



The prevalence of childhood obesity as perceived by primary school teachers, and their attitudes towards the role of the school in obesity prevention.

PME Dissertation

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Declaration

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Abstract

In 2018, the issue of childhood obesity both nationally and internationally is a profoundly relevant topic, with one in four nine-year old children in Ireland now considered to be overweight or obese (Layte & Mc Crory, 2011). The purpose of this dissertation is to explore the perspectives of primary school teachers regarding their role in combatting this global epidemic. It also explores the prevalence of childhood obesity, its causes and consequences, current initiatives and strategies that promote obesity prevention and the barriers teachers often face in the promotion of a healthy lifestyle in children. Existing literature on this subject was reviewed to inform the author throughout this research, which aided the generation of recommendations for further study in the area of childhood obesity.

This dissertation conducts a study entirely based in the qualitative paradigm, generating data from semi-structured, one-to-one interviews. It is a small-scale study featuring ten participants, of varying age and teaching experience, from five different schools. There was a variety of participants ranging from mainstream teachers to special education teachers, and participants were both male and female. Junior and senior ends of all schools were used in the sample in order to identify whether the age of students impacted upon the perspective of class teachers.

Four significant themes arose from the data collected. These were teachers' awareness of childhood obesity, teachers' attitudes and perceptions of childhood obesity, the prevention of and intervention in childhood obesity and barriers faced by teachers in the promotion of a healthy lifestyle in children. Although teachers had knowledge of various areas of obesity, including its causes and potential consequences, the results indicated some lack of awareness amongst teachers in several areas. This study highlighted some gaps in teachers' knowledge with regards to the prevalence and severity of the issue of obesity in children, the role teachers play in obesity prevention, as well as current

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initiatives and recommendations in place to aid obesity prevention. Findings of this research would suggest the need for teacher training and government initiatives surrounding obesity prevention to be introduced as well as further study in the area of this disease and Irish teachers' perspectives on their role in its prevention.

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Thank you all for the much-needed support.

Abbreviations

BMI – Body Mass Index

CPD – Continual Professional Development

DES – Department of Education and Skills

DOH – Department of Health

DOHC – Department of Health and Children

ECE – Early Childhood Education

GPA – Grade Point Average

GUI – Growing Up in Ireland

HSE – Health Service Executive

INTO – Irish National Teachers' Organisation

IUNA – Irish Universities Nutrition Alliance

NCCA – National Council for Curriculum and Assessment

NTO – National Taskforce on Obesity

PDST – Professional Development Service for Teachers

PE – Physical Education

PME – Professional Masters of Education

SPHE – Social Personal and Health Education

WHO – World Health Organisation

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Chapter One: Introduction

In contemporary Ireland, the issue of childhood obesity is a profoundly relevant topic, with an alarming one in four nine-year old children now considered to be overweight or obese (Layte & Mc Crory, 2011). The purpose of this study is to explore the perspectives of primary school teachers regarding what they believe to be their role in combatting this global epidemic. This chapter will present the main aim and objectives of the study, and will also outline the research questions. The rationale underpinning the chosen topic will also be discussed, in addition to an outline of the report being given.

Aim and Objectives:

The aim of this study is to explore, from both relevant literature on the subject and the findings, the prevalence of childhood obesity as perceived by primary school teachers, and their attitudes towards their own role as teachers in obesity prevention. This aim led to the following objectives being established for the study: to explore the awareness; attitudes and perceptions of teachers in relation to obesity in children; to identify the role of the teacher and school in the prevention of and intervention in childhood obesity, as perceived by research participants and, finally, to investigate the potential barriers faced by teachers in the promotion of a healthy lifestyle in children. These objectives are explored and examined over the course of this paper.

Research Question

The research endeavours to not only identify the prevalence of childhood obesity as perceived by primary school teachers, but also aims to establish their attitudes towards the role of the school in obesity prevention. A range of questions will inform and guide this research, and attempts to answer them will be made over the course of this study. The causes of and risks factors associated with obesity amongst school children will be

investigated, along with examining the strategies that are in place in schools to prevent obesity. Finally the barriers faced by teachers in the prevention and intervention of childhood obesity in the classroom will be explored. A qualitative approach, in the form of semi-structured interviews, will be taken in order to answer the research questions, outlined above.

Context and Rationale

This research topic was chosen because of my interest in childhood obesity, both personally and professionally. While on school placement, I made a number of observations which led to my personal interest in the subject matter. Despite the increasing awareness of childhood obesity, I never heard the topic discussed in the school settings. While studying the Professional Masters of Education, I observed that there was very little emphasis placed on this global epidemic. The absence of any in-depth study of this subject as part of the curriculum reinforced my interest in exploring this topic further, in hope of increasing awareness of this issue.

From a personal point of view, one of my favourite modules in my undergraduate degree (ECE) was 'Child Health', which looked at the importance of promoting a child's healthy body and mind. Within this module, one of the key learning areas focused on obesity and ways of encouraging a healthy lifestyle in students. This, along with my experience working in a forest school, promoting education through the outdoors, was the motivation for the undertaking of this study.

From a professional point of view, I hope the contents of this study will provide teachers with a deeper knowledge of childhood obesity, and of the extent to which it is an issue. I also hope to provide the participants with sufficient information to help them work towards the prevention of childhood obesity. Until 2011, there were very few statistics or studies available which showed the extent to which children in Ireland were obese.

Although it is a very current and relevant topic, there is no national research exploring the perceptions of teachers regarding obesity in children, and their role in its prevention. This study aims to somewhat address this gap.

The researcher will take a qualitative approach to the study and will interview ten participants. The participants will be chosen using purposive sampling and semi-structured interviews will be the research instrument employed.

Outline of the Study

Chapter two, the Literature review, will examine relevant and contemporary literature concerning the research topic. The proceeding chapter, the Methodology, outlines the chosen research method, as well as the research design. It will also discuss the research instruments employed, sampling and selection of participants, data analysis, limitations and the ethical considerations of the study. Chapter four, Data Analysis and Discussion, presents the main findings from the research study. It will discuss and analyse the findings presented in relation to the literature review, and supporting or conflicting perspectives will be presented. The sixth chapter concludes the study and makes recommendations for future practice.

Conclusion

This chapter has outlined the research questions and rationale underpinning this study, along with an outline of the report which summarises the contents of each chapter. The next chapter will explore relevant and contemporary literature, both national and international, surrounding the topic of childhood obesity.

Chapter Two: Literature Review

This chapter will examine the relevant literature pertaining to the issue of childhood obesity, both nationally and internationally. The prevalence of this global epidemic will be discussed, followed by an in-depth review into the causes of childhood obesity, its consequences, the role of the school in the prevention of obesity, as well as the barriers teachers may face whilst tackling this concern in Irish primary school classrooms.

Defining Obesity

According to the World Health Organisation (WHO), “overweight and obesity are defined as abnormal or excessive fat accumulation that presents a risk to health” (WHO, 2017, np). Both are determined by calculating a person’s body mass index (BMI) using their weight-for-height (The National Taskforce on Obesity (NTO), 2005). Having a BMI-for-age greater than one standard deviation higher than the WHO Growth Reference median, defines children aged 5-19 years as overweight, and a greater than two standard deviation as obese (WHO, 2017).

In recent years, the pervasiveness of childhood obesity has drastically increased, resulting in it becoming the biggest childhood illness, in both developed and developing countries (Koukourikos, Lavdaniti & Avramika, 2013). This correlates with WHO’s finding confirming that obesity is one of the most overlooked and ignored disease in the world, a shocking and alarming truth (2017).

The Prevalence of Childhood Obesity

The WHO recognises obesity as a global epidemic (2017). They propose that if the statistics are to continue rising at their current rate, then more than half of North America will be considered overweight or obese by 2030. However, this concern is not limited to the USA; it is a disease that is affecting a large portion of the world (NTO, 2005).

Similarly, The World Obesity Federation's (2015) viewpoint correlates with that of the National Taskforce and the WHO. Their interactive maps, which show the extent of childhood obesity across the globe, reveal that between the years of 2011-2014, 17% of children in the United States, aged between six and eleven years, were described as being obese (World Obesity Federation, 2015). This problem is also rising rapidly in countries such as Australia, with approximately 22% of children considered overweight and 6% obese, the United Kingdom has approximately 21% of 8-9 year olds classified as overweight and 3% as obese and approximately 26% of 7-10 year old Brazilian children are considered to be overweight and 5% obese (World Obesity Federation, 2015).

Examining obesity from a national context, Ireland is not exempt from this disease. The Growing Up in Ireland (GUI) study by Layte & Mc Crory (2011), which examined the health of 9 year olds, revealed that out of the 8568 children, 19% were considered to be overweight, while 7% were defined as obese. The study by GUI found that obesity was shown to be more prevalent in girls than boys, and found to be increasing in numbers as children increase with age. According to this research, this puts the number of children considered to be overweight or obese at 1 in every 4. Furthermore, Perry, Whelton, Harrington & Cousins (2009), advocate that between the years of 1948-2002, the average weight of children in Ireland increased by a drastic 65%.

More recent studies show that obesity amongst children has quadrupled in numbers since 1975 (WHO, 2017). The WHO's statistics reveal that in 2016, more than 340 million children between the ages of 5-19 years were considered overweight or obese. It also revealed that more than half of the population are living in countries where obesity and overweight are a superior problem and are associated with more deaths than underweight.

Anderson and Butcher (2006), argue that there is no single factor associated with the rise of this global epidemic, rather, it is caused by a number of correlated factors which result in the increase of children's intake of energy, and a decrease in its expenditure.

Causes of Childhood Obesity

Obesity is a multifactorial problem, which is affected by cultural, genetic, environmental, behavioural, socioeconomic and metabolic factors. Research shows that there are many different views on the cause of obesity however, diet and exercise continue to take the forefront (Share & Strain, 2008). Likewise, the Childhood Obesity Foundation's research (2013) supports this view, which is evidenced by revealing that the majority of childhood overweight and obesity cases are the result of having a deficient diet, alongside a lack of physical activity. They state that if a child between the ages of five and twelve consumes more calories than they burn, they will acquire additional weight which will ultimately result in obesity (Childhood Obesity Foundation, 2013).

However, one could contend that this disease is not just a result of a disparity between energy intake and output, but also to a lack of government policy on national standards for the development of a healthy lifestyle in children. Research also cites a child's environment, genetics, socio-economic background and media as other precursors to developing the disease (WHO, 2017).

Zhang, Christoffel, Mason, & Liu (2006) suggest that a child's environment is a critical factor in the likelihood of developing obesity, with various factors, such as high availability to unhealthy foods, limited or no access to open space for exercise, shorter physical education classes in schools, as well as living in remote areas, where a child must travel by car, train or bus, all contributing to an imbalance between the intake of energy and its expenditure (Layte & McCrory, 2011).

Likewise, the GUI study revealed that coming from a low socio-economic background increases a child's risk of becoming overweight or obese (Layte & McCrory, 2011). Kerkez, Tatal & Akcinar (2013) further support this statement by confirming that a person's social class, urbanisation, pay and education are all contributing factors to the likelihood of developing obesity.

Other research explores the impact that media has on the increased prevalence of childhood obesity. A study by Irish Universities Nutrition Alliance (IUNA) revealed that a child's waist, along with their BMI, increases with the amount of hours spent in front of the television (IUNA, 2012). Furthermore, this study highlights the negative impact that television adverts can have on a child's unhealthy food choices (Koplan, Liverman & Kraak, 2005).

Genetics is another contributing factor to childhood obesity, with research showing that approximately 25-40% of BMI is inherited (Anderson & Butcher, 2006). However, genetics are not the only contributing factor when it comes to having an overweight parent, behavioural influences have and continue to be a detrimental influence in the growth of obesity (Sassi, 2010).

Childhood obesity can have many negative implications for children, including the risk to their mental and physical health, school achievement, increased risk of associated illnesses and a higher likelihood of continuing obesity into adulthood. Furthermore, childhood obesity does not only have adverse consequences for the individual, but it can often extend to their parents, school, community, economy, and to the health care system (Schwarzkopf, 2008).

Consequences of Childhood Obesity

Obesity can have adverse effects on a child's social, emotional, psychological and physical well-being, as well as various economic consequences which stem into adulthood. According to Lumeng et al. (as cited in Massey-Stokes & Meaney, 2006), the health consequences as a result of obesity negatively impact on the whole child, and weaken their school attainment. Depression, low self-esteem, loss of good quality of life, eating disorders, negative body image, shame, self-blame and social stigmatization are some of the many psychological consequences related to childhood obesity (Massey-Stokes & Meaney, 2006).

Similarly, Bruss, Dannison, Morris, Quitugua, Palacios, McGowan & Michael (2010) reiterate the dangers of childhood obesity with regards to the potential physical consequences, as it not only increases the risk of carrying obesity into adulthood, but also in developing diseases such as type 2 diabetes, hypertension, high cholesterol, respiratory ailments and orthopaedic problems (Green, Riley & Hargrove, 2012).

Socially and emotionally, childhood obesity can affect the child by lowering their self-esteem through subsequent bullying by other children and marginalisation of the obese child (Neumark-Sztainer & Hannan, 2000). There is not only a greater risk of the child being victimised, but research has also shown that overweight children can often be the perpetrators of physical and verbal abuse (NTO, 2005). As a result of this, research argues that childhood obesity negatively affects a child's school performance and increases the likelihood of childhood delinquency and poor school attendance (Neumark-Sztainer, & Hannan, 2000). A study by Ding et al. (as cited in Wittberg, Northrup & Cottrel, 2009) revealed that, in North America, obesity was connected to an average Grade Point Average (GPA) that was 0.43 below those who were not considered obese. The GUI study states that adiposity in children can have serious long-term effects, regardless of whether they

lose the weight before reaching adulthood (Layte & McCrory, 2011). The likelihood of obesity being carried through to adulthood has serious potential economic consequences, including hospital bills, doctors visits and necessary medication (Schwarzkopf, 2008) that can generate up to 25% additional expenditure than those considered normal in weight (Sassi, 2010).

As a direct result of the negative effects and consequences associated with childhood obesity, such as the physical, social, psychological, emotional and economic problems, government action, as well as school and parental intervention and prevention, is a necessity (NTO, 2005).

Prevention of Childhood Obesity

According to the WHO (2018) obesity is recognised as being preventable, and therefore the prevention of childhood obesity needs to be made a priority. Prevention is thought to be the most viable option for curtailing this global epidemic, as existing treatment methods are usually aimed at controlling the issue as opposed to generating a cure (Kosa-Postl, 2006). The aim of tackling this disease is to achieve an energy balance that is easily sustainable throughout an individual's lifetime. Studies by Whitby (2010) and Perera, Frei, Frei, Wong & Bobe (2015) argue that as the majority of nutritional and physical activity habits are developed in preadolescent years, interventions must begin early in order to develop healthy lifestyle behaviours that track into adulthood.

Several studies in the area of childhood obesity recognise the school as being the leading force in tackling obesity (Green et al., 2012). The WHO regarded the education setting as one of the leading sectors in combating the disease. Thus, they stress the need for governments to “implement comprehensive programmes that promote healthy school environments, health and nutrition literacy and physical activity among school-age children and adolescents” (Department of Health, 2016, p. 36).

Additionally, as teachers tend to be respected figures in society, Gately, Curtis and Hardaker (2013) argue that teachers are in the perfect position to implement relevant interventions and to encourage children's attitudes and behaviours concerning the development of healthy lifestyle choices.

Generally, there are two types of school-based interventions, namely; healthy eating guidelines and physical activity programmes. Given the significant amount of time that children spend in primary education, one could contend that primary schools can be valuable assets in positively influencing children's eating habits. Schools have the opportunity to create a healthy food environment, restricting the intake of unhealthy snacks and beverages (Whitby, 2010).

The Department of Health (DOH, 2016) encourages schools to develop a whole-school approach in the promotion of healthy lifestyle programmes. Circulars by the Department of Education and Skills (DES, 2016) emphasise the importance of promoting physical activity and healthy eating in schools. The DES (2016) state that schools should devise a healthy eating policy, provide healthy food alternatives, take part in both the 'Health Promoting Schools' and 'Active School Flag' initiatives and also underscores the need for the PDST to support the PE and SPHE curricula regarding healthy eating policies in schools.

The food and nutrition aspect of the SPHE curriculum highlights the key areas regarding healthy eating and urges that these are studied in detail at a level appropriate to each class. The curriculum provides both students and teachers with key healthy eating messages, but also references the need for physical activity. The overarching aim of the SPHE curriculum is to develop a healthy ethos within the school, while simultaneously improving the child's well-being and self-esteem (DOHC, 2003). One of the fundamental

aims of the SPHE curriculum, as identified by the NCCA is to “to promote the health of the child and provide a foundation for healthy living in all its aspects” (NCCA, 1999, p.9).

According to Clarke, Fletcher, Lancashire, Pallan, & Adab (2013), schools are also viewed as a key tool in communicating and collaborating with parents regarding various issues and concerns. They state that parental cooperation is a crucial element in generating positive intervention strategies in schools. Stegeline (2008) recommends the importance of creating a partnership approach, where parents and teachers work together in the prevention of childhood obesity. However, before parents and teachers can coordinate efforts to ensure that the same strategies in the promotion of healthy eating and physical activity are being used in both the classroom and at home, they must examine their own views and behaviours toward obesity as young children learn by observing and imitating their primary educators (Saab & Kalnins, 2011; Stegeline, 2008).

When creating the policies for healthy eating and physical activity in schools, teachers should take the following into consideration:

The national guidelines on physical activity for Ireland. The National Guidelines on Physical Activity for Ireland state that “all children and young people should be active, at a moderate to vigorous level, for at least 60 minutes every day. Include muscle-strengthening, flexibility and bone-strengthening exercises 3 times a week” (DOHC & HSE, 2009, p.10).

Current initiatives/programmes. Some of the recommended programmes available to schools to prevent childhood obesity include, but are not limited to; ‘Eat Smart, Move More’, ‘Food Dudes’, ‘Tastebuds’, ‘Media Wise’, ‘Lunchbox Leaflet’, ‘Incredible Edibles Programme’, ‘GoNoodle’ ‘10 at 10!’ and ‘Active School Flag’.

From this research, it is clear that education and policy need to acknowledge the importance of physical exercise and healthy eating throughout the school day. However, it must be acknowledged that there are many barriers teachers must overcome in order to successfully achieve this. Future interventions would also likely benefit from developing more links with the community in order to further support improved dietary behaviours and increased physical activity out of school, as children only spend a portion of their day there (Whitby, 2010).

Barriers in promoting a healthy lifestyle in children. While the WHO (2017) has acknowledged the obesity epidemic as being one of the primary health issues of our time, it is arguable that educators continue to have their priorities elsewhere. With ongoing pressures of sustaining sufficient standardised testing scores and achieving an acceptable rank in the PISA report, it has been argued that teachers, as a result, struggle to promote the holistic development of the child (Wechsler, McKenna, Lee & Dietz, 2004). A study by Stanfill, regarding teachers' perceptions of their role in obesity prevention, found that out of the 628 participants, 64% believed that, as teachers, they not only play a role in the prevention of childhood obesity but they also have the power to influence children's lifestyle behaviours, however due to lack of resources and support they often fail to do so (Alrashidi, 2016).

Although the Department of Health and Children (DOHC, 2009) recommend that children take part in moderate to vigorous physical activity for a minimum of 60 minutes a day, a study by Fahey, Delaney & Gannon (2005) revealed that, on average, primary school children only took part in the allocated one hour PE lesson a week. A report by the National Taskforce on Obesity recommended the need for an increase in the time allocation for PE in Irish primary schools, as well as teacher training to support active living and healthy eating, however, the report of the Inter-sectorial Group (2009) on

implementation recognises that this recommendation is not possible at this time, due to time constraints in the curriculum (as cited in Layte & McCrory, 2011).

The aforementioned statement is supported by a report by Darmody & Smyth (2011) on job satisfaction and occupational stress in primary schools, which revealed that when compared to alternative occupations, teachers in Ireland were faced with moderate to high levels of stress stemming from difficulties relating to time pressures in the implementation of the curriculum, workload, parental expectations and insufficient resources and training. According to an international study by Kyriacou & Chien (2014) the most effective way to tackle this occupational stress is to reduce teachers' workload. Research has also shown that despite the recommendation for all primary schools in Ireland to participate in the 'Health Promoting Schools' initiatives, only 40% of schools in Ireland are adhering to this recommendation (DES, 2016) and only 626 schools around the country have been awarded an 'Active School Flag' (Active School, nd).

Furthermore, parents can also potentially impede the tackling of childhood obesity due to an unwillingness to accept that their child is obese or overweight. The GUI study (Layte & McCrory, 2011) revealed that 54% of mothers perceived their child's weight to be 'about right' when they were considered overweight and 20% when considered to be obese. Maternal views influence a child's own perception of their weight, as revealed in this study, where only a third of children measured as obese realised it. This is arguably an issue of great concern, as one could contend that weight reduction and behaviour change around diet and physical activity can only come about once the individual acknowledges the need for change, or in a child's case, their parents do. Many teachers can also hinder the prevention of childhood obesity, possibly unintentionally, by using unhealthy treats for positive reinforcement and removing of PE as a form of punishment, lessening a child's daily physical exercise levels even further (Clarke et al., 2013).

Arguably the lack of priority placed on obesity prevention, and failing to recognise the need for increased government regulation on issues related to physical activity and healthy eating in schools, can prove to be the greatest barrier in the prevention of childhood obesity. Only by developing national standards with clear guidelines supporting the development and intervention of said programmes, in which all schools must abide by, can prevention intervention become a possibility (Clarke et al., 2013).

Conclusion

The literature outlined in this chapter highlights the fact that childhood overweight and obesity is a global epidemic and the associated long-term health and social consequences are of great concern. As this disease is considered preventable, and proof of long-term treatment interventions is lacking, prevention of childhood obesity is seen as a global necessity, however there are many barriers which teachers may face in doing this. Given the prevalence of obesity in primary school children, there is arguably no denying that this is a critical period for intervention and both schools and teachers have a very important role. Working in partnership with parents and providing both the parent and child with information on the prevention and intervention of obesity and how to engage in a healthy lifestyle would appear to be a necessity for teachers (Saab & Kalnins, 2011). Although other studies surrounding this worldwide concern have explored parent and teachers' perceptions of childhood obesity, few studies have focused on teachers' perceptions of their role in its prevention and so, in this study, the researcher will attempt to address this gap.

Chapter Three: Methodology

As outlined in the preceding chapter, childhood obesity is a global epidemic, which effects one in four primary school children in Ireland. This study will look to address this issue, with a focus placed on teachers' perceptions of their role in the prevention of childhood obesity in the classroom. Prior to carrying out this research, a specific methodological approach was developed, which is discussed in further detail below. It includes the chosen research design and instrument, outlines the research participants and pilot interview, discusses data collection and analysis, and highlights the limitations and ethical considerations of the study.

Research Design

Within the realm of educational research, there are varying methods to choose from when completing a research project. Whether the research is qualitative or quantitative, action-based or mixed methods, no single research design is superior to another, rather, each approach has its own strengths and weaknesses, suited to particular contexts (Bell, 2010). Quantitative research is defined by facts and numerical data that produce generalisable conclusions, whereas qualitative research focuses on understanding individuals' perceptions of the world (Bell, 2010).

For the purpose of this study, the chosen research design is a qualitative method in the form of a phenomenological approach. Denscombe (2003), advocates that phenomenology focuses on individuals' life experiences. It highlights subjectivity, interpretation, description and agency and explores individuals' attitudes, beliefs, perceptions and emotions. Qualitative research consists of the gathering, evaluating and analysis of data, through examining what people say and/or do. It highlights words instead of quantification of data collection and analysis (Bryman, 2012).

For the purpose of this study, qualitative research has been selected rather than quantitative, as it is the attitudes, perceptions and knowledge of primary school teachers, with regards to obesity, that is being discussed. Choosing a qualitative approach allows one to collect such information in both a thorough and comprehensive manner. This methodology facilitates participants, by allowing them have a large scope to articulate and expand their views, while holding the potential to provide beneficial information which was not originally sought after (Denscombe, 2010).

Research Instrument

The chosen research instrument for this study was a semi-structured interview. This method of research was most suited to the chosen research topic, as Denscombe (2010) states that if the researcher wants to assess not only the participant's views, but also their feelings, emotions, experiences and non-verbal responses, then interviews are the most suited method. As the topic of obesity can be subjective, many people can often disagree and hold varying perspectives surrounding the role they play in its prevention. Thus, interviews are arguably the most suited method to allow for an explanation of participants views.

For the purpose of this study, the researcher developed a semi-structured interview schedule, which Newby (2010) argues should have a clear list of interview questions which reflect the research questions, while also allowing for a certain degree of flexibility. This allows the interviewee to speak widely on the aforementioned issue, but also eliminates the risk of pigeon-holing (Bryman, 2012). Adaptability is one of the major advantages in selecting interviews, as it allows the interviewer to probe responses, follow up on ideas, and investigate feelings and non-verbal responses. Bell (2010) advises that participants' responses in quantitative data must be taken at face value, whereas with qualitative data,

namely interviews, participants' responses can be clarified and developed, thus allowing interviews to be an advantageous research instrument for this study.

As with all research instruments, interviews have their disadvantages. As interviews can be time-consuming, the researcher can be limited by time constraints, allowing them to only carry out a small number of interviews, risking the chance of biased and subjective results (Newby, 2010; Bell, 2010). Furthermore, analysing data can pose problems; the wording of questions and transcribing of interviews can be demanding, interviewer effect, which will be explained later, can effect answers, and recording devices can constrain the informant (Denscombe, 2003). Nevertheless, one could contend that interviews "put flesh on the bones of questionnaire responses" (Bell, 2010, p.161).

Research Participants

The sampling method chosen was non-probability sampling, in the form of purposive sampling. Punch (2009) notes that the aim of purposive sampling is to select participants in a tactical way to ensure they are appropriate to the research questions being asked. Ten participants were interviewed, with all interviews being of varying length and depth. An effort was made to draw people from different ranges of experience and class levels (appendix A), as investigating if these factors, as well as a person's environment, affects their perceptions of their role in the prevention of childhood obesity was of particular interest to the researcher.

In order to get a wide range of feedback that was more accurate and covered a larger scale, teachers from five different schools were interviewed. Of the schools that the participants taught in, four were mixed gender, with one all-girls school, one multi-grade setting, and one school with an 'Active Flag'. As the school I had most access to was particularly involved in the promotion of physical activity, results gained would have been biased. Thus, there was a need to involve additional schools to obtain alternative feedback.

Pilot

According to Sarantakos (2005), a pilot study is a small scale practice or rehearsal of the research instrument. It ensures the interview schedule is both clear and concise, runs smoothly, and enables the interviewer to be more confident and prepared in delivering an interview that will best gather data needed to answer the research questions (Bryman, 2012). For the purpose of this study, my sister, who is also a primary school teacher, was chosen as the participant for the pilot interview. This decision was reasoned as not only does she have the experience of working with a range of class levels, but by being a family member, she was arguably more likely to give honest feedback regarding the general run of the interview and changes that needed to be made. After carrying out the pilot interview, we worked in collaboration to ensure the phrasing of the questions were clear and concise, while ensuring that they were ordered effectively and efficiently.

Data Collection and Analysis

In terms of acquiring participants for this study, a letter was sent to the principal of one of the five participating schools. This consisted of an information sheet that outlined all relevant information regarding the area of study and the requirements of research participants (*Appendix 1*). The principal liaised with the teachers employed in their school and requested their participation in the research project. With the other four schools, participants were approached directly, as they were either friends or family members. These participants then approached principals of their schools to acquire permission for the interviews to be conducted on their premises. Once all parties agreed to participate, information sheets and consent forms (*Appendix 2 and 3*) were sent to participants before conducting the interviews.

All ten interviews took place in the school setting of the participant. Each interview took approximately thirty minutes, however due to the nature of a semi-structured

interview, as well as participants' time constraints, the duration of the interviews varied. A voice recorder was used to record the interviews, as well as an alternative recording device, should problems have arisen with the original tool. As Denscombe (2007) states that trust is a key factor in successful interviewing, the researcher arranged to meet with the participants prior to the interview to discuss the process. Each interview began with an informal discussion with the view to building rapport before the interview commenced.

Data analysis involves understanding the data as it is collected, examined, and analysed to develop theories and generalisations about the findings (Hitchcock & Hughes, 1989). The data gathered from the interviews was analysed qualitatively, through the recording and transcribing of the interviews. Familiarity with the data was achieved by reading and re-reading the data until an in-depth understanding was developed. The final step of the data analysis involved coding and interpreting the data into main categories and subcategories. Direct quotes, excerpts and vignettes were used to present the data received from each interview and colour coding was used to sort each category. The data analysis was taken into consideration when devising the interview questions by grouping the questions into different categories to ensure the data could be sorted efficiently.

Limitations

It must be acknowledged that there are limitations to this body of work. Cognisance must be given to the fact that most samples in qualitative research are small in number when compared with quantitative samples; therefore, it is not possible to demonstrate that the findings and conclusions are applicable to the larger population. Confirmability is also a limitation of this qualitative research, as one may take the information given to them from the sample out of context, which would inevitably give false meaning to the data. These risks were acknowledged, and in order to address them, teachers from five different schools were interviewed, with the view to gaining a broader insight. Steps were also taken

to ensure that opinions and experiences were gathered from the participants as opposed to my own preferences and characteristics.

Another limitation of this research instrument, which was previously mentioned, is referred to as 'interviewer effect'. Denscombe states that "people respond differently depending on how they perceive the person asking the questions" (2010, p.178). Age, race and gender are some of the many factors which may contribute to interviewer effect, and although one cannot change this, an effort can be made to make the interviewee feel more comfortable by being polite, receptive, punctual, encouraging and neutral (Denscombe, 2010).

According to Opie (2004) an individual's view of the world, as well as the position they choose to adopt with regards to specific research is referred to as positionality. Positionality can be affected by an individual's beliefs and morals arising from one's religion, gender, race, sexuality, socio-economic background, social class, political commitment, and so forth (Opie, 2004). One can contend that every researcher comes to a project influenced by their own background. For myself, it has been both personal and professional. One of the key components of the my undergraduate degree (ECE) was 'Child Health', looking at the importance of promoting a child's healthy body and mind. Through this I have come to understand the vital role teachers play in the prevention of childhood obesity, and the potential that they have to encourage a healthy lifestyle in children. This, along with my experience working in a forest school promoting education and physical activity outdoors, creates a possible bias in the area of obesity prevention. I understood that this could influence the type and way I posed questions to participants, thus, I made every effort to ensure that I remained objective and that my personal beliefs and values did not affect research findings.

Ethical Issues

The '*Ethics in Research Policy for Marino Institute of Education, 2017-2018*' (MIE, 2018) was adhered to throughout this research project to ensure the protection and safety of research participants, and to respect their rights, wishes and overall well-being. Key considerations were made to minimise risk of harm, by firstly retrieving permission from the gatekeeper of the school, i.e. the principal, to carry out research with members of their staff (see appendix Ci). Once permission was received, an information letter (see appendix Cii) was sent to participants, informing them about the research, research questions, aims and objectives of the study and researcher expectations. A consent form (see appendix Ciii) was signed by participants if they agreed to participate in the study. According to Denscombe (2007), written consent protects the researcher from any claims in failing to inform the participants about the research study adequately.

The information letter informed participants that the interview would be audiotaped for the purpose of accurate transcription, however they were also informed that these recordings would not be made available to anyone but the researcher or if necessary, the dissertation supervisor. Participants were made aware that confidentiality would be guaranteed, providing there was no risk of harm to themselves or others, in which the researcher would have a legal obligation to divulge information. Participants were also informed that they were not obliged to answer any questions they were uncomfortable with and they had the right to withdraw their participation from the research study at any time.

To ensure confidentiality and anonymity was paramount and respected throughout, the researcher removed any identifiable factors, such as names, and instead referred to participants by code, for example, T1: 4 (teacher 1: school 4). All data gathered was transferred to and stored on a password-protected personal computer, to which only the

researcher had access. Transcripts and voice recordings will be destroyed thirteen months after submission of the research.

Conclusion

As discussed in this chapter, carrying out a piece of research requires much planning and preparation when choosing the research design, instrument and suitable participants. Careful consideration must be placed on the limitations of the study and how these can be addressed, as well as the ethical issues surrounding the use of a qualitative research design. The next chapter presents and analyses the main findings of the research and compares it to relevant literature. It classifies the main themes obtained from data collection, as well as giving evidence from the ten interviews.

Chapter Four: Data analysis and discussion

In this chapter, the findings will be presented from the collected data and will offer primary grounds upon which the data will be discussed. Through the examination of interview transcripts, the researcher has identified several thematic categories and sub-categories, which will provide the basis for analysis. This chapter will present these themes under four general categories: teachers' awareness of childhood obesity, teachers' attitudes and perceptions of childhood obesity, the prevention of and intervention in childhood obesity and barriers faced by teachers in the promotion of a healthy lifestyle in children. Drawing on these categories and the research questions, the researcher will discuss the significance of the findings, through connection with researched literature. Finally, this chapter will conclude with an outline of the limitations of this study, along with a summary and an interpretation of the findings.

Teachers' Awareness of Childhood Obesity

As previously mentioned, ten interviews were conducted for the purpose of this study. These interviews allowed participants to communicate their interpretation of the meaning of childhood obesity, the consequences and health issues associated with the disease, as well as the current initiatives and recommendations in place to tackle obesity in schools. These sub-categories form the basis of discussion and will be further explored through use of examples and connections with relevant literature.

Defining childhood obesity. The WHO defines obesity as “abnormal or excessive fat accumulation that presents a risk to health” (WHO, 2017, np). This concurs with the research findings as all ten participants agreed with the description of obesity, noting how dangerous a disease it can be for the child.

It's purely around the child's health and wellbeing...I'm pretty sure it's considered to be one of the most dangerous illnesses right? (T6: 4)

One participant added that it may also hinder the child in a number of ways.

It can negatively affect the child in a number of different ways (T2: 4)

Consequences associated with childhood obesity. Similarities were found between the research data and the literature regarding the effect obesity can have on the child. Lumeng et al. states that obesity can affect a child's social, emotional, psychological and physical well-being (as cited in Massey-Stoke & Meaney, 2006). Common responses revealed that participants perceived that obesity can negatively impact a child's social, emotional and physical development with five participants highlighting the risk of bullying and marginalisation.

It would affect their social status in the classroom because they would be less inclined to put themselves forward so less people would get to know them so they could be bullied or socially omitted from the group (T3: 1)

The connection between obesity and low self-esteem was noted by all ten participants, with the concern about its link with anxiety frequently mentioned.

It affects their general wellbeing and happiness...I'd be concerned about the mental health of those who have obesity (T9: 3)

Both the findings of this study and research on the subject show that children can be affected socially and psychologically as a result of bullying and isolation which can result in low self-esteem, loss of good quality of life and depression (Neumark-Sztainer as cited in Schwarzkopf, 2008).

Participants cited the affect obesity can have on a child's concentration, with seven interviewees highlighting the potential threat it places on a child's academic achievements. This reflects existing literature which states that obesity is connected to an average GPA that is 0.43 below those not considered to be obese (Ding et al., as cited in Wittberg et al., 2009).

It could have an effect on their academics because if their concentration is off and they are down in themselves there would be a gap between their potential and what they are producing in class (T1: 4)

Anderson & Butcher (2006) found that there are many physical consequences of childhood obesity including asthma, type 2 diabetes, sleep apnoea, heart attack, liver disease and cancer (Schwarzkopf, 2008). However, none of the ten participants in this study made reference to the physical health concerns associated with the disease. Schwarzkopf (2008) claimed that obesity can lead to economic consequences for both the child and their parents as a result of doctors' bills and medication. It would appear that the participants were unaware of this negative factor and how it impacts on a family's economic situation. The differences in the answers given by participants in relation to the consequences of childhood obesity as mentioned in the literature, may suggest a lack of awareness to which the extent of obesity can negatively affect the child. The gravity of the consequences associated with childhood obesity led to the discussion with participants of current initiatives and programmes in place to tackle this global epidemic.

Current initiatives and recommendations. As prevention is considered to be the most viable option for controlling this global epidemic (Kosa-Postl, 2006), the DES (2016) recommends that schools take part in both the 'Health Promoting Schools' and 'Active School Flag' initiatives. However, when questioned on their familiarity with the aforementioned initiatives, all ten participants said they were unfamiliar with the Health

Promoting Schools initiative, and only one participant was familiar with, and is in the process of obtaining, the Active School Flag.

The Active School Flag, yes. We are currently in the process of getting one and I'm actually the coordinator (T6: 5)

This concurs with findings of the DES (2016), which demonstrates that, despite the recommendations from the government, only 40% of schools in Ireland are participating in the 'Health Promoting Schools' initiative, and only 626 schools nationwide have been awarded and active school flag (Active Schools, nd). Moreover, this shows somewhat of a lack of awareness amongst educators regarding the role they can potentially play in the prevention and intervention of childhood obesity.

I haven't a clue about the first. I've heard the name of the second but couldn't tell you what it is...our school doesn't have a flag nor are we trying to get one (T5: 4)

It was also found that nine of the ten participants were unaware of the recommended daily requirements of 60 minutes moderate to vigorous physical activity per day (DOHC & HSE, 2009). Out of the ten participants, only one participant was aware of the guidelines and felt the children in her class would reach those requirements on a daily basis. Examples from the transcripts demonstrate unfamiliarity amongst participants and highlight the role teachers may play in the barriers promoting a healthy lifestyle in children.

I wouldn't have a notion no. 60 minutes? Eh I would say less than half the class would reach that (T1: 4)

Table 2.1 below highlights participants' unfamiliarity surrounding the current and acclaimed programmes for obesity prevention. There is minimal national literature

surrounding teachers' awareness of obesity intervention, and although the sample is small, the above findings may suggest the need for further research and the necessity of training for teachers in the prevention and intervention of this disease.

Table 2.1

Awareness of recommended initiatives/programmes

Name of initiative	Participants familiar with listed initiative (n=10)
Eat Smart Move More	0
Food Dudes	10
Tastebuds	0
Media Wise	0
Lunchbox Leaflet	0
Incredible Edibles Programme	0
GoNoodle	7
10 @ 10	6

Teachers' Attitudes and Perceptions of Childhood Obesity

This study looked at the attitudes and perceptions of teachers toward obesity in the classroom. This was further categorised into four subcategories which will be discussed below through themes disclosed from analysis of the data.

The prevalence of childhood obesity. There was a general agreement amongst participants regarding the increase of childhood obesity in modern times. Two of the

participants, however, believed the increase is a result of the greater awareness amongst teachers as previously many people 'turned a blind eye' to the issue. This corresponds with the WHO (2004) which perceives obesity as the biggest childhood illness which is also the most overlooked and ignored disease in the world.

Yes, I think it is more prevalent...if I look back to my school days there were obese children. The awareness is way higher now, people used to turn a blind eye to it (T4: 2)

Through discussion of the prevalence of childhood obesity, responses from participants show a consistency across the board with the effect gender and age has on its occurrence. Nine out of ten participants believe that the ratio of boys to girls in developing obesity is 50:50.

I'd say it's probably 50:50 boys to girls...I think those who develop obesity had it from an early age but it might not be as recognisable (T4: 2)

One participant believed that it is more common in boys. All ten participants described obesity as an issue which affects children of all ages. This however is not in line with the findings from the GUI study, which describes obesity as an issue more prevalent in girls than boys, and one that increases in numbers as children increase with age (Layte & Mc Crory, 2011).

I would say it is more prominent in boys than girls...I know a lot of people think it affects the older ones but I think once the habits are made young they carry them through and it's hard to break (T2: 4)

More common in boys, definitely yes as they are always on computers (T1:4)

Statistics of obesity in primary school aged children. Many of the participants were shocked by the GUI's statistics of 1 in 4 children being obese (Layte & Mc Crory,

2011). Participants T1 and T4 believed it to be closer to 1 in 10. Another participant felt that an average across the board cannot be suggested, as from her experience, the statistics may match up when from a low socio-economic background, but not when dealing with those from middle to high-income families.

It definitely isn't an average across schools...it's way lower in middle and upper class areas but then higher in DEIS schools as I think the child's socio-economic status effects it big time (T6: 5).

This finding concurs with the figures from the GUI study which revealed that coming from a low socio-economic background increases a child's risk in becoming obese (Layte & Mc Crory, 2011).

Factors contributing to childhood obesity. Participants' responses on the factors contributing to childhood obesity correspond with literature on the subject. Anderson & Butcher (2006), describe obesity as a multifactorial problem. Participants in this study suggested diet, exercise and genetics as also outlined by Anderson & Butcher (2006), the environment as identified by Layte & McCrory (2011) and media/technology cited by Koplan et al. (2005), as further causes.

Although it is widely believed that there is no one factor contributing to childhood obesity, both the current study and Sharma (as cited in Share & Strain, 2008), still point to diet and exercise as the primary causes. The various responses offered by the interview participants are illustrated in Table 2.2 below.

Table 2.2

Perceived contributing factors to overweight and obesity

Response theme	Frequency among interviews (n = 10)
Unhealthy diet – convenient foods	10
Lack of exercise	10
Technology, TV, video games	9
PE restrictions – curriculum constraints & time	7
Parents' lack of knowledge, lack awareness, laziness	6
Child's environment	5
Genetics	3
Behavioural influences	3
Additional needs i.e. Dyspraxia	2
Socio-economic background/ social class	2

Teachers' role in the prevention of childhood obesity. The interview participants unanimously felt that, although they play a role in the prevention and intervention of childhood obesity, the responsibility ultimately falls on parents, and they, as educators, are merely the reinforcers of what is being done at home.

Yes we have a role but at the end of the day... it is the parents who make the lunches. We can educate, encourage and act as role models but that's the extent of it (T10: 4)

This belief however, is at odds with the literature, with several studies in the area of childhood obesity recognising the school as the leading force in intervention (Green et al., 2012). Nevertheless, participants acknowledge the affect that they can have on children's eating and exercise habits, with the status they hold as 'role models' for their students. This

coincides with Gately et al. (2013) who describe teachers as respected figures in society, who are in the perfect position to encourage children's positive attitudes and behaviours.

If we teach by demonstration...that could have a positive effect on the child's behaviours as they do look up to us as their teachers (T7: 4)

The Prevention and Intervention of Childhood Obesity

A major thematic category arose from interviewees' responses regarding the prevention of and intervention in childhood obesity within the school. This was further investigated under the sub-categories of teachers' experiences with obesity and its intervention, the strategies used to aid the prevention of childhood obesity, as well as partnership with parents with the view to enhancing prevention.

Intervention and experiences with obesity. Only half of the participants of this study had direct experience of dealing with a student considered to be overweight or obese. Three participants also highlighted that from their experiences, children who have obesity are often diagnosed with a number of other issues which obesity may be a result of, such as dyspraxia or ASD.

I've dealt with a fair few...the children in question have had alternative issues going on. One has ASD and another has EBD so maybe that's why (T9: 3).

The cases that I have come across have often been linked with other issues such as dyspraxia and Down syndrome (T10: 4).

When cross referencing with literature, it was noticed that this is not a factor mentioned in effecting the risk of obesity for the child. As this was highlighted by three out of ten participants, this may be an issue which requires further investigation.

Although the WHO identifies the education setting as a leading sector in combating childhood overweight and obesity (DOH, 2016), many participants admitted that if confronted with the issue, they would not feel comfortable, or equipped to approach the child or parents regarding the situation.

I would be hesitant in approaching the parents...it's not our place to label their child...I wouldn't be able to provide the correct facts and figures surrounding the issue (T7: 4)

Strategies to aid the prevention of childhood obesity. Participants listed the development of policies, educating parents and children on the importance of a healthy lifestyle, encouraging physical activity and teachers acting as role-models, as key strategies in obesity prevention.

To educate children on what happens when you are overweight and to model a healthy lifestyle yourself (T10: 4)

This concurs with literature from the DOH, which encourages the development of a whole-school approach, through devising a healthy eating policy and promoting physical activity (2016).

Educating parents on healthy and unhealthy foods. Discussing it with the children. Get them active, use movement and brain breaks. Oh and keep them active for the full 30 minutes of PE (T4: 2)

Although the DOH also stresses the need for governments to implement programmes to create a healthy environment in schools that focus on nutrition and health literacy and the promotion of physical activity (2016), only one of ten participants made reference to the government, stressing the need for a governmental plan to be put in place for all schools to follow.

Partnership with parents. A link was found between literature and this study, regarding partnership with parents. Clarke et al. (2013) regarded educators as a key tool in reaching parents and a crucial element in successfully implementing intervention strategies in schools. Both Stegelin (2008) and the research participants of this study highlight the importance of parents and teachers working together to ensure the same strategies in the promotion of a healthy lifestyle are being used in the school and at home. They referred to this as a partnership approach. Participants suggested information evenings, cooking classes, recipe leaflets and PE homework as potential strategies in developing this partnership.

We have a job to educate and support parents to make sure we are both preaching the same things. I think ensuring parental awareness and having different programmes and information evenings is extremely important for prevention (T5: 4)

As prevention is seen as the cure to childhood obesity, intervention is a necessity (Kosa-Postl, 2006). However, both the literature and data reveal a number of barriers facing the promotion of a healthy lifestyle in children.

Barriers Faced in the Promotion of a Healthy Lifestyle in Children

This was the final thematic category uncovered from the data. Responses from participants led to parents, stress and the overloaded curriculum and training as the sub-categories being examined.

Parents. Although analysis of both the literature and findings in this study highlighted the importance of developing a partnership with parents, parents are often one of the leading barriers faced in the promotion of a healthy lifestyle in children. This can stem from parents' unwillingness to accept that their child is obese, as well as a lack of

awareness concerning healthy food choices (Layte & Mc Crory, 2011). The findings of this study demonstrated participants' willingness to accept their role in obesity prevention however, a reoccurring concern was the incongruence between messages they relay to students and those relayed by parents. The findings also revealed that without support from parents, intervention is not feasible.

At times you find yourself taking one step forward and two steps back...It's a battle between what teachers say and what parents do (T1: 4)

Stress and the overloaded curriculum. Although participants displayed a commitment to obesity prevention, with ongoing academic pressures and curriculum time constraints, the necessary steps toward intervention are proving difficult to follow for those involved in this study.

I'd love to increase PE...I think there are areas of the curriculum that could be reduced to fit it...right now though, teachers are stressed enough as it is with the pressures of the curriculum (T5: 4)

Responses of many of the participants of this study revealed that the daily pressures and stress of covering all curricular subjects to be ongoing. This is consistent with the findings from a study on teacher stress, which revealed time pressure, workload, and constraints in the curriculum as leading causes for stress within the occupation (Darmody & Smyth, 2011).

I would be all for spending more time on PE and wellbeing, but often when we are told to spend more time on one thing, we aren't told to spend less time on another. If intervention was to work this issue would need to be addressed because right now I struggle enough with time constraints (T6: 5).

The above statement and literature cited with regards to stress would suggest the need to address this issue. Through reconsideration of the suggested time framework, and responsibilities of the curriculum, obesity prevention and intervention could arguably become feasible.

Training. Another issue of concern amongst participants was their lack of knowledge and training in the area of obesity. Clarke et al. (2013) identifies the government as the greatest barrier to the promotion of a healthy lifestyle in children. The lack of priority placed on intervention, as well as the absence of funding and resources available to schools could potentially hinder obesity prevention. In line with the literature from Layte & Mc Crory (2011), several participants highlighted the need for government standards in obesity prevention to be developed. These standards would have clear guidelines supporting the development and intervention of programmes, as well as appropriate training in the area. One participant believed that it is a topic that should be included and tackled in teacher education colleges, a point which should arguably be considered.

Teachers don't have enough knowledge or training...to promote obesity prevention. The government needs to make it a priority and provide CPD courses. It could even be an area to implement in teacher training colleges (T8: 4)

An emerging theme from the data suggests that teachers lack knowledge and awareness in the area of childhood obesity including its prevalence, causes and consequences associated with the disease, as well as prevention and intervention strategies in promoting a healthy lifestyle in children.

Limitations

It must be acknowledged that there were some limitations to this study. The small sample size and the limited time frame inhibit the extent to which these findings can be related to a general assumption on the topic. Time and access were an issue of great concern throughout this research project. As previously referred to, the researcher planned to interview eight participants. However, due to participants' schedules and time constraints, the researcher had to conduct an additional two interviews, as participants were only able to offer up 20-30 minutes of their time. The level of current literature on the area of teachers' perceptions of their role in obesity prevention was somewhat limited, making analysis and discussion of the topic problematic. This highlights the need for future research in the area of teachers' perceptions of their role in the prevention of childhood obesity.

Conclusion

Through data analysis conducted in this study, many common themes were identified, with various perspectives on causes, consequences, prevention and intervention of childhood obesity emerging. Overall, many similar outlooks of participants were drawn from data analysis that concurred with previous literature on the area of childhood obesity and its prevention. This chapter related the findings of the study to existing literature and evaluated similarities and differences between the two. Analysis indicated unfamiliarity amongst teachers in relation to childhood obesity. Participants' views on the causes and consequences of childhood obesity were mostly consistent with relevant research, as were some of their approaches to prevention and the barriers they faced. This study highlighted some gaps in teachers' knowledge with regard to the extent to which the disease can negatively affect the child, as well as the prevalence and severity of the issue. Findings would suggest the need for teacher training and government initiatives surrounding obesity

prevention to be introduced. The following chapter will present the conclusion and recommendations of this study

Chapter Five: Conclusion and Recommendations

This chapter concludes the research study which focused on the pervasiveness of obesity among school-aged children. In particular, the research questions focused on the causes and risk factors associated with the disease, perceptions of teachers in the prevention of childhood obesity, and barriers faced in the promotion of a healthy lifestyle in children. This study used a qualitative approach, in the form of semi-structured interviews, to answer the research questions. The concluding chapter presents a short account of the results of the study, highlighting what has emerged from the research conducted. Recommendations are made with regards to teachers, schools and government regulations and finally, a conclusion of the study is presented.

Summary of Findings

The principle aim of this study was to explore the prevalence of childhood obesity and the role of the school in its prevention from teachers' perspectives. A general consensus was derived from the study and relevant literature regarding the causes of obesity in children, as well as the social, emotional, psychological and academic consequences associated with the disease. This indicates that the causes and consequences mentioned by participants are perhaps the leading factors associated with the disease in Ireland. Several strategies put forward by participants to aid obesity prevention mirrored those suggested in literature on the subject, including educating parents and children on the disease and its prevention, along with building a partnership approach with parents. With regards to barriers faced by teachers in the promotion of a healthy lifestyle in children, participants suggested some of the following solutions:

- A way of bypassing time restrictions and curriculum constraints is the use of interdisciplinary lessons, integrating physical activity into other subjects

- To increase awareness of teachers, the topic of childhood obesity should be explored in teacher training colleges
- Better inform parents on the importance of a healthy lifestyle through teacher-parent information evenings and information leaflets.

There were some interesting pertinent findings which arose from the study, that were at odds with existing literature in the area of childhood obesity and its prevention. The majority of teachers that partook in this study were unaware of the majority of recommended initiatives/programmes in place to aid obesity prevention, as well as the recommended guidelines of physical activity a day for children. This finding was somewhat surprising and perhaps indicates a need for increased awareness among teachers on this topic. It would also suggest the need for further training in obesity prevention, as well as additional advertising of obesity prevention programmes offered to schools.

Although literature on this subject viewed schools as the leading force in obesity prevention, participants viewed their role as merely reinforcers of what parents are doing at home. Participants stressed their level of discomfort with the idea of approaching this topic with parents. This further highlights the need for training in the area of childhood obesity and its prevention.

Three out of ten participants in this study highlighted that, in their experience, children who have obesity are often diagnosed with additional issues and learning disabilities, for example, Down syndrome or dyspraxia. After exploring the literature on this subject, this was not found to be a factor contributing to the risk of childhood obesity. However, as this was mentioned by three out of ten participants, it may suggest the need for further research on the connection between obesity and other disabilities.

Teacher stress and the over-loaded curriculum was an area highlighted by all participants of this study when discussing the barriers faced in obesity prevention. A

suggested increase in PE time, as well as time spent on the child's overall wellbeing was deemed not feasible, due to the already overloaded curriculum and time constraints. Through reconsideration of the suggested time framework, and responsibilities of the curriculum, these areas could be further addressed, and obesity prevention could become achievable.

Recommendations

In light of the findings from the study, the following recommendations are offered:

1. The Government should implement policies and regulations to build a healthy environment in schools, that help children adopt healthy lifestyle choices. Government policy, with set guidelines in the prevention of childhood obesity should be made a priority.
2. It is recommended that all teachers receive training on obesity prevention and the promotion of healthy lifestyles through CPD courses.
3. Additional reconsideration of the suggested time framework of certain curricular areas should be addressed, in order to allow time to aid obesity prevention in schools and reduce stress on teachers regarding the overloaded curriculum and related demands.
4. It is recommended that existing initiatives and programmes in place for obesity prevention should be further advertised and promoted in all schools.
5. Finally, it is recommended that a large-scale study on childhood obesity be carried out with primary school teachers on their perceptions of childhood obesity, and their role in its prevention. This might enable the production of generalisations on the topic. An area of this study should focus on the link between obesity and learning/physical disabilities.

Conclusion

The principle aim of this research study was to explore the prevalence of childhood obesity and the role of the school in its prevention from teachers' perspectives. A general consensus derived from the study was that teachers are aware of the growing phenomenon that is obesity, and the causes and consequences associated with the disease. Nonetheless, there were areas of the disease which teachers lacked awareness, including the extent of the problem, the potential physical health consequences for children, as well as the current recommended initiatives/programmes in place to tackle the disease. Participants argued their role in obesity prevention was merely as reinforcers, as opposed to how the literature describes them as being the leading force in obesity prevention (Green et al., 2012). Participants suggested areas to aid prevention, such as developing a partnership approach with parents, informing parents and children of the importance of a healthy lifestyle through parent-teacher evenings and information leaflets, and the integration of physical activity and movement breaks throughout the school day. They also suggested the need for a government policy to be created pertaining to obesity reduction and prevention, and for obesity prevention to be an area covered in teacher education colleges. This study has highlighted the extent to which childhood obesity is a growing concern among primary school aged children. As prevention is thought to be the most viable option for curtailing this disease, teachers play a key role in supporting prevention interventions in schools, with the introduction of government policy and teacher training making this feasible in the future. This study has aimed to address the gap in national literature, regarding teachers' perceptions of their role in the prevention of childhood obesity and has offered recommendations for further research on the topic.

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Appendix A: Table of Participants

Participant & class level	Class level	School Type	Gender	Years of experience
T1	3 rd class	School 4 Catholic vertical mixed school	Male	7 years
T2	2 nd class	School 4 Catholic vertical mixed school	Female	2 years
T3	senior infants/first class	School 1 Catholic multi- grade mixed school (DEIS band 3)	Female	2 years
T4	5 th /6 th class	School 2 Protestant multi-grade mixed school	Female	3 years
T5	6 th class	School 4 Catholic vertical mixed school	Male	8 years
T6	4 th class	School 5 Catholic vertical mixed school	Female	6 years
T7	Resource Teacher	School 4 Catholic vertical mixed school	Male	1 year
T8	1 st class	School 4 Catholic vertical mixed school	Female	4 years
T9	5 th class	School 3 Catholic vertical girls school	Female	20 years
T10	Senior Infants	School 4 Catholic vertical mixed school	Female	2 years

Appendix B: Interview Schedule

The prevalence of childhood obesity as perceived by primary school teachers, and their attitudes towards the role of the school in obesity prevention.

1. Can you please outline the class level and school type (single/mixed gender) in which you teach?
2. The WHO (2017) defines obesity as “abnormal or excessive fat accumulation that presents a risk to health”. What do you think of this definition? Do you agree? Would you add anything to it?
3. How do you feel things have changed in relation to obesity in the last 5 years?
4. The ‘Growing up in Ireland study on the health of 9-year-olds’ states that 1 in 4 primary school aged children are obese. Does this statistics surprise you?
5. Have you come across many cases of childhood obesity in your professional career? How did you handle these situations?
6. What do you believe is the biggest factor contributing to childhood obesity? How does obesity affect the child?
7. Many studies in the area of childhood obesity recognise the school as the leading force in tackling obesity as children spend a large part of their day here. Do you believe obesity prevention is the responsibility of the school? Why?
8. What strategies would you suggest to aid the prevention of childhood obesity?
9. Do you think more importance/time should be placed on promoting a child’s overall well-being and less on academic achievement in school?
10. Do you think working in partnership with parents is important for its prevention? Why?
11. Does your school have any policies/interventions that promote a healthy lifestyle in children? (Diet/exercise)
12. Do you have any personal class based interventions that promote a healthy lifestyle in your students?

Prevention of Childhood Obesity in the Classroom

13. The DES (2016) recommends that schools take part in both the 'Health Promoting Schools' and 'Active School Flags' initiatives. Are you familiar with these?
14. I have a list of some of recommended programmes available to schools to prevent childhood obesity. Can you tell me if you are familiar with any, and if so what is your opinion/experience of them? – 'Eat Smart Move More', 'Food Dudes', 'Tastebuds', 'Media Wise', 'Lunchbox Leaflet', 'Incredible Edibles Programme', 'GoNoodle' and '10 at 10!'
15. Are you aware of the 'National Guidelines on Physical Activity' for children? It is 60 minutes of moderate to vigorous activity a day. How long does your class spend being physically active each day?
16. A report by the NTO recommends the need for an increase in time allocation for P.E. as well as teacher training to support a healthy lifestyle in children? Do you agree with this? Why?
17. What barriers do teachers face in the prevention of childhood obesity in their classroom?

Appendix C(i): Information letter to Principal



Caoimhe McCarthy,
Marino Institute of Education,
Griffith Avenue,
Dublin 9

Dear Sir or Madam,

My name is Caoimhe McCarthy and I am currently undergoing my final year of the Professional Masters of Education (Primary Teaching) in Marino Institute of Education, Dublin. As part of my final year we are required to complete a dissertation. I have chosen to carry out a research study which explores the prevalence of childhood obesity as perceived by primary school teachers, and their attitudes towards the role of the school in obesity prevention. I intend to interview teachers of various class years from five different schools to help gain a better insight into the aforementioned topic.

I am writing to you to request your permission to contact a number of members of your staff in hope that they would agree to participate in one-to-one interviews for this piece of research. Your co-operation with regard to contacting these members of staff would be greatly appreciated.

I would like to inform you that full confidentiality, care and discretion will be in place throughout this study and all information gained will be non-identifiable and your school as well as the participants will remain anonymous.

Finally thank you for taking the time to read this letter. If you have any queries regarding the research study, please do not hesitate to contact me via email at cmccarthypme16@momail.mie.ie, or by phone on 0851525359. I am looking forward to hearing from you.

Yours Sincerely,

Caoimhe McCarthy

Appendix C(ii): Information Sheet for participants



Caoimhe McCarthy,
Marino Institute of Education,
Griffith Avenue,
Dublin 9

Dear Participant,

My name is Caoimhe McCarthy and I am currently undergoing my final year of the Professional Masters of Education (Primary Teaching) in Marino Institute of Education, Dublin. As part of my final year we are required to complete a dissertation. I have chosen to carry out a research study which explores the prevalence of childhood obesity as perceived by primary school teachers, and their attitudes towards the role of the school in obesity prevention. I intend to interview teachers of various class years from five different schools to help gain a better insight into the aforementioned topic.

I have chosen to use interviews as my form of data collection. It would mean a lot to me if you would be able to find time to participate in this research study as the opinions, views and experiences of primary teachers are vital for the completion of this study. Your part in this research will involve participation in a thirty-minute semi-structured interview, whereby the researcher will ask questions regarding your perceptions on the above topic. The interview will be audiotaped for the purpose of accurate transcription; however, these recordings will not be made available to anyone else but the researcher and if necessary, the dissertation supervisor.

All tapes and transcripts will be kept safe and secure and will be destroyed following an in-depth analysis. Responses will be completely anonymous and confidentiality will be guaranteed, provided that there is not a risk of harm to you or others. If such a risk arises, I have a legal obligation to divulge information. Every effort will be taken to ensure that neither your school nor any individual will be identifiable in any report or publication arising from the research. However, in view of the fact that the sample is small, anonymity cannot be fully guaranteed.

Your involvement in this research would be greatly valued nevertheless, you are not obliged to take part nor if you do, are you obliged to answer any questions you are uncomfortable with. You also have the right to withdraw your participation from this research study at any time. Finally thank you for taking the time to read this letter, if you agree to participate please sign your name on the consent form overleaf.

If you have any queries regarding the research study, please do not hesitate to contact me via email at cmccarthypme16@momail.mie.ie, or by phone on 0851525359.

Yours Sincerely,

Caoimhe McCarthy

Appendix C(iii): Letter of Consent



I have read the information sheet provided to me and understand all relevant material within it. I understand my right to withdraw from the research at any time should I wish to, and I am aware that the responses I provide will remain anonymous.

I _____ hereby consent to take part in this research.

Signed _____ Date _____