A mixed-methods evaluation of prospective acceptability for a family-targeted programme promoting healthy lifestyles

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Abstract

Aim: Childhood overweight and obesity is a serious public health concern in the UK. As part of a national initiative, parents and caregivers are provided information about their child's weight status and invited to attend healthy lifestyle programmes. Uptake to these programmes, however, is low. This study investigated the prospective acceptability of a healthy lifestyles programme to help refine a commissioned programme.

Subject and Methods: Parents and caregivers of children aged 4-11 years were invited to respond to a survey and interviews. Responses were coded into domains of the Theoretical Framework of Acceptability (TFA) using deductive thematic analysis.

Results: Data from 60 survey respondents and six interviewees indicated that most participants would be open to attending a healthy lifestyles programme. Participants reported high levels of perceived effectiveness and self-efficacy. Barriers to attendance were identified in the domains of burden, opportunity costs, and ethicality, as well as a lack of information about the format, content, and target audience of the programme. Participants indicated that they would be more likely to enrol if they were aware the programme offered opportunities for social interaction, and interactive, holistic learning.

Conclusion: Although prospective acceptability of the healthy lifestyles programme is high, this did not translate to attendance at the programme. Using the TFA can inform both the intervention refinement process and how recruitment and marketing of the programme can be supported. Provision of more information about the aims, content, and delivery of the programme, and who the target audience is, would improve uptake rates.

Keywords: Prospective acceptability, healthy lifestyles, weight management, child overweight, child obesity

Carrying excess weight in childhood is a ~~serious~~ global public health concern. ~~in the UK.~~ The global age-standardized prevalence of obesity in the 5–19 years range increased from 0.7% in 1975 to 5.6% in 2016 in girls, and from 0.9% in 1975 to 7.8% in 2016 in boys (NCD-RisC 2017). Specifically within Europe, childhood overweight/obesity has increased significantly in almost all European countries, with over 398,000 children aged 6-9years having severe obesity in 2019 (Spinelli et al, 2021). In the UK, results from the large-scale National Child Measurement Programme (NCMP) measuring child height and weight and derived body mass index (BMI) indicates 10.1% of children (aged 4-5) were obese in 2021/22, with a further 12.1% were overweight (NCMP 2022). At age 10-11, 23.4% were obese and 14.3% overweight (NCMP, 2022). The data further highlights inequalities in prevalence of childhood obesity, it has been observed that the prevalence of paediatric obesity is higher among economically disadvantaged children (El-Sayed et al 2012; Goisis, Sacker & Kelly, 2016), and children of South Asian or Black heritage (NCMP 2022).

Children with obesity are 5 times more likely to have obesity as an adult (Simmonds, Llewllyn, Owen & Wollacott 2016), and are at increased risk of premature death and of developing a range of diseases in adult life (e.g., cardio-metabolic disease, some cancers) (Reilly & Kelly, 2011; Llewellyn, Simmonds, Owen & Woolacott, 2016). Children with obesity are also significantly more likely to be depressed or develop depressive symptoms, a meta-analysis of 18 observational studies pooling data from a total of 51,272participants identified a significant association between obesity and depression (OR = 1.34, 95% CI: 1.10–1.64, p= 0.005) and more severe depressive symptoms in obese group as compared with normal weight group (SMD = 0.23, 95% CI: 0.025–0.44, p= 0.028) (Quek et al, 2017).

The physical and psychological consequences of childhood obesity represent the individual impact, but at a societal level, this impact increases healthcare utilisation, and subsequently costs to the National Healthcare Service (NHS). Studies in the United States and the United Kingdom have estimated the total healthcare costs to be around 25%–40% higher for obese adults, compared with healthy weight adults (Tsai, Williamson, & Glick 2010; Wang et al 2011; Rudisill et al 2016). In the United Kingdom, the direct cost of overweight and obesity to the National Health Service (NHS) is estimated to be in the region of two to three billion pounds a year (Rudisill et al 2016). There is a lack of data around the direct cost of childhood obesity and healthcare utilisation, however, in the UK, results from a prospective cohort

study observing primary care use across 3 years indicated that in comparison to healthy weight counterparts, children who were obese at the age of 5 years had significantly higher rates of GP appointments and GP prescriptions in the subsequent 3 years of early childhood (Kelly et al 2019). They were also more likely to be diagnosed with asthma and sleep apnoea to have higher rates of infections, antibiotic prescriptions and accidents. The data gathered from this study found the direct primary care costs were 14% higher for obese children (£28 a year more) in comparison to healthy weight children (Kelly et al 2019). When this figure was scaled-up to predict the cost of primary care use of childhood obesity in England, for children aged 5–8 years of age, it estimated that childhood obesity costs around £5.5 million a year (Kelly et al 2019). The study only considered primary care use, but the findings reiterate the urgency for addressing obesity through early preventative methods, which is key priority for public health policy makers, with the UK Government's 2018 'Childhood Obesity Plan' (Dhsc 2018).

~~In 2019, 14.4% of children aged 4 to 5 years in England were obese and 13.3% were overweight. In children aged 10 to 11 years (House of Commons Library, 2022), 25.5% were obese and 15.5% were overweight. Paediatric obesity is associated with an increased likelihood of psychological and psychiatric consequences, negative behavioural tendencies, and physical health concerns during childhood (Reilly et al., 2003). Two thirds of children living with obesity at school entry continue to be affected six years later (Mead, et al., 2016). Not only are detrimental effects seen during childhood, but weight-related poor health continues into adulthood, with elevated risks of type 2 diabetes, heart disease, and several cancers observed (Biro & Wien, 2010; Lloyd, Langley-Evans, & McMullen, 2010; Reilly et al., 2003; Serdula et al., 1993; Singh et al., 2008).~~ Child weight management is therefore a ~~key priority for public health policy makers, with the UK Government's 2018 'Childhood Obesity Plan' aiming to halve child obesity rates by 2030 (Dhsc, 2018).~~

The most widely used approach to treating obesity in childhood is lifestyle modification. Most interventions have a family focus, with parents defined as the "agents for change", particularly in children under 12 years. Family-based interventions have been shown to be effective in preventing and controlling childhood overweight and obesity (Ells et al 2018; Tomayko et al 2021). However parental engagement remains a problem hindering the overall effectiveness and wider implementation of these programmes. Family-based

programmes have a high programme attrition rate of up to 75% (Skelton, Beech 2011). Sallis et al. (2019) reported that 2.2% (n=30/1372) of parents and caregivers whose child was overweight or obese enrolled on a recommended weight management service, and only 1% (n=14/1372) attended. Even when additional information was provided (e.g., visual body scales and a pre-populated enrolment form), enrolment into the service only increased to 4.3% (n=55), and attendance rates increased to just 1.9%. Low uptake to such services is a great concern, and efforts to better understand barriers and facilitators are needed.

A systematic review comprised of five quantitative, six qualitative, and two mixed-methods studies appraised the barriers and facilitators to attending community-based lifestyle programmes for parents of overweight and obese children (Kelleher et al 2017). Facilitators included parental concern for children's psychological well-being, an opportunity for social interaction, and a lifestyle-focussed approach to weight management. Barriers to enrolment included stigma surrounding excess weight, parental denial of their child's overweight status, and logistics (e.g., travelling distance, scheduling conflicts etc.). Furthermore the family dynamic (e.g., family functioning, single or double parent household) also affects parental engagement (Pratt & Skelton 2018). It is clear parental engagement with family lifestyle programmes is complex, the factors influencing parental engagement are further complicated when considering the participating child. Fagg et al (2015), identified that children aged 7–13 participating in a family-based weight management program were more likely to drop out if reporting greater psychological distress.

There are several potential predictors of parent engagement, however few comprehensive, theoretically driven, prospective examinations have been conducted, leaving a gap in understanding how to intervene and address parental engagement (Spence, Skelton & Ball 2020).

In the UK, local authorities commission family-based programmes that are developed for both parents and children to attend together, as per the needs of their communities (PHE,2022). However low uptake of these programmes continues to remain an issue (Upton et al 2014). Family-based programmes commissioned by local authorities typically emphasise lifestyle and behaviour change using psychological principles (Berry et al. 2004; Knowlden & Sharma, 2012; Mclean et al. 2003; Sung-Chan et al., 2013) are typically delivered in the community. Evaluations of family-based community programmes in the UK

show that they are effective but continue to be impacted by poor participant engagement (both enrolment and completion) (Upton et a., 2014; Morawska et al., 2011). There is also limited exploration of participant engagement from a theoretical lens (Burton et al 2021).

Our study therefore adopts the theoretical framework of acceptability (Sekhon et al 2017), to explore prospectively parents understanding of a family healthy lifestyle programme. There is a high rate of invitation decline, which is arguably the first barrier that requires exploration in better understanding poor uptake (Dhaliwal et al 2014). An overview of Cochrane reviews highlighted much of the process evaluations of family-based lifestyle programmes focus on retrospective accounts of how parents/children found the lifestyle programme. This temporal assessment is limited because it cannot capture reasons for invitation decline, nor an understanding of how the programme was initially perceived which could affect decision to join, or prioritise attendance at a family programme. A prospective account mimics the real world setting in which people need to make choices about engaging with a novel programme (Ortblad et al., 2022). Acceptability is also a crucial but often overlooked factor in determining uptake, and ongoing engagement with a healthcare intervention (Sekhon et al, 2017), therefore our study adopts a novel theoretically driven approach to explore prospective acceptability of a healthy lifestyle programme to potential users, prior to engagement with it. We conducted a mixed methods assessment of prospective acceptability of a healthy lifestyle programme in Warwickshire, UK.

~~The National Child Measurement Programme (NCMP) was established by the UK Department of Health, to monitor trends in height, weight, and body mass index of children in reception (aged 4-5 years) and again in year 6 (aged 10-11 years) in publicly funded UK primary schools (PHE, 2020). Parents and caregivers are usually provided feedback regarding their child's weight status along with signposting to useful resources including the option to self-refer to healthy lifestyle programmes (although feedback procedures are not a mandated component of the programme, so this may vary across regions) (Dhsc, 2022). Depending on the local needs (i.e. higher rates of childhood obesity), healthy lifestyle programmes can be commissioned and form part of a local authority offering (PHE, 2022).~~

~~Studies show that parental recognition of their child's weight status increases following NCMP feedback. However, parents are generally unaware of the associated negative health~~

~~risks, and make minimal changes to lifestyle habits (Grimmett et al., 2008; West et al., 2008). Even among parents who report intentions to make changes after receiving weight feedback, only one in two later report behaviour changes (Mooney et al., 2010; Park et al., 2014). Unfortunately, uptake to services supporting positive changes and a healthy lifestyle is poor, and there is a declining rate at which families are referred to weight management programmes (Finne et al., 2009; Perez et al., 2015). Sallis et al. (2019) reported that 2.2% (n=30/1372) of parents and caregivers whose child was overweight or obese enrolled on a recommended weight management service, and only 1% (n=14/1372) attended. Even when additional information was provided (e.g., visual body scales and a pre-populated enrolment form), enrolment into the service only increased to 4.3% (n=55), and attendance rates increased to just 1.9%. Low uptake to such services is a great concern, and efforts to better understand barriers and facilitators are needed.~~

~~A systematic review comprised of five quantitative, six qualitative, and two mixed-methods studies appraised the barriers and facilitators to attending community-based lifestyle programmes for parents of overweight and obese children (Kelleher et al., 2017). The quantitative and qualitative studies were of moderate to good quality, however the two mixed-methods studies were both of relatively poor quality, either focussing on a non-diverse sample (O'Connor et al., 2013), or lacking information about sample and methodology (Rice et al., 2008). Facilitators included parental concern for children's psychological well-being, an opportunity for social interaction, and a lifestyle-focussed approach to weight management. Barriers to enrolment included stigma surrounding excess weight, parental denial of their child's overweight status, and logistics (e.g., travelling distance, scheduling conflicts etc.).~~

~~Whilst previous studies have been carried out investigating barriers and facilitators affecting initial and continued attendance of healthy lifestyle programmes, acceptability of these programmes, remains relatively underexplored. Acceptability is "a multi-faceted construct that reflects the extent to which people delivering or receiving a healthcare intervention consider it to be appropriate, based on anticipated or experienced cognitive and emotional responses to the intervention" (Sekhon, Cartwright, & Francis, 2017, pg1). It can be assessed across three temporal perspectives (prospective, concurrent and retrospective). Of these three, prospective assessment of intervention acceptability is crucial as it can highlight~~

~~factors which may influence the acceptability and overall success of an intervention, and this assessment can inform refinements to an intervention. In contrast to retrospective acceptability assessments, which may only assess acceptability among participants who have already chosen to engage with a given intervention,~~ prospective acceptability assessments mimics the real world setting in which people need to make choices about engaging with a novel programme (Ortblad et al., 2022). The current study focusses specifically on the assessment of prospective acceptability, that is, the acceptability of the healthy lifestyle programme to potential users, prior to engagement with it.

Methods

Study design and ethics

This study employed a mixed-methods design, involving a survey and one-to-one interviews. Ethical approval for this research was obtained from Coventry University's research ethics committee (project ID: P130785). This study is reported according to the Consolidated Criteria for Reporting Qualitative Research (COREQ; Tong, Sainsbury, & Craig, 2007).

The healthy lifestyle programme

A 7-week healthy lifestyle programme which is free to attend aims to teach families about good nutrition, staying active and other healthy living topics. The programme is interactive and includes activities such as preparing and tasting food, playing games, and receiving tips and advice about leading a healthy lifestyle. The wider service also offers one-to-one support and parent/carer workshops. Following feedback on their child's weight, parents and caregivers from Warwickshire are invited to self-refer to the service.

Participants

Eligibility criteria

Participants were primary caregivers of children in reception (aged 4-5 years) through to year 6 (aged 10-11 years) and living in Warwickshire, a geographical region in England housing ~500,000 residents. Participants were required to have sufficient understanding of written or verbal study information provided in English. In order to be eligible, participants

had to be within the catchment area for the healthy lifestyle programme, but not yet attended the healthy lifestyle programme. We anticipated to speak to the primary caregiver.

Recruitment

Participant recruitment took place between January and April 2022. Stakeholders who delivered or commissioned the healthy lifestyle programme held primary responsibility for participant recruitment. Coventry University researchers provided study information, a link to the Qualtrics survey, and contact details to the gatekeepers. These gatekeepers disseminated the information directly to potential participants or indirectly through other relevant gatekeepers (e.g., teachers and headteachers, via school newsletters and internal communications). The study was also advertised via stakeholders' websites and social media (e.g., Twitter). If participants were interested, they were encouraged to share their name and contact details to arrange an interview, either via the survey or via direct email to the researcher. Participants were clearly informed this was an entirely optional section of the survey.

Data collection

Survey

The survey was hosted on Qualtrics Survey Software. Participants were given access to a weblink to information about the study and the digital consent form. After agreeing with the consent statements, participants progressed through the survey questions. The survey was estimated to take 5 to 10 minutes to complete. Demographic characteristics relating to age group, relationship to child, ethnicity, employment status, child's year, child's weight status, and postcode were collected to characterise the sample. A modified version of Sekhon et al.'s (2022) generic TFA-based questionnaire was administered to measure prospective acceptability. Questions captured intentions in accessing children's measurements, intentions to access a healthy lifestyle programme, and prospective acceptability of accessing and engaging with a healthy lifestyle programme. At the end of the survey, participants were presented with a written debrief including signposting to (i) the healthy lifestyle programme website, (ii) wellbeing resources, and (iii) a link to the interview participant information sheet.

Interviews

Interviews were arranged via email or by telephone. A suitable date, time, and interview medium (telephone, Microsoft Teams, or Zoom) were agreed, with evenings and weekends available to maximise participation. All participants opted for a telephone interview. A topic guide was utilised to examine prospective acceptability for the healthy lifestyle programme (Appendix). Questions in the topic guide were based on the Theoretical Framework of Acceptability (Sekhon et al., 2017). Participants were reminded they could pause or stop completely at any time. At the end of the interview, participants were verbally debriefed regarding the purpose of the study. All interviews were audio-recorded and transcribed using the inbuilt features of Microsoft Teams, and researchers (LB/RP) checked the transcripts for accuracy. Any identifiable information in the transcript was removed and replaced with a pseudonym or participant ID.

Interviews were conducted by two experienced, female qualitative researchers (LB and RP), neither of whom had children, or prior direct experience with the NCMP or the healthy lifestyle programme. However, the interviewers were mindful of low uptake of the healthy lifestyle programme and how the NCMP is generally poorly perceived. Participants were reminded that the research team were not involved in the NCMP or delivery of the healthy lifestyle programme, to reassure participants that honest disclosure of their opinions was encouraged.

Data analysis

Survey responses were exported from Qualtrics and analysed using SPSS and Microsoft Excel. Data were reported descriptively using mean (standard deviation) for continuous variables and frequency (percentage) for categorical variables.

Microsoft Word and Excel were used for coding and analysing the interview data. Interview responses were analysed using framework analysis, where the data were coded deductively into the seven domains of the TFA (affective attitude, burden, ethicality, perceived effectiveness, intervention coherence, self-efficacy, and opportunity costs; Sekhon et al., 2017). Any utterances that were relevant to the research question, but did not align with the domains of the TFA, were coded inductively.

Quantitative and qualitative data, from survey and interview responses respectively, were then triangulated and analysed in combination, in line with each domain of the TFA.

Results

Participants

Sixty people responded to the survey and thirteen expressed an interest in taking part in the interviews. Six participants were then interviewed; however, the remainder later declined participation. Participant demographics are shown in Table 1. Overall, the majority of participants were female, aged 30-39 years, White British, and employed.

Of the survey participants, n=4 survey participants had accessed their child's NCMP reported weight status, with one participant reporting an 'overweight' status. A further 22 participants had not accessed their child's reported weight status but believed their child to be a healthy weight. Thirty-nine (65%) survey participants had never heard about the healthy lifestyle programme, and 20 participants reported knowing 'a bit' or had 'heard some things' about it.

Of the interviewed participants, none had accessed their child's NCMP reported weight status, but four believed their child to be a 'healthy' weight.

Prospective acceptability of the healthy lifestyle programme

Survey and interview findings were triangulated to provide an overall representation of participants' responses in line with each domain of the TFA. Qualitative and quantitative findings were largely complementary, with qualitative interview data mostly found to agree with, and expand upon, survey responses for each domain.

Affective Attitude

Survey data revealed n=5 (8.3%) participants would 'definitely' sign up to the programme and n=37 (61.7%) participants reported that they would consider it. Many survey participants cited that they were open to attending a programme to promote healthier choices.

> *"If there was a problem with my child's weight, I would want to do something about it" (survey open-text comment)*

Also, how it might help themselves, as parents and caregivers, to gain access to relevant information.

> *"I'm always on the lookout for information and help to get my kids to eat well and how to be a better parent" (survey open-text comment)*

However, some participants reflected on how they were confident they already had appropriate health management tools in place for their family.

> *"We are a fairly active family that's eats in moderation already" (survey open-text comment)*

Some participants described how they were not sure if the programme would suit them or their child, with concerns around learning, mobility, and availability.

> *"Not sure it would suit my special needs child" (survey open-text comment)*

> *"This type of help is not usually available to working parents" (survey open-text comment)*

Interviewees' initial feelings about the programme were generally more positive than those given in survey responses. Most interviewees had heard about the programme, but the majority did not share detailed knowledge about the programme content, purpose, nor target audience. In response to the researcher's brief overview of the programme, participants reported seeing the potential benefits.

> *"it is a difficult process trying to find the right nutrition and everything for kids and balancing physical exercise and giving them something to do every day after school. So, I think to have that support about the right things to feed and do it as a family approach as well… I think it's a good set up*." – P002

Participants felt there would be benefits to attending, including the opportunity to meet others and share experiences, and the potential for socialising their children.

> *"I think it's always good to hear from other families and how they approach things in the group setting, like they might have tips or, you know, things that they do that I could apply in my life."* – P003

"*I did look at it just for the social aspect… [If] the children would get to do something separate from the adults, I would be sort of more willing to go because then he's getting a bit more of a social aspect*." – P001

Burden

Twenty-four (40%) survey participants disagreed that effort was required to engage with the programme. However, concerns were stated by both survey and interview participants, about the length of the programme being too long.

"The thing that would make me be like, "Nah", would be the fact that it's seven weeks long. Like, that just seems like that's too much." – P003

Most survey participants (61.7%) selected 1-3 sessions as a more desirable programme length, whilst one interviewee suggested that they would be more open to participation if they could choose which sessions to attend.

"let's say we were given a timetable and it was each week, and then the topic they were gonna cover, and it was kind of like you could pick and choose which ones you went to… I think that that would make me more likely to pursue it than if I saw it and was just like, right, I have to be committed for seven weeks" – P003

Another issue was regarding the location of the sessions. The sessions are delivered across a number of locations (e.g., community centres, remotely), however, most (53.3%) survey participants selected their child's school as a preferred venue. This was reiterated in the interviews where many participants believed the programme should be delivered at the schools their children attended.

"I think school would be the most ideal… I think it's a friendly and familiar space." – P002

Other suggestions from survey participants included GP surgeries, at home, or at 'a local children centre'. All in all, participants stated that the location would need to be local and an appropriate travelling distance.

> *"But to be honest, as long as it's a reasonable travelling distance, that wouldn't matter… as long as it wasn't a ridiculous journey, we'd be quite happy to do it."* – P001

Perceived effectiveness

Forty-one (68.3%) survey participants agreed the programme would likely encourage changes in diet and physical activity. Interviewees also considered it to be largely valuable and positive; however, most of the participants believed they were already engaging in the practices that the programme would aim to teach families and children, so there was nothing for them to gain personally.

> *"I didn't see what the value of going would be because quite a lot of the stuff it was talking about doing, we do here anyway… like he cooks with us and we'll, we'll talk about what's healthy and what isn't healthy with him when we're eating it… so I didn't see the point in going."* – P003

However, participants did see the effectiveness of the programme for families that do not already practice healthy eating.

> *"the mum would feed her children… fish fingers and chips or chicken nuggets and chips and stuff like that. In my head it's for people like that, so help them understand how to make like healthy foods for their children and sort of help and to give their children ideas for what's good and what's not good."* – P001

Intervention coherence

Thirty-two (53.3%) survey participants agreed the programme would help make healthier choices. This was supported through interviews which indicated that participants understood the aim of the programme and believed it would be appropriate for people who needed it, providing they engaged with the content.

> *"It does sound like, if you needed it, it would be helpful if people were willing to engage with it. Obviously, you [don't] see some positive outcomes if they're not gonna engage then."* – P006

Self-efficacy

Self-efficacy was high among most participants, with twenty-nine (48.3%) survey participants suggesting that they did have the confidence to engage with the programme And interviewees indicating that they felt they would be able to apply the content to their own lives.

> *"I think it'd be good; I think we'd be able to do it [apply programme content]. As I say, we enjoy learning new skills and doing different things as a family."* – P002

Some participants, however, did discuss how viable the advice around healthy eating would be within the rising cost of living.

> "*[The] thing about healthy eating obviously is cost, isn't it? Is it affordable? Like a bar of chocolate's a lot more cheaper and filling than, say, a piece fruit or something."* – P005

Opportunity costs

When asked about prioritising the programme, fifteen (25%) survey participants suggested the programme would interfere with other priorities and interviewees suggested that attending the programme was not a priority, as their children were not overweight or did not have obesity. However, participants did declare that they would prioritise their attendance at the programme if it was needed.

> *"If it was something that I felt we needed then I would prioritise it."* – P002

Most participants described numerous prior commitments already held, reiterating how families would have to juggle existing commitments to attend.

> *"we have some sort of standing commitments anyway, but as long as it was on a day where, like, we didn't have something going on, it would be fine…"* – P001

Ethicality

Interviewees felt that the content would largely resemble practices they already engaged in at home (e.g., making healthier choices, portion control, maintaining a well-balanced diet). Two participants, however, raised ethical concerns around how the programme facilitators would manage addressing weight in a safe, stigma-free way.

"*My only concern is if you find out a child is significantly heavier than they're supposed to be, is there enough support around helping them and their family and get them to what you see as the right sort of weight...*" – P001

"If it's in the school day and it's in the school, I would feel a bit like my daughter would feel, not embarrassed cause, like, she wouldn't really care or understand, but it's a bit like 'ohh, why're these kids going into a group… and other kids aren't'." – P003

Participants also discussed if the programme content would be tailored or adjusted to specific needs appropriately, such as culture, dietary needs, and socio-economic status.

"maybe people are like intolerant to dairy or wheat, or there are vegans or vegetarians, pescatarians or, you know, like all these different groups of people that have specific dietary requirements or cultural things." – P003

"are they gonna also address the fact that some families don't have as much money to spend on food, and then kind of give you advice or information about how to adapt to different budgets" – P003

One participant emphasised needing to know who was delivering the programme, and whether the content was evidence-based.

"I would want some sort of, and not even necessarily like a formal qualification, but experience or expertise in the areas that they're advising me on. – P003

General acceptability

Overall, 37 (61.7%) survey participants described the programme as acceptable and offered positive remarks about it.

"I think it's great to get as much information as you can for your family, there's always room to learn something new or try new things" (survey open-text comment)

The need for clarity around programme content

Interviewees raised several uncertainties about the programme. Upon reading promotional materials (i.e., leaflets, NMCP letters, and the 'Parent Portal'), participants expressed a lack of clarity about who the programme target audience was.

> *"So there was a bit of information on the school newsletter saying we've attached, erm, this this leaflet about [the programme]… I'm not sure if it was the same programme or something similar that they're doing for just free school meal children… I wasn't sure if it was something that we could do, because we're not a free school meal family."* – P001

Some participants noted it would be helpful if the promotional materials provided more detail about what was covered in the programme. This would help parents and caregivers decide whether they would benefit from attending.

> *"Obviously, you can't put the full programme, and you wouldn't want to, but sometimes a few examples is enough to go, 'oh that's what that means, that'd be really interesting', or not".* – P002

Another participant discussed how they had tried to search for details about the programme online but found the information confusing.

> *"I did Google it [the programme], but not a lot came up, and what it did [show] a lot different areas. So, I was a bit lost [and] confused…"* – P007

Participants reported a preference for interactive sessions but were not sure what kind of delivery format the programme adopted which, again, posed as a barrier to attendance.

> *"As long as it's fun for them [children], I think they'd be alright… and it's not just sitting there listening to a lecture kind of thing, you know, a bit interactive or something."* – P005

> *"I would want to know like what the format kind of was. So, is it gonna be like, we're gonna be given tasks and do group work or is it gonna be more like a lecture, and, you know, like where we're told information, or is it gonna be more like work sheets?*" – P003

Discussion

Summary of findings

This study is the first in the UK to investigate the prospective acceptability of healthy lifestyle programmes for children and families. Overall, general prospective acceptability

was high. Quantitative survey responses, and qualitative interview responses were corroborative, with the TFA domains of perceived effectiveness and self-efficacy being prominent, and perceived burden being a common area of concern. Participant responses indicated the healthy lifestyles programme was a good programme to consider attending and engaging with. Over half of survey participants agreed that the programme would be helpful in supporting families to make healthier choices. Just under 50% of the sample felt confident that, if they did attend, they would be able to apply the programme content within their daily lives. Interview participants, however, indicated that the programme was not a priority for them, with the majority stating that they viewed the programme as an effective tool for other people, but not for themselves. Common concerns were also centred around the domains of opportunity, costs and ethicality, including issues with the programme being too long, attendance competing with existing priorities, and a lack of confidence in the programme leader's qualifications and ability to approach the subject of weight appropriately and sensitively. Overall, participants felt that the programme sounded appropriate, and it would be beneficial for families that needed the extra support but they themselves did not require the programme currently.

Consistency with the literature

The existing literature suggests that high acceptability often predicts good uptake to interventions (Diepeveen et al., 2013; Fisher et al., 2006; Gulliver et al., 2021; Hommel et al., 2013; Sekhon et al., 2021), with prospective acceptability being a key influencing factor when eligible participants are deciding whether or not to take part in an intervention RCT (Sekhon et al., 2021). Establishing prospective acceptability, therefore, is an effective method for identifying, and addressing, barriers to enrolment in interventions such as healthy lifestyle programmes (Ortblad et al., 2022; Sekhon et al., 2017). This study identified burden and ethicality as the main barriers to enrolment, yet overall prospective acceptability of the healthy lifestyles programme was high. Despite this, uptake to the programme remains low, with many participants stating that the programme is acceptable, but not necessary for their family.

In relation to the impact of ethicality on enrolment, a critical barrier is the stigma associated with being overweight and attending associated programmes. Previous studies have reported that overweight children frequently do not perceive themselves as being 'fat', nor do they want their peers to see them as such, therefore they are reluctant to attend programmes targeting weight loss (Grow et al., 2013). Similarly, many parents do not want to raise the subject of weight with their children, or enrol them in programmes, for fear of upsetting them or harming their self-esteem (Grow et al., 2013; Newson et al., 2013; Visram, Hall, & Geddes, 2013). This was reflected in our study, with many participants expressing concerns about how the programme would be delivered and how their child's weight would be addressed. The NCMP has previously received negative feedback from parents and ethical concerns around body image and stigma in young children (Falconer et al., 2014; Gainsbury & Dowling, 2018; Gillison, Beck, & Lewitt, 2014; Hughes & Timpson, 2014; Mooney et al., 2010; Statham et al., 2011; Syrad et al., 2015). The relationship between NCMP and the healthy lifestyles programme may also be influential to the perceived ethicality of this programme. As such, it is vital that healthy lifestyle programmes address issues associated with weight in a sensitive manner and provide clear information to parents about the role of the programme, as an *independent entity* to the NCMP. Information and advertising materials that clearly reflect the programme's content and sensitive approach to weight management may offer reassurance to parents and caregivers.

Explorations in the TFA domain of burden demonstrated that logistics were an important issue when participants were considering enrolling in the programme. Scheduling issues and logistical problems, such as conflicting activities, have previously been reported as key barriers in reviews investigating enrolment and retention in weight management programmes (Dhaliwal et al., 2014; Lucas et al., 2014; Skelton & Beech, 2011). Participants expressed that they have competing priorities, and that the duration of the programme is too long for them to commit to. Scheduling sessions at less burdensome or more flexible times (e.g., evenings or weekends) or providing remote attendance options may reduce the perceived burden and improve enrolment and attendance.

Overall, prospective acceptability for the healthy lifestyles programme was high, particularly in the domains of self-efficacy and perceived effectiveness. However, participants still

indicated that they did not intend to enrol in the programme as it was not relevant for them. Previous qualitative studies with parents of children with overweight and obesity have suggested that parental denial is a barrier to enrolment in programmes such as the one investigated in this study (Grow et al., 2013; Newson et al., 2013; Visram et al., 2013). Although over half of our participants agreed that the programme would be helpful in supporting families that attend to make healthier choices, the majority did not believe that the programme content would be relevant for them. The frequency of these responses may reflect parental denial of an overweight status in their own children. However, many parents did not share the weight status of their child, therefore it is not possible to ascertain the accuracy of participants' assessments that their child would not benefit from the programme. Gathering information with regards to children's weight status at the time of survey/interview participation would allow future research to better assess the role of parental denial vs. a genuine lack of need when investigating enrolment in healthy lifestyle programmes.

Previous research shows that enrolment and continued attendance in healthy lifestyle programmes is higher when children view the programme as an opportunity to have fun and make friends (Grow et al., 2013; Newson et al., 2013; Stockton et al., 2012). Social interaction was a moderator of affective attitude towards the healthy lifestyles programme in our study, with some participants expressing an interest in attending the programme if their children would get a chance to socialise during the sessions. Participants said they would be encouraged to enrol in the healthy lifestyles programme if it provided an opportunity to interact with and support other parents. This reflects the findings of Newson et al. (2013) where families were more likely to decide to attend a childhood obesity intervention if the social aspects were clearly advertised. Previous studies have reported a preference for an holistic approach to healthy lifestyles. Programmes including physical activities and behavioural components, rather than a focus on weight loss or dieting alone are more acceptable to parents and carers (Grow et al., 2013; Newson et al., 2013; Stockton et al., 2012). This was also apparent in this study, with participants expressing that they would be more likely to attend if they knew the format was more interactive, rather than lecture-based. Whilst the healthy lifestyle programme being investigated in this study does provide many of the elements highlighted here (i.e., socialisation opportunities for the

children, and an interactive approach to learning about healthy living), many participants were unsure of the programme format, and this added to their hesitancy in enrolling. This emphasises the importance of accurate communication and marketing, to ensure that key details are included.

A lack of clarity and information in promotional materials was a notable barrier to enrolment in this study. Interview participants expressed uncertainty about a number of elements of the programme, including who had written the content, the expertise of the deliverers, what the delivery format was, and who the programme was for. This lack of information appeared to play a significant role in preventing participants from enrolling in the programme. The importance of clear communication in overcoming barriers to enrolment in family health programmes has previously been demonstrated by qualitative research assessing retrospective parental acceptability of a family-based intervention for young children with obesity. Kinlin et al. (2022) identified a clear theme of insufficient programme information at the time of referral, and a limited understanding of the intervention, impacting parents' expectations of services and affecting their decision to enrol. Improving the marketing and communication materials for the healthy lifestyles programme would effectively address many of the concerns identified using the TFA, such as ethicality and opportunity costs. Many facilitatory factors identified, such as opportunities for socialisation and interactive learning, are already in place. Therefore, more accurate or detailed information would provide an opportunity to highlight these areas and increase programme enrolment.

Strengths and limitations

This study is one of the first studies to use the TFA (Sekhon et al., 2017) to prospectively explore specific constructs of acceptability for intervention refinement. Applying the TFA facilitated a structured and comprehensive approach to which has enabled us to anticipate and address potential issues in advance to support intervention engagement and uptake. The use of a mixed-methods design, triangulated data, and adherence to COREQ guidelines demonstrate considerable rigour in the research process reported here. We did not reach the recommended 10±3 participants for qualitative research (Francis et al., 2010), no new

themes emerged from the interviews following the survey open-text responses. Whilst we did request that participants share their child's NCMP weight status, many participants had not accessed, or did not want to access, this information. Therefore, no accurate data concerning the weight status of participants' children was available to inform the interpretation of our results and subsequent recommendations. This limits the extent to which we can draw conclusions about the specific prospective acceptability of this programme to the families of children carrying excess weight, compared to those of a healthy weight. The interviews in this study were attended by female caregivers, so future research may consider strategies to engage male caregivers in sharing their opinions of healthy lifestyles programmes. Further, the sample overall was majority female, White British, aged 30-39 years and employed. The extent to which the results can be generalised to the wider population is limited and may be specific to this demographic. Future research may benefit from targeted recruitment of male, younger (<30 years) or older (>40 years) caregivers, or caregivers to children from non-white, under-represented, or seldom-heard communities.

Implications and recommendations

Participants' views indicate that a healthy lifestyle programme could be valuable to parents and caregivers of children with overweight and obesity, and could influence positive changes in families' behaviours. Several approaches could help to address the acceptability issues identified by the present study. For instance, detailed communication and clear advertising for parents and carers about the benefits of healthy lifestyle programmes are needed, this could be delivered during events where parents are already present at the school (e.g., parents evening. Evidence from this study suggests that the materials used to advertise the programme should provide clearer information about who the programme is for, what the content is, the format of delivery, and who will deliver the programme. A key facilitator to enrolment that was identified in this study, and supported by previous research, is the opportunity for social interaction provided by the programme. It would therefore be beneficial to highlight the interactive nature of the programme, referring to the included activities such as preparing and tasting food, and playing games. This would allow parents and caregivers to weigh up the potential benefits to attending the programme against any perceived barriers. Emphasising that the course is free to attend, and

introducing flexible attendance, may also reduce the burden of commitment associated with the 7-week programme, and promote attendance.

Conclusion

This study was the first to investigate the prospective acceptability of a self-referral healthy lifestyles programme. Exploring prospective acceptability using the TFA enabled a comprehensive, structured exploration, from which we were able to prioritise most significant barriers and enablers affecting engagement with and uptake of the programme. Acceptability was generally high, but a significant information barrier was identified, with many parents indicating that they were unaware of the programme's existence, and those who were aware of it demonstrating uncertainty about content and eligibility to attend. Participant responses indicate that parents recognise the value of programmes such as these for supporting families to make healthier choices, although many parents do not believe that they are the target audience. The benefit of these programmes for allowing social interactions amongst both children and parents, as well as for providing an interactive learning environment was also highlighted. If schools and healthy lifestyle services, therefore, provide clearer signposting about the format and content of the programme, its purpose, and who is eligible to attend, as well as addressing the time commitment required by the current programme, this may help to increase enrolment.

References

Biro, F. M., & Wien, M. (2010). Childhood obesity and adult morbidities. *The American journal of clinical nutrition, 91*(5), 1499S-1505S.

Department of Health and Social Care. (2018). Childhood obesity: a plan for action, Chapter 2. Retrieved from: Childhood obesity: a plan for action, chapter 2 - GOV.UK (www.gov.uk)

Dhaliwal, J., Nosworthy, N. M., Holt, N. L., Zwaigenbaum, L., Avis, J. L., Rasquinha, A., & Ball, G. D. (2014). Attrition and the management of pediatric obesity: an integrative review. *Childhood Obesity, 10*(6), 461-473.

Diepeveen, S., Ling, T., Suhrcke, M., Roland, M., & Marteau, T. M. (2013). Public acceptability of government intervention to change health-related behaviours: a systematic review and narrative synthesis. *Bmc Public Health, 13*(1), 756. doi:10.1186/1471-2458-13-756

Public Health England (2020). *National Child Measurement Programme*. Retrieved from https://www.gov.uk/government/collections/national-child-measurement-programme

Falconer, C. L., Park, M. H., Croker, H., Skow, Á., Black, J., Saxena, S., . . . Viner, R. M. (2014). The benefits and harms of providing parents with weight feedback as part of the national child measurement programme: a prospective cohort study. *Bmc Public Health, 14*(1), 1-10.

Finne, E., Reinehr, T., Schaefer, A., Winkel, K., & Kolip, P. (2009). Overweight children and adolescents–is there a subjective need for treatment? *International journal of public health, 54*(2), 112-116.

Fisher, P., McCarney, R., Hasford, C., & Vickers, A. (2006). Evaluation of specific and non-specific effects in homeopathy: feasibility study for a randomised trial. *Homeopathy, 95*(04), 215-222.

Francis, J. J., Johnston, M., Robertson, C., Glidewell, L., Entwistle, V., Eccles, M. P., & Grimshaw, J. M. (2010). What is an adequate sample size? Operationalising data saturation for theory-based interview studies. *Psychology and health*, 25(10), 1229-1245.

Gainsbury, A., & Dowling, S. (2018). 'A little bit offended and slightly patronised': parents'experiences of National Child Measurement Programme feedback. *Public Health Nutr, 21*(15), 2884-2892. doi:10.1017/s1368980018001556

Gillison, F., Beck, F., & Lewitt, J. (2014). Exploring the basis for parents' negative reactions to being informed that their child is overweight. *Public Health Nutr, 17*(5), 987-997.

Grimmett, C., Croker, H., Carnell, S., & Wardle, J. (2008). Telling parents their child's weight status: psychological impact of a weight-screening program. *Pediatrics, 122*(3), e682-e688.

Grow, H. M. G., Hsu, C., Liu, L. L., Briner, L., Jessen-Fiddick, T., Lozano, P., & Saelens, B. E. (2013). Understanding family motivations and barriers to participation in community-based programs for overweight youth. *Journal of Public Health Management & Practice, 19*(4), E1-E10.

Gulliver, A., Calear, A. L., Sunderland, M., Kay-Lambkin, F., Farrer, L. M., & Batterham, P. J. (2021). Predictors of acceptability and engagement in a self-guided online program for depression and anxiety. *Internet Interventions, 25*, 100400. doi:https://doi.org/10.1016/j.invent.2021.100400

Hommel, K. A., Hente, E., Herzer, M., Ingerski, L. M., & Denson, L. A. (2013). Telehealth behavioral treatment for medication nonadherence: a pilot and feasibility study. *European journal of gastroenterology & hepatology, 25*(4), 469.

House of Commons Library. Obesity Statistics. Published March 2022. Accessed August 2022. Retrieved from: https://researchbriefings.files.parliament.uk/documents/SN03336/SN03336.pdf

Hughes, L., & Timpson, H. (2014). An Evaluation of the Wirral National Child Measurement Programme Telephone Pilot. Liverpool: Liverpool John Moores University Centre for Public Health.

Kelleher, E., Davoren, M. P., Harrington, J. M., Shiely, F., Perry, I. J., & McHugh, S. M. (2017). Barriers and facilitators to initial and continued attendance at community-based lifestyle programmes among families of overweight and obese children: a systematic review. *Obesity Reviews, 18*(2), 183-194. doi:10.1111/obr.12478

Kinlin, L. M., Oreskovich, S. M., Dubrowski, R., Ball, G. D. C., Barwick, M., Dettmer, E., . . . Birken, C. S. (2022). Managing Obesity in Young Children: A Multiple Methods Study Assessing Feasibility, Acceptability, and Implementation of a Multicomponent, Family-Based Intervention. *Childhood Obesity*. doi:10.1089/chi.2021.0221

Lloyd, L., Langley-Evans, S., & McMullen, S. (2010). Childhood obesity and adult cardiovascular disease risk: a systematic review. *International journal of obesity, 34*(1), 18-28.

Lucas, P. J., Curtis-Tyler, K., Arai, L., Stapley, S., Fagg, J., & Roberts, H. (2014). What works in practice: user and provider perspectives on the acceptability, affordability, implementation, and impact of a family-based intervention for child overweight and obesity delivered at scale. *Bmc Public Health, 14*(1), 1-12.

Mead, E., Batterham, A., Atkinson, G., & Ells, L. (2016). Predicting future weight status from measurements made in early childhood: a novel longitudinal approach applied to Millennium Cohort Study data. *Nutrition & Diabetes, 6*(3), e200-e200.

Mooney, A., Statham, J., Boddy, J., & Smith, M. (2010). Office for Health Improvement and Disparities. The National Child Measurement Programme: Early experiences of routine feedback to parents of children's height and weight.

Newson, L., Povey, R., Casson, A., & Grogan, S. (2013). The experiences and understandings of obesity: families' decisions to attend a childhood obesity intervention. *Psychology & Health, 28*(11), 1287-1305.

O'Connor, T., Hilmers, A., Watson, K., Baranowski, T., & Giardino, A. (2013). Feasibility of an obesity intervention for paediatric primary care targeting parenting and children: Helping HAND. *Child: care, health & development, 39*(1), 141-149.

Office for Health Improvement & Disparities. National Child Measurement Programme: operational guidance 2022. Updated July 2022. Accessed October 2022. Retrieved from: National Child Measurement Programme: operational guidance 2022 - GOV.UK (www.gov.uk)

Ortblad, K. F., Sekhon, M., Wang, L., Roth, S., van der Straten, A., Simoni, J. M., & Velloza, J. (2022). Acceptability assessment in HIV prevention and treatment intervention and service delivery research: a systematic review and qualitative analysis. *AIDS & Behavior*, 1-18.

Park, M. H., Falconer, C. L., Croker, H., Saxena, S., Kessel, A. S., Viner, R. M., & Kinra, S. (2014). Predictors of health-related behaviour change in parents of overweight children in England. *Preventive Medicine, 62*, 20-24.

Perez, A., Holt, N., Gokiert, R., Chanoine, J. P., Legault, L., Morrison, K., ... & Ball, G. (2015). Why don't families initiate treatment? A qualitative multicentre study investigating parents' reasons for declining paediatric weight management. *Paediatrics & Child Health, 20*(4), 179-184.

Public Health England. National Child Measurement Programme. Published 27 August 2013. Updated 1 December 2020. Accessed 19 July 2022. Retrieved from: https://www.gov.uk/government/collections/national-child-measurement-programme.

Reilly, J. J., Methven, E., McDowell, Z. C., Hacking, B., Alexander, D., Stewart, L., & Kelnar, C. J. (2003). Health consequences of obesity. *Archives of Disease in Childhood, 88*(9), 748-752.

Rice, J., Thombs, D., Leach, R., & Rehm, R. (2008). Successes and barriers for a youth weight-management program. *Clinical Pediatrics, 47*(2), 143-147.

Sallis, A., Porter, L., Tan, K., Howard, R., Brown, L., Jones, A., . . . Vlaev, I. (2019). Improving child weight management uptake through enhanced National Child Measurement Programme parental feedback letters: a randomised controlled trial. *Preventive Medicine, 121*, 128-135.

Sekhon, M., Cartwright, M., & Francis, J. (2017). Acceptability of healthcare interventions: an overview of reviews and development of a theoretical framework. *BMC Health Services Research, 17*(1), 1-13.

Sekhon, M., Cartwright, M., & Francis, J. J. (2022). Development of a theory-informed questionnaire to assess the acceptability of healthcare interventions. *BMC Health Services Research, 22*(1), 279. doi:10.1186/s12913-022-07577-3

Sekhon, M., Cartwright, M., Lawes-Wickwar, S., McBain, H., Ezra, D., Newman, S., & Francis, J. J. (2021). Does prospective acceptability of an intervention influence refusal to participate in a randomised controlled trial? An interview study. *Contemporary Clinical Trials Communications, 21*. doi:10.1016/j.conctc.2021.100698

Serdula, M. K., Ivery, D., Coates, R. J., Freedman, D. S., Williamson, D. F., & Byers, T. (1993). Do obese children become obese adults? A review of the literature. *Preventive Medicine, 22*(2), 167-177.

Singh, A. S., Mulder, C., Twisk, J. W., Van Mechelen, W., & Chinapaw, M. J. (2008). Tracking of childhood overweight into adulthood: a systematic review of the literature. *Obesity Reviews, 9*(5), 474-488.

Skelton, J., & Beech, B. (2011). Attrition in paediatric weight management: a review of the literature and new directions. *Obesity Reviews, 12*(5), e273-e281.

Statham, J., Mooney, A., Boddy, J., & Cage, M. (2011). Taking stock: A rapid review of the National Child Measurement Programme. London: Thomas Coram Research Unit.

Stockton, M. B., McClanahan, B. S., Lanctot, J. Q., Klesges, R. C., & Beech, B. M. (2012). Identification of facilitators and barriers to participation in weight gain prevention research by African American girls. *Contemporary Clinical Trials, 33*(1), 38-45.

Syrad, H., Falconer, C., Cooke, L., Saxena, S., Kessel, A., Viner, R., . . . Croker, H. (2015). 'Health and happiness is more important than weight': a qualitative investigation of the views of parents receiving written feedback on their child's weight as part of the National Child Measurement Programme. *Journal of Human Nutrition and Dietetics, 28*(1), 47-55.

Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International journal for quality in health care, 19*(6), 349-357.

Visram, S., Hall, T., & Geddes, L. (2013). Getting the balance right: qualitative evaluation of a holistic weight management intervention to address childhood obesity. *Journal of Public Health, 35*(2), 246-254.

West, D. S., Raczynski, J. M., Phillips, M. M., Bursac, Z., Gauss, C. H., & Montgomery, B. E. (2008). Parental recognition of overweight in school-age children. *Obesity, 16*(3), 630-636.

Table 1. Characteristics of the 60 survey and six interview participants, reported as N(%).

	Number of survey participants (N=60)	Number of interview participants (N=6)
Age		
18-29 years	12 (20)	1 (17)
30-39 years	34 (77)	5 (83)
40-49 years	12 (20)	0
50-59 years	2 (3)	0
Ethnicity[a] (N=54, N=5)		
White English, Welsh, Scottish, Northern Irish or British	45 (83)	3 (60)
Asian or Asian British	2 (4)	1 (20)
Any other mixed background	2 (4)	1 (20)
Any other white background	2 (4)	0
White and Black African	1 (2)	0
Indian	1 (2)	0
White Irish	1 (2)	0
Parental status		
Mother	59 (98)	6 (100)
Father	1 (2)	0
Child's school year		
Reception	17	3
Year 1	13	1
Year 2	13	2
Year 3	10	1
Year 4	7	0
Year 5	9	0
Year 6	10	1
Employment status		
Employed part-time	24 (40)	4 (67)
Employed full-time	18 (30)	1 (17)
Not in paid employment	11 (18)	1 (17)
On maternity or paternity leave	3 (5)	0
Other[b]	4 (7)	0
English Indices of deprivation (N=54, N=6)		
1 (most deprived)	3 (6)	0
2	1 (2)	0
3	11 (20)	0
4	11 (20)	1 (17)
5	3 (6)	0
6	11 (20)	2 (33)
7	3 (6)	0
8	5 (9)	1 (17)
9	0	0
10 (least deprived)	6 (11)	2 (33)

[a]Only ethnic groups which were selected by at least one participant are reported here.
[b]'Other' responses: homemaker, mother/carer, sick leave, self-employed

Appendix

Topic Guide: For participants who have not attended the healthy lifestyle programme:

Before we get started can I just check that you are happy for me to audio-record this conversation, and you have consented to participate?

Just to remind you that everything you will tell us will be completely anonymous, and if at any point you decide you no longer wish to participate then please let us know and we will end the interview.

Let's get started… You have been invited to participate as you have a child in reception or year 6, and you live in the Nuneaton & Bedworth District. Is this correct?

Have you received a letter informing you about your child's weight status?

* How did you receive this letter? Were you expecting this letter?

* What was your initial response to the letter? How did this letter make you feel?

Are you aware of [the healthy lifestyle programme]?

If yes, then ask these questions:

How did you hear about [the healthy lifestyle programme]?

* Were you referred to the programme? (if so who referred you, or how did you sign up to the programme?)

What are your thoughts on [the healthy lifestyle programme]?

* Do you understand why the programme has been advertised to you? [OR] What made you sign up to the programme?

* How did you feel when you were referred/signed up to the programme? Have you ever been referred to or attended a programme like [the healthy lifestyle programme]? Do your experiences here compare to this?

How much effort do you think it require for you to engage with [the healthy lifestyle programme]?

* Can you expand on what in particular makes it feel effortful/effortless?

* Would it be difficult/easy for you to attend/engage/commit to the nine week programme?

Do you think being referred to/attending [the healthy lifestyle programme] is appropriate?

* Is there a better way this programme could be advertised/promoted to you?

* What would make this programme appear more appropriate to you?

* Do you have any ethical concerns around being referred to/attending [the healthy lifestyle programme]?

Can you tell us what you think the healthy lifestyles programme is about?

* What do you think it involves?

* Who do you think it is for?

How much of a priority is it for you to engage with/join this programme?

* Is there anything that could make it easier for you to join the programme?

* Are there any other priorities it could interfere with?

Do you think this programme will be able to meet all of your specific needs?

* You have said this is what the programme is about xx what kind of needs do you think this programme would meet/not meet?

* What would need to be changed for the programme to meet your needs?

* What information would you like to know at the point of referral to it?

How confident are you that you would be able to attend and apply what you would learn on the programme?

If no, ask these questions:

[tell them about the healthy lifestyles programme]

What are your initial thoughts about this programme from what I have just told you?

How convenient would it be for you to attend/engage with this programme?

* What would help to make it easier for you to attend/engage?

* How much effort do you think will be required for you to attend/engage?

How appropriate do you feel this programme is for you and your child(ren)?

What are your initial thoughts on what this programme will entail?

* Is there anything in particular that makes you think you don't want to engage/attend?

* How could the description of the programme be made clearer?

* What information would you need to have before deciding if to attend [the healthy lifestyle programme]?

Would it be a priority for you to attend this programme?

* Do you think it would be something that you would benefit from attending?

Do you think this programme will be able to meet all of your specific needs?

* What kind of needs do you think you would have when attending a programme like this?

* What would need to be changed for the programme to meet your needs?

How confident are you that you would be able to attend and apply what you would learn on the programme?