

Parent Insight Project: Critical Review of Literature

Introduction

Together Family Action and Magic Breakfast have extensive experience of working with disadvantaged and hard to reach children and their families. The feedback we have collected from the National School Breakfast Programme evidences the nutritional, academic and emotional benefit to having a regular breakfast.

The Parent Insight Project (PIP) aims to share with parents the benefits of eating a healthy breakfast and the impact this can have on a child's readiness to learn and wellbeing. The project will also seek to support parents to provide a low cost, nutritious daily breakfast, when a school breakfast isn't available. Our goal is to give every child the best start to their day.

To support the sharing of knowledge and to reinforce working together with parents, we want to apply the learning from a review of existing literature and good practice in relation to parental engagement and to the specific area of breakfast.

Following the review of literature, the Parent Insight Project will develop educational resources which will be available online to families.

Aim

The aim of this literature review is to gain an understanding of the following research questions:

1. From the existing research on parental engagement what can we learn about effective methods and approaches to engaging with parents positively and actively?
2. What is the breadth of the information shared on healthy eating aimed at children and families, specifically breakfast?

There are a large number of studies regarding healthy eating in the general population. However, since the focus of this research is relating to breakfast, specifically aimed at children, these will not be reviewed in detail and will only be referred to as appropriate.

Definition of Parental Engagement

Parental engagement can be defined as all activities parents take part in to help their children succeed in school and life (www.grps.org). Zedan (2011) states that parents are the most prominent factors in the lives of children.

Much research has been carried out in the area of parental engagement, specifically the relationship between parental engagement and improved academic outcomes in schools.

The term 'parental engagement' is often used; however, it is can be difficult to define what is meant by 'parental engagement'. The National Improvement Hub (2020) suggest that:-

The range of definitions implies that parental involvement is: multifaceted in nature, because parental involvement subsumes a wide variety of parental behavioural patterns and parenting practices. Harris and Goodall (2007) and Goodall and Montgomery (2014) consider parental engagement as active and meaningful involvement in children's learning. Such learning can take place in a variety of settings including early learning and childcare settings, schools, the community, through family learning and learning at home.

A review of intervention studies that support and improve parental engagement in the education of children aged 5 to 19 years old was published by the Department for Education (2011), it cites:-

Parental engagement has a large and positive impact on children's learning. This was the single most important finding from a recent and authoritative review of the evidence: Parental involvement in the form of 'at-home good parenting' has a significant positive effect on children's achievement and adjustment even after all other factors shaping attainment have been taken out of the equation. In the primary age range the impact caused by different levels of parental involvement is much bigger than differences associated with variations in the quality of schools. The scale of the impact is evident across all social classes and all ethnic groups. (Desforges, 2003).

Whilst most agree with such definitions of parenting, the debate around the 'good enough' parenting rumbles on. Of course, this is not a new debate, 'since the days of Bowlby and Winnicott, society has considered that the relationship between the parent and the child...is the ultimate arbiter of what kind of adult the child becomes.' (Nolan, 2002).

Benefits of breakfast

Before looking at healthy eating messages aimed at families, it is important to understand the benefits to children, adolescents and families to having a daily healthy breakfast. We will also look at the main challenges faced by families in achieving this.

As a background to the topic, the numerous research studies in this area, all are in agreement that not having breakfast is a common phenomenon amongst school children, the habit increases as children get older, and it is more likely to be seen in girls than boys. There is also a socioeconomic bias to this, with more children from less affluent backgrounds not having breakfast (Littlecott, et al., 2016). In fact, there are an estimated half a million children arriving at school each day too hungry to learn (Family Action, 2020).

The Kellogg's report (2013) estimates that 1 in 7 children go to school without breakfast and that 2.4 pupils in every class in England and Wales will arrive to school hungry at least once a week. A recent study by Monzani, et al., (2019) looked at 39 studies on school children and breakfast to investigate the link between breakfast, body weight and metabolic outcomes. In total, 286,804 children and adolescents living in 33 countries were included. They found that the numbers of children not having breakfast ranged from 10–30%.

There was also evidence amongst the studies observed that the incidence of breakfast skipping amongst school children is increasing (Dykstra, et al., 2016, Kellogg's, 2013). Moreover, adolescents who do not have breakfast are more likely to skip breakfast in adulthood (Adolphus et al, 2019). Therefore, it is important to instil good habits from an early age given the beneficial effects of having breakfast.

We have also looked at evaluations of major healthy eating campaigns in the UK and investigated research on developing successful healthy eating campaigns.

'A child living in poverty has many obstacles to face...being too hungry to learn does not need to be one of them' (Food for Thought, National School Breakfast Programme, 2019). This is an important fact to remember throughout this review.

Approaches to Engaging with Parents Positively and Actively

From the existing research on parental engagement what can we learn about effective methods and approaches to engaging with parents positively and actively?

Many changes have occurred over the past 20 years to focus on keeping children safe so they are given the best chances in life, such as Every Child Matters (2003) which set out the

national framework for the reform and improvement of services for children and the Children Act (2004) which forms the legislative framework to improve the overall well-being of children.

The importance for positively engaging with parents is well documented and the Children Act (2004) also encourages partnership working with parents.

The No Child Left Behind Act (2001) in the US also stressed the importance of involving parents in the education of their children. Historically, the roles of school and families were separate. However, international research suggests the need for a shift in this perspective (Bojuwoye, 2009; Addi-Racah & Ainhoren, 2009; Snell, et al., 2009; Hujala, et al., 2009). Two hundred and thirteen participants (127 parents and 86 teachers) who volunteered to participate in the study were requested to indicate practices of home-school partnership they were aware of existing between homes and schools in their communities. The study also sought participants' opinions regarding their attitudes to, the benefits of and what they consider as barriers to home-school partnership. A structured questionnaire was employed to gather relevant information.

The results revealed that participants were unaware of many partnership practices presented to them on the questionnaire although they expressed favourable attitudes to partnership and agreed to suggestions regarding benefits of partnership presented to them on the questionnaire. A major implication of the results is the need for teacher education programmes to feature training of teachers in strategies for encouraging parental involvement in children's education through the design, initiation, and implementation of effective programmes that foster home-school partnership.

The National College for Schools Leadership (2011) explored how to involve Hard to reach Parents: encouraging meaningful parental engagement. This was a questionnaire and interview-based study with school leaders across 15 local authorities in the UK. Focus groups were also conducted with parents as part of this study. The majority of school leaders questioned (90%) felt that barriers to parental engagement are attributable to parental factors rather than those stemming from the school. A lack of responsiveness or engagement by parents with school may be contributed to by:

- low parental self-esteem,
- previous bad experiences of school, and/or
- gender and boundary issues.

The study found that all forms of meaningful interaction with school is important and can have a positive impact on a child’s learning, behaviour and attendance. Effective communication is essential to success, but the most successful approaches are tailored to specific parental needs giving consideration to context.

It has been reported that many schools suffer with the reoccurring issue of trying to engage parents. Epstein (Hatter, 2007) argued that there are six types of parental involvement; skills and knowledge, communication, volunteering, supporting learning at home, decision making and collaboration with the community.



This framework assists educators in developing school and family partnership programmes. Also helping parents to become more involved in their child’s educational process.

It has been argued that these facilitate families, schools and communities in coming together collaboratively in a positive and engaging way. Larry Ferlazzo (2011) claims that successful parental engagement within a school setting is about effective listening, speaking directly to parents to understand the specific barriers they are facing, to encourage parents to share their worries with other parents and to then work collaboratively together to find suitable solutions.

The DFE – Review of Best Practice in Parental Engagement (2010) found that a parental engagement strategy should be outward facing, involving not only the views of parents, but the evidence and expertise of other schools and community services. Also reported was that any transfer of knowledge and understanding should be part of a two-way process, from school to home and home to school. Programmes are more likely to be effective if they are

informed by a comprehensive needs analysis (Lopez 2001; Carpentier 2005; Feiler 2006; Brooks 2008; Statham 2010) and be targeted at particular groups of parents, showing sensitivity to cultural norms and expectations, and including specific, detailed and directive advice and guidance.

Parental engagement requires parents to engage and collaboration should be:

- Pro-active rather than reactive
- Sensitive to the circumstances of all families
- recognise the contributions parents can make
- Aim to empower parents.

Government parenting strategies seek to strengthen the support on offer to parents and make it easier for them to access this support.

In the words of the World Health Organization:-

The nurturant qualities of the environments where children grow up, live and learn – parents, caregivers, family and community – will have the most significant impact on their development. In most situations, parents and caregivers cannot provide strong nurturant environments without help from local, regional, national, and international agencies.

(National Parenting Strategy, Scottish Government, 2012)

The benefits of working collaboratively included, increased affordable housing, safer neighborhoods, improved economic opportunities. There are many models out there which try and engage with parents in an active and positive way. Triple P (Positive Parenting Program) is one such program. It is one of only a few strongly evidence-based parent education programs, with strong empirical support. There have been numerous studies completed which show a consistent impact on parenting, anger management and development (Collins and Fetsch, 2012). Triple P aims to improve parent's knowledge, encourage nurturing and promote children's development. It is the only program designed to be delivered across whole communities, with every family getting some degree of support.

However, the success of such parenting programs is dependent on their reach and levels of parental engagement, which can be low, especially regarding father's involvement (Piotrowska, et al., 2016). This is surprising considering a meta-analysis of studies that had

included fathers reported significantly more positive changes in childhood behaviour (Lundahl, et al., cited in Piotrowska, et al., 2016).

Potential Barriers and Challenges

There is a consensus within the literature regarding the importance of paternal involvement, but little is known about how to achieve it. Potential barriers include; a lack of awareness, time, incompatible working hours, lack of information about the program (Piotrowska, et al., 2016). Therefore, there is a real need to understand the barriers which stop a parent effectively engaging within a program.

There is currently no agreement to the definition of engagement and a lack of uniformity in reporting engagement rates. The most common stages of engagement include (but are not limited to) recruitment/enrollment, attendance and retention, nevertheless, what is missing, is the relationships between these stages. Within session engagement and active participation is often left out of definitions of engagement (Piotrowska, et al., 2016).

The CAPE model (Connect, Attend, Participate and Enact) however tries to address these limitations by identifying enrolment and attendance stages as well as including participation and enactment as part of the engagement process. Piotrowska, et al., (2016) argue that parent participation is the key to positive change and is the primary focus of the CAPE model and that these four independent stages are what makes parental engagement.

Therefore, the CAPE Model explores the mechanisms underlying parental engagement. It uses hypothetical mechanisms in explaining positive parental changes and outlines additional factors which may also play a role. For example, parenting skills and knowledge, self-efficacy and confidence along with parent-child attributions, have all been linked to changes in parenting. Positive improvements, such as changes in parenting and child behaviour encourage further participation.

Alternatively, parents may drop out or reduce participation as they feel no changes have been made or positive outcomes have already been achieved. Currently the mechanisms between participation and enactment have not been formally tested. Piotrowska, et al., (2016) claim that a systemic focus is important for models of parental engagement for multiple reasons. Firstly, poor parental engagement is linked to family problems such as, interparental discord, when parents are unable to work together as a team. Interparental discord may also manifest as issues such as gatekeeping, whereby one parent's involvement is regulated by the other and this has not been explicitly studied in relation to parenting programs. Secondly, how and

why parents engage with a program will vary, perhaps due to cultural values, childcare or work commitments. Thirdly, engagement might not always be captured by how many people physically attend the program, as one parent may attend and then convey the information/learned skill to the other.

Piotrowska, et al., (2016) claims it is imperative to differentiate the sometimes-subtle nuances that come between attendance and active participation. It is simply not enough to just show up, parents are encouraged to actively participate. The CAPE model tries to differentiate between direct and indirect participation by allowing one parent to attend the sessions but both parents are to actively participate. It has been found that in the short term more positive outcomes for children and parents were achieved when fathers were involved (Piotrowska, et al., 2016). Difficulties experienced when trying to implement new skills occurred when there were discrepancies in parenting techniques and that being part of a parenting team was a vital element if the enactment stage.

The Department for Education (2011) examined parental engagement and the impact on learning highlighting that it is a priority to identify interventions that are effective in supporting parental involvement. They suggest that *'parental engagement with children's learning is effectively supported when parents receive clear, specific and targeted information from schools'*

The Department for Education (2011) also recognises that parental engagement strategies should consider barriers that inhibit parental involvement, including the practical barriers of cost, time and transport. They also suggest that, *'effective resources include specific, detailed and directive advice and guidance, produced in ways that motivate parents to become involved, and include parents as partners in a respectful and collaborative endeavour'*

Nutrition and Parental Engagement

When considering nutrition and health outcomes, the Convention on the Rights of the Child (1989) sets out that adults and governments must work together to make sure all children can enjoy all their rights, stating that *'children have the right to the best possible health... Governments must provide good quality health care, clean water, nutritious food, and a clean environment and education on health and well-being so that children can stay healthy.'*

The European Food Information Council (2012) argued that *'children are likely to adopt the same eating habits as their parents. Since parents have the biggest influence at this time in a child's life, it is important that they set good examples.'*

When looking at indirect methods of promoting parental engagement, Hingle (2010) found utilising children to involve their parents in learning related activity to be the most effective.

Goodall, et al., (2010) carried out a cross sectional study examining the impact of different types of parental support behaviours on child physical activity, healthy eating and screen time. Whilst the study had limitations as measures were parent reported, there appeared to be a clear link showing parent's behaviours influence that of their children.

Hingle, et al., (2010) reviewed parental involvement in interventions to improve dietary intake. They explored both direct methods (parents attending nutrition education sessions) and indirect methods (information giving, communication directed at children to involve parents). The review found that indirect methods were the most common, but direct methods were more likely to be effective. The most effective indirect method was getting children to involve parents in activities.

Larson, et al., (2013) examined eating behaviours in young adults. They discovered that when there were more frequent shared meals this was associated with greater intake of fruit among males and females, with higher intakes of vegetables, milk products, and some key nutrients among females. Evidence also suggests that messages targeted to parents to involve children and adolescents in meal planning and preparation can be beneficial.

Further exploration of active parental engagement, specifically relating to diet and nutrition, was carried out by Hingle et al at the Department of Nutritional Sciences, University of Arizona (2010). The systematic review of interventions designed to change child and adolescent dietary behaviour, was conducted to answer whether parent involvement enhanced intervention effectiveness, and what type of involvement was most effective in achieving desired outcomes.

This review identifies that childhood obesity prevention studies have largely focused on school-based programs, many of which did not include a parent component. (Baranowski, et al., 2002, Brown and Summerbell, 2008, Sharma, et al., 2004, Shaya, et al., 2008, Summerbell, et al., 2006, Thomas, 2006).

They argue that interventions designed to impact child diet, have largely taken place in school settings, which allows for large numbers of children to be reached, but with limited effects (Thomas, 2006).

The study also suggests:-

Strategies are needed that reach and impact a majority of children at a substantial and meaningful level. This review suggests that such strategies should aim to directly engage parents in ways to help support their child have more healthy dietary consumption patterns. (Parental Involvement in Interventions to Improve Child Dietary Intake: A Systematic Review, 2010)

Rennie, et al., (2005) agrees, suggesting that “since food choices are related to energy intake and obesity risk, parent involvement in child dietary interventions seems crucial to mitigating risk.”

Parental Empowerment

A qualitative study looking at parent and child perceptions of school-based obesity prevention in England (Clark, et al., 2015) was conducted. Focus groups were held with 30 parents and 62 children (aged 6-7 years) in the West Midlands. Parental involvement and the influential role of the teacher were seen as key ingredients for success in promoting consistent messages and empowering some parents to make positive behavioural changes at home. Pathways included: increasing capability through improving knowledge and skills of children and parents; increasing motivation through parental empowerment and role modelling; and the direct provision of opportunities to lead healthier lifestyles. Strategies to sustain behaviour changes, and the school role in supporting these, are important considerations.

Whilst approaches to parental engagement may aim to empower parents, considerations need to be given to barriers and factors impacting families; and therefore, their ability access resources and support.

A recent report by Joseph Rowntree Foundation (2020) explores the nature and scale of poverty across the UK and how it affects people who are caught in its grip.

It suggests:-

There are 7.9 million families with children in the UK: 3.7 million (46%) families have one child, 3.0 million (39%) have two children, 900,000 (11%) have three children and 300,000 (4%)

have four or more children in them. Almost 60% of these larger families with four or more children are in poverty and almost one in five children in poverty live in such households.

The study also found that *'the risk of poverty is higher for workers with disabilities, Black and minority ethnic workers, part-time workers, those in families with children and those in single-adult families, especially lone parents.'* (Joseph Rowntree Foundation, 2020)

The Department for Work and Pensions (2017) shared similar findings, noting that single parents still face a disproportionate risk of poverty. They found that *'single parents have the highest poverty rate among working age households'* and that *'single parents and their children have faced around twice the risk of poverty as couples for the past 20 years.'*

Considerations need to be given to approaches and models used for parental engagement and parental empowerment and *'an evidence-based model that looks to build relationships across the family, the school, and the community can improve outcomes for low-income, culturally marginalised families.'* (Department for Education, 2011).

Much evidence suggests that a supportive, non-judgemental attitude is most likely to lead to parents using any resources provided and *'parents remain attractive targets for nutrition intervention programs because they act as nutrition "gatekeepers," providing their children with ability and opportunity to make healthy food choices.'* (Parental Involvement in Interventions to Improve Child Dietary Intake: A Systematic Review, 2010).

Healthy Eating Aimed at Children and Families

We have looked through much of the recent literature around the benefits of eating a healthy breakfast for school children and to make it easier to read and digest, we have sub divided the benefits in to four major categories, which are academic achievement and concentration, nutritional status, mental health and general health.

1. Academic achievement, concentration and behaviour

There have been many studies attempting to investigate the link between academic achievement and breakfast consumption. One of the first to show this connection in the UK was a study by Cardiff University in 2015 (Littlecott. et al., 2016). The study of 5000 nine to eleven year-olds from more than 100 primary schools sought to examine the link between breakfast consumption and quality and subsequent attainment in Key Stage 2 Teacher Assessments 6-18 months later. It found that the percentage achieving an above average

educational performance was up to twice as high for pupils who ate breakfast, compared with those who did not.

The study also showed that one in five children reported eating healthier food items such as sweets and crisps for breakfast, which had no positive impact on educational attainment. In addition to this, an independent evaluation of the Magic Breakfast Provision in schools in 2016 (Crawford, et al., 2019) showed that the provision of a breakfast club led to an improvement in Key Stage 1 outcomes of around two months' progress for pupils. Furthermore, they found that pupil behaviour, as measured by a teacher survey, improved generally in schools with a breakfast club. This is interesting because it suggests that breakfast clubs may improve outcomes for children who do not even attend breakfast club, by improving classroom environments.

A recent study by researchers, from the University of Leeds (Adolphus, et al., 2019), showed a positive link between eating breakfast and GCSE performance for secondary school students in the UK. This research suggests that regular breakfast consumption on school days is significantly correlated with academic performance at age 16–18 years, and that breakfast skipping is associated with poorer GCSE performance. A Norwegian study of 15-17 year olds (Stea and Torstveit, 2014) investigated healthy lifestyles and academic achievement and came to the same conclusion, that higher academic achievement was positively associated with a regular consumption of breakfast.

Adolphus, et al., (2016) studied 45 research articles on children, breakfast and cognitive development. They concluded that consuming breakfast has a short-term positive effect on cognitive function measured within 4 hours of breakfast consumption, in children and adolescents. They also found that the potential for breakfast to have an impact upon cognitive performance appeared to be more pronounced in undernourished children.

A 2019 study in China, looked at longer term effects of breakfast consumption against IQ. They looked at data over a 6 year period and showed that children who regularly ate breakfast had a higher IQ, particularly verbal IQ (Tien, 2019).

Numerous studies have examined the effect of breakfast on attention, memory and behaviour in school pupils. One study by Cooper, et al., (2011) found that breakfast consumption produced a higher self-report on energy and fullness and a lower self-report on tiredness and hunger and higher blood glucose concentrations. The findings indicate that following breakfast

consumption, pupils on the whole reported a greater positive affect, information uptake and alertness, along with a lower negative affect, compared to the no breakfast condition.

A further study found that tasks requiring attention, executive function, and memory were more easily achieved when pupils ate breakfast, and the effects were more apparent in undernourished children (Adolphus, et al., 2016). Therefore, many researchers have (Adolphus, et al., 2016 and Fulford, 2015) hypothesized that improved academic performance may result from children's increased ability to concentrate when they are adequately fed.

In the Kelloggs (2013) report, 81% of teachers said that hungry children are unable to concentrate and 47% stated that hungry children are unable to learn. The report also calculated that when a hungry child arrives at school, teachers lose one hour of learning time a day and that if a child arrived at school hungry once a week they would lose 8.4 weeks of learning time (70 per cent of a term) over the whole of their primary school life.

This goes some way to explaining why children who skip breakfast do not appear to perform as well academically as those children who regularly have breakfast.

2. Nutritional status

To provide some background to this, the nutritional requirements of children and adolescents are high in relation to their size because of the demands for growth, tissue maintenance and physical activity. In the longer term, food patterns in childhood, particularly during the teenage years, can set the scene for future dietary preferences and eating behaviour in adult life. Therefore, it is important that all school pupils have an optimum diet throughout the day, including at breakfast.

School children in the UK have been identified as having lower than recommended intakes of fibre (Weichselbaum and Buttriss, 2014). With regard to micronutrients, Weichselbaum and Buttriss (2014) state that many teenage girls are consuming low amounts of iron, iodine and folate. Low levels of vitamin D and riboflavin have been seen in 11–18 year-olds. It is thought that 20% of us may not have enough vitamin D in our bodies. This figure is even higher for teenage girls aged 11-18 where 39% are thought to have low vitamin D (Roberts et al., 2018). Low vitamin D intake and status is a particular problem in some ethnic minority groups, especially South Asian children living in the UK.

There is also some evidence of socio-economic inequalities; for example, children from families with higher incomes tend to have higher intakes of fruits and vegetables compared with children from families with lower incomes. Interestingly, Gaal, et al., (2018) found that breakfast in the UK is a particularly nutrient-dense meal, being rich in B vitamins, vitamin D, calcium, iron, iodine and magnesium, which are some of the very nutrients that our school children are needing.

A research study amongst school children by Coulthard, et al., (2017), compared the nutritional status of breakfast skippers and breakfast consumers in the UK, found that significantly higher proportions of breakfast-consuming children met their needs for folate, vitamin C, calcium, iron and iodine when compared with breakfast skippers. Fibre intake was also higher in breakfast consumers and 31.5% of those who skipped breakfast did not meet even the lowest intake of required iron compared to only 4.4% of breakfast consuming children. 19% did not meet the lowest recommended intake for calcium, compared to 2.9% of breakfast consuming children. Overall 16% of children aged 11-18 have low intakes of calcium (Mason et al, 2019). 21.5% did not meet lower recommended intake levels for iodine, compared to 3.3% of breakfast consuming children. No children who consumed breakfast daily had a folate intake below their lowest intake compared to 7.3% of those who skipped breakfast. On average children who ate breakfast had higher intakes of B vitamins (Coulthard et al., 2017). This confers with Jenkins, et al., (2015) who agreed that breakfast skipping is linked to dietary inadequacy.

The following is a summary of the benefits of these nutrients.

Fibre is important for digestive health, it can help to reduce cholesterol and it can help to reduce diabetes. School children currently have low levels of fibre in their diet. The British Dietetic Association (2019) state that primary school children need to eat 25% more fibre and secondary school children need to eat almost 40% more in order to meet their target levels. In UK school children, breakfast provides around 20% of the days fibre needs (Gaal et al., 2018).

Iron is used to produce red blood cells, which help store and carry oxygen in the blood. A deficiency in iron means you have fewer red blood cells and therefore the organs and tissues will not get as much oxygen as they usually would. Iron deficiency anaemia affects around 25% of the world's population. In the UK, more girls than boys are likely to consume iron levels below their target intake range. On average in the UK breakfast provides children and

teenagers with over a third of their daily iron needs (Gaal et al., 2018). It is estimated that 50% of teenage girls in the UK have low intakes of iron and around 10% are thought to be anaemic (Stelle et al., 2019).

Calcium is needed for the formation of healthy bones and teeth, and is also used in some internal metabolic body processes. A deficiency could lead to insufficient bone density. On average, UK school children aged 5-12 eat over 30% of their daily calcium at breakfast (Gaal et al, 2018).

Vitamin D is needed for healthy bones and teeth, and it also has a function in immunity. In much of the research it has been shown that Vitamin D deficiency is common in the UK, especially amongst school children. Breakfast provides around 26% of the daily vitamin D requirement in school children in the UK (Gaal et al., 2018) and Vitamin D intake has been shown to be higher amongst people who eat breakfast (Mielgo-Ayuso et al., 2017).

Iodine is needed for the manufacture of thyroid hormones, which are important in the regulation of metabolic rate and of physical and mental development. One in 8 young women in the UK are believed to have low intakes of iodine.

Folate is needed for healthy blood cells, as well as the development of the neural tube in embryos. A deficiency of folate can lead to a form of anaemia. B vitamins are important for energy metabolism and for healthy blood, and a healthy nervous and system. Breakfast alone provides school children in the UK with around 25-45% of their daily B vitamins (Gaal et al., 2018).

Children are also consuming too much sugar at breakfast time. PHE (2017) found that children in England are consuming more than 11g of sugar at breakfast time alone, almost 3 sugar cubes. The recommended daily maximum is no more than 5 cubes of sugar for 4 to 6 year olds and no more than 6 cubes for 7 to 10 year olds per day. By the end of the day children have consumed more than 3 times these recommendations.

With this in mind it is important that children not only have a breakfast, but have a healthy breakfast.

3. Mental health including quality of life, mood and sense of wellbeing

There are many studies looking at the links between quality of life, mood, mental health and wellbeing along with breakfast consumption. Many studies agree that there is a link, although the exact mechanism needs further research.

In most studies it cannot be eliminated that mental health may influence whether or not a person has breakfast to start off with. However, Lundqvist, et al., (2019) looked in detail at 25 studies on the subject and found that overall, all the studies included indicated positive effects of eating breakfast. In particular, one study by Page et al.(2009) found that eating breakfast was one of the 12 significant predictors of self-rated health measures. Another by Richards and Smith (2016) showed that stress, anxiety, and depression were associated with skipping breakfast and one by Smith, et al., (2010) found that breakfast consumption is linked to increased well-being.

An alternative study by Ferrer Cascales (2018) looked at breakfast quality and quality of life, and found that adolescents who ate a good quality breakfast showed better HRQOL (health related quality of life) and lower levels of stress and depression than those who ate a poor or very poor quality breakfast. Furthermore, breakfast skippers showed better HRQOL and lower levels of stress and depression than breakfast eaters who ate a poor or very poor quality breakfast. These findings indicate the importance of eating a good quality breakfast, rather than just having or not having breakfast.

This concurs with Richards and Smith (2018) who discovered that eating breakfast every day was found to be predictive of low stress, anxiety, and depression whereas high stress was associated with the infrequent breakfast/frequent energy drinks consumption.

In terms of mood, Gwin, et al., (2019) concluded that those who habitually consume breakfast exhibit better perceived sleep quality, mood upon waking, and alertness upon waking compared to those that skip breakfast.

4. General health

'Adolescents who regularly consume breakfast are more likely to have a healthy body weight' (Sjoberg, 2003). This is a statement from the Göteborg Adolescence Study 2003, and many more studies have since agreed with this hypothesis.

There have been many studies suggesting that breakfast skipping can lead to weight gain. Reasons put forward include that children who skipped breakfast then tended to eat more energy-dense food such as fast food or unhealthy snacks later in the day (Karatzi, et al., 2017 and Ramsay, et al., 2018). Monzani, et al., (2019) provides data supporting skipping breakfast as a potential “marker” of a significant negative lifestyle behaviour. Although there seems to

be some discrepancy amongst studies, many agree that consuming breakfast is associated with a healthier body weight status and is a dietary behaviour which should be encouraged (Siong, et al., 2018, Blondin, 2016).

Gibney, et al., (2018) looked at numerous studies from around the world on the impact of breakfast on health and stated that, “data from prospective studies support consistent and strong cross-sectional evidence suggesting that breakfast consumption is associated with a reduction of cardio metabolic risk factors”. Therefore, the regular consumption of breakfast seems to be linked to longer term health gains such as a lower incidence of heart disease, atherosclerosis and glycaemic related conditions such as type 2 diabetes. The PESA study (2018) identified that those people in the study who skipped breakfast were more likely to have lower levels of good cholesterol, and had a higher cardiovascular risk.

Barriers to Families to Accessing a Healthy Breakfast

We now have a clear understanding of all the positive benefits of breakfast, we are going to discuss the common barriers faced by families to having a daily breakfast. Understanding these will help us to tailor our approach in helping to increase breakfast consumption amongst families.

Lack of time in the morning

Parents, children and adolescents encounter numerous barriers to eating breakfast, with the most common obstacle being lack of time; a theme that research has frequently indicated (The Food Foundation, 2020, Dye.L, 2015). Findings from a 2012 study by Boyland, et al., (2018) found that 33% of school children did not have breakfast in the morning due to lack of time. Children and adolescents often prefer to lie in bed later than get up to have a breakfast.

A piece of research commissioned by Kelloggs (2018) with 1800 parents has found that one in five parents with primary aged children consider breakfast to be the ‘trickiest’ time of day. As a result of the early morning chaos, three fifths of parents admit they struggle to find enough time to eat breakfast as a family, and one in ten never sit down to eat the meal together. The research also found three quarters of mums and dads consider breakfast to be the most important meal of the day, but one third said breakfast time with the kids leaves them feeling ‘stressed and overwhelmed’.

Money/budget

Many families are struggling financially and there have been recent studies to show that healthier foods can cost three times as much (Food Foundation, 2020), and food budgets are already stretched to the limit in many households in the UK. Oxfam states that one in five families are struggling to put food on the table (Oxfam website, 2020).

Across the country, food accounts for about one in every ten pounds spent by households. For households in the poorest 10%, food accounts for about 15% of all expenditure and takes up about a fifth of household disposable income (Corfe, 2018). In a study from the Food Standards Agency (Bates, et al., 2017), a third of young people said they often or sometimes worried that household food would run out before there was money to buy more. One report found that one in four adults in the UK skip meals to allow other family members to eat, and for those living in poverty, it has been suggested that the most commonly omitted meal is breakfast (Rampersaud, 2009 and Gordon, 2010). In fact, recently Kellogg's (2015) noted that that 47% of parents on low household incomes would take their children to a community holiday club that served breakfast.

This speaks volumes - One big reason for children and adults skipping breakfast is that there may be no breakfast foods in the house.

Breakfast skipping habits

Breakfast is the most skipped meal of the day according to the BBC Good Food Nation survey (2015), which, showed that 31% of those surveyed skipped breakfast, making breakfast the most skipped meal of the day. One in four secondary school children say they start the day without breakfast. In addition, over two thirds of children aged from 5 to 16 years are not drinking enough fluids according to research conducted by the British Nutrition Foundation (2015). The data shows that 24% of secondary school children did not have breakfast on the day of the survey, despite widespread knowledge of the importance of breakfast, and 12% of secondary school children admit to eating breakfast only when they feel like it (BNF, 2015). The prevalence of irregular breakfast consumption (defined as consumption of breakfast on 2 or less days), was found to be highest among adolescents aged 13–18 years (Dye, 2018).

Breakfast skipping habits also increase amongst adults with an estimated 31% adults in the UK skipping breakfast (Hardwick, 2015)). It has been noted in much of the research that children do look to parents as their role model so if parents are skipping breakfast their children will be more likely to do so. Yee, et al., (2017) looked at 78 international research articles and found that a number of parental behaviours are strong correlates of child food consumption

behaviour, and Okada, et al., (2018) concluded from their research that children whose mothers or fathers skipped breakfast were more likely to skip breakfast, and that this increased if both parents skipped breakfast. The BNF (2016) results concurred with this, as they found that nearly a third of children surveyed said that family members are their healthy eating role models.

Access to healthy choices

Access to food may be a barrier for individuals living in “food deserts” which are classed as areas which are poorly served by food stores. In these areas, individuals without a car or with disabilities that hinder mobility may find it difficult to easily access a wide range of healthy, affordable food products. It is estimated that 10.2 million individuals in Great Britain live in food deserts (Corfe, 2018). It is therefore possible that some families who live in such areas will have difficulty in sourcing healthy foods for breakfast.

Advertising to children

A Cancer Research UK survey (Boyland, et al., 2018) of almost 2,500 children found those who used the internet or watched commercial television for more than half an hour a day were more likely to ask for, buy or eat junk food (food high in fat, salt and sugar). We can see from this that advertising to children works. A small percent, 1.2%, is spent on food advertising for vegetables, yet 22% is spent on confectionary, cakes, ice cream and biscuits (The health foundation, 2017). It is no surprise that given the amount of time that children either watch TV or use the internet that they are influenced by what food products are being advertised towards them. Parents may find that there is a conflict at breakfast time between what they deem to be a healthy breakfast and what their children judge to be an acceptable breakfast, meaning they may give in to children’s demands for less healthy breakfast items.

Confusion over what is a healthy breakfast

There may be some confusion over a healthy breakfast choice as can be seen from some of the research above. One study by Garcia, et al., (2018) found that a large proportion of products marketed to children through product packaging, including breakfast cereals, are less healthy, and claims used on product packaging are confusing. A further survey conducted for PHE’s Change4Life campaign (2017) found that parents are unsure what makes up a healthy breakfast for their children and it found that of those parents whose child was consuming the equivalent of 3 or more sugar cubes in their breakfast, 84% of them considered their child’s

breakfast to be healthy. There is the possibility for confusion over what is a healthy breakfast that will be a challenge to families in accessing a healthy breakfast.

Lack of appetite in the morning

Some children have cited a lack of appetite in the morning as being one reason why they choose not to have breakfast. This is mentioned in the Van Kleef (2016) article as one of the main reasons why children skip their breakfast. This was also noted as one of the main reasons for skipping breakfast in the research we conducted as part of the NSBP. Dye (2017) found that 27% of people in the UK state that a lack of appetite in the morning is their main reason for not having breakfast.

Planning a Successful Healthy Eating Campaign

Evaluations of previous healthy eating campaigns in the UK

It is important to look at previous healthy eating campaigns and evaluations of successful campaigns as part of our research so we can best plan our approach.

There generally appears to be mixed results from healthy eating intervention campaigns in the UK so far, with Ruxton and Derbyshire (2014) saying that, “from research so far, we can see that efforts to promote healthy eating have been unsuccessful or resulted in small changes to behaviour”

One of the major campaigns in the UK that has incorporated healthy eating as a large part of its mission, is the Change 4 Life campaign. The aim of the programme is to highlight the issues of being overweight and to encourage families to adopt healthier eating behaviours. It was initially targeted towards families with children aged 0-11 and pregnant women. This programme was evaluated by Croker, et al., (2012) against the family information pack. The review indicates that although awareness of the campaign was high, the campaign materials had little impact on either attitudes or behaviours. There were numerous suggestions put forward for why this happened, including that parents on the whole did not want to change or engage with the intervention, and viewed it as ‘for the kids’. It was also thought that the campaign message could have been more focused on parents as they were essentially being asked to implement the changes. The campaign targeted multiple complex diet and activity behaviours, whereas many other more successful campaigns have had a narrower focus. There is evidence (in adults) that single component physical activity and dietary interventions are more effective than those targeting multiple behaviours. This raises the importance of

ensuring that we understand who our target audience is – parents or children, and that any messages that we use are geared towards, and reach the intended target audience.

However, this review was back in 2012, and since then it appears that there have been successes. A further review in 2016 looked specifically at the smart swaps campaign and concluded that in the short term, the 'Change4Life Smart Swaps' campaign positively affected food and drink choice in a sample of interested individuals. Although this did not definitively demonstrate the impact of the campaign, the small significant differences between the control and participating group demonstrated the potential impact of the campaign given the wide sign-up in England (Wriedon and Levy, 2016).

A further review was undertaken by AMEC in 2016 on the sugar swaps initiative as part of the Change4Life campaign. The objective of this part of the campaign was to initiate a behaviour change model designed to alert, motivate, support and sustain. The evaluation showed that the communications campaign drove parental purchasing habits to reduce the purchase of high sugar products and it also showed that reducing sugar from one source was not compensated for by increasing sugar from another source. The tracking showed that 70% of mothers with children aged 5-11 were aware of the campaign and 79% of mothers said it made them think about their child's diet. Over 2 million people downloaded the sugar smart app and 75% of mothers who downloaded the app said that they made changes as a result.

In 2016 the Ministry of Food campaign (MoF) was evaluated by Watt, et al., The aim of MoF is to improve cooking skills and knowledge, and improve the consumption of healthy home cooked meals. The food centre offers cooking courses which are open to all, but have the aim of teaching those with no or limited cooking skills how to prepare tasty, healthy meals on a budget. Service users attend the centre once per week over an 8 week period. The evaluation by Watt, et al., (2016) showed that the campaign demonstrated the ability of cooking programmes to increase cooking confidence, skills and increase positive dietary changes while also offering a wider range of social outcomes such as an increase in self-efficacy, personal control and general confidence in adults. This suggests that *'the incorporation of community-based cooking interventions such as the MoF's as part of government strategy may present an effective mechanism to facilitate positive dietary changes without widening socio-economic inequalities'* (Watt, et al., 2016).

How to Run Successful Healthy Eating Campaigns

Social norms concept

What and how much we choose to eat is inevitably influenced by the other people around us. With this in mind, it has been suggested by researchers that this concept can be used as an alternative to education as a way to encourage healthier eating to groups of people. This has been successfully used in other campaigns such as those to reduce tobacco use (Kuipers et al, 2018).

In this concept, interventions are made to alter aspects of the environment, to nudge behaviour in a healthier direction, rather than educate people. Higgs, et al., (2019) used this approach to investigate whether the effects of social norm messaging on food choice translates into real-world dietary change. They found that exposure to social norm messaging was effective in an increase in purchases of vegetables with meals, and that the effects of social norm messages persist beyond initial exposure, for at least 24 hours.

Mindfulness

Mindfulness and mindful eating have the potential to address problematic eating behaviours and the challenges many face with controlling their food intake. Encouraging a mindful eating approach would seem to be a positive message to be included in general weight management advice to the public (Warren, et al., 2017).

This could be an element that we include in our breakfast promotion programme, particularly around the weekend breakfasts.

Message targeting – stop, go or stop and go

There have been health campaigns that have focused on stopping behaviours (stop) or adopting a behaviour (go) as well as campaigns that have used a combination of stop one behaviour in favour of another. Eulàlia and Dempsey (2019) systematically searched five databases for peer-reviewed quantitative articles examining healthy eating campaigns that included at least one ad. They found evidence that campaigns with both stop and go outcomes (such as swapping) tended to be more successful than campaigns with simple stop or simple go outcomes. In addition to this, campaigns that were longer than six months seemed consistently successful. They do however acknowledge the limitations upon their study in that only 14 campaigns were investigated. They found that only 25% of the stop outcomes had success compared to 50% of the go outcomes, whereas there was a 78% success outcome for combined stop and go campaigns.

Emotional appeal

Public campaigns could also be strengthened by adding a stronger emotional appeal, especially by emphasising the desire for simplicity and naturalness, which is satisfied by healthy food and healthy eating. Promising approaches in public campaigns might be those that appeal to common values, and allow the experience of being part of a movement or group, or re-connecting to the local community.

How we eat as well as what we eat

A recent research article has investigated how future campaigns could nurture children’s healthy eating habits (Haines, et al., 2019). They identified four themes that play key roles in the development of healthy eating habits in children which are, positive parental feeding for building and shaping healthy eating habits, eating together as a key element of health promotion in children, a positive home food environment encouraging healthy eating practices and lastly, the pleasure of eating.

According to the American Academy of Pediatrics, *‘Parents and caregivers are responsible for providing a variety of nutritious foods, defining the structure and timing of meals, and creating a developmentally appropriate mealtime environment that facilitates eating and social exchange. Children are responsible for participating in choices about food selection and take primary responsibility for determining how much is consumed at each eating occasion’* (AAP Committee on Nutrition, 2013).

Although the parental environment remains essential, socialization requirements and influences change over time. As children enter adolescence, parental control reduces and peer group influences become stronger. The goal of healthy eating strategies is therefore to encourage parents to establish healthy habits early in their child’s life so this can be a tact that we take with primary schools – to introduce good habits will be carried through into adulthood.

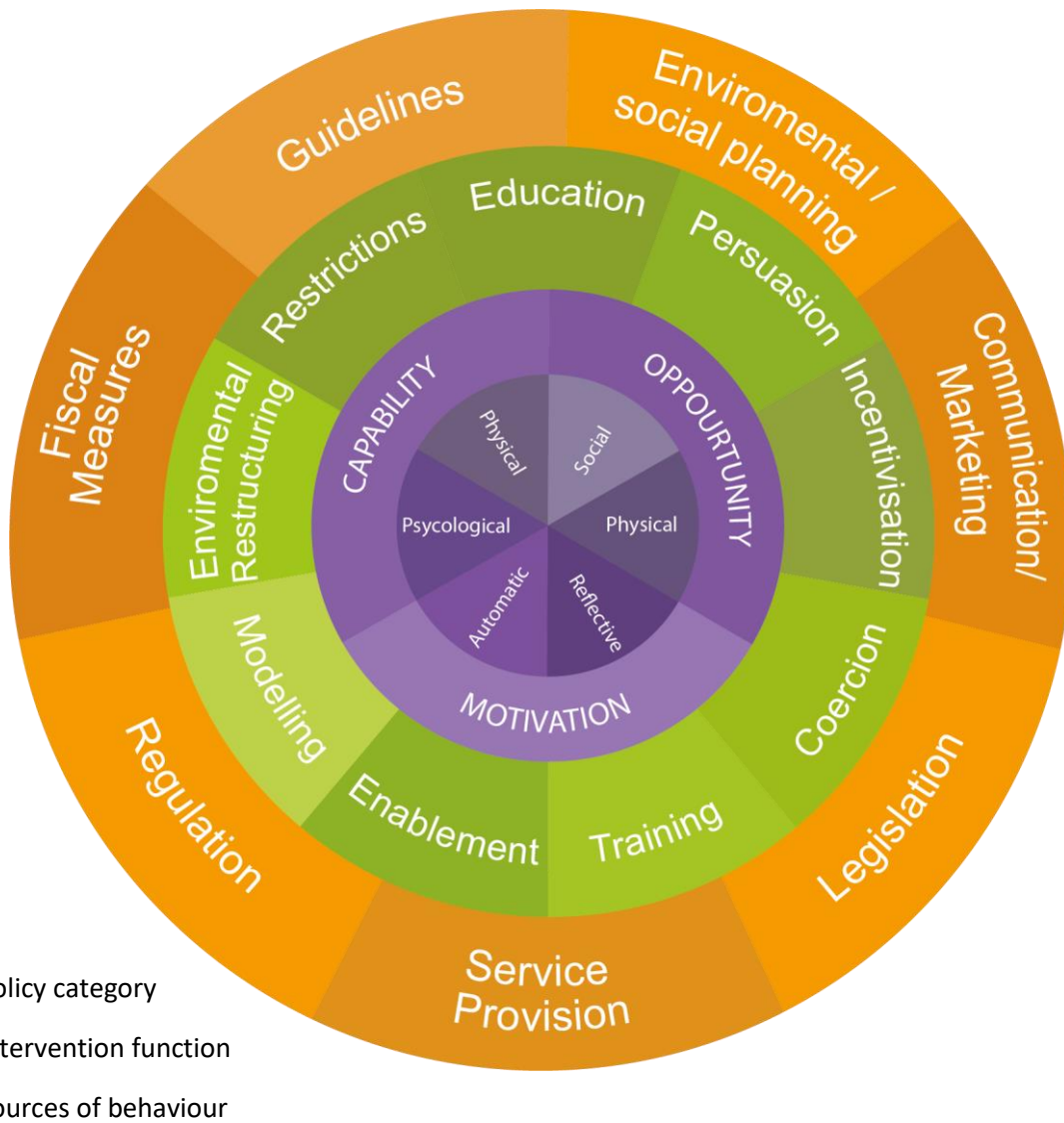
Appendix of Useful Documents

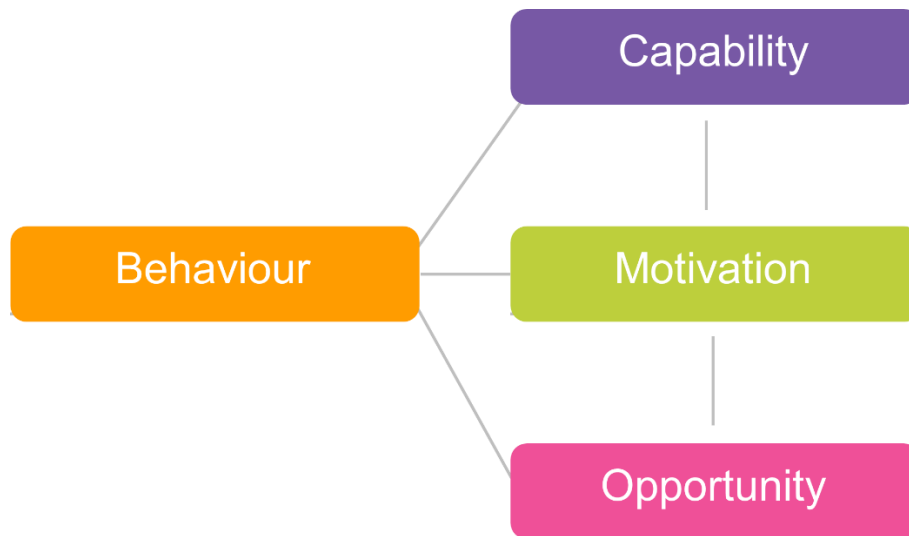
Social marketing to increase healthy eating

This table has been developed from Andreasen AR (2002) Marketing social marketing in the social change marketplace. J Public Policy Mark 21, 3–13

Andreasen’s social marketing benchmark criteria(9)	Keys to increasing healthy eating using social marketing
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Behavioural objective	Evaluate healthy eating using multiple behaviours. Tackle single behaviours serially over time.
Audience segmentation	Identify different groups. Target each group with a unique solution. Interventions are pre-tested with the audience. Involves the target audience and local community, rather than treating them as research subjects. One size does not fit all
Formative research	Conduct formative research. Research must be consumer oriented. A deep understanding of what moves and motivates the target audience, including who and what influence the targeted behaviour. Identifies emotional barriers (such as fear of testing positive for a disease) as well as physical barriers (such as service opening hours)
Exchange	Offer salient benefits – short-term benefits can be more salient than long-term benefits. Consider trials, rewards and prizes to stimulate trial and repeated behaviour. Considers what the target audience values: offers incentives and rewards, based on customer orientation and insight
Marketing mix	Move beyond communication – interventions must be multifaceted (e.g. more than promotion and communication). Efforts need to be directed at initiating new behaviour and encouraging repeat behaviour. Uses all elements of the marketing mix (product, price, place and promotion) and/or primary intervention methods (inform, educate, support, design and control) • Promotion is used to ‘sell’ the product, price, place and benefits to the target audience, not just to communicate a message
Competition	Undertake competitive analysis. Know your direct and indirect competition. Forms alliances with or learns from the competing factors to develop the methods mix





Conclusion

This paper has reviewed a range of literature exploring the effective methods and approaches to engaging with parents positively and actively along with the breadth of the information shared on healthy eating aimed at children and families, specifically breakfast.

The review establishes a background and current knowledge regarding these issues and looks at some of the main areas impacting healthy eating, along with campaigns aimed at children and families.

The key issues explored will provide the evidence base and rationale for the development of resources to be included in the Parent Insight Project. The project will launch a social media campaign targeted at parents, promoting the benefits of healthy breakfast consumption on a child’s ability to learn and their wellbeing. This will coincide with resources being made freely available on our websites for all schools and parents.

Literature suggests, we should consider providing resources to help improve the home food environment, especially in light of the current situation with an estimated 7 million households (a quarter of all households in the UK) who have lost either a substantial part or all of their earned income as a consequence of the COVID-19 crisis. Educational resources will be useful to help inspire families to plan and prepare breakfast. Instead of promoting foods based on their nutritional content, marketing strategies could help to influence and promote the pleasure of eating healthy home prepared meals (taste, social eating, and cognitive pleasures).

Limited conclusions may be drawn regarding the best method to involve parents in changing child diet to promote health. However, direct methods show promise and warrant further research.

The evidence reviewed also indicates that:

- Engagement is a complex term/process.
- When looking at indirect methods of promoting parental engagement, utilising children to involve their parents in learning related activity to be the most effective.
- Listening to the needs of parents and working collaboratively is key to successful outcomes for all (school, parents, children and the wider community).
- Parenting programmes are useful, but they do not explain the mechanisms between enrolling in a programme, attending, participating and enacting the learned skills.
- The CAPE (connect, attend, participate and enact) model tries to understand the mechanisms between these steps.

The review has highlighted that there is much evidence surrounding the benefits to regular breakfast consumption amongst school children and adolescents we cannot ignore. All the benefits, including, nutrition, physical health, academic, behavioural and mental health should be communicated to schools and parents.

For schools, although the delivery of breakfast clubs and breakfast provision includes extra work, the benefits to both the schools and the pupils far outweigh this effort. Interestingly, in one piece of research by Van Kleef, et al., one of the motivating factors for parents to provide breakfast for their children was the possibility of improved attainment/improvement at school. This should be noted as one of the angles we should use in our campaign material. The approach needs to be tailored to pupils who need it most, as benefit seems to be more pronounced on undernourished children.

We have also discussed breakfast skipping in the review, breakfast skipping habits, especially amongst older children will be a barrier to regular breakfast consumption in the home. This is an area to work on – to encourage breakfast consumption to both children and their parents. The evidence from research so far, largely shows us that eating breakfast as opposed to skipping breakfast will help pupils to achieve better academic results across the board from primary school up to secondary school. It also suggests that the academic progress effects of eating breakfast may be particularly beneficial for pupils who are undernourished, and that parents may be positively influenced by the potential of enhanced progress at school. These

benefits and target potentials should form a major part of our plan going forward. If all pupils ate breakfast, it could be said that they would be more likely to reach their full potential in life.

With this in mind, and with research citing lack of appetite in the morning as their main reason for not having breakfast; advice will need to be tailored and information to be centred on quick and easy breakfasts especially during the week when everybody is in a rush. We could encourage the weekend to be an ideal opportunity to spend time preparing and eating breakfast together, and to make breakfast a fun and relaxing event.

It has emerged that healthy eating messages should be simple, clear and achievable, and should stress short-term benefits alongside the long-term benefit of good health. The research suggests that the most effective healthy eating strategies involve techniques such as providing personalised information and incentives, supporting behavioural change, encouraging self-efficacy, where patients take control over their health, and the use of social media and technology to deliver messages. The audience should be targeted and the messages should be appropriate to the target audience. In light of the current global pandemic situation, we should also be mindful of the resources needed by families to achieve goals. We think that a selection of the above approaches should be considered.

As identified within the review, a systematic review of the effects of breakfast, carried out by Leeds University (Adolphus, et al., 2019), states a positive and strong correlation has been found between breakfast consumption and children's cognitive function, including attention, memory and executive function. A discussion of findings carried out by the Education Endowment Foundation (2016) linked breakfast to academic progress. These are important findings to inform resources developed.

Gaps in Review of Literature

Much of the research reviewed is solely focused up on schools and the relationships and communication between school staff and parents.

Considerations

An area for ongoing study may be in relation to Covid 19 which has resulted in an ongoing global pandemic.

Food insecurity has doubled since the Covid-19 outbreak rising from 5.7% to 11%. Five million people in the UK living in households with children under 18 have experienced food insecurity since the lockdown started. This survey was conducted 24th -29th April 2020 – a month after lockdown; 2284 parents participated.

These findings from the Food Foundation (2020), and other studies including the Impact & Food Foundation Findings and a report from Dr Rachel Loopstra, King's College London, explores what is driving hunger in the population at this time, asking, has the COVID-19 lockdown exacerbated food insecurity among those who regularly struggle to afford enough food, created new economic vulnerability on account of loss of work and income and the loss of free school meals for children.

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