational activities is deeply ingrained in Scottish culture, providing children with opportunities to participate in activities that promote socialisation and teamwork. Local sports clubs and community events contribute to the social fabric, fostering a sense of belonging and identity from an early age.

The approach to physical activity during the early years in Scotland is multifaceted, encompassing physical health, cognitive development, and socio-cultural factors. By recognising and embracing the unique context of Scotland, stakeholders can continue to promote physical activity as an integral component of early childhood development, laying the foundation for healthier and more resilient individuals in Scottish society.

In broad terms, physical activity is defined as "any body movement produced by the skeletal muscles that results in a substantial increase over resting energy expenditure"[i].

In the early years, physical activity occurs in numerous forms such as active transportation (eg, walking to the shops) and adult-facilitated activities (eg, dance/swimming lessons) but the predominant source is physically active play.

Children under five who can walk should be physically active for 180 minutes (3 hours) a day, including all activity intensities from light through to vigorous activity.

[xiii] Scottish Government (2022) Scottish Health Survey 2021 Volume 1 – main report
[xiv] Scottish Government (2018) A healthier future: Scotland's diet and healthy weight delivery plan

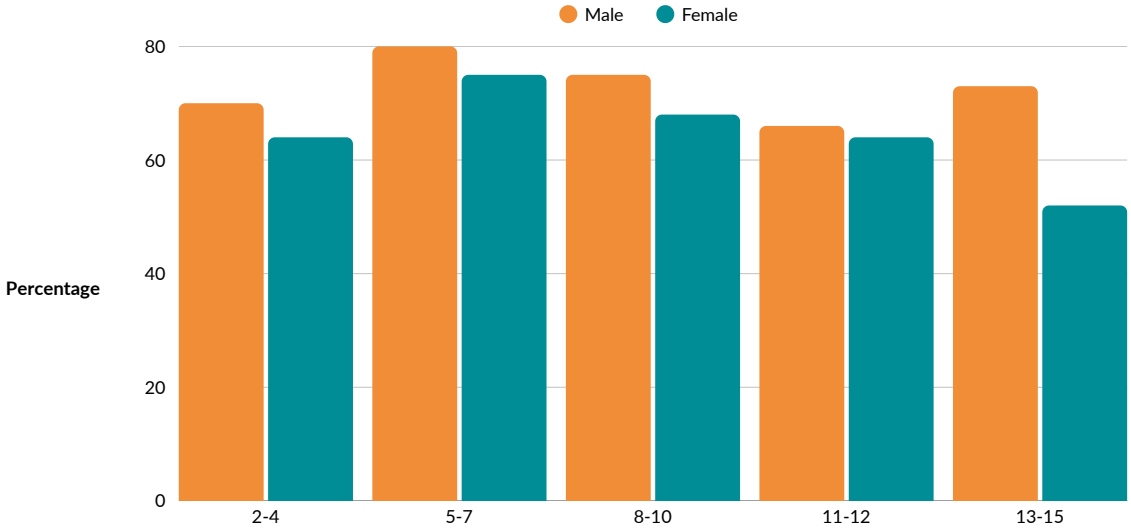
The recommendation for 2 – 4 year olds is different to that for older children:

- 2 – 4 year olds should spend at least 180 minutes per day in physical activities, with this including 60 minutes of Moderate to Vigorous Physical Activity (MVPA) for 3 – 4 year olds.

Since the Scottish Health Survey [xiii] does not collect complete information on activity that is not moderate or vigorous, the data for 2 – 4 year olds in table 1 (below) is based only on those who meet the 60 minutes MVPA recommendation.

For context, Children and young people aged 5 – 18 should engage in MVPA for at least 60 minutes every day.

TABLE 1:
CHILDREN BETWEEN 2-15 YEARS OLD MEETING PHYSICAL ACTIVITY RECOMMENDATIONS IN SCOTLAND, 2021



Source: Scottish Health Survey

THE IMPACT OF DEPRIVATION

The Scottish Index of Multiple Deprivation (SIMD) is a tool used in Scotland to measure and identify areas of multiple deprivation. It provides a way to understand and quantify different aspects of deprivation across various geographic areas in Scotland. SIMD is typically updated every few years to reflect the changing socio-economic landscape.

Education Scotland has defined attainment and the poverty-related attainment gap as follows:

"Attainment is the measurable progress which children and young people make as they advance through and beyond school, and the development of the range of skills, knowledge and attributes needed to succeed in learning, life and work. Many children and young people living in our most deprived communities do significantly worse at all levels of the education system than those from our least deprived communities. This is often referred to as the 'attainment gap'."
Education Scotland

SIMD / PHYSICAL LITERACY

Following a Scottish Government consultation, national improvement [xv] measures were created to monitor the poverty-related attainment gap reflecting key stages of the learner journey. Progress is measured by relation to SIMD, however the Scottish Government have recognised the limitations as it does not measure individual circumstances or capture disadvantaged children and young people living in more affluent areas.

Research [xvi] suggests that adults living in deprived neighbourhoods are likely to have lower physical activity levels (and suffer from multiple and accumulative experiences of deprivation, like increased traffic volume, pollution and poor housing), which provides less opportunity for physical activity.

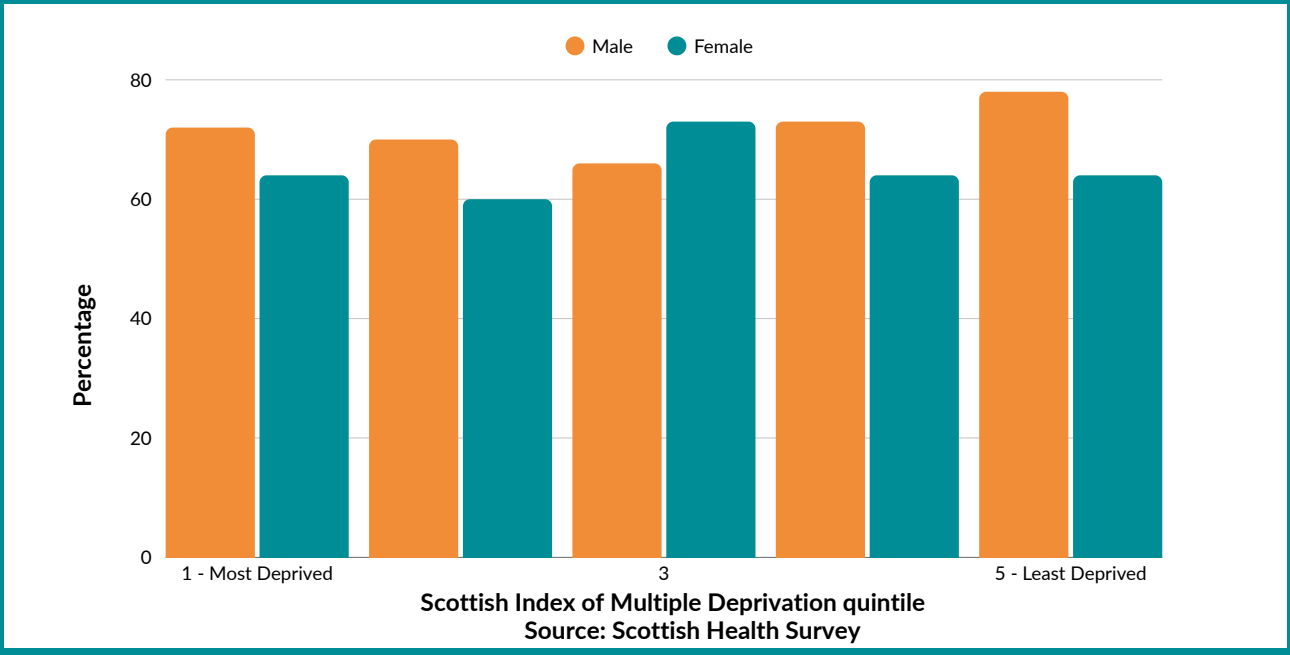
The Poverty Alliance published evidence that clearly shows the poverty-related attainment gap begins in the early years. In Scotland, there has been a significant focus on reducing the poverty-related attainment gap in early years policy and practice.

Whilst there is no specific evidence related to early years, research trends suggest that young people living in areas of deprivation are less likely to grow up in an environment that will instil physical activity as a lifelong habit.

TABLE 2: CHILDREN BETWEEN 2-15 YEARS OLD MEETING PHYSICAL ACTIVITY RECOMMENDATIONS, BY SIMD QUINTILE, 2021

Table 2 [xiii] shows that in 2021 there was no clear patterning between area deprivation (as measured by the Scottish Index of Multiple Deprivation) and the percentage of girls or boys meeting the physical activity guideline in Scotland.

Significantly, this is different to the results for adults, which do show a patterning by deprivation.



[xv] Scottish Government (2017) National Improvement Framework: Consultation on measuring the attainment gap and milestones towards closing it.
[xvi] Griew *et al.*, 2010, The school effect on children's school time physical activity

Physical Activity or Physical Education?

In the context of early childhood development in Scotland, 'Early Years Physical Activity' and 'Physical Education' are related concepts but differ in their emphasis, structure, and goals.

Early Years Physical Activity:

Emphasis: Early years physical activity focuses on the general physical movement and play experiences of young people. The aim is to create an environment where children engage in a variety of physical activities, both structured and unstructured, to support their overall wellbeing and physical development.

Structure: Early years physical activity is often integrated into daily routines within early childhood settings, homes and communities. It includes activities such as free play, outdoor exploration, and spontaneous movement opportunities that allow children to develop gross and fine motor skills.

Goals: The primary goal of early years physical activity is to encourage movement, play, and the development of fundamental motor skills. It contributes to physical health, social interaction, and the holistic development of young children.

Early Level Health and Wellbeing (Physical Education - PE) in Early Years:

Emphasis: Physical Education in the early years specifically refers to a more structured and intentional approach to physical activities within an educational setting. It involves planned activities designed to develop physical literacy and foundational movement skills.

Structure: When focusing on PE experiences and outcomes within the early level, the majority of emphaisis is on energetic play in the widest sense. It can include staff-led activities, games, and exercises that are designed to enhance specific physical skills and coordination.

Goals: The main goal of Physical Education in the early years is to provide a systematic and educational approach to physical development. It aims to develop fundamental movement skills, promote physical fitness, and lay the groundwork for a lifelong appreciation of physical activity.

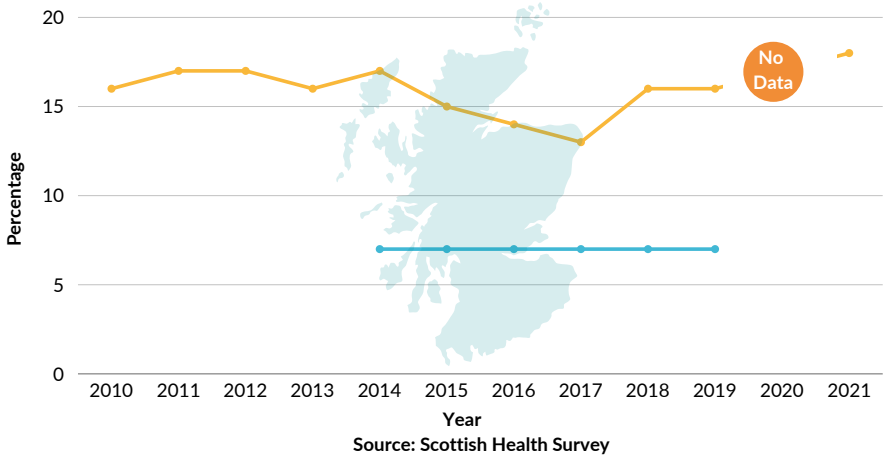
While both early years physical activity and physical education in the early years focus on fostering physical development, the former is often broader, encompassing a range of informal activities and through a play-based pedagogy, while the latter involves a more structured and intentional educational approach within a formal setting. Both play important roles in the overall wellbeing and development of young people in Scotland.

WHY DOES IT MATTER?

Protecting and enhancing children's health is crucially important. Childhood is a critical stage and has a significant impact on health outcomes in adulthood. Evidence shows that children at risk of obesity are much more likely to have obesity as adults [xvii], and once they have obesity, it is very challenging to return to a healthy weight. Obesity in childhood also has a profound impact on children's physical and mental health and wellbeing, including a greater risk of high blood pressure and cardiovascular disease, type 2 diabetes, joint problems, low self-esteem, and impaired social, physical and emotional functioning[ii], all of which impact of the ability of a child to live a happy and healthy life.

Addressing childhood obesity is now even more important in the face of an ongoing cost of living crisis that continues to impact on food prices. Food prices are continuing to rise well above the rate of inflation, which overall is actually starting to fall, and is one of only a few areas where prices are still going up – data from April 2023 shows that food prices rose by 19.1%, compared to an overall inflation rate of 10.1% [xviii]. Not only that, within the overall rise, it is healthier and staple food products, like eggs, certain fruit and vegetables, and milk that have seen the biggest rises, with prices of unhealthy discretionary products rising much less sharply.

This graphic shows the percentage of children at risk of obesity in Scotland each year since 2010. The green line on the graph indicates the 7% child obesity prevalence required to halve childhood obesity by 2030. The orange line on the graph shows the actual rate of children at risk of obesity each year since 2010.



Source: Scottish Health Survey

There are a range of evidence-based policy actions and interventions that can be taken. They fall within the devolved competencies of the Scottish Government that will have a significant impact on preventing and reducing childhood obesity by tackling the food environment that currently puts a spotlight on unhealthy foods.

The Diet and Healthy Weight Delivery Plan included commitments that would address the availability, affordability, and acceptability of unhealthy discretionary food and drink products high in fat, salt and sugar (HFSS).

The Scottish Government pledged action in the following areas:

- Restricting promotions - of HFSS products within premises and further consideration on the scope for relevant restrictions online.
- Advertising – work with local authorities to restrict outdoor advertising of HFSS products on billboards, on public transport, at bus stops and public transport interchanges; and work with the UK Government on areas of advertising that are reserved to Westminster including online and television advertising, and action on front of pack and nutrition labelling.
- Out of home – develop and implement an Out of Home Strategy to support healthier choices, with a focus on how to encourage calorie reduction and measures to encourage food outlets to provide better information to customers, including calorie information on menus, and how the public sector can be an exemplar in food provision.

These commitments have yet to be implemented.

[xvii] Diamond, A., & Lee, K. (2011). Interventions shown to aid executive function development in children 4 to 12 years old. Science, 333(6045), 959-964.
[xviii] Scottish Government (2022) Economic modelling: reducing health harms of foods high in fat, sugar or salt

IMPLICATIONS FOR EARLY YEARS PRACTITIONERS

Initial Practitioner Training

The training and professional development for early years practitioners (EYPs) in Scotland can vary based on factors such as individual qualifications, the specific early years setting, and ongoing professional development opportunities.

The Curriculum for Excellence (CfE) provides a framework for education, including the early years. Physical education is considered an integral part of the curriculum, emphasising active and experiential learning. While there may not be a standardised number of hours or specific training requirements solely for PE in early years, EYPs are expected to incorporate physical activity and movement into the daily experiences of young children.

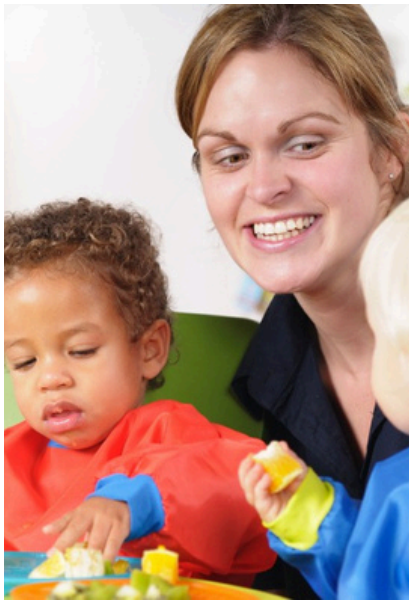
In order to work in childcare in Scotland, EYPs must be registered with the Scottish Social Services Council (SSSC). There are a variety of qualifications that meet registration requirements, however the most common routes into childcare are:

- HNC Childhood Practice at SCQF Level 7
- SVQ Social Services (Children and Young People) at SCQF Level 7

The HNC is a college based course over one year, including an Early Years Setting placement, the HNC optional units available vary from college to college.

The SVQ is job based, often as a modern apprentice, over 12-18 months. There are 4 mandatory units and 4 optional units. The SSSC advise which of the optional units are most applicable to the various practitioner roles.

Significantly, there is only one optional unit ('promote the health and physical development of children') that specifically refers to physical development. From interviews with EYP's, statements included:



"I don't remember anything specific about physical activity when I did my HNC"

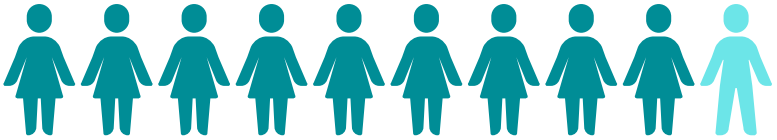
"I completed my HNC in June and it's not specifically included. There is a part on how important outdoor play is"

"Currently half way through my HNC and there is no specific module or unit regarding physical activity. However we do have to evaluate initiatives and policies around health and wellbeing including physical activity."

EARLY YEARS: PRACTITIONER FEEDBACK

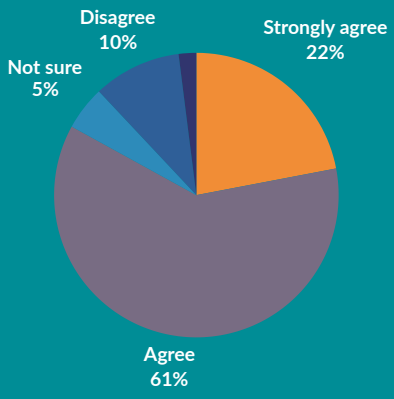
In partnership with Early Years Scotland, from August - December 2023, an anonymous, voluntary survey was opened to all early years practitioners. This resulted in 489 responses.

Responses from **29** (out of 32) Scottish local authorities (91%)

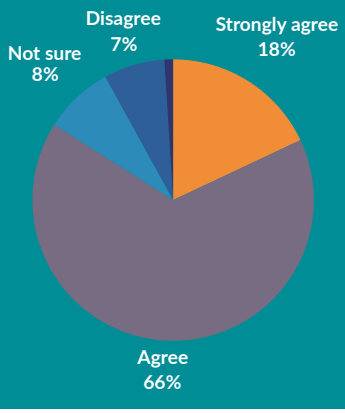


97% (n=472) of responses came from females, with **15** responses from males (3%)

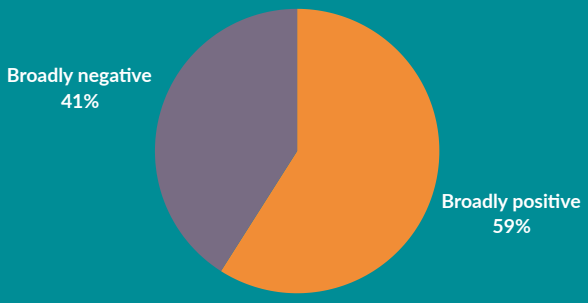
I would describe myself as physically active (n=476)



I believe I am healthy (n=485)

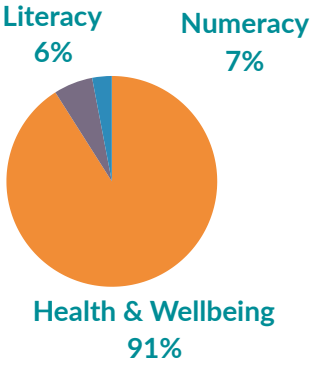


Your experiences with PE as a learner in school was....? (n=420)

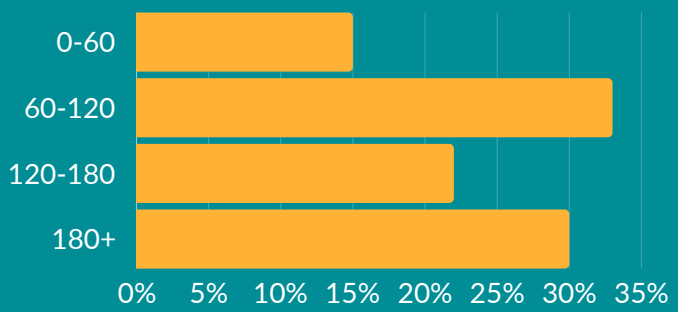


How would you describe your experience of PE at school? (n=358)

Which of the following topics are most important for you as an early years practitioner? (n=473)



Do you know the recommended amount of time 3-5 year olds should be physically active each day? (n=486)

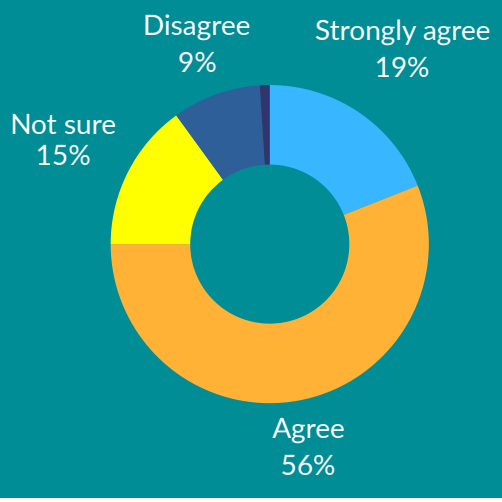


Pre-schoolers should spend at least 180 minutes (3 hours) a day doing a variety of physical activities spread throughout the day, including active and outdoor play.

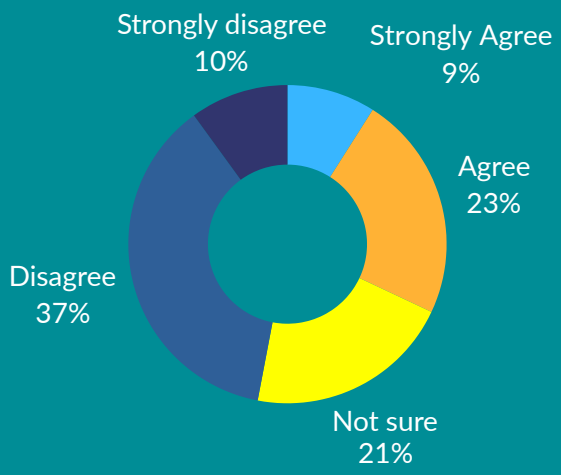
The more the better. The 180 minutes should include at least 60 minutes (1 hour) of moderate-to-vigorous intensity physical activity. NHS Scotland

EARLY YEARS: PRACTITIONER FEEDBACK

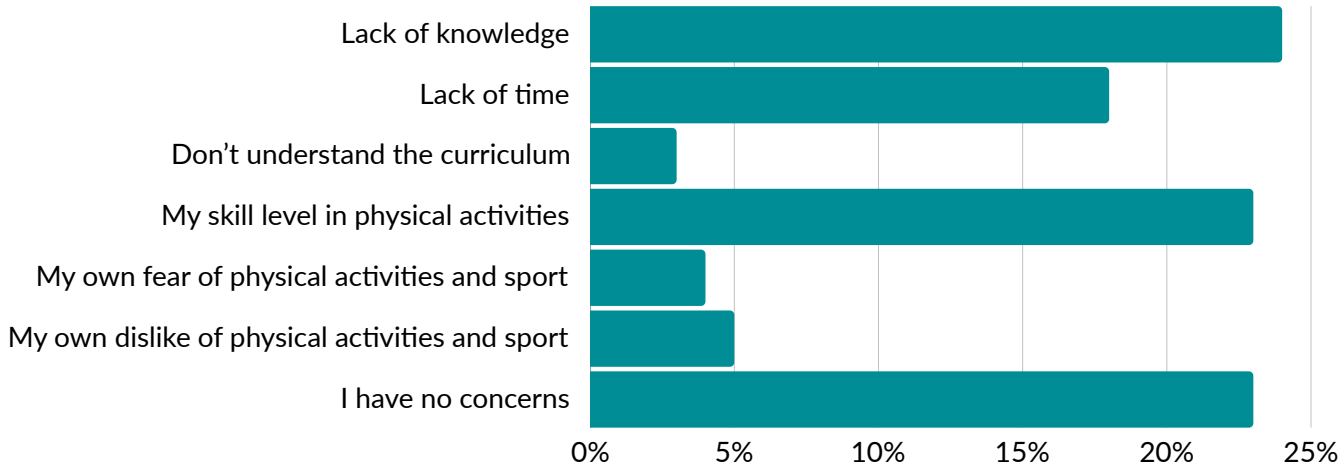
I am confident guiding physical activities and sport (n=485)



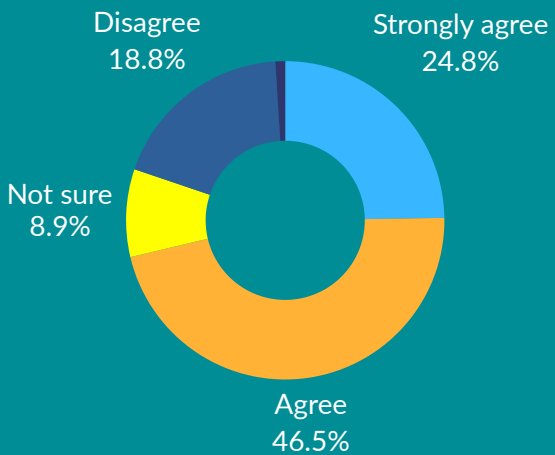
I have had sufficient training to deliver physical activities and sport (n=484)



What are the biggest concerns you have delivering physical activities and sport in an early years setting? (n=476)



Physical activities and sport are a key part of my work with young children (n=486)



Children under 5 should not be inactive for long periods, except when they're asleep. Watching TV, travelling by car, bus or train, or being strapped into a buggy for long periods are not good for a child's health and development.

All children under 5 who are overweight can improve their health by meeting the activity guidelines, even if their weight does not change. To achieve and maintain a healthy weight, they may need to do additional activity and make dietary changes. NHS Scotland

EARLY YEARS: PRACTITIONER FEEDBACK

As part of this report, eight early years practitioners were interviewed to establish their understanding of developing and promoting lifelong physical activity. The EYP responses were collected and analysed using sentiment analysis, with the following findings.

Can you share your philosophy on physical education for young children?

The sentiment expressed from the interviews was overwhelmingly positive. The EYPs clearly understood the importance of physical activity for children, highlighting its positive impact on their physical and emotional well-being, as well as its role in essential child development. The language used suggests a strong belief in the benefits of physical education, outdoor activities, and engagement in sports for children's overall development, including the improvement of motor skills, coordination, and social skills. Overall, the sentiment is supportive and advocates for the incorporation of physical activities in children's daily lives.

"I believe that physical activity is extremely important for young children to help build their strength, physical skills, fitness, gross and fine motor skills."

Can you provide an example of how you differentiate instruction based on the varying physical abilities of young children?

The responses were positive and expressed a child-centred approach to learning and development. The EYPs discussed a philosophy that centres around allowing children to guide their own learning experiences, promoting individuality, and adapting activities to each child's developmental needs. There was an emphasis on the importance of physical activities in various stages of a child's development, from basic skills in very young children to more advanced activities for older children.

The interviews also highlighted the benefits of free-flow play, music and movement sessions, and access to outdoor play throughout the day. The use of terms like "adapt," "challenge," and "promote different skills" suggests a proactive and responsive approach to creating an environment that fosters physical development in a tailored manner for each child. Overall, the responses were supportive of a child-centric and flexible approach to physical development in an educational setting.

"In our planning we ensure our environment areas are changed regularly to promote different skills for physical development."

How do you assess the physical development of young children in your class?

During the interviews, EYPs consistently used terms such as "constantly observing," and "recording their learning," indicating a commitment to a detailed and ongoing monitoring process. On several occasions, EYPs mentioned the role of key workers to identify next steps indicating a personalised approach to each child's development.

The EYPs also highlighted the importance of feedback, praise, and encouragement as part of the assessment process. Significantly, none of the EYPs assessed physical development separately but incorporated it into the wellbeing section of report writing.

"We do not currently assess physical development in the early years.

Its not an area we have any real expertise in."

EARLY YEARS: PRACTITIONER FEEDBACK

How do you ensure that your physical education activities are inclusive of children with diverse abilities and needs?

The sentiment expressed in the interviews were inclusivity and adaptability. There was a strong commitment to ensuring that all children, regardless of their abilities or needs, can actively participate in various activities. The use of appropriate-sized equipment, such as trikes and balance bikes, reflects consideration for different age groups was expressed.

Similarly, there were mentions of resources tailored to different abilities and the adaptation of activities for diverse needs underscores a commitment to providing an inclusive environment. Overall, the sentiment was positive, with a focus on creating an inclusive and adaptable environment that caters to the diverse needs and abilities of all children in the playrooms, however, it should be noted that there was a degree of uncertainty related to diversification.

How do you integrate physical education with other subjects or areas of learning?

The EYPs expressed a holistic and integrated approach to learning experiences for children. The emphasis on providing experiences that address multiple types of development simultaneously, encouraging children to build various skills across different learning areas. The example of loose part play in the construction area highlights how activities can be designed to promote physical development, incorporating movement, body coordination, and engagement with different resources of shape and size.

The interviews also focussed on cross-curricular activities that involve numeracy, counting, skipping, ball games, mini beast hunts, litter picking, and colour and shape activities. This diverse range of activities indicates a comprehensive approach to learning that goes beyond isolated skill development. EYPs did express their hesitation to use different cross curricular approaches and highlighted a lack of training in this area, further expressing a desire for additional professional development.

"Building with the bricks Numeracy, counting, skipping, ball games Mini beast hunt. Litter picking. Colour, shape activities etc In early years there is an aspect of physical education in most activities throughout the day."

How do you stay informed about the latest research and best practices in early childhood physical education?

Interviews indicated a commitment to ongoing professional development and training, although they did report a lack of access to professional development opportunities. The repeated request for training to develop fine and gross motor skills highlighted a key area for attention. There were mentions of not having recent physical development training, although some staff registered to attend a Care Inspectorate online workshop.

Overall, the sentiment was a desire for ongoing learning and a commitment to staying informed and enhance skills in early years education, yet the lack of opportunities were regularly identified regularly.

"We've had it in the past and there are some messages on social media but there's not been any workshops or training recently."

KEY FINDINGS

Physical activity has been shown as being crucial for the comprehensive development of children in their early years. The span from birth to five years is marked by rapid growth in physical, cognitive, and socio-emotional aspects, making it a pivotal phase for cultivating healthy lifestyle practices. This report has explored the importance of physical activity in early childhood, assessing its effects on physical health, cognitive advancement, and social-emotional wellbeing whilst engaging with EYPs to establish their thoughts. This established that:

- Pre-schoolers should spend at least 180 minutes (3 hours) a day doing a variety of physical activities with at least 60 minutes (1 hour) of moderate-to-vigorous intensity physical activity. (NHS Scotland).
- 70% (boys) and 64% (girls) aged 2-4 currently meet this target, with a decreasing trend as the young people get older. This is particularly prevalent in girls, with almost half (48%) not achieving the target by the 13-15 year old category. (Scottish Health Survey).
- There is no clear patterning between deprivation and the percentage meeting the physical activity guideline in Scotland. This is different for adults, which do show a patterning by deprivation.
- The Scottish Government's aim of halving childhood obesity by 2030 shows little signs of being achieved, with trends increasing to a current rate of 18% (Scottish Health Survey).
- Scotland do not have a national measure to gauge a child's readiness for formal schooling.
- Early years practitioners receive no mandatory training on the delivery of physical education, with only one optional unit available (Promote the health and physical development of children).
- From a role modelling perspective, 83% of EYPs described themselves as physically active, whilst 84% saw themselves as being healthy.
- Only 30% of EYP's were aware that pre-schoolers should be physically active at least 180 minutes each day.
- Health and Wellbeing was seen as being the most important area to develop by 91% of EYPs.
- 75% of EYPs felt they were confident guiding physical activities, however only 32% agreed that they had sufficient training to deliver physical activities and sport.
- 24% of EYPs stated that a lack of knowledge was their biggest concern to delivering physical activities and sport in an early years setting.
- Sentiment analysis showed an overwhelmingly positive picture. The EYPs understood the importance of physical activity, highlighting its essential role in childhood development.
- Assessment of physical ability does not appear to be routinely measured in early years settings, with any assessment being incorporated within health and wellbeing.
- EYPs highlighted uncertainty when asked about diversifying their delivery of physical activity.
- There appears to be a strong desire for ongoing professional learning, however the lack of opportunities were identified regularly.
- EYPs did express their hesitation to use different cross curricular approaches and highlighted a lack of training in this area, expressing a desire for additional professional development.

OPPORTUNITIES

This report has highlighted both academic findings, supported by engagement with Early Years Scotland and their practitioners. The findings certainly suggest a requirement for support to sustainably increase physical activity levels of young people.

To make long term impact, strategically co-ordinated support is required, involving local authorities and public bodies. There can however be support provided to early years settings and their staff.

Upskilling Early Years Practitioner's: Within early years settings, physical activity should be encouraged. However this report has highlighted that whilst early years practitioners have a willingness to deliver physical activity, there is a lack of knowledge and confidence.

Training early years practitioners to integrate physical activity into settings has been consistently effective [xix], resulting in recommendations that practitioners should be trained to integrate physical activity into usual daily practice.

As highlighted in this report, there is no formal provision of this during practitioner training / education.

Whole Setting Approach: From the evidence available, spending more time outdoors [xx], providing children with portable play equipment and providing additional playground space have all been associated with increased physical activity. In early years settings maximising the opportunities for unstructured play have also been identified as effective strategies for promoting physical activity.

To be effective, this would require all staff to understand the importance of physical activity, whilst also including this within settings' improvement plans, and if appropriate aligning with their feeder-schools' improvement plan.

Structured physical activity sessions: Allocating set time for structured physical activity sessions has been shown to increase physical activity in early years settings [xx], with recommendations for structured interventions lasting 30-45 minutes, 2-3 days per week.

Early years practitioners have expressed a willingness to deliver health and wellbeing activities, however also expressed their lack of knowledge and in particular, a lack of confidence to deliver cross curricular approaches. Working with setting managers to establish allocated times, whilst also supporting EYPs to improve their knowledge and confidence would likely have an impact on the young people. There is consistent evidence [xix] that structured activity sessions delivered in early years settings are effective in improving motor skills. Successful interventions include a focus on fundamental movement skills, body management, physical fitness and dance.

Next steps...

The evidence base strongly supports the incorporation of physical activity throughout the whole day in early years settings. Physical assets such as portable play equipment appear to be readily available in most early years settings. However, the upskilling of early years practitioners and the strategic alignment of setting improvement plans would appear to be areas of weakness. There are certainly opportunities for intervention / support for the long term improvement of Scotland's health.

[xix] Ward DS, Vaughn A, McWilliams C, Hales D. Interventions for increasing physical activity at child care. Med Sci Sports Exerc. 2010
[xx] Kreichauf S, Wildgruber A, Krombholz H, et al. Critical narrative review to identify educational strategies promoting physical activity in preschool. Obes Rev. 2012

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Early Years Scotland
Investing in our youngest children

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