

FITNESS FIRST:

UNDERSTANDING MORE ABOUT HOW BEING PHYSICALLY ACTIVE IS A CORE DRIVER OF HEALTH, FITNESS AND WELLBEING IN YOUNG CHILDREN – AT A GLANCE



70% – children and young people who do not do enough physical activity

60 minutes – minimum amount of moderate-vigorous physical activity required per day



7-8 years old – age at which children are most likely to meet activity guidelines (after which there is a substantial drop)



1-in-3 – girls between ages 7-11 who meet the physical activity guidelines

1-in-2 – boys between ages 7-11 who meet the physical activity guidelines



57 – number of pilot schools in Bradford where the CAS (Creating Active Schools) scheme was piloted



£11,000,000 – amount secured by Active Bradford from Sport England to develop JU:MP programme

100+ – stakeholders involved in the co-production of JU:MP



17 – number of Islamic Religious Settings (IRS) where JU:MP model has been introduced



2024 – year the JU:MP programme is due to be complete



EVIDENCE BRIEFING

PHYSICAL ACTIVITY AND SEDENTARY BEHAVIOUR: EVIDENCE AND INTERVENTIONS



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WHAT IS THE PROBLEM?

Being **physically active** is a core driver of **health, fitness and wellbeing** in young children^[1-4] and helps to prevent **chronic diseases in adulthood** such as obesity, heart disease, stroke, cancer, chronic respiratory disease and diabetes^[5].

Low levels of physical activity and **high sedentary time** can affect children's **cognitive, social, physical and emotional development**, and **lack of outdoor physical activity** risks both children's **visibility as citizens** and their **physical safety**^[6].

In the UK, most children and young people (70%) **do not do enough physical activity** to protect their health^[7,8].

Our research from Born in Bradford has collected **physical activity data from children** using accelerometers and describes the physical activity levels of children in the District.

Although most 1.5 – 5 year-olds in Bradford meet the guideline of 180 minutes of total physical activity (Figure 1, top tile), **the majority do not do enough daily moderate-vigorous physical activity** (≥ 60 minutes) to protect their health (2/3 days inactive): *Figure 1, bottom tile*.

Physical activity levels **peak at age 7-8 years old**, with 62% – 60% of children meeting the physical activity guidelines of (≥ 60 minutes of moderate to vigorous physical activity) but between age 8 and 9 there is a **substantial drop** down to

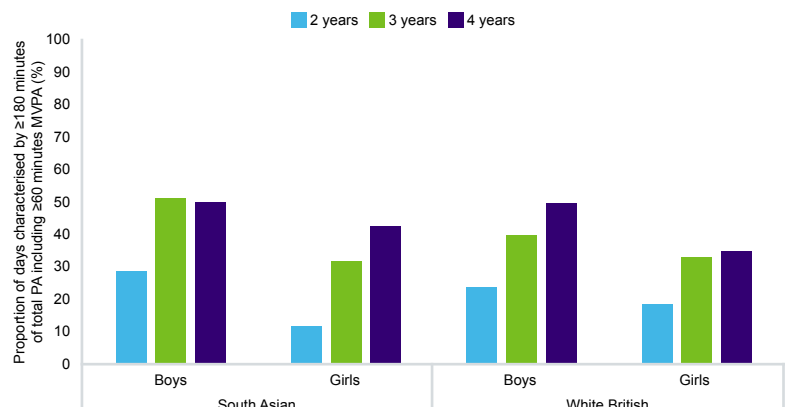


Figure 1: proportion of days characterised by meeting physical activity guidelines for children aged 1.5 – 5 years old

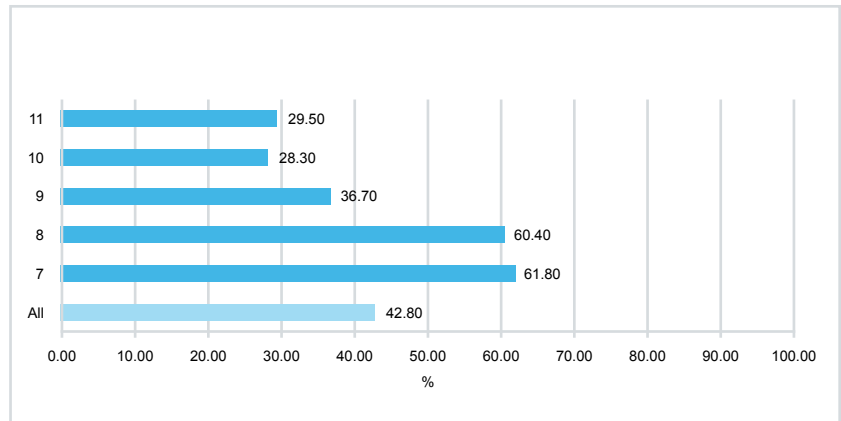


Figure 2: Percentage of children of different ages (7 – 11 years) meeting physical activity guidelines

37% meeting the guideline and this **further declines** to 28-30% by age 10 and 11 years (Figure 2) ^[9].

Inequalities in physical activity are present in Bradford dependant on **gender and ethnicity** ^[11-14];

Some **32% of girls** aged 7-11 years old meet physical activity guidelines compared to **55% boys**.

A total of 34% of **Pakistani heritage** children compared to 54% of **white British** children, and 48% of children from **other ethnic groups**, meet guidelines. **South Asian girls** have the **greatest risk** of being inactive, with only 22% meeting guidelines (Figure 3) ^[9].

WHAT HAVE WE DONE

Born in Bradford has conducted **extensive research** exploring levels and patterns of children’s physical activity and sedentary behaviour and has investigated factors which influence how **active or sedentary** children are.

We have used this information to **develop interventions, guide local strategy** and to **influence local commissioning**. Examples of this include the development and evaluation of:

- The **Pre-schoolers in the Playground (PiP)** intervention which aimed to increase physical activity for pre-school children ^[15] and which was commissioned for families in the Better Start Bradford area.
- The **Healthy Active Parenting in the early Years (HAPPY)** intervention which aimed to prevent infant obesity ^[16] and which was commissioned for families in the Better Start Bradford area.
- The **Stand Out in Class** intervention which showed that by putting height adjustable desks in primary schools, the amount of time children spend sedentary in school can be reduced ^[12,17].
- The **Bradford Obesity Trailblazer Toolkit**, whereby we have worked with Bradford Metropolitan District Council and local Islamic Religious Settings (IRS) to co-produce an obesity prevention toolkit for delivery in Madrassah. The development of the toolkit followed on from our research that demonstrated that previous academic evidence working in IRS for health is limited ^[18] but shows promise to be feasible and acceptable ^[19]. The toolkit aims to support healthy eating and physical activity of children and families, and facilitate organisational

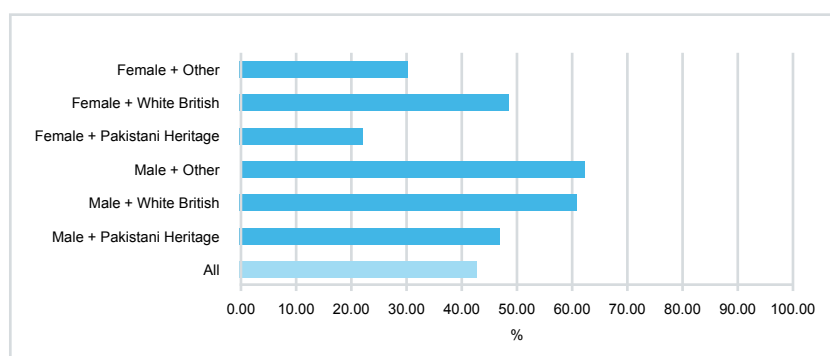


Figure 3: Percentage of children meeting physical activity guidelines according to gender and ethnicity

change within Madrassah to make them healthy places for people to spend time in. This intervention is currently being implemented and evaluated in 17 settings across the Bradford District over the next two years and is also delivered as part of the Join Us Move Play (JU:MP) programme described below.

- The **Creating Active Schools (CAS)** programme, whereby we have worked with Bradford University who have led the co-development of the whole-of-school physical activity programme by engaging with 50+ stakeholders ^[20].

The CAS programme is being piloted in 57 schools Bradford as part of the JU:MP programme (described below) and is currently delivered in 18 localities and 172 schools across England.

The aim of CAS is for schools to introduce policy and environment changes and train staff to support physical activity across 7 different areas of the school day (e.g. class lessons, physical education, break time, active travel). There are plans to conduct a national evaluation of the CAS programme.

- The **Join Us: Move Play (JU:MP)** whole system physical activity intervention aims to increase physical activity for children and young people aged five to 14 who are living in some of the most deprived areas of the UK. In 2018 BiB led a successful partnership bid from Active Bradford to secure £11,000,000 from Sport England to develop and test the programme in Bradford.

Local data collected from our BiB research, national and international research and evidence-based recommendations including the International Society for Physical Activity and Health (ISPAH) investments that work for physical activity ^[21] and the

World Health Organisation (WHO) physical activity global action plan ^[22], community, partner and family consultations, and local asset mapping was combined and assimilated to develop the JU:MP programme, the underpinning Theory of Change and logic model.

We continue to appraise these contextual factors to ensure that the programme evolves with changing social, economic and political landscapes, developments in research, changes in assets (e.g. development of new facilities etc.) and changes in population needs.

The programme reflects a shift in thinking which acknowledges that physical activity behaviour is influenced by complex political, environmental and social systems rather than just an individual “intention” to be active; and that multi-faceted approaches at various ‘levels’ (e.g. children and families, communities, organisations, environment and policy and strategy) ^[23, 24, 25], that are linked up, are more likely to lead to sustained behaviour change ^[26].

During the development phase of JU:MP there were five themes that emerged where we should focus our intervention (policy and strategy, environment, communities, organisations, children and families), and these broadly map on to the socioecological model.

But building beyond the concept of the socioecological model, a key component of whole systems working is linking



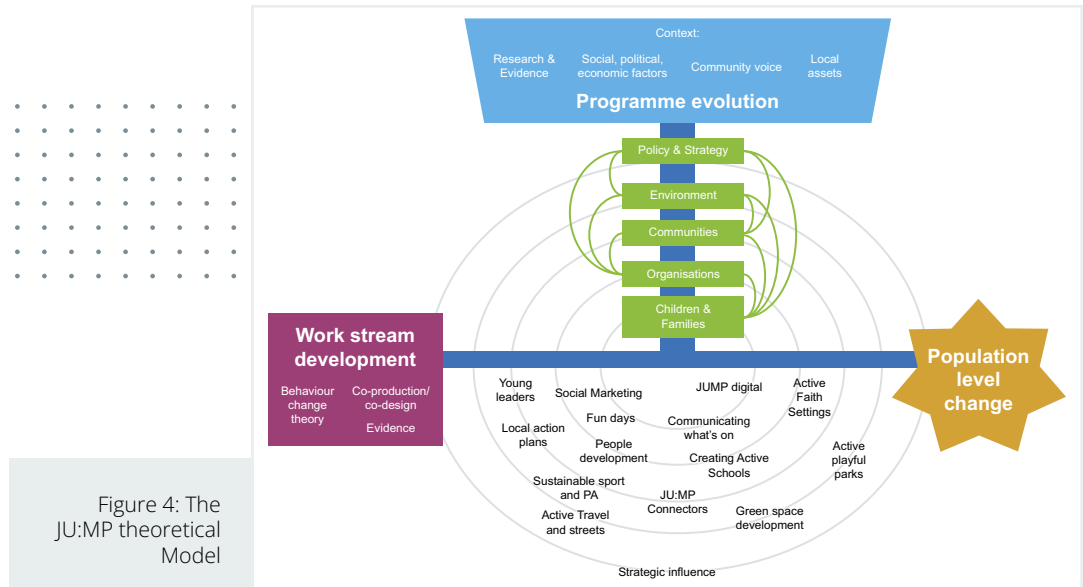


Figure 4: The JU:MP theoretical Model

up work across the system and so it is important to create mechanisms for this in a whole systems approach. In JU:MP these mechanisms include, the neighbourhood action group and plans, local community of learning events, community engagement managers and the JU:MP connectors.

The next part of the model are the individual interventions themselves, known as workstreams, each with sits within at least one (and often multiple) theme. These workstreams are underpinned by behaviour change theory (e.g. COM-B [27]), are evidence-based and are co-produced, co-designed or locally tailored by working with relevant stakeholders (including children and families).

Monitoring and evaluation of these helps to develop, improve, and adapt the workstreams to any changes in the context of the system.

We think that by taking this complex evolving systems approach we can create population level change in physical activity. Of course the JU:MP programme targets children and young people, and our context is Bradford, but we hope that this theoretical model could be applied in different contexts for different populations, and even different health behaviours.

We are continuing to evaluate the process and the effectiveness of the JU:MP programme [28,29,30]. The JU:MP programme is due to complete in June 2024 and the research findings will be available in 2025.

WHAT HAS CHANGED AS A RESULT?

During 2018-2021, **a test and learn approach** was adopted in three initial, geographically defined, neighbourhoods to explore what **showed promise**, and what did not, within the JU:MP geographical area. The learning gained established **the JU:MP programme model** (Figure 4) for the next phase which is now working with a **further five neighbourhoods** (2021 – 2025).

- **At the strategy and policy level**, the programme has worked in partnership with Active Bradford and Living Well to drive forward an update of the **Active Bradford physical activity strategy** and action plan, focusing on taking a **whole system approach**.

Over 100 stakeholders from across different disciplines, sector and local communities have been involved in its co-production (e.g. **town planning, parks, highways, public health, senior leaders, decision makers in policy, voluntary sector, politicians, researchers, local residents**). The refreshed “whole system” strategy draws on examples from the JU:MP programme to illustrate how whole system working can **happen in practice**, and the strategy can support the **transfer of learning** from the JU:MP programme across the District and potentially into **other population groups** (for example, preschool children, older adolescents, adults, older people).

- **At the environment level**, there has been a range of exciting and innovative projects including: the co-design of a **derelict wasteland** into a **vibrant greenspace** for the community (green space development workstream); the development of a **natural “indestructible” play area** in large destination city park which has historically suffered from persistent acts of vandalism;; and improvements in the **accessibility to urban woodlands**.

Green spaces across the JU:MP area have also been “activated” with an **outdoor adventurous play project** and other recreational activities. **Five further green space developments** are planned, three of which are being **co-designed with teenage girls** to make these spaces more inviting and appropriate for this underserved group.

- **At the community level**, JU:MP has enacted a **neighbourhood approach** within the three initial neighbourhoods using Asset-Based Community Development and is continuing this in a further five neighbourhoods.

Working with **local stakeholders**, local action plans are co-produced to **drive system change** in communities. A wide range of stakeholders have been involved in the **co-production** of their neighbourhood plans, including: **children and families, ward councillors, neighbourhood teams, community police officers, school leaders, faith leaders, community organisations and community groups**.

In each neighbourhood, a sustainable sports programme is provided (**with a focus on engaging girls**) and local Young Leaders (JU:MP Leads) undergo training and development to be **physical activity providers of the future**.

- **At the organisational level**, the programme has so far worked with **30 schools** to co-create organisational change for physical activity (Creating Active Schools workstream) and has integrated physical activity into **17 Islamic Religious Settings (IRS)** using the co-produced **Bradford Trailblazer Toolkit**, with a focus on **engaging South Asian girls** in physical activity (active faith settings workstream).

A **workforce development programme** has been developed and tested to support other community organisations. A **“What’s On”** web-based resource that uses an open data directory approach to join us communications systems has been developed to allow organisations to effectively **share and promote their activities** to families.

- **At the children and families level**, a range of opportunities and resources have been co-designed for families including a **social marketing campaign** and a web-based resource called **JU:MP@home** to support parents in providing physical activities in the home environment. Furthermore, the **“Screen Off Life On”** social marketing campaign and a **health and wellbeing gaming app** targeted at older children are currently under co-design.

- **Joining up the system**, the **Core Implementation team** has facilitated relationships between partners and has driven forward the implementation of workstreams at the **organisation, community, environment and policy and strategy levels**.

The **Research and Development team** has provided iterative programme evaluation ^[25] and evidence-based development, facilitating evidence-based decision making across the levels and enabling the programme to be **agile and responsive** to changes in the evidence base and changing landscapes (e.g during COVID-19). It has also provided data and evidence to influence strategy and commissioning decisions.

The **JU:MP programme** has also commissioned local organisations to employ **JU:MP Connectors** in each neighbourhood; these are local people who have facilitated **engagement of children and families** with organisations, community and environment to be physically active and have engaged children and families in co-production and co-design of the JU:MP programme.



RECOMMENDATIONS FOR POLICY MAKERS

- Levels of physical activity are inadequate across all age groups. **Support children in all age groups (from early years up) to engage in moderate-to-vigorous physical activity.** During childhood 1-5 year-olds, 6-8 year-olds and 9-11 year-olds and adolescents are likely to need differing support and provision.
 - There are some groups who are at greater risk of inactivity; these include girls and children of ethnic minority heritage. South Asian heritage girls have the greatest risk of being inactive. **Target greater resource towards higher risk groups who are most in need.**
 - Physical activity behaviour is influenced by complex political, environmental and social systems rather than just an individual 'intention' to be active. **Take a multi-faceted approach across various "levels" (e.g. children and families, communities, organisations, environment and policy and strategy) and link up the system.**
 - Interventions need to be designed and implemented appropriately for different groups of children in order for them to be acceptable and effective. **Involve appropriate stakeholders, including children and particularly those who suffer the greatest inequalities (girls, ethnic minority groups, South Asian girls), in co-design and co-production to develop and tailor interventions to have the greatest chance of success.**
 - Families need to have the knowledge, skills and motivation to be physically active. **Provide families with easy to access information about physical activity opportunities, educate and motivate them via mass media campaigns (e.g. marketing, social media).**
 - Organisations and their workforce need to have the knowledge, skills and motivation to support children and families to be active. **Provide physical activity behaviour change training for all people who work with children, young people and families and support organisations to provide physical activity opportunities. Increase the diversity of the workforce so that it reflects the diversity of the children it serves. Provide training for**
- leaders on writing and implementing physical activity policy and strategy.**
- Working at the community/neighbourhood level (with local organisations, local community activists and local assets) can kick-start the process of whole systems change. **Support local communities (organisations and people) to work collaboratively by creating a local action group and co-producing a local action plan that aims to tackle inactivity across different 'local' domains (e.g. green space, active travel, the built environment).**
 - Environments need to be conducive to play and physical activity. **Ensure that homes, streets, green spaces and parks are: safe, clean, attractive, accessible, engaging and fun for children to play and be active in. Ensure neighbourhoods are suitable and safe for active travel. Support and encourage children and families to use spaces by providing fun activities in these environments.**
 - Local and national policy and strategy is needed to create positive changes across the physical activity system. **Commit to long term investments at scale. Provide training and support to policy makers and strategic leads to ensure they value and priorities children's physical activity. Establish collaborative ways of working across the system to delivery on whole system physical activity. Ensure that children and young people can influence any policy and strategy that affects their ability to be physically active.**
 - Monitoring and evaluating interventions and systems change means that what is working and not working for who and why, can be identified and modified, and learning can be shared; interventions can evolve over time with the evolution of the system. **Invest in a "learning system" which affects change through iterative learning cycles based on generating and learning from data, and formulating and testing service changes. For this to happen effectively, invest in and embed research into the system and routinely collect physical activity data.**



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