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**Parental Perceptions of Pre-Schooler Overweight and Obesity:  
Implications for Health Providers**

A thesis

submitted in fulfilment

of the requirements for the degree

of

**Master of Social Sciences**

at

**The University of Waikato**

by

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THE UNIVERSITY OF  
**WAIKATO**  
*Te Whare Wānanga o Waikato*

2015

## Abstract

Obesity has reached epidemic proportions in developed countries and is a serious public health issue in New Zealand. An increasing prevalence of young children identified as being overweight or obese has prompted a recent shift in research focus from older children to the pre-schooler population. Although the risk factors for young children becoming overweight or obese have been explored, there is little research that has focused solely on the perceptions of pre-schooler parents. The primary aim of this research was therefore to explore the perceptions of pre-schooler parents towards overweight and obesity in pre-schoolers. The secondary aim was to inform how health providers may effectively engage with pre-schooler parents and encourage them to participate in relevant interventions. Sixteen parents of pre-schoolers aged 3-5 years old who were concerned about their pre-schooler being overweight participated in semi-structured interviews. Thematic analysis identified five broad themes. Parents considered childhood overweight to be a serious health problem, although not necessarily in early childhood. Parents were apprehensive about the prospect of their pre-schooler being overweight when they were older and appeared more concerned about the psychosocial implications for their child than the physical health risks. They were conscious of being negatively evaluated by others, including their health provider. Barriers to a healthy lifestyle included the perceived high cost of healthy food options, time scarcity, and difficulty managing challenging behaviour, particularly around eating. Finally, specific cultural perceptions of childhood overweight were identified. The implications of these findings for health providers included the need to engage with pre-schooler parents in a sensitive and culturally responsive way when seeking to address overweight and obesity in the pre-schooler population.

## Acknowledgements

As a parent, I have been mindful of the emotive nature of this topic for the parents I interviewed and empathised with their hopes for their child's future. I sincerely hope that this research validates the desire many parents expressed to contribute to research that will benefit other whānau and families facing similar challenges. I am very grateful to every parent that I interviewed and wish to thank them for sharing their stories with me.

I also wish to extend my heartfelt gratitude to my children, Charlotte and Michael. They have often unwittingly provided that refreshing perspective on life that only children seem able to do! A very special thank you also to my parents for their unconditional support and practical help from the beginning of this long process.

My supervisor at the University of Waikato, Dr Armon Tamatea, has always been supportive and very patient with the many different paths this research took. His consistent professionalism and expertise has been invaluable, and I am very thankful for the time he has invested into this research. Thank you also to my second supervisor, Dr Jo Thakker, for her thoughtful feedback and for being so accommodating with her time. I wish to acknowledge the University of Waikato for the generous financial support to complete this research, which is very much appreciated. Thank you to Tim Ingle at Waikato Print for his design work for *Toolkit 4 Tamariki*, and to Andrea Haines at Student Learning for her considered advice. In particular, thank you to Jillene Bydder and Cheryl Ward at the University of Waikato library for their impressive expertise and their enthusiasm assisting me with the technical aspects of this thesis. I would also like to recognise the marketing team at the University Faculty of Arts and Social Sciences for so efficiently promoting this research on my behalf.

Outside of the University, I extend my gratitude and thanks to Natalie Parkes, without whom this research would not have eventuated. I also wish to acknowledge the significant time and energy she and the team at *Bodywise* invested into this research and their wonderful support. Also, the recruitment for

both the *Toolkit 4 Tamariki* programme and the parent interviews would not have been possible without the enthusiastic support from the *B4 School Check* Coordinator, the Sport Waikato *Under 5 Energize* Coordinator, and the many nurses in the Waikato who championed this research on my behalf.

Many friends have also kindly contributed to this research. In particular, thank you to my fellow rower, Dr Veronique Gibbons, for her generous research advice and support. Thank you also to my colleagues in the clinical psychology programme at the University for their support. Specifically, I wish to acknowledge Dr Tai Kake, and Dr Kathrine Roberts for their invaluable advice and assistance. Thank you also to Jane Currie for being an inter-rater for the data analysis, as well as Rae Braithwaite and my parents for kindly offering to be proof-readers. I also wish to acknowledge the ongoing support and encouragement from my good friend, Alice Cornforth.

I am incredibly humbled by the generosity of spirit of all those people that contributed to this research, and admire their passion for assisting young children to enjoy healthy lifestyles. I gratefully acknowledge all the encouragement and guidance that has enabled me to be a part of this wonderful learning experience.

*I can do everything through him who gives  
me strength.- Philippians 4:13*

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## **Preface**

Given the multifactorial nature of obesity, it is necessary to remember that a ‘magic bullet’ that will prevent obesity in individuals is unlikely to emerge. If only we could identify a ‘smoking gun,’ then the prevention of obesity might be tackled with the similar multifaceted, cohesive, and far-reaching public health campaigns that have been employed for smoking cessation. We should be so lucky! (Taylor, 2007, p. 2).

### **Orientation to Thesis**

This thesis is divided into six chapters. The relevant literature is reviewed in Chapter One, followed by a description of the methodology in Chapter Two. The findings from the interviews with parents are detailed in Chapter Three, followed by a discussion of those findings in Chapter Four. The proposed conclusions from the findings and their limitations are contained in Chapter Five. Finally, suggested implications of those findings for future research are summarised in Chapter Six.

### **Terminology and Definitions**

The literature concerning children that are overweight or obese tends to refer to ‘childhood overweight’ or ‘childhood obesity’ and these terms are also used in this thesis. Studies of childhood overweight or obesity also differ with respect to whether they differentiate between weight categories of overweight children or the age range of children. To facilitate the reading of this thesis, the term ‘overweight’ refers to all categories of weight above, (including obesity), unless specified otherwise.

Reference to ‘pre-schooler(s)’ for the purposes of this thesis refers to a child(ren) between 2-5 years old. Participants in this research are referred to as ‘parent(s)’. The term ‘health provider(s)’ refers to a broad range of health providers such as general practitioners, paediatricians or nurses. Finally, the variables in the environment that have been found to increase the risk of

overweight or obesity may be referred to as “obesogenic” or “obesigenic” factors (Lobstein, Baur, & Uauy, 2004, p. 5). In this thesis, the term ‘obesogenic’ is used.

A number of standardised weight classifications are used in studies concerning childhood overweight, which is measured differently for children compared to adults (World Obesity Federation, 2014). The following brief overview illustrates the difficulty of comparing studies concerning childhood overweight due to the variety of measures used.

Weight status is commonly measured using the Body Mass Index (BMI), which is a weight to height index used as a basic guide for weight measurement. The World Health Organisation defines BMI of 25 kg/m<sup>2</sup> or over as ‘overweight’, and 30 kg/m<sup>2</sup> or over as ‘obese’ (World Health Organisation, 2014). Using BMI to measure overweight in children can be complex, and there are a number of different measures used for children (Cole & Lobstein, 2012). For example, categories of weight for children set by the International Obesity Task Force (IOTF, now known as World Obesity/Policy & Prevention) correspond to the above adult BMI, and the cut-offs have recently been extended to allow for direct comparison with the cut-off scores for childhood obesity used by the World Health Organisation (Cole, Bellizzi, Flegal, & Dietz, 2000; Cole & Lobstein, 2012). These cut-offs are specified for each gender by age from 2-18 years old and include a category named ‘morbid obesity’, which is a BMI of 35 kg/m<sup>2</sup> or over (World Obesity/Policy & Prevention, 2015).

In New Zealand, BMI for children and adolescents is commonly calculated using either growth charts from the Centres for Disease Control and Prevention (Centres for Disease Control and Prevention, 2014) or from the New Zealand-World Health Organisation growth charts (Ministry of Health, 2010).

There is some debate about the appropriate measure to identify overweight in the pre-schooler population, with BMI being generally regarded as a practical yet inappropriate measure for this age group (Monasta et al., 2011). One of the reasons BMI is considered inappropriate for use with pre-schoolers is the “antiposity rebound” process from ages three to five years old (Zask, Adams, Pettit, Dixon, & Hughes, 2010, p. 117). This refers to the increase in BMI from birth to age three years, which then decreases between three years and five years old, after which it will increase again (Heinzer, 2005). A New Zealand longitudinal study has found that weight gain at age three is indicative of early

rebound and therefore of obesity later in life (Williams, 2005). One limitation of using BMI with children is that it does not account for body composition of fat versus lean tissue. Dual-energy X-ray absorptiometry (DXA) scans have therefore been used in New Zealand with pre-schoolers to determine the body composition of fat versus lean body mass (Goulding, Taylor, Jones, Lewis-Barned, & Williams, 2003). Although controversial, the BMI is considered appropriate for use in New Zealand with young children despite issues with antipositivity rebound and the differences for Māori and Pacific children (Taylor, 2007).

## **Background**

The original methodology for this study included the development and delivery of a pilot intervention named *Toolkit 4 Tamariki*. This intervention was designed for the parents of pre-schoolers identified as being overweight. It was an adaptation of *Bodywise*, which is a family focused intervention in the Waikato region of New Zealand delivered by a multi-disciplinary team (Parkes, Woolerton, Stockman, McGall, & Trezona, 2014; Waikato District Health Board, 2014a).

*Toolkit 4 Tamariki* was advertised with primary health providers in the Waikato region of New Zealand and targeted nurses conducting health checks (*B4 School Checks*) with those children who were due to commence primary school. Despite significant interest from health providers, there was insufficient uptake from families to warrant delivery of the programme. The reasons for the difficulty recruiting families were unclear. It was therefore considered necessary to explore parental perceptions of pre-schooler overweight to inform the recruitment of families for interventions similar to *Toolkit 4 Tamariki*.

## **Aims of this Research**

The primary aim of this research was to explore parental perceptions of pre-schooler overweight. The secondary aim was to inform how health providers may effectively engage with parents and encourage them to participate in interventions addressing overweight in the pre-schooler population.

## Chapter One: Introduction

This literature review examines how pre-schooler parents perceive the factors that contribute to an obesogenic environment in early childhood. This review considered the wider literature addressing childhood overweight in children aged five and over as well as that focusing specifically on the pre-schooler population.

Firstly, this review outlines the increasing prevalence of obesity globally and the consequent health risks for both adults and children. The resulting shift in the literature recently from a focus on children over five years old to those in infancy and early childhood is then described, followed by an overview of the literature concerning parents as agents of change for childhood overweight. The discrepancy between their perceptions and independent measures or known risks for childhood overweight is then examined. The factors that influence how health providers and parents interact when seeking to address childhood overweight are briefly outlined, followed by a review of how an understanding of parental perceptions influences the way in which health providers engage with parents when assessing their child's weight and attempting to engage them in relevant interventions.

### 1.1 Obesity/overweight

The prevalence of obesity has nearly doubled worldwide over the last two decades (World Health Organisation, 2014). Although 1.4 billion adults have been identified as overweight, it is concerning that a significant number of children under 5 years old (42 million) were overweight or obese in 2013 (World Health Organisation, 2014). This is projected to increase to an estimated 60 million pre-schoolers by 2020 (de Onis, Blössner, & Borghi, 2010).

Obesity refers to the accumulation of fat to the extent that it potentially impacts negatively on health (World Health Organisation, 2014) and is a serious health concern that has resulted in a “generation of children that may be the first to have a life expectancy shorter than their parents” (Gance-Cleveland & Oetzel, 2010, p. 198). Overweight and obesity are linked to a range of health issues such as cancer, diabetes and high blood pressure, and may negatively impact personal, social and work opportunities (Ministry of Social Development, 2010; Te Puni Kokiri, 2013).

As all of the parents interviewed in this research reside in New Zealand, a brief overview of the prevalence of overweight in New Zealand is provided below.

## 1.2 New Zealand Context

The concerning rise in the prevalence of obesity internationally is mirrored in New Zealand, despite being recognised as a “potential public health time bomb” twenty years ago (New Zealand Medical Association, 2014, p. 4). The prevalence of childhood overweight in New Zealand is a topical issue that has recently been attracting significant funding from the New Zealand government (Taylor, 2007). Recent policy initiatives in New Zealand such as *Healthy Families NZ* emphasise an increasing focus on the family when addressing adult and childhood overweight (Ministry of Health, 2014).

Curbing the rising prevalence of obesity in New Zealand is becoming increasingly urgent. Since 1997, there has been an increase in obesity in New Zealand adults from 17% to 30% for males and from 21% to 32% for females (Ministry of Health, 2013c). The overall prevalence of obesity in New Zealand was estimated at just under a third of the population (28.3%) in 2008 (World Health Organisation, 2011). This estimation has since increased, with The New Zealand Health Survey in 2012/13 reporting that 31% of adults were obese and a similar proportion were classified as overweight (34%) (Ministry of Health, 2013b).

The prevalence rates in New Zealand are disproportionate to the rates in most developed countries. Recent international comparisons between member countries of the Organisation for Economic Co-operation and Development (OECD) highlight that New Zealand has one of the highest obesity rates in the OECD, (OECD Directorate for Employment Labour and Social Affairs, 2014). With approximately one million adults in New Zealand classified as being obese, a collective effort is required from a range of agencies such as health providers, policy makers, food producers and educators to address the problem (New Zealand Medical Association, 2014).

Population groups especially vulnerable to the risks of becoming overweight include children (Ministry of Health, 2003), Māori, Pacific Island (Pacific) and Asian ethnic groups (Ministry of Health, 2013c). These groups are also recognised as priority population groups for addressing overweight in the Clinical

Guidelines for Weight Management in New Zealand Children and Young People (Ministry of Health Clinical Trials Research Unit, 2009).

These groups are also disproportionately represented in the rates of associated health problems for being overweight (Ministry of Health, 2013a). The prevalence rates are especially disproportionate for those that identify as Pacific living in New Zealand. Over two thirds of Pacific adults (68%) were classified as obese as of 2012/13 (Ministry of Health, 2013c). The overwhelming prevalence in the Pacific population was highlighted by a study based in Auckland, New Zealand, which found that virtually all the Pacific men (95%) and all the Pacific woman (100%) in the study were identified as being either overweight or obese (Sundborn et al., 2010).

### **1.3 Childhood Overweight in New Zealand**

It is difficult to compare the prevalence between countries or between adults and children. There is a lack of standardised methodology to identify overweight as well as other factors such as differing demographics of participants in studies, which all impede direct comparisons of prevalence rates worldwide (Ministry of Health, 2012a).

In New Zealand, the rates of childhood obesity remained fairly stable from 2002–2007 at just under 10% for 5-14 year olds (Ministry of Social Development, 2010). As shown in Figure 1, the rate of obesity in children aged 2-14 years old has increased to 11.1% as of 2012/13. This means one in nine children aged 2-14 years old are obese. Although this does not represent a considerable increase from the previous year, it does represent a significant increase from 2006/7, when it was 8.4% (Ministry of Health, 2013b). A further one in every five children are classified as overweight. A third of the children in New Zealand are therefore either overweight (22%) or obese (11.1%) (Ministry of Health, 2013c).

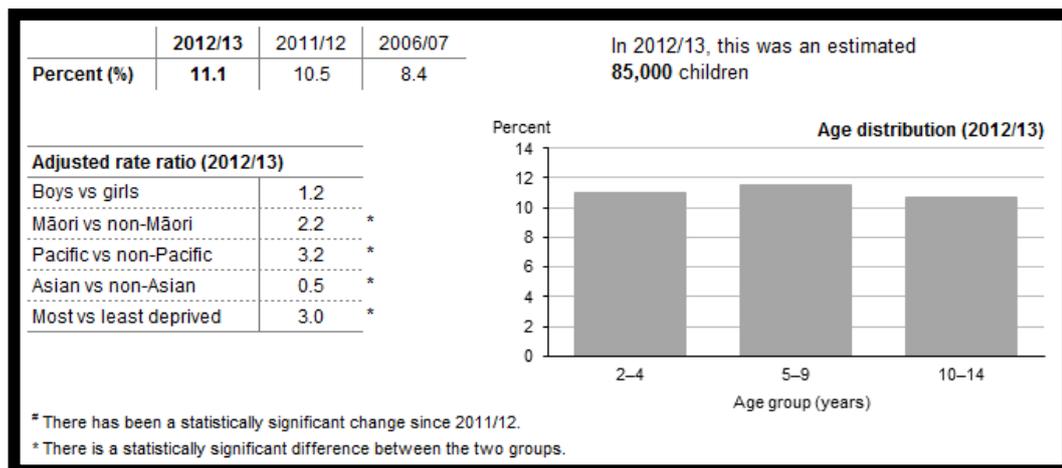


Figure 1. Children aged 2-14 years who are obese (Ministry of Health, 2013b). Reprinted with permission.

These statistics translate to almost 85,000 children in New Zealand being classified as obese. Furthermore, 2.5% of a sample of just over 9,000 secondary school students in New Zealand were recently classified as severely obese (BMI of 35 kg/m<sup>2</sup> or over) as per the IOTF weight definitions (Farrant et al., 2013).

There are disparities in the prevalence rates between ethnic groups. Pacific and Māori children are significantly more likely to be obese, with 19% of Māori children and 27% of Pacific children classified as being obese compared to 11.1% of non-Pacific and non-Māori children. This means one in four Pacific children and one in five Māori children in New Zealand have been classified as being obese as of the 2012/13 health report (Ministry of Health, 2013b).

Of particular interest is that Pacific children living in New Zealand appear to be one of the highest risk populations for overweight and obesity internationally (Swinburn et al., 2011). Also, children of Asian ethnicity living in New Zealand have been found to be the only ethnic group that has shown a significant increase in the prevalence of obesity from 2003 to 2007, with other ethnicities remaining relatively stable over that period (Ministry of Social Development, 2010).

Although childhood overweight appears to be relatively well quantified, there is little prevalence data specifically for the pre-schooler population in New Zealand (Oliver, Schofield, & Schluter, 2009). Overall, the increase in childhood obesity rates in New Zealand is especially concerning given indications that these rates have stabilised or may be decreasing in some other OECD countries (New Zealand Medical Association, 2014). For example, in the state of Victoria,

Australia, there is some evidence that the prevalence of overweight in pre-schoolers may even be decreasing (Nichols et al., 2011).

#### **1.4 A Need to Address Overweight in Early Childhood**

As the rates of childhood overweight in New Zealand have continued to increase, research and policy attention has focused on addressing this issue at an increasingly younger age. Addressing an increase in the prevalence of overweight in children is particularly important, as they are likely to remain overweight as they grow older (Ministry of Social Development, 2010). This is supported by a study of 4-5 year olds in Dunedin, New Zealand, which found that excessive fat gain at an early age is predictive of high levels of fat in puberty (Goulding et al., 2003).

Contrary to a traditional view that young children tend to outgrow being overweight, it is evident that childhood overweight often persists as the child grows older and can increase the risk for obesity related disease in adulthood (Institute of Medicine (IOM), 2011). The need to change this perception is illustrated by Dr Raquel Hernandez, who stated that “as much as we’d like to think that chubby, smiling toddler will outgrow the excess weight, it’s just not likely to happen with today’s overabundance of food and societal influences towards heavier size” (University of South Florida, 2010, para.4).

The need to address overweight at an early age is also evidenced internationally. One example is a study conducted in the United States (US) that examined BMI data from three time points of children before the age of 5 (24 months, 36 months and 54 months). This study found that children who were identified as being overweight at one or more of these checks were more than five times more likely to be overweight when they were 12 years old than those that had not been identified as being overweight (Nader et al., 2006). This is concerning given that children who are overweight as they transition into adolescence are vulnerable to risks to their physical health, mental health, as well as psycho-social risks such as being bullied or engaging in substance abuse (Sloboda, 2011).

Preventing children from becoming overweight in early childhood involves the parents, with factors specifically related to pre-schooler parents having been identified as contributing to pre-schooler overweight. These factors include

parental overweight or obesity and parents employing restrictive feeding practices with pre-school aged children (Dev, McBride, Fiese, Jones, & Cho, 2013).

Traditionally, studies concerning the risks for childhood overweight have focused on older children rather than the pre-schooler population, and most studies do not encapsulate all the risk factors (Dev et al., 2013).

The common risk factors for childhood overweight are briefly outlined below in order to contextualise the review of parental perceptions of childhood overweight. Parental misperceptions of many of these risk factors, the consequent impact on their level of concern about their child's weight and how this is related to their motivation to engage in interventions that address childhood overweight is then reviewed.

### **Risks for childhood overweight.**

A myriad of complex interconnected influences on childhood overweight such as diabetes, metabolic disposition, or even whether the child was breastfed have been identified as risk factors (Monasta et al., 2010). A recent review of psychosocial risk factors for childhood overweight identified a number of factors such as low socio-economic status (SES), gender, ethnicity and stressful life events. The familial environment and parental attitudes such as parenting styles or feeding practices also play a central role in the rising prevalence of overweight in children (Stein, Weinberger-Litman, & Latzer, 2014).

Parental purchasing habits arguably impact on the level of sugar sweetened beverages (SSBs) children consume. The level of SSBs consumed by many children is a topical issue in New Zealand due the high risk they pose for childhood overweight (Wright, 2013a). A review by Kuhl, Clifford, and Stark (2012) suggested that consumption of SSBs, the amount of time spent watching television, a lack of sleep and low nutritional value in their diet were possibly indicators for overweight in pre-schoolers. In New Zealand, it has been suggested that many parents may focus on satisfying hunger rather than the nutritional value of the food (TNS New Zealand Ltd, 2007), which is contrary to the Food and Nutrition Guidelines for Healthy Children and Young People (aged 2–18 years) in New Zealand (Ministry of Health, 2012a). An example of efforts to translate these guidelines into practical dietary advice for families perhaps is the *5+ A Day* campaign, which encourages adults and children in New Zealand to eat at least

five servings a day of fresh, colourful fruits and vegetables (5+ A Day Charitable Trust, 2014).

It is questionable whether families in New Zealand are able to meet these recommendations. A review by Regional Public Health in New Zealand in 2011 found that families would potentially need to spend a substantial proportion of their disposable income (23%-52%) on food to be able to eat healthily, which may influence the likelihood of obesity (Regional Public Health, 2011). Lacking time to prepare a healthy main meal for the day is also difficult for many families in New Zealand, which is increasingly recognised as an important risk for childhood overweight (Smith & Brown, 2010).

The evidence linking physical activity/inactivity to risk for childhood overweight is mixed, with international studies varying widely in methodological approaches (Kuhl et al., 2012). For example, a review in 2008 found that age and BMI did not correlate with physical activity in pre-schoolers (Hinkley, Crawford, Salmon, Okely, & Hesketh, 2008). Similarly, a study of 545 pre-schoolers in Scotland indicated that increased physical activity did not reduce BMI (Yancey, 2007). However, pre-schoolers in developed countries have been acknowledged to have lifestyles characterised by low physical activity and high levels of sedentary behaviours, which increase their risk for obesity (Reilly, 2008).

Although there is debate concerning the impact of physical activity on overweight, the Ministry of Health in New Zealand recommended the promotion of healthy nutrition and activity to both manage the risk of children becoming overweight and to maintain good health for children aged 2-18 years old (Ministry of Health, 2012a). Similar recommendations are reflected in Australian guidelines for physical activity for 3-5 year olds, (Australian Government, 2010). Many pre-schoolers in Australia are not meeting these recommendations, with the authors of the Healthy Active Pre-school Years (HAPPY) study finding that pre-schoolers were sedentary for the vast majority of their waking hours (84%) (Hinkley, Salmon, Hesketh, Okely, & Crawford, 2010).

One example of a risk factor for overweight explored specifically in younger children is a lack of number of hours of sleep. A longitudinal study in New Zealand found that children aged 3-5 years old were 61% less likely to be at risk of overweight or obesity at age 7 for each additional hour of sleep they had (Carter, Taylor, Williams, & Taylor, 2011). The impact of a lack of sleep as a risk

factor for pre-schooler overweight has also been acknowledged more recently by Dev et al. (2013), and as a risk factor for older children in a study in Australia by O'Dea, Dibley, and Rankin (2012).

### **Early intervention.**

The New Zealand Medical Association has recommended that overweight needs to be addressed in early childhood and that this needs to be a priority (New Zealand Medical Association, 2014). Many of the behaviours that pose a risk for overweight are cemented in pre-school years, such as food preferences, eating and activity habits (Gill, King, & Webb, 2005). This premise is also supported by a New Zealand based study named Prevention of Overweight in Infancy (POI.nz), which examined the effects of sleep, food and activity based interventions in infancy. The authors concluded that interventions are warranted at this early age to prevent obesity or overweight in later life (Galland, Taylor, Elder, & Herbison, 2012). The nature of the developmental milestones reached during the infant and pre-school years means this is the optimum timeframe within which overweight needs to be addressed (Birch & Ventura, 2009; Dev et al., 2013).

The authors of an Australian study have also suggested that the long term success of interventions targeting overweight are dependent on whether or not they targeted young children, especially pre-schoolers. Pre-schoolers' rapid growth means their lean body mass is increased as they develop. Therefore, either maintaining or reducing the proportion of fat during this developmental period permits their weight to normalize as they grow (Gill et al., 2005). Early intervention with families of pre-schoolers may also be more helpful for parents, as they may perceive that it is easier to make changes relating to weight management with young children rather than older children (Parkes, Woolerton, Stockman, & McGall, 2012).

### **1.5 Parents as Agents of Change**

It is clear that "...parents are the gatekeepers" with respect to interventions targeting childhood overweight (Wake, Canterford, Hardy, & Ukoumunne, 2011, p. 501), which is likely to be largely due to the dependence children have on their parents at a young age (Ventura & Birch, 2008). There is also growing recognition that childhood overweight must be managed in the context of the

family system rather than the individual child or parent (Gill et al., 2005; Kitzmann & Beech, 2006). The family has been described as a “potential arena for prevention,” as the home environment invariably influences health related behaviour in early childhood (Agras, Hammer, McNicholas, & Kraemer, 2004, p. 24).

Family involvement in preventative measures increases the likelihood of weight loss in obesity prevention programmes (Heinberg et al., 2010). The influence of parents may be strongest, as interventions for children are just as effective when they are targeted only to the parents (Ball et al., 2012; Boutelle, Cafri, & Crow, 2011; Jansen, Mulkens, & Jansen, 2011). It is also important to recognise the broader social context of the family when addressing overweight in early childhood (McKee et al., 2010). The child’s overweight status is therefore not in itself the target for change, rather the behaviours such as poor nutrition or low physical activity (Resnicow, Davis, & Rollnick, 2006).

The mother is often the primary influence on the pre-schooler, with the mother’s lifestyle and beliefs possibly having a significant impact on the risk of the child becoming overweight (Skouteris, 2012). This may have led to a “subtext of blame aimed at mothers” in the literature and media concerning childhood overweight (Jackson, McDonald, Mannix, Faga, & Firtko, 2005, p. 8). However, it is clear that mothers are able to influence a child’s exposure to an obesogenic environment. For example, a recent pilot intervention in the US known as ‘KAN-DO’ (Kids and Adults Now – Defeat Obesity!) found that mothers positively influenced changes in lifestyle including diet, activity and screen-time (Østbye et al., 2012). It is therefore essential to understand the role the family plays in the formulation of habits in young children that pose risks for overweight (Davison, Jurkowski, Li, Kranz, & Lawson, 2013).

Interventions that target the parents when addressing childhood overweight are generally referred to as “Parents as agents of change (PAC) approaches” in the literature (Ball et al., 2012, p. 1). Understanding parenting practices therefore informs interventions that seek to educate parents. These may include limiting their child’s unhealthy food choices, refraining from relenting to pressure from the child, and rewarding children with healthy food choices (Vereecken, Keukelier, & Maes, 2004). Interestingly, research indicates that parents also recognise that the

child's behaviours that contribute to overweight start when the children are young (Pocock, Trivedi, Wills, Bunn, & Magnusson, 2010).

Parenting skills are therefore increasingly included in interventions addressing childhood overweight alongside usual components such as nutrition and activity. This trend is highlighted by a recent randomised controlled trial of a parenting programme adapted for parents of overweight children in Australia named '*Lifestyle Triple P*,' which was effective in assisting parents to make health related changes by assisting them with parenting skills (West, Sanders, Cleghorn, & Davies, 2010). A focus on parenting was also effective in the Netherlands with the parents of 4- 6 year old overweight children when the programme was trialled under the name '*GO4fit*' (Gerards et al., 2012). Parents were encouraged to make health related changes for the family and taught strategies for managing challenging behaviour by the child, such as negative reactions when asked to refrain from sedentary behaviour or not to drink SSBs (West et al., 2010).

Parents and caregivers were also identified as a key component in the success of interventions targeting overweight in early childhood in the review by Nixon et al. (2012), who found that parents needed to assist children to effectively make the necessary behavioural changes to achieve a healthy weight. Parents may struggle to manage challenging behaviour with pre-schoolers around feeding practices or food, and perceive this as a significant barrier to maintaining a healthy diet for their child (Bolling, Crosby, Boles, & Stark, 2009). The association between parenting practices and childhood overweight was also exemplified by a study that found that highly emotional pre-schoolers that consistently had tantrums over food were more likely to be overweight by age nine and a half years old than less emotional children, which may be due to parents using food to appease their behaviour once they have exhausted other options (Agras et al., 2004).

In addition, parenting styles may then influence pre-schooler's learning about food choices. For example, a parent who highly regulates the amount and frequency of eating in pre-schoolers may inhibit the child's developing sense of self-regulation (Birch & Fisher, 1998). As the influences can be bi-directional between the parent and child, it is important to consider a multi-phase approach in interventions that seek to address a range of causal factors (Ventura & Birch, 2008). Parental feeding styles and the eating behaviours modelled by the family

clearly contribute to childhood overweight (Kuhl et al., 2012). Specifically, parents have reported barriers to adhering to the recommended diet for a healthy lifestyle as being difficulty managing challenging behaviour at mealtimes, the child's taste aversions, and difficulty attaining consistency in feeding practices across the family (Kuhl et al., 2012).

Interestingly, an intervention addressing overweight in older children (7-13 years old) in the Netherlands recently included parenting and relapse prevention components. This was found to positively impact on the success of the intervention (Jansen et al., 2011). A study with parents of overweight pre-schoolers in the US also indicated that parents had a general lack of understanding of basic nutrition as well as difficulty identifying alternatives to managing challenging behaviour other than reliance on sedentary behaviours such as long periods of watching television (Bolling et al., 2009).

Understanding the potential links between parenting styles and overweight in the pre-schooler population is therefore an emerging area of research interest that has extended beyond a traditional focus on feeding practices (McPhie et al., 2011). Maternal parenting practices and how they impacted on the weight status of their pre-schooler was specifically addressed in a study with mothers in New South Wales, Australia by McPhie et al. (2011). Due to the low proportion of children who were overweight or obese in this study though, the authors proposed that longitudinal studies are needed to inform whether parenting behaviours impact on pre-schooler overweight.

Research interest appears to have shifted recently then from the risks for childhood overweight and parental involvement in interventions to parental perceptions of childhood overweight (Towns & D'Auria, 2009). Understanding these perceptions aids the assessment of a family's motivation for moving towards a healthy lifestyle (Towns & D'Auria, 2009).

## **1.6 Parental Perceptions**

As this shift is relatively recent, there has been little research to date focusing on pre-schooler parents' perceptions of behaviour change with respect to pre-schooler overweight (De Craemer et al., 2013). Although the literature regarding parental perceptions of overweight specifically in pre-schoolers appears to be limited, a number of studies have examined this issue in relation to older children.

This literature in this area is therefore briefly outlined, followed by a closer examination of three aspects of parental perceptions of particular interest to this research, being (1) Parental under-estimation of their child's weight (2) Parental misperceptions of risk factors for childhood overweight and (3) The influence of ethnicity, cultural beliefs and SES on shaping parental perceptions of childhood overweight.

Understanding parental perceptions assists in determining how concerned parents are about the negative health impacts of overweight in childhood and how receptive they may be to change (Heimuli, Sundborn, Rush, Oliver, & Savila, 2011). Parents can be difficult to engage and retain in interventions that seek to address childhood overweight (Skelton & Beech, 2011), particularly those who are not concerned that it may be an issue for their child (Taylor et al., 2013). However, very few studies have specifically examined how parental perceptions influence their decision whether to engage in weight management interventions, with the Motivational Interviewing and Treatment (MinT) study in New Zealand being one of the few, or possibly the only study to do so (Taylor et al., 2013).

Parental perceptions of childhood overweight have been explored to some degree though, with Pocock et al. (2010) having reviewed 21 qualitative studies that explored parental perceptions of overweight. Studies in the review included parents of children from birth to 12 years old. The authors identified six themes, which are briefly described below.

Firstly, Pocock et al. (2010) identified a theme relating to factors that were directly attributed to the child. Parents struggled to balance the competing demands of more than one child when attempting to engage them in activities or limit sedentary behaviours such as watching television. It was also evident that parents were very concerned about the potential for their child to be teased about being overweight and the negative impact on their child's self-esteem. Another theme was related to the family dynamics, including the expectation parents felt to be role models for their children in relation to health behaviours such as diet and exercise.

Other family members, particularly grandparents, were often a barrier to parents reinforcing health behaviour changes. Grandparents did not support efforts to monitor the child's diet and would ignore parents' instructions not to feed the children unhealthy foods. Another theme relating to parenting highlighted the fact

that parents were aware of the healthy options, although a lack of time and low energy were significant barriers to implementing them with their child. Busy lifestyles meant they often circumvented preparing healthy foods and undertaking physical activity with their child.

Parents would deflect responsibility for their child's weight management to others or blame a genetic vulnerability to overweight. There was also a tendency for parents to consider overweight as an issue that did not require urgent attention in early childhood. They were more concerned about their child's appearance than the health risks of overweight. Health providers were not generally perceived as sources of help if parents were concerned about their child being overweight. Many parents perceived marketing of unhealthy food options to children, and difficulty identifying healthy food options as risk factors for their child becoming overweight. Healthy food was also perceived to be too expensive and many parents were concerned about the risks to their children when engaging in physical activity, such as traffic (Pocock et al., 2010).

How parents ranked those risk factors was addressed in a US based study by Hernandez, Thompson, Cheng, and Serwint (2012). They found that parents were relatively unconcerned about a low level of exercise for their pre-schooler as being a contributing factor for overweight compared to other risks. However, just over a third (34%) prioritized a lack of control over what their children ate while in care as being a significant risk. Purchasing and preparing healthy foods was considered to be the highest risk for their pre-schooler becoming overweight, followed by rewarding children with food and asking them to finish all the food on their plate. The vast majority (over 80%) were primarily motivated to have a healthy lifestyle by wanting their pre-schooler to be healthy and were not very concerned about whether their child was physically fit.

Parental focus on their child's wellbeing contributed to a high sense of self-responsibility concerning their child being overweight, as they perceived it reflected poorly on them (Pagnini, Wilkenfeld, King, Booth, & Booth, 2007). Those parents with a family history of diseases related to overweight are more likely to be concerned about the risks for their child becoming overweight than parents without such a family history, as evidenced by a study conducted with 386 parents of children aged between 2-17 years old in the US by Nsiah-Kumi, Ariza, Mikhail, Feinglass, and Binns (2009). The authors found that parents of children

with a family history of diabetes or cardiovascular disease perceived these health risks to be greater for children who were overweight than those without such a family history (Nsiah-Kumi et al., 2009). Those parents that have experienced being overweight themselves may also be especially sensitive to the way in which their health provider refers to their child's eating habits (Hughes, Sherman, & Whitaker, 2010).

### **Maternal perceptions.**

Many of the participants in studies of pre-schooler parents are mothers. Maternal perceptions were specifically explored in a study with eleven mothers of children that were overweight by Jackson et al. (2005). The authors suggested that the mothers perceived factors such as slow metabolism, sedentary lifestyle, familial or cultural influences as contributing factors for their child's overweight. In particular, mothers were concerned about the potential negative psychosocial impact of overweight for their child such as being rejected by their peers or being bullied. In general, they had a heightened awareness of the negative social implications of overweight for their child compared to the risk factors for their child's physical health (Jackson et al., 2005).

Maternal perceptions have also been found to be well established by the time their child was pre-schooler age in a qualitative study with twelve mothers of older children aged between 6-13 years old in England. The mothers were found to be very sensitive to impressions about whether they were a "good or bad mum" (Southwell, 2011, p. 632) and their perceptions were often highly influenced by emotion, as they loved their child and wanted to provide for him or her (Southwell, 2011). Maternal perceptions of the risks for childhood overweight are therefore especially influential, as mothers are likely to be highly sensitive about their child being overweight (Pagnini et al., 2007). Mothers may feel blamed if their child is overweight. They may also experience frustration and anxiety about how their child may be negatively impacted later in life if they are overweight (Jackson, Wilkes, & McDonald, 2007).

#### **1.6.1 Underestimation of overweight.**

It is important to understand the level of parental awareness and consequent concern about their child being overweight. This will influence the design of

interventions that address childhood overweight as well as the recruitment for these interventions (Baughcum, Chamberlin, Deeks, Powers, & Whitaker, 2000; Taylor et al., 2013; Towns & D'Auria, 2009). It is therefore necessary to aid parents of very young children to accurately estimate that their child may be overweight in order to motivate them to engage in these interventions (Towns & D'Auria, 2009).

Parents often need to be encouraged to recognise that their child is overweight and that it is a concern. Many parents tend to underestimate their child's weight status and/or do not perceive being overweight as a concern that necessitates action (Lupi, Haddad, Gazmararian, & Rask, 2014; Park et al., 2013; Towns & D'Auria, 2009; Wald et al., 2005). If parents do not recognise their child is at risk of being overweight, they may inadvertently increase this risk by maintaining an obesogenic environment for their child (Heimuli et al., 2011). However, it is difficult to assess the literature about parental under-estimation of their child's weight, due to the variety of methods used to measure how parents have estimated their child's weight (Towns & D'Auria, 2009).

One example of parental underestimation of childhood overweight is a study in the US with mothers of overweight pre-schoolers that found the vast majority (79%) of mothers did not perceive their child as being overweight (Baughcum et al., 2000). Also, a study in England by Park et al. (2013) with parents of children aged 4-11 years old that were identified as being overweight by independent measures found that the vast majority of parents (79%) did not recognise the potential health risks of their child being overweight. Of those parents that were aware that their child was overweight as opposed to obese, only just under half considered it to be a risk to their child's health. As may be expected, parents of children that were obese were more likely to acknowledge the health risks of their child being obese (Park et al., 2013).

Even when using sketches to assist parents to identify overweight status for their child, few parents have been found to be able to accurately identify that their child was overweight. It has been suggested that it is therefore necessary to ensure parents understand their child is overweight in order to encourage them to engage in relevant interventions (Eckstein et al., 2006). Similarly, parents may find the BMI descriptors of overweight confusing and describe their child's weight with reference to observed indicators that their child may be overweight, such as

clothing no longer fitting the child or that the child is constantly demanding food (Lupi et al., 2014).

Parents are also less likely to recognise overweight in younger children than in older children (Towns & D'Auria, 2009). In Australia, a study by Crouch, O'Dea, and Battisti (2007) found that very few mothers (4.1%) were able to accurately assess that their young child (4-6 years old) was overweight or obese. Another study with pre-schooler parents in Australia by Wake et al. (2011) found that there was no particular BMI cut-off point at which the mothers became concerned about their child's weight, although they did become more concerned as the BMI of the child increased. The authors proposed that this indicated that parents had difficulty defining their child's weight and that their estimations of their child's weight were inconsistent with the BMI measures. A consequence of this discordance between parental concern and objective measures of weight means that it may be difficult to accurately assess parental readiness to change. This may assist to explain the lack of effectiveness of interventions for the pre-schooler population to date (Wake et al., 2011).

There is some evidence suggesting that pre-schooler parents may be accustomed to viewing weight gain in their young child positively, having been encouraged to do so when their child was a baby. This may mean parents perceive their pre-schooler as being healthy, even if they are overweight (Southwell, 2011). One example is a study in the US with pre-schooler parents that found that one fifth of the parents with a child that had been identified as being overweight perceived a sketch of a child that was even heavier as healthy. Although just under a third of the pre-schoolers in the study were overweight, an overwhelming majority of the parents perceived their child to be "about the right weight," with just over a third of parents with obese children acknowledging their child is "a little overweight" (Hernandez, Cheng, & Serwint, 2010, p. 792).

Parental underestimation of childhood overweight is also evident in New Zealand, where the authors of a study involving 96 children aged 3-8 years old found that less than one in four parents correctly estimated their child as being overweight and no parents overestimated their child's weight (Miller et al., 2007). With regards to those who identify as Pacific that live in New Zealand, the Parental Perception of Overweight Obesity Study (PPOS) explored parental perceptions of their child's weight at three time points (birth, 4, and 6 years old)

(Heimuli et al., 2011). Based on longitudinal data from the Pacific Island Families Study, the authors of the PPOS found that four out of ten parents were not concerned about their child's weight, which was inconsistent with independent measures showing that six out of ten of the children were classified as overweight or obese (Heimuli et al., 2011).

There appears to be some debate as to why parents do not recognise children as being overweight, although it is possibly because slightly overweight status in children has become the norm for pre-schoolers (Oude Luttikhuis, Stolk, & Sauer, 2010). This phenomenon may be due to parents' unwillingness to acknowledge their child is overweight. They may be conscious of stigma associated with the terms 'overweight' or 'obese' to describe their child and it may open a "psychological door" to conflicting feelings about their parenting practices and self-responsibility (Southwell, 2011, p. 628).

Arguably, it is also concerning that parents of overweight or obese children are more likely to underestimate their child's weight status than parents of children that are a healthy weight. This means those children most at risk for obesity are also least likely to be identified by their parents as needing to change (Doolen, Alpert, & Miller, 2009).

### **1.6.2 Misperceptions of risks for childhood overweight.**

Similar psychological constructs may underlie a tendency for parents to misperceive the risks for childhood overweight. In addition to under-estimating their child's weight, pre-schooler parents have also been found to underestimate the risks for an obesogenic environment (De Craemer et al., 2013). This was illustrated by the findings of the *ToyBox-study* in Europe (De Craemer et al., 2013), where parental perceptions were found to be inconsistent with objective measures. For example, parents considered their child to be sufficiently active, while objective measures showed the children were below the recommended daily levels. Furthermore, some parents perceived some SSBs to be healthy and therefore misreported their child's intake of SSBs as being low. These misperceptions indicate that parents may be underestimating the risks for their child becoming overweight (De Craemer et al., 2013).

Parents have also been found to be overly optimistic about the quality of their child's diet and the degree to which it contributes to an unhealthy weight for their

child (Adamo & Brett, 2014). In particular, pre-schooler parents' perceptions of 'extra foods' (e.g. cakes, lollies, ice cream) were explored recently in New South Wales, Australia by Petrunoff, Wilkenfeld, King, and Flood (2014). Parents justified regularly allowing their child access to these foods on the basis that their child's usual diet was healthy. They were influenced by their child's behaviour and preferences concerning food and eating, and struggled to manage challenging behaviour concerning food such as "fussiness/faddishness" (Petrunoff et al., 2014, p. 982). They often rewarded children with food and many perceived healthy food as being expensive. Childcare centres were considered to be adhering to healthy food options for their child, and parents were conscious of their role as role models, with all parents wanting their child to be healthy. However, the authors of the study noted that parents did not tend to be as concerned about whether their child was overweight (Petrunoff et al., 2014).

Similarly, a concerning proportion of parents (25%) of children aged between 5-12 in a New Zealand based study were not concerned about their child's eating habits, as long as they perceived the child to be developing normally (Williden et al., 2006). Pre-schooler parents may also incorrectly perceive that their child is just as active as other children, even though the child is overweight (Oude Luttikhuis et al., 2010).

### **1.6.3 Influence of ethnicity, cultural beliefs and socio-economic status.**

Parental perceptions are also likely to be influenced by ethnicity and cultural beliefs about body size. The literature in this area is mixed and not well understood (Townes & D'Auria, 2009). However, cultural beliefs are considered to influence a range of familial behaviours that impact on childhood overweight such as what constitutes an attractive weight, attitudes towards physical activity, parental authority over children and whether the family shares a meal together (Barlow, 2007). A larger body size may be viewed positively in population groups with a high prevalence of overweight and it is important to understand culturally informed perceptions of childhood overweight (Kitzmann & Beech, 2006).

Selected studies are therefore briefly reviewed below to illustrate the need to understand the influence of culture, SES or ethnicity on parental perceptions of childhood overweight.

Firstly, the impact of ethnicity on perceptions of childhood overweight among parents that identified as Pacific was examined by Heimuli et al. (2011) as part of the PPOS. It was found that Tongan parents became increasingly concerned about their child's weight over time, whereas parents from other Pacific ethnic groups became less concerned. This acceptance may stem from a larger body size in both adults and children having become normalised in some Pacific cultures (Heimuli et al., 2011).

Another New Zealand based study compared perceptions of groups of Pacific and European ethnicities of their own weight revealed the perceptions of Cook Island groups were significantly more accurate than other groups (Sundborn et al., 2010). Similarly, an earlier study in New Zealand indicated that ethnicity, SES and education level influenced perceptions of weight (Metcalf, Scragg, Willoughby, Finau, & Tipene-Leach, 2000). Gender, ethnicity, SES and cultural influences also clearly impacted on perceptions of body image and obesity in a nationwide study of Australian school aged children by O'Dea (2008). In this study, obesity was "likely to be more relevant, more culturally acceptable and perhaps more desirable" for those children and adolescents from low SES families as well as for those of Middle Eastern or Pacific ethnicity (O'Dea, 2008, p. 289). Another example was a study that found differences in parental perceptions of childhood overweight between a range of ethnicities in the United Kingdom by Trigwell, Watson, Murphy, Stratton, and Cable (2014).

Whether deprivation is associated with the prevalence of overweight has also been explored recently in New Zealand, with a recent report finding that children aged 2-14 years old were significantly more likely to be obese if they were from a high deprivation area (Ministry of Health, 2012b). The influence of SES on the feeding practices of mothers of pre-schoolers has also been explored recently in a study of 2-6 year olds in Australia by Crouch et al. (2007). The results suggested that SES may impact on maternal child feeding practices, although this ought to be considered alongside wider socio-cultural factors such as education and culture. The possible influence of SES was also suggested by the results of another study in Australia with a large sample of young children (4-5 years old), with a high proportion of children identified as being overweight being from single parent families (Byrne, Cook, Skouteris, & Do, 2011).

A recent report for the Families Commission in New Zealand by Smith and Brown (2010) also found a strong association between low income and a family's ability to afford nutritious food. Those families of a low SES purchased fewer vegetables than high SES families and viewed vegetables as being expensive. A lack of time to prepare a main meal for the day was a common denominator across all income levels though and this is an important factor that has not yet been addressed in government policy in New Zealand. However, it is debatable whether food being difficult to afford necessarily leads to a greater risk for being overweight (Smith & Brown, 2010).

### **1.7 Implications of Parental Perceptions for Health Providers**

Although the extent of the influence of ethnicity or culture on parental perceptions of childhood overweight may not be clear, it is evident that health providers must be culturally informed when engaging with parents. There is a trend in the literature to recognise that health providers need to accurately understand parental perceptions of childhood overweight. Health providers are increasingly expected to assess children for overweight, as well as assessing parental readiness to make health behaviour changes (Barlow, 2007). With the recent shift in research attention to the pre-schooler population outlined above, it will be important for health providers to be informed about the perceptions of pre-schooler parents.

This was highlighted by the authors of a study in Australia, who warned against health providers assuming all parents will share the same perceptions of a healthy versus an unhealthy weight, and to consider how ethnicity, culture or SES may impact on parental perceptions of childhood overweight when seeking to engage them in related interventions (O'Dea, 2008). The sensitivity of this issue for parents also means health providers need to be mindful of their approach when discussing this issue with them (Katz, Murimi, Pretlow, & Sears, 2012). In particular, care should be taken to use appropriate terminology with parents when describing a pre-schooler's weight (Eneli, Kalogiros, McDonald, & Todem, 2007).

It is possible that parents tend to view their health provider's role as primarily to identify whether their child is overweight and to provide dietary advice (Lupi et al., 2014). Although they may prefer a collaborative relationship with their health

provider, and ideally expect weight management advice to be tailored to their family circumstances (Lupi et al., 2014). Health providers in New Zealand are well positioned to engage with those people who are identified as being overweight and to promote healthy lifestyles with families (New Zealand Medical Association, 2014). Also, pre-schooler parents may be more receptive to discussing their child's overweight status with their health provider than with family or friends (Hernandez et al., 2010). This highlights the need for health providers to carefully consider how they engage with parents when discussing this issue.

The intense emotional reaction that is likely to be evoked in pre-schooler parents in particular, needs to be clearly understood by health providers to ensure they address this issue with parents sensitively (Pagnini et al., 2007). It appears that face-to-face contact with potential families regarding weight management interventions is preferable to a generic approach and that the process needs to be managed with patience and care (Prinz et al., 2001; Taylor et al., 2013). Parents may only recall the results of the BMI for their child and very little of the advice provided afterwards (Dawson, Taylor, Williams, Taylor, & Brown, 2014). Also, parents may also tend to avoid referring to their child's overweight status directly, and have been found to discuss overweight in terms of the child's "happiness" or "health" (Lupi et al., 2014, p. 101). The use of such descriptors may be indicative of an attempt to avoid confronting the fact that their child is overweight (Southwell, 2011).

A tendency for health providers to assume pre-schoolers will simply outgrow their weight has been evidenced in primary health providers in the Waikato, New Zealand (McClintock & Hedge, 2009) and parents of primary school aged children in the US (Jaballas, Clark-Ott, Clasen, Stolfi, & Urban, 2011). It is considered best though to actively address the issue at the pre-schooler age (Nader et al., 2006). The early signs of childhood overweight need to be addressed, rather than viewed as "something 'the child will grow out of with time'" (Institute of Medicine (IOM), 2011, p. 19).

Efforts have therefore been made by health providers to develop strategies specifically for managing this discussion with parents, such as the *Talking Tips* and the *Healthy Weight Poster* used by nutritionists in the US when counselling parents about the overweight status of their child (Herrera et al., 2013). Another

example is the *Take Charge* training initiative for health providers engaging with families of pre-schoolers to promote healthy lifestyles and provide education to prevent children becoming overweight in early childhood (Passehl et al., 2004). It has also been recognised that health providers' perceptions towards overweight may influence how they engage with parents (Jones, Dixon, Falkingham, Piteman, & Dixon, 2011). For example, barriers for General Practitioner's (GP's) in the Waikato, New Zealand addressing childhood overweight with parents included their attitudes towards overweight and possible reluctance to address this issue with parents (McClintock & Hedge, 2009).

The need for health providers to effectively engage with parents is becoming increasingly important due to increasing expectations that they assess parental motivation to make health behaviour changes (Barlow, 2007). Towns and D'Auria (2009) proposed that health providers needed to firstly encourage parents to recognise that their child is overweight and then assess their readiness to make health behaviour changes. The Ministry of Health in New Zealand also recommends an emphasis on promoting healthy lifestyles with families (Ministry of Health Clinical Trials Research Unit, 2009). The focus on healthy lifestyles for families when addressing overweight is also evident in the recent *Healthy Families* government initiative in New Zealand (Ministry of Health, 2014).

The terminology used by health providers to describe the child's weight has also been considered. BMI reference charts may not be meaningful for parents (Jain, Chamberlin, Carter, S.W, & Whitaker, 2001) and the use of colour coded report cards to describe the child's weight have been helpful (Herrera et al., 2013). In New Zealand, the categories of overweight were described with reference to the colour of a traffic light in the MinT study (Dawson, Brown, et al., 2014; Taylor et al., 2010). Health providers used a BMI percentile chart with the categories representing healthy weight, overweight, and obese coloured green, yellow and red respectively. The child's weight status was discussed with parents with reference to the relevant colour rather than referring to official terms for weight categories (Dawson, Brown, et al., 2014). Interestingly, a similar analogy has been recommended for food labelling by the New Zealand Medical Association (2014).

Another example is an increasing use of Motivational Interviewing (MI) by health providers in the US in particular. MI originated in the field of addictions

and is broadly described as a collaborative approach to guiding changes in behaviour (Miller & Rollnick, 2012). MI is increasingly recognised as a useful strategy for guiding change in health, including specifically for childhood obesity (Emmons & Rollnick, 2001; Schwartz, 2010). A review by Resnicow et al. (2006) found studies were inconclusive with regards to how effective MI was in the treatment of obesity in childhood. However, MI has also been recommended as an effective technique for health providers to use to encourage families to change their diet and exercise behaviours (Gance-Cleveland & Oetzel, 2010).

The use of MI when giving feedback to parents that their child is overweight appears to have been generally accepted in the US, with a recent application demonstrating the use of MI in this context being promoted by the American Academy of Paediatrics (American Academy of Pediatrics, 2014). Other examples of the use of MI in this context are to facilitate a card sorting exercise exploring how parents of pre-schoolers prioritize the risks for childhood obesity (Hernandez et al., 2012) and Lifestyle Counsellors using MI when working alongside health providers (McKee et al., 2010).

The use of MI in New Zealand is unclear, with some evidence that parents prefer health providers to raise the issue directly with them rather than attempt to use techniques such as MI to soften the news (Wright, 2013b) and also that it may not be more effective than standard practice (Dawson, Brown, et al., 2014).

### **1.8 Parental Perceptions inform Interventions**

Parental recognition that their child is overweight and their level of concern about this influences how receptive they may be to weight management messages (Taylor et al., 2013). Parental perceptions therefore not only impact on how health providers may engage with parents, but arguably on the recruitment of parents and their retention in interventions targeting overweight in the pre-schooler population.

Overweight is a health issue that is primarily associated with social, ecological and behavioural factors rather than biological causes such as genes or metabolism (Baranowski, Cullen, Nicklas, Thompson, & Baranowski, 2003). It is therefore important to understand the psychological aspects of health behaviour change when developing interventions that address overweight (Baranowski et al., 2003).

Consequently, there has been a shift in the research concerning overweight from a traditional focus on education to the psychological mechanisms of behaviour change, particularly with respect to diet and activity (Beckman, Hawley, & Bishop, 2006). Parents may resist attending interventions addressing childhood overweight, even if they are referred by their health provider (Markert et al., 2013). For example, being “too busy” was the most common reason parents chose not to participate in a recent intervention in New Zealand for childhood overweight (Taylor et al., 2013, p. 1660). An assessment of parents’ readiness to make health behaviour changes is therefore necessary when attempting to engage parents in weight management interventions for their child (Jonides, 2002).

The concept of ‘health behaviour’ encompasses a wide range of behaviours and has been defined as “any activity undertaken for the purpose of preventing or detecting disease or for improving health and well-being” (Connor & Norman, 2005, p. 2). One model of health behaviour is the Health Belief Model (HBM) (Rosenstock, 1974). This model posits that there is sufficient concern to motivate change, together with a perceived threat that may be addressed by change at an acceptable cost to self. Perception of self-efficacy, or the perceived ability, to make the required change is also important (Rosenstock, Strecher, & Becker, 1988). The HBM is useful for understanding the psychological aspect of health behaviour (Connor & Norman, 2005). It has been used specifically with regards to weight management (Daddario, 2007) and to develop assessment tools specifically for obesity (Dedeli & Fadiloglu, 2011). However, the HBM (and similar related models) may have limitations for childhood overweight as they rely on an element of fear to motivate change. They may not be effective for use with children and adolescents, who tend to consider themselves as being “immortal” (Baranowski et al., 2003, p. S28).

By contrast, Social Cognitive Theory focuses on cognitions rather than behaviour and is based on the social learning theory and concept of self-efficacy proposed by Bandura (1977, as cited in Luszczynska & Schwarzer, 2005). The main focus of Social Cognitive Theory is on goal setting and assessing the pros and cons of behaviour change. Social Cognitive Theory has been applied to a range of health behaviour, including behaviour related to obesity (Luszczynska & Schwarzer, 2005).

Social Cognitive Theory and Social Learning Theory were recently found to be the most common and most effective behavioural models used in the development of interventions targeting overweight in early childhood (Nixon et al., 2012). A review of twelve interventions targeting overweight in young children (4–6 years old) was conducted by Nixon et al. (2012) as part of the *ToyBox-study*. The authors proposed that interventions may be more effective if they focused on encouraging parents and children to feel they are competent to make health behaviour changes concerning diet and activity, rather than the traditional focus on educating parents about these risk factors. This suggestion seems consistent with the recommendation of an expert committee on childhood obesity that examined the literature in this area (Barlow, 2007). The committee recommended that health providers assess all children for known risks for childhood overweight such as poor nutrition or a lack of physical activity, as well as the perceived self-efficacy parents have to make health behaviour changes (Barlow, 2007).

Parental self-efficacy to make changes to a healthier lifestyle tends to be higher for parents of young children up to age of 11 years old than for parents of older children, which indicates that parents may be more likely to believe they can make changes towards a healthier lifestyle when their child is younger (Nsiah-Kumi et al., 2009).

Supporting parents to make health behaviour changes for their family involves including the wider family and engaging with their community to address childhood overweight (Mulrine, 2013). Childhood overweight also needs to be addressed within the context of an overarching obesity prevention policy (Oude Luttikhuis et al., 2009) and distal factors need to be considered as well as a focus on sustainable changes at an environmental level (Maziak, Ward, & Stockton, 2008). Examples of community based prevention interventions in Australasia addressing childhood overweight are *Project Energize* (Rush et al., 2014; Waikato District Health Board, 2014b), *A Pilot Programme for Lifestyle and Exercise (APPLE Project)* (Williden et al., 2006), the *Pacific Obesity Prevention in Communities Project (OPIC)* (Swinburn et al., 2011) and the family-based programme for children aged between 5-12 years old known as *Bodywise* (Waikato District Health Board, 2014a).

However, there is a lack of data on the effectiveness of family based interventions targeting obesity for children and it has been rare for programmes to

focus only on the parents (Lindsay, Sussner, Kim, & Gortmaker, 2006).

Interventions targeting overweight in children have not generally proven to be successful, and there is an “urgent need” to address this issue now with the pre-schooler population (Hesketh & Campbell, 2010; Skouteris, 2012, p. 941).

There have been very few prevention programmes internationally that have focussed on the pre-schooler population with respect to weight management and this is an area that has been commanding increasing attention (Mernagh et al., 2010). Examples of interventions in Australia that target young children include the *Infant Feeding Activity and Nutrition Trial (inFANT)* (Campbell et al., 2008), which was followed up two years later by Hesketh et al. (2013). *Tooty Fruity Vegie* is another Australian community intervention (Zask et al., 2010), along with a recent intervention that claimed to be the first to show a reduction in obesity in younger children known as *Romp and Chomp* (de Silva-Sanigorski et al., 2010). There have also been attempts to partner with academic institutions when developing community based interventions, as demonstrated by a pilot intervention known as *Five Hundred under Five* in the US (Hearst, Martin, Rafdal, Robinson, & McConnell, 2013).

Interventions specifically targeting the pre-school population have also been found to be of limited effect, with a review of seven Random Controlled Trials of such interventions finding that none had a proven impact on weight reduction (Monasta et al., 2011). The significant funding allocated by the New Zealand government recently to an intervention targeting overweight in early childhood, known as *Under 5 Energize* is arguably an example of efforts to reverse this trend (Ryall, 2014).

## **1.9 Summary**

There is increasing recognition that childhood overweight needs to be addressed in early childhood due to its rising prevalence. There a number of health risks associated with childhood overweight that are likely to continue into adolescence and adulthood. Research attention has recently shifted from older children to infants and children under five years old, although few studies to date have focused specifically on the pre-schooler population (Institute of Medicine (IOM), 2011; Sloboda, 2011).

Childhood overweight needs to be addressed within the wider family context and parents are considered the agents of change when addressing the child's weight, particularly the mothers. It is therefore important to understand how pre-schooler parents perceive childhood overweight and how those perceptions influence their readiness to make health behaviour changes. It is clear that parents tend to under-estimate their child's weight and misperceive common risk factors such as the diet and a lack of activity of their pre-schooler. Health providers need to be mindful that pre-schooler parents are likely to find this issue highly emotive and may tend to refer to their child's weight indirectly rather than with reference to measures such as BMI.

In general, interventions targeting the pre-schooler population have been largely unsuccessful to date and there is rapidly growing research interest in how to effectively engage and retain pre-schooler parents in interventions. There is therefore a trend in the literature concerning childhood overweight to focus on the psychological mechanisms supporting the parental behaviours rather than the traditional focus on risk factors such as diet and a lack of activity. Understanding parental perceptions of the risks for childhood overweight therefore informs the development of interventions. It also assists health providers to effectively engage with pre-schooler parents when assessing the child's weight, providing feedback to parents that their child is overweight, and recruiting parents to participate in weight management interventions to assist their pre-schooler.

## **Chapter Two: Method**

### **2.1 A Qualitative Study**

The premise of qualitative research is to describe the topic being explored from the viewpoint of the participants (Flick, Von Kardorff, & Steinke, 2004a) and is arguably used to explore topics that are less suited to the scientific rigour of quantitative research (Elliott, Fischer, & Rennie, 1999). A qualitative approach was therefore selected as the current research is an exploratory study of parental perceptions. This is largely due to the lack of literature specifically addressing this issue with pre-schooler parents, particularly in New Zealand.

It has been recommended there ought to be more qualitative studies concerning childhood overweight, to aid health providers to gain a richer understanding of parental perceptions through the narratives of both parents and children (Towns & D'Auria, 2009). In general, a qualitative approach is more likely to allow participants to express themselves without being influenced during the interview process compared to using methods such as a structured questionnaire (Yin, 2011).

This open approach may employ semi-structured interviews to explore participants' experiences in the context of their everyday lives. Using this approach, the environment within which the data are collected from participants and the individual characteristics of each participant are relevant (Flick et al., 2004a). Using in-depth interviewing is "case-centric" in the sense that the interviewee is the focus of the interview (Curtis & Curtis, 2011, p. 30). Open-ended questions or topics prompt discussion, and an unstructured interview format encourages the interviewee to provide more in-depth information than may be achieved using semi-structured or structured interviews (Curtis & Curtis, 2011). Qualitative research commonly involves using multiple methods that are selected to suit the research question (Flick et al., 2004a) and has been described as similar to a "bricolage" due to the way it often allows the bringing together of a variety of forms of information (Denzin & Lincoln, 2011, p. 4).

### **2.2 Health Research**

As overweight is a health concern, it was relevant to explore the use of qualitative methodologies in health research. Health research has traditionally been limited largely to experimental methods that focus on the illness rather than

the person (Morse, 2011). Qualitative methods have been slowly gaining acceptance in health research though and have been used to explore a range of health issues including identifying barriers to accessing healthcare (Morse, 2011).

Morse (2011) argued that the traditional western approach to healthcare assumes that the patient accesses healthcare when needed. It does not take barriers to accessing healthcare into account and does not therefore work for all (Morse, 2011). One example she quoted was a qualitative study in New Zealand exploring how the Samoan community accessed both western healthcare and traditional Samoan healthcare, with the family and culture playing an integral part in those choices (Norris, Fa'alau, Va'ai, Churchward, & Arroll, 2009). Although the use of qualitative methodology in this study appears to be in line with recent trends in health research, the study by Norris et al. (2009) illustrates the need to be mindful of the influences of culture and family on the results. In particular, these factors may mean participants or their families may have been exposed to alternative healthcare options or views rather than traditional western healthcare models. Many studies of overweight and health behaviour may also be based on western healthcare models and therefore have little relevance for some participants.

A relatively new type of qualitative research referred to as *narrative inquiry* focuses on how people describe their own life experiences. The way in which they do so is of equal interest to the content of the narrative (Chase, 2011). It is particularly useful for exploring the interconnection between the interviewee's narrative and their environment, for example "what does and doesn't get said, about what, why, how, and to whom" is of more interest than just their story (Chase, 2011, p. 422).

In narrative inquiry, a semi-structured interview is used only as a guide, with the interview following the narrative rather than the interview questions. The relationship between the researcher and participant then becomes one of listener/narrator rather than interviewee/interviewer. This may raise ethical issues due to the more intimate nature of the relationship and the more in-depth reporting of interviews than the usual qualitative methods (Chase, 2011). Themes are identified within each narrative and then across interviews from each participant, with visual images often used to aid the interview process (Chase, 2011).

### **2.3 Epistemological Foundation**

The epistemological foundation for this study is social constructive theory, which acknowledges the collaborative nature of gathering knowledge between the participant and interviewer. It also validates that the knowledge is particular to that person alone (Curtis & Curtis, 2011). When using in-depth interviews, Curtis and Curtis (2011) recommend a “social realist” approach (Curtis & Curtis, 2011, p. 48), which is within the context of social constructive theory and recognizes the interplay between the influence of constructs such as beliefs or knowledge from both the interviewer and the participant. Each may influence the narrative of the other as a natural part of the process. Although the interviewer intentionally elicits the views of the participant, it is accepted that these views are the participant’s reality and therefore subjective to that individual (Curtis & Curtis, 2011).

By contrast, a positivist approach is concerned with reliability and validity and would value only objective data that is not influenced by the interviewer (Curtis & Curtis, 2011). Although it is not necessarily inconsistent with a standard interview, the social reality approach is better suited to in-depth interviews (Curtis & Curtis, 2011). This approach was selected for this research for a number of reasons. Firstly, it involves in-depth interviews with a relatively low number of participants. Secondly, it is not intended to generalise the findings or compare them to other studies. Thirdly, the knowledge gained from the interviews remains particular to each participant and fourthly, it is sought to explore their individual realities in a collaborative way.

### **2.4 Reflexivity**

Reflexivity refers to the process in research by which the researcher acknowledges his or her influence on the outcome of the research, both by the way in which the research is conducted and the influence of their personal values when analysing the data (Flick, 2014). Contrary to more scientific methods, it is relevant for the researcher to reflect on their influence on the research process and the contextual environment within which the data is gathered (Flick, von Kardorff, & Steinke, 2004b). It is therefore important that this influence is recognised (Braun & Clarke, 2006).

This concept has been referred to as “owning one’s perspective” by Elliott et al. (1999, p. 221), where the researcher discloses his or her relevant values and

understanding of the research topic, both before commencing the research and during the research process (Elliott et al., 1999). It also recognises and highlights the subjective nature of the research of both the researcher and the participants (Flick, 2014).

As there was only one author conducting this research, it is posited that it is particularly important to acknowledge the influence the author may have had both on the findings and the process of this research.

The author is in her early forties, identifies as New Zealand European and is a mother of two young children. The interest in this research topic arose from a personal interest in assisting children to enjoy an active and healthy lifestyle. The author has not experienced difficulties with overweight herself and has not had concerns about her own children. As a mother, this also influenced the degree to which the author may have made assumptions about parenting practices or the way she may have empathised with parents when they described difficulties managing young children. The author also acknowledges having personal opinions about diet and levels of activity for young children.

## **2.5 Triangulation**

A qualitative approach may include quantitative methods if seeking to do so in order to understand a topic using a variety of perspectives, and this is known as *triangulation*. This term refers to the use of two points to find a central location (Kelle & Erzberger, 2004). The translation to social science research has centred on the use for increasing validity, although it has recently been used more for gaining a richer understanding and ensuring consistency (Kelle & Erzberger, 2004).

In this study, the use of two quantitative measures was used principally to identify any inconsistencies in the narratives and to guide a values based interview. In this sense, this additional data were used as triangulation. One of the measures was discontinued though after it became evident there was a lack of consistency with how participants were responding to the questions. The details of each measure and the limitations of their use as triangulation are described in detail below. With respect to the interviews, a selection of transcripts was also read by another researcher as a form of inter-rater reliability, who was experienced in a similar method of qualitative research in psychology. It is

acknowledged that this researcher may have influenced by her training in psychology when identifying themes in this research.

## **2.6 Ethical Approval**

Ethical approval for this study was granted by the University of Waikato School of Psychology Ethics Committee. Approval had also been granted for the previous study referred to above (*Toolkit 4 Tamariki*), which had also been granted local authorisation from the Waikato District Health Board. This process also involved consultation with Te Puna Oranga Māori Consultation Research Review Committee, which is described in more detail below.

The ethical considerations especially pertinent to this study included the need to ensure confidentiality of participant information, informed consent and providing participants with follow up information and support. Given the potential sensitivity of the research topic, it was important to be transparent about the research topic and to offer ongoing support and referrals to agencies that could provide this support, such as *Bodywise* or the Community Dietician.

## **2.7 Cultural Responsivity**

As described above, Māori are disproportionately represented in obesity related statistics. Health inequities between Māori and non-Māori in New Zealand have resulted in higher obesity related health problems as well as negatively impacting on social and employment opportunities (Te Puni Kokiri, 2013).

Consultation regarding *Toolkit 4 Tamariki* was undertaken with Te Puna Oranga Māori Consultation Research Review Committee at the Waikato District Health Board. *Toolkit 4 Tamariki* was developed with reference to Te Ara Tika (Hudson, Milne, Reynolds, Russell, & Smith, 2010), which is a framework for considering Māori ethical issues in the research context and is written by Māori members of ethics committees (Pūtaiora). Te Ara Tika applies the principles of “whakapapa (relationships), tika (research design), manaakitanga (cultural and social responsibility) and mana (justice and equity)” (Hudson et al., 2010, p. 4). In line with these principles, it is important for the researcher to foster meaningful relationships with participants, be clear about the research aims, level of consultation and potential risks in the information sheets provided to participants, and to empower Māori to be involved and share the results of the research. In

particular, it is good practice to be open to whanau support for participants and the use of tikanga Māori (Māori protocols and practices) (Hudson et al., 2010).

In this research, this would include being mindful to offer Māori participants the opportunity to open and close the interview with karakia (prayer), to take time for introductions and to make connections, and to offer hospitality. It would also include sharing the results of the research in a meaningful way that will assist Māori to address overweight for their tamariki (children).

The Health Equity Assessment Tool (HEAT) (Signal, Martin, Cram, & Robson, 2008) was also consulted for this study. HEAT aims to assist those in the health sector to focus on health equity issues when planning. It consists of ten questions that address four areas, being;

1. “Understanding health inequalities”
2. “Designing interventions to reduce inequalities”
3. “Reviewing and refining the intervention” and
4. “Evaluating the impacts and outcomes of the intervention” (Signal et al., 2008, p. 8).

For the purposes of this research, the HEAT tool highlighted the health inequities relating to obesity for Māori and the importance of specifically involving Māori in the research process.

## **2.8 Participants**

A total of 17 parents were interviewed for this research. The interview with one parent was a retrospective interview, as her children were over the age of five. This interview was not included in the results, as the remaining 16 parents were all parents of pre-school aged children. The eligibility criteria for parents was that they were a parent of a pre-schooler, were 18 years old or over, and had concerns about their child’s weight status. During the screening process, it was made clear to parents that the concerns were about their child being overweight. It was also stipulated that the child would not be involved in the interview process and that there was no requirement for their child to be measured, or for the parent to provide any independent data confirming whether or not their child was overweight.

This approach was intended to minimise barriers such as the potential distress their child may have felt being measured, as well as recognising the sensitivity of

this issue for parents. Aside from volunteering to indicate the degree to which they were concerned about their child's weight on the demographic form, parents were not specifically asked about their child's weight status. Similar considerations were made during the recruitment of mothers of children that were overweight for a qualitative study in Australia by Jackson et al. (2007). Instead of requiring independent data confirming the child was overweight, the authors asked mothers if they would disclose the child's height and clothing size as well as provide a recent photo of their child. This presumably enabled the authors to estimate the child's weight without needing to involve the child.

Parents were invited to complete a nine item demographics questionnaire (Appendix D). The majority of parents were mothers (13), and three were fathers. It appeared that two of the parents were the parents of the same child and each was interviewed separately. The majority of parents were aged between 31-36 years old (nine), with two aged between 18-25, two between 26-30, and three between 37-45. Five parents also had older children. Two parents also had children under 2 years old. Although parents were not asked directly about their relationship status, it became apparent in the interviews that five parents were solo parents. All parents bar one were from the Waikato region in New Zealand. One was from the Wellington region. SES data was not collected from parents in order to minimise unnecessary intrusion. In the interests of transparency with the parents interviewed, there has not been any attempt to estimate their SES using means such as the New Zealand Deprivation Index (Atkinson, Salmond, & Crampton, 2014). There was a diversity of ethnicities, with four parents identifying as New Zealand European, one as New Zealand European/NZ Māori, and five as Māori or NZ Māori. Two identified as Fiji Indian, one as being from Vietnam, and one as "Chinese/Kiwi." Two parents did not specify ethnicity. The ethnicity of the children was similar to that of the parent.

There was a range of levels of concern about their child's weight, with four parents being "very" concerned, three being "quite" concerned, four "a bit", three "not at all", one did not specify the level of concern and one was between "a bit" and "quite". Interview data from the three parents that responded that they were "not at all" concerned and the one parent that did not respond to this question was included in this research, as their self-report in interview of their concerns about their child's weight indicated that they had ongoing concerns about their child's

weight and represented a possible sub-group of parents who did not perceive their child(ren) to be currently overweight but were managing ongoing concerns about the prospect of their child being overweight. As parents had also been questioned about their concerns during the screening process, this discrepancy highlighted the need to assess multiple sources of information and the potential for differing interpretations of ‘concern’ by parents.

## **2.9 Recruitment**

The recruitment strategy was to attract participants able to contribute to the aims of this research and offer an in-depth account of their concerns about pre-schooler overweight. When conducting a case-centric study using in-depth interviews, it is important to carefully consider the recruitment of participants (Curtis & Curtis, 2011). Purposeful sampling is an approach employed in these types of studies to obtain participants qualified to contribute to the research aims rather than focusing on a representative sample used to make statistical comparisons with other studies (Curtis & Curtis, 2011). As discussed above, Māori and Pacific children are disproportionately represented in statistics for childhood obesity and parents of Māori and Pacific pre-schoolers were therefore targeted by advertising specifically to health providers who work primarily with this population.

The advertisement for this research (Appendix A) was either e-mailed or delivered in person to a wide range of primary health providers, educational agencies (e.g., providers of parenting courses) and early childhood centres or kindergartens in the broader Waikato region. The advertisement was also posted on the social networking site ‘Facebook,’ as well as on the online forum at The University of Waikato known as the ‘Psychology Café’ with paper copies posted on notice boards. A media release was prepared by The University of Waikato, which resulted in local media reporting on the study, with articles in both the main local newspaper (The Waikato Times) and a free community newspaper (Hamilton Press). In addition, these articles appeared online on the media site ‘Stuff.co.nz’, which resulted in the recruitment of the one participant from outside the Waikato region. There was also an opportunity to promote the study with the Before School Check nurses in the Waikato, which was useful given that many were already familiar with the advertising for *Toolkit 4 Tamariki*. The contacts

gained during the recruitment for that programme were also sent advertisements for this study and many became advocates for the recruitment within their individual practices.

Parents were selected on a 'first in-first serve' basis. No further interviews were conducted once it became evident that data saturation had occurred, which was after 17 interviews. Those that expressed interest after this point were asked if they needed contact details for agencies that may be of assistance in an effort to support them to access help for their child(ren) if required. Parents were emailed the Information Sheet (Appendix B) and the Consent form (Appendix C) to ensure they had ample opportunity to review them prior to the interview. They were invited to contact the researcher if they had any questions about either form and were reassured the forms would be discussed with them at the interview to ensure they were comfortable proceeding with the interview. All parents were offered a \$25.00 petrol voucher to compensate them for their time.

## **2.10 Measures**

### **2.10.1 Contact details and demographics questionnaire.**

Once parents had signed the consent form and were comfortable proceeding with the interview, the audio recorder was turned on with their permission and they were invited to complete the contact details and demographics questionnaire (Appendix D). In addition to contact details and demographic information about the parent and their child(ren), parents were also asked to indicate their level of concern about their pre-schooler's weight by circling one of the following options: 'Not at all concerned', 'A bit concerned', 'Quite concerned', 'Very concerned', or 'I'd rather not answer'. The responses to this question must be interpreted on a case by case basis in the context of the interview, as it was noted that 'concern' was interpreted differently by each parent. Some indicated that they were very concerned about the issue of pre-schooler overweight, but were not concerned about their own child's weight, while others were concerned about both their own child's weight and the issue in general.

### **2.10.2 Semi-structured questionnaire.**

A semi-structured questionnaire was used (Appendix E) to initiate the interview and orientate the parent to the topic. Seven questions were used as

prompts and there was some flexibility as to whether all or some were used depending on the flow of the interview. The prompts included questions about whether overweight is a problem in New Zealand, what 'healthy eating' for pre-schoolers looked like to them, and whether they considered it to be a sensitive issue. During the interview, additional follow-up questions were asked when parents discussed a particular area of interest. At the end of the interview, a general question such as "Is there anything else that you feel is important to raise that we have not covered in this interview?" was asked. For several parents, this question prompted a discussion about cultural influences on pre-schooler overweight.

### **2.10.3 Card sorting exercise.**

The card sorting exercise involved laminated cards, each with a visual picture and an accompanying statement. The wording and syntax of the statements were developed by Hernandez et al. (2012) with reference to Miller's Personal Values Card Sort (Miller & Rollnick, 2002). The cards were used with permission from Hernandez et al. (2012), provided they were not disseminated. For this reason, the cards with the visuals are not included in the appendices of this thesis. The statements were based on known factors concerning obesity in early childhood that have been identified in previous research, and are listed in Table 1 under each category of Risks, Barriers and Motivators (Hernandez et al., 2012).

In this research, the three categories of statements were briefly explained to parents as representing known risks, barriers or motivators for overweight in pre-schoolers. In contrast to the study by Hernandez et al. (2012), the research question in this study was not primarily concerned with how parents prioritised the statements in each category and the card sorting technique was used to facilitate discussion about each of the statements in the context of MI (Miller & Rollnick, 2012). The card sorting exercise was deliberately used in the second half of the interview to ensure the statements on the cards did not influence the participants views expressed in the interview. In this study, the exercise was introduced as an interactive way to engage parents in the interview process and as interview prompts to guide parents to discuss their perceptions of these known risks, barriers and motivators concerning pre-schooler overweight. Although they were invited to rank the cards, some found this difficult, as they considered them

to be so closely interlinked. Most parents ranked the majority of the card statements though and these findings have also been recorded and used to support the interview data. It is acknowledged that the cards were developed in the US and were not therefore designed for use with a New Zealand population.

Table 1

*Card Sort Statements.*

Risks	Barriers	Motivators
Purchasing and preparing unhealthy food	I cannot control the foods offered to my child by other caretakers	I want my child to have high self-esteem
Rewarding my child with food	I cannot prevent my child from snacking	I want my child to be healthy
Asking my child to finish the food on his/her plate	Preparing healthy foods is difficult	I want my child to stay healthy as an adult
Low levels of physical activity	Healthy foods are too expensive	I want my child to be fit
The food choices of my child's caretaker	My child does not have a place to be physically active	I want my child to have many friends

#### 2.10.4 Card sort statements questionnaire.

After completing the card sorting exercise for each question, parents were initially invited to complete a 15-item structured questionnaire. The items are the fifteen statements listed in Table 1. The questionnaire format was a Likert scale, where participants indicated how important each item was to them on a scale of 1-5, where 1 is 'very important' and 5 is 'not at all important'. As it became apparent that the scoring of the items was interpreted differently by parents and caused confusion, this measure was not used after the first few interviews and has not therefore been included in these research findings.

## 2.11 Interview Process

Once parents had signed the consent form, they were invited to complete the demographics questionnaire (Appendix D). The parents were informed that the format of the interview was that they would be asked a few broad questions, followed by a card sorting exercise. The interview would then be concluded with a general question asking parents if there were any other issues that had not been covered that they felt were important to address. Parents were offered the opportunity to choose where and when they would prefer to be interviewed, with the option of using an interview room at the University of Waikato. It was important to be flexible with interview times and settings, as parents were often constrained by caring for children as well as work demands. Five parents chose to be interviewed at The University of Waikato and the remainder were interviewed in their homes with the exception of one, who was from outside the Waikato region and was interviewed over the phone.

Parents were orientated to the interview process using the guidelines set out by Curtis and Curtis (2011), which are a step by step process suitable for in-depth interviews that starts with ensuring participants are comfortable with the process, that they understood the aims of the research and the importance placed on their subjective experiences, then are given the opportunity to ask questions about issues such as confidentiality and the use of a recording device. Cultural preferences regarding the way in which the interview was conducted were discussed where relevant and care was taken to ensure the process was culturally responsive for each parent. The style of the interview was modelled on the “responsive interview” espoused by Rubin and Rubin (2012, as cited in Flick, 2014, p. 208). This style of interviewing recognises the value of a relationship of trust built by a non-confrontational tone of questioning. The interview is characterised by questioning that is responsive to the information provided by interviewees and is focused on their perspective. A friendly, relaxed tone was used in the interviews, which were flexible in format and questions asked. It was also important to be mindful of the competing demands of children.

## **2.12 Data Analysis**

The approach to the recording and analysis of the interview data is described below. Firstly, the transcription of the interview data is described, followed by the approach to data analysis and the implementation of this approach.

### **2.12.1 Interview data.**

The interviews were transcribed and analysed by the author. The transcription was close to verbatim but did not include information that was not considered necessary to provide context for the research question. Some nuances in the interview were noted to provide context, such as whether the parent expressed emotion, or hesitated before responding. Each parent was then invited to review the transcript and make amendments. A few chose to do so and any amendments requested were made to the transcript. All transcripts were fully anonymised and had a pseudonym assigned.

### **2.12.2 Approach to analysis.**

When assessing an appropriate method of analysis, it is important to ensure it suits the research question and nature of the study (Braun & Clarke, 2006). In this study, the epistemological foundation is social constructive theory. The research is oriented to psychological constructs and is about a health related topic. Furthermore, the interviews were relatively brief (up to one hour) and followed a semi-structured interview format that involved the use of both interview prompts and the card sorting statements. The narrative data in this study was therefore strongly related to the questions and statements used in the different methodologies. For this reason, the narrative data in this study is considered in the context of the semi-structured interview format.

Although there are elements of a narrative inquiry in this study, the card sorting statements influenced the interview data, which may have resulted in the data being less in-depth and personal to each of the parents. They may have chosen to discuss different topics had they not been presented with the card statements. The interviews were also limited to one hour, as this was advertised as the maximum time commitment for parents and was therefore strictly adhered to. This may also have influenced the depth of the narrative data.

The nature of the data in this study was considered when selecting thematic analysis methodology. Thematic Analysis is commonly employed to analyse qualitative interviews and is similar to another approach to analytical induction known as grounded theory (Curtis & Curtis, 2011). Grounded theory requires an open approach to the data that allows for theories to evolve, or be grounded, in the data (Flick, 2014). In practice, grounded theory has been applied in a short form way that has been referred to as “grounded theory ‘lite,’” which has become very similar to thematic analysis (Braun & Clarke, 2006, p. 81) Thematic analysis is a more flexible method than grounded theory that is suited to the constructionist paradigm used in this study. In addition, it is widely used in psychology research (Braun & Clarke, 2006).

### **2.12.3 Analysis process.**

It is important to describe the process of analysis in sufficient detail for the study to be accurately reviewed (Braun & Clarke, 2006). Thematic analysis was used to search for themes across the interview data by broadly following the guidelines by Braun and Clarke (2006). The way in which the six phases in the guidelines were followed in this study is briefly outlined as follows:

#### ***Becoming familiar with the data.***

As detailed above, the interview data was largely transcribed verbatim. Each transcript was then read through several times to gain an understanding of common themes between or within each transcript.

#### ***Initial coding and searching for themes.***

Initial codes were then written as each transcript was analysed line by line. The codes were modified as the transcripts were read together and common codes or variations of codes became evident. As the codes were all written on one sheet of paper, the themes became visually evident. The codes were then tentatively assigned to themes.

### ***Reviewing themes.***

Several revisions of the data assisted to develop the themes and sub-themes, which altered significantly as some themes were collapsed under overarching themes. A thematic map was drawn to depict the interconnections between several of the themes, which was revised several times in consultation with another researcher.

### ***Defining and naming themes.***

The data were revised again to further understand the underlying emotion about several of the identified themes and how this impacted on their definition. As detailed above, asking another researcher to independently analyse a selection of the data assisted to confirm both the themes identified and how they were best represented.

### ***Reporting the themes.***

Exemplars from each parent were then recorded under each theme and sub-theme, which highlighted those themes that appeared to be the most commonly supported or perhaps evoked similar emotions between the parents. Similarly, it was also evident that some themes evoked divergent emotion or responses.

## Chapter Three: Findings

### 3.1 Overview

Five broad interconnected themes were identified in this research. For each of the five themes, a number of sub-themes were identified. The themes in this research are described with reference to exemplars from the interview data. The five themes have been defined as follows:

- (1) Overweight is a serious health problem
- (2) Parental apprehension
- (3) Societal disapproval
- (4) Barriers to a healthy lifestyle
- (5) Cultural perceptions

Many parents were struggling to manage their child's weight. Many parents disclosed personal struggles with their own weight as well as fears for their child's future. Others felt there were no excuses for not maintaining a healthy lifestyle for their child. Some stated that the cards relating to potential barriers or risks for childhood overweight were excuses used by parents, while others reported they were valid barriers. Similarly, nearly all parents considered overweight in pre-schoolers a highly sensitive and emotive issue. However, they varied in how they felt this may impact on their reactions to others offering them advice, or the degree to which they appeared to internalize perceived judgement from others.

The ethnic diversity represented among the parents highlighted different cultural values about the role of food in society and attitudes towards body image. Interestingly, a few of the parents had immigrated to New Zealand relatively recently and discussed issues that typically faced immigrants who were unaccustomed to the ready availability of food in New Zealand compared to their home country.

The sub-themes identified for each of the five broad themes identified above are briefly outlined below.

### **Overweight is a serious health problem.**

While all parents reported that overweight appeared to be a problem in New Zealand, they did not necessarily respond directly to the question, which was whether they felt *pre-schooler* obesity was a problem in New Zealand. When prompted further, many felt that it was a problem only for older children and they had not observed many pre-schoolers to be overweight. The sub-themes identified were therefore that (a) Pre-schoolers are likely to outgrow being overweight, (b) parents were more concerned about older children being overweight compared to pre-schoolers and (c) Addressing overweight is a complex issue.

### **Parental apprehension.**

All parents expressed apprehension about their child's wellbeing and a desire for their child to be 'healthy and happy.' Parents were concerned that their child's self-esteem would be impacted if they were overweight. The most emotional issue discussed in the interviews was the fear that their child would be negatively evaluated by others and bullied by their peers. It was noted that this fear was often disclosed hesitantly and was particularly difficult for those parents that reported experiencing being overweight themselves. The sub-themes identified are (a) Health risks, (b) Health literacy, (c) Emotional wellbeing and (d) Fear for the future – bullying.

### **Societal disapproval.**

The emotional nature of this topic was also evident when parents were asked if they considered overweight in pre-schoolers to be a sensitive issue for parents. While all parents indicated that it is a sensitive issue, parents differed in their reasons. For many, it was a reflection on them personally and there was a strong sense of shame and fear of judgement. Others highlighted a defensive attitude towards the judgement from others. Most parents stated they were providing for their child as well as they could in their circumstances. It was also evident that parents were particularly sensitive to family members commenting on their child's weight. This sensitivity also seemed to impact on their help-seeking behaviour relating to their child's weight, with many being unsure of where to seek help or

reporting negative experiences discussing the issue with their health provider. The sub-themes were therefore identified as (a) Self-blame (b) Defensiveness (c) Reluctance to seek help.

### **Barriers to a healthy lifestyle.**

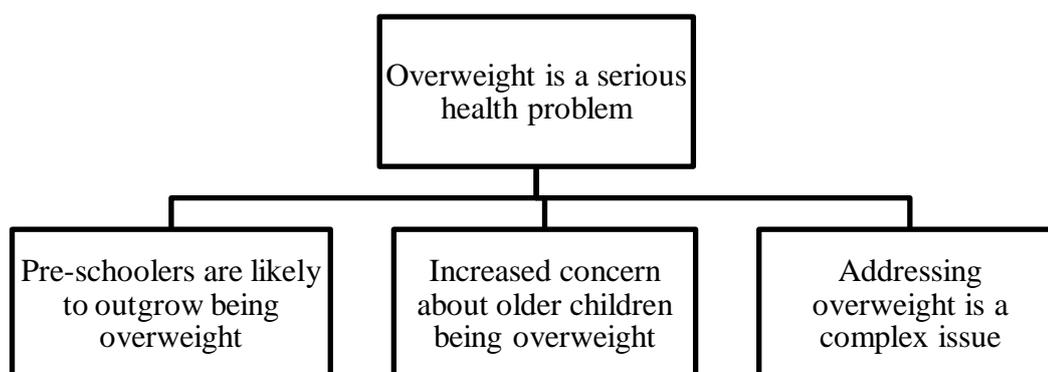
Most parents expressed tension between having the knowledge about a healthy lifestyle and difficulty maintaining it due to a lack of energy, time and financial constraints. Many parents also reported a lack of parenting strategies to manage challenging behaviour relating to risk factors for childhood overweight such as sedentary behaviours or eating. Family, particularly the grandparents of the child, were often reported to undermine parents' efforts to maintain a healthy lifestyle for their child. The sub-themes were identified as (a) Cost of healthy food options (b) Lack of time and energy, (c) Parenting challenges, (d) Lack of support.

### **Cultural perceptions.**

With regards to the theme concerning culture, two aspects of cultural perceptions of weight status or the role of food in society were evident in the interview data. The two sub-themes identified were (a) Perception of prosperity and (b) Food scarcity.

## **3.2 Overweight is a Serious Health Problem**

As depicted in Figure 2, the theme 'Overweight is a serious health problem' showed three sub-themes, being 'Pre-schoolers are likely to outgrow being overweight', 'Increased concern about older children being overweight' and 'Addressing overweight is a complex issue'.



*Figure 2.* Overweight is a serious health problem

Each parent felt that overweight was a problem in New Zealand. Some parents indicated that it was a serious issue that is subtly increasing in severity.

*I don't know how big a problem it is...but it seems that it's there in the background, like a waiting threat (Miranda).*

*It seems to be getting worse (Mary).*

*Yes, I see it more and more all the time, way more than in my day (Jess).*

Many required prompting to uncover whether it was an issue specifically for this population. Five parents stated they understood from media reports that childhood overweight was a problem in New Zealand, which suggested the issue was not one they had contemplated on a personal level. Most had initially responded that it was a problem in New Zealand generally, and when prompted indicated that they did not necessarily consider it a problem in the pre-schooler population.

### **3.2.1 Pre-schoolers are likely to outgrow being overweight.**

The majority of parents (10) reported having noticed that being overweight is an issue for pre-schoolers, as they had noticed pre-schoolers that were overweight.

*...seen lots of overweight toddlers, but harder for them to lose it, they just sit and play playstation and computers and ipads, and they get pretty sick like diabetes and stuff (Christine).*

One parent commented that she has observed children starting school who are clearly overweight.

*..see the five year olds at school and think 'what have they been doing the last five years?!' (Tracey).*

Many commented that pre-schoolers would not be concerned about being overweight and that their peers would be unlikely to notice it either. Most felt that genetics played a role in a pre-schooler being overweight or that they are ‘big-boned’. Many also commented that a pre-schooler is likely to outgrow their weight when they attend school, and that they had observed this in other children.

### **3.2.2 Increased concern about older children being overweight.**

Consistent with this view perhaps were the observations by Jess, Imogen and Brenda that overweight is not a problem that they have observed in New Zealand in relation to pre-schoolers, only in older children or adults. Jess stated that she did not necessarily consider being overweight as a problem for pre-schoolers, as they are young and have time to change their habits.

*I don't see it as a disease in pre-schoolers, but I do for adults. Children are young and can change their paths, be educated, motivated (Jess).*

Most parents indicated that it would start becoming an issue if a child remained overweight still by the age of eight or nine years old, although this was primarily driven by concerns about bullying. This issue is discussed further under ‘Parental apprehension’.

### **3.2.3 Addressing overweight is a complex issue.**

A few of the parents stated that overweight was a complex issue at a societal level, with a number of variables contributing to the increasing prevalence of overweight in New Zealand. It is noted that only a few parents discussed the issue as being a societal problem, with most relating it to their observations of others in their immediate environment, for example, other children at kindergarten or family members. Jess reflected though on a “gluttonised” societal attitude towards food, which was a shift from a more restrained attitude when she was young. Joy noted that New Zealand society was becoming “Americanised,” as unhealthy food was cheaper. Overall, most of the parents noted the increase in sedentary behaviour, particularly the use of technology. This was generally seen to be a

significant shift from when they were young and most parents expressed concern that this behaviour could lead to children becoming overweight.

### 3.2.4 Summary.

Overall, parents were concerned about the prevalence of overweight in New Zealand. However, a number of parents had not noticed that being overweight was an issue in pre-schoolers, only in older children. Pre-schoolers were generally considered to be likely to outgrow their weight and many parents had not observed many pre-schoolers that were overweight. Most parents had noted older children at primary school to be overweight and appeared to consider that there were more overweight children in New Zealand than when they were young.

Many parents expressed concern about the increasing levels of sedentary behaviours children were engaging in and appeared to link these behaviours to their observed increased prevalence of overweight in older children. Addressing childhood overweight was considered to be a complex, multi-factorial issue.

### 3.3 Parental Apprehension

The parents were all invested in their child(ren)'s future and appeared passionate about ensuring their child had the best start in life.

*the best gift you can give them is to start them  
on the right foot (Brenda).*

As depicted in Figure 3, four sub-themes were identified, which were 'Health risks', 'Health literacy', 'Emotional well-being' and 'Fear for the future - bullying'.

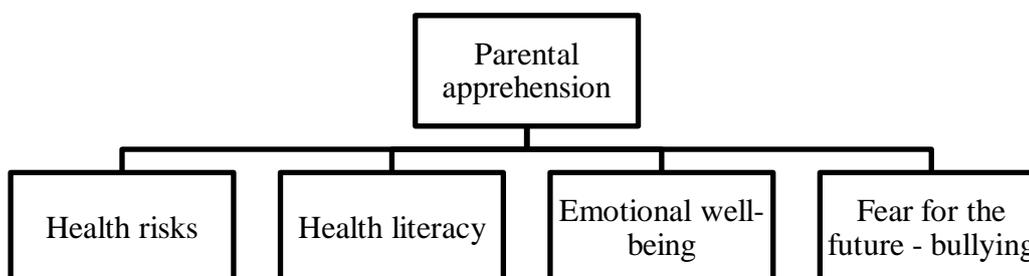


Figure 3. Parental apprehension

A strong theme among the parents was the desire to optimise the likelihood that their child would experience a healthy and fulfilled life. The strength of this theme is illustrated by an observation that many parents reported difficulty ranking the cards relating to ‘motivators,’ as they found them to be too closely interlinked to choose only one as a top priority. Most debated aspects of these statements and how they related to being overweight, particularly the statement “I want my child to have high self-esteem.”

The two statements that the majority agreed were ranked either highest or second to highest though were “I want my child to be healthy” and “I want my child to stay healthy as an adult”. A primary concern for parents was that their child was healthy, as this was a foundation upon which other important aspects of their wellbeing would rely on, such as making friends, being fit or having good self-esteem. Parents tended to pay more attention to their child’s emotional wellbeing compared to the health risks of overweight, which was reflected in the strength of apprehension expressed about their child’s future if he or she is overweight.

*I just want her to be happy and healthy, that’s all I want (laughing) (Amanda).*

### **3.3.1 Health risks.**

Although a few of the parents noted the health risks associated with overweight such as diabetes or heart disease, the majority tended to focus on the negative psycho-social implications for their child. It was noted that many parents stated they had struggled with overweight themselves, which may have biased their views towards the psycho-social aspects of being overweight for their child.

Those who discussed physical health risks tended to have experienced someone close to them having significant health issues related to being overweight. In addition, those that mentioned health risks considered them to be risks that would eventuate in adulthood, not while their child was still young. Only one parent commented that she had observed young children with serious health conditions such as diabetes that she believed were directly related to overweight.

### 3.3.2 Health literacy.

It was clear that the parents had a high degree of health literacy, with all parents being able to describe healthy food options, exercise and limited sedentary behaviour as being important for their pre-schooler's health. For example, in response to the interview prompt "What does healthy eating for a pre-schooler mean to you?" parents generally responded confidently and were able to list a number of healthy food options for pre-schoolers. A common first reaction was "fruit and vegetables," with many expanding on this to include other healthy foods or recommendations such as restricted portion sizes. Many acknowledged that SSBs were unhealthy and a risk for overweight. As described by Tracey, others were wary of the marketing of food to children and concerned about label reading.

*Stick with "if your grandmother doesn't recognize it don't feed it to them!" (Tracey).*

Unhealthy food options were commonly described as "junk food", or takeaways such as McDonalds, and SSBs. Close to half of the parents specifically mentioned limiting SSBs or other forms of sugar in their child's diet. In general, all parents seemed confident in their knowledge of what healthy food for a pre-schooler was and some also quoted community interventions such as *5 + A Day*. It was evident that parents that most parents were able to provide healthy food options on a regular basis, although this was more difficult for some.

*What I know but don't do because it's dear and stuff, is vegetables and fruit and stuff, my kids probably don't get as much as they're supposed to but that's what they're supposed to do (Tracey).*

In relation to healthy exercise for pre-schoolers, all parents were unconcerned about opportunities for their child to be active. No parents referred to a specific amount of activity time for pre-schoolers and there was an impression that pre-schoolers required no prompting to gain sufficient physical exercise as part of their normal day. In response to the question "What does healthy exercise for a

pre-schooler mean to you?” parents seemed confident in their reply that it was everyday play. It was noted that the interview data reflected a significantly higher level of concern about food choices than physical activity or sedentary behaviour.

Likewise, there was little concern about having a space for their child to be active. The card statement “My child does not have a place to be physically active” was one of the lowest ranked of the statements relating to barriers for a healthy lifestyle. It was only ranked as the highest or second to highest barrier by one parent of the fourteen that ranked this statement, who lived in an apartment block and lacked easy access to an outside space. Other parents referred to the ease of access to parks, or having ample space for their child to play in.

Only one parent mentioned a lack of sleep as a risk for pre-schooler overweight. Yen noted that in his home country (Vietnam), there was more emphasis on children gaining sufficient sleep than he had observed in New Zealand. He expressed concern that pre-schoolers in New Zealand had insufficient sleep and therefore lacked energy to engage in physical activity.

Many parents were concerned about sedentary behaviour such as the use of phones, i-pads or video gaming by their child and that the child finds this more attractive than physical activity. This was illustrated by Saul’s comment that healthy activity for pre-schoolers is “*anything that does not involve a computer screen*”. Nine parents specifically raised this issue and although they did not discuss it at length, it was noted that they expressed frustration at attempts to disengage their child from those activities that involved screens, such as ipads or television. There was an inference that their child was addicted to technology and it impacted on their intrinsic motivation to play outside.

*It’s entertaining, it’s seductive, it’s creative, you know  
it’s got all this good stuff about it so why would I want to go to  
the park when I can do that?!...if I could play games all day,  
why would I go outside?(Miranda).*

There was also a feeling that the technology was almost unavoidable, as it has pervaded every aspect of their lives. Two parents also referred to having noticed other parents also using technology such as their phones or ipads while they are supervising their children playing at a park, and commented that they ought to be

actively playing with their children instead. In addition to the impact this type of sedentary behaviour appeared to have on the child's motivation to engage in physical activity, there was also a sense that many parents perhaps lacked effective strategies to limit screen time in the home.

Another theme that was evident across many parents was that they were motivated to encourage their child to be active, but were not concerned about whether their child was fit. By 'active,' many referred to their child being able to participate in appropriate activities with their peers and everyday play. Although this was one of the lowest ranked motivators, physical activity was considered an important risk factor for pre-schooler overweight. The majority of parents ranked 'Low levels of physical activity' as either the highest or second highest risk factor.

In general, most parents did not consider there to be any barriers to their pre-schooler obtaining sufficient physical activity each day. Aside from the concerns noted about screen time, parents seemed to consider their child's everyday play as being sufficient for maintaining good health. Furthermore, parents did not refer to the official recommended daily activity time for pre-schoolers in New Zealand.

### **3.3.3 Emotional wellbeing.**

Elevated concern about the emotional wellbeing of their child was evident across all the parents. Their concern was prompted usually by the card statements relating to wanting their child to be healthy. Most parents' concept of 'healthy' was therefore usually related to wider psycho-social factors rather than physical health. This is illustrated by Aroha's comment about the priority she gives to her son's emotional wellbeing.

*Overall, I want my son to be proud of who he is, confident, achieve to the best of his ability, so this has got nothing to do with weight, food....I want my son to be healthy, definitely, mind body and soul...definitely (Aroha).*

The card statement relating to their child having good self-esteem as a motivator for maintaining a healthy lifestyle was generally ranked third behind their child being healthy. Many parents found the cards relating to self-esteem, having friends and being fit as being too difficult to distinguish. As is noted by Miranda, they considered these factors to be inextricably interlinked.

*..social advantage important, having friends and being confident and active and healthy all ties into self esteem and having friends (Miranda).*

Parents considered an important aspect of building their child's confidence and well-being was their child's ability to partake in play with their friends and join in activities, with social withdrawal having been observed by Jess in children that were overweight.

*...risk is that they become really socially withdrawn if they are overweight when they are older (Jess).*

### **3.3.4 Fear for the future – bullying.**

Many of the parents disclosed having struggled with their own weight management at some stage and several parents disclosed having lost a significant amount of weight as adults. Some alluded to having experienced bullying or other adverse social consequences from being overweight. Amanda aptly described the interconnection between her personal experiences of being overweight and anxiety about her own child's future. It is also a powerful account of the depth of anxiety evoked for many parents.

*I don't want to be worrying further on down the track you know kids can be very mean and things you see today you know young kids killing themselves because they're being teased or bullied online and stuff, yeah, just if, the more nicer I can make her life even if it means giving her healthy food, you know, keeping her slim, just so then she doesn't get bullied or just so she doesn't have to struggle through life, and I find you know, I would love to be skinny I would be a lot more happier if I had, if I was you know, less weight (Amanda).*

In general, parents did not consider bullying to be likely to be an issue until children were at least around eight or nine years old. Only two parents stated that pre-schoolers were aware of differences in weight at that age, with the vast

majority of parents reporting it was an issue when the children neared adolescence. Jess stated that they may be “picked on” at that age. Some parents became visibly emotional when discussing this issue, as they had known children who had been bullied for being overweight or had personally experienced being bullied.

*My main concern is him not eating healthy, him getting quite big and then him getting bullied heaps (tearful). Yep... and him not being happy about himself, that's the worst thing (Joy).*

*You wouldn't want them taunted at school (Lydia).*

There were also indications from many parents that they wished to ensure their child had better nutrition or opportunities to be healthy than they had had as children, and many ruefully reflected on how difficult it is to reverse the trend from overweight to a healthy lifestyle. The high level of emotion and hope for their child's wellbeing overlaps to some degree with the findings regarding the sensitivity of the issue of overweight for parents of pre-schoolers. Many parents found this difficult to discuss and some became tearful when contemplating their child being teased or bullied by their peers about being overweight.

### **3.3.5 Summary.**

All parents reported a high level of concern for their child's wellbeing and were motivated to provide a healthy lifestyle for their child. Overall, parents demonstrated a high degree of health literacy and identified common risk factors for childhood overweight such as poor diet and a high level of sedentary behaviour. Many parents reported that their efforts to maintain a healthy lifestyle for their family were sabotaged by factors such as the marketing of unhealthy food options to children, difficulty reading food labels, or grandparents undermining efforts to make healthy food choices for their child.

Many parents expressed concern about their child's use of technology and identified this as a risk for their child becoming overweight. However, they did not appear concerned about their child's level of physical activity, with most parents noting that sufficient physical activity was gained through daily play.

Conversely, there was a high level of concern about the potential negative psychosocial implications of their child being overweight, such as bullying or their child suffering from low self-esteem when they were older. This issue evoked strong emotional reactions from parents who had observed children they knew being bullied about their weight by peers, or had experienced being overweight when they were young. Overall, many parents reiterated a sense of personal responsibility for their child's overall health and wellbeing.

### 3.4 Societal Disapproval

The sub-themes identified from the broad theme of 'Societal disapproval' are as depicted in Figure 4 as 'Self-blame', 'Defensiveness', and 'Reluctance to seek help'.

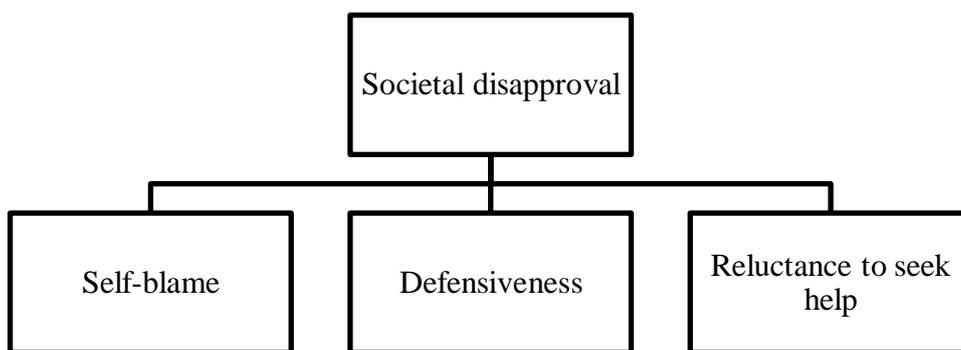


Figure 4. Societal disapproval

It was noted that there was a discernible shift in the demeanour of all the parents when they were asked during interview if pre-schooler overweight was a sensitive issue for parents. Nearly all either hesitated or reflected on the question before answering. Their responses were often quite emotive, and for many it was almost as if they had been granted permission to speak freely about the shame, guilt or fear of judgement they felt.

*Weight in general is a really sensitive topic so...for me to talk about my own weight...feel really uncomfortable, when.. my son is my taonga, my treasure and for me to talk about his weight behind his back is .. a little uncomfortable (Aroha).*

Even those parents who felt their child(ren) were not overweight hesitated before answering this question and seemed sure that it would be sensitive for parents, although some still felt that there were no excuses for not maintaining a healthy lifestyle. Many parents specifically mentioned that they were particularly sensitive with regards to family members commenting on their child's weight and expressed frustration, as they felt they were doing their best under difficult circumstances. For some there was also a sense that it was unfair for people to comment, as there was still time to address it if their child was still only a pre-schooler.

*I'd be offended because (a) it would be my fault, (b) I'd be doing something about it because look hey he's only a kid and (c) I'd probably be using the same excuse, look he's only 5, we've got all this time to sort it out (Jess).*

#### **3.4.1 Self-blame.**

A number of parents specifically referred to a sense of shame or embarrassment, as they felt it was a criticism of their parenting. Many expressed feeling hurt and defensive when others comment on their child's overweight status, especially family members.

*For me it would be, because I'm overweight. So to see my daughter overweight would be very sensitive, yes, I'd feel like it was my fault (Amanda).*

*I would be worried, gutted (Kyla).*

*I think it's not a good image for me if my child is overweight, yes (Yen).*

There was a keen sense that their child's weight was their responsibility. Some parents commented that they had observed other parents not recognising their young child was overweight or appearing unconcerned about their child's obvious overweight. Central to this sub-theme was that parents acknowledged that pre-

schoolers were more dependent on their parents than older children were and therefore lacked the ability to make choices for themselves. Parents were therefore automatically blamed if a pre-schooler was overweight as this being due to an obesogenic home environment was the logical conclusion. This appeared to lead to pre-schooler parents being judged more harshly perhaps than parents of older children.

*The children don't know what's right for them, you know, that's why they have parents! (Daniel).*

*...what you put in the child's mouth is what they're going to eat I suppose, and if that person is just doing baking... and that's what the child is going to eat, so...does the child have any alternative, would a pre-schooler say "oh I'm going to have an apple"?! No. (Lydia).*

The sensitivity of this issue for most of the parents is also illustrated by the following comments by Tracey, Susan and Miranda.

*Think it would make the parent feel like a failure...it's very easy for people to get insulted about parenting (Tracey).*

*I guess parents could take it personally, it's a criticism of their parenting (Susan).*

*There's a lot of judgement that goes around it because I see a big child and I immediately think sugars, processed foods,...sodas, all that bad stuff (Miranda).*

### **3.4.2 Defensiveness.**

There was sense of frustration and defensiveness expressed by many parents, who were concerned about others criticizing and judging their parenting without an appreciation of the challenges they felt they were facing. There was also an

underlying sense of protectiveness towards their child, particularly with respect to family members commenting on their child's weight.

*Would have a huge issue, I would have a huge, huge issue if my family brought it up around my child ..because it's not his fault...like don't stigmatise him for something we're not doing right...I would probably be like, well back off, you know, my kid, my rules (Miranda).*

*I'm looking after my kids as best I can so rack off! (Brenda).*

Some parents expressed that there no excuses, or that some parents used excuses such as healthy food being expensive. It was noted that they were usually parents who had either indicated that they did not consider their child to be overweight, or had lost a significant amount of weight themselves as adults and had taken active steps to overcome barriers to a healthy lifestyle.

### **3.4.3 Reluctance to seek help.**

An unexpected finding perhaps was that most parents seemed unsure where they would go for help if they were concerned about their child being overweight. Most hesitated before responding and responded reasonably vaguely. There was some confusion about which agencies would be appropriate to contact for a pre-schooler.

*GP or Plunket, not sure where else, maybe ask at kindy (Lydia).*

Most identified their GP as the first place they would seek help and one would go to a dietician. It was noted that a few parents referred to an agency for infants and young children (Plunket) and then appeared to reconsider when they realized that their child would be too old to be seen by Plunket. Even if they were prompted to ask a health provider such as their GP, some parents were unsure how the GP would assess overweight and how they would help.

*...I'd probably go to the doctor, um and just you know um get information I suppose, I don't really know, um, yeah...if he's sick in some way and it's making him fat then I should*

*know about it (Miranda).*

Several parents specifically stated that they considered issues with overweight to be outside the scope of a health provider, as they did not perceive overweight to be a medical issue and perceived their health provider as being limited to prescribing medicine. Those that did not feel a health provider was the appropriate source of help for this issue tended to refer to searching online for help as their most likely option. Five parents specified that they would seek information online or that they have done so in the past when attempting to manage their child's weight. Other parents stated they would perhaps ask staff at their child's kindergarten/early childhood centre.

Although one parent specified that she would be receptive to a health provider's advice about her child's weight, it was evident that many parents (6) were guarded about the advice offered by a health provider and would question it, with a few having found health providers unhelpful in the past. Some parents commented that they would review the advice in light of whether they felt they were already doing all they could to manage the issue.

*..not just telling you off..because every mum has that feeling with their kid, oh, you've done wrong (Joy).*

Some commented that a barrier to seeking help for many parents would be a fear of being judged.

*They don't want to be judged. Don't want to be judged. I can imagine that would be quite rife (Brenda).*

*Embarrassment, or not sure where to go, a lack of understanding of how to deal with it (Mary)*

*If they thought they were going to be judged for their parenting then yes, they would be reluctant to talk to someone about it, yes (Tracey).*

Susan commented that the advice from health providers was too simplistic, and that being advised by her GP that there are “worse out there” was not helpful. She indicated that advice needed to be individualized for the family, and was often patronising and simplistic.

*Just comes across as criticism, it's not getting to the potentially underlying causes (Susan).*

Some parents specifically referred to the need for their GP to manage the issue sensitively, however most were more receptive to a health provider commenting on their child's weight and offering advice than others such as family or friends.

*GP ok if done sensitively (Miranda).*

*Would need to have a strategy, not just telling you off (Joy).*

*Would need a good relationship with GP (Imogen).*

In relation to interventions, six parents were specifically asked if they would be receptive to attending a programme similar to *Bodywise* for their pre-schooler and all expressed enthusiasm for doing so. Some noted barriers to attending though such as time, money and availability.

*..but it couldn't be at night, it couldn't be during the day,  
It would have to be a weekend, and I'd have to get a babysitter,  
and I don't have one (Brenda).*

In particular, three parents specified parenting as an area they would be interested to attend a programme on. Managing challenging behaviour and learning cooking skills were suggested as areas that would be helpful for parents seeking to address childhood overweight.

#### **3.4.4 Summary.**

In general, parents perceived themselves as being personally responsible for their child's well-being and therefore tended to blame themselves if their child

was overweight. Most reported being keenly aware of negative societal judgement of their parenting. There was also some evidence that the parents also judged other pre-schooler parents if they were observed to be lacking concern about their child's overweight status. This was directly attributed to the child's developmental stage, as a pre-schooler was noted to be both unable to make healthy food choices for themselves and also as being more dependent on their parents than older children. Many parents appeared defensive about their child being overweight and expressed frustration at the perceived judgement from others. They also perceived that others did not accurately appreciate how challenging it was for them.

In addition, many parents appeared uncertain about where to seek help if they were concerned that their child was overweight. Most parents perceived the primary role of health providers as being to identify their child as being overweight rather than as a source of help. Many parents also seemed wary of seeking help from health providers for fear of being negatively evaluated or being given standardised advice that was not tailored for their family circumstances. However, several parents expressed a willingness to attend parenting programmes to learn strategies that would assist with challenging behaviour. There was also a suggestion by two parents that it would be useful to learn practical skills such as cooking.

### **3.5 Barriers to a Healthy Lifestyle**

*We're busy, so busy, so we make a really conscious effort.  
(Miranda).*

There was a clear theme that most parents experienced frustration when attempting to maintain a healthy lifestyle. A lack of parenting strategies for managing challenging behaviour was a key contributing factor alongside a lack of time and energy due to work commitments and financial constraints.

This was particularly evident at mealtimes, with the child's fussy eating being a significant problem for parents. Most of the parents reported being tired and busy with work, which they perceived to be a barrier to maintaining healthy lifestyle choices for their child. Another very clear theme was the parents' inner

conflict between loyalty towards their parents and frustration that their parents would undermine their efforts to minimize healthy food options for their child in particular. The sub-themes identified are ‘Cost of healthy food options’, ‘Lack of time and energy’, ‘Parenting challenges’ and ‘Lack of support’, which are depicted in Figure 5.

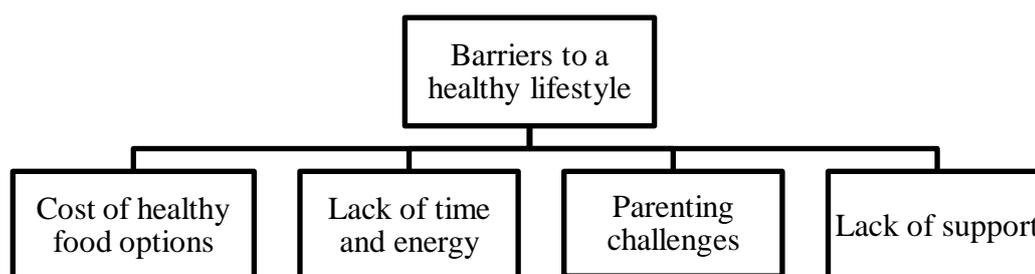


Figure 5. Barriers to a healthy lifestyle.

### 3.5.1 Cost of healthy food options.

*it's cheaper to buy crap food than it is to buy good, healthy food, and it's sad (Joy).*

Perhaps one of the most consistent themes when parents were asked to prioritize the cards was to rank the card statement “Healthy foods are too expensive for my child” as either the highest or second highest barrier to maintaining a healthy lifestyle. However, there were mixed reports with regards to whether healthy foods were too expensive. Many parents perceived unhealthy food as both cheaper and more convenient to prepare than healthy food. Several parents compared the prices of unhealthy options such as potato chip packets with healthier options for lunchboxes such as fresh fruit salads and concluded that it would be significantly cheaper to buy the unhealthy options. Others commented that healthy food is not too expensive, and unhealthy options were the expensive options.

Despite the cost, most parents reported prioritising purchasing healthy food and some had actively pursued avenues that made fresh food more affordable such as establishing a community garden or shopping at fruit and vegetable markets. Two

parents had the opposite view, stating that unhealthy foods were more expensive and that it was an excuse to claim otherwise. Another aspect of this sub-theme was the perception by some parents that the preparation of healthy food took too much time and energy in comparison to fast food options.

*I know how to prepare healthy food but I don't always have the time to do it (Lydia).*

### **3.5.2 Lack of time and energy.**

The majority of the parents were working full-time and many indicated they were single parents. Most parents reported that they were busy and tired due to work commitments. This impacted on how they managed their child's challenging behaviour with food, not having time to play outside with their child, or needing to prepare a quick and easy evening meal that may not be as nutritious as they would prefer. They also acknowledged that this contributed to risks for their child becoming overweight.

*It's just hectic and it's so easy to just get junk food. (Miranda).*

A number of parents felt that fresh food such as vegetables was often more difficult and time consuming to prepare than less healthy options that required little or no preparation, such as fish fingers for example. There were divergent views of this aspect of healthy food, with 6 from 13 parents ranking the card statement "Purchasing and preparing healthy foods" as either the highest or second highest barrier for maintaining a healthy lifestyle. The time to prepare an evening meal was often a barrier.

*With the time constraints, it takes time that we don't have (Miranda).*

A few referred to parents not knowing how to cook and therefore resorting to unhealthy food options, while others felt there was no excuse for not making the effort while recognizing that it was often more time consuming. There were a few

parents that did not find it difficult to prepare healthy food. There was also tension between health literacy and the demands of everyday life, as expressed by Lydia.

*It's what parents set out to do isn't it, but it's not always, um, it's not always easy, you've got to have time to prepare fresh food...I don't always have time to prepare food (Lydia).*

### 3.5.3 Parenting challenges.

Many parents reported frustration or difficulty managing what many termed as their child's "fussy eating", especially at the evening meal.

*It's so frustrating, because you know what they need to eat, you know they need vegetables, but if they don't eat it, what can you do?(Lydia).*

There was an element of feeling hesitant to risk spending valuable time, energy and money preparing healthy food options that their child was likely to refuse to eat. There was a sense that many parents felt this was a relentless struggle with their child on a daily basis and that they were feeling worn down.

*You put a lot of effort into something and they might not eat it (Tracey)*

Many were already actively controlling their child's access to food to prevent unnecessary snacking, with the statement "I cannot prevent my child from snacking" ranked one of the lowest barriers. It was evident though that parents tended to manage snacking by physically preventing the child from accessing the food, for example, by placing a lock on the cupboard or having family rules that they were not allowed to access food without asking first. However, this is often challenging, as is illustrated by the quote from Yen.

*She loves snacking...and when they cry for it it's hard to like say no, they cry sometimes I have to offer her (Yen).*

Although no parents indicated that they would ask their child to finish the food on their plate, four out of fourteen of them indicated that they considered the statement “Rewarding my child with food” to be either the highest or second highest barrier, with a further three ranking it third. When prompted, parents reported that rewarding with food was often used to assist to manage the child’s behaviour. As stated by Miranda, it was easy to fall back on rewarding with food when she was “tired and grumpy”. As Aroha recalled, “you’ve got to do what you’ve got to do” at times. There was a sense of guilt or desperation expressed by some parents, as demonstrated by the comments by Joy and Aroha.

*It's an easy out and I know it's wrong, and it's rewarding his bad behaviour with crap food, ..but it works (Joy).*

*I guess they just don't want to hear their kids cry so they give them food (Christine).*

*Preparing healthy foods isn't difficult, it's getting him to eat it, ...it's heartbreaking because most of the time he won't take it and ..I just don't know what else to do (Aroha).*

Some parents also mentioned difficulty motivating their child to move away from technology such as video gaming and want to play outside or engage in activities such as a family bike ride. This issue was not prompted in interview and many parents initiated this discussion and appeared to have strong feelings about it. However, the child’s sedentary behaviour such as ‘screen time’ was not highlighted as more of a problem than fussy eating and overall, parents did not seem as concerned about this compared to their child’s eating habits or food choices.

#### **3.5.4 Lack of support.**

*If you've got a caretaker that's not on board, it's really hard....everyone tries to feed your child for you and thinks that they're the only person giving them*

*a treat...(Susan).*

All parents were concerned about their child's weight, whether or not they considered their child to be overweight. Many parents suggested that their efforts to maintain a healthy lifestyle for their family was often sabotaged by others, who persisted in offering their child unhealthy food options such as sweets, SSBs or fast foods such as 'McDonalds'.

Most parents relied on other caregivers for their child. There were two card statements that prompted this discussion. One was a barrier being "The food choices of my child's caretakers." This was selected by seven out of fifteen parents as a significant barrier for them and indicated a generational gap in health literacy between the parent and the child's grandparents in particular.

Another was a risk factor "I cannot control the foods offered to my child by others", which prompted parents to express a lack of control over caregivers food choices for their child, which often evoked distress or frustration. Parents often expressed these emotions when discussing the role of the grandparents, who many experienced as being unsupportive and undermining with regards to their child's food choices on an ongoing basis. Five out of eleven parents ranked it as one of the highest risks.

An underlying sentiment was that parents assumed the grandparents perceived that they were entitled to "spoil" the child with unhealthy foods such as sweets or takeaways.

*It makes me really angry actually, cause they know better but they just do it because they can, because they're grandparents, they think it's their right (Joy).*

*...dad jokes about giving son [SSBs], even though he's joking and I know he wouldn't, it's sort of still there that if he wanted to he could? (Miranda).*

This seemed to evoke conflict between a parent's sense of loyalty to the grandparent, protecting their perceived rights as a parent and frustration at the lack of control they felt over the foods grandparents gave their child. Their frustration

focused on the food choices of the grandparents rather than other behaviours such as grandparents interfering with parenting for example. On the one hand, several parents acknowledged a perception that “treating” the child was part of a grandparent’s role and accepted this aspect of family relations. Conversely, they experienced frustration that their requests not to provide unhealthy food options for their child were deliberately ignored by the grandparents.

*It’s only natural for the grandparents to want to treat their grandchildren...I find as much as I tell Mum, like don’t buy her McDonalds, she buys her McDonalds! (laughing) (Mary).*

*It’s difficult to control what they give the children, you often talk with them they say “oh, it’s just a treat” or if kids get cranky, not everybody can handle that... “oh well, I’ll give it to you” (Kyla).*

The same sentiment was not evident though with regards to Early Childhood Centres or Kindergartens (ECC), with nine parents whose child attended ECC’s reporting being happy with the efforts made to promote healthy foods there. Several parents also suggested the ECC was struggling to minimise the obesogenic behaviours of many of the parents with children attending the ECC, as parents reported having observed many children there with unhealthy food options in their lunchboxes.

*I think kindy’s and schools try, but there’s only so much you can do (Lydia).*

However, two parents expressed similar concerns about the ECC their child attended, and reported similar concerns regarding their requests for their child not be offered unhealthy food choices being unheeded by the ECC.

### **3.5.5 Summary.**

Many parents perceived healthy food options such as fruit and vegetables to be more expensive than unhealthy foods such as chips or SSBs. Most parents either

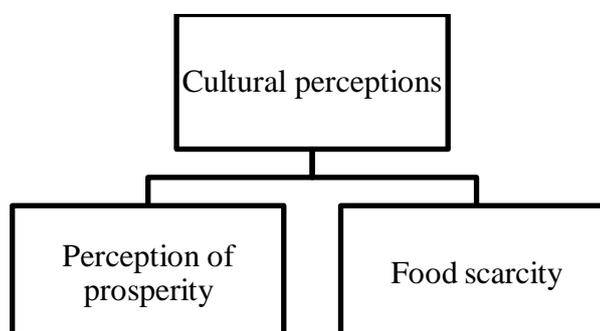
prioritised purchasing healthy food despite the expense or had developed strategies to circumvent the expense being a barrier, such as becoming involved in a community garden or networking among market gardeners to gain sources of cheap fruit and vegetables.

For most parents, leading a busy and tiring lifestyle due to work commitments was acknowledged as a risk for consequent behaviours that may lead to childhood overweight, such as not preparing healthy food for the evening meal or rewarding their child with food to manage challenging behaviour at mealtimes. In general, many parents reported difficulty managing their child's challenging behaviour with regards to food choices, such as snacking. In addition, some parents expressed concern about their child's sedentary behaviour and a lack of strategies to disengage their child from 'screen time' in particular.

Many parents experienced a lack of control over the food options other caregivers provided for their child, which appeared especially emotive in relation to the child's grandparents. Parents were often conflicted between acknowledging the grandparents' role versus frustration that grandparents would ignore parents' requests to be mindful of their child's diet. Nearly all parents were pleased with the efforts made by their ECC and did not view this environment as a concern with regards to their child's weight management.

### **3.6 Cultural Perceptions**

The two sub-themes identified with regards to cultural perceptions were a perception of prosperity and food scarcity, which are depicted in Figure 6.



*Figure 6.* Cultural perceptions

The parents represented a diverse ethnic mix and six were immigrants to New Zealand. There were specific themes identified with regards to their interview data which are proposed to illustrate the influence of culture on parents' perceptions of childhood overweight. However, it is acknowledged that these reflections are particular to each parent rather than a theme. Therefore, it was notable that the findings did not reflect a consistent theme with regards to cultural beliefs about overweight or the influence of ethnicity. In particular, only two parents even alluded to the disproportionate prevalence of overweight for Māori and Pacific ethnic groups in New Zealand, despite six parents identifying as Māori.

*Samoan, they're kind of sensitive about being  
told what to eat, and that what they're eating isn't healthy  
(Mary).*

Subtle cultural influences were noted in the interview data. This included references to the 'thin ideal' and how this may influence the way in which others view a child that is overweight. Another common reference was to food being associated with comfort or pleasant memories. The perceptions that a larger body size is a sign of prosperity and the influence of food scarcity in their home countries were described by Saul, Kyla and Daniel and are briefly outlined below to illustrate the differences in cultural perceptions.

### **3.6.1 Perception of prosperity.**

Kyla described her parents as being from the "starving generation" in China, which up until thirty years ago experienced food shortages. Even though food is now more readily available, she referred to overweight status as "liked" by this generation in China as they still relate being overweight to prosperity. Saul also referred to overweight status being perceived as a sign of prosperity and that a visibly overweight child was considered healthy by many in Fiji.

*...with everyone in Fiji they see that carrying  
a few more kgs as a sign that things are going well  
at home (Saul).*

Saul also proposed that many religions originated in an environment and age where food was scarce and therefore did not promote values associated with overweight as a “sin” or hold beliefs directly relating to diet.

### **3.6.2 Food scarcity.**

Those that immigrated to New Zealand from countries where food is scarce or expensive faced additional challenges that impacted on overweight. Both Daniel and Saul recounted the ready availability and affordability of food in New Zealand. They described the combination of being suddenly able to purchase large quantities of food and low health literacy as leading to overweight.

*Suddenly, you come to New Zealand and you can afford to stock your fridge full of as much food as you want...here, people don't stop eating (Saul).*

### **3.6.3 Summary.**

Although ‘Cultural Perceptions’ was not a strong theme across all the interview data, it was a common theme between those parents that had immigrated to New Zealand. The ethnic diversity of parents interviewed meant that several different cultural perspectives about overweight were discussed. The notion of the ‘thin ideal’ in Western society in particular was contrasted with cultural perceptions of a large body size being associated with prosperity in poorer countries. Being overweight was an indication of prosperity due to the relative scarcity and expense of food in those countries compared to wealthier countries where food was readily available. Food scarcity was proposed to be the basis for many religious beliefs about body size, and the high availability of food in western countries was identified as a risk factor for overweight for immigrants from countries where food was scarce.

## Chapter Four: Discussion

The primary aim of this research was to explore parental perceptions of pre-schooler overweight. The secondary aim was to inform how health providers may effectively engage with parents to encourage them to participate in interventions that address overweight in the pre-schooler population.

Firstly, the findings relating to parental awareness and concern about pre-schooler overweight are discussed with reference to how they influence parental motivation to make health behaviour changes. The tension between parental concern and perceived barriers to maintaining a healthy lifestyle is then explored. The discussion then focuses on the sensitivity of this topic for pre-schooler parents and how their perceptions of childhood overweight may moderate their help-seeking behaviour. Finally, the implications of these findings for health providers are discussed.

### 4.1 Parental Awareness of Childhood Overweight

An interesting finding in this research is the similarity between the perceptions of participating parents to those found in other studies internationally, such as those reviewed by Pocock et al. (2010). This finding is surprising given that all parents in this research are from the same country and all but one are from the same geographical region. This is possibly a reflection of a high degree of commonality between pre-schooler parents worldwide in relation to their perceptions of childhood overweight.

In this research, parents were asked if they considered overweight to be a problem in New Zealand. As would be expected from the rising prevalence of overweight in New Zealand (Ministry of Health, 2013c), it was found that parents did perceive overweight to be a problem. That parents referred to media reports or having ‘heard’ that it was a problem is possibly indicative of the increasing media interest and government policy in New Zealand concerning childhood overweight. Examples are the recent television interview with the Chief Science Advisor to Government, Sir Peter Gluckman, (Gluckman, 2014), or the funding of large scale interventions such as *Project Energize* (Rush et al., 2014) and *Under 5 Energize* (Ryall, 2014).

That most parents considered childhood overweight to be a complex issue that involved a number of variables was consistent with international policy and recommendations that childhood overweight is a multi-dimensional issue, which needs to be considered in the context of an ecological model (e.g., Maziak et al., 2008; Mulrine, 2013; Pocock et al., 2010).

However, the finding that many parents did not perceive a need to address this issue until the children were older was concerning given official recommendations for childhood overweight to be addressed in early childhood (New Zealand Medical Association, 2014). In contrast to international studies reviewed by Pocock et al. (2010), many parents in this research did not perceive childhood overweight as being an urgent issue that needed to be addressed in early childhood.

This may reflect a traditional view that a young child is likely to outgrow being overweight (Jaballas et al., 2011; McClintock & Hedge, 2009). The perception by some parents that pre-schoolers may yet 'grow out of it' or that there is time to amend behaviours that lead to overweight may be a result of the policy focus in New Zealand on older children and not on the pre-schooler population when addressing childhood overweight (New Zealand Medical Association, 2014). There may therefore be a need for further education to increase parental awareness, as it is likely that overweight at this early age will continue as the child becomes older (Institute of Medicine (IOM), 2011; Ministry of Social Development, 2010; Nader et al., 2006).

These mixed findings concerning whether overweight was a problem in the pre-schooler population may also be explained by literature indicating that pre-schooler parents tend to underestimate that a child is overweight (Baughcum et al., 2000; Eckstein et al., 2006), and that they may perceive pre-schoolers that are overweight as being a healthy weight (Miller et al., 2007). This under-estimation of overweight by pre-schooler parents may also be due to these parents having recently been exposed to health messages promoting weight gain for their child when he or she was an infant. They may not have modified their perceptions that overweight equates to a healthy weight (Southwell, 2011) or they may consider overweight to be the norm for pre-schoolers (Oude Luttikhuis et al., 2010). This finding may also indicate that parents are reluctant to acknowledge overweight in pre-schoolers as a defence mechanism to avoid confronting concerns that their

child may be overweight (Southwell, 2011). These factors may therefore influence whether parents perceived childhood overweight in the pre-schooler population as a problem that needs addressing (Lupi et al., 2014; Park et al., 2013; Towns & D'Auria, 2009).

The finding that few parents reflected on the disproportionate rates of childhood or adult overweight for different ethnic groups in New Zealand was unexpected given the clearly disproportionate prevalence rates for Māori and Pacific ethnic groups (Ministry of Health, 2013c). Although one parent alluded to Samoan families being sensitive about discussing their weight, it was surprising that more parents did not address these differences. However, those parents that had immigrated to New Zealand provided interesting insight into cultural beliefs that childhood overweight represents prosperity and the challenges posed by the high availability of food. Other research exploring the influence of ethnicity and cultural beliefs on parental perceptions of childhood overweight has reported varying results (Towns & D'Auria, 2009), which may possibly indicate that there is not a high level of awareness of differences in childhood overweight related to ethnicity.

Similarly, parents in this research did not tend to refer to the impact of deprivation or low SES as a risk factor for overweight in pre-schoolers, despite relatively strong evidence that deprivation is associated with affordability of food in New Zealand (Ministry of Social Development, 2010). Although it was found that many parents perceived healthy food to be expensive, parents indicated that it was still an option to purchase these foods. There were no objective measures of SES with parents in this research, and it is not therefore clear whether this may have influenced their views concerning the association between deprivation and overweight.

The finding that parental concern about childhood overweight appeared to increase when discussing older children fitted with the research that suggested parents are more likely to recognise overweight in older children (Towns & D'Auria, 2009). The strength of emotion expressed by parents concerning the negative psycho-social implications of their child being overweight when they were older was consistent with evidence that the prospect of their child being negatively judged by peers increases parental concern about childhood overweight (Jackson et al., 2007). It is also highly emotive for parents, especially mothers

(Southwell, 2011). It is noted that the majority of participating parents in this research were mothers (13 out of 16), which may have influenced the high level of emotion noted in these findings.

Having a family history of health problems associated with being overweight may also influence parental perceptions of childhood overweight (Nsiah-Kumi et al., 2009), as well as personally experiencing being overweight (Hughes et al., 2010). It is therefore likely that these factors also played a role in the strength of emotion noted in these findings, as some parents, including one father, disclosed that they had either experienced being overweight when they were younger or had a family history of health problems associated with being overweight. That parents did not appear as concerned about the associated physical health risks of childhood overweight was expected given similar findings in other studies (Jackson et al., 2007; Pocock et al., 2010).

#### **4.2 Tension between Awareness of Risks versus Behaviour**

It was found that the participating parents appeared to have a high level of health literacy and were aware of risks for childhood overweight such as poor nutrition and low activity. This fits with the literature showing that parents generally have a reasonable level of awareness of the health risks of overweight for children (Pocock et al., 2010). Similar to a study in the US, parents in this research did not prioritize physical activity as a concern for their pre-schooler child (Hernandez et al., 2012). The concern many parents expressed about the high level of sedentary behaviours they have observed with pre-schoolers also reflected the findings of recent studies in Australia that pre-schoolers are spending a large proportion of their waking hours engaging in sedentary behaviours (Hinkley et al., 2008).

Likewise, the finding that many parents perceived healthy food as being too expensive is consistent with recent reports that many families in New Zealand may not be able to afford to meet the recommended guidelines for a healthy diet (Regional Public Health, 2011; Smith & Brown, 2010). Interestingly, many parents also reported that unhealthy food options were less expensive than healthy options, including fast food. This possibly indicates that some parents may prioritize satiety over the nutritional value of the food due to the cost of preparing a healthy evening meal. If so, this would be consistent with a tendency for some

families in New Zealand to do so for a variety of reasons (Kuhl et al., 2012; TNS New Zealand Ltd, 2007).

The strength of the theme relating to the deficits in time and energy for many parents and how this relates to their food choices in particular was of interest. Although these factors have been recognised in the literature as contributing factors for childhood overweight (Pocock et al., 2010; Smith & Brown, 2010), the strength of this theme in this research supports the contention by Smith and Brown (2010) that time scarcity is an important area to target in future research.

In addition, these findings support the trend for interventions such as *Lifestyle Triple P* by West et al. (2010) to include a parenting component. That parents experienced difficulty managing challenging behaviour in relation to ‘fussy eating’ or snacking and tended to reward children with food was consistent with research demonstrating similar parenting issues relating to childhood overweight (Bolling et al., 2009; Kuhl et al., 2012; Nixon et al., 2012). The impact of time scarcity and low energy on their ability to effectively parent challenging behaviour was consistent with recent recognition in the literature that these factors contribute to an obesogenic environment for pre-schoolers (Lupi et al., 2014).

In addition, the high level of parental defensiveness noted in these findings indicated a possible lack of strategies to implement changes to overcome these challenges. These findings tend to support a recent shift in the literature to focus on parental self-efficacy and behavioural change constructs when examining parental perceptions and designing interventions (Nixon et al., 2012). They also support growing recognition that parenting is an essential component of interventions targeting pre-schooler overweight and of the need to focus on the family context (Jansen et al., 2011; McPhie et al., 2011). In particular, this study suggests determining how grandparents or other caregivers contribute to an obesogenic environment and the way parents manage this risk.

The finding relating to the lack of control and frustration many parents expressed in relation to grandparents was not surprising given similar sentiments expressed in other studies (Pocock et al., 2010). Likewise, their reports that in general, the ECC their child attended was supportive of healthy food choices was consistent with literature (e.g., Petrunoff et al., 2014). However, the depth of emotion noted during the interviews in relation to their efforts being sabotaged by grandparents suggested that this aspect of the family context possibly needs to be

further understood in order to inform how prospective parenting components of interventions may incorporate this aspect of parenting.

With regards to physical activity, the finding that parents were relatively unconcerned about their child's level of physical activity or whether their child was physically fit was similar to the findings of research demonstrating less concern about this aspect of their child's health (Hernandez et al., 2010; Kuhl et al., 2012). However, there were no indications that parents were concerned about barriers to their child achieving physical exercise, such as the dangers of traffic or strangers approaching them, as has been found in previous research (Pocock et al., 2010). This finding may be due to the environment participating parents reside in, with nearly all parents having reported having adequate space or options for their child to partake in physical exercise each day.

It must be noted though that it is possible that parents are underestimating the amount of physical activity their pre-schooler needs, as research has indicated that pre-schooler parents may underestimate whether their child is achieving recommended levels of exercise per day (De Craemer et al., 2013). In addition, it is possible that parents are not aware of official recommendations for the level of exercise for pre-schoolers (Hinkley et al., 2010).

This may also be a factor in parental accounts of their child's diet, especially with regards to the level of SSBs their child consumes. The literature suggests that parents tend to misperceive risks for childhood overweight in relation to SSBs (De Craemer et al., 2013) and may be overly positive about the nutritional value of their child's diet (Adamo & Brett, 2014; Petrunoff et al., 2014). That only one of the parents identified that a pre-schooler's lack of sleep may be a contributing factor for childhood overweight was expected, as this factor appears to have only relatively recently been understood to be associated with overweight (e.g., Carter et al., 2011; O'Dea et al., 2012).

### **4.3 Parental Sensitivity**

Parental heightened sensitivity to being judged seemed inextricably linked to a perceived societal expectation that they were personally responsible for their pre-schooler's overall health and well-being. This was consistent with research showing that pre-schooler parents' behaviours, such as their feeding practices, may be risk factors for the child becoming overweight (Dev et al., 2013) and that

risk factors for childhood overweight are often attributed to the parents (Stein et al., 2014). A sense of shame, self-responsibility and defensiveness about their pre-schooler being overweight is consistent with the findings in similar studies concerning childhood overweight (e.g., Jackson et al., 2005; Pagnini et al., 2007). The sensitivity of this issue for parents has also been recognised in the literature concerning how health providers engage with parents (Katz et al., 2012).

The strength of this theme in the current research may be due to the focus on pre-schooler parents rather than parents of older children. It may also be relevant that only a few (3) of the parents interviewed were fathers rather than mothers, as studies suggest that this is a particularly emotive issue for mothers (Southwell, 2011). Mothers also tend to be especially sensitive to the negative social implications of their child being overweight (Jackson et al., 2005). Although the difference between paternal and maternal perceptions was not explored in this research, the findings suggest that the level of emotion expressed did not appear to be gender specific. Furthermore, the emotions expressed by parents in this study were also evident regardless of whether they considered their child to be overweight.

This highlighted the fact that pre-schooler parents may feel particularly vulnerable to being judged for their child's weight status. This finding fits with the recognition in the literature that pre-schooler parents are especially sensitive about their child being overweight due to the high level of dependence pre-schoolers have on their parents and the consequent inference that parents are providing an obesogenic home environment (Pagnini et al., 2007; Pocock et al., 2010).

Several of the parents in this research also volunteered personal experiences of being overweight, and were motivated by a desire for their child not to experience the same negative implications. Although the influence of parental overweight is evident in the literature (Hughes et al., 2010), not many studies appear to have examined this aspect of parental perceptions in detail. However, some parents in this research alluded to a family history of health risks associated with overweight being a motivating factor for them to address overweight with their child, which was consistent with studies finding that parental concern is likely to be higher for those parents with such a family history (Nsiah-Kumi et al., 2009).

A few parents commented that there were “no excuses” for certain risk factors such as not preparing healthy food and this attitude may be typical perhaps of others who tend to judge an overweight child and blame the parents. The sensitivity of the issue for many parents of pre-schoolers for similar reasons has also been identified in studies with the mothers of pre-schoolers in particular (e.g., Pagnini et al., 2007).

#### **4.4 Perceptions influence Help-seeking Behaviour**

The finding that parents in this research viewed health providers as having the authority to identify their child as being overweight was consistent with previous research of parental perceptions of childhood overweight (Pocock et al., 2010). However, a surprising finding in this study was that many of the parents seemed unsure about where to access help for their child if he or she was overweight. Furthermore, that they tended to become guarded when questioned about the role of their health provider with respect to help managing their child’s weight. As has been found in previous studies, this may be largely due to parents perceiving the role of health providers to be limited to identifying that their child is overweight rather than providing a wider resource for addressing the issue (Lupi et al., 2014).

These findings also indicated that parents were unreceptive to traditional health messages about diet and exercise and expected advice to be tailored to their family. This finding was expected given that similar sentiments have been found in the recent study by Lupi et al. (2014). However, the relative strength of this theme in this research was slightly surprising and may reflect the recruitment criteria for this research being that parents had concerns about their child’s weight already. They may therefore possibly have been more motivated to address this issue than parents who did not have concerns. In addition, this finding supports earlier research that parents expect a collaborative relationship with health providers (Lupi et al., 2014).

Parental perceptions that the role of the health provider was to provide medical advice and that being overweight was not within their scope reflect the emerging research that parents tend to consider their role as being limited to identifying that their child is overweight (Lupi et al., 2014). However, it is difficult to assess the degree to which the cultural perspectives of childhood overweight reported in these findings are consistent with existing literature, as it is relatively limited

(Towns & D'Auria, 2009). Reports by several parents that food is an integral aspect of their social fabric and is associated with family occasions also fits with international recognition that it is vitally important for health providers to understand cultural and socio-economic influences on the risk factors for childhood overweight within families (Barlow, 2007).

This finding suggests that further research surrounding parental perceptions of health providers and their role with regards to childhood overweight is warranted, alongside education about the role of health providers with regard to referrals to interventions and assistance for families to manage the risks for childhood overweight.

#### **4.5 Implications for Health Providers**

These findings highlight that it is vital for health providers to understand how parents of pre-schoolers perceive this issue and to broach the issue with sensitivity. This is consistent with the growing body of literature exploring the use of MI by health providers to address this issue with parents (Prinz et al., 2001; Taylor et al., 2013). Although research has clearly identified the need for health providers and policymakers to address childhood overweight in the context of the family, (Davison et al., 2013; Skouteris et al., 2011), few studies appear to have examined how to best tailor health messages for those pre-schooler parents that already understand the risks for overweight and recognise that their child is overweight. The dismissive attitude many parents in this research demonstrated towards health providers reflects the need for health providers to tailor their advice to each family and recognise that many pre-schooler parents may already have a high degree of health literacy.

Also, a health provider commenting on the child's weight will need to be particularly mindful that pre-schooler parents may feel intensely shamed and a greater sense of responsibility due to the child's obvious lack of agency to make their own choices. For this reason, health providers may gain more benefit from using MI techniques suggested by Dawson, Brown, et al. (2014) with pre-schooler parents than they do perhaps with parents of older children.

These findings appear to support the shift noted in the literature from focusing on the risk factors for pre-schooler overweight, to the psychological mechanisms that influence parental behaviour change (Beckman et al., 2006). One example is

the literature concerning the terminology health providers ought to use when discussing a child's overweight status with pre-schooler parents, which indicates that parents may tend to avoid terms such as 'overweight' or 'obesity' and use terms such as 'happiness' or 'health' instead (Lupi et al., 2014). This was noted also in the findings of this research, where parents generally referred to their child being 'healthy and happy' when referring to their weight, with no parents referring to a child's BMI and few using terms such as 'overweight.' This lends support to existing research indicating that parents may be avoiding confronting the issue (Southwell, 2011), although this is unable to be accurately ascertained in this research, as there were no objective measures of the children's weight.

The need for structured plans and tailored advice for managing childhood overweight has been expressed by parents in the context of interventions for older children (Banks, Cramer, Sharp, Shield, & Turner, 2014). This was consistent with the finding that participating parents expected health providers to manage the issue of the child's overweight with sensitivity as well as offering practical, useful strategies that were individualised for their family.

In conclusion, the following quote from Aroha aptly summarises the implications of the findings from this research and the need for health providers to be mindful of the sensitivity of this issue for pre-schooler parents.

*Definitely that a child would exist within a context, within their family, whole household, it is really important that everyone's on the right page and supporting this kaupapa and that if they're in day-care, the day-care's got to be involved as well, so everyone's got to be on the same page, so the child exists within a whole context, yeah I do believe that you can lead a horse to water but you can't make them drink, and heartache, could be heartache, like in our case, but it's work in progress (Aroha).*

## Chapter Five: Conclusions

This research sought to explore the perceptions of 16 parents regarding pre-schooler overweight. The increasing prevalence of pre-schoolers identified as being overweight has prompted emerging research interest in the contributing risk factors for overweight in the pre-schooler population. It is important to understand parental perceptions of these risks, as research indicates that parents are considered to be the agents of change for their child. The level of parental awareness and concern about their child's weight also influence their motivation to make health behaviour changes and engage in relevant interventions.

A shift in policy with regards to childhood overweight towards addressing the issue in early childhood emphasises the need for health providers to assess parental motivation to make health behaviour changes. It is therefore important for health providers to understand parental perceptions of this issue when seeking to provide feedback to parents about their child's weight. A relatively recent shift in research interest from overweight in older children to pre-schoolers means health providers need to be aware of potential differences in the perceptions of pre-schooler parents compared to parents of older children. This will assist them to engage in a sensitive and culturally responsive way when providing feedback to parents and assessing their motivation to engage in interventions if their pre-schooler has been identified as being overweight.

This research suggests that pre-schooler parents' perceptions of childhood overweight were largely consistent with international literature. In general, parents considered childhood overweight to be a problem in New Zealand that needs to be addressed at multiple levels. The lack of consensus relating to whether childhood overweight is a problem in the pre-schooler population indicated that parents tend to be less concerned about a pre-schooler being overweight than an older child. As research indicates that parents are likely to underestimate a child's weight it is possible that parents may not recognise that a pre-schooler is overweight, which may influence their level of awareness and concern.

Parental concern about childhood overweight may be most likely to increase when they consider the prospect of their child experiencing negative psychosocial implications of being overweight, such as being bullied. These risks

appeared to be more immediate for parents than the associated health risks of children being overweight, and may be more meaningful for pre-schooler parents than traditional health messages related to physical health. Also, parents may not appreciate the impact of the amount of sleep their pre-schooler obtains as being a potential risk for overweight. This is not surprising given that research concerning sleep as a contributing risk factor appears to be very recent. In general, pre-schooler parents may misperceive risk factors for childhood overweight such as whether their child is meeting recommended daily physical activity or their intake of SSBs. This is relevant when assessing their level of awareness about a potentially obesogenic environment for their child.

In general, parental health literacy appeared to be high, although there was discrepancy between awareness of risk factors for childhood overweight and everyday behaviour. It was clear that parents lead busy lifestyles and that time scarcity combined with low energy are likely to be contributing risk factors for childhood overweight. Many parents perceived healthy food options to be expensive, which was a barrier for some despite their recognition that it was priority for their child.

Parents seemed the most concerned about parenting challenges such as managing 'fussy eating' and did not appear as concerned about a lack of health literacy. Pre-schooler parents may experience a lack of control over other caregivers who ignore parents' requests for their child to be given healthy food choices. This issue seemed especially pertinent in relation to grandparents, and it appeared that parents were balancing competing loyalties between their parents and their child with regards to grandparents providing unhealthy food choices as 'treats.' By contrast, most parents did not appear as conflicted about the food choices for their child at an ECC, despite the suggestion by some parents that ECC's are struggling to curb the level of unhealthy food options provided by other pre-schooler parents.

The highly sensitive and emotive nature of this issue for pre-schooler parents was evident and parents perceived a high level of self-responsibility if their child was overweight. Pre-schoolers were perceived as being dependant on their parents and therefore being overweight was a visible indication of an obesogenic environment at home. Parents therefore tended to view health providers with caution due to the likelihood that they will be negatively judged and provided

with standardised advice that is not tailored to their family. Those parents with a family history of health concerns related to being overweight or personal experiences of being overweight may be more receptive to health related messages about their child's weight from health providers than those parents without such a family history.

Health providers also need to be culturally responsive when addressing overweight with pre-schooler parents and recognise the worldview of those parents who may have recently immigrated from countries where food was less available. Parents may consider efforts to address their child's weight as depriving their child or as being contrary to cultural perceptions of a larger body size as a sign of prosperity for example.

Health providers may benefit from the use of techniques such as MI when assessing pre-schooler parents' readiness to make health behaviour changes if their child has been identified as being overweight. This research supports the view that the psychological constructs underlying parental perceptions of childhood overweight are relevant when assessing parental motivation to make health behaviour changes and engaging parents in relevant weight management interventions.

Overall, the findings from this research highlight the need for health providers to accurately consider the cultural and socio-economic context when interacting with parents about their child's weight. This is consistent with the trend in the literature to recognise that parental perceptions of childhood overweight need to be understood in the wider familial and societal context.

## **5.1 Limitations**

There are several limitations to this research that caution against attempting to generalise the findings. A relatively small number of parents were interviewed (16), and all except one of the parents live in the same region of New Zealand. Although this may be useful when reviewing how the findings may inform the development of an intervention for parents in this region, it is a significant limitation with regards to generalising to a wider geographical population. Similarly, the focus of this review was on the Australasian literature, and it is also acknowledged that many of the international studies reviewed are predominantly based in developing countries.

The views of the parents may also be biased towards those of mothers rather than fathers of pre-schoolers, as only three fathers were interviewed compared to 13 mothers. Another important consideration was that there was no independent measure of the weight status of the children or of the health behaviours reported by parents in this study. However, it is noted that there is some evidence that parental self-report of health behaviours with regards to overweight in pre-schoolers may be reasonably reliable (Chen, Ziegenfuss, Jenkins, Beebe, & Ytterberg, 2011).

As was noted above, parents had variable interpretations of 'concern' about their pre-schooler being overweight. A limitation arising from this is that their perceptions are likely to be influenced by the fact that they already held concerns about their pre-schooler's weight, even if they did not consider their child to be currently overweight. They potentially had a heightened awareness of the risks for childhood overweight than parents with no concerns about this issue. The parents had also volunteered to participate in this research in response to an advertisement, and were therefore likely to have been highly motivated or passionate about this issue. A distinction must therefore be made between this research and other studies in this area that did not specify that parents needed to be concerned about their child's weight. However, it is noted that the studies varied widely in this regard. For example, many of the qualitative studies concerning childhood overweight reviewed by Pocock et al. (2010) had not independently verified the child's weight.

It is also acknowledged that the child's gender was not noted in this research and the potential impact of gender was not therefore discussed in the findings. Furthermore, the ethnicity of the parents does not reflect the prevalence rates for childhood overweight in New Zealand. It was unfortunate there were no parents that identified as Pacific recruited for this research. Although there were up to five parents that identified as Māori, it is a significant limitation that the sample does not match the disproportionate prevalence rates for overweight in Pacific and Māori ethnic groups. It is also acknowledged that this research has focused on the literature concerning pre-schooler overweight and has not addressed the literature concerning the risk factors for overweight that are identified during pregnancy or infancy.

## Chapter Six: Future Considerations

There are a number of future implications of the findings in this research. The findings suggest that further research specifically with pre-schooler parents is warranted, as their perceptions may differ from the perceptions of parents of older children. These differences may include pre-schooler parents perceiving more self-responsibility for a pre-schooler being overweight than they would for an older child. Although parents may not recognise that a child is overweight, it may be useful to further explore whether pre-schooler parents tend to underestimate the risk factors for childhood overweight. This research also supports the trend in the literature to further explore the influence of time scarcity, and whether parents tend to underestimate whether their pre-schooler is meeting recommended levels of physical exercise.

Further research with health providers may be warranted to better understand the degree to which they appreciate the potentially emotive nature of this issue for pre-schooler parents. This research indicates that pre-schooler parents may be more attentive to health messages concerning the negative psycho-social implications for their child if he or she is overweight, rather than the physical health risks. This may impact on how health providers choose to engage parents in interventions seeking to address childhood overweight.

The development of these interventions may also need to include components focusing on parenting strategies and acknowledging the high level of parental influence on an obesogenic home environment for their child. The potential for the influence of a lack of sleep as a risk factor for childhood overweight would also warrant consideration when developing interventions for parents of pre-schoolers. Furthermore, raising awareness of the need to intervene in early childhood rather than waiting until the child is older may influence parents to seek help earlier. Grounding interventions in communities and building relationships with potential agents of change would aid both raising awareness and recruitment of families for interventions. Community based projects that involve the wider family such as practical cooking skills and vegetable gardening may be more useful and accessible for many families. These findings also suggest there is a need to individualise interventions to each family's context and in particular, to

conduct culturally responsive research in this area specifically with Māori and Pacific communities in New Zealand.

Understanding the parental perceptions of overweight in pre-schoolers and weaving this understanding into how health providers engage with parents is therefore an important aspect of addressing pre-schooler overweight. An increased awareness of potential barriers for parents to effect health behavioural change that will effectively address overweight for their children/tamariki is vital when seeking to curb the increase in the rates of overweight and obesity in the pre-schooler population. As was recently reported by the New Zealand Medical Association, “We must aim to make the healthy choice the easy choice” (New Zealand Medical Association, 2014, p. 29).

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## Appendix A: Advertisement

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Supporting families/whānau of preschoolers  
to achieve a healthy lifestyle

# PRESCHOOLER PARENTS!

Would you like to volunteer for a **confidential** one hour interview about the risks for preschoolers enjoying a healthy lifestyle?

You'll receive a **\$25 petrol voucher** for your time!

I'm interested in talking to parents that have concerns about their preschooler's weight. This research is part of my masters at the University of Waikato and aims to better understand how parents perceive this issue.

Interested? Ph/txt Julie Chatwin on 021 0676593 or email me on [jls57@students.waikato.ac.nz](mailto:jls57@students.waikato.ac.nz). Thanks!

This research has received ethical approval from the School of Psychology Ethics Committee.



## Appendix B: Information sheet



Supporting families/whānau of preschoolers  
to achieve a healthy lifestyle

### Information Sheet

Dear Family/Whānau,

My name is Julie Chatwin, and I am studying clinical psychology at the University of Waikato. My study involves some research, which is supported by a scholarship from the University.

#### What is this research about?

- The number of children/tamariki identified as either overweight or obese in New Zealand has been increasing. The research has recently focused on preschool aged children, in an effort to reverse this trend.
- My research includes developing a new programme called “*Toolkit 4 Tamariki*”, which aims to assist families/whānau of pre-schoolers who are of an unhealthy weight to make healthy lifestyle changes. It is based on ‘Bodywise’, which is for families of children aged between 5 and 12 years old and has been run for a number of years now under the umbrella of the Waikato District Health Board.
- Before offering this programme, we are interested to find out how you as parents/ caregivers perceive the risks for an unhealthy weight in preschoolers, what difficulties you may face in making healthy lifestyle choices, and what motivates you to do so.

#### What does this involve?

- As part of this research study, you will be asked if you would take part in an interview. The interview would include answering brief questionnaires and prioritizing a group of cards with statements about the risks, barriers and motivators for a healthy lifestyle. It will be audio-recorded, and you will be provided with a copy of the transcript so we can ensure it is accurate.

- The interview would be at a time and place that suited you. This may be at your home, or another suitable place such as the University of Waikato. There would only be one interview, which will take no longer than one hour of your time.

### *Do I have to participate in the research?*

- No, you do not have to participate in the research. Participation in all aspects is **voluntary** (your choice). You are able to withdraw at any time if you have changed your mind for any reason.
- This includes the right **not** to have to answer all the questions in the questionnaires and to stop the interviews at any time.

### *What happens to the information I provide, and is it kept confidential?*

- The information that you provide to me, including the audio-recording of the interview, will be kept securely at the University of Waikato for up to five years. Your information will be given a unique identifying number that only I will be able to match to your family. This information relates to the interview, questionnaire and card sorting exercise about your perceptions of the risks, barriers and motivators for a healthy lifestyle for your family/whānau. This will allow me to trace your information from the questionnaire and card exercises through the programme.
- I will give you a summary of the research results. You or your child/tamaiti will not be identified in any of these summaries. In addition, any publications or other sharing of results from the programme will not identify you unless you explicitly agree on a separate consent form, which would be additional to the consent form you sign when agreeing to taking part in the interview.

### *What are the benefits and risks of participating?*

- The programme will assist to increase your understanding of the risks for preschoolers becoming overweight.
- There is a risk that you may sometimes feel uncomfortable or upset by some of the information covered in the programme, and parents of young children may be especially sensitive to weight related messages concerning their children. You will be supported after the interview with a debriefing as well if you feel you need to do so.

*Who can I contact if I have any questions or complaints about this research?*

- If you have any questions or complaints about this research, you can contact me either by phone or email. My contact details are Julie Chatwin, University of Waikato, Mob: 021 0676593 (txt ok) or email: [jls57@students.waikato.ac.nz](mailto:jls57@students.waikato.ac.nz).
- Alternative contacts (if, for example, you feel uncomfortable discussing your question or complaint with me) is the Supervisor for this research, Dr Armon Tamatea: [tamatea@waikato.ac.nz](mailto:tamatea@waikato.ac.nz), Ph: 07 838 4466, extn 5157, or the Chairperson of the School of Psychology Ethics Committee, Prof Michael O'Driscoll on [psyc0181@waikato.ac.nz](mailto:psyc0181@waikato.ac.nz) Ph: 07 838 4466, extn 8899. You may contact the Health and Disability Advocacy Service on 0800 555 050 or 07 834 3960. They are based in Hamilton and their service is free (no cost).

Your participation is entirely voluntary (your choice). You do not have to take part in this project. If you do agree to take part you are free to withdraw at any time, without having to give a reason and this will in no way affect your future health care. Furthermore, no material that could personally identify you or your child will be used when reporting the results of any aspect of this project.

This project has received ethical approval from the School of Psychology Ethics Committee. Funding assistance has been received from a University of Waikato Masters Research Scholarship.

## Appendix C: Consent form

### *Consent Form*



#### PARTICIPANT'S COPY

Research Project: Parental Perceptions: *Toolkit + Tamariki*



Supporting Families/whānau of preschoolers  
to achieve a healthy lifestyle

Name of Researcher: Julie Chatwin

Name of Supervisor: Dr Armon Tamatea

I have received an information sheet about this research project or the researcher has explained the study to me. I have had the chance to ask any questions and discuss my participation with other people. Any questions have been answered to my satisfaction.

I agree to participate in this research project and I understand that I may withdraw at any time. If I have any concerns about this project, I may contact the convenor of the Research and Ethics Committee (Prof Michael O'Driscoll on [psyc0181@waikato.ac.nz](mailto:psyc0181@waikato.ac.nz) Ph: 07 838 4466, extn 8899).

Participant's

Name: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_



\_\_\_\_yrs \_\_\_\_mths

\_\_\_\_yrs \_\_\_\_mths

\_\_\_\_yrs \_\_\_\_mths

**ETHNICITY OF CHILD(REN):**

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**ETHNICITY OF PARENTS/CAREGIVERS:** \_\_\_\_\_

**CHILD(REN) ENROLLED IN EARLY CHILDHOOD EDUCATION?**

Y/N

**PLEASE INDICATE HOW CONCERNED YOU ARE ABOUT ANY OF YOUR CHILDREN OR YOUR CHILD BEING OVERWEIGHT BY CIRCLING ONE OF THE OPTIONS BELOW:**

Not at all concerned	A bit concerned	Quite concerned	Very concerned	I'd rather not answer.
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**Thank you for your time!**

## Appendix E: Semi-structured questionnaire

NAME:

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DATE:

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DURATION:

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INTERVIEWED BY:

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Do you think pre-schoolers being overweight or obese is a problem in New Zealand?

If you were concerned that your child may be overweight, where would you go for help?

What does “healthy eating” for pre-schoolers mean to you?

What does “healthy activity” for pre-schoolers mean to you?

Do you feel that pre-schooler’s being overweight or obese would be a sensitive issue for parents? If so, why? Do you think it would prevent them from seeking help?

What do you think some of the risks are for pre-schoolers becoming overweight?

What do you feel may be some reasons parents may not seek help if they are concerned about their pre-schooler’s weight?

Thank you for your time!