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Design, implementation and evaluation of the impact of a body image professional development program for early childhood educators

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Design, implementation and evaluation of the
impact of a body image professional development
program for Early Childhood Educators.

Karen Louise Lombardi

This Thesis is Submitted in Fulfilment of the Requirement for the Degree of
Doctor of Philosophy

School of Medical and Health Sciences
Edith Cowan University

2018

Abstract

Poor body image is a serious public health concern globally, and may lead to the development of poor mental and physical health, as well as eating disorders. Body image concerns were once believed to arise during puberty, though it is now reported children as young as three years of age present with such problems. Early intervention is therefore an important strategy to improve mental and physical health outcomes for very young children, and educators are an obvious conduit to build confidence, self-esteem and resilience of such children. In order for them to adequately fulfil this role, educators must first understand the problem and appreciate their significance in this area. While educators are well placed to influence the development of positive body image among children, research into their understanding of their role in body image development appeared to be limited. This project therefore aimed to design, implement and evaluate the impact of a professional development intervention for educators regarding the promotion of positive body image in preschool children.

This Healthway-funded study comprised a tri-phasic sequential-exploratory design. In the first phase of the study, qualitative data were collected from focus groups and telephone interviews. This formative research found educators understood the concept of body image, but were confused about its development and their role in positive body image promotion. They acknowledged their training regarding body image had been negligible and expressed interest in online professional development in this area. These findings informed the development of an online professional development intervention for educators (i.e. Phase Two).

In the third phase of the study, the intervention was implemented and its impact was evaluated. The intervention was delivered online as part of the existing Supporting Nutrition for Australian Childcare website. The impact of the intervention on knowledge, attitudes and behaviours of educators in relation to body image was measured using the pre-existing Body Appreciation Scale; adapted Child Feeding

Practices Questionnaire; and Parenting Intentions Body Image and Eating Patterns in Childhood Questionnaire. In addition, educators' perceptions of their role legitimacy and adequacy in terms of influencing body image development was assessed. Qualitative data were also collected and used to evaluate participants' use and satisfaction with the intervention materials, and to determine intervention reach.

Post-intervention, quantitative results showed significant changes in participants' role legitimacy scores and behaviour change scores. Positive changes in self-efficacy, knowledge of risk factors and understanding of the meaning of body image were also apparent. Additionally, role adequacy and legitimacy was found to be positively correlated with behaviour change, with results indicating respondents with higher role legitimacy and adequacy scores were more likely to implement positive eating practices in their early years service.

The findings of this research make an important contribution to the child health field because it is arguably the first study to explore the role of educators in the development of body image in very young children, and to develop and evaluate an intervention designed to upskill educators in this area.

Copyright and Access Declaration

I certify that this thesis does not, to the best of my knowledge and belief:

i. Incorporate without acknowledgment any material previously submitted for a degree or diploma in any institution of higher education;

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Signature:

A handwritten signature in black ink, appearing to read 'S. H. H. H.', is written over a horizontal line.

Date: 15 December 2017.

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I would also like to thank the legion of fellow students I have met throughout this process. A PhD can be a lonely journey, but I have been lucky enough to have support from students 'in the flesh' (that's you K2, H1, Papa G, Ang, Shantha and Tina) as well as virtual support from the PhD and Early Career Researchers group on Facebook. A special mention has to be made of those in the 'Shut Up and Write' group who were my constant weekend companions. Although I will never meet many of you in person, I feel like the hours we have spent together mean you know more about my PhD than most people I see every day!

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This thesis is dedicated to every little girl told she was a baby elephant in dance class....

Research outputs arising from this thesis

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Lombardi, K., Devine, A., & Beatty, S. (2016). *Do Early Years' Educators foster positive body image in very young children?* Poster session presented at the Australia and New Zealand Obesity Society Annual Scientific Meeting, Brisbane, Australia. October, 2016.

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Chapter One: Introduction and Thesis Overview

1.1 Background and Rationale

The current fascination with body image is a global phenomenon, and preoccupation with weight and body shape are reinforced by the media and by social interactions. While the weight-loss industry continues to prosper, there is also growing awareness of the dangers of dieting; eating disorders are featured in contemporary popular media; and there is public discontent with the use of ultra-thin fashion models (Grogan, 2016). The proliferation of public interest in weight and shape, and, subsequently, in body image, and its discussion in public arenas means that even very young children are frequently exposed to these messages.

Body image is the perception one has of their physical self, and the thoughts and feelings that accompany this perception, that may be either positive, negative or a combination of both (Cash & Pruzinsky, 2004). Although poor body image is associated with serious health concerns, such as depression, anxiety, disordered eating and exercise, alcohol and other drug-use problems, and the development of eating disorders, it is a frequently overlooked public health issue (Bucchianeri & Neumark-Sztainer, 2014).

It is well established that adults tend to experience poor body image, and for women in particular, this experience has been said to be normative (Rodin, Silberstein, & Striegel-Moore, 1984) though more recent studies show that weight dissatisfaction and discontent with one's body is increasingly pervasive in men (Tantleff-Dunn, Barnes, & Larose, 2011). Body image dissatisfaction may also manifest in boys and girls, yet their expression of such dissatisfaction may differ. Adolescent males may seek the muscular ideal in addition to thinness, and develop disordered patterns of eating in its pursuit (Ricciardelli & McCabe, 2004) while girls are more likely to compare themselves to media images than boys, and pursue the thin ideal (O'Dea, 2008; Ricciardelli & McCabe, 2004; Tatangelo & Ricciardelli, 2013).

Traditionally, body image concerns were believed to arise during the physical changes to the body that occur around the time of puberty (Smolak & Thompson,

2009). Poor body image, and its associated risky behaviours are, however, being seen in younger prepubescent children (Shunk & Birch, 2004). Children as young as three years appear to be emotionally invested in the thin ideal (Harriger, Calogero, Witherington, & Smith, 2010); tend to choose thin playmates and stigmatise overweight and obese children (Su & Di Santo, 2012); and report engaging in dietary restraint (Damiano, Paxton, Wertheim, McLean, & Gregg, 2015). Children's attitudes and behaviours may be unintentionally shaped by parents and caregivers (McCabe et al., 2007) highlighting the need for parents and caregivers to understand their role in children's body image development. Educators of young children, however, seem to have been overlooked as important role models. Considering that young children spend an average of 28 hours per week in the care of educators (Department of Education and Training, 2017) they are also likely to be significantly influential in regard to body image development.

This thesis describes the development and evaluation of an intervention designed for educators who work in the early childhood education and care sector (hereafter referred to as educators in this thesis) who work with children, mostly aged under five years, in a variety of Australian early childhood education and care services. In this thesis the terms *children*, *young children* and *preschool children* will be used to describe children under the age of five years. The purpose of this intervention was to provide online resources for educators to foster positive body image in young children. The chapters of this thesis unfold in a manner which: (1) explores and explains the needs of educators; (2) describes the development of the intervention, and its evaluation instruments; (3) interrogates the impact of the intervention; and (4) provides a synthesis of its contribution to public health knowledge and practice.

Educators are one of several sociocultural influences on children's developing body image. Research indicates that some children may develop body image ideals which endorse thinness and dietary restraint before they reach primary school (Tatangelo, McCabe, Mellor, & Mealey, 2016) mediated through the influence of parents, peers, and the media. Educators may also unintentionally model attitudes and behaviours that may be detrimental to the developing body image of very young children (Su & Di Santo, 2012). To date, it would appear that very little research has been undertaken in regard to educators' own body image knowledge,

attitudes and behaviours, and their awareness of their influence on very young children (McCabe et al., 2007; Su & Di Santo, 2012). More than a half of all Australian children attend some form of formal care (i.e. 1,269,000 Australian children up to 12 years of age) with the proportion of children in long day-care growing (Department of Education Australia, 2015). In the September 2016 quarter, children spent an average of 28.7 hours per week in long day-care (Department of Education and Training, 2016) rendering the role of educators as significant for modelling knowledge, attitudes and behaviours related to healthy weight, diet, and the development of body image (McCabe et al., 2007).

It is difficult to ascertain an accurate picture of the body image of very young children (Harriger et al., 2010). Numerous studies have investigated the body image of children over six years of age (Tatangelo et al., 2016) and a wealth of data exists on pre-adolescents and adolescents (Bird, Halliwell, Diedrichs, & Harcourt, 2013; Chalker & O'Dea, 2009) as well as gender and cultural influences on body image development. Since evidence exists that even young children are experiencing body dissatisfaction, exploration of the influences on developing body image appear justified (Tatangelo et al., 2016).

This thesis therefore postulates that educators should be targeted as an important sociocultural influence on children's body image development. Given early years educators are not specifically trained in feeding practices sensitive to body image development, and non-judgemental ways to talk about food and their bodies, it is likely they will be lacking in knowledge and skills to appropriately model healthy attitudes and behaviours in relation to body image development. Additionally, educators may not have sufficient understanding of their own body image and the way in which this can inadvertently transfer to body image formation in young children. The link between body image, mental and physical health may not be fully understood by educators, making educators in the early years space ideally positioned for professional development in these areas.

Poor physical health in children is often associated with poor mental health, and obese children are reported to experience worse psychosocial functioning than their non-obese counterparts (Halfon, Larson, & Slusser, 2013). Obesity has been associated with development of mental health conditions such as depression,

anxiety and poor body image (Cinelli & O'Dea, 2016; O'Dea, 2006) in addition to lower emotional functioning and difficulties at school (Halfon et al., 2013). According to BMI classifications, 26% of Australian children aged five to 17 years are overweight or obese, and 24% of younger children (aged two to four years) are overweight or obese (Australian Bureau of Statistics [ABS], 2013a; Australian Institute of Health and Welfare [AIHW], 2016) though rates appear to have plateaued in Australia and globally (AIHW, 2016; O'Dea & Dibley, 2014). Higher body mass increases the likelihood children will experience stigmatisation, weight-based teasing and difficulties in forming interpersonal relationships, all of which may significantly influence development of poor body image (Puhl & Latner, 2007) and subsequently impact mental health (Cale & Harris, 2013).

Given that weight status is associated with a range of health conditions (Parsons, Walsemann, Jones, Knopf, & Blake, 2016) interventions that target obese adults are necessary and ongoing. It is, however, important that such interventions do not negatively impact mental health, by increasing stigma and discrimination (Lupton, 2015). This has important implications for those delivering health messages to children. Young children are likely to take health messages literally, as they may not have the critical skills to correctly understand the intended meanings, reinforcing the need for open and frank discussion with children about health (Birbeck & Drummond, 2006). This is especially important in media coverage of obesity and its related health concerns which predominantly communicates an anti-fat bias (Salas, 2015). As educators are positioned to disseminate health messages to children and are likely to be influenced by the bias inherent in this messaging, it may be assumed that such bias is unintentionally transmitted to children.

While body image is a multi-faceted construct that may be negative, positive or neutral, much of the literature examines the prevention and treatment of negative body image (Tylka, 2011). Since negative body image is related to significant harms, its' development has been researched in-depth, and is well understood. In contrast, research into positive body image is relatively new and limited (Tylka & Wood-Barcalow, 2015; Wood-Barcalow, Tylka, & Augustus-Horvath, 2010). Positive body image cannot be achieved merely by removing negative body image influences. Instead, enhancing positive body image requires adaptive practices that

allow individuals to develop resilience, change perceptions and develop a means of “protective filtering” (Tylka, 2011, p. 61). This protective filtering allows individuals to accept or reject information they are exposed to each day, which serves to foster positive body image by reducing internalisations of the cultural body ideal.

Some of the factors that predict positive body image have been identified in the literature in this area. For example, there appears to be an association between positive body image and high self-esteem (O'Dea, 2004) and individuals with low internalisation of cultural ideals for thinness or muscularity also appear to have more positive body image (Halliwell, 2013). Furthermore, individuals who do not compare their appearance with that of others, and who reject traditional gender roles are more likely to have positive body image (Grogan, 2010). Hence, factors associated with positive body image, including those mentioned here, should be considered in intervention design.

While early childhood education and care settings have been utilised for nutrition and physical activity-related health promotion interventions (Gubbels, Gerards, & Kremers, 2015; Wallace, 2016; Wilke, Opdenakker, Kremers, & Gubbels, 2013) educators are also well placed to foster positive aspects of body image, making the testing of such an intervention in this setting appropriate. Considering that health investments during the early years may reduce inequities and improve health over the life-course (Marmot, Friel, Bell, Houweling, & Taylor, 2008) it seemed reasonable to suggest that investing in the professional development of educators might also produce a ripple effect of benefits for young children (Han, 2012). In this capacity, educators can be trained to deliver body image education to children that builds on their pre-existing knowledge and skills.

In order to maximise the potential of professional development for educators, it is necessary to understand the educational frameworks in which they operate in Australia. The next section introduces the National Quality Framework and the Early Years Learning Framework.

1.1.1 The Australian Early Childhood Education and Care Sector

The Australian early childhood education and care sector operates under the National Quality Framework (NQF) which was introduced in Australia in 2012 (Australian Children's Education and Care Quality Authority [ACECQA], n.d.). The NQF was established by the governments of all Australian states and territories in order to improve educational and developmental outcomes for children who attend long day-care, family day-care, preschool or Kindergarten, and outside-school-hours-care (ACECQA, n.d.). This framework includes national regulations and laws for Australian early childhood education and care services and is further interrogated in Chapter Two.

A component of the NQF is the Early Years Learning Framework (EYLF), an evidence-based framework providing a structure to ensure all children in early childhood education are provided with quality learning opportunities (Department of Education Employment and Workplace Relations [DEEWR], 2009). This framework was also developed in conjunction with all Australian state and territory governments, to enhance children's learning from birth to five years, and prior to formal schooling (DEEWR, 2009). The EYLF recognised early childhood as a time when exponential learning and development occur. During this period, quality teaching and learning experiences have the potential to significantly influence the development of language, literacy, numeracy, and social and emotional wellbeing (DEEWR, 2009). This research project utilised both the NQF and EYLF as a framework to guide the development of the intervention.

1.2 Significance

Research into the body image of preschool children has been gathering momentum, and there is conclusive evidence that children aged between three and six-years may experience body dissatisfaction that is influenced by a range of sociocultural factors (Tatangelo et al., 2016). The influence of peers and the media have been explored to some degree, and factors such as the proliferation of thin and muscular figures in children's media (Coyne, Linder, Rasmussen, Nelson, & Birkbeck, 2016) have been demonstrated to have some impact on children's developing body image (Tatangelo et al., 2016). Additionally, the influence of

parents has been investigated in recent studies (Hart, Damiano, Sutherland, & Paxton, 2014; Liechty, Clarke, Birky, Harrison, & STRONG Kids Team, 2016) with evidence suggesting that while parents are interested in promoting positive body image in their children, they may not have the skills and strategies required to do so, without causing unintentional harm.

In early childhood, children grow and develop rapidly, physically, emotionally and socially (Hockenberry, Wilson, & Wong, 2013). Between ages one and six years, children not only develop language skills, but they begin to understand social relationships, and social roles. Their self-esteem is developing, and they are likely to compare themselves to peers. Children in this age range begin to notice the bodies of others, and, as they become aware of the array of physical deviations exhibited by others, they are likely to comment upon them. These developmental factors highlight the sensitivity of the developing body image of the preschool child; they wish to be accepted by their peers, they show awareness of physical differences and skill mastery, and they lack the sensitivity required to be tactful (Hockenberry, Wilson, & Wong, 2013) demonstrating the desirability of fostering positive body image in children in this age group.

This thesis was undertaken on the basis that there has been limited examination of the role of educators of young children in body image development, and several researchers have noted that this is a topic worthy of further research and inquiry (Hart, Damiano, Cornell, & Paxton, 2015; McCabe et al., 2007; Su & Di Santo, 2012). Both the promotion of positive body image and the early recognition and intervention where there is body image disturbance is crucial, as children who exhibit body dissatisfaction in their formative years have a greater risk of severe body image disturbance as they progress through childhood and into adolescence (Smolak & Thompson, 2001). In the long-term, this may have significant impacts on health, as severe body image disturbance is associated with very high levels of depression and anxiety, and engagement in dangerous eating practices such as bingeing, vomiting and starvation, and excessive exercise (The National Eating Disorders Collaboration, 2010).

At least 20% of all Australians experience a mental health concern in any given year, and more than 45% of the Australian population will experience mental

illness over their life course (SANE Australia, n.d.). In addition to the burden on the social welfare and healthcare systems from mental health concerns, these conditions have a significant financial cost to the Australian economy. It has been estimated that the economic cost of premature death of people with mental illnesses is as high as 15 billion dollars annually, while the total cost is as high as 56.7 billion dollars annually (Australian Government & National Mental Health Commission, 2016). In addition to the development of these mental health conditions, poor body image and disordered eating may lead to the development of an eating disorder, estimated to cost the Australian economy 69.7 billion dollars in 2012 (The Butterfly Foundation & Deloitte Access Economics, 2012). By providing early intervention for young children, and encouraging them to develop positive body image, it is anticipated that a portion of these future costs may be avoided.

Early intervention is an important strategy to improve mental and physical health outcomes in very young children. As such, the early childhood education and care sector is now being recognised as an appropriate setting for health promotion interventions, and physical activity and nutrition interventions have already been undertaken globally (Jones-Taylor, 2015). Given the increasing numbers of children attending early childhood education and care settings, as well as the rapid growth in numbers of staff and services, these settings are central to children's early healthy growth and development. Despite this, Australian educators' training in nutrition is believed to be somewhat inadequate (Wallace, Devine, & Costello, 2017).

In a similar vein, educators are now being considered as an obvious conduit to build the confidence, self-esteem and resilience of preschool children, though, to fulfil this role, educators must first understand and appreciate their significant influence in these areas (Sims et al., 2012). Furthermore, educators' training in relation to body image is negligible, consisting of six dot-points in the *Get up and Grow Manual* (Department of Health and Ageing, 2013). *Get up and Grow* is a resource developed by the Australian Government Department of Health and Ageing to provide guidelines on healthy eating and physical activity in Australian early childhood education and care settings, though it has been shown to be underutilised by those who work in this sector (Wallace et al., 2017).

Educators' influence in relation to very young children's body image remains relatively unexplored, although their position as role models of healthy nutrition behaviours, feeding practices, diet and exercise make them an appropriate target for an intervention designed to empower them to foster the positive body image of the children. The aim of this doctoral research was to design, implement and evaluate the impact of a professional development intervention that could be used by educators to enhance their knowledge, attitudes and behaviours regarding the promotion of positive body image in preschool children. This intervention was shaped by exploratory research into the knowledge, attitudes and behaviours of educators in relation to the development of body image in preschool children, and was delivered online. This study was innovative as educators of very young children are under-served in the area of body image-related professional development. Such professional development does not appear to have been made available to educators before, and their own body appreciation had not been previously investigated. Since evidence exists that body image develops in children aged between two and three years, this intervention was considered appropriate and timely.

1.3 Research Questions

This study sought to answer the following research questions:

1. How do educators view their own body image?
2. What do educators know about the development of body image in preschool children in their early childhood education and care settings?
3. What behaviours related to body image do educators demonstrate to preschool children?
4. How do educators view their role in the development of preschool children's body image?
5. What are the preferences of educators regarding professional development relating to body image development of preschool children?

6. What was the impact of professional development on educators' knowledge, attitudes, and behaviours in relation to fostering positive body image of children in their care?

1.4 Definition of Terms

The study of body image is interspersed with a myriad of terms, some of which are used interchangeably (Thompson, 1999). It is therefore necessary to define the way each of these were employed in this research.

1.4.1 Body image

Body image is the perception one has of one's physical self, and their thoughts, feelings, beliefs and behaviours about this perception (Cash, 2004).

1.4.2 Body mass index (BMI)

Body Mass Index (BMI) is a value that can be used to screen for weight categories that may be indicative of health problems. BMI is derived by dividing an individual's mass in kilograms by the square of their height in metres (kg/m^2) (Center for Disease Control and Prevention, 2015).

1.4.3 Dietary restraint

Dietary restraint is the cognitive tendency to restrict intake of food as a means of losing or maintaining body weight (Shunk & Birch, 2004).

1.4.4 Dietary restriction

Dietary restriction is the monitoring of portions of food, and types of foods eaten (Rodgers et al., 2013).

1.4.5 Disordered eating

Disordered eating is a disturbed and unhealthy eating pattern that can include restrictive dieting, compulsive eating or skipping meals (National Eating Disorders Collaboration, 2014).

1.4.6 Educator

An educator is as an individual who provides education and care for children as part of an early childhood education and care service (ACECQA, n.d.). This definition does not take into account the level of educational qualification achieved by the educator and acknowledges that all educators are positioned to model behaviours and support children in their social, emotion and cognitive development (DEEWR, 2009).

1.4.7 Early childhood education and care services

For the purpose of this study, early childhood education and care services included: long day-care, family day-care, before and after school hours care, Kindergarten and preschool services.

1.4.8 Eating disorder

An eating disorder has been defined as “the experience of a persistent disturbance of eating or eating-related behaviour that results in the altered consumption of food and that significantly impairs health and/or physical functioning” (Striegel-Moore, 2011, p. 4). Eating disorders include anorexia nervosa, bulimia nervosa, eating disorders otherwise not specified and binge eating disorder (American Psychiatric Association, 2013).

1.4.9 Fat talk

‘Fat talk’ describes a style of conversation where the difference between an individual’s body and the idealised body is discussed (Martz, Petroff, Curtin, & Bazzini, 2009). Fat talk may consist of negative statements about one’s body, or negative statements about one’s diet or health (Martz et al., 2009). An example of fat talk would be for an individual to say, “I’m so fat” amongst friends.

1.4.10 Obese

In the context of this research, ‘obese’ was defined using the United States Center for Disease Control cut-off point, with children greater than or equal to the 95th percentile classified as obese (Center for Disease Control and Prevention,

2015).

1.4.11 Overweight

For the purpose of this research, 'overweight' was defined using the United States Center for Disease Control cut-off point, with children greater than the 85th percentile and less than 95th percentile classified as overweight (Center for Disease Control and Prevention, 2015).

1.4.12 Restrictive eating

Restrictive eating was defined as a pattern of eating in which foods are consciously avoided, especially those regarded as 'bad', i.e. those high in sugar, fat and/or energy (Birch & Fisher, 1998).

1.4.13 Stigmatisation

Stigmatisation in the context of this study was defined as "negative, weight-related attitudes and beliefs that are manifested by stereotypes, bias, rejection, and prejudice toward children and adolescents because they are overweight or obese" (Puhl & Latner, 2007, p. 558).

1.4.14 Weight-based teasing

Weight-based teasing refers to when a person is victimised due to their weight. Such teasing may be verbal, physical, and may include social exclusion (Puhl & Latner, 2007).

1.5 Study Design

This research consisted of three interrelated phases (Figure 1). Phase One comprised a consultation process with educators in the early childhood education and care sector regarding body image and young children, and the type of intervention (i.e. professional development) they considered they would find most useful. Phase Two comprised intervention development, the development of data collection instruments and piloting of the intervention and data collection

instruments. Phase Three comprised the implementation of the intervention with educators and an evaluation of its impact and reach.

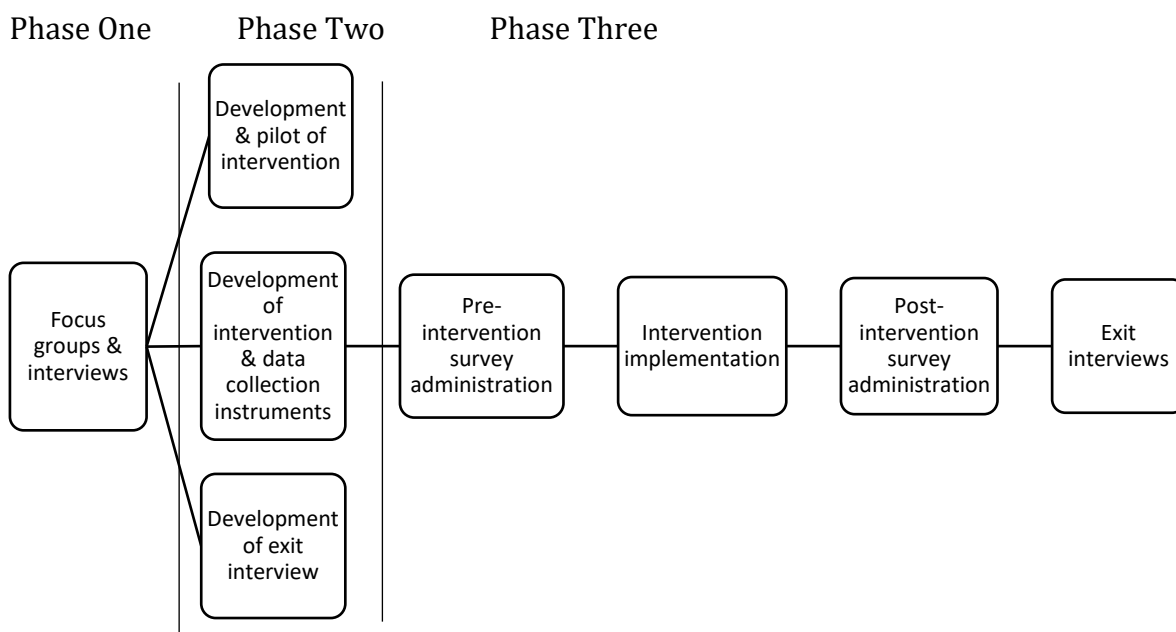


Figure 1: Study design

1.6 Overview of Thesis Structure

The structure of this thesis follows the chronological progress of the research. Chapter Two provides a synopsis of current literature related to body image development in young children, possible harm from body dissatisfaction, and the role of educators in body image development and nutrition, as well as the nature and effectiveness of body image resources currently available.

Chapter Three provides the methodology of this research, the theoretical frameworks applied in this study, as well as the methods of the first phase of the study. Chapter Four describes the analysis and findings of interviews and focus groups undertaken in Phase One. As these findings informed the development of the intervention, Chapter Five describes the development of the intervention and the data collection instruments designed to test the intervention's impact; the methods employed to recruit participants; implementation of the intervention; and the data analysis plan for Phase Three.

Chapters Six, Seven and Eight describe the third phase of this study, including the quantitative methods adopted (Chapter Six), the quantitative results from post-

intervention surveys (Chapter Seven), and the qualitative findings and discussion from post-intervention exit interviews (Chapter Eight).

Finally, Chapter Nine synthesises and discusses the overall findings from all phases, and presents the recommendations for future practice, limitations of this research and draws several conclusions.

1.7 Chapter Summary

This chapter has provided the background, rationale, significance and aims of this study. While the body image of older children and adults has been well researched, this chapter also established that research into body image development in very young children is in its infancy, and that investigation into the influence of the role of educators on body image development among the preschool children in their care was required.

More specifically, while negative body image and its harms are well understood, fostering positive body image among very young children is an emerging area of research. Since it is acknowledged that early childhood is a time of exponential growth and development, it is postulated that with appropriate resources and training, educators, who spend substantial amounts of time with Australian preschool children, have the potential to significantly foster positive body image in the very young children they teach.

The research questions of the study were articulated in this chapter, as well as a definition of terms that were utilised in this thesis. An overview of the study's methodology was given, and the structure of the thesis provided.

Chapter Two: Literature Review

2.1 Introduction

Possessing a positive body image is a protective factor in determining a person's health and wellbeing, as an individual's constructive relationship with their body may positively influence their eating and exercise behaviours, their mental health, alcohol and other drug use, and help-seeking behaviours (Tylka & Wood-Barcalow et al., 2015; Wood-Barcalow et al., 2010). Having positive body image means that an individual accepts and appreciates their body, and acknowledges a broad perception of beauty, rather than accepting the culturally-endorsed beauty ideal (Halliwell, 2015). Despite the apparent protection positive body image provides, it is an often overlooked public health issue (Bucchianeri & Neumark-Sztainer, 2014) especially in early childhood education and care settings (Su & Di Santo, 2012). While negative body image is well understood (Liechty et al., 2016) positive body image is a relatively recent research phenomenon (Tylka & Wood-Barcalow, 2015) despite evidence suggesting that fostering positive body image in young children is important for their future health and wellbeing (Hart et al., 2015).

Body image appears to begin to develop at approximately three years of age (Tremblay, Lovsin, Zecevic, & Larivière, 2011). This is significant as more than one million Australian children in this age group spend an average of 28 hours per week in early childhood education and care (Department of Education and Training, 2017). The influence of educators on developing body image in such young children is yet to be explored in any depth, though the influence of parents, teachers and peers has been explored in relation to older children.

This chapter will review literature related to this research and has been divided into four sections. In the first section, body image and its associated elements are defined; prevalence and harms associated with poor body image are described; eating disorders, obesity, overweight, underweight and thinness are defined; influences on body image are considered; and positive body image is explored. The second section of the review describes Australian educators, and details the frameworks educators operate under in an Australian context; provides

an overview of the workforce in the Australian early childhood education and care sector, and their potential role in body image development. The third section of this review examines nutrition in the early childhood education and care sector, where health literacy and nutrition knowledge, and their relationship to child feeding practices is considered. Finally, the fourth section of this chapter discusses existing body image interventions, and includes programs for parents and professional development for teachers.

2.2 Body Image

In Western cultures very young children typically learn to believe that being thin is attractive and desirable for women (Halliwell, 2013) and that men should be thin (or thin and muscular) in order to conform to accepted standards of beauty (Drummond & Drummond, 2015; O'Dea, 2007). The internalisation of this cultural belief can lead to poor mental, physical and social outcomes for children. Consequently, interventions that support the development of self-esteem, resilience and acceptance of diversity to support positive body image in early childhood are desirable (Hart, Cornell, Damiano, & Paxton, Dohnt & Tiggemann, 2006; 2014; Shunk & Birch, 2004).

This section of the literature review provides a comprehensive discussion that examines several key concepts in relation to body image, and discusses factors influencing positive body image.

2.2.1 Body Image Defined

Body image is the perception one has of their physical self, accompanied by thoughts and feelings that may be either positive, negative or both (Cash, 2000). Such feelings are influenced by the interplay of perceptual, affective, cognitive and behavioural factors.

The perceptual element of body image refers to the way an individual perceives their appearance (Grogan, 2016) although this perception may not always be an accurate or correct representation. For example, a person may perceive themselves to be overweight when in fact they are underweight.

The affective element of body image involves the way an individual feels about the way they look, that is, their satisfaction or dissatisfaction with their appearance, weight or body shape. Negative affect has been associated with preoccupation with body weight and shape, poor self-esteem (Mitchison et al., 2017) and the development of binge eating disorders (Duarte, Pinto-Gouveia, & Ferreira, 2017).

The cognitive element of body image comprises the thoughts and beliefs one has about their body (Grogan, 2016). Such thoughts may be negative, focusing on an individual body part or body weight or size, or these thoughts could be positive and focus on the body's function (National Eating Disorders Collaboration, 2017). These thoughts may be reinforced by health promotion messages that hold weight as the primary focus for good health. Research suggests that such messages may be interpreted by overweight or obese individuals as overly simplistic, disempowering and stigmatising (Salas, 2015).

The final element of body image involves behaviour and refers to the behaviours an individual may undertake in relation to their appearance. These behaviours may include avoidance of situations where the body may be scrutinised, or may take the form of excessive exercise in an attempt to increase muscularity (Grogan, 2016; Ricciardelli & McCabe, 2004; Thompson, 1999). Behaviour related to body dissatisfaction may be unrelated to actual weight, such as dietary restriction to attempt to lose weight in the absence of excess weight. For instance, it has been reported that 45% of women and 23% of men of a healthy weight believed they were overweight, and 20% of underweight women reported dieting to lose weight (State Government of Victoria, 2014). According to these figures, it could be assumed that 65% of women have weight concerns or are actively dieting. Thus, it is imperative that the predominantly female early childhood education and care sector recognises the kinds of behaviours they are role modelling for children.

In terms of prevalence, body dissatisfaction has been said to be so common amongst adolescent girls and adult women it is said to be normative, and this level of discontent is now believed to be as prevalent amongst preadolescent girls (Dohnt & Tiggemann, 2006; Grogan, 2016). Body image has been repeatedly

identified by Australian youth as a health concern. The 2016 National Survey of Young Australians aged 15-19 years (n= 21,846) conducted by Mission Australia identified concerns with body image as participants' third highest health concern, above depression, family conflict and bullying for the seventh year in a row (Bailey et al., 2016). However, despite this evidence, body image is often overlooked as a public health concern (Bucchianeri & Neumark-Sztainer, 2014).

2.2.2 Body Image Harm

Body image dissatisfaction causes significant harm in the community that may be measured in financial, social, and emotional terms. Poor body image is a modifiable risk factor in the development of chronic disease (Bucchianeri & Neumark-Sztainer, 2014) and is associated with weight gain over time, due to its relationship with unhealthy behaviours such as exercise avoidance (Slater & Tiggemann, 2010); reduced fruit and vegetable intake (Neumark-Sztainer, Paxton, Hannan, Haines, & Story, 2006); dietary restriction (Swanson, Crow, Le Grange, Swendsen, & Merikangas, 2011); and binge eating (Sonnevile et al., 2012).

In addition to increased risk of chronic disease, poor body image is closely associated with low levels of self-esteem, aggregating the likelihood of engaging in behaviours such as unhealthy exercise regimes; unsafe and harmful alcohol and other drug use; extreme measures such as cosmetic surgery to alter appearance; and avoiding engagement in social activities (Birbeck & Drummond, 2006; National Eating Disorders Collaboration, 2017). Since unsafe alcohol and other drug use, unhealthy exercise regimes and cosmetic surgery are unlikely to be employed by preschool aged children, only weight stigma and dietary restraint are considered here.

Weight stigma is one potential harm that may be modelled by educators, as not only do educators model attitudes and behaviours around food and their own bodies, but also attitudes to the bodies of others (Yager & O'Dea, 2009). Teachers (Lynagh, Cliff, & Morgan, 2015), health professionals and obesity researchers (Tomiya et al., 2015) report anti-fat bias, that is, negative attitudes towards obese people. Anti-fat bias has been described as the last socially-acceptable form of discrimination, with the belief that weight status is within an individual's

control, therefore, for an individual to be overweight or obese is a personal failing (Puhl & Heuer, 2009).

Such attitudes are demonstrated through negative responses towards obese people, including the attribution of negative personality traits to obese individuals, dislike of obese people and lower academic expectations of obese children (Lynagh et al., 2015). "Social devaluation", the systemic belief that a group of people has less value than others (Tomiyama et al., 2014, p. 8), stereotyping and attribution of negative behaviours to an individual due to their weight status is known as weight stigmatisation (Puhl & Latner, 2007). Weight stigmatisation is associated with a range of harms, including, individuals experiencing inequities in education (Puhl & Heuer, 2010) and increased levels of cortisol, indicating psychological distress (Schvey, Puhl, & Brownell, 2014).

Obese children are more likely to experience weight stigmatisation than obese adults or obese elderly people (Sikorski, Luppä, Brähler, König, & Riedel-Heller, 2012). A German study (n=3003) reported that participants described higher rates of dislike for obese children than for obese adults or the elderly. Despite recognising that children may not be fully responsible for their food choices, physical activity and weight status, participants in this research were likely to blame children for being overweight or obese. The researchers of this study surmised this blame could be attributed to increased community awareness of the comorbidities associated with childhood obesity, and describe the subsequent stigmatisation as a method used to encourage weight-reducing behaviours among children.

Weight stigmatisation may contribute to body image dissatisfaction, and may lead to poor social outcomes. Children who are overlooked or victimised because of their body size or shape are likely to develop poor body image and low self-esteem (Puhl & Latner, 2007) and there is a wealth of evidence to suggest weight status and body image dissatisfaction hinder healthy interpersonal relationships (Keery, Boutelle, van den Berg, & Thompson, 2005; Puhl & Latner, 2007; Su & Di Santo, 2012). Overweight children may be discriminated against according to their weight status by peers, and also by teachers, parents and other family members (Puhl & Latner, 2007). Weight stigmatisation may not always be addressed and

prevented by the adult in charge of a preschool setting, as the adult may also subconsciously hold the same discriminatory views as the child's peers (Su & Di Santo, 2012).

Moreover, the "blatant visibility" of an overweight child means they are likely to experience harmful teasing about their weight (Pierce & Wardle, 1997, p. 645). It is reported that recurring weight-based teasing and weight stigmatisation have a greater influence on body image than an individual's BMI, and have been linked with suicidal ideation in adolescents (Puhl & Latner, 2007). Furthermore, weight stigmatisation may have a cumulative effect, that is, those who experience weight stigmatisation in childhood and into adulthood experience stigma over the long-term, increasing its harmful effects (Sikorski et al., 2012).

Health promotion campaigns that focus on weight and size as the most pertinent markers of health may actually encourage such discrimination (Lupton, 2015; Major, Hunger, Bunyan, & Miller, 2014; O'Hara, Taylor, & Barnes, 2016). Using weight stigmatisation to encourage weight loss is not a new concept, and is employed by health promotion campaigns, television and print media, though often these strategies have the opposite effect (Lupton, 2015) and are reportedly linked with weight gain, reduced help-seeking behaviours, and reduced levels of physical activity (Puhl & Latner, 2007).

In addition to the harm that may be caused to individuals who experience weight stigma, a behaviour with the potential harm to body image is dietary restraint. Dietary restraint is defined as the propensity to restrict dietary intake in order to maintain or lose body weight (Rodgers, Wertheim, Damiano, Gregg, & Paxton, 2015). Dietary restraint has long been argued as desirable in the current, yet longstanding, climate of overweight and obesity (Thompson, 1999; Katz & Meller, 2014). It is important to note, however, that those who practice dietary restraint tend to have worse outcomes in regard to weight loss, and weight cycling, with the breakdown of restraint increasing susceptibility for bingeing (Major et al., 2014; Shunk & Birch, 2004). Moreover, dietary restriction in childhood can have potentially long-term negative consequences, such as increased body dissatisfaction, comparison of the body with others, the development of overweight and obesity, and the development of maladaptive eating practices

which may lead to eating disorders (Davison, Markey, & Birch, 2000; Rodgers et al., 2015).

Children's understanding of dietary restriction reportedly begins when they are young, and may lead to development of disordered eating at an early age. An Australian study of children aged three to five years (n=259) found that while four percent of three year olds understood the concept of dietary restriction for weight loss, this understanding increased to 28% at age five years (Rodgers et al., 2015). Furthermore, an Australian study of 128 girls aged between five and eight years were found to understand the concept of dieting to lose weight, with half stating they would use dietary restriction to counteract weight gain (Dohnt & Tiggemann, 2006).

As this evidence suggests, the awareness of 'dieting' behaviour begins early in life, although it is unclear whether educators understand this, hence the need for training in this area. It is, therefore, important that educators understand their role in developing young children's attitudes towards food, role model healthy eating behaviours, and talk about food in appropriate ways.

2.2.3 Eating Disorders in Australia

Overweight, obesity and eating disorders were not the focus of this research, but their significant relationships with body image development and body dissatisfaction rendered it important to outline these concepts here. Although individuals engaging in dangerous food and exercise behaviours, such as starvation, bingeing, or purging, may not necessarily meet all of the criteria to be diagnosed with an eating disorder (American Psychiatric Association, 2013) these behaviours are associated with an increased risk of suicidality, social impairment and mental health conditions, at rates comparable to those with clinically-diagnosed eating disorders (Swanson et al., 2011).

The restrictive eating practices often associated with poor body image are significant risk factors for the development of an eating disorder (National Eating Disorders Collaboration, 2014). Eating disorders are not a lifestyle choice or diet gone wrong, but are serious and debilitating mental illnesses (Eating Disorders Victoria, 2011). In fact, eating disorders have the highest mortality rate of any

psychiatric illness, with medical complications increasing mortality (National Eating Disorders Collaboration, 2017) and more than 20% of individuals diagnosed with anorexia nervosa or bulimia nervosa take their own lives (Smink, van Hoeken, & Hoek, 2012). Eating disorders are currently the third most common chronic illness among young Australian women, although due to the secretive nature of these disorders, accurately measuring their prevalence is reportedly difficult (Kelly & Tasca, 2016). Indeed, it has been estimated that up to 65% of those who have binge eating disorder or bulimia nervosa do not seek treatment, so a higher prevalence of these disorders than that reported is likely (The Butterfly Foundation & Deloitte Access Economics, 2012). Alarming, most young people indicated knowing someone who they think has an eating disorder (National Eating Disorders Collaboration, 2017).

Ostensibly, accurate prevalence data on eating disorders in Australia has been difficult to ascertain (The Butterfly Foundation & Deloitte Access Economics, 2012). It would appear that prevalence data on eating disorders in Australia have not been collected by the Australian Bureau of Statistics, although it was estimated by Deloitte Access Economics in 2012 that four per cent of the population or 913000 people had an eating disorder (The Butterfly Foundation & Deloitte Access Economics, 2012). The financial cost of these disorders was estimated to be 69.7 billion Australian dollars in 2012, (The Butterfly Foundation & Deloitte Access Economics, 2012) a higher cost than that incurred by overweight and obesity, estimated to have been 58 billion Australian dollars four years earlier, in 2008 (Access Economics Pty Ltd & Diabetes Australia, 2008). Though these estimated costs were calculated over different periods of time, making comparison difficult, these were the most current economic data available at the time of writing.

2.2.4 Overweight and Obesity in Australia

While there is an absence of clear data regarding the prevalence of eating disorders, weight status data is abundant, and Australia is said to be in the midst of an 'obesity epidemic' (Cliff & Wright, 2010; O'Hara et al., 2016). Some postulate that the emphasis on weight as a problem may be causing more harm than good (Lupton, 2015; O'Dea, 2005; O'Hara & Gregg, 2006) especially given the ubiquitous promotion of healthy weights and sizes that do not consider the natural diversity

of body shapes and composition, thus increasing body dissatisfaction (Major et al., 2014; McVey, Gusella, Tweed, & Ferrari, 2009). While the emphasis on weight may be increasing body dissatisfaction, it is difficult to argue with the evidence that one in four children are reported as overweight or obese (AIHW, 2016). Additionally, overweight children are more likely to be overweight adults; and being overweight increases the likelihood of developing non-communicable diseases such as type 2 diabetes, some forms of cancer and cardiovascular diseases (ABS, 2016; AIHW, 2016; World Health Organization [WHO], 2017).

Globally, rates of overweight and obesity are increasing with more than 42 million children aged under five years said to be overweight or obese in 2015 (WHO, 2017). In contrast with global trends, Australian rates of childhood obesity and overweight have changed little since 2011 (ABS, 2015) with one in four children aged between five and 17 years reported as overweight or obese in the most recent National Health Survey (AIHW, 2016). This trend is similar for Australian adults, with rates of obesity increasing between 1995 and 2011 from 56% to 63%, but stabilising between 2011 and 2015 at 63% (ABS, 2016; AIHW, 2016). Despite the apparent stability in rates of overweight and obesity, Australia's population is ranked one of the fattest in the developed world (Markey, August, Bailey, Markey, & Nave, 2016) ranking fifth most obese country in the Organization for Economic Cooperation and Development (2015).

The positive relationship between obesity and overweight and a variety of chronic health conditions means that it is also associated with an increasing economic burden to the Australian health care system. In Australia, the medical costs attributed to overweight and obese adults were reported as more than 21 million dollars in 2005 (Colagiuri et al., 2010) and medical costs for obese children are also increasing. In an Australian study of 350 children aged between two and five years, conducted between 2011 and 2014, the healthcare costs for obese children were almost one-third higher than those for children of a healthy weight (\$3478 compared to \$2146) and obese children were also hospitalised more frequently (Hayes et al., 2016). Although the implications of overweight and obesity to physical health are clear, there are a number of psychological impacts that should also be considered.

The amplified focus on obesity, appearance, and unhealthy, restrictive eating practices have resulted in body image concerns increasing worldwide, and the onset of body dissatisfaction is occurring at progressively younger ages (Damiano et al., 2015; Davison et al., 2000). Research has indicated that children as young as three years show a preference for thin figures (Dunphy-Lelii, Hooley, McGivern, Guha, & Skouteris, 2014); an understanding of dieting to lose weight (Rodgers et al., 2015); and have exhibited internalisation of the thin ideal (Harriger et al., 2010). Furthermore, overweight and obesity frequently coexist with unhealthy body image, suggesting these issues need to be addressed simultaneously (O'Dea, 2005).

While health promotion strategies continue to focus on weight as a fundamental factor in establishing and maintaining health, epidemiological studies have associated overweight and obesity with better rates of survival for some illnesses, coined the 'obesity paradox' (Hainer & Aldhoon-Hainerova, 2013; Taylor, 2011). For example, cardiovascular disease patients classified as obese class I (those with a BMI between 30 and 34.9) were reported to be less likely to die from heart attack or stroke than those of lower weight status (Amundson, Djurkovic, & Matwiyoff, 2010). It has been argued this may be due to an obese patient being younger at the time of a major health event, or due to the more aggressive medical intervention received by an obese patient, although researchers have also speculated that metabolic and cellular activity associated with obesity confers some kind of protective benefit (Amundson et al., 2010).

Not all researchers accept the obesity paradox, with some suggesting that a U-shaped curve exists. That is, where normal, overweight and mildly-obese patients may have better health outcomes, severely obese or underweight patients have worse health outcomes (Habbu, Lakkis, & Dokainish, 2006). Others noted this paradox demonstrated the failure of BMI as a measure of obesity at a population level, as BMI does not take into account fat distribution, body composition, fitness, and metabolic reserves, which can all influence health and wellness (Antonopoulos, Oikonomou, Antoniadis, & Tousoulis, 2016). These researchers argued that evidence of a paradox signals the need for the metabolic functions of adipose tissue to be better understood, and that weight loss (or weight

maintenance and not gain) should still be a public health recommendation (Antonopoulos et al., 2016).

These recommendations consider the evidence which suggests that long-term maintenance of weight loss is notoriously difficult, and 'weight cycling' is a common consequence of repeated weight-loss attempts (Bacon & Aphramor, 2011; Ross et al., 2015; Tylka et al., 2014). Weight cycling refers to the pattern of losing weight, regaining weight, then attempting to lose that weight again, commonly referred to as 'yo-yo dieting' (Montani, Schutz, & Dulloo, 2015). An Australian study of women aged 18 to 30 years (n=620) found those engaged in dieting behaviours expressed unrealistic weight-loss expectations, leading to withdrawal from dieting programs, and subsequent weight gain (Holley, Collins, Morgan, Callister, & Hutchesson, 2016). This study recommended that realistic goals of five to 10% weight loss be set, particularly for those classified as obese, and that practical skills relating to managing time, costs, and food preparation skills were vital to the long-term success of any weight-loss program. Other studies have shown that even when modest goals are set for weight-loss, weight is often regained. Not only are the behaviour changes required to maintain weight loss difficult to sustain (Ross, Flynn, & Pate, 2016) but biological processes such as changes in energy expenditure, nutrient metabolism and gut physiology may alter the response to weight loss, leading to regain of weight (Blomain, Dirhan, Valentino, Kim, & Waldman, 2013). Repeated weight gain and loss is associated with increased levels of body fatness and subsequent inflammation, insulin resistance, the development of type 2 diabetes and cardiovascular disease, leading to questions about the prescription of weight loss as a safe option for improved health outcomes (Bacon & Aphramor, 2011; Montani et al., 2015; Tylka et al., 2014).

While well-intended, mass media health promotion campaigns targeting overweight and obesity may have unintended (i.e. iatrogenic) effects of increasing or perpetuating weight stigma, weight management continues to be the focus of many national and international health promotion campaigns. Such campaigns direct their messages at chronic disease prevention, with the focus on overweight and obesity as the cause of chronic disease dominating this messaging (Bombak, 2014; Grunseit, O'Hara, Chau, Briggs, & Bauman, 2015; Lupton, 2015). The

association between weight status and illness is supported by numerous studies (Gallagher & LeRoith, 2015; Kendall et al., 2015) although others have argued that once factors such as physical activity, nutrition intake and socio-economic status have been considered, obesity as causation for chronic disease is more difficult to prove (Bacon & Aphramor, 2011; Lupton, 2015).

Health promotion programs such as the Australian *Live Lighter* campaign use graphic images of central adiposity to arouse emotional responses such as fear and disgust in an attempt to change behaviour (Lupton, 2015). Such campaigns have been labelled as unethical, as they position obese people as inferior to people of a healthy weight, thus increasing opportunities for victim blaming, while actually having little effect on behaviour change (Bacon & Aphramor, 2011; Lupton, 2015; Major et al., 2014). It has been argued that health promotion campaigns with this focus appear to have the opposite of their intended effect: stigma reduces help-seeking behaviour, increases maladaptive eating practices and reduces the likelihood an overweight or obese person will engage in physical activity (Bacon & Aphramor, 2011; Lupton, 2015; Major et al., 2014). This evidence leads some to argue that weight loss should not be the primary focus of health promotion campaigns, but that behaviour changes such as increased levels of exercise, which may not necessarily reduce weight but may increase 'fitness', could have more long-term benefit (Ross et al., 2015).

Interestingly, the effects of weight stigmatisation on body image were found to be directly related to the way that an individual interprets and responds to media messages. Regardless of a woman's actual BMI, her self-perception as overweight or obese has been demonstrated to change the way she views media messages (Major et al., 2014). A North American study of 93 women (aged between 18 and 32 years) found that stigmatising media depictions of overweight people reduced the self-efficacy of overweight women to maintain their weight (Major et al., 2014). The participants who perceived themselves to be overweight or obese consumed calorie-dense food in response to messaging which stigmatised overweight and obese people. In contrast, women who perceived their BMI to be within the healthy range (regardless of their actual weight) reported increased self-efficacy for weight maintenance in response to stigmatising messages. The researchers believed that stigmatising media representations actually strengthened

participants determination not to gain weight, so as not to be targeted by stigmatising media in the future (Major et al., 2014).

An alternative to health promotion strategies that use stigma and fear to change behaviour are those promoting a non-diet approach, and body acceptance. A recent systematic review (Clifford et al., 2015) found that weight-neutral, non-diet interventions had positive effects on levels of depression, disordered eating, and self-esteem, and did not result in worsening biomedical markers such as higher blood pressure, weight gain, or increased cholesterol. A *Health at Every Size* approach (Bacon & Aphramor, 2011) with an emphasis on making small changes to diet, exercise and physical activity, albeit with little or no weight loss, has demonstrated improved cardiovascular health and reduced abdominal adiposity (Ross et al., 2015). This evidence suggested that encouraging individuals to make small changes to their lifestyle, without focusing on weight as the most significant indicator of health, has the potential to shift the focus of health promotion strategies away from victim blaming (Ross et al., 2015). Reducing the emphasis on body weight and size, and minimising moral judgements on those who are overweight or obese is likely to lead to healthier behaviours, greater self-esteem and a sense of empowerment, and more positive body image, particularly for those already overweight or obese (Hann, Frawley, & Spedding, 2016).

2.2.5 Underweight or Thinness

‘Thinness’ occurs at almost the same rate as obesity in young children, though there is a paucity of research relating to effect of thinness on young children’s physical and psychosocial development (Pearce, Scalzi, Lynch, & Smithers, 2016). While six per cent of South Australian children aged four to six years of age were reported to meet the ‘thin’ criteria according to BMI, five per cent were classified as obese (Pearce et al., 2016). Thinness may be a result of social disadvantage, with factors such as low birth weight, maternal smoking, high-risk alcohol consumption during pregnancy, or maternal pre-pregnancy underweight being associated with thinness in young children (Pearce, Rougeaux, & Law, 2015). Despite the range of significant health problems associated with thinness, this public health issue is somewhat under-researched in comparison to obesity (O’Dea & Amy, 2011).

A study of children aged between six and 18 years (n=8550) found an association between thinness and fussy eating, namely an increased satiety response and a fear of being overweight which was proposed as leading to disordered eating in thin children (O'Dea & Amy, 2011). Moreover, low levels of muscle and skeletal mass might indicate that thin children would benefit from physical activity; however, thin children reported lower levels of physical activity than others in the study sample. This is of concern, as physically inactive children are likely to become physically inactive adults, exposing them to a range of future negative health outcomes associated with a sedentary lifestyle (Bauman et al., 2012). In addition to the biomedical health benefits of physical activity, its association with the development of positive body image mean it is relevant for children, regardless of their weight status (Frisén & Holmqvist, 2010).

Along with the physical health concerns related to thinness, psychosocial consequences are also apparent (O'Dea and Amy, 2011). Evidence suggests that thin children experienced higher levels of body image concern than their overweight or healthy weight peers (O'Dea & Amy, 2011). More than half of the thin students reported wanting to increase their weight (53.9%), while nine percent wanted to be thinner, both scenarios influential in the development of disordered patterns of eating. An earlier study also found that thin boys reported not liking school (18%) and believed themselves to be poor students (10%) (Falkner et al., 2001). These findings suggest that thinness should be considered when designing health promotion, self-esteem and positive body image interventions (O'Dea & Amy, 2011). As educators in early years education and care settings may inadvertently transmit messages relating to weight and the culturally-ideal body to young children, encouraging the demonstration of positive body image by educators could influence the development of positive body image in young children (Diedrichs et al., 2015).

Weight stigmatisation not only affects those who are overweight or obese. Those who are very thin may also experience weight stigmatisation, despite the fact that being thin is viewed as culturally ideal. It may be assumed that thin children would be healthier than their overweight or obese counterparts, however, they experience unique health concerns. Low fat stores, delayed growth, low skeletal and muscle mass, and higher risk of bone fracture have all been associated

with thinness (O'Dea & Amy, 2011), as have impaired cognitive functions, such as impeded language development, lower intelligence, and attention deficiencies (Pearce et al., 2016). Thin children are at risk of becoming thin adults, who have reduced life expectancy compared to children with a BMI which classifies them as overweight or a healthy weight (O'Dea & Amy, 2011).

2.2.6 Influences that Underpin Body Image Dissatisfaction

Body image is a complex phenomenon and weight status is just one of many influential developmental factors. There are a number of theories underpinning body image development (Thompson et al., 2007; van den Berg, Thompson, Obrowski-Brandon, & Covert, 2002; Webb, Wood-Barcalow, & Tylka, 2015) including Attribution Theory, Objectification Theory, Social Comparison Theory and the Tripartite Theory, each of which will be explained briefly here.

Attribution Theory suggests that people attempt to understand events by deciding whether they have the power to control the outcomes of events (Musher-Eizenman, Holub, Miller, Goldstein, & Edwards-Leeper, 2004). This theory is especially pertinent in relation to weight stigmatisation. For example, if an individual believes that being overweight is due to a controllable factor, such as laziness, they are more likely to express anti-fat attitudes than an individual who believes overweight may be attributed to an uncontrollable source, such as genetics. In a qualitative study of 42 children aged four to six years, anti-fat attitudes held by these children were reinforced by their belief in the level of control an individual has over their own weight status (Musher-Eizenman et al., 2004).

In contrast to Attribution Theory, that alludes to the belief that individuals have some level of control over their weight status, Objectification Theory posits that immersion in a cultural environment where the emphasis is placed on physical appearance may also aggravate body dissatisfaction (Jongenelis, Byrne, & Pettigrew, 2014). This theory is most often discussed in relation to women, particularly in terms of sexual objectification where women's bodies are viewed as sexual objects and evaluated according to the gaze of others (de Vries, Peter, Nikken, & de Graaf, 2014). In recent times, Objectification Theory has expanded to

include men and boys. For example, a study of adolescent boys and girls aged 14 to 15 years (n=685) reported that while boys may not experience the same levels of external body scrutiny as girls, they were still subject to self-objectification (Dakanalis et al., 2015).

While objectification has been explored in relation to women, and to a lesser extent, men, its influence on children is not as well understood. Repeated experiences of sexual objectification are said to predispose women and girls to view themselves as objects whose worth is relative to physical appearance, a concept known as self-objectification (Dakanalis et al., 2015). An Australian study of children (n= 253) aged between six and 11 years found that both boys and girls in this age range engaged in self-objectification (Jongenelis et al., 2014). Levels of objectification were not dependent on children's weight status, with both healthy weight and overweight children reporting self-objectification. Young girls were subject to similar levels of self-objectification as adolescent females and adult women, and a significant relationship was found between self-objectification and negative body image and disordered eating behaviours (Jongenelis et al., 2014).

When individuals are objectified, they may internalise the notion that it is acceptable to subject others' bodies to evaluation, and engage in comparison of their bodies against the bodies of others (Tylka & Sabik, 2010). Social Comparison Theory was first defined by Leon Festinger (1954) and posits that individuals determine their own worth by comparing their beliefs, attitudes and abilities to others. Such comparisons may influence body image both positively and negatively, depending whether an individual was making an upwards or downwards comparison of their own appearance against the appearance of others (Bailey & Ricciardelli, 2010).

Upward comparisons occur when individuals compare themselves to others who they perceive to be more physically attractive, such as models or celebrities. Upward comparisons have been associated with body dissatisfaction, negative fat talk and disordered eating behaviours (Bailey & Ricciardelli, 2010) and have been shown to negatively influence mood, even after short exposure to media images (Tiggemann & McGill, 2004).

In a study of 224 Western Australian adolescent girls, comparisons of appearance with that of their peers, rather than comparisons with the appearance of models, was found to increase body dissatisfaction (Carey, Donaghue, & Broderick, 2013). Studies of downward comparisons of appearance have found that when individuals compare themselves with those who they perceive as less attractive, they experienced higher levels of body satisfaction (Bailey & Ricciardelli, 2010). These findings illustrated the need to seek multiple strategies alongside developing critical media literacy, since girls in these studies experienced body dissatisfaction not only when comparing their appearance with celebrities, but also with friends (Carey et al., 2014). This suggests that a comprehensive approach to improving body satisfaction in young girls and women needs to include the development of media literacy, and also needs to encourage recognition and understanding of the appearance cultures they inhabit, where beauty and thinness correspond with status (Jones, Vigfusdottir, & Lee, 2004).

The theories discussed so far consider the individual factors that influence body image development. In contrast, the Tripartite Theory, describes the significance of sociocultural influences on body image and it is well utilised in body image research (Rodgers, McLean, & Paxton, 2015). This theory proposes three major factors that contribute to body image development, namely peers, parents and the media (Thompson et al., 2007). The significance of sociocultural influences depends on a variety of factors, including a person's acceptance of the thin or muscular ideal; the importance the individual places on their physical appearance; and the importance they believe appearance plays in societal success (Rodgers & Chabrol, 2009; Stice, 1994). This theory is based upon the Sociocultural Theory developed by Vygotsky (Newman & Holzman, 2014) and was particularly pertinent to this research as it describes the role of parents and teachers in scaffolding children's understanding of culture (Bodrova & Leong, 2003). The incorporation of the role of educators in this theory means it was chosen as one of the theoretical underpinning of this research and will be described in greater detail in Section 3.2.2.

Despite peers being acknowledged as a key sociocultural influence on body image development, the influence of peers on preschool-aged children appears not to have been studied as extensively as it has in older children. Weight

stigmatisation, the preference for thin children as playmates and the attribution of positive personality traits to thinner children have all been noted by researchers (Harriger et al., 2010; Su & Di Santo, 2012) suggesting further research in this area is necessary (Tatangelo et al., 2016).

Studies on the influence of peers on girls aged five to eight years have highlighted the role peers play in the development of body image. A study of 128 Australian girls found that girls who believed their friends coveted a thin ideal, also idealised it for themselves, and showed more awareness of restrictive eating practices (Dohnt & Tiggemann, 2006). Conversations about celebrities were not widespread in this sample, though weight-based stereotyping was reported, and girls chose the silhouette of an underweight girl as the most desirable friend, rather than the normal or overweight depiction.

In contrast, studies of adolescent girls showed that those who talked about models, pop stars or actors with their friends wished for a thinner ideal more than girls who did not engage in such discussions (Carey, Donaghue, & Broderick, 2013). Girls aged 14 to 15 years (n=224) appeared to compare their bodies to their peers as well as to celebrities, with both comparisons having a significant effect on body image, although comparison with peers was shown to be the stronger influence. The researchers noted that the traditional methods of improving body image by engaging adolescents in critical media literacy were not relevant when comparisons with peers were influencing body image. They suggested girls needed help to recognise the cultural focus on appearance, and to break the habit of body comparison (Carey et al., 2013).

The interaction between weight, appearance and peers in very young children needs to be better understood by educators to ensure that a culture of acceptance and inclusion is fostered in early childhood education and care settings (Su & Di Santo, 2012). Seminal research undertaken in 1961 demonstrated that children were more likely to choose a physically disabled child as a playmate than an obese playmate (Richardson, Goodman, Hastorf, & Dornbusch, 1961) and when replicated more recently, bias against obese children was found to be worsening (Latner & Stunkard, 2003). This trend was still evident in 2012, as research revealed children aged as young as three years attributed negative emotions and

behaviours to overweight children and were less likely to choose an obese child as a playmate than a thinner child (Su & Di Santo, 2012).

As well as evidence regarding the influence of peers, there is an abundance of existing literature that emphasises the influential role of the family environment in determining the health and wellbeing of children (Damiano et al., 2015; Ha, 2007; Haines, Neumark-Sztainer, Hannan, & Robinson-O'Brien, 2008; McCabe et al., 2007). The family environment is influential in regard to weight-based teasing (Berge, Hanson-Bradley, Tate, & Neumark-Sztainer, 2016); the development of dietary habits and eating behaviours; and weight status is modelled and informed by parents (Clark, Goyder, Bissell, Blank, & Peters, 2007; Golan & Crow, 2004). Parents not only plan, prepare and schedule meals for young children, they also demonstrate food choice, govern children's screen time and provide opportunities for physical activity (Watson-Jarvis, Fenton, Hall, Waterman, & Van Nest, 2012). Children are socialised in their family environment around the norms associated with food consumption, body dissatisfaction, restrictive eating practices, and the cultural expectations related to body size and acceptability (Ha, 2007; Haines et al., 2008; McCabe et al., 2007).

Weight-based teasing is commonly experienced by young people, and may be initiated by peers, siblings or parents. An American study of 60 children aged nine to twelve years found that mothers were more likely to make weight-based comments than fathers (42% compared to 26%) (Berge et al., 2016). The highest rates of negative weight-based talk, however, came from siblings, particularly older brothers (33%). These findings are comparable with a study of girls aged 12 years (n=372) where parental weight-based teasing was experienced by 23% (n=85) of participants (Keery et al., 2005). Teasing by siblings was experienced by 29% of the sample, and teasing by fathers and older brothers was significantly related to body dissatisfaction, restrictive dieting, the internalisation of the thin ideal and bulimic behaviours (Keery et al., 2005).

Similarly, in an American study of 356 girls aged 15 years 60% (n=213) of participants reported parental weight-based teasing, and girls with a higher BMI endured more teasing than those of lower weight status (Neumark-Sztainer et al., 2010). Teasing was strongly associated with development of binge eating and

extreme weight-control behaviours, as well as high levels of body dissatisfaction. Binge-eating behaviours were strongly associated with weight-based teasing, with 39% of participants who were teased by family members binge eating, and only three percent of participants *not* teased by family members exhibiting binge-eating behaviours. Additionally, in this study, mother's 'weight talk' was found to be more strongly associated with restrictive eating practices than fathers 'weight talk'.

Some have claimed body dissatisfaction is so common it is normal, and these studies have demonstrated that behaviours such as 'fat talk', restrictive eating practices and weight-based teasing are so deeply culturally ingrained that parents may be unaware they are engaging in them, or encouraging their children to do so (Haines et al., 2008). An American study of children aged nine to 12 years (n=73) and their parents investigated the types of comments parents made about their own body weight and that of their children. This study reported 23% of children received weight-based comments from their parents; 25% were encouraged to diet by parents; and 22-23% heard parents make self-disparaging remarks about weight, or appearance. There were, however, significant differences between rates of child report compared with parental report of body dissatisfaction, weight concern and dieting. The researchers in this study suggested that social desirability bias may have prevented parents reporting these behaviours at the same rates as their children: a bias which commonly occurs in nutrition studies where participants self-report (Mossavar-Rahmani et al., 2013).

An Australian qualitative study explored how mothers and classroom teachers contributed to the body image of preschool children (aged four years) by observing two preschool classes playing and eating, and interviewing 10 preschool teachers and 53 mothers (McCabe et al., 2007). This study reported that parents' concern about their child's weight varied according to the gender of their children. The mothers of boys (n=24) appeared to be less concerned with the weight of their child than the mothers of girls (n=29) who indicated an increased likelihood of making a concerted effort to improve dietary quality and encourage exercise if they noticed their child had gained weight.

Parents also differed in the way they viewed physical activity, with mothers of girls discussing physical activity only in relation to weight management (McCabe et

al., 2007) and the mothers of boys declaring they had no concerns regarding the physical activity levels of their sons. In this study, some mothers of sons also commented that their boys consciously exercised to get muscles and “a six pack” (McCabe et al., 2007, p. 227). These parents encouraged this behaviour telling children that certain kinds of foods were likely to “give you muscles” (McCabe et al., 2007, p. 225). In this study, almost half of the mothers with daughters noted they made comments about their body size, and this was more likely if the girl had an older sister (McCabe et al., 2007). This evidence indicated that while the fat talk of mothers is concerning, the influence of siblings’ fat talk on very young children should not be overlooked.

Research has shown that while parents claim to be aware of the importance of promoting healthy body image in their young children, they inadvertently transfer messages about their own experiences of body image, restrictive eating practices, clothing, and general health behaviours (Harriger et al., 2010; McCabe et al., 2007). Children as young as two and a half years of age were found to exhibit anti-fat bias in a study where it was reported that children preferred to look at figures that reflected a healthy weight range rather than obese figures, and that these preferences positively correlated with their mother’s anti-fat attitudes (Ruffman, O’Brien, Taumoepeau, Latner, & Hunter, 2016).

While there is a paucity of evidence about the influence of anti-fat bias by educators on young children, this influence should not be discounted. It is reported that more than 40% of Australian children aged two to three years attend some form of formal child care (Baxter, 2015) therefore, the ways in which weight status, weight-based teasing and fat talk are approached by educators is very important not only for weight status (Feeg, Candelaria, Krenitsky-Korn, & Vessey, 2014) but also for the development of positive body image.

Media and cultural influences on weight status and body image development should be underestimated. Within Australia’s diverse, but predominantly Western culture, adolescents from non-Caucasian backgrounds have been reported to perceive their weight status and body image differently to those of a Caucasian background (O’Dea, 2008). In an Australian study of culturally diverse children aged six to 18 years of age (n=7889) 100% of female participants from an Asian

background saw themselves as too fat, although they were the group least likely to be identified as overweight according to their BMI (O'Dea, 2008). By comparison, 59% of Middle Eastern and 35% of Pacific Islander girls, whose BMI placed them in the overweight or obese category, did not report body image dissatisfaction. This apparent body satisfaction may be attributed to less internalisation of the Western notion of the thin ideal, and greater adherence to other cultural factors such as preference for larger women (O'Dea, 2008). Alternatively, some consider the use of BMI as an inappropriate measure of weight status (Bombak, 2014) and recognition that BMI cut-off points are not appropriate for individuals from the Pacific Islands, or those of Asian descent may be a limitation of these findings (O'Dea & Dibley, 2014). The WHO recommendations do, however, remain and BMI cut-off points are used for international body weight classification purposes (WHO, 2006).

Cinelli and O'Dea (2009) further interrogated these data according to age and focused solely on Australian Indigenous (n=333) and non-Indigenous (n=4367) students aged 12-16 years. Both male and female Indigenous students described wanting bigger, more robust bodies than their non-Indigenous peers, and experienced higher levels of body satisfaction (Cinelli & O'Dea, 2009). This study showed that older Indigenous community members may encourage Indigenous children to over-eat, and that Indigenous adolescents were more likely to receive advice from parents and family on eating and weight than non-Indigenous adolescents. Such findings highlight the need for cultural awareness when designing health promotion projects focusing on both obesity and body image, since the influence of parents and grandparents on the body image and eating habits of Indigenous youth appears to be strong. Engaging parents, grandparents and other Indigenous community members in program development are vital in conveying appropriate health promotion messages to Indigenous children and youth.

Cultural and economic changes in the developing world mean that media influences are increasingly prevalent in such places, and are thought to be influencing the development of body image concerns amongst these populations (Becker, Burwell, Herzog, Hamburg, & Gilman, 2002; Makino, Tsuboi, & Dennerstein, 2004). The introduction of Westernised media was shown to be a factor in increasing body image concerns in an Australian study undertaken in Fiji

in the 1990s. In 1998, adolescent girls (n=63, average age 17 years) living in regional Fiji, where access to television was previously unavailable, were studied in relation to the influence of Western television programming (i.e. American, Australian and British) had on their body image (Becker et al., 2002). This study showed that three years after the introduction of television, 83% of girls said that television made them feel differently about their body and they wanted to change their weight or body shape. Fifteen percent of girls admitted to vomiting to control weight and 40% claimed that being thin would improve their career prospects. These results were in marked contrast to the traditional Fijian view of women's bodies, where Fijian culture traditionally values a larger body, and weight loss and poor appetite are viewed negatively, thus demonstrating the significant influence of Western cultural media messages (Becker et al., 2002).

It is generally accepted in Western cultures that people make decisions about the personality and likeability of others according to their physical attributes (Dion & Berscheid, 1974; Su & Di Santo, 2012). The acceptance of the 'what is beautiful is good' stereotype, and the promotion and acceptance of the thin ideal for both men and women, and the muscular male physique, leads to the notion that the appearance of the physical body is inextricably linked to the development of self-esteem, self-worth and social functioning (Dion & Berscheid, 1974; Ricciardelli & McCabe, 2001). Cultural representations of beautiful characters as good, and unattractive characters as evil act to reinforce these stereotypes, and are seen frequently in advertising, television and movies. Of concern is the level of children's exposure to such mediums, both in the Western and developing worlds (Bazzini, Curtin, Joslin, Regan, & Martz, 2010) and the impact this could have on their acceptance of this stereotype.

Media messages permeate even early childhood education and care settings, where young children are immersed in the cultural norms prevalent in their society. Disney princesses, superheroes and virtual worlds are being harnessed in these settings to encourage the development of literacy skills (Dickie & Shuker, 2014) and the development of identity and socialisation (Marsh, 2010). Although little research about the influence of media on the body image of very young children (i.e. those under six years of age) is available, the role of media in the

development of body image dissatisfaction has been examined at length among both preadolescent and adolescent children (Jung & Peterson, 2007; O'Dea, 2008).

There has been considerable debate about the ways that media directed to children emphasises the 'what is beautiful is good' stereotype. This emphasis reinforces the pre-existing prevalent belief that, according to cultural stereotypes, positive character traits are associated with physical attractiveness, and negative character traits are associated with physical unattractiveness. Disney movies, in particular, have been criticised for the promotion of these cultural stereotypes (Bazzini et al., 2010). The content analysis of 25 classic Disney movies found that almost nine image-related messages were delivered in each movie, and 72% of the movies placed an emphasis on the physical attractiveness of characters (Herbozo, Tantleff-Dunn, Gokee-Larose, & Thompson, 2004). A study of 21 animated movies by Bazzini and colleagues (2010, p. 2693) found the physical attractiveness of characters and their corresponding "friendliness, goodness, and intelligence" was positively correlated, and the aggression demonstrated by the character reduced as the beauty of the character increased. This study exposed small groups of children (n=42) aged between six and 12 years to a Disney movie; half to a movie with a high 'beautiful is good' bias (i.e. *Cinderella*) and the rest of the sample to a movie with a low 'beautiful is good' bias (i.e. *The Hunchback of Notre Dame*). Findings from this study suggested that although children displayed a propensity to prefer attractive peers to less attractive peers prior to viewing the movie, this bias was unchanged following their exposure to the Disney film they watched (Bazzini et al., 2010). This is contrary to the result of a similar research with adults, who, after viewing a movie that promoted the 'beautiful is good' stereotype, reacted more favourably to attractive peers than they had prior to viewing (Smith et al., 1999, cited in Bazzini et al., 2010). While evidence presented here is from only two small studies, it is interesting to consider that both adults and children demonstrated bias toward attractive characters prior to viewing.

A North American study hypothesised that exposure to Disney princesses would not only reduce body esteem, but would increase prosocial behaviours, such as being helpful to peers, and stereotypical female behaviours in children, such as choosing stereotypically feminine toys such as dolls with which to play (Coyne, Linder, Rasmussen, Nelson, & Birkbeck, 2016). Both boys and girls in this sample

(n=198, 47% male, mean age 4.8 years) displayed more female gender stereotypical behaviours as their engagement with Disney princesses increased. While girls' body esteem and prosocial behaviours appeared to be unchanged by this engagement, boys' prosocial behaviours and body esteem increased. Researchers explained this finding by suggesting that for girls, the thin ideal and prosocial behaviours are so culturally entrenched that exposure to Disney princesses makes no substantial difference to their behaviours, while for boys, they postulated that exposure to the prosocial behaviours of princesses may have a positive effect.

While exposure to media may have some impact on the way preschool-aged children perceive others who are overweight, it would appear that it does not always influence their own body dissatisfaction. In a North American study, girls aged three to six years (n=121) were shown excerpts from children's animated movies, all including appearance-related messages, and then observed at play to assess their appearance-related behaviours (Hayes & Tantleff-Dunn, 2010). Girls exposed to the short animated videos were no more likely to express body dissatisfaction or to engage in appearance-related play than girls who did not view the animated clips (Hayes & Tantleff-Dunn, 2010). The children were, however, interviewed about their body dissatisfaction, and one-third said they had physical characteristics they would like to change, such as hair colour, skin colour, or weight (Hayes & Tantleff-Dunn, 2010). These findings suggested that while it appeared that children in this age group may not be outwardly influenced by exposure to this media, they may still internalise the thin ideal, since 30% wished to change some aspect of their appearance. Exposure to media is one of many sociocultural influences on body image development that very young children experience, and early exposure may have a long-term cumulative impact (Hayes & Tantleff-Dunn, 2010).

Television viewing is another form of media exposure, thus a sociocultural factor, believed to influence body image development. Alongside films made specifically for children, television is also popular with preschool children, and 30% of Australian preschool children have a television in their bedrooms (Cox et al., 2012). Guidelines suggest that television viewing is inappropriate for children under two years, and should be limited to one hour per day for children aged two

to five years (Department of Health and Ageing, 2010). Despite these recommendations, it is reported that Australian children aged under four years, typically watch television for more than two and a half hours per day (Garvis & Pendergast, 2011).

An analysis of Australian ratings data undertaken in 2006 found that children from birth to age 14 made up 20% of the Australian television audience (Australian Communication and Media Authority, 2007). While the majority of Australian children's television viewing consisted of programs made specifically for children, reality television also featured prominently in their viewing choices. It is alarming to note that in 2006, four of the five top-rating television shows watched by children aged zero to 14 years were reality television shows, with content aimed at adults, rather than viewing programs made specifically for children (Australian Communication and Media Authority, 2007). Reality television included programs based on the premises of weight-loss (such as *The Biggest Loser*) and sexualisation (such as *Big Brother*) both factors known to influence developing body image. Cultural messages which reinforce sexualisation have become increasingly common, and the emphasis on appearance and conforming to the cultural beauty ideal is continually reinforced (Rush & La Nauze, 2006).

Sexualisation has received a great deal of attention in Australia, and following the release of the *Corporate Paedophilia* report in 2006 by the Australia Institute (Rush & La Nauze, 2006) a Senate Inquiry into the sexualisation of children was conducted in 2008 (Commonwealth of Australia, 2008). Both the Senate Inquiry and Australia Institute report described ways in which sexualised images of children were used to sell products, and the techniques used to sell sexualised products to young children, including dolls, adult styles of clothing and underwear, and clothing with sexualised slogans (Rush & La Nauze, 2006). Other sources of sexualisation identified by Goodin and colleagues (2011) included popular media made for adults, but accessible to children (such as music videos) and popular media which targets children (such as magazines aimed at preadolescents).

Sexualised material tends to have a gendered focus, and most depict women or girls, rather than men and boys, engaging in sexualised behaviour. Music videos, a

genre of television popular with young children, are an example where sexualisation is common. These videos are broadcast on free-to-air television at times when viewing by children is commonplace (such as weekend mornings) even though viewing of this content by children aged under 15 years is not recommended without parental guidance (Ey & McInnes, 2015). An analysis of 405 music videos on Australian free-to-air television found that 71% of women in these videos were presented in a sexual manner, compared with 35% of men. Moreover, sexualised content was shown to vary according to type of music. The pop music genre is the most popular genre among children aged six- to ten-years, and of concern, approximately 68% of pop music videos in this sample were found to contain sexualised content, while other genres sexualised content was even higher (i.e. 87% of rhythm and blues videos and 82% of hip-hop videos). The exposure of children to such lurid images of women and girls was believed to normalise sexualised role-models, particularly among younger girls. When adding the concept of self-objectification to the mix, there may be ramifications for poor body image development within this generation of young girls in the future (Coy, 2009).

Exposure to sexualised media was found to influence girls' preference for sexualised clothing, as well as reducing body satisfaction. An Australian study of girls aged six to nine years (n=300) found that their exposure to sexualised media increased the likelihood that they would internalise sexualised messages, and among this sample, 54% wanted to be thinner (Slater & Tiggemann, 2016). Body dissatisfaction was associated with a preference for 'sexier' clothing than the clothes they were actually wearing. The link between appearance and worth is culturally entrenched, and since children are avid consumers of media and socialised in an environment that places value on appearance, thinness and muscularity, it is not surprising that self-objectification occurs at such a young age. It is worth noting that physical attributes are not only viewed with an appearance focus, but are also thought to indicate agreeable personality attributes (Hayes & Tantleff-Dunn, 2010).

In contrast to objectification, self-objectification occurs when women and girls are socialised to adopt an onlooker's perspective, and begin to accept themselves as an object to be looked at, or come to judge their worth according to their appearance (Tiggemann & Slater, 2014). Self-objectification has harmful

consequences for women, and has been associated with the development of anxiety, depressed mood, and disordered eating, although the concept has been less extensively studied in children (Jongenelis et al., 2014). An Australian study of 250 boys and girls aged six to 11 years found that young girls experienced self-objectification at a similar rate to adult women (Jongenelis et al., 2014). Young boys also experienced self-objectification, although a comparison to rates in adult males was difficult due to the scarcity of data on males. Self-objectification was associated with poor body image, a distorted view of an individual's body and eating disorder symptomology for both girls and boys, regardless of their weight status (Jongenelis et al., 2014).

The multiple cultural influences on body image described in this section illustrate that children are exposed to body ideals from a wide range of sources, but it is important to note that educators are subject to these influences themselves, and may not be aware of these effects. Educators may have their own body image concerns, and may require assistance to develop positive body image themselves. It is imperative that educators understand the role culture plays in their own body image development, in order to understand the body image development of young children.

2.2.7 Body Image of Very Young Children

The development of body image in very young children (i.e. those aged less than five years) should be an important focus for public health and prevention for a number of reasons. Studies of the body image of preschool children are limited, but evidence suggests that by the time children enter school, body dissatisfaction is becoming increasingly prevalent (McCabe et al., 2007; Shunk & Birch, 2004; Tatangelo et al., 2016). Children develop self-awareness at around eighteen months old, and this is thought to be the basis for the growth of self-concept and identity, although the age when children begin to appraise their body in terms of its adequacy is unclear (Brownell, Zerwas, & Ramani, 2007). There is evidence that children as young as three years are internalising the thin ideal and stigmatising the overweight. By the age of five years, 20% of girls are dissatisfied with their bodies, and between 34% and 65% of girls understood the concept of dieting; this knowledge was greater if their mother practised restrictive eating habits (McCabe

et al., 2007). Despite the evidence that preschool children are developing negative body image, there appear to have been limited educational interventions developed for this age group (Davison et al., 2000; Su & Di Santo, 2012; Tatangelo et al., 2016).

There are, however, several studies that offer body image interventions for preadolescent and adolescent children (Diedrichs et al., 2015; McLean, Paxton, & Wertheim, 2013; Norwood, Murray, Nolan, & Bowker, 2011; Richardson & Paxton, 2010) although as research indicates that body discontent is already normative in these age groups, it is clear that prevention of negative body image and development of positive body image needs to start earlier. Moreover, others have described an increase in body dissatisfaction among boys and girls aged six years (Shunk & Birch, 2004) suggesting interventions encouraging positive body image at a younger age to be worthwhile.

2.2.8 Positive Body Image, and How it can be Fostered

The development of negative body image is well understood (Wood-Barcalow et al., 2010) and has been the focus of investigation for more than a century (Cash, 2004). Comparatively, research into positive body image has been scarce (Wood-Barcalow et al., 2010) and has only been undertaken in the last decade (Tylka & Wood-Barcalow, 2015). Influential research on body image was conducted by Thomas Cash in the 1990s and into the 2000s (Tylka & Wood-Barcalow, 2015). Cash and colleagues have been credited with conducting the first study where positive body image was described as a separate construct to negative body image (Tylka & Wood-Barcalow, 2015).

Positive body image is not merely the absence of negative body image, or tolerance of one's body. Instead, fostering positive body image encourages the celebration, respect and appreciation of one's body (Tylka & Wood-Barcalow, 2015). Equally, positive body image is not as simple as removing influences that promote the development of negative body image, as these are so culturally entrenched it would be somewhat naïve to believe they could be erased entirely. By teaching positive, adaptive practices that enable individuals to develop resilience, alter their perceptions and develop a means of "protective filtering"; an

enabler facilitating choices around the acceptance or rejection of daily information exposure, the development of positive body image may be encouraged (Tylka, 2011, p. 61).

Fostering positive body image has a range of positive health implications, not all of which relate to eating patterns and weight status. In an Australian study of adolescent girls aged 12 to 16 years ($n=298$) it was established that by promoting positive body appreciation, girls were more likely to engage in physical activity and organised sport, and to delay smoking cigarettes or drinking alcohol (Andrew, Tiggemann, & Clark, 2016c). While body image is frequently linked to weight status, findings such as this indicate the potential far-reaching public health impact that fostering positive body image may have.

The recognition of factors that promote positive body image (operationalised and measured as body appreciation) is vital in the development of interventions that effectively improve body image, thereby enhancing physical and mental health (Grogan, 2010). A number of factors that predict positive body image have been identified (Frisén & Holmqvist, 2010; Grogan, 2010) and include having high self-esteem (Grogan, 2010); rejection of cultural ideals of attractiveness and replacement of this ideal with a broader appreciation of beauty (Tylka & Wood-Barcalow, 2015); reduced comparisons with others (Grogan, 2010); rejection of stereotypical gender roles (Peterson, Tantleff-Dunn, & Bedwell, 2006); a rejection of 'healthism' (Donaghue & Clemitshaw, 2012); embodiment (Piran, 2015); self-compassion (Albertson, Neff, & Dill-Shackleford, 2014); and mindfulness (Alberts, Thewissen, & Raes, 2012).

High self-esteem appears to be one of the most important predictors of positive body image, as indicated in a plethora of research since the 1980s (Mendelson & White, 1982; Norwood et al., 2011; O'Dea, 2006; 2007; Pierce & Wardle, 1997). Self-esteem encompasses the beliefs a person has about their global worth, and people with high levels of self-esteem have been shown to have better body image than those with low self-esteem (O'Dea, 2004). Programs that aim to boost self-esteem appear to focus on individuality, praising and valuing personal attributes rather than physical appearance, and negating the effect of the media, and being teased by others (McVey, Davis, Tweed, & Shaw, 2004; O'Dea, 2007). Self-esteem

strategies are recognised to be a safe and effective method of reducing the likelihood of developing eating disorders, as well as increasing positive body image, and are utilised in a range of interventions (Andrew et al., 2016c).

In their study of 258 adolescent and preadolescent girls, McVey and colleagues (2004) designed a six-week program for schools, *The Student Body: Promoting Health at Any Size*. The focus of this program was to improve body image satisfaction and global self-esteem, while diminishing positive attitudes towards dieting. Post-intervention, this study demonstrated significant gains in body image satisfaction, global self-esteem, behaviour scores and reduced negative eating attitudes, however, only changes in global self-esteem remained at the 12-month follow-up. The researchers acknowledged that since adolescence is a particularly challenging period in relation to body image, such programs need to be repeated regularly to be worthwhile and to achieve sustainable outcomes.

In addition to high levels of self-esteem, and the rejection of the thin or muscular ideal, a broader appreciation of beauty has been shown to promote positive body image, and can be encouraged by developing an awareness of cultural beauty ideals, and teaching strategies for how to reject these ideals (Halliwell, 2015). Positive body image can be achieved when an individual accepts his or her body, and although they may recognise areas they wish to change, they appreciate their body as it is (Halliwell, 2015). A cultural shift toward the acceptance of a diverse range of body sizes and shapes has been suggested as a means of reducing the effects of internalisation of the thin ideal, while media literacy training has proven successful in helping participants to reject the notion of the thin ideal (Neumark-Sztainer, Levine, et al., 2006).

Comparison of one's appearance with others is a factor that may influence body image either positively or negatively. As discussed previously, Social Comparison Theory posits that people compare their bodies to media images, and that such comparison of one's body to others, particularly to the culturally-idealised body type, contributes to poor body image and body dysmorphia for both males and females, regardless of age (Grogan, 2010). Comparisons are not always associated with negative body image because it may depend upon with whom an individual compares themselves. For example, comparisons with unattainable images, such as

images of models, have been shown to be detrimental to body image, while comparison to friends and family have been associated with more positive body image (O'Brien et al., 2009).

Images on social media and in magazines are frequently digitally-enhanced, making images of models appear essentially 'perfect', and increasing the incongruity of comparisons with an image which is not only unrealistic, but is fictitious (Harrison & Hefner, 2014). Several countries, including Australia, Israel and France, have introduced laws or Codes of Conduct to encourage the attachment of disclaimers or warning labels to digitally-altered images (Tiggemann, Slater, & Smyth, 2014). Although these are relatively recent developments, a number of studies have shown that such labelling does not appear to reduce body dissatisfaction (Ata, Thompson, & Small, 2013; Harrison & Hefner, 2014; Marika Tiggemann et al., 2014). Somewhat counterintuitively, it has been suggested that such labelling increased appearance comparisons, and that more research is required to explore the usefulness of mandatory labelling of re-touched content (Tiggemann, Slater, Bury, Hawkins, & Firth, 2013).

Not only are comparisons made with media images, but it appears that toys that accentuate the cultural ideal may play a role in comparison and the development of poor body image (Anschutz & Engels, 2010; Barlett, Harris, Smith, & Bonds-Raacke, 2005). Young girls have been shown to compare their bodies to those of dolls with which they play (Worobey & Worobey, 2014) and research suggests they change their intake of food accordingly (Anschutz & Engels, 2010). Moreover, young adult men were shown to exhibit less body satisfaction after handling an overtly muscular action figure (Barlett et al., 2005).

The influence of seemingly innocuous objects on body image is one not readily understood, although these influences clearly have implications for the kind of toys to which young children are exposed in early childhood education and care settings. These examples illustrate the need for educators to understand the complex influences on body image development in very young children, and to choose the toys, books and games for their services with this in mind.

Encouraging the rejection of stereotypical gender roles and portrayals is another method of fostering positive body image. For social comparison to be of importance to an individual, they must view their appearance as central to their self-worth, and this is often associated with sexual objectification and gender roles (Grogan, 2010). Gender stereotypes are portrayed and reinforced by the media (Collins, 2011; Sink & Mastro, 2017). Women are under-represented on television when compared with men, with approximately 40% of characters on prime time American television being female (Sink & Mastro, 2017). In addition to their on-screen underrepresentation, it has been argued that when women are portrayed, it is in traditionally feminine roles, with an emphasis on their attractiveness (Collins, 2011). The objectification of women in media has the potential to normalise these depictions for young children, many of whom express inflexible attitudes towards gender and dress (Halim et al., 2014).

Men are also subject to unrealistic depictions of their gender, and the increasingly muscular bodies of superheroes and athletes are clearly communicating to boys and men that to be 'male' is to be strong and muscular (Drummond & Drummond, 2015). Since it is not possible for most males to achieve these unrealistic and stereotypical body types naturally, the use of drugs, supplements and unhealthy exercise to build muscular bodies becomes a more acceptable proposition for those with poor body image (Yager & O'Dea, 2014). In contrast, encouraging boys to find ways to explore masculinity that are unrelated to strength and muscularity was reported to reduce the likelihood of comparison with others and therefore, reduced body dissatisfaction (Smolak & Stein, 2010).

Feminist scholars advocate for the rejection of the cultural beauty ideal, for a *Health At Every Size Approach* to weight and size (Bacon & Aphramor, 2011; Tylka et al., 2014) and for resistance against body shame discourses prevalent in media, marketing and advertising (Tylka & Wood-Barcalow, 2015). While there is evidence to suggest women who endorse traditional female gender roles have greater levels of body dissatisfaction (Swami & Abbasnejad, 2010) there is also some evidence to suggest that encouraging the development of a feminist identity in adult women may help them to reject the thin ideal (Peterson, Tantleff-Dunn, & Bedwell, 2006). Educators have a role to play in the rejection of traditional gender roles and stereotypes through the provision of gender neutral toys (Trawick-

Smith, Wolff, Koschel, & Vallarelli, 2015); the provision of a range of literature experiences where characters reject stereotypical gender roles; and a range of play and learning opportunities (Chapman, 2016; Emilson, Folkesson, & Lindberg, 2016).

The rejection of cultural appearance ideals may lead to increased body appreciation, as could the rejection of the 'healthism' concept (Donaghue & Clemitshaw, 2012). Healthism was a term coined in the 1980's (Crawford, 1980) that described the medicalised understanding of health as a series of calculated risk factors, with a strong focus on individual responsibility. Others have gone so far as to say that healthism may be considered almost a new religion, with "holy wars on obesity" and diet "sins" being described in popular culture (Pelters & Wijma, 2016, p. 144). As appreciation for the concept of healthism rises culturally, individuals' satisfaction with their own health has been shown to fall (Greenhalgh & Wessely, 2004). Health monitoring devices such as mobile phone applications targeting health, webpages devoted to diet and exercise plans and wearable digital devices to quantify movement, have all been associated with increased body dissatisfaction, anxiety about health and more self-assessment (Lupton, 2013).

The cultural acceptance of the healthism concept means that those who are overweight or obese are believed to be a justifiable target for interventions to reduce weight and size, legitimised by their perceived lack of self-care (Donaghue & Clemitshaw, 2012). With this view, educators might feel justified to intervene in a child's diet or to increase their physical activity levels, although they may not have the training or the understanding of the complexities of children's nutrition and body image development to do so. This issue further highlights the need for appropriate training in children's health, physical activity and nutrition for educators.

While the concept of healthism should be downplayed in order that positive body image be promoted, 'embodiment' is a dominant force in positive body image development. Embodiment puts the body at the centre of all experiences (Piran, 2015) shifting the focus of positive body image study away from appearance towards functionality of the body, care of the body and its physicality (Tylka & Wood-Barcalow, 2015). Embodiment is an aspect of positive body image which

may be protective of both physical and mental health, since embodiment encourages an increased engagement in physical activity (Frisén & Holmqvist, 2010).

Frisén and Holmqvist described embodiment as one of the key indicators of positive body image in their sample of early adolescents (n=30) found to have the highest scores of positive body image from a larger sample of pre- and early-adolescents (n=874) aged 10 to 13 years. These participants held a functional view of the body rather than an appearance-based view, and all but two mentioned engaging in regular physical activity or organised sport for enjoyment and health benefits rather than appearance-related motivations.

An understanding of the principles of embodiment could be useful for educators as the focus on function rather than appearance is appropriate for those working with young children. While encouraging children to enjoy movement and physical activity for the pleasure it brings in and of itself is important, educators also need to be mindful about the kinds of praise they give children in relation to appearance. By giving praise related to function and achievement, encouraging children to accept their bodies as they are and not encouraging comparison to others, educators can help children to develop positive body image.

Self-compassion is another important element in the development and maintenance of positive body image, and is an aspect of Buddhist teaching, which along with mindfulness, is becoming more broadly accepted in Western concepts of health and wellness (Albertson et al., 2014; Neff, 2003b). Better psychological health, happiness, emotional intelligence, and optimism, as well as lower levels of body dissatisfaction, have all been linked with self-compassion (Albertson et al., 2014). The three components of self-compassion commonly described include: self-kindness, common humanity, in which an individual recognises that all people fail and are imperfect, and mindfulness.

As explained by Albertson and colleagues (2014) body appreciation may be improved by an individual engaging in self-compassion, as its focus is on kindness to oneself, and accepting failure as part of the human condition. Self-compassion has been offered as an alternative concept to self-esteem, since self-esteem can be

linked to narcissism and comparison with others (Neff, 2003b). Women in Western cultures are typically taught to believe that their appearance is one of their most valuable assets, and if they do not meet the cultural beauty ideal, their self-esteem may suffer (Albertson et al., 2014). In a study where participants took part in guided meditation for three weeks to improve self-compassion (n=228 adult women) the meditation increased both their self-compassion and their body appreciation (Albertson et al., 2014). Encouraging children to improve their own self-compassion, including acceptance of mistakes as an acceptable part of learning, and not comparing themselves to others, are important concepts for educators to recognise in order to develop social and emotional health in young children.

In order to be self-compassionate, it is recommended that individuals take stock of their thoughts and feelings, without trying to change them (Neff, 2003a). This exercise informs the practice of mindfulness, and includes focusing attention on the present without judgement about whether the experience is as it should or should not be. The practice of mindfulness is becoming increasingly popular in the positive body image movement and has been associated with increased body appreciation in recent studies (Alberts et al., 2012; Andrew et al., 2016c; Bush, Rossy, Mintz, & Schopp, 2014). Moreover, mindfulness is incorporated in the EYLF, as described in Section 2.3.1 of this chapter.

Alberts and colleagues (2012) described the practice of mindfulness as a means of overcoming three disordered eating practices. The first practice is restrained or restricted eating, described earlier in this thesis and relating to the restriction of food types and amounts. The second practice is emotional eating, which occurs when an individual eats in response to emotion rather than hunger, such as eating when bored or angry, and is associated with binge eating and obesity. The third practice is external eating, where individuals eat in response to external cues and in the absence of hunger, such as eating in response to food advertising or the smell of food. Each of these eating practices is associated with higher BMI. In contrast, mindful eating, which has a focus on noticing and responding to hunger and satiety, is not always associated with weight loss, although weight loss may be an outcome (Alberts et al., 2012; Katterman, Kleinman, Hood, Nackers, & Corsica, 2014). Since the focus of positive body image is not on body weight and shape, but

rather on body appreciation and acceptance, mindfulness and mindfulness meditation both have a role to play (Andrew et al., 2016c). An understanding of the disordered eating practices described above is important for educators, as is their ability to recognise and encourage mindful eating practices, as a means of fostering the positive body image of young children.

2.2.9 Summary

This section has reviewed key aspects of body image, including the prevalence of body dissatisfaction, the harms associated with such dissatisfaction and the influences that contribute to body image development. Body image is complex, therefore a number of theories which underpin body image development have been described here. These include Attribution Theory, Objectification Theory, Social Comparison Theory and the Tripartite Theory. Weight status also influences body image development, and both obesity and thinness are associated with negative body image.

Since children are spending increasing lengths of time with educators, educators are important role models in the development of children's eating behaviours and attitudes towards weight and health. Educators' own body image plays an important role in influencing the body image of young children, since behaviours such as fat talk or disordered eating and exercise may be role modelled to young children in these settings.

While negative body image is commonly the focus of literature in this area, this section also outlined factors that influence the development of positive body image, including self-compassion, mindfulness, and the cultivation of a broader appreciation of beauty rather than the current, narrow, cultural ideal for both men and women. It is essential that each of these key factors are well understood by educators in order that they can effectively foster positive body image in children.

The following section contextualises the early childhood education and care sector in Australia, by describing the demographics of the Australian educators workforce, as well as the educational frameworks under which the sector operates.

2.3 Australian Educators

The Australian early childhood education and care sector is administered under a National Quality Framework (NQF) that guides educators in developing quality curriculum and programs (ACECQA, n.d.). A component of the NQF is the Early Years Learning Framework (EYLF) which describes the early childhood principles, practice and outcomes to support and develop optimal learning from birth to five years of age (ACECQA, n.d.). Both the NQF and the EYLF will be discussed in this section of the literature review. This will be followed by a discussion of the context of the Australian early childhood education and care sector, and the potential role legitimacy of educators in promoting positive body image in young children is then explored.

2.3.1 National Quality Framework

The NQF has five core principles including: (1) The rights and best interests of the child are paramount; (2) Children are successful, competent and capable learners; (3) Equity, inclusion and diversity underpin the framework; (4) Aboriginal and Torres Strait Islander cultures are valued; and (5) Best practice is expected in the provision of education and care services (ACECQA, n.d.). It is intended that these principles be integrated into the delivery of educational programs for young children.

Educators are encouraged to create learning environments that both support intentional teaching and assessment of learning, and provide a holistic approach to teaching and learning, valuing the social and cultural contexts of learning experiences, and responding to children's needs and interests when planning learning experiences (Hadley, Waniganayake, & Shepherd, 2015). In addition to the five core principles, the NQF contains the following seven National Quality Standards (NQS), 1: Educational program and practice; 2: Children's health and safety; 3: Physical environment; 4: Staffing arrangements; 5: Relationships with children; 6: Collaborative partnerships with families; and 7: Leadership and service management and communities. For the purpose of this research, Quality areas 1, 2, 5, 6 and 7 were most relevant. The provision of a framework for practice provides educators with common principles and language with which to plan and

implement curriculum and pedagogy, while also solidifying their status as professionals (Hadley et al., 2015).

The EYLF acknowledged that both families and educators contribute to children's social and emotional development, and this is captured by the phrase "Belonging, Being and Becoming" (DEEWR, 2009, p. 7). 'Belonging' relates to children knowing who they are, and where they belong. For example, a young child may feel belonging to their family, but their relationship to cultural groups and the wider community should be acknowledged and valued as well (DEEWR, 2009). 'Being' suggested that children need to live in the present moment, and recognises the importance of developing and maintaining relationships, as well as facing challenges (DEEWR, 2009). The EYLF recognised that early childhood prepares children for the future, but does not discount the importance of the here and now. 'Becoming' identifies that children's knowledge and understanding increases rapidly in their early years, and emphasises the need for fluid changes that allow children to become an active part of their society.

The focus of this research was on the educators of preschool children, therefore it was important to understand the context of their work in Australia. The following sections provide background information that situates the work of educators in the Australian early childhood education and care sector.

2.3.2 Australian Early Childhood Education and Care Sector

Early childhood education and care is a growing sector in Australia, and in 2016, there were more than 17,994 approved early childhood education and care services in operation. Approximately 1.2 million Australian children (31%), from birth to 12-years, attended some form of formal education and care service during the 2016 September quarter (Department of Education and Training, 2017). Long-day-care centres accommodate the largest proportion of children (55.7%); out-of-school-care provided services were attended by 14.1% of children; 16.7% attended family-day-care; and 0.5% attended some form of occasional care (The Social Research Centre, 2017). The latest available data indicates that a child will spend, on average, approximately 28 hours per week at an education and care

service (Department of Education and Training, 2017) and in response to this increasing demand, the workforce in this sector has increased accordingly.

In order to improve the outcomes of Australian early childhood policy and programs, a census of Australian Early childhood education and care staff was undertaken by the Australian Department of Education in 2010, 2013 and 2016, and the most recent data is presented here (The Social Research Centre, 2017).

Almost 195 000 staff were employed in the Australian early childhood education and care sector, and long day-care centres were the largest employers in the sector (55.7% of educators). Educators are predominantly female (91.1%) and their median age is 28 years for male workers, and 34 years for female workers (The Social Research Centre, 2017). Further education is a requirement for working in this sector, with Certificate III required as a minimum, and long day-care centres required to employ a degree-qualified teacher, though both qualifications have limited nutrition learning requirements and body image did not appear to be addressed in their mandatory training.

The conditions and nature of the work in the early childhood education and care setting has been reported to be associated with very high levels of stress (Corr, Davis, LaMontagne, Waters, & Steele, 2014). Low levels of support, poor training and low levels of autonomy are all believed to contribute to the strain placed on those working in this sector, as are issues of understaffing and professional isolation (Jovanovic, 2013). Additionally, there has been limited research into the effect of stressed educators on outcomes for children (Corr et al., 2014). High levels of parental stress are known to influence children's health outcomes (Van Doesum, Hosman, & Riksen-Walraven, 2005). Since stress has been associated with poor diet, poor body image and low levels of exercise, it would seem that providing educators with strategies to reduce their stress would be beneficial, not only to educators themselves, but also to children.

2.3.3 Role legitimacy of Early Childhood Education and Care Educators

Given the increasing numbers of children who are spending long periods of time in early childhood education and care settings, there is significant potential to compound the influence of educators on the social and emotional development and wellbeing of young children (Davis et al., 2011; Slee, Dix, & Askill-Williams, 2011). Early intervention programs for developing health and wellbeing are vital, as children under three years are at a particularly receptive developmental stage, rendering intervention with this age group significant (Doyle, Harmon, Heckman, & Tremblay, 2009). Educators have the potential to influence the knowledge, attitudes and behaviours of young children in relation to social and emotional development, nutrition practices and knowledge, and subsequently, their body image. Their important role in these areas has not been fully explored, and subsequently, warranted further exploration.

The concept of role has been explored in previous studies, in relation to other professionals (Fitzgerald, Watson, McCaig, & Stewart, 2009). In their study of pharmacists, Fitzgerald and colleagues identified three aspects of role; namely, role adequacy (the belief that the professional's knowledge is adequate for their role); role legitimacy (the belief that this concern is part of their role); and role support (the professional's belief that they would be able to find help if they needed it). In this research, while pharmacists believed they had a role to play in reducing alcohol-related harm, they reported a lack of confidence in discussing this with clients, a lack of knowledge about the issue and fear of the responses from clients in relation to discussing such a sensitive topic.

These constructs have been applied in a study of nurses in relation to their role in obesity prevention (Nolan, Deehan, Wylie, & Jones, 2012). In this study, it was reported that although nurses felt that talking to patients about obesity was part of their role, numerous barriers were identified which subsequently limited their actions in this area. Similar to the findings of Fitzgerald and colleagues, these included a lack of knowledge and strategies for discussing obesity, though nurses also named a lack of time and a heavy workload as further barriers. The provision

of role support was reported as an enabling factor for nurses to discuss obesity with their patients.

Educators' role adequacy and legitimacy has been investigated in relation to the provision of nutritious foods, as well as obesity prevention in children. A recent Australian study found that educators' attitudes towards their role in providing a healthy eating environment were positive, however, their knowledge and capacity to do so appeared to be lacking (Wallace, Devine, & Costello, 2017) a finding also substantiated in American studies (Dev, McBride, Speirs, Blich, & Williams, 2016; Lanigan, 2012; Sharma et al., 2013).

In previous studies, the feeding practices of educators have not been explored in relation to their influence on children's body image development, and nor has educators' perceived role in body image development been described. Seemingly, by providing educators with information to improve their knowledge and understanding of body image development, and provision of strategies for gaining support, the role adequacy and legitimacy of educators in relation to body image development could be improved.

2.3.4 Summary

This section of the review described the growing Australian early childhood education and care sector, with almost 194, 000 educators currently employed, and 1.2 million children attending an early childhood education and care service. While the NQF has provided a framework to improve pedagogy and practices in early childhood education and care, educators still experience comparatively high levels of stress, low pay, and limited supported for the emotional labour they provide. This section has described the constructs of role adequacy and legitimacy in relation to nurses and pharmacists, and it would appear this is a construct that could be further explored with educators.

The evidence presented in this review so far suggests that educators are an appropriate conduit for promoting positive body image in children (Moore et al., Elford & Brown, 2014; Lyn, Evers, Davis, Maalouf, & Griffin, 2014; 2005). It has not, however, been made clear whether educators believe they have a legitimate role to play or feel adequately able to do so. While it seems that educators believe they are

strong influencers in children's nutrition and obesity prevention, educators' own perception of their role in body image development did not appear to have been previously explored.

Having provided a snapshot of the current early childhood education and care sector in Australia, the next section of the literature review considers the role of educators in children's nutrition. Educators not only provide food for children, they also provide experiences with new foods, model behaviours around hunger, satiety, and fullness, and food choice. A critical skill for young children is to become competent eaters, which according to Satter (2007a) includes having positive attitudes towards food, including trying and incorporating a range of different foods in the diet and the ability to eat according to hunger and satiety, which plays a role in growth, development and weight status. While parents' role in this development is almost universally acknowledged (O'Dea, 2007; Hart et al., 2014; O'Dea & Amy, 2011; Orrell-Valente et al., 2007) and the role of educators around children's nutrition has been explored in relation to food provision, less is known about their behaviours in relation to role modelling, feeding behaviours and their nutrition literacy as it relates to body image (Tovar et al., 2016).

The next section of this review will therefore explore the nutrition knowledge, health literacy and eating behaviours of educator, influential in the development of body image in young children.

2.4 Nutrition

Nutrition standards in early childhood education and care settings are mandated through the NQS (National Quality Standard 2: Children's health and safety). NQS 2 requires that healthy eating and physical activity are embedded in the children's educational program; that healthy eating is promoted; and that food and beverages need to be appropriate for the age of the child (Australian Children's Education and Care Quality Authority, n.d.). Despite these regulations, research has shown that the nutritional quality of the food provided in early childhood education and care is not always adequate (Sambell, Devine, & Lo, 2014). There are a number of factors inherent in making nutritional choices, including health and nutrition literacy as well as nutrition knowledge, and these

inform feeding practices. These factors will be explored in relation to educators, and their influence on the development of positive body image in very young children is discussed here.

2.4.1 Health and Nutrition Literacy

Health literacy is the ability to gather health information and the capacity to understand this information, and use it in decision making about health (Nutbeam, 2009). Health literacy is an important factor that contributes to wellness. Examples include an individual's capacity to follow instructions on medication, to find, read and critically assess printed or online health information, or to read and understand nutrition information to inform choice, such as nutrition labelling on packaging (Carbone & Zoellner, 2012). In the only survey of Australian adults' health literacy undertaken by the Australian Bureau of Statistics, it was estimated that as many as 59% of the Australian adult population had only basic health literacy (ABS, 2008). This statistic is concerning and may have long-term consequences relating to population health (Guzys, Kenny, Dickson-Swift, & Threlkeld, 2015) as health literacy significantly influences decisions related to nutrition and diet (Spiers, Messina, Munger, & Grutzmacher, 2012; Wallace & Joss, 2015).

Low levels of health literacy have been reported internationally, prompting further investigation into this phenomenon, with some researchers acknowledging the difficulties for lay people to keep abreast of current research and changes to health recommendations meaning that health literacy may fluctuate and change (Martensson & Hensing, 2012). Since health itself is multifaceted, it is little wonder that overall health literacy is divided into a range of specific health literacies, with the facet of interest for this study, i.e. nutrition or food literacy, being explored on its own (Carbone & Zoellner, 2012; Cullen, Hatch, Martin, Higgins, & Sheppard, 2015; Vidgen & Gallegos, 2014).

Nutrition literacy is particularly important for educators, especially when considering their role in teaching young children accurate nutrition information. The fascination of popular culture with nutrition means that competing and conflicting views about food and nutrition often appear in the public arena, causing

confusion in relation to nutrition choices (Campbell, 2014) and encouraging a reductionist approach to food. Food may be reduced to the sum of its parts, with an emphasis on nutrients rather than whole foods (Scrinis, 2008) and such reductionist approaches, or “nutritionism” (Scrinis, 2008, p. 39) may prove problematic for those with low levels of nutrition literacy (Campbell 2014).

Nutritionism refers to the way in which food scientists, food corporations and even governments have reduced food to being categorised merely in terms of the nutrients it provides (Scrinis, 2008). Such comparison may lead consumers to believe that fortified foods or supplements may be better choices than whole foods, not accounting for the ways in which this food may be processed by the body (Scrinis, 2008). While such estimates may be useful in guiding food consumption, they do not take into account individual differences in metabolism, absorption and transportation of nutrients (Campbell, 2014). Apart from concerns with nutritionism relating to nutritional adequacy, this kind of one-dimensional thinking does not consider the social aspects of food and the pleasures derived from experiencing food.

It may be reasonably assumed that educators would likely possess the same low levels of nutrition literacy as the rest of the Australian population, and that they may employ a reductionist approach to food and diet. Without access to specific nutrition training, educators may not be the most effective role models of healthy nutrition behaviours, or be equipped to teach children about nutrition or positive body image (Dev et al., 2016; Lynch & Batal, 2011).

2.4.2 Nutrition Knowledge

The nutrition knowledge of an individual is positioned within cultural, social and historical influences (O'Key & Hugh-Jones, 2010). Religious beliefs, food cost, taste, convenience and food preparation skills all have significant impact of the kinds of foods chosen and eaten (Spronk, Kullen, Burdon, & O'Connor, 2014) or in the case of educators, served to children. Educators are expected to embed nutrition in the learning program they provide for children, however, their training in this area is reported to be limited (Boyd, 2015). Even so, while adequate

nutrition knowledge is desirable, it is worth noting that high levels of knowledge does not always translate into healthy nutrition behaviours (Bandura, 2004).

A small qualitative study by Lynch and Batal (2011) with Canadian educators (n=13) found that helping children to develop a positive relationship with food was believed to be an essential contribution educators could make to child development. Despite these beliefs, educators in this study described implementing less desirable and unhelpful behaviours such as disguising foods, using food rewards and restricting meals to certain times, rather than allowing children to eat according to their hunger cues. Lynch and Batal reported that educators believed their nutrition knowledge to be adequate and that recommended nutrition resources provided by the government were not viewed as particularly useful by educators. Feeding young children was seen to be 'common-sense' by participants in this research, especially if the educators had children of their own.

The belief that a mother instinctively understands the appropriate nutrition for her child was also demonstrated in a small British qualitative study of mothers (n=12) (O'Key & Hugh-Jones, 2010). Participants described themselves as sceptical of nutrition messages, stating that these are frequently superseded by new messages as scientific discoveries unfold (O'Key & Hugh-Jones, 2010). Others stated their nutrition knowledge was a collection of facts they had gathered over time, mainly from their family as they were growing up. Distrust of modern nutrition messages has a range of possible consequences, with recommendations from government sources in relation to fat, salt or sugar being discredited or ignored, on the basis of the longevity of a relative who over-indulged in such foods and lived a long and happy life, or ever-changing messages and confusion.

Despite their so-called 'common-sense' approach to nutrition, mothers in this study endorsed a number of nutrition misconceptions, such as the link between sugar and hyperactivity, as well as grains being a poor choice of food for young children (O'Key & Hugh-Jones, 2010). These findings were echoed in a recent Western Australian study of educators (Wallace, Costello, & Devine, 2017) with the over-provision of discretionary foods at services viewed as important to encourage a balanced view of healthy and less healthy choices, despite their provision diluting

the nutritional quality of the food provided in early years education and care services. It is pertinent to note that BMI of children aged between one and three years increases relative to the amount of time they spend in early childhood education and care services, particularly in a family-day-care environment, calling into question the provision of unhealthy food choices in early childhood education and care (Lynch & Batal, 2012).

Like parents, educators are in the position to pass nutritional misinformation to children in the form of inadequate or inappropriate nutrition education perpetuating nutrition myths, as well as being a detrimental influence on children's relationship with food. Not only are educators nutritional role models in food choice and provision, but they also exhibit a range of behaviours in relation to children's nutrition that have the capacity to significantly influence children's developing food preferences, choices and attitudes. Behaviours such as applying pressure on children to eat, dietary restriction, disguise, reward and modelling are all influential on children's relationship with food and their bodies, and will be described in the next section.

2.4.3 Feeding Practices Implemented by Educators

The modern nutrition landscape encourages a certain rigidity of thinking around food and nutrition (Scrinis, 2008) somewhat disregarding the pleasure of eating, which may lead to moral judgements about the kinds of food eaten (Alberts et al., 2012). Giving foods simplistic and morally-laden labels such as 'healthy', 'good', or 'bad' leads to dichotomous thinking about food, which has been associated with the development of disordered eating patterns (Alberts et al., 2012). Such thinking may influence individuals to believe that all 'bad' foods need to be removed from their diet to achieve good health, and this dichotomous approach to food is entrenched in nutrition education (Freeland-Graves & Nitzke, 2013).

In contrast, when children are provided with a wide variety of nutrient-dense foods, and allowed to choose foods they enjoy, they learn that all foods can fit into a varied diet, and thus are likely to become more competent eaters (Satter, 2013). By adopting a total diet approach, that enables children to make choices according

to their internal hunger cues while reducing the emphasis on weight management, it is possible to teach children about making food choices for themselves, even in early childhood (Freeland-Graves & Nitzke, 2013). Educators generally report an interest in nutrition and favourable attitudes towards their role in providing a healthy food environment for the children in their care (Lynch, 2011; Moore et al., 2005; Pagnini, Wilkenfeld, King, Booth, & Booth, 2007; Wallace et al., 2017) therefore, by educating already receptive educators in a total diet approach and discouraging nutritionism, the overall health and weight status of children could be improved. Gains made in these areas also translate to healthy relationships with the body and with food, which in turn, have the potential to positively influence the developing body image of young children.

While knowledge and understanding of nutrition and health by educators are obviously important to ensure the development of health and wellbeing in very young children, the nutrition behaviours modelled by educators may be even more so.

Pressure to eat

Children are born with the innate ability to monitor their hunger and satiety cues, and by allowing them to eat when they are hungry, children are able to regulate their intake based on their biological needs (Lynch & Batal, 2012). Unfortunately, the operational requirements of most early childhood education and care services mean that this is not practical, and children are taught to rely on external cues to let them know when to eat (Elford & Brown, 2014). In most early childhood education and care services children are only allowed to eat at designated meal times, due to concerns about hygiene, allergies, and routines (Elford & Brown, 2014). Children's meals are often portioned by educators, rather than allowing children to determine how much food they would like to eat (Lynch & Batal, 2012; Satter, 2007b) indicating that the intuitive eating skills innate to young children are not utilised.

Not only are meal times prescribed for children, but pressure may be applied by educators to encourage children to eat more. Educators may pressure children to eat an entire meal at one sitting, as they may hold the misconception that

children who eat a lot at mealtimes are healthier (Lynch & Batal, 2012). Also, since parents are paying customers (Moore et al., 2005) educators may feel that they are not providing value if children are not eating while at the service. A small qualitative study of 18 American educators (Dev et al., 2016) found that educators feared children would tell their parents they had not eaten, or that they were hungry during the day. Such fears led some educators admitting they applied pressure on children to eat. Other participants who felt that they did not apply pressure, said they 'encouraged' children to eat, leading the researchers to surmise that maybe these educators did not understand the difference between pressure and encouragement.

In a small qualitative Canadian study (n=13) educators stated that children were perceived as healthy if they ate a lot, and if they had "round cheeks and a full tummy" (Lynch & Batal, 2012, p. 115). In an earlier study by the same researchers, the children described as "good eaters" were said to be happier and had more energy than "picky eaters" (Lynch, 2011, p. 188). Educators in these studies discussed how children needed to eat everything they were served at lunch as there would not be an opportunity to eat again for hours, although some children took a few weeks to learn this routine. These findings illustrate the pressure on children to eat a portion of food deemed appropriate and sufficient by the educator, rather than being able to eat according to their own internal satiety and hunger cues.

In other studies, pressuring children to eat was shown to be counterproductive. For example, an observational study of American preschool children (n=32) showed that children who experienced pressure to eat, ate less than children not pressured to eat (Galloway, Fiorito, Francis, & Birch, 2006). Furthermore, a dislike for foods developed by children when pressured to eat continued even into adulthood (Batsell, Brown, Ansfield, & Paschall, 2002; Ellis, Galloway, Webb, Martz, & Farrow, 2016). The provision of nutrition education to increase educators' understanding of children's innate ability to eat what they required would seem to be necessary, as the negative influence of experiencing pressure to eat are long-term.

Somewhat counterintuitively, while pressure to eat is associated with a lower BMI for preschool children, restriction of food is associated with a higher BMI in preschool children. Some have accounted for this anomaly by suggesting that children who are pressured to eat may be underweight or fussy eaters, or that pressure to eat is less likely to occur with an overweight or obese child (Vaughn et al., 2016). Ostensibly, awareness of the potential long-term implications of placing pressure to eat or restricting the intake of young children is important for educators to understand.

Another study where mealtime interactions between parents and their children aged five years (n=142 families) were observed, found that pressure to eat was associated both with children's submission and food refusal (Orrell-Valente et al., 2007). These researchers suggested that children's responses changed according to when they received the prompt to eat. For example, if they were pressured to eat at the start of a meal, when children may have been responding to their own hunger cues, they were more likely to comply. If the pressure to eat occurred toward the end of the meal, some children refused to eat (believed to be responding to their own hunger cues) while others continued to eat past the point of satiety. Interestingly, this study found that girls tended to be more "eating compliant", while boys were more likely to refuse to eat more and respond to their internal hunger cues rather than external pressure (Orrell-Valente et al., 2007, p. 43). Evidence that girls will eat past the point of hunger in order to comply raises questions about the role of socialisation in development of disordered eating in girls and women, therefore, understanding of gender issues related to food consumption would appear to be a helpful inclusion in professional development for educators.

Restriction of food choice and intake

'Restrained' eating is an attempt to eat less food than wanted, with the primary intent of weight loss (Satter, 2007b) and food 'restriction' includes the monitoring of portions of food, and types of foods eaten by children, both of which have been shown to have the opposite effect of that intended. A study by Rodgers and colleagues (2013) of a sample of 323 mother-child dyads, found that food restriction was associated with higher BMI, and an increased tendency of children

to overeat. The restriction of certain types of foods may lead children to believe these foods are somehow forbidden, and therefore, more desirable, leading to overconsumption of these foods, even into adulthood (Wadhera, Phillips, Wilkie, & Boggess, 2015). Not only does food restriction have the potential to make foods more appealing, but it subjugates internal hunger and satiety cues, and, in extreme cases, may restrict growth and development (Stang & Loth, 2011).

In contrast, other studies in young children have found that parental monitoring of the food intake of children is desirable, and that this practice is associated with less external eating (i.e. eating in response to environmental cues instead of hunger); less emotional eating (eating in response to emotion rather than hunger and satiety signals) (Farrow, 2012); and in a longitudinal study of Australian children, lower BMI (Campbell et al., 2010). In fact, in the early childhood education and care setting, it may be argued that restriction of certain foods is necessary and desirable. The National Quality Standards stated that food provided should adhere to the Australian Dietary Guidelines, which advised that discretionary foods should not be provided, and drinks for children should be limited to water or milk (National Health and Medical Research Council, 2013).

While restriction of food types may be appropriate in these settings, it is important that children are allowed to exercise choice over the amount they eat and the foods they choose, in order to encourage eating competency (Satter, 2007a). The division of responsibility in child feeding encourages parents (or in this case, educators) to provide appropriate food choices for children, with children choosing whether to eat, what to eat and how much to eat (Satter, 1995). The success of the division of responsibility model relies on the options provided to children being healthy and appropriate, but since there is some confusion amongst educators about the kinds of food that constitute discretionary food items, further education needs to occur (Wallace et al., 2017). Allowing children to determine their own portions of food is important when teaching them to develop food awareness and eating competency, and it is vital that they are offered a range of nutritious foods, and allowed to experiment with them regularly.

Disguising food

Many children are naturally neophobic, that is, frightened of new foods, and it may take as many as ten to 15 exposures to new foods before they develop a liking for them (Satter, 2007b). Educators may not be aware of this tendency in young children, and therefore, not persevere with offering a range of new foods to children. Research suggests that educators may either continue to provide foods children are known to enjoy, subsequently limiting their exposure to new foods, or disguise new foods by combining them with foods children already find acceptable (Wallace et al., 2017).

When vegetables are disguised in other foods, children are not given the opportunity to develop a preference for them (Holley, Farrow, & Haycraft, 2017). Exposure to vegetables often and early in childhood has been found to be associated with a preference for these vegetables (and other foods eaten in childhood, such as meat and fruit) into adulthood (Wadhera et al., 2015). Concealing vegetables in children's food is frequently used as a strategy to increase vegetable intake, and has been found to be successful (Spill, Birch, Roe, & Rolls, 2011) as has providing unhealthy dips or sauces by educators, with educators believing both methods acceptable (Lynch & Batal, 2011). When these strategies are employed, children do not have the opportunity to discover the flavours, tastes, and textures of vegetables individually, so while it is important to increase children's vegetable intake, disguise may not be the most effective or health-enhancing strategy in the longer-term (Holley et al., 2017). While disguise may be successful in increasing vegetable intake in the short-term, offering vegetables frequently normalises their presence as part of a meal, and reduces children's neophobic responses to them, increasing their acceptability in the long-term (Cooke & Wardle, 2007).

Using food as a reward

Another strategy used by educators to increase the intake of foods children may avoid is to offer a reward for their consumption. This has been associated with increased intake of discretionary foods, sugar-sweetened beverages, and levels of obesity in young children (Dev et al., 2016). In a small Canadian

qualitative study of educators (n=13) offering less nutritious foods, such as sweet or discretionary foods, as a reward for eating healthier foods were viewed as acceptable methods of improving children's diets (Lynch & Batal, 2011). Foods believed to be less healthy, such as cup-cakes, were saved for special occasions, such as parties, special events or Fridays (Lynch, 2011). This was also found to be the case in an American study (Dev et al., 2016) and also in a similar Western Australian study (Wallace et al., 2017). By associating discretionary foods with special occasions, educators were teaching children to associate these foods with pleasure and fun, therefore increasing enjoyment and desire for such foods, and the likelihood of over-consumption when offered (Elford & Brown, 2014).

Food refusal is commonly encountered by educators, making the use of food rewards for eating compliance tempting (Dev et al., 2016). Providing healthier strategies and solutions to this problem appears to be necessary (Wallace et al., 2017). For example, some participants in the American study (Dev et al., 2016) used the State food policies as a means to send discretionary foods home rather than allow children to consume said foods in their early childhood education and care service, thereby, placing the onus on parents about how, when, and if these foods are to be consumed.

Food rewards are not only used to apply pressure to eat, but also to encourage children to engage in tasks unrelated to food consumption (Dev et al., 2016). In a study of the dietary intake of children (n=207) aged six to 12 years, those in families who used food as a reward for behaviour, children associated these foods with positive reinforcement, increasing their preference for them (Lu, Xiong, Arora, & Dubé, 2015). This study found that boys were more responsive to modelling behaviours according to food reward, and as such, boys whose families offered reward foods more frequently had higher energy intake than others in the study. The use of food reward has been reported to be related to maladaptive eating practices, as children learn to associate food with emotion and reinforcement (Lu et al., 2015). While educators may offer children food rewards with the best of intentions, the outcomes for children may be poor in the longer term, making it necessary for educators to develop greater understanding of the consequences of these behaviours, as well as alternate methods of praising and rewarding children (Dev et al., 2016).

Modelling

Since children learn through imitation, the behaviours and attitudes modelled by educators around food and their bodies are obviously important (Ward, Bélanger, Donovan, & Carrier, 2015) and there are both negative and positive consequences of modelling behaviours possible (Palfreyman, Haycraft, & Meyer, 2015). Positive role modelling has been associated with children eating more fruits and vegetables, exhibiting lower levels of food fussiness and increased levels of food enjoyment, while negative role modelling has been associated with greater intake of snack foods, increased levels of disinhibited eating and increased dieting behaviours (Palfreyman et al., 2015).

It has been suggested that educators should join children at mealtimes in order to model eating for children (Mita, Gray, & Goodell, 2015). One method of ensuring that this occurs is to provide family-style meals. Family-style meals encourage children to choose from a range of healthy foods presented to them, to determine their own portion and to decline food in a socially acceptable manner; all of which are important functions of meal time for young children (Satter, 2007b). Positive role modelling and socialisation may be seen as a secondary outcome of family-style meals by educators, though they recognise their importance, and the convenience, perceived heightened food safety, and cleanliness of mealtimes where children's food is portioned by educators may be preferable for some (Lynch & Batal, 2011).

Being present at the table during meals allowed educators to keep children on task and to monitor food intake and to limit mess and confusion reported to occur when children serve themselves (Lynch & Batal, 2011). Others noted that meal time is a period where educators can prepare for the rest of the afternoon or clean up the morning's activities, so eating with children was not customary, particularly in family day care, where an educator may be the only adult with up to five children (Lynch & Batal, 2012).

The inclusive mealtime environment encouraged by family-style dining has been positively associated with the social aspects of meals by educators (Mita et al., 2015) as it enables children to regulate their own dietary intake. Another study,

however, found that this style of eating may not be appropriate for all age groups. A study of children aged two- to three-years (n=135) found that children who served themselves ate more regardless of the type of food on offer (Gubbels et al., 2015). These researchers suggested that children in this age group may be too young to monitor their own intake, and also noted that staff eating with the children encouraged intake through the application of pressure to eat (Gubbels et al., 2015). While this style of dining is recommended, these findings also revealed that educators may not have time to sit with the children during a meal, and the self-serving of food by children may not always be optimal, especially if overconsumption and pressure to eat are features of the early childhood education and care setting.

2.4.4 Summary

Health and nutrition literacy in the Australian population is somewhat limited, and it is likely that educators have similarly low levels of health and nutrition literacy. Educators may take a reductionist approach to food and healthy eating which may be problematic, in terms of their significant role in the provision of healthy food for preschool children, as well as in children's nutrition education. A reductionist approach to food may also contribute to the adoption of unhealthy eating practices, such as applying pressure on children to eat certain foods, restricting children's food choices, and modelling unhealthy eating practices themselves. Each of these practices has the potential to limit children's natural ability to determine their own hunger and satiety, and to change young children's developing relationship with food and their bodies.

Intuitive eating is characteristic of the eating patterns of very young children. Young children eat according to their hunger and satiety, are not preoccupied with mealtimes or how much to eat, nor do they place moral judgement on the kinds of foods eaten. Children who are able to maintain intuitive eating practices are more likely to avoid less healthful practices such as overeating, eating in the absence of hunger, or being pre-occupied with food (Andrew, Tiggemann, & Clark, 2015a). Despite the apparent positive association with intuitive eating, this style of eating is not commonplace, as people eat for a range of cultural and external reasons (Andrew et al., 2015a). It would appear from the limited research about intuitive

eating, that these practices are not routinely promoted by educators, nor are they recognised as important for promoting healthy eating.

This section of the literature review has discussed educators' health literacy and nutrition knowledge, as well as the myriad of feeding practices that educators model for children. It has been established that educators have an important role to play, both in nutrition education and in fostering positive body image, however their awareness of this significant role appears to be limited. Therefore, the availability of professional development opportunities for teachers and educators is important. The following section of this literature review examines the professional development opportunities related to body image that are currently available.

2.5 Body Image Interventions

Body image and eating disorder prevention are recognised as important topics for children, young people, parents and teachers, and a range of educational programs and models of delivery are available (Hart, Damiano, Sutherland, & Paxton, 2014; McVey et al., 2004; O'Dea, 2007; O'Dea & Abraham, 2000). For example, body image interventions exist that target adolescent students and are delivered by classroom teachers (O'Dea, 2007) while others target preadolescent students and are delivered by health professionals (O'Dea & Abraham, 2000; McVey et al., 2004; O'Dea, 2007). There are also interventions that provide workshops and online materials to empower parents to foster positive body image in their young children (Hart et al., 2014). An example of each of these interventions will be outlined in this section.

2.5.1 Existing Professional Development Interventions

Everybody's Different was an Australian program designed and implemented by O'Dea and Abraham (2000) that provided a self-esteem approach for the development of positive body image, preventing childhood obesity and improving health behaviours and physical activity among adolescents. The program was developed with input from teachers, principals, school counsellors, youth workers, parents' groups, and paediatricians (O'Dea & Abraham, 2000) and was delivered to

470 male and female students aged between 11 and 14 years at two schools. One-year post-intervention, participants demonstrated significant improvements in self-esteem, acceptance of their physical appearance and improved body image, especially among students deemed most at risk of developing eating disorders. This program was delivered as part of nine health and personal development classes at one coeducational government secondary school and one non-government girls' secondary school, and taught students skills around stress management, developing a positive sense of self, recognising stereotypes in society, and building relationship and communication skills (O'Dea and Abraham, 2000). The program also encouraged the discussion of these curriculum materials in the home environment with parents and friends,

Following the success of *Everybody's Different*, a book based on the program was launched in 2007 and the content included how to “apply the self-esteem approach in schools, community settings and clinical situations” (O'Dea, 2007, p. ix). This book provided detailed information for readers about the development of positive body image, childhood obesity, nutrition and physical activity, and extensive curriculum was presented, intended for use with primary-school-aged children, adolescents and in teacher pre-service training. The book focused on the changes children undergo during puberty, the role of the media in promoting the thin ideal and risks associated with eating disorder prevention programs. It was designed with a Health Promoting Schools approach (WHO, 2016) acknowledging that the health of students in schools is dependent not only on supportive actions and policies, but also relies on interaction and support from the whole school community, including parents and community leaders (O'Dea, 2007).

Another program that developed curriculum materials for preadolescent children was called *Everybody is a Somebody*, delivered in Canada by McVey and colleagues (2004) to 258 girls, with a median age of 11.18 years. Using a six-week school-based program, these curriculum materials aimed to reduce unhealthy eating behaviours and the tendency toward perfectionism, while improving body image and self-esteem. Impact evaluation revealed positive results, namely improvements in self-esteem, body image and less restrictive eating, but after one year, these improvements were not sustained (McVey et al., 2004). The curriculum materials were not delivered by a teacher, but rather by a health professional with

extensive experience in this area. Given that this model of delivery is not sustainable in most schools, the authors noted that the use of teachers to deliver the program may have improved success and sustainability of the intervention outcomes (McVey et al., 2004).

Happy Being Me was an Australian school-based body image intervention delivered to girls in Year Seven at primary school (n=194 girls with a mean age of 12.3 years). The three 50-minute sessions were designed to reduce body dissatisfaction and was found to have a positive influence on internalisation of the thin ideal, body comparison, appearance conversations, body satisfaction, and body dissatisfaction, both immediately following the intervention and at three months post-intervention (Richardson & Paxton, 2010). More recently, a modified version of *Happy Being Me* was delivered to a small group of girls and boys aged 10- to 11-years- in Britain (n=43) (Bird et al., 2013). The intervention was shown to be successful with girls in relation to appearance-related comparison scores, body satisfaction and unhealthy eating behaviours, and demonstrated improvements in body satisfaction three-month post-intervention. Boys reported reduced internalisation of the cultural body ideal, and appearance-related conversations, although these improvements were not maintained three months post-intervention (Bird et al., 2013). The results of these interventions indicated that this particular age group could benefit, and that the classroom teacher was an appropriate person to deliver this material, thus supporting the findings of the Canadian study (McVey et al., 2004) .

In contrast, other Australian studies have shown that teachers may not be best placed to provide appropriate modelling of healthy nutrition and body-image behaviours and attitudes, and that professional development programs are needed to increase their capacity to recognise, understand and manage body image disturbance and eating disorders among their students (Yager & O'Dea, 2005). For example, a 12-week training package based on the *Everybody's Different* program was delivered to 170 health and physical education trainee teachers, and aimed to promote healthy body image and eating behaviours (Yager & O'Dea, 2010). However, this study revealed that these trainee teachers demonstrated greater levels of disordered eating, excessive exercise habits for weight control and more undiagnosed and untreated eating disorders than their non-health and physical

education trainee teacher peers (Yager & O'Dea, 2009). This is of concern, given that health and physical education teachers are often responsible for nutrition, physical activity and body image education in secondary schools (Yager & O'Dea, 2009, 2010) and also demonstrates the urgent need for professional development programs around role modelling, nutrition and fostering positive body image.

The *Dove Confident Me* intervention was delivered to 1707 early adolescents (aged 11 to 13 years) in the United Kingdom. A single 90 minute session was delivered and the outcomes of teacher-led sessions to researcher-led sessions were compared (Diedrichs et al., 2015). Teacher-led sessions had better results immediately post-intervention in the areas of increased body esteem, decreased dietary restraint and eating disorder symptoms. Outcome evaluation (i.e. four to nine weeks' post-intervention) revealed these improvements were not maintained, although participants in the researcher-led interventions demonstrated better results than participants in the teacher-led interventions at this time-point. The research team hypothesised these varying results may have firstly been due to the existing rapport between teachers and students immediately post-intervention, and secondly, that teachers lacked adherence to the intervention guidelines as compared with researchers, may have compromised the follow-up results. This outcome may have been improved by provision of better training for teachers, making the intervention more cost effective and increasing sustainability in the longer term.

Without adequate training in intervention delivery, teachers may not have the capacity to present intervention material in the intended manner consistently (Wilksch, 2015). For example, teachers were found to omit or change parts of the *Media Smart* intervention delivered to early adolescents aged 12 years in the United Kingdom (n= 51). Subsequently, researchers recommended that teacher training for the delivery of this course be extended from a 90-minute workshop to a four-hour workshop to ensure reliability and consistency in the intervention's delivery.

An Australian study was undertaken to investigate the efficacy of an intervention designed for use by parents, to promote positive body image in very young children (Damiano, Cornell, Hart, Sutherland, & Paxton, 2013). The

Confident Body, Confident Child (CBCC) intervention targeted Victorian parents (n=345) of children aged two to six years (Hart et al., 2014) and was a significant development, given that children under the age of six years have not typically been the focus of body image interventions (Hart et al., 2014). *CBCC* provided an extensive parent book, facilitator handbook and Microsoft PowerPoint presentation for use in a two-hour workshop with parents, with material delivered by the researchers (Hart, Damiano, Sutherland, & Paxton, 2014). The workshop was divided into three sections: promoting a 'health at any size' attitude (Bacon & Aphramor, 2011); acceptance of a non-dieting approach to healthy eating; and an ecological approach to change (Hart et al., 2014). Parents who received the intervention and a two-hour workshop reported an increased understanding of body image development, more regular family meals and improved parenting strategies (Hart et al., 2014). Reductions in stigma associated with weight were also reported. As this study is recent, the long term results are yet to be ascertained. Although this study primarily consulted with parents, a small group of educators also participated in its development (Hart et al., 2015), indicating that this might be a promising tool for professional development.

Adolescents, preadolescents and very young children have all been the focus of body image interventions. It is worth noting, however, that the only apparent intervention developed for very young children focused on the role of parents and the intervention did not include educators despite acknowledging an ecological approach to change was required (Hart, Damiano, Cornell, & Paxton, 2015). An ecological approach to the development of body image and eating behaviours suggests the importance of providing interventions at multiple levels of influence (Sallis & Owen, 2015). Subsequently, exploring the knowledge, attitudes and behaviours of educators in relation to body image, and developing an intervention which addresses their specific needs appeared to be necessary to ensure that the attitudes and behaviours modelled for children are appropriate, and do no harm (O'Dea, 2005). It appeared that professional development in these areas is required to increase levels of self-efficacy among educators, especially concerning potentially sensitive issues related to their own weight, gender, diet and body image, all of which impacts the nutrition and body image-related behaviours modelled for young children.

2.5.2 Modes of Delivery for Professional Development

Thus far, the need to provide educators with professional development has emerged as a recurring theme throughout this literature review. A seminal work by Lytle and Cochrane (1999) described three kinds of knowledge transmitted by professional development: knowledge *for* practice, knowledge *in* practice and knowledge *of* practice. Historically the most prominent model of professional development available to educators has taken the form of face-to-face workshops where teachers learn from an external expert, and are then expected to translate new knowledge to their classroom practice (Han, 2012). This type of training emphasised developing knowledge *for* practice and provided limited support for the integration of new knowledge into the classroom environment. In contrast, cultivating knowledge *in* practice, recognised the importance of teacher practical knowledge and its role in improving teaching practice. Integration of new knowledge into existing practice may occur as teachers begin testing out the knowledge *for* practice gained from attending a professional development training. A third type of knowledge gaining attention from professional development researchers today is knowledge *of* practice. Knowledge *of* practice stresses that through systematic inquiry, teachers are able to question and reflect upon their own teaching practices in relation to structural factors present in their classroom, such as gender, culture or language and make changes in their practice to address these (Dana & Yendol-Hoppey, 2008).

Reflective teaching practices are particularly important when considering the social and emotional development of children in early childhood settings (Han, 2014). Han noted that educators' own experiences, attitudes and beliefs can make this area of teaching particularly challenging, making guided opportunities to reflect upon these issues especially important for educators' professional practice. Since development of body image is a social and emotional issue, the provision of scaffolded strategies and examples for educators to learn from would appear to be relevant.

The provision of relevant and effective professional development has also been shown to increase feelings of professionalism amongst educators (Martin, Meyer, Jones, Nelson, & Ting, 2010) and effective professional development encourages

educators to put their new knowledge into practice, thereby increasing the knowledge of their students (Brooks & Gibson, 2012). To change teaching practice, Brooks and Gibson (2012) suggested professional development must be ongoing, sustained, and intensive, supported by modelling and coaching, and be nurtured by a supportive environment for trying new ideas.

One mechanism for supporting the sustained use of professional development instruments is the provision online sources of learning (Brooks & Gibson, 2012). The inclusion of online forums have been shown to improve reflection upon teaching behaviours and activities, as well as providing educators with opportunities to provide each other with peer support (Brooks & Gibson, 2012; Capps, Crawford, & Constanas, 2012). A forum for discussion hosted on a social media platform may provide this support, and be readily accessed by educators (Weisgerber & Butler, 2011). Social media has also been reported to be relatively inexpensive for researchers to initiate and moderate (Korda & Itani, 2013) and capitalises on the popularity of this medium in the broader community (ABS, 2014b).

Delivering professional development to educators online is not new, and this method has been described as successful in a number of studies and reviews (Davis, Brooks & Gibson, 2012; Capps et al., 2012; 2009). Moreover, online professional development is increasingly common, with educators being able to personalise their learning (Brooks & Gibson, 2012) by being able to access information in their own time, choosing which professional development opportunities or modules they engage with, and having the time to reflect on their learning (Little & Housand, 2011). This method of professional development delivery allows educators to access 'bite-sized' chunks of learning using technology, and this has been demonstrated to improve uptake of new behaviours than more traditional methods of long workshops and face-to-face learning (Davis, 2009). While online professional development appears to be effective, research suggests that when given the choice, educators prefer to attend face-to-face training opportunities, despite their relative financial and time costs (Brooks & Gibson, 2012).

2.5.3 Summary

This section of the review has provided an overview of currently-available body image-related professional development material, and established that this is limited for educators. It appears that the development of an intervention specifically for those who work with very young children was therefore warranted. The benefits and utility of online delivery of such professional development programs were also established in this section.

2.6 Chapter summary

This chapter has described body image, and the harms and theories related to its development. Body image encompasses the thoughts, feelings, beliefs and behaviours one engages in related to their body, and may be positive or negative. Negative body image is a significant public health problem, and many young people express body image concerns that may lead to unhealthy diet and exercise behaviours, exacerbated by sociocultural pressures to conform to the thin or muscular ideal. The literature suggests that body image development commences in early childhood, so interventions to foster positive body image should begin before children attend formal schooling. The NQF and EYLF are the frameworks underpinning the delivery of early years' education in Australia, and clearly position the educators as both coaches and mentors in children's learning.

The numbers of children attending early childhood education are increasing, rendering the nutrition knowledge, attitudes and behaviours of educators evermore influential on the development of children's preferences and behaviours which may be continued into adulthood. Educators may not fully understand the importance of their role in child development, and they may not possess either the self-efficacy or role adequacy to fulfil these roles. While these aspects of role modelling behaviour have been explored in parents, to date, these behaviours appear to have been overlooked in relation to educators of very young children.

A number of body image-related interventions exist for children, teachers and parents. Those that build positive self-esteem while reducing social comparison and questioning the promotion of the thin ideal appear to be the most successful in

promoting positive body image in older age groups, although long-term success of these interventions to date appears limited. Resources and programs that are available to foster positive body image tend to focus on mostly preadolescent and adolescent children, health and physical education pre-service teachers, and parents. Although there is evidence that educators have their own body image concerns, there appeared to be few interventions designed specifically for this group, particularly in the early childhood education arena. Educators, with appropriate training are a suitable conduit for such programs, and studies have demonstrated that online programs are acceptable to educators, both for their convenience and the opportunity they provide to develop networks and supportive relationships, hence this appeared to be a sound method of intervention delivery. The time educators spend with young children is significant, consequently, not engaging them in this role represents a missed opportunity. Since other studies have shown that role support, that is, the capacity to find suitable help and resources which provide information and strategies, is an enabler of engagement with interventions, the provision of professional development resources in this area was deemed worthwhile.

Chapter Three: Phase One Methods

3.1 Introduction

This research utilised a sequential-exploratory design (Creswell & Plano Clark, 2006) with the collection of qualitative data informing intervention development, and quantitative and qualitative data collected pre- and post-intervention to evaluate its impact and reach. It was situated in a pragmatic epistemological paradigm, a worldview that is not committed to a single philosophy or reality, but recognises that to answer research problems, a number of approaches may be required (Creswell, 2009; Crotty, 1998) therefore, a mix of qualitative and quantitative methods were viewed as an acceptable means to gather results (Creswell, 2009).

For the purposes of this research, 'methods' refer to the specific techniques and procedures used to collect and analyse data (Crotty, 1998) and 'methodology' refers to the philosophy, principles, and axioms which underpinned this research (McGregor & Murnane, 2010). The methodology prescribed for the qualitative aspects of this research, which includes Phase One as well as the exit interviews discussed in Phase Three (Chapter Eight) adopted an interpretivist theoretical perspective. It is important to note that a pragmatic epistemology allows for reflexivity when moving from qualitative to quantitative methodology. In this respect, the quantitative aspects of this thesis, necessarily adopt a different theoretical perspective, one that is characterised by positivist ontology. This shift in methodological perspective will be explained where applicable in subsequent chapters. This chapter, however, specifically deals with the methods and methodology of Phase One of the research, as illustrated in Figure 2.

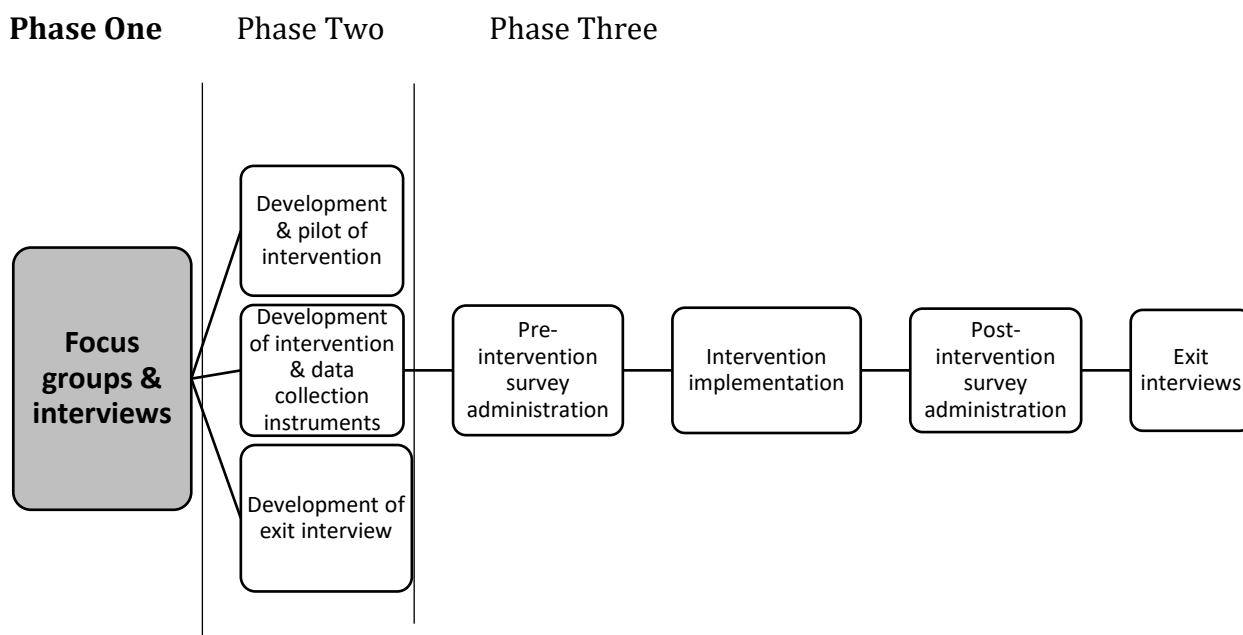


Figure 2: Study design: Phase One

The qualitative methodology and methods were borne from the broader pragmatic epistemology for the qualitative data (see Figure 3) the outcome of which provided a qualitative exploration of the knowledge, attitudes and behaviours of educators in relation to body image and its development in very young children. This chapter also includes the theoretical underpinnings which apply to this research, as well as a discussion about the strategies employed to ensure research rigour. It outlines the ethical considerations and approvals for this study, as well as data collection instruments, the data analysis plan, recruitment strategies and sampling methods.

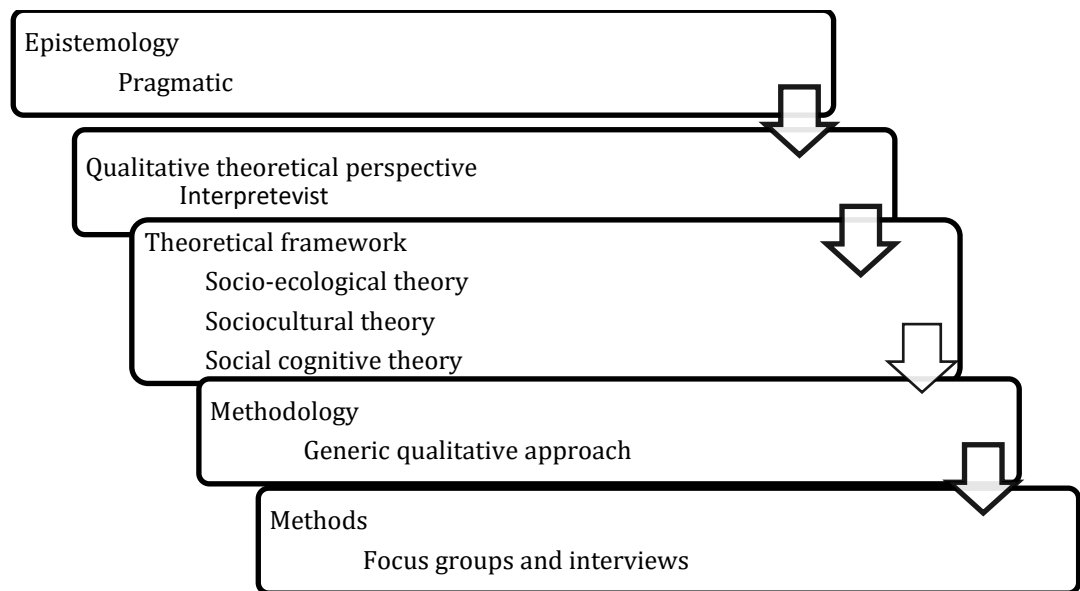


Figure 3: Elements of the qualitative research process

3.2 Theoretical Framework

The utilisation of theoretical frameworks to guide the development, implementation, and evaluation of health promotion interventions is recommended (Bartholomew, Fernandez, Gottlieb, Kok, & Parcel, 2010). A pragmatic approach to health promotion research means that many theories may be adopted to provide scaffolding for the development and implementation of interventions. Body image is a complex and multifaceted public health concern, thus attempting to discuss it in relation to one single theory was deemed counterintuitive. Theories of attribution, objectification, sexualisation and comparison are all influential in this area, however, for the purposes of this study three ecological theoretical frameworks were deemed the most pertinent. This research was underpinned by the Socio-ecological Theory, the Sociocultural Theory, and the Social Cognitive Theory and these are outlined in this section.

3.2.1 Socio-ecological Theory

The Socio-ecological Theory was first described by Bronfenbrenner (1979) and developed as a reaction to the developmental psychology research being undertaken during the 1970s. Bronfenbrenner postulated that to understand how behaviour developed, interactions between the physical and social environment should be acknowledged. With this view, Bronfenbrenner, identified five systems

of influence on behaviour development over the life course: the microsystem (face-to-face interactions with individuals); the mesosystem (influences on individuals such as family and school); the exosystem (influences that are part of the wider social system an individual is part of); the macrosystem (the cultural context of an individual's life, for example, their race, ethnicity, or socioeconomic status); and the chronosystem, the system influenced by life altering events or transitions, such as those experienced when a child enters an early childhood education and care setting, or school (Bronfenbrenner, 1994). There have been many variations and adaptations of Bronfenbrenner's Socio-ecological Model, and for the purpose of this research the Socio-ecological Model re-interpreted for health promotion by McLeroy and colleagues was utilised, and is illustrated in Figure 4 (McLeroy, Bibeau, Steckler, & Glanz, 1988).

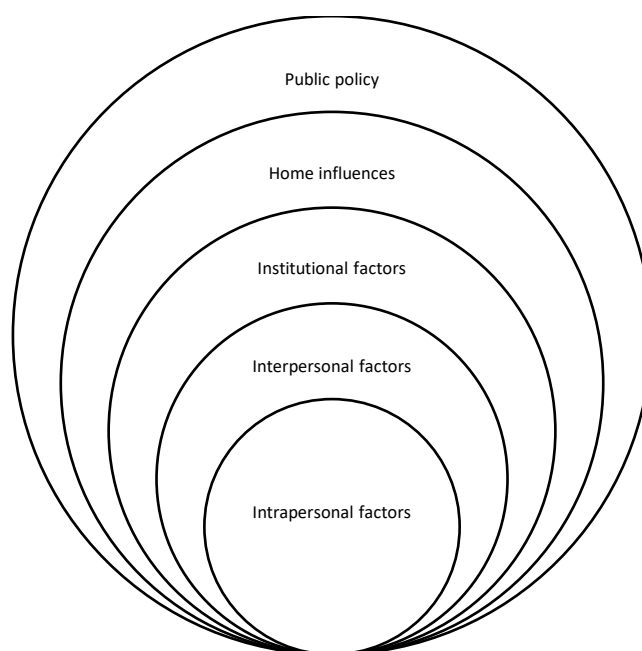


Figure 4: The Socio-ecological Model (McLeroy, Bibeau, Steckler, & Glanz, 1988)

Health behaviours are complex, and shaped by multiple layers of influence, hence the identification of five key principles which can be applied in order to promote behaviour change (Sallis & Owen, 2015). These principles include (1) the recognition of multiple layers of influence on health behaviours; (2) recognition of environments as significant determinants of health behaviours; (3) the interaction of variables which work together to influence health; (4) ecological models should be behaviour specific; and (5) multiple interventions are most effective in changing health behaviours. (Sallis & Owen, 2015).

The first layer of influence on health behaviours are intrapersonal, with this sphere including social and biological factors relating to the individual such as knowledge, attitudes and beliefs. Intrapersonal factors relating to body image include biological factors such as body weight and size, gender, and age, as well as attitudes towards physical activity, beauty, self-worth, and eating behaviours (Evans, Roy, Geiger, Werner, & Burnett, 2008).

Interpersonal factors comprise an individual's social contacts, including family, teachers and peers (Sallis & Owen, 2015) making this sphere of influence significant in the context of the current study. The influence of home is obviously important to the developing body image of very young children. Parents, siblings and close relatives are significant influences in all aspects of a young child's development, as they may offer encouragement to engage in regular physical activity and the provision of healthy family meals (Neumark-Sztainer, 2005). In the early childhood education and care sector, bullying by peers, the role-modelling by care-givers and peer support are all important factors in the developing body image of very young children, and educators are potentially significantly influential in this sphere.

Policies implemented in early childhood education and care relating to food behaviours, food environment, physical activity and fat talk have the potential to influence at an institutional level (Evans et al., 2008). Factors such as staff training and access to appropriate support are also important factors at this level of influence, as are other factors such as access to safe playgrounds,

The sphere of public policy encapsulates the larger social systems in which an individual exists, and includes the policy, culture, legislation and politics under the influence of which children grow and develop (Sallis & Owen, 2015). Gender expectations, cultural ideals for appearance, body shape and beauty as well as laws and public policy all influence the developing body image of young children (Neumark-Sztainer, 2005). Examples where public policy may influence body image development include the recent banning of ultra-thin models in Israel (Krawitz, 2014) and in France (BBC News, 2017) and the introduction of a voluntary code of conduct in Australia to provide disclaimers on digitally-enhanced pictures (Bury, Tiggemann, & Slater, 2016).

From a socio-ecological perspective, in order to successfully change behaviour, health promotion interventions should aim to act across multiple systems (Sallis & Owen, 2015). By acknowledging multiple layers of influence, health promotion programs that aim to facilitate behaviour change recognise that focusing on individual behaviour change is not enough. This research did not aim to change the public policy sphere of influence on the developing body image of young children, as policy, politics and the broader culture were not within the scope of this work. This study did intend, however, to act upon both the interpersonal, institutional and to a lesser extent, the home spheres, by increasing the knowledge and understanding of educators of their role in the developing body image of young children.

3.2.2 Sociocultural Theory

The Sociocultural Theory is another ecological theory that recognises the multiple layers of influence affecting body image development. This theory provides an optimal framework for the investigation of body image as it describes the influence of social, cultural, and environmental stimuli which influences its development, and the manner in which such stimuli is incorporated into an individual's perception of themselves. Responses are determined not only by whether the individual fits the cultural body ideal, but also the level at which these ideals are embraced or internalised (Tiggeman, 2012).

While the Sociocultural Theory was developed by Vygotsky in the 1920s, it did not gain popularity until the 1990s (Peterson, 2014). This theory describes learning occurring during 'critical periods', i.e. short periods of time when children may experience crises, and when changes in personality traits may occur, leading to changes in how they understand and relate to their environment (Mahn, 2003). These critical periods are times when new cognitive processes are developed, such as language skills, and the child's relationship with their sociocultural environment is central to this.

Cognitive development is understood to be both biologically and socially-driven, with interactions between an individual, their culture and the historical context of this culture internalised to foster cognitive development (Mahn, 2003).

Vygotsky theorised that children develop cultural tools via their interactions with parents, peers and teachers, and each of these interactions is meaningful in relation to the development of body image. The Sociocultural Theory emphasised the role of peers and adults in extending a child's learning and the process of 'scaffolding' is credited to this theory, with adults and more competent peers able to collaborate and co-construct knowledge and understandings (Jones & Brader-Araje, 2002). By providing children with scaffolded support and guidance, educators enable children to increase their conceptual understanding and cognition (Leggett & Ford, 2013).

Alongside the collaboration between the child and educator to scaffold learning, imitation and imaginary play are also crucial in the development of understanding of cultural signs and symbols. This enables children to create scenarios, act out roles, and to follow a set of rules determined by the role, leading to greater understanding of social situations and the emotional responses appropriate in such situations (Peterson, 2014). The development of higher emotional processes also facilitates social interactions which begin to reflect the cultural norms of the child's environment. By enabling children to act out a range of roles and situations, imaginary play allows children to 'internalise', i.e. to understand situations from the viewpoint of others.

An example of internalisation salient to preschool children is that which occurs when playing with dolls such as Barbie™ (Anschutz & Engels, 2010; Dittmar, Halliwell, & Ive, 2006; Rice, Prichard, Tiggemann, & Slater, 2016; Worobey & Worobey, 2014). Barbie™ dolls are an example of a toy that provides a concrete measure of society's beauty ideal, and have been held responsible for facilitating internalisation of the thin-ideal, mediating development of body dissatisfaction (Dittmar et al., 2006; Rice et al., 2016) and the objectification of girls and women (Sherman & Zurbriggen, 2014). Since it is estimated that 99% of American girls aged between three and ten-years owned at least one Barbie™ doll (Rogers, 1999) it may be assumed that exposure to Barbie™ and similar fashion dolls is widespread in this age group, and contributes to the internalisation of the thin ideal in young girls.

While the myriad of sociocultural influences on the body image development of young children have not been fully explored here, it has been established that parents, peers and the media have significant roles to play. As yet, an investigation into the role of educators in body image development has not been completed in the early childhood education and care setting, but given the increasing amount of time children spend with educators, it can be assumed that they have a substantial influence on children's developing body image. The Sociocultural Theory is particularly relevant here as children learn about eating behaviours, physical activity and the thin or muscular ideal from educators. Children view educators as role models to imitate, and educators provide scaffolding for children to learn skills, as well as opportunities for imaginative play.

3.2.3 Social Cognitive Theory

Another ecological theory pertinent to this study is the Social Cognitive Theory. The reciprocal interaction between an individual and their environment is the central tenet of this theory, and it recognises that while the environment influences behaviour, individuals may also influence their environment to change behaviours (Bandura, 1998). Bandura, who developed the Social Cognitive Theory from the Social Learning Theory in the 1980s, suggested behaviour may be changed by increasing knowledge and adjusting attitudes and perceptions. By offering and guiding new experiences, offering opportunities to increase learning and providing opportunities to practise new behaviours, educational interventions may encourage behaviour change (McAlister, Perry, & Parcel, 2008). In relation to the educational intervention designed for this research, observational learning, outcome expectancies, facilitation, moral disengagement and self-efficacy were concepts of interest. Each of these concepts are briefly outlined here.

Observational learning is a central tenet of the Social Cognitive Theory and describes the way individuals compare their abilities to others, and emulate others' behaviours (Bandura, 1998). Individuals are more likely to replicate the behaviours of those who they feel are most like themselves, such as family and friends (McAlister et al., 2008). This is important, as although children have many opportunities to observe and emulate behaviour in the early childhood education and care setting, educators may also observe and replicate the eating behaviours,

fat talk and attitudes toward food and physical activity of other educators within their service. Emulating the behaviour of others may be a positive or negative, depending upon the behaviour being modelled. The focus on the health behaviours of others is believed to motivate individuals to conform to norms (Bandura, 2004) therefore, educators' role modelling healthy and body positive behaviours also gives children the opportunity to learn these behaviours by observation of significant others.

Changes in health behaviours not only rely on the observational learning of an individual, but also on what they believe the outcome of behaviour change will be, that is, their 'outcome expectancies' (Anderson, Winett, & Wojcik, 2007). Outcome expectancies may influence behaviours both positively and/or negatively and three forms have been identified: (1) physical outcome expectancy, such as the pleasurable results of a behaviour; (2) social outcome expectancy which includes reinforcement such as approval or disapproval from others; and (3) self-evaluative outcome expectancy which are the behaviours leading to self-worth or satisfaction (Bandura, 2004).

Self-efficacy, or the confidence one has in themselves to perform a task, is a key construct in social cognitive approaches to behaviour change (Baranowski, Perry, & Parcel, 2002) with four methods for improving self-efficacy recognised (McAlister et al., 2008). These include: (1) providing the opportunity to master a new task (i.e. mastery experience); (2) vicarious experience, through social modelling; (3) ensuring emotional states are conducive to learning; and (4) using methods of verbal persuasion. Social Cognitive Theory also lends itself to the employment of new technology, as opportunities are provided to improve self-efficacy, knowledge and skills, the social support gained from online interactions can also facilitate behaviour change (McAlister et al., 2008).

Stigmatisation of overweight and obese people is a significant public health issue discussed earlier in this thesis, but may be better understood through the lens of moral disengagement, as defined by the Social Cognitive Theory (Bandura, 1999). Moral disengagement explains the manner in which moral agency may be selectively disengaged to allow the justification of immoral behaviours by individuals. Victim blaming, using euphemistic language, and diffusion of

responsibility are all means by which individuals can justify actions which may otherwise be seen as forms of bullying (Moore et al., 2005) and educators may use these in the workplace, modelling these behaviours for young children. An example of this pertinent to body image development is the way in which an individual may excuse their own anti-fat bias (Daníelsdóttir, O'Brien, & Ciao, 2010). Limited understanding of the myriad causes of obesity may lead some to believe that obesity is due to a lack of self-control or poor work ethic, and therefore, they may feel morally bound to discuss their concerns about weight with others (Berge, Trofholz, Fong, Blue, & Neumark-Sztainer, 2015). Research, however, suggests that voicing concerns actually increases weight stigma, and as such, is more likely to increase an individual's weight than to reduce it (Puhl & Latner, 2007).

Health promotion interventions draw on a range of theories for guidance, and for the purpose of this research, the Socio-ecological, Sociocultural and Social Cognitive theories were used. Providing a structured intervention, based in theory facilitates behaviour change, by increasing the self-efficacy of individuals (Bandura, 1998). The Sociocultural Model acknowledges the importance of adult guidance and scaffolding in the development of new knowledge, recognises the child's central role in all learning, while the Socio-Ecological model extends this idea by acknowledging the spheres of influence on health; in the case of this study, on the developing body image of children.

3.3 Methodology

Having described the theoretical frameworks underpinning this research, its methodological assumptions are described next. The qualitative aspects of this research take an interpretivist theoretical perspective, where health is viewed as a socially-constructed concept rather than a scientific truth (Fink, 2014). An interpretivist perspective recognises that individuals are engaged in active construction of their understanding through their experiences, and that individuals may understand the same reality differently (Brunet, Sabiston, & Burke, 2013). Furthermore, interpretivism emphasises the importance of self-

reflection and individual interpretation of social norms, both relevant to the construction of one's body image.

Multiple ways of knowing and experiencing health and wellbeing were particularly appropriate in representations of body image in this research, primarily because of the way in which body image is subjectively constructed and perhaps re-constructed by the self (Cash, 2004). The insights of participants were used to adapt research reflexively (Darawsheh, 2014) with their understandings used to design and develop intervention resources as well as evaluation tools.

In order to provide a framework for focus group and interview processes, a generic qualitative perspective was used (Caelli, Ray, & Mill, 2003; Kennedy, 2016). This approach allowed the researcher to choose data collection methods best suited to meet the aim of the research, rather than being tied to a particular philosophy. Moreover, this approach allowed for the investigation of participants' subjective versions of their experience (Percy, Kostere, & Kostere, 2015) allowing analysis of the projection of participants' experiences of body image in the outside world. This approach is pertinent to this study since the focus here was not educators' personal body image, but the way that educators project their knowledge, attitudes and beliefs about body image onto the children who they teach.

3.3.1 Strategies to Establish Rigour (Trustworthiness)

Establishing rigour in qualitative research is imperative, especially if the research is designed to allow for the translation of its findings into practice or interventions (Noble & Smith, 2015) as was the case in this research. A number of strategies are suggested for use in qualitative research to establish rigour, including triangulation of data, establishing credibility of data and transferability of findings. Each of these are discussed in this section.

Triangulation

A strategy to establish rigour employed when using a generic qualitative approach is the triangulation of data (Caelli et al., 2003) which may be used to check the constancy of findings and analysis, as well as allowing for a deeper

understanding and analysis of data (Taylor, Bogdan, & DeVault, 2015).

Triangulation of data occurred in two data collection points in this study: in Phase One (at focus group and interview participation); and in Phase Three (pre and post-intervention testing online and participation in telephone interviews).

Credibility

To establish credibility or the validity of qualitative research (Creswell & Miller, 2000) it has been proposed that prolonged engagement with participants is necessary in order to build trust between researchers and participants (Lincoln & Guba, 1985; Wallendorf & Belk, 1999). In this research, participants were invited to have an ongoing connection with the research at several time points.

Participants who were involved in Phase One of this research were provided with a summary of Phase One findings via email. Additionally, these participants were contacted via email and invited to take part in the pilot of draft intervention resources (Phase Two) as well as receiving notification via email when the intervention was live on the *SNAC* website.

The association of this research (hereafter referred to as the *SNACPlus Body Image Project*) with the larger *SNAC* program lent this research a degree of credibility from the outset, particularly with participants who were already members of the *SNAC* program. For participants who were not existing *SNAC* members, the association of the *SNACPlus Body Image Project* with the already established website encouraged participation, as *SNAC* already provided a large body of resources and was well known amongst many in the early childhood education and care community through its publications in early childhood education and care services newsletters and its social media presence.

Transferability

In qualitative studies, the collection of thick, rich data is important, so that the study phenomenon can be well understood, and the transferability of its findings outside of its specific context can be determined. Transferability is recommended for establishing trustworthiness in generic qualitative studies (Caelli et al., 2003) and describes the ability to transfer the findings to another context or groups of individuals. While transferability is similar to generalisability in quantitative

research, it still may not be appropriate in the context of this thesis because of the unique nature and attributes of the educator setting.

3.4 Phase One Methods

Having described the methodology of this research, the next sections will describe the qualitative methods in more detail. Ethics approvals, development of Phase One data collection instruments and data analysis plan; and recruitment strategies are detailed here.

3.4.1 Ethics

Ethics approval for this study was granted by the ECU Human Research Ethics Committee (Project number 10910). Due to the sequential design of this study, ethics approval was sought and granted at a number of time points throughout the project.

Following the receipt of ethics approval (Appendix A) an Advisory Group was established. This group consisted of experts in the field of childcare, education, health promotion, nutrition and research methodology. An initial meeting was held to outline the proposed study, and to seek advice regarding recruitment strategies and gauge support for the proposed study. As well as establishing a group specific to this research; the *SNACPlus* project utilised the experience of the advisory group established by Dr Ruth Wallace for the *SNAC* project. The proposed *SNACPlus Body Image Project* was also presented in this forum.

It was recognised that participation in this research had the potential to cause harm to those participants who were experiencing, or had experienced, body dissatisfaction or eating disorders. In order to provide support for participants, the information letter (Appendix B) for the study included details of the Butterfly Foundations' counselling services, available at no charge.

3.4.2 Data Collection Instruments


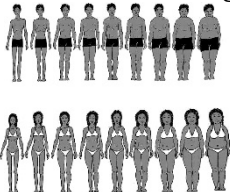
Focus group and interview protocols were developed and mapped to five of the research questions posed by this study, and have been included in Table 1.

Protocols were designed to be semi-structured, allowing for a conversational style, shown to be useful in developing rapport (Turner, 2010). The focus group protocol was piloted with two Kindergarten teachers, with questions added following the pilot that related to the frequency of opportunities for professional development in early childhood education and care services, as well as the kinds of professional development educators preferred.

At the outset of Phase One in this research, it was envisaged that data would be collected in a series of focus groups. As the research continued, however, difficulties with recruitment led to the introduction of telephone interviews as an additional method of data collection. Telephone interviews allowed participants to be contacted at their convenience, and their introduction resulted in a larger sample participating in Phase One of this research.

Aside from the convenience for participants occasioned by telephone interviews, research suggests that telephone interviews may have advantages over face-to-face interviewing (Cachia & Millward, 2011). While some research indicated that participants may be more willing to engage in longer telephone interviews compared with face-to-face (Stephens, 2007) others found that telephone interviews were shorter, and required greater question clarification from participants (Irvine, Drew, & Sainsbury, 2013). Telephone interviewing has also been suggested as an appropriate means for discussing sensitive issues with participants, including research relating to mental health (Mealer & Jones, 2014) and eating disorder research (Herpertz-Dahlmann et al., 2015).

Table 1: Research question and Phase One data collection protocol

Research objective	Focus group and interview questions
How do Educators view their own body image?	 <p>Please circle the figure that most accurately represents the way you think you look.</p>  <p>Please circle the figure that represents the way you would like to look.</p> <p>Please estimate your height. (Please write in the space provided)</p> <p>Please estimate your weight. (Please write in the space provided)</p>
What do Educators know about the development of body image in preschool children in their care?	<p>When I say “body image”, what do you think of?</p> <p>“Children aged three already think it’s better to be thin rather than fat, by age 5 children understand the concept of dieting to lose weight, and this may be more pronounced if their mothers are on diets”</p> <p>How do you feel about that information?</p> <p>What experience of these issues have you had with the children you care for?</p> <p>How do the children in your care talk about their bodies?</p> <p>How do they talk about the bodies of other children in their class?</p> <p>How do educators talk about their bodies at your service?</p> <p>How do educators talk about food at your service? Do educators talk about food being “good” or “bad”?</p> <p>Can you think of any situations where children in this age group get teased or left out because of the way they look? Would you be able to share these with the group?</p>
How do Educators view their role in the development of	<p>How do you think centre staff influence the way the children feel about their bodies?</p> <p>What strategies could be used to deal with those situations?</p>

preschool children's
body image

To what extent do
Educators perceive
the need for
professional
development issues
related to the
development of
positive body image
among preschool
children?

What behaviours
related to body
image do educators
demonstrate to
preschool children?

What are the
preferences of
Educators regarding
professional
development
relating to body
image development
of preschool
children?

Would you like more information on body image in young children?

If that information was available, how would you like to access it?
It could also be delivered as a workshop or in a pamphlet, or as an online newsletter? Which of those
would you prefer and why?
Does your workplace encourage you to do professional development courses?

Interviews and focus groups conducted in Phase One were semi-structured, and participants determined the order of questions and topics to be explored. For example, changes to focus group and interview protocols were implemented after the first two focus groups, as it became apparent that participants wished to discuss nutrition choices for children. Questions were added to the protocol to include talk around food being classed as 'good' and 'bad', and increased focus on educator fat and diet talk, rather than the way that children talked about their bodies and the bodies of others.

Furthermore, collaboration with participants allowed areas of interest not initially included in interview protocols, such as nutrition knowledge and training, disability and cultural diversity, to be explored in more depth. Many participants had deeply personal insights they wished to share, including experiences with eating disorders, body dissatisfaction or satisfaction and their own experiences of stigma. The exploratory nature of this research meant that each of these issues could be explored until the discussion was exhausted. Moreover, semi-structured, conversational-style interviews allowed participants to feel like partners in the research (Lynch & Batal, 2011) as evidenced by their willingness to review intervention material as it was being developed.

Phase One participants also completed a brief Figure Rating Scale (Figure 5) to measure body dissatisfaction. The scale depicted nine male and female figures illustrating a range of sizes from "very thin to very overweight" (Thompson & Altabe, 1991, p. 616) and has been used in studies of body image and eating disorders since the 1980's. It has been found reliable in previous studies (Stunkard, Sørensen, & Schulsinger, 1983; Thompson & Altabe, 1991) and is still regarded as an appropriate measure of body dissatisfaction (Duchin et al., 2015; Essayli, Murakami, Wilson, & Latner, 2016). Using this scale, the discrepancy between desired body and perceived body can be calculated, giving an indication of body dissatisfaction. For the purpose of this research, participants were asked to circle the figure they believed most accurately represented the way they look, and then the figure they would most like to look like.



Figure 5: Figure Rating Scale

Self-reported estimates of weight and height were also collected in Phase One, to allow comparisons with Figure Rating Scale results. Estimated BMI was calculated using the Australian Heart Foundation's BMI calculator (Heart Foundation, n.d.). Although self-reported weight and height has been found to be unreliable when provided by women with abdominal adiposity since they tend to underestimate their BMI, it has been acknowledged to be a relatively accurate measure for other women (Lois, Kumar, Williams, & Birrell, 2011).

3.4.3 Data Analysis Plan

For this phase of the study, data analysis was undertaken using the guiding principles of Braun and Clarke, outlined in their seminal work (2006). These principles provide a step-by-step guide, designed to increase the methodological rigour of thematic analysis (Braun & Clarke, 2006).

With participants' consent, focus groups and interviews were digitally recorded and transcribed in MS Word. Recordings were listened to several times and notes made onto transcriptions. Transcriptions were then uploaded into NVivo (QSR International Pty Ltd, 2012). Once familiar with the data, initial (first level) codes were made in NVivo. An example of initial coding is given in Table 4: Phase One: Initial codes (Chapter Four).

Recommendations regarding knowledge, attitudes and behaviours of educators in relation to body image were generated from the focus groups and interview data. Once transcripts were coded, thematic analysis of data was undertaken, with the researcher manually looking for repeated patterns, themes and meanings

within the data (Liamputtong, 2009). Data gathered regarding the knowledge, attitudes and behaviours of educators were pivotal in the development of the educational intervention developed in the next phase of the study.

Initial themes were then reviewed again, with some themes collapsed, and others discarded, i.e. second level or axial coding, with an example of this level of coding displayed in Table 5 (Chapter Four). These higher-level codes were then arranged according to themes and sub-themes and grouped depending on their relevance to the research questions and theoretical concepts to which they pertained (Table 11).

3.4.4 Sampling Methods

Sampling methods for this study were purposive, with recruitment advertising shared across social media sites including *Facebook*, in newsletters designed for educators and on the *SNAC* website. Participants were encouraged to recommend participation to colleagues and friends who were also educators, or to share details of the study on social media platforms such as *Facebook*, as an additional attempt to snowball recruitment efforts.

Inclusion criteria for participation in Phase One of this research was that the participant resided in Australia and identified themselves as an educator who worked with children under the age of five years of age. Participation was not restricted to educators from any specific early childhood education and care setting, or to a specific level of education, occupational title, or years of working experience. This allowed the researcher to gather data from a range of participants in order to capture diverse information about knowledge, attitudes and experiences.

Sample size was not determined prior to data collection, with saturation of data being used to determine adequate sample size. Saturation of data is difficult to quantify, making it a contested concept (Francis et al., 2010; O'Reilly & Parker, 2012) though for the purpose of this research, recruitment of participants for interviews or focus groups concluded when no new themes or concepts that added depth or richness to the exploratory phase of data collection were forthcoming. This sample comprised a fairly homogenous group in terms of gender, occupation

and workplace. Evidence suggests that data saturation may be reached more quickly in homogenous groups than in studies with a more disparate group of participants (Saumure & Given, 2008).

3.4.5 Recruitment Strategies

A range of recruitment strategies were employed in this phase of the research project, though to understand the recruitment techniques employed, it is important to understand how this doctoral research fits within the broader *SNAC* and *SNACPlus* projects. Each of these are described in this section.

Supporting Nutrition for Australian Childcare (SNAC) and SNACPlus

This research was designed to be a part of the existing *Supporting Nutrition for Australian Childcare (SNAC)* website, designed by Dr Ruth Wallace at ECU. The *SNAC* website was launched in 2013 and provided early childhood education and care services with recipes, menu plans and planning tools, as well as establishing an online community of practice for educators (Wallace, 2016). The *SNAC* acronym was used to guide the organisation of the website, with ‘Support’ (*S*) providing nutrition fact sheets and links to credible nutrition resources; Nutrition (*N*) providing recipes suitable for early childhood education and care settings; Activities (*A*) providing links and activities around healthy eating available for all early childhood education and care services staff to use; and Community (*C*) providing discussion boards to encourage a sense of community for those in the early year’s education sector. This website had been very successful, with more than 150 early childhood education and care services and more than 2000 individual members registered across Australia (Wallace, 2016).

Being part of the larger *SNAC* project allowed the researcher to utilise a range of recruitment opportunities which may have otherwise been unavailable. These included access to the *SNAC* e-newsletter for participants, an introduction to the *Wanneroo and Surrounds Early Years Network* and the *SNACPlus* professional development workshops. The recruitment of participants was facilitated by contributing to fortnightly *SNACPlus* project meetings and stakeholder meetings, since the researcher was able to develop relationships with stakeholders. The development of such relationships led to the recruitment of two non-educator

participants including a university academic who taught pre-service teachers, and a National Quality Framework assessor. These participants, recruited through their involvement with the larger *SNAC* program provided a different perspective on body image and its development than educators working in early childhood education and care services.

E-Newsletters

Since 2013, existing *SNAC* members have received a fortnightly e-newsletter informing them of new features on the website, providing recipes and nutrition information, delivered using the *Mailchimp* email service provider (The Rocket Science Group, 2015). These have proved popular, with recipients forwarding nutrition information to their service's community, and engaging in competitions and surveys advertised in e-newsletters (Wallace, 2016).

In order to harness the popularity of e-newsletters as a recruitment tool, an advert was placed in an issue published on 6 February, 2014. This effort resulted in 20 participants attending three focus groups, conducted at two early childhood education and care centres in Perth. These focus groups were conducted at a time and location convenient to participants, notably during lunch breaks and after service hours. Directors at these services were eager to participate and mentioned that they felt they had a civic duty to take part in research they believed would benefit their industry. This type of altruism or dedication to the profession has been reported in other research (Cachia & Millward, 2011; Peel, Parry, Douglas, & Lawton, 2006; Williams, Entwistle, Haddow, & Wells, 2008).

Targeted calls

Despite continued advertising in the *SNAC* newsletter no further participants were recruited this way. Consequently, telephone calls were made to early childhood education and care services directly to recruit participants. A list was devised of all early childhood education and care services in Western Australia, and was randomised. Initially, a 'cold-call' was made to services at the top of the randomised list (n=57 services) to ask Directors if they would like to receive information about the study via email. Emails included a recruitment flyer for display in staff areas of services and a service recruitment letter explaining the

study (Appendix B). One week later, a follow-up email was sent to encourage Directors to discuss the study with staff once again. This method yielded only eight participants, with small group interviews being held at ECU's Mount Lawley (n=6) and Joondalup campuses (n= 2).

From focus groups to telephone interviews

Although interest in participation was expressed by several educators via email and telephone, many were unwilling or unable to commit to attending a focus group session. This led to changes in data collection techniques, since telephone interviews appeared to be viewed more favourably by educators, given calls could be made before or after work times, and to those inter-state who wished to participate. Telephone interviews were advertised via the weekly *SNAC* newsletter and through direct phone calls to services, with the addition of advertisements on a range of closed educator *Facebook* pages. An additional five participants were recruited using these methods.

Facebook

A number of 'closed' *Facebook* groups were identified which provided a space for educators to support one another, discuss issues and provide one another with teaching ideas. Membership in these groups was requested with the express purpose of recruitment, and this was explained to page administrators. Once their approval was received, specific information was posted on their pages in order to explain the purpose of the research and recruit participants. In total, four educator-specific *Facebook* pages were accessed (Table 2) and advertisements were placed for participants on their pages (Appendix C). The *Facebook* campaign generated five telephone interviews.

Table 2: Facebook pages joined in Phase One recruitment

Facebook Page joined	Membership
Australian Early Childhood Teachers	2106
Early Childhood Educators Australia Network	3209
Australian Early Childhood Professional Development Opportunities	2331
Early Childhood Education and Care Australia	13358

Wanneroo and Surrounds Early Years Network (WASEY)

In addition to accessing Facebook pages through gatekeepers, the *Wanneroo and Surrounds Early Years Network (WASEY)* was joined in order to access other gatekeeper groups in the Western Australian early childhood education and care sector. The role of gatekeepers in recruitment to and engagement with programs has been discussed by a number of authors, for example Barbour (2005), Yoong and colleagues (2013) and McFayden and Rankin (2016). Gatekeepers have the potential to determine the success or failure of research, highlighting the need for researchers to connect and engage with them. McFayden and Rankin suggest that contact with gatekeepers should be made early in the research process, providing gatekeepers time to understand the proposed research, and the benefits to their organisation that may arise from the research itself.

The *WASEY* network had an existing connection with ECU, and awareness of the larger *SNAC* project, making them receptive to the researcher's attendance at meetings, and to learning more about the body image project. Membership of this group provided the opportunity to raise awareness of the study in the broader early childhood education and care sector.

WASEY is a group of agencies and community members with a focus on early childhood education and care who collaborate to improve the opportunities of children aged under eight years in the City of Wanneroo and surrounding areas (Department of Local Government and Communities, 2014). The *WASEY* members represented a wide range of community and government organisations with an interest in improving education and health outcomes for children and

strengthening community capacity by connecting communities, agencies and service providers (Department of Local Government and Communities, 2014).

The first *WASEY* meeting was attended on 10 December 2014 to generate awareness of the project among representatives from the early childhood education and care sector, and to seek recruitment advice. During 2015 and into 2016 several more *WASEY* meetings were attended, allowing an increased awareness of the study amongst those who worked in children's services. While there were no direct recruiting outcomes linked to these meetings, they were invaluable in building networks and credibility.

3.5 Chapter summary

This chapter has described the methodology and methods of Phase One of this research. It has outlined the theoretical underpinnings of this research, as well as the epistemological and axiological assumptions of Phase One of the study. The choice of a generic qualitative approach situated in a pragmatic paradigm was established as appropriate for a mixed methods design, and the method of data analysis fitted this approach. The study's design, data collection and data analysis have been described, and the following chapter will present the findings of Phase One of the study and a discussion of these findings.

Chapter Four: Phase One Data Analysis, Findings and Discussion

4.1 Introduction

As previously explained, Phase One of this research comprised of a qualitative exploration of educators' knowledge, attitudes and behaviours relating to body image (Figure 6). Additionally, since educators have the potential to transmit their own body image attitudes and beliefs to children, their body image was assessed, as well as their understanding of body image development.

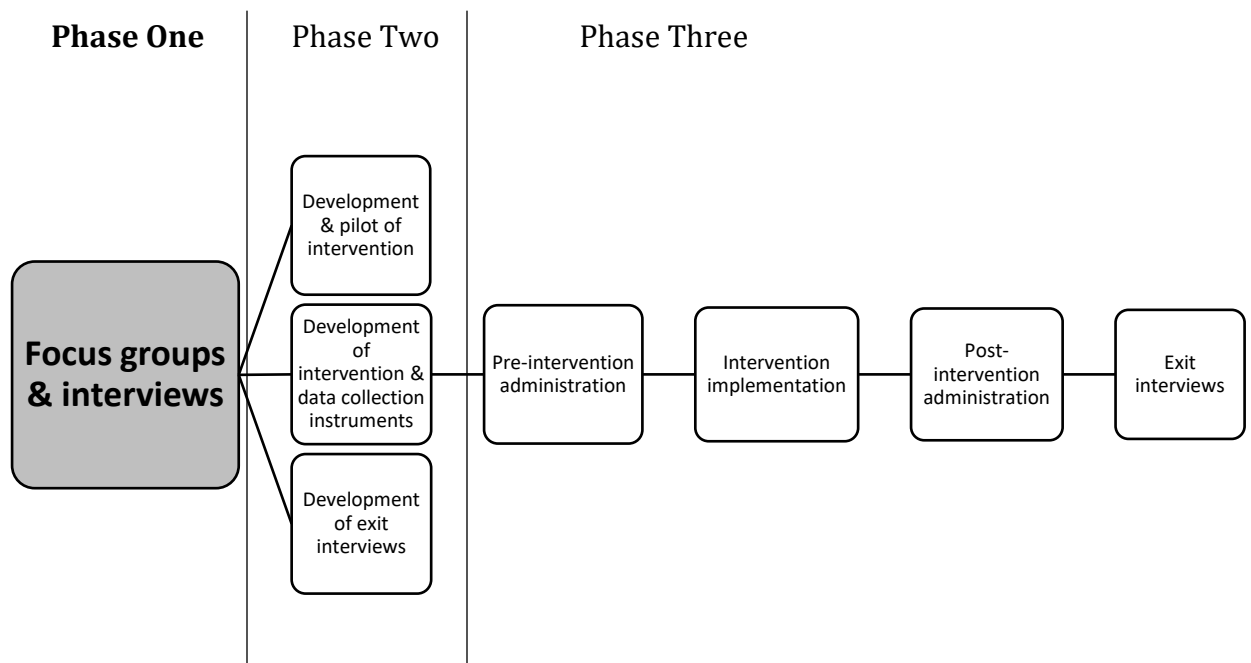


Figure 6: Study design: Phase One

Firstly, this chapter will describe the participants of Phase One. Secondly, data analysis will be discussed, including examples of initial coding, axial coding and final themes and sub-themes identified in these data. Thirdly, the findings will be presented and the implications for the subsequent professional development intervention are identified and discussed.

4.2 Sample

In total, 44 educators participated in Phase One of the study, and Table 3 displays the demographic characteristics of the participants. Represented in this sample were a variety of ages, roles and workplace settings. All participants were female, with approximately 35% aged less than 25 years and 65% aged over 26 years. On average, participants had worked in the early childhood education and care sector for more than nine years, and almost half (47.3%) had completed post-secondary education, either at university or at a Technical and Further Education College (TAFE). More than half of the participants worked in long day-care centres (60%) and more than one-third worked in family day-care or other settings (40.4%). Self-reported BMI was approximately 25 ± 7 kg/m².

Table 3: Demographics of Phase One participants (n = 44)

Demographic characteristics		
Mean height (cm) (\pm SD)	166cm (\pm 5.4)	
Mean weight (kg) (\pm SD)	70.13kg (\pm 19.6)	
Mean BMI (\pm SD)	24.84 (\pm 6.9)	
Average years employed in childcare (\pm SD)	9.5 (\pm 8.3)	
Age range (n=36)	n	%
Under 25	13	36.1
26-35 years	8	22.2
36-45	9	25
46-55	2	4.5
Over 56	4	11.1
Highest level of education (n=36)		
University	12	27.3
TAFE	9	20.5
Apprenticeship	3	6.8
Secondary school	11	25
Other (traineeship)	1	2.3
Early childhood education and care service		
Long day-care	29	69
Family day-care	3	7.1
Before and after school care	2	4.8
Kindergarten	4	9.6
School	2	4.8
Role		
Academic	1	2.4
Assessor	1	2.4
Manager/Director	3	7.1
Team leader	2	4.8
Educator	14	33.3
Cook	1	2.4
Teacher	6	14.3
Family day-care educator	3	7.1

4.3 Data analysis

Data were analysed using the qualitative data analysis process suggested by Braun and Clarke (2006). As discussed previously in Chapter Three, audio recordings of interviews and focus groups were transcribed, and uploaded to NVivo 11 software (QSR International Pty Ltd, 2012) for initial coding. Transcriptions were read line-by-line, and open coding was used to generate initial codes, based on the interpreted meaning in the data (Pratt, Rockmann, & Kaufmann, 2006). This process identified the most basic elements within the data, and allowed commonalities and differences within transcriptions to be noted. Table 4 shows the initial codes generated in this stage.

Table 4: Phase One: Initial codes

Open code	Elements	Examples of participants words
There are many influences on body image.	Media. Peers. Social media.	Siblings. Disney, superhero, magazines. Availability, everywhere.
Educators aren't sure when body image begins to develop.	Educator experiences are very important.	Birth, teenage, parent.
Differences in the way children look are about more than weight.	Cultural bias. Disability. Treat each differently.	Skin colour, language. Mainstreaming, autism. Can't keep up with play.
Educators talk about body image-related topics at work .	Diet. Weight. Exercise. Own body.	Good, bad & sometimes foods. Weight watchers, meal replacement. Gym. Baby weight.
Strategies not available for dealing with teasing and parents.	Strategies for teasing.	Games, books, prosocial activities.
Nutrition concerns educators, but they don't all have the skills and knowledge required.	Knowledge. Provision.	Pyramid, information, advice. Parents fault, fussy eaters.
Educators enjoy professional development, but there a range of barriers to attendance.	Barriers. Enablers. Preferences.	Gets boring, need something new, need relief-staff to attend.
Children don't talk about weight.	Talk children. Talk about bodies. Teased or left out Understand dieting	

Next, axial coding was conducted, relationships between open codes identified, and similar codes grouped into initial categories and sub-categories (Corbin & Strauss,

1990). These categories and subcategories were then reviewed and re-grouped, and a further iteration of categories and subcategories developed (Table 5).

Table 5: Phase One: Open codes, axial codes and emerging themes

Open codes	Axial codes	Emerging themes
There are many influences on body image.	Parent, Sibling Family. Educator experiences (such as eating disorder). Media, television, movies. Princesses and superheroes. School.	Sociocultural influences
Educators aren't sure when body image begins to develop.	Birth. Toddler. School age. Adolescent.	When does body image develop?
Differences in the way children look are about more than weight.	Culturally and linguistically diverse. Disability, physicality, ability to play.	Diversity
Educators talk about body image-related topics at work.	Fat talk . Diet. Judgement about food.	Educator influence on body image
Strategies are not always available for dealing with teasing .	Weight stigma. Humour and weight Difficult conversations.	Strategies and policy
Nutrition is a topic educators are concerned about, but they don't all have the skills and knowledge required.	Don't use Dietary Guidelines Not sure how to talk to parents. Parents are customers, so have to comply with requests.	Knowledge and training
Educators enjoy professional development, but there a range of barriers to attendance.	Cost. Time. Need relief staff. Boring.	Educators need novel approaches to professional development to increase their engagement,
Children don't talk about weight.	Talk about educator's bodies. Talk about their bodies. Teased or left out. Understand dieting.	Childhood is an age of innocence,

In the final stage of data analysis in Phase One, themes were refined, with some collapsed and integrated. Themes were defined and labelled in this stage, with sub-themes falling under three broader areas of: Knowledge; Sociocultural influences; and

Training. Figure 7 shows the finalised themes, and their corresponding sub-themes. Each of these themes and sub-themes are discussed in the next section.

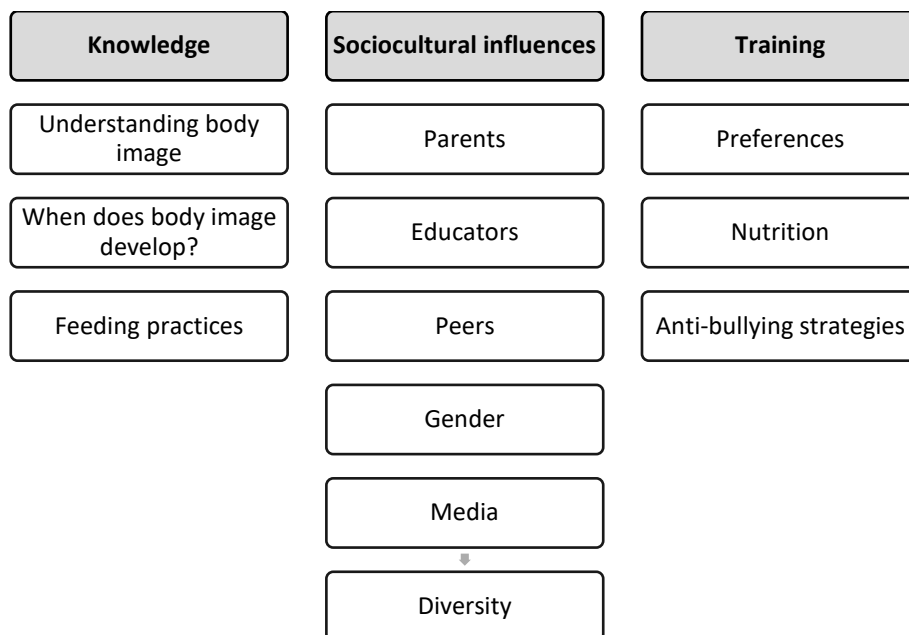


Figure 7: Phase One: Finalised themes

4.4 Findings and discussion

This section provides the findings and discussion of focus groups and telephone interviews, which are displayed together and arranged according to themes and sub-themes illustrated in Figure 7. Direct participant quotations from interviews and focus groups are displayed in *italics* and all participants have been given pseudonyms. Where the researcher's response to participants is displayed, it appears in **bold** and *italics*. For each quotation, the sector in which the participant worked is indicated.

4.5 Theme One: Knowledge

The first theme identified in these data was *Knowledge* (Figure 8). Some of the questions in the Phase One data collection instrument were purposefully knowledge-related, and the first two sub-themes relate to those (*Understanding body image* and

When does body image develop?). The third sub-theme explores the knowledge expressed by participants relating to their child *Feeding practices* in the early childhood education and care setting.

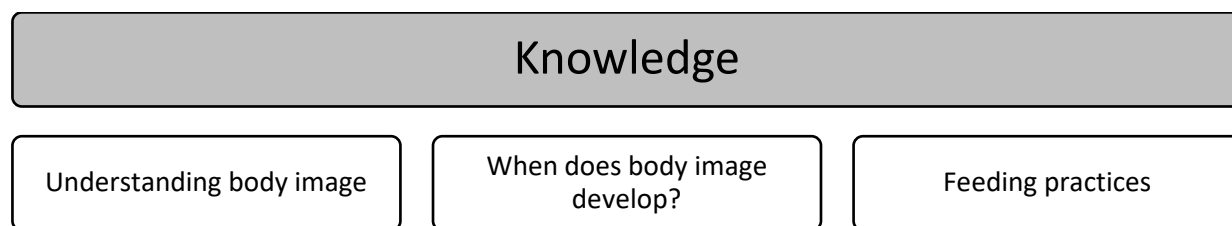


Figure 8: Theme One: Knowledge

4.5.1 Understanding body image

Given the complexity that surrounds body image and its development, it was not surprising that participants expressed a relatively narrow understanding of the broader concept. Body image is generally discussed in negative terms, and positive body image is a relatively recent concept to permeate popular culture or lay understandings (Liechty et al., 2016). In this research, all participants were able to relay their personal understanding of body image, although most spoke about body image in negative terms. Body image was described as something they learned to *cope with* (Danielle, family day-care) or *deal with* (Courtney, long day-care) echoing findings in a recent study of parents who also described their body image negatively (Liechty et al., 2016).

In their recent exploration of American parents understanding of body image (n=30) in preschool children, Liechty and colleagues (2016) reported their findings aligned with the findings of others. The research literature often focuses on the negative connotations of body image, with negative body image also likely to be emphasised by Western culture. Positive body image is a relatively new academic focus, appearing in the academic domain in the last decade (Tylka & Wood-Barcalow, 2015). Some participants claimed that unless one ‘has’ a positive body image, it is difficult to instil in others; highlighting the importance of not only providing resources

to educators about children's body image, but also empowering educators to foster positive body image in themselves. Other participants had not considered body image as a positive construct prior to their participation in the research, and for these participants, the concept had to be explained and introduced by the researcher in relation to professional development and training (discussed later in 4.7 Theme Three: Training).

Only one participant spoke about body image existing on a *spectrum*, stating that it could be *positive, negative or neutral* (Katherine, Kindergarten). This participant had dealt with a significant eating disorder in the past, so her level of sensitivity and understanding of this issue may have been more comprehensive than that of other participants.

Some participants spoke about body image more broadly, stating it was a personal perception of themselves, but also including other factors such as body weight, fitness and health in these definitions, as portrayed in Lindsey's comment:

I would think of how I perceive myself, so, like how I look, how I dress, if I eat healthy, if I'm fit, all of that kind of thing (Lindsey, long day-care).

Although Lindsey gave an accurate description of body image (her perception of herself) she then talked about external factors such as diet, fitness and appearance as central to her body image. Research suggests that each of these factors is influential on women's body image, with higher levels of fitness (Gestsdottir et al., 2016) and an emphasis on positive self-care, such as eating healthy foods, being related to positive body image (Wood-Barcalow et al., 2010).

Some participants did not provide meanings for the term body image at all, but talked about their own body image in a way that represented a social construction of body image ideals, primarily received from external sources. These participants described media portrayals of women's bodies, such as on *glossy magazine covers* (Christine, long day-care) or the influence of *supermodels* on developing body image

during adolescence (Danielle, family day-care) and it has been suggested that the comparison of one's body with models or celebrities influences body image negatively (Bailey & Ricciardelli, 2010) a finding both Christine and Danielle appeared to agree with.

Several participants described the influence of friends and family on their body image, and many participants talked about their experiences from adolescence or childhood which they regarded as detrimentally affecting their own body image development. Educators stated their personal experiences of body image to be instrumental in their understanding of children's body image development in their early childhood education and care services. Several educators also talked about being teased about their body shape or weight during their childhood:

I can speak from my own examples here, because I grew up being called chubby-checker (Erica, Government Assessor).

My nickname from my dad was Blob (Vanessa, long day-care).

Weight-based teasing within families is an important influence on the development of negative body image. For example, research has demonstrated that such behaviours are common in many households (Berge et al., 2016; Keery et al., 2005; Neumark-Sztainer et al., 2010) but that parents who experienced weight-based teasing as children were more likely to intervene and stop these behaviours from occurring (Berge et al., 2015). Some participants also reflected on whether the body image of their parents had influenced their own relationship with food and exercise:

I always remember my mum... she's a larger lady ... Clothes shopping with her when I was little and them [clothes] not fitting how she wanted them to and her sobbing ... I wonder if it [mother's poor body image] did actually have anything to do with the choices I've made (Shannon, family day-care).

Erica, Shannon and Vanessa described their experiences of weight-based teasing and parental modelling of body image concerns as children, and Shannon added that her experiences may have had long term influences on her own *choices*. These findings are echoed in other research, where adults who experienced negative weight-talk as children stated that it shaped the way they spoke about weight in front of their children and grandchildren (Eli, Howell, Fisher, & Nowicka, 2014). For instance, in a study of parents and grandparents (n=49) of children aged three to five years, 51% of participants described how they had been made aware of weight concerns in childhood or adolescence, and each of these participants described this experience in negative terms (Eli et al., 2014). For some, negative experiences in childhood meant that they had had made conscious decisions not to discuss weight with their preschool children (Eli et al., 2014) in much the same way that participants in the current research avoided these kinds of conversations in their early childhood education and care services.

Participants who felt that their own body image was poor and who had struggled with their own weight or with eating disorders, were very aware of their role in the development of body image in young children. Both Vanessa and Danielle described body image concerns and restrictive eating practices that began early in childhood, and talked about ongoing battles with weight loss and diet throughout their adulthood. They specifically expressed their heightened awareness of these concerns, compared to those who had never struggled with such issues:

I think maybe I've got a bit more insight because I've had my own issues with it [body image]. I think if somebody had never had an issue with it, they couldn't understand the underlying feelings that it creates (Vanessa, long day-care).

If they don't have body image problems they probably won't recognise it because it's not an issue that they have to deal with, or they've grown up

with, so I think it boils down to your personal experience... (Danielle, family day-care).

In addition to qualitatively exploring participants' own body image, they were asked to indicate their level of body dissatisfaction using a Stunkard scale (as described in Chapter Three) as part of demographic data collection for Phase One (Table 6).

Table 6: Body dissatisfaction by Body Mass Index (n= 32)

Classification according to BMI	Chose to maintain current body shape		Chose slimmer body shape		Chose larger body shape	
	n	%	n	%	n	%
Underweight (n=5, 15.6%)	1	20	1	20	3	60
Healthy weight range (n=12, 37.5%)	4	33.3	8	66.7	0	0
Overweight (n=9, 28.1%)	0	0	9	100	0	0
Obese (n=6, 18.7%)	1	16.7	5	83.3	0	0
Total	6	18.75	23	71.85	3	9

Surveys were completed by 44 participants, of which 32 (72.7%) provided self-reported height and weight, and chose silhouettes of their current body shape, as well as their ideal body shape. The majority of respondents (72%, n=23) indicated they would like to be slimmer, six respondents (18.7%) would like to stay the same, yet only three respondents (9%) desired a larger body, indicating that more than 80% of the sample experienced body dissatisfaction. Of participants who answered this question, 18% indicated there was no difference between their current body and ideal body, suggesting only one in five participants expressed body satisfaction. This level of body satisfaction is comparable to that found in a large study in Hong Kong, where 63% of 594 women who participated in their study desired a slimmer body; indicating a high proportion of body dissatisfaction (Cheung et al., 2011) and to an American

study (n=310) where all overweight females expressed body dissatisfaction (Neighbors & Sobal, 2007).

4.5.2 When does body image develop?

As well as exploring participants' understanding of body image, participants were asked when they believed body image development began in children. While a range of ages were given, three distinct phases of childhood were identified by participants, including birth to toddlerhood, commencement at formal school, and pre- to early adolescence. Although it is unclear when children begin to assess their own appearance (Brownell et al., 2007) there is some evidence that very young children experience negative body image. Since approximately 87% of Australian children aged four attend early childhood education and care (Baxter, 2015) it is important that educators understand body image development is likely to begin before children attend formal schooling.

While one participant believed body image development started at birth, a premise that remains unsubstantiated in the psychological literature, other participants viewed the development of body image as a process occurring during toddlerhood, which may have underpinned their interest in participating in this research. This was particularly noteworthy and optimistic in terms of the research aims in this thesis, as this demonstrates a synergy between what educators express about body image development and what is known in the literature. That is, toddlers show self-awareness between the ages of two and three years and there is evidence they are able to reflect on themselves as independent objective entities, laying the basis for later self-regulation, self-concept and personal identity (Brownell et al., 2007).

In spite of the plethora of evidence suggesting that children's body image is forming prior to commencement at school (Tatangelo et al., 2016) the majority of participants in this research reported the first years of formalised school was the time when body image developed. Participants observing early school-aged children

reported overhearing children's comments about their bodies and those of others, and construed these as evidence of body image development and increasing body awareness. Some participants believed body image development coincided with increased exposure to large numbers of new people:

*Yeah I think they're exposed to a whole range of people then, aren't they?
When they go to school they see a wide range of children and older children,
and they hear a lot more as well.... Like they'll hear older children say,
"You're fat" blah blah blah... Whereas obviously we don't run around calling
each other fat at day-care! (Angela, long day-care).*

Here, it would appear that Angela believes that older children act as role models of body image-related behaviours, hence the increase in body image concerns once children attend school. Older children are undoubtedly a source of body image role modelling (Birbeck & Drummond, 2006; McCabe et al., 2013) and while educators might not refer to children as fat at early childhood education and care services, there was evidence that participants did comment on their own bodies, their weight and the weight of others. By expressing their own body dissatisfaction or engaging in fat talk in front of children, educators may be modelling negative body image behaviours to children without being aware they are doing so. This is discussed further in 4.6 Theme Two: Sociocultural influences on body image

The belief that young children have no concept of body image, primarily as they do not discuss their bodies in terms of appearance or weight, is a finding corroborated in studies with parents of young children, both in Australia and overseas (Hart et al., 2015; Liechty et al., 2016). In the current research, most educators appeared to be aware that body image changes were noticeable in children as they started school, but few recognised the influence they may be having to body image development prior to that time.

Only three participants believed that body image development was something that began during pre-adolescence or adolescence, a belief shared by almost two-thirds of

the parents in the study by Liechty and colleagues (2016). Participants in the current research were part of the same focus group, and worked in the same school-based Kindergarten. These participants believed that the children they taught in Kindergarten had no notion of body image, and children's lack of awareness of physical characteristics was given as evidence for this assertion. For example, in these participants' experience, Kindergarten children had difficulty identifying the colour of their own eyes, and participants extrapolated this lack of awareness of physical features to a lack of body image awareness.

Body image development did not seem to be a concept these participants had considered previously in any depth, and they expressed some difficulty arriving at an agreed age for body image to develop.

Mmm I've no idea really.... I think maybe seven... eight? Grade seven or eight?

[aged 12 to 13 years in Australia].

Yeah...nine years old and 10 years old I mean....

I've heard of like seven year olds you know... but not known any... this is only like reading though You know like extreme cases ...

(Kelly, Sara and Katie, Kindergarten).

When asked to clarify *extreme cases*, Kelly went on to recount a story she had heard that children as young as seven years could develop eating disorders. Kelly also described a situation where an older primary school child at her workplace was severely restricting her food intake in order to fit into a dance competition costume. When asked how she responded to this situation, Kelly stated that since she previously had been employed at a gym, she gave the child some information on how to *eat properly and exercise* in order to gain muscle mass and lose fat. She did not contact the child's parents, or notify the child's classroom teacher, but *checked up on her a couple of times throughout the term to make sure she was ok*. When asked if Kelly knew where to access professional help for cases such as this, she stated that it was

not something she had ever had to deal with before, and that since she worked with a younger age group in her usual work, she did not think it necessary.

This leap from body image to eating disorders was a common theme to emerge from the interviews and focus groups. Participants often equated the two issues, moving from one to the other interchangeably. Although eating disorders may be associated with body image, they are two distinct concepts and as such should not be confused. Eating disorders are defined as a group of severe mental illnesses associated with a high rate of mortality (Arcelus, Mitchell, Wales, & Nielsen, 2011) while body image is the perception one has of one's self (Cash, 2004). Such confusion illustrated the need for professional development in this area, as did the apparent lack of knowledge about appropriate strategies for dealing with serious issues when they arise. There are very real concerns associated with untrained educators giving dietary advice, and not having the insight to recognise they may need to access professional help, or at the very least, make parents aware of serious eating issues being demonstrated by their children.

4.5.3 Feeding practices

Feeding Practices is the final sub-theme within the larger theme of Knowledge, discussed in this section. While nutrition knowledge of educators has been explored to some extent in the literature (Wallace et al., 2017; Lanigan, 2012) and there has been some examination of the types of feeding practices engaged in by educators (Dev et al., 2016; Lynch & Batal, 2011) the feeding practices of educators in relation to the developing body image of children appeared to be unexplored. Feeding practices have been described as the mechanisms employed to manage children's "food exposure, intake, and eating patterns" (Damiano, Hart, & Paxton, 2016, p. 192) and have the potential to shape children's future eating patterns. The restriction of highly palatable foods, and behaviours which exemplify 'pressure to eat', and 'food as reward' are associated with the development of problematic eating behaviours in young children,

and are reported to be commonly used in early childhood education and care settings (Lanigan, 2012; Wallace et al., 2017).

In this research, participants reported applying 'pressure to eat' on children, although they were more likely to describe it as 'monitoring'. For example, ensuring children ate the 'healthiest' parts of their lunch, such as vegetables, or confirming children had eaten enough so as not to be hungry later:

Yeah ...we obviously monitor how much they eat, and we encourage them to eat as much as they can, like, "Come on you need to eat up your lunch so you have lots of energy for this afternoon" (Angela, long day-care).

Encouraging children to eat according to external cues rather than listening to internal cues has the capacity to negatively influence weight status, and may also prompt the development of disordered eating patterns, or even eating disorders (Damiano et al., 2016). Participants did not mention children's hunger or satiety signals, and there was little mention of cues which could be interpreted as encouraging mindful eating, an omission which may have long term ramifications for children's eating patterns and behaviours (Dev et al., 2016). Compared to individuals within a healthy weight range, overweight and obese individuals are more likely to eat in response to external cues rather than hunger (Nederkoorn, Dassen, Franken, Resch, & Houben, 2015). Since it is believed that these behaviours begin between the ages of three and five years (Remy, Issanchou, Chabanet, Boggio, & Nicklaus, 2015) it is important that educators understand the importance of hunger signals, satiety cues and mindful eating in young children.

Angela describes applying pressure on children to eat their lunch, and such pressure may not only influence children's weight status and eating patterns, but may also send children subtle messages about health and 'acceptable' weight and shape (Damiano et al., 2016). In their study of the Australian mothers of preschoolers (n=330) the authors found that encouraging children to eat foods considered more nutritious than others, such as vegetables, was associated with the desire for an

idealised 'healthy' body. Furthermore, this study showed that coercing children to increase their consumption of healthy foods was associated with restraint in relation to other foods, although in a number of other studies, restraint was associated with a range of maladaptive eating patterns in children (Dev et al., 2016; Gregory, Paxton, & Brozovic, 2010; McCabe et al., 2007).

The focus on one's diet is increasingly ubiquitous in Western cultures, and there is almost a moral imperative to be actively focused on losing weight or maintaining weight, meaning conversations about these topics are viewed as common and acceptable (Engeln & Salk, 2016). This moral focus was described by educators in this research, including Katherine:

There's all the "oh I really shouldn't do this" or "I'm going to have to go for a walk when I get home" or "I shouldn't be eating this" or "I've already had one and I'm going to have another one, naughty me" ...I suspect they just say that to give themselves permission, or because it's the culture, you know it's the way people talk...Not that they're actually too overly concerned about it (Katherine, Kindergarten teacher).

While Katherine noted that eating was discussed this way because she believed it to be a cultural norm, Kristen described how she would often hear people discussing their diets in front of the children at her service. In particular, she noted how others often discussed what they were eating as *"worth this many points at weight watchers"*.

These findings are in accordance with current literature in this area. The preoccupation with diet by educators is unsurprising, since preoccupation with dieting and talk about dieting is ever-present in Western cultures. A study of 176 American educators found that 71% (n=125) of participants were on a diet, 81% (n=142) would like to weigh less, and only nine percent (n=16) believed their diet was healthy (Sharma et al., 2013). When the majority of people who work in the early childhood education and care setting are engaging in dietary restriction (Sharma et al., 2013) it is likely that these practices will form some part of their every-day

discussions. By engaging in 'diet talk' in their workplaces, educators are inadvertently demonstrating these behaviours to be culturally normative, and since children's learning is enhanced through role modelling, imitation, and scaffolding, it is then much more conceivable that children will also engage in similar behaviours. Mary described how a boy (aged 4 years) at her service pointed out his *fat belly* to her while getting changed after outdoor play:

I had one boy say to me before, "Oh my belly is big today", and I said, "Oh crikey, how did you get a big belly?" "Oh I've been eating too many cakes yesterday." And I said, "Oh you better watch the cakes then" ... [Child said] "Oh yeah, I'll do better next week" (Mary, long day-care).

While it is impossible to speculate what the boy meant by his statement, for Mary, her recollection of this conversation indicated she believed the child was equating eating too much of an unhealthy food (*cake*) with being overweight, a seemingly undesirable outcome to be avoided. The equation between eating cake and being fat, subsequently requiring a restrictive diet to reduce the size of his belly, was not discouraged by Mary. In fact, she concurred that *watching the cakes* was necessary and desirable. The child's addition of *I'll do better next week* was understood by Mary to refer to a phrase all serial-dieters are familiar with, and hints that this is a phrase he has overheard, illustrating the power of role modelling and scaffolded learning in a child as young as four years.

Participants reported the restriction of certain foods served to children at their services, as well as restriction of foods children brought from home. While Australian early childhood education and care services are expected to follow the Australian Dietary Guidelines, and therefore limit the provision of discretionary foods (ACECQA, n.d.) this is an area where guidelines may not always be followed. For example:

I know at some schools they say like, "No lollies in the lunchbox", and last year I was working at a school, and this child had a couple of packets of lollies. He was eating them before his sandwich and I was like, "Oh my gosh,

no, you need to eat your sandwich” and he wouldn’t listen to me, so I took the lollies ... I know that teachers have taken it upon themselves to remove packets of lollies and things like that from the children... (Lisa, Kindergarten)

Teachers and educators evaluating children’s lunchbox contents is not a new phenomenon, and nor is it a uniquely Australian one. International research suggests teachers and educators assess the contents of children’s lunch boxes in terms of nutrition (Bathgate & Begley, 2011; Pike & Leahy, 2012; Sweitzer et al., 2010; Zask, Kaye Adams, Owen Brooks, & Frances Hughes, 2012) and levels of parental care for children (Allison, 1991; Pike & Leahy, 2012). The removal of food from lunchboxes by educators has been described in terms of the psychosocial impact it has on children, with children being “praised, shamed or disciplined” according to the contents of their packed lunch (Pike & Leahy, 2012, p. 448).

Not only does discretionary food come into early childhood education and care services in children’s packed lunches, but it is also provided to children in many services. Recent Australian research suggests that there is some confusion relating to the provision of discretionary foods in early childhood education and care services. SNAC members (n=1045) described providing discretionary foods to teach children about the balance between healthy and less healthy foods in their diet, framing these items as “fun” foods, somewhat problematic from a health promotion perspective (Wallace et al., 2017, p. 447). Not all early childhood education and care provide children’s food, so in these services the kinds of food children bring from home to eat may be more difficult to monitor.

In Lisa’s example, a packed lunch was provided by parents. Participants from services where parents provided food frequently expressed concerns about the nutritional quality of food consumed by some children. To ensure or optimise a nutritious food environment at their service, some participants described strategies for talking to parents to inform them of food policy at their service, sending notes home in lunch boxes with suggestions for alternative, healthier foods, and enforcing

rules, such as children having to eat their sandwich first (as described by Lisa). Some participants reported they experienced discomfort when employing these strategies, and one described a confrontation with a child about her *bullying* behaviour in relation to Kindergarten lunches:

She [the child] came up to me and said, "All the children are being bullied by your food ideas." And I said, "Who did you hear saying that?" And she looked ...a bit confused. And I said, "Did a grown-up say that?" And she said, "Mum and dad both said". I was quite thrown by that.... (Katherine, Kindergarten).

This exchange highlights the need for educators to be trained in diplomatic and sensitive communication with both children and parents in relation to food provision and feeding practices. The provision of food to children by their parents is complex and symbolic, with certain foods being ascribed social status (Edwards, Skouteris, Rutherford, & Cutter-Mackenzie, 2013) food being used to alleviate parental feelings of guilt for their children attending an early childhood education and care service (Boyd, 2015) and food forming part of popular culture (Albon, 2005). By establishing open and well-understood guidelines relating to nutrition, educators, parents and children have the opportunity to discuss these requirements without discomfort. The use of nationally-accredited recommendations, such as the Australian Guide to Healthy Eating, could be used to guide these discussions. According to recent Australian research, educators showed limited awareness of these guidelines, and these did not appear to be shared with parents or staff in early childhood education and care (Wallace et al., 2017).

As well as participants restricting the kinds of foods children were able to eat in their services, parents also requested certain dietary restrictions for their children. Participants reported that parental dietary restriction requests were not uncommon, particularly in relation to late afternoon snacks that might interfere with dinner time routines at home. Other participants mentioned parents requesting dietary restrictions, such as children not being offered second or third helpings of meals, or

being offered small portions. Participants seemed comfortable with these requests, and felt that it was reasonable for parents to make them. Although formal guidelines were not mentioned by participants, there were a number of value judgements about certain kinds of food. Many talked about 'good', 'bad' and 'sometimes' foods, and felt this was an appropriate way to discuss food with children, to the extent that these terms were discussed at most mealtimes. Only two participants felt uncomfortable with such judgement being placed on food:

I guess my concerns around body image in children have more been around concerns about their attitudes toward food more than body at their age...Like external kinds of rules, and value judgements being placed on it [food] rather than learning about it [food] as a good source of fuel for our bodies (Kristen, long day-care).

When we talk about food [at her early childhood education and care service] it needs to be neutral. You know there's no good and bad, or whatever...(Katherine, Kindergarten).

Interestingly, both Kristen and Katherine explained that they were recovering from eating disorders, and were the only two participants who discussed judgemental terms to describe foods. Placing value judgements on food has been associated with problematic patterns of eating, with rigid thinking in relation to 'good' and 'bad' foods, increasing feelings of guilt following eating food classified as 'bad', while increasing the appeal of 'forbidden' foods (Alberts et al., 2012). In contrast, it may be better for educators to focus on positive health messages in relation to food consumption, with the concepts of appropriate portions, moderation, and mindful eating being pertinent to children in this age group (Alberts et al., 2012).

Eating with children is one approach where educators are able to promote positive and healthy feeding practices. Lisa, a Kindergarten teacher, who had worked in early childhood education and care services as well as at a primary school, perceived herself to be an important role model for children in relation to nutrition. She described

enjoying the opportunity to eat with the children in an early childhood education and care setting as it facilitated opportunities for incidental teaching:

We used to be encouraged to eat with the children, and be eating what the children were eating as well, and to be seen enjoying healthy meals, talking with the children about how the food helps our bodies. It was spontaneous conversations, as well as your planned mat session [in early childhood education and care service] (Lisa, Kindergarten).

As well as sharing mealtimes with children, some participants mentioned restricting certain types of food, with dairy and gluten being discussed as the most commonly-requested dietary omissions. Participants who reported being asked by parents to eliminate foods in children's diets, stated they were sometimes asked to do so in the absence of food allergy. These restrictions were requested due to behavioural problems parents associated with certain foods; in some cases, as a *cure* for autism, and in others, parental preference that children eat no sugar or food additives. For example:

Gluten-free comes up a lot. As a cure for autism. It's not a cure for autism -it's the way your brain is wired. You can't wake up and not have autism one day. But lots of parents use it as a "cure" or to minimise the symptoms or side effects. (Mary, long day-care).

There was a child we used to have, and he was autistic, so he can't have gluten, can't have this, can't have that, so those we cut out (Courtney, long day-care).

Elimination diets which exclude certain foods are believed to remove certain allergens which react with the body's nervous system. Such diets were first described in 1926, and since then have been described in relation to a plethora of conditions, such as depression, schizophrenia, and convulsions, and more recently, attention deficit hyperactivity disorder and autism (Nigg & Holton, 2014). Although dietary

intervention has increased in popularity, there is limited evidence to support that such diets lead to any change in symptomology (Hurwitz, 2013).

The link between autism and diet is one explored in a range of studies (Marí-Bauset, Zazpe, Mari-Sanchis, Llopis-González, & Morales-Suárez-Varela, 2014). Autism diagnoses are rising, and concerned parents are seeking alternative therapies with little scientific backing, including dietary restriction (Elder, 2008). The symptoms of autism are thought to be exacerbated by exposure to the peptides from gluten and casein. A gluten-free diet was suggested as a mechanism to reduce exposure to these peptides, and to improve behaviour, cognitive, and social functioning of autistic individuals (Millward, Ferriter, Calver, & Connell-Jones, 2008). Despite evidence that the link between gluten and autism are tenuous, it is concerning that this remains a popular diet for autistic children (Hurwitz, 2013; Marí-Bauset et al., 2014).

While some participants felt that parents were justified in these requests, others believed that without a medical diagnosis, such restrictions should not be allowed. Only one participant (a Director) explained that their service would be unable to accommodate a child if she believed the parental request was detrimental to health and wellbeing of the child. This participant was the exception, and most services complied with parental requests, viewing parents as paying customers within their rights to ask for such considerations.

It is likely that the implementation of clear guidelines for feeding practices, food provision and increased nutrition knowledge could help to improve the approach of educators to nutrition and child feeding (Boyd, 2015). Increased knowledge and an understanding of expectations have been shown to improve self-efficacy in relation to positive behaviours (Bandura, 2004) although it is important that educators are encouraged to develop flexible and child-centred approaches to nutrition to prevent future harm to children's relationship with food and their developing body image.

4.5.4 Summary of Theme One: Knowledge

This section has described the first theme identified in the Phase One qualitative data, i.e. Knowledge. It became apparent from Phase One interviews and focus groups that while participants understood the concept of body image, they focused on the negative aspects of this construct. Additionally, most participants experienced some level of personal body dissatisfaction. Their own experiences were meaningful as it seemed that educators' own body image experiences were central to their recognition of body image development in children as an important concept. There appeared to be some confusion around when body image in very young children developed, and some concerns related to feeding practices.

A number of recommendations to improve the knowledge of educators around body image development and for the development of training for educators may be inferred from these findings, and are discussed further in Section 4.8 of this chapter.

4.6 Theme Two: Sociocultural influences on body image

The second theme identified in the analysis of Phase One data was *Sociocultural influences on body image* (Figure 9). Participants identified a range of influences on children's developing body image, including *Parents*, *Educators*, *Peers*, *Gender*, *Media* and *Diversity*. Each of these is discussed in the next section.

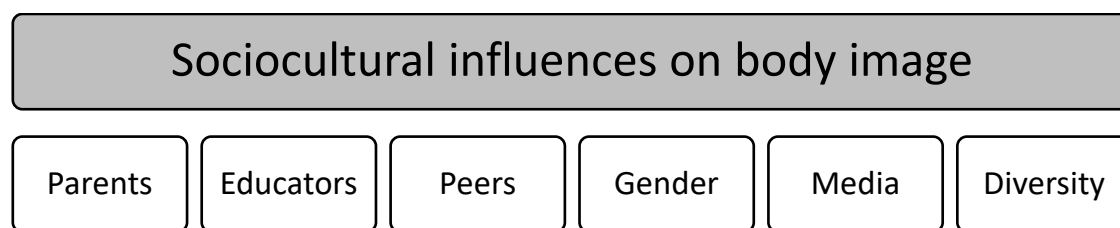


Figure 9: Theme Two: Sociocultural influences on body image

4.6.1 Parents

Parents are a sociocultural influence on a child's body image development, and were mentioned by participants mostly in relation to food provision, fat talk and role modelling. In addition to discussing the role of parents, participants described the ways in which being a parent themselves influenced their understanding of body image development. For example, Lisa and Shannon both talked about their sons, aged two. One described his *fat tummy* after visiting his grandfather, and the other described Shannon's *jelly belly*:

And they say things like, "Look at my fat tummy". My youngest is two and he says things like that sometimes after we've been visiting him [grandfather] (Lisa, Kindergarten).

Actually he touched my tummy this morning...I made the comment "Mum's getting a jelly belly now after that six week holiday"... and he touched my tummy this morning and said "Mummy's jelly belly"(Shannon, family day-care).

Both Lisa and Shannon had described their children listening to others talking about their own large 'tummies'. In Lisa's case, the children's grandfather talked about his own weight, which was then copied by her son. In Shannon's case, she talked about her weight gain, and her son remarked on it later. Intergenerational transmission of anti-fat attitudes could potentially increase body dissatisfaction in children, increase depressive symptoms and influence food intake, thus it is important for both parents and educators to understand their roles in the transmission of anti-fat attitudes.

Not only are anti-fat attitudes transmitted to children, but attitudes towards extreme diet culture and exercise may also be conveyed. Katherine described being approached by a parent at her early years service about a comment made by a child, and indicated that this may have been due to her mother's disordered relationship:

The mum came in to tell me that her daughter [aged four] had gone home and told her that she [the child] needed to lose weight because she thought she was fat...the mum was also regularly talking to me about how she was on different diets every week, and she was obviously quite underweight so I suspected at the time that there might have been an eating disorder there, which would have impacted on the daughter of course (Katherine, Kindergarten).

Katherine's suggestions that this mother's eating disorder is likely to influence the development of an eating disorder in her child is supported by research evidence. In a large Swedish longitudinal study (n=158 677) participants aged between 12 and 24 years were twice as likely to have an eating disorder if their mother had also experienced one (Bould et al., 2015). The findings of Bould and colleagues study highlights the need for parental awareness about the consequences of eating disorders, and indicates that for some families, targeted body image interventions may be helpful.

Parental attitudes towards exercise were also described by participants as influential in the body image development of young children. Lisa, a Kindergarten teacher, stated that many of the parents of children in her class were involved in *weight loss and weight management programs* and that *meal replacement shakes* were brought to school by parents:

I've noticed there's a huge amount of parents who use meal-replacement shakes, and sometimes they're actually putting their children on them as well. Not as a meal replacement but as a meal supplement perhaps? (Lisa, Kindergarten).

Lisa ascribed this practice to the idea that parents might believe that meal replacements were *healthier than ordinary food*. She also referred to the emphasis on parental fitness at her school, and the rise in the numbers of parents in gym-like clothing:

They've got either their really tiny little tight shorts on or the blokes in their tank shirts with their hats on backwards and massive big biceps and I think a lot of the time it's to do with looks rather than being healthy and having a positive attitude (Lisa, Kindergarten).

Though not possible to ascertain what motivated these parents' exercise habits, as described by Lisa, an association between positive body image and exercise as part of a healthy lifestyle has been noted in several previous studies (Piran, 2015; Tiggemann, Coutts, & Clark, 2014; Wood-Barcalow et al., 2010). The motivation for taking part in exercise is an important factor in whether exercise makes a positive or negative contribution to the body image of an individual. If the motivation for exercise is purely appearance-based, or an individual becomes fixated on exercise, exercise may actually be problematic in terms of body image (Homan & Tylka, 2014; Lease, Doley, & Bond, 2016; Tiggemann & Zaccardo, 2015). For example, in a study of 321 American women aged 18 to 51 years, those who exercised more frequently reported more body appreciation, but for participants who exercised to change their appearance, e.g., for weight-loss or to change body-shape, the association with positive body image was weaker (Homan & Tylka, 2014). The focus on weight or bodily changes by those whose motivation for exercise is to change their appearance is believed to reduce their pleasure in exercise, and as such, not be as strongly associated with body appreciation.

Aside from parental modelling of exercise and diet behaviours and attitudes, as described earlier, some participants noted that the food provided by parents was not always appropriate for young children. Courtney and Vanessa attributed this to laziness on the part of parents, stating that fast food restaurants were frequented by families in early morning drop-offs, and that children's snacks were often purchased in petrol stations:

*You'd be surprised how many parents do it though...
Like doughnuts for breakfast.*

And you don't mind that every now and again, as a special treat... but every day? Coming in with hash browns? (Courtney and Vanessa, long day-care)

The frequency of eating away from home has been associated with poor overall dietary quality, higher intake of discretionary foods, and lower levels of parental self-efficacy to prepare healthy meals at home (Morin, Demers, Turcotte, & Mongeau, 2013). From Courtney and Vanessa's comments, it appears that *breakfast* was the meal where discretionary foods were being provided and it may be assumed that time was a factor which influenced parental decisions to provide foods from convenient locations. It appeared that support for parents around food literacy skills such as meal planning, food provision and preparation was needed, and the early childhood education and care setting may be a place where such support could be provided.

As well as questioning the nutritional quality of foods provided by parents, children's fussy eating was also described by several participants. Danielle stated that parents capitulated to children's requests easily, although she was unsure whether this was due to the external pressures of parenting, such as work commitments, or due to a lack of nutrition knowledge on parent's behalf:

I've got children here that are under [age] two that refuse to eat what I've given them. And I'll say something to the parents and they'll say "Oh they won't eat that at home". Pardon? Is it coming from pressures that the parents are under, saying that you need to give them everything that the child wants? Or is it not being educated about food? (Danielle, family day-care.

Studies show that both parents and children play a role in the development of children's fussy eating behaviours. The more parents apply pressure on children to eat, the more likely it is that food refusal will occur (Jansen et al., 2017). Fussy eating is associated with future dietary problems, including being underweight, or supplementing their limited diets with energy-dense foods (Hendy, Williams, Riegel, & Paul, 2010). Hence, it is important that pressuring children to eat be replaced with healthier strategies, such as encouraging participation in food choice and preparation,

and role modelling eating a wide variety of foods. These strategies may be implemented in early childhood education and care settings, thereby having a positive influence on children's developing relationship with food choice.

Parents are a recognised sociocultural influence on children's developing body image, and participants provided a variety of examples around food provision, exercise and children's food acceptance. The Socio-ecological Theory underpinning this research recognises that change made in one system, may have multiple flow-on effects in other systems.

4.6.2 Educators

The next sub-theme to be identified was *Educators*. The educators who participated in this project were able to give numerous examples of behaviours with the potential to influence the body image development of young children, including fat talk; parental talk about diet, exercise; weight; and body shape. Evidence shows that such conversations are widespread amongst women, and while they can be both negative and positive (Tompkins, Martz, Rocheleau, & Bazzini, 2009) participants in this research universally described negative instances of fat talk.

When asked if educators talked about their bodies and food in the presence of children, a small group of participants were adamant that this did not happen in their service, since they were too busy to talk about things other than their work. Other participants stated that educators understood these conversations were inappropriate to have in earshot of children, and confirmed that although these conversations certainly occurred, they were confined to staff-only areas at their service. When asked if their services had implemented a policy specifying the inappropriateness of fat talk, all but one said the decision not to engage in this behaviour was an implicit agreement, and a shared understanding that such conversations were detrimental to children. Only one participant stated that since she considered such talk as unacceptable at her early childhood education and care

service, she had made an explicit rule about this conduct, and shared this with all new staff.

The majority of participants, however, stated that fat talk was common at their service, and was so entrenched in women's behaviour that it was considered normal:

Oh absolutely. It's as common as talking about the weather and it's never going to change (Mary, long day-care).

Some participants lamented such conversations as they believed they were inappropriate or damaging, both for children and for educators. Other participants were able to provide very specific examples of fat talk from staff at their service, and relayed them with some mirth. In a small group interview with Courtney, Vanessa and Maria (long day-care) each of them took turns giving examples of fat talk they had overheard, in the earshot of children in their 'kindy room'. These examples were viewed as harmless fun, although in one case, Courtney realised on reflection, it was an inappropriate comment for children to hear:

Like you [said]... "Don't look at my fat legs but I'm going to show you this".

You've said it in front of all the kids. They're all sitting around you...

She says "Look how swollen my knee is "[pointing to knee].

"This one is just fat" [pointing to other knee].

"Whoops "(Courtney, Vanessa and Maria, long day-care).

It is not surprising that educators reported high levels of negative fat talk in their workplace, as women of all ages, ethnicities and weight status have been found to regularly engage in fat talk (Engeln & Salk, 2016). Frequent, ritualised conversations about the difference between the 'idealised' female physique and the average female physique are reported regardless of age. Heavier women report more pressure to engage in fat talk (Engeln & Salk, 2016; Martz et al., 2009) so as not to appear narcissistic (Martz et al., 2009) or to acknowledge the discrepancy between their own weight and the cultural ideal (Barwick, Bazzini, Martz, Rocheleau, & Curtin, 2012).

High levels of fat talk have been associated with high levels of body dissatisfaction, disordered eating and guilt. In comparison, those who engaged in positive body talk were perceived by others as having more positive personality traits than those who engaged in negative fat talk (Engeln & Salk, 2016).

Courtney was able to provide an example of her own conversations held in the presence of children, and recognised that not only was she sending children messages about the unacceptability of her own body, she was modelling fat talk:

I need to remember that I'm not to say things like that in front of the kids. [Be]cause I may not be saying it to them, but that's showing them that its ok not to like yourself. Do you know what I mean? (Courtney, long day-care).

The influence of educators' fat talk on very young children does not appear to have been explored, although the influence of parents engaging in negative body talk has been investigated. For example, in a sample of 356 adolescent girls, parental fat talk has been associated with girls' reduced body satisfaction, attempts at weight loss and binge eating (Neumark-Sztainer et al., 2010). Such findings demonstrate the need for educators to increase their awareness of fat talk in the presence of young children, especially in light of the negative outcomes that may be evident in older children (Neumark-Sztainer et al., 2010).

According to both the Sociocultural and Social Cognitive Theories, children learn through imitation, role modelling and expectations of outcomes (such as if you eat 'bad' foods you will get fat). Although it is likely that educators model behaviours related to body image (perhaps without realising) during the course of their day, they may not be aware of the extent to which this influences body image development. Despite research suggesting that the role of educators in the body image development of young children should be explored (McCabe et al., 2007; Su & Di Santo, 2012) it appears that this role has not been previously examined.

It is worthwhile exploring educators' own understanding of their role in children's body image development. While role legitimacy and adequacy have been explored in some detail in relation to health professionals such as nurses and counsellors, (Fitzgerald et al., 2009; Nolan, Deehan, Wylie, & Jones, 2012; Skinner, Roche, Freeman, & Addy, 2005) there appears to be a lack of literature in relation to educators. Role adequacy is the term used to describe a practitioner's self-efficacy to perform their role, while role legitimacy describes the perceived boundaries of their role. Although many participants in this study recognised that educators have a legitimate role to play in the development of children's body image, some believed this was relative to the amount of time spent by children in early years' services:

I mean the more time that a child spends at day-care the more influence that their experiences there will have on them...if they have a particularly close relationship with an educator, then they're probably going to be more influenced by that person. ...it's just something that they pick up from the way that we talk about our bodies (Kristen, long day-care).

Kristen exhibited high levels of awareness in relation to an educator's role in the development of children's body image, and noted that although their role was subtle, behaviours such as fat talk or negative attitudes toward food were being demonstrated to children by educators on a daily basis.

Another behaviour frequently discussed by participants in this study was praise awarded to children in relation to their appearance or clothing, a behaviour also noted in Liechty and colleagues study of parents of preschool aged children (2016). Katherine noted that she believed this behaviour to be so culturally-ingrained that an educator may be unaware of their actions, or that the behaviour was problematic. Katherine reported that in her early childhood education and care service, giving praise related to appearance was a behaviour she was attempting to eliminate:

[Educators at Katherine's service are] trying as much as possible to praise other strengths [rather than appearance]. "I can see you've worked really

hard on that, well done” rather than, “You’re looking really pretty today”. Which I think can take a bit of effort to change...but if they’re [educators are] aware of the impact then I think that will help (Katherine, Kindergarten).

Both Katherine and Kristen were able to discuss the role of educators in children’s body image development at length and to give numerous examples of educator behaviours they believed needed to change. As noted previously, both Katherine and Kristen had experienced eating disorders, which may have increased their awareness of these issues. Kristen acknowledged that she was sensitive to the way that others behaved in relation to food and their bodies, but felt that it was something children could not be protected from:

[There are] some very unhealthy and distorted attitudes around food and bodies in general [society] ...It’s not something that you can shelter them [children] from because they’re in this world...It upsets me, but it doesn’t surprise me (Kristen, long day-care).

Katherine commented further that she believed her personal experiences and intimate knowledge of the harms of body image dissatisfaction and disordered eating had been the catalyst for her participation in this project, and furthermore, her experiences also underpinned her teaching:

I mean, I’m on a mission personally. So I’m not your regular Kindergarten teacher because I’m trying to educate these little people to [develop positive body image and a positive relationship with food] then take it home to their families and change the world. That’s what I want to do (Katherine, Kindergarten).

In contrast to Katherine and Kristen, other participants indicated they had not considered their role in body image development until they saw recruitment material for this study either on Facebook, in industry newsletters or heard about it from others in their networks:

Well, it was only when I read the initial study that I started thinking, how often us educators, talk about weight issues, dieting, exercise plans, and it's all the time, every day. Since that day I've heard somebody talk about, "Oh I'm just popping to the gym," "I'm trying to drop down an extra two kilos". Every day, someone has had a conversation...in the vicinity of the children (Mary, long day-care).

Without awareness of their role and the kinds of behaviours that may influence the body image development of young children, it is unlikely that educators will change or monitor their own behaviour, rendering promoting increased awareness an important aspect of this research project. Mary described examples of fat talk, dieting talk and exercise in the vicinity of children, and all were described in multiple interviews and focus groups, and are common features of the broader community.

In addition to educators modelling behaviours, both positive and negative, several participants provided examples of uncertainty in how to respond to children's comments or behaviours. For example, Katherine described a situation where a larger woman visited their Kindergarten, and a number of girls commented on her size, and began laughing. Katherine's response was to take this opportunity to talk to the Kindergarten girls about *fat*, its role in our bodies, and the fact that all people have some:

I just thought, "Oh well here's my incidental teaching moment" and went into the group of children who were there, and said "Everyone's body has fat." I just tried to do a very basic anatomy class. And so all of them started saying, "Oh no I don't: look". And they were all lifting up their tops and showing me their bellies, "See look there's no fat" "I don't have fat either". And I said, "No we all have fat, we have to, I do, all the grown-ups do, you know, everyone does, it's part of being a person". I think it was a bit lost on them but I just had to kind of get it in there, [be]cause again, they use the word fat as a kind of generic thing, and, um, it bothers me (Katherine, Kindergarten).

This example provides some evidence about the difficulties of discussing complex issues, such as body composition, with young children. Katherine recognised that her attempt was *a bit lost on them*. Despite her good intentions, to normalise fat rather than demonise it, Katherine's attempt to engage in an unplanned conversation may have confused the children rather than providing clarity about why the human body stores fat.

Katherine's aversion to the use of the term *fat* is also worth noting, as similar research (Liechty et al., 2016) reported that parents of preschool children also avoided using terms such as *fat* or *thin*, as they tried to avoid drawing children's attention to their bodies, thinking this would be protective against negative body image development. Their research suggested that not only is this avoidance of conversations about children's bodies, it is actually a missed opportunity to foster positive body image by actively seeking opportunities to focus on body acceptance and appreciation.

Some participants in this study talked about bias against fat children, in particular, bias shown by educators. Participants stated that the diet of an overweight child will be more closely scrutinised than the diet of a thin child, and the overweight child would be encouraged to increase levels of physical activity. While encouraging a healthy diet and physical activity is an appropriate behaviour for educators in relation to all children, restriction of food intake or an unhealthy approach to exercise could have negative consequences for that child in the future:

You know, they'll find that there's an overweight child (that's a terrible word) or a child that's a bit bigger and they'll [teachers will] make them run more. So they've almost automatically got it in their head because the reason they're like that is because they eat the rubbish food and they don't exercise enough.... You know and they just automatically think it's [be]cause they're lazy and they don't want to walk, but there are lots of different reasons why (Danielle, family day-care).

Danielle noted that there were *lots of different reasons why* a child might be overweight, and that educators might only consider factors such as eating and exercise. It is increasingly recognised, however, that there are a range of social, structural and genetic influences that are at play in determining the weight status of children (Bacon & Aphramor, 2011) although it appears these may not be well understood by some professionals working in the early childhood education sector. While Danielle appeared to have a broader understanding of the causes of obesity, she still felt that to describe someone as *overweight* was *terrible*, illustrating the entrenched stigma associated with weight status.

The prevalence of anti-fat attitudes is well established (Burmeister & Carels, 2014; Musher-Eizenman, Holub, Miller, Goldstein, & Edwards-Leeper, 2004; Puhl & Latner, 2007; Ruffman et al., 2016) and may be closely linked to the understanding of obesity by individuals. For example, those who believe that obesity is within an individual's control are more likely to have an anti-fat bias, while those who attribute negative characteristics to obese children, such as being lazy or less intelligent than their peers, are shown to hold anti-fat biases (Lynagh et al., 2015). A greater understanding of the myriad causes of childhood overweight and obesity may reduce anti-fat attitudes, and limit the differential treatment of overweight or obese children. Professional development for educators addressing these factors appeared to be warranted.

4.6.3 Peers

Sociocultural Theory cites peers as one of the three most important influences on the development of body image. It was, therefore, not unexpected that the influence of peers was described by participants and emerged as a sub-theme in this research. Others described weight-based teasing and the difficulties associated with dealing with this issue appropriately.

Some participants noted that heavier children were more likely to comment on their own bodies rather than the bodies of others. Allison noted that children who

talked about their own bodies did so in a self-deprecating manner, with the intent of being humorous. She mentioned that this was:

...the Australian way where we joke about issues that are hurtful for us, but if we joke about it, other people are going to think that it's ok...So you know that they are trying to joke, but you can tell that they're not feeling ok with it (Allison, long day-care).

The use of self-deprecating humour has been described as a coping mechanism for children who are socially isolated, outcast or victimised by their peer group (Fox, Hunter, & Jones, 2015). In an English study (n=1234) of children aged 11-13 years, self-defeating humour was associated with past victimisation, and its use also distanced the child from others, as well as setting them up for future victimisation (Fox et al., 2015). The link between this style of humour, social isolation and victimisation may not be immediately obvious to educators, and raising their awareness in this area could have long-term benefits for children.

While Allison suggested that overweight children were likely to use their weight to make fun of themselves, other participants noted that overweight or obesity was something that children found funny in general:

Yeah the kindies they mention things a lot. Like they'll say, "that girl has a fat stomach". They'll start laughing at someone if they're a little bit bigger, or just comment like, "They must eat too much food", "They've got a big tummy" (Alicia, long day-care).

The comedic value of being overweight is culturally endorsed. Overweight and obese characters are regularly portrayed in the media as less intelligent, having less will-power, and a reduced likelihood of romantic interests (Domoff et al., 2012). Weight-related humour and ridicule is frequently portrayed on television and in cinema (Burmeister & Carels, 2014) including content designed for children (Eisenberg, Carlson-McGuire, Gollust, & Neumark-Sztainer, 2015). This sociocultural

sanctioning of anti-fat attitudes encourages those who are overweight or obese to internalise stigmatising messages related to weight (Burmeister & Carels, 2014). This is concerning since weight-related stigma is associated with poor health outcomes including anxiety and depression, disordered eating and exercise (Puhl & Heuer, 2010).

Several participants in this study reported that children would also make comments about overweight or obese adults, sometimes to be unkind, but frequently as observations or with questions attached (such as, “*Do you have a baby in your tummy?*”). The response of an educator to a child’s comments or curiosity has the potential to turn an innocuous comment into a potentially harmful issue, illustrating the importance of educators both understanding their role in the development of body image, and also in the development of children’s anti-fat attitudes.

While participants almost unanimously reported that weight-based teasing of children by other children was not an issue in their services, it was mentioned that overweight or obese children sometimes struggled to keep up with active play:

So there was a girl last year who as a three-year-old was wearing a size six clothing ...she was a lot bigger and would struggle to do fine and gross motor activities, and I would see the other children watching her and looking at her and going, “Why can’t she do that?” ...they [the children] would go and play...she would just remove herself from the group in different settings and seek adult interaction instead (Mary, long day-care).

Studies have shown overweight and obese children may have inferior gross (D'Hondt et al., 2013) and fine motor development (Gentier et al., 2013) compared with their non-overweight and obese peers, and this difference appears to increase as children grow and develop (D'Hondt et al., 2011). In a study of 142 Australian children with a mean age of 10.8 years, it was reported that overweight children performed worse in gross motor activities, and their perception of their own competence was also much lower than that of other children (Southall, Okely, &

Steele, 2004). The authors speculated that overweight and obese children's self-perception of physical incompetence may be associated with their avoidance of physical activity. Therefore, they suggested that fundamental movement skills be taught in a range of curriculum activities, and that educators are trained in providing positive feedback and reinforcement, as well as designing developmentally-appropriate opportunities for physical activity.

It is significant to note, however, that the majority of study participants in this research reported children did not discuss their bodies, or the bodies of others. The exception to this blanket statement was the comparison of height between children, something that many participants discussed as being very important to children in this age group:

[Children compare] whether they're bigger or smaller than somebody but that's generally meaning height or age, not physical size. I can't think of any physical things that they [children] talk about (Holly, long day-care).

We've got a few children who just go and stand in front of the mirror and watch themselves doing things. They flex their muscles, and they see the difference in things, and they put two right next to each other and they see who's taller, who's bigger, all that (Courtney, long day-care).

The importance of relative size to young children is confirmed in the literature with height reported as particularly important to male children (Birbeck & Drummond, 2004, 2006; 2009). In their 2006 study, the authors further reported that larger bodies were perceived by the boys in their study (n=22 boys, n=25 girls, aged five to six years) to be more physically capable, although they were also perceived to be more likely to be more physically intimidating. When provided with a figure drawing depicting children of various body sizes, both girls and boys stated they would not invite the larger figures to their birthday party and they believed the larger figures were more likely to be bullies than the smaller figures.

Discrimination against overweight children by peers and the wider community is reported extensively in the literature (Musher-Eizenman et al., 2010; Musher-Eizenman et al., 2004; Sikorski et al., 2012) although participants in this study considered the children they worked with did not discriminate against one another according to looks, and were encouraged by educators to be inclusive. Others noted that children were unaware or unfazed by how they or their friends looked. Some attributed this to the innocence of young children:

I look at Kinder[garten] as the last domain of cute and little. Everything is still pretty innocent, they don't give two hoots really about the others or how they're looking or what they're wearing or whatever, as long as they're playing with each other (Andrea, Kindergarten).

The 'innocence of childhood' was a factor described in a recent study of early body image development by Liechty and colleagues (2016). In their study, Liechty and colleague's participants (parents n=30) believed preschoolers were too young to develop body image, despite several indicators of body image development in their children. Of these parents, 63% said they did not have any strategies to encourage positive body image development. Other parents, however, reported strategies such as telling children they were cute, beautiful or pretty. While weight was not praised directly by those in this sample, participants reported that some parents praised children for being tall, and others tried not to use words such as 'fat' in front of their children.

4.6.4 Gender

Gender was a further sub-theme to emerge in this research. Despite the apparent innocence of young children's comments alluded to by participants in this research, the way children talk about one another appeared to be influenced by gender. Participants noted that, in their experience, girls were more likely to comment on the weight of another child than boys:

We had a little girl here who was quite big. It was mainly the girls; I can't think of a little boy who did it. They'd [the girls would] say she was fat...(Alicia, long day-care).

The tendency of girls to focus on 'fatness' in this research was also consistent with other studies, where it was reported that young girls tended to focus on their weight or 'fat tummies' (Birbeck & Drummond, 2006; Drummond et al., 2009; McCabe, Mellor, & Mealey, 2014) while boys tended to focus on muscles, height or size, with physical dominance being seen as central to power and dominance over others (Birbeck & Drummond, 2006; Drummond et al., 2009). Work by Drummond and Drummond (2015) described that the comparison of a boy to a girl was found to be distasteful to the preschool boys in their study. The children in Drummond and Drummond's 2015 study saw boys as bigger, more powerful, and faster than girls, and therefore better than girls.

In addition to girls' emphasis on weight, girls' interest in gender stereotyped play, such as 'princess-play' was repeatedly described by participants. Jamie's comment (below) illustrated the influence of the beauty ideal in these role-playing games:

With the girls, it's all about being the prettiest, because, you know, they're all looking up to the princesses, and when they're playing a game, like dress-ups they all want to be the beautiful one, they all want to be the queen or the princess, and you can be the maid or the doctor, but I want to be the princess. ... Is that in-built in them? (Jamie, family day-care).

The frequency with which 'princess-play' was described by participants may be a symptom of the so-called "hyper-feminised princess culture" (Barwick et al., 2012, p. 896) which promotes gender specific toys for girls. While some researchers see this play as a standard part of a traditional childhood, others view it as a symptom of the far-reaching media and marketing influence on young girls (Forman-Brunell & Eaton, 2009). While studies have shown that exposure to Disney princesses was not

associated with girls' negative body image (Hayes & Tantleff-Dunn, 2010) girls with lower body esteem tended to engage more with Disney princesses .

Princess culture was not the only gender-specific play mentioned by participants in this research, with superhero culture also described, especially in relation to muscles:

Yeah but that's a super hero thing ...

Yeah it's not something I hear about in girls but boys yeah. "Yeah I've got big strong muscles" (Courtney, Vanessa and Maria, long day-care).

Boys [say], "I'm going to drink that green smoothie [be]cause I want to be like the hulk. I want to have muscles like the hulk," or "My daddy's got big muscles." And then they pull a little pose (Shannon, family day-care).

The inclusion of superhero culture reported by participants in this research indicated that both young boys and girls are socialised to look or behave a certain way. A recent American study of 134 preschool children (three to six years of age) found that boys watched superhero programs twice as often as girls, and viewing was associated with higher levels of stereotypical gender play, as well as an increase in weapon play (Coyne, Linder, Rasmussen, Nelson, & Collier, 2014). In contrast, boys who watched Disney princesses were more likely to engage in prosocial play while girls who watched superhero programs were more likely to engage in weapon play than those who did not (Coyne et al., 2016).

In terms of muscularity however, it is reported to be difficult to assess the influence of the muscular ideal portrayed by superheroes on young children, though there is evidence to suggest that action figures and superheroes have increased the body dissatisfaction of adolescent boys (Dour & Theran, 2011) and young men (Barlett et al., 2005). The association between masculinity and muscularity was made repeatedly by participants in this study, and Shannon's intimation that boys associated certain foods (i.e. the *green smoothie*) with muscularity illustrated this.

Attempts by young men to boost their muscularity are associated with restrictive intake of some foods and frequent eating of others, such as protein, as well as liquefying or blending foods for easier intake (Griffiths, Murray, & Touyz, 2013). While it is unlikely that children in Shannon's family day-care were actively attempting to increase their muscle mass, the comments may indicate that even young children are aware of the connection between dietary supplementation, such as the use of protein shakes, and muscularity. In an Australian study of 1148 males (aged 11-21 years) the use of dietary supplements was associated with poor body image, as well as with a more lenient view of the use of drugs in sport (Yager & O'Dea, 2014).

In this research, participants described harnessing children's existing interest in muscle development to encourage them to eat fruit and vegetables, with *growing big and strong*; a phrase used and repeated by several participants:

They do talk about muscles a lot, but that is obviously something we encourage too. We talk about eating healthy food to grow big strong muscles (Angela, long day-care).

*A few about muscles... but I guess we kind of encourage that. By you know, "Eat your vegetables and you're going to get big and strong" **What age are they when it's all about the muscles?** Two or two and a half? Even younger? (Courtney, Vanessa and Maria, long day-care).*

While participants reported that both boys and girls described wanting to *grow big and strong*, several participants stated that muscle talk and physical activity to promote muscle growth was more common in the boys they taught:

Mostly boys but we all get involved because I do a little bit of weight training and we've got little light weights that we carry on with, and the girls do it as well as the boys, but the boys, it's their thing. They enjoy it better (Shannon, family day-care).

The children often talk about their abs or their biceps, as in, "Check out my guns" type thing, and you do see the children who want to do push ups and want to do exercises so they get really strong and fit. It's a small percentage though, but it stands out strongly because they're so young to be talking about it like that (Lisa, Kindergarten).

While physical activity has been associated with the development of positive body image by a number of authors (Frisén & Holmqvist, 2010; Tylka & Wood-Barcalow, 2015; Webb, Wood-Barcalow, & Tylka, 2015) weight lifting has been associated with body dysmorphia in boys, and even harmful drug use in older adolescents (Smolak, Murnen, & Thompson, 2005; Smolak & Stein, 2010; Tiggemann, Martins, & Churchett, 2008). By the age of four years, boys have expressed concern about their muscle mass, and are reported to have expressed interest in changing their bodies (Dunphy-Lelii et al., 2014).

Encouraging boys to engage in weight training has been compared with encouraging dieting in girls. Both are methods employed to alter the body to fit the cultural beauty ideal of thinness in girls and muscularity in boys (Smolak & Stein, 2005). While it is appropriate for educators to promote physical activity to encourage development of positive body image, the complexity of body image in men and boys means that the kinds of physical activities educators encourage need to be carefully considered. Activities such as weight training have the potential to increase physical comparisons with others, and may reinforce the importance of the muscular ideal, thereby triggering negative body image (Smolak et al., 2005).

The body image development of very young children is likely to be influenced by their gender, with boys seeking a muscular ideal, while some girls may be influenced by the ultra-feminine princess culture. The data from Phase One interviews make it apparent that participants are aware of these influences, and it appears these differences are being harnessed and used to encourage

children's participation in physical activity, food choice and consumption. While children's engagement in healthy behaviours is imperative, it is important that this engagement is not overstated as this may be to the detriment of their positive body image. Increasing educators understanding of gender and its role in health and wellness therefore seemed crucial.

4.6.5 Media

The media, most specifically television and movies, were discussed by many participants in this research as playing a role in the development of body image in young children and subsequently emerged as a sub-theme in this research. Some noted that the amount of time spent in these activities was detrimental to exercise levels and weight, and family day-care providers also noted that the practice of *sitting children in front of the TV* was common, and limiting TV in a family day-care setting was not usual practice.

Participants expressed concern relating to the depiction of cartoon characters and actors in children's media, and described how characters in children's television or movies mostly conformed to society's notion of culturally ideal appearance, dress and interests:

I mean you put on a Disney movie and then I'm thinking, "Well these girls are getting around in not much [clothing]" ... and they do bang on [talk] a lot about boyfriends in Disney movies (Andrea, Kindergarten).

While Disney princesses and super heroes were discussed in the preceding section about gender, the distinction in this section, in terms of media portrayals, is that there has tended to be a dysmorphing of characters' physical features. A 2005 study of animated characters appearances, from 1930 to the mid-1990s showed that there was a significant increase in the prevalence of characters who appeared thin or underweight over this time period, and there was also a significant decrease in the number of overweight animated characters (Klein & Shiffman, 2005). Female

characters were more likely to be depicted as thin than male characters, and underweight characters were more likely to take part in prosocial behaviours than overweight characters. Somewhat counterintuitively, thin characters were more likely to be depicted eating than overweight characters, but when overweight characters were depicted eating, they ate what could be deemed 'junk foods'. Since children attribute human characteristics to animated characters from as young as 12 months old (Kuhlmeier, Wynn, & Bloom, 2003) the role of animated characters in shaping anti-fat and nutrition related attitudes should not be underestimated.

In contrast, other focus group participants noted that television could be a place to break with stereotypes, with participants giving examples of characters who did not fit the idealised body type:

Yeah well if you look at Dora she's not exactly thin... (Courtney, long day-care).

The *Dora* referred to here is *Dora the Explorer*™, the main character in an animated television show of the same name (Ryan, 2010). She is a bilingual cartoon character, whose appeal is broad: the animated series is broadcast in more than 70 countries and has an estimated viewing audience of almost nine million children aged between two and eleven years (Guidotti-Hernández, 2007). While Dora's appearance in relation to the cultural beauty ideal does not appear to be the focus of research literature, her rejection of gender stereotypes in relation to her behaviour (Ryan, 2010) empowerment of a minority group (Latin-Americans in the United States of America) (Guidotti-Hernández, 2007) and of preschool children (Ryan, 2010) are often discussed.

While Dora's influence on body image development has not been extensively described, the outcry over toymaker Mattels' attempt to give Dora a 'makeover', i.e. to make her look more like a Disney princess with long hair, a small waist and jewellery, caused public outcry (Lemish, 2010, p. 115). More than 13000 signatures were delivered to Mattel demanding Dora remain the same, as the market is already awash

with 'sexualised' 'fashionista' dolls. Parents asked that if a new Dora doll was to be created, it stay true to her spirit of adventure, and not limit the horizons of the girls who play with her (Lemish, 2010). This reaction by parents demonstrates that even if research literature on Dora as an influence on body image is lacking, parents saw her as a role model worth keeping.

In addition to children's television programming, advertising was mentioned by several participants as a means of reinforcing the thin cultural ideal. The most common theme was the increasing prevalence of advertising in our culture, as explained below:

I do think the media has got a lot to do with it as well... that idea around how many visuals they'll see per day compared with 30 years ago, 40 years ago, it's kind of subliminal advertising, I think everything just kind of gets absorbed and reinforced (Katherine, Kindergarten).

Oh well that's ads. Telling us what's pretty. That starts with Barbie™ and it starts with Frozen (Kelly, Kindergarten).

As pointed out by Katherine, the number of images children are exposed to has increased, as has advertising specifically targeting children (Buijzen, Valkenburg, & Valdivia, 2012). The age when children are able to differentiate between programming and advertising is disputed, and studies have offered different opinions about the age when children can distinguish between advertising and content (Rich et al., 2008). Watkins and colleagues (2016) assert that preschool children are developing the cognitive ability to differentiate between advertising and programming between the age of three and six years, although Gunter and colleagues (2008) stated that even early adolescent children have difficulty fully understanding the persuasive intent of advertising. Furthermore, Moses and Baldwin (2008) argued that the ability of pre-schoolers to discriminate between programming and advertisements is dependent upon the level of exposure to television, as well as the difference in the form of advertising and content, the message of the advert and accompanying partitions between the

advertisement and the content. Preschool children appear to recognise that advertising intends to sell products, however, they experience difficulty in understanding its deceptive or persuasive intent (Rich et al., 2008).

One participant in this research mentioned the need for media literacy to begin in preschool, and felt that this would be a worthwhile area for intervention material to target:

It's about understanding how the media works and that its actually feeding you unhelpful messages... to have something that educators or parents can use, talking about, "Sometimes you see things on TV that aren't true", or "They're doing that because they want you to buy..." And I don't know enough about, cognitively, how much they're [children are] able to understand, but if there was something... if they understand, at a very basic level, what's on TV or on the computer isn't factual, then that would be a good thing to get across as well (Katherine, Kindergarten).

In studies of the effect of educative measures to improve advertising literacy on children, it appears that by the age of eight years, children are able to understand that the intent of advertising is to sell products, and by age 11 years they were able to understand its persuasive intent (Rozendaal, Lapierre, Van Reijmersdal, & Buijzen, 2011). Other research has suggested that formalised teaching of advertising literacy to children is not appropriate until age 12 years (Buijzen et al., 2012). Discussion of advertising content with parents and caregivers is, however, believed to be protective prior to this age (Buijzen et al., 2012). Hence, while increasing the media literacy of preschool children may not be an easy task, ensuring that parents and educators understand how media influences body image is worthwhile.

Katherine's mention of children's exposure to advertising *on the computer* is interesting, as computers and gaming platforms are increasingly used by marketers. Not only are preschool children exposed to advertising on television, but increasingly to advertisements on hand-held devices and personal computers. While Australian

information on the use of digital technology by preschool children is very limited (Danby, Davidson, Ekberg, Breathnach, & Thorpe, 2016) there is a wealth of data indicating that on a global scale, preschool children's engagement with the internet is rapidly increasing (Holloway, Green, & Livingstone, 2013).

This uptake of technology by young children has been harnessed by those marketing products for this age group. 'Advergimes', an increasingly widespread marketing tool, have been described as advertisements with brand logos and messaging embedded in games, specifically designed for use by very young children (Hudders, Cauberghe, & Panic, 2016). This form of advertising not only encourages children to engage interactively with the brand, but it further blurs the line between content and advertising, and decreases children's ability to critically analyse its content. Additionally, Advergimes were shown to be more effective than traditional advertising in encouraging children to request the advertised product, and traditional techniques of increasing media literacy were also found to be less effective in relation to advertisements presented as games. Many Advergimes specifically advertise energy-dense foods, appealing to very young children (Emond, Lansigan, Ramanujam, & Gilbert-Diamond, 2016; Lee, Choi, Quilliam, & Cole, 2009), and only three percent of Advergimes analysed in a sample of 251 games were found to advertise healthy food choices (Lee et al., 2009).

Although there is some ambivalence in the research literature about the age when it is appropriate to provide media literacy education to young children, it is apparent that both educators and parents have a role to play in encouraging children to develop media literacy skills in childhood. Since educators have the potential to interact with parents daily, and may be seen as a source of credible child health information by parents, providing educators with media literacy information seemed warranted.

Changes in the media landscape are one of several cultural shifts facing educators. The diversity of Australia's population is also undergoing change. The next section

discusses diversity, both cultural and in relation to disability, and its influence on body image in young children.

4.6.6 Diversity

The composition of Australian society has changed somewhat in recent times and *Diversity* was a sociocultural influence frequently mentioned by the participants in this research. Australia is a multicultural society, with almost one-third of all Australians born overseas (ABS, 2017a) and the state of Western Australia is experiencing growth in migration at a higher rate than other states (ABS, 2017b). Diversity of language, cultural practices and skin colour were discussed by participants. Most discussion around diversity was not related to body size, although, here Vanessa gives an example of a larger student taking pride in his size in comparison to the other children:

And he [the child] comes from a Maori background, and they are just generally bigger people. He talks about the Haka. You've got to be strong for the Haka (Vanessa, long day-care).

Here, Vanessa recounted that although the child she described in this exchange was heavier than others in his age group, his cultural identity meant that he was happy to be so. The child described needing to be strong to dance the *Haka*, a Maori war dance, familiar in Australian culture since it is performed by New Zealand sporting teams (Bergin, 2002). The familiarity of the *Haka* in Australian culture may help educators to discuss this openly with children, given acknowledgement and celebration of cultural differences by educators are suggested as important in building positive self-concept in children with diverse cultural backgrounds (Boutte, Lopez-Robertson, & Powers-Costello, 2011).

The focus on multiculturalism which occurred with the introduction of the National Quality Framework for Early Childhood Education and Care (ACECQA, n.d.) was viewed positively by many participants. Some stated that children were generally

accepting of diversity, and described the increased focus on multiculturalism in the curriculum in positive terms:

In the last five years, a lot of children are really open to everybody... that has come into the curriculum, like encouraging multiculturalism and all that kind of thing, whereas before, it was an unknown. Whereas now it's just a given. So much better (Lyndsey, long day-care).

Others noted that in terms of developing body image, differences in physical appearance contributed, but were less dependent on a child's weight status and more reliant on diversity. Christine went further to say that she didn't believe body shape was a contributing factor to body image in children, but that ethnicity or skin colour were:

Yeah its [body image acceptance] more about race and perhaps skin colour comes into it a lot more, or dress from a cultural aspect... but body shape and things like that, is nothing (Christine, long day-care).

Several participants in this research noted that the increasing cultural diversity of early childhood education and care and school settings was a positive factor credited with increasing the acceptance of difference in young children, a finding corroborated by other research in this area (Forrest, Lean, & Dunn, 2016; Kemple, Lee, & Harris, 2016). Despite this, both Danielle and Shannon described children being *shocked* when they see others of a different race:

It's like colour, race, if they're not exposed to people of different races when they're not very old, they're quite shocked when they see them. Whereas like in day-care if you've got a multicultural group it seems to never become an issue like from day one (Danielle, family day-care).

Skin colour....I just did not expect it at all...and two of my little girls just spent the whole time staring....But maybe they just haven't seen anybody that dark

[skinned]. It was probably that rather than [the children thinking], "They're weird!" (Shannon, family day-care).

In addition to Shannon and Danielle's comments relating to children's cultural awareness, other participants described how children sometimes *shy away* from ethnic and cultural differences, particularly in relation to physical differences or language:

I think they definitely notice differences, perhaps more in a cultural sense... kids have said, "That's not normal" or "That's weird" when somebody has a different feature...Like a physical feature mainly, but also sometimes with language (Kristen, long day-care).

Both Kristen and Shannon stated that they were uncomfortable with the children's reaction in these situations, and neither felt they handled the situations particularly well. These examples illustrate the need for increased training in this area. Cultural competence is an area of the Early Years Learning Framework (DEEWR, 2009) which recommends that educators who are culturally competent are not only respectful of cultural diversity, but actively celebrate cultural difference. Despite cultural competence being an integral part of the framework that Australian early childhood education and care abide by, some participants reported experiencing concerns in relation to the cultural sensitivity of others.

Young children are not "colour blind" (Boutte et al., 2011, p. 335). It is natural for children to be curious about others who look different, and differences in skin colour, hair and facial features are all noticed by young children (Boutte et al., 2011). Adults who work with very young children should actively address difference and not attempt to dismiss children's questions. Not addressing diversity openly leads children to believe that difference is a bad thing which cannot be discussed (Boutte et al., 2011). This was noted by Danielle and Christine in this research:

They're just stating what they see. It's like if they see someone dark and they say they're black we have a heart attack, but it's what they see, so I think if we start [to have a negative reaction] then it becomes negative, and then it's a bit of shock value and then it becomes bit of a funny joke (Danielle, family day-care).

But I think generally when kids do use something that we as adults perhaps might look at as negative things, they're actually only using them as descriptors they'll say, "The one with the white hair" ...We hear that and we don't think twice about it, but "The one with the black skin "Gasp! They can't say that!" But why not? (Christine, long day-care).

As indicated by these quotes, skin colour was mentioned by several participants as a feature of others noticed by children. Additionally, participants noted that not all educators were comfortable with this physical difference either. Several participants described their experiences with colleagues in the early childhood education sector who did not demonstrate sensitivity or understanding of cultural diversity:

I do know going through uni[versity] and going through TAFE, some educators' response was, "Oh I'd love to work with a black baby". "Oh imagine having a black one!" Well they're not a species guys: they're just people (Erica, long day-care).

Erica's observation that a child with different skin colour might be treated as a novelty is concerning, and indicates a lack of cultural awareness on the part of the trainee educators she was describing. Their description of a black baby as 'other', or fundamentally different, is an example of the normalised racism apparent in some Australian schools (Forrest et al., 2016). Erica reported over-hearing these remarks at both TAFE and University, institutions where educators should be learning about cultural inclusiveness and combating racism, rather than sustaining colonial attitudes towards those from non-Anglo cultural backgrounds (Forrest et al., 2016). It would appear that educator training about

cultural diversity, sensitivity and racism needs to be improved at all levels and is an area of concern which warrants further investigation in future studies.

In addition to the cultural diversity of early childhood education and care services, physical diversity and disability were described by participants in relation to body image development. Increased exposure to disability, due to inclusive schooling and care, was a factor credited by educators with reducing body image concerns and increasing acceptance of differences in appearance in young children:

I think because of the huge push for mainstreaming special needs kids, they're coming across...more and more socially inept kids, and wheelchairs, and you know whatever. That's the norm now, so maybe that helps with the acceptance ... I guess they're just more exposed to variations...(Kelly, Kindergarten).

In Australia, federal legislation introduced in 2005 stated that all children have the same right to education, leading to an influx of children with additional needs into mainstream education settings (Varcoe & Boyle, 2014). In 2012, more than 295, 000 Australian students with a disability attended school, and more than 80% of these students attended mainstream schooling (ABS, 2013b). Of these children, 43% experienced learning difficulties and 35% experienced trouble fitting in socially with classmates. While inclusive schooling has been shown to have limited benefit in relation to friendships and socialisation of the child with a disability (Koster, Pijl, Nakken, & Van Houten, 2010) inclusive schooling has been shown to benefit their typically-developing classmates, i.e. those who exhibit the behaviours, social and functional skills that would typically be seen in children of their age. A systematic review of 35 studies demonstrated that children who had contact with people with a disability generally had more positive attitudes towards disability than children who had not experienced such contact (MacMillan, Tarrant, Abraham, & Morris, 2014).

A number of participants in this research were able to give examples of children with disabilities being accepted by children in their services. For example, Katherine

described talking to the children in her service about ways they could accommodate a child with limited mobility in their play:

We had a little boy who had double prostheses for both legs, from the waist down... I mean he'd give anything a go ... so we just kind of work-shopped with the children about how we could help ...how could he still be included in those particular things (Katherine, Kindergarten).

Exposure of young children to a range of body types, cultures and abilities would appear to be a positive influence on the development of body image, if such interactions are scaffolded by competent, open and candid educators. While some participants in this study gave examples of educator interactions where more training appeared to be necessary, most were able to provide positive examples of the ways in which diversity was incorporated in positive body image development in their early years settings.

While diversity is the focus of this subtheme, it is worth including the response from Jamie, a family day-care educator. Jamie was asked if she had heard the children she taught talking about overweight or obesity. Here she mentions overhearing children talk about both overweight and disability, appearing to equate the two:

I've experienced that with my own children, like in a shopping centre, like if we see an obese person, or someone in a wheelchair, they might say, "Look at that fat person", or "Why is that person in a wheelchair?" I'd have to say, that with fat people, they would say it more about poking fun (Jamie, family day-care).

Jamie's children might equate obesity and disability in this way as they are both examples of bodies which fit outside the cultural norm (Fahs, 2017) and as such, attract stigma (Harrison, Rowlinson, & Hill, 2016), ridicule (Burmeister & Carels, 2014) and may be seen as acceptable targets for discrimination (Puhl & Heuer, 2010).

With such views widespread in the community, the importance of providing training for educators to manage sensitive topics and situations was considered paramount.

4.6.7 Summary of Theme Two: Sociocultural influences on body image

The evidence provided in Theme Two described the sociocultural influences on body image development that were identified by participants in this research. Educators themselves, parents, peers, and the child's gender were all identified by participants as important influences, as were the media and the diversity inherent in Australian early childhood settings. It appeared that fat talk occurred in most services where educators worked and that talking about diet, exercise and weight was not well-understood as inappropriate in the presence of children.

Although well-intended, it appeared that educators were engaging children in activities which had the potential to negatively influence body image development, such as encouraging interest in muscularity, and using this interest to encourage children to eat certain foods. Additionally, educators expressed concerns relating to media and media literacy, but considering the literature suggests that preschool children are too young for such education, it would appear that educators need strategies to counter media influences.

4.7 Theme Three: Training

Training is the final theme identified in qualitative data collected in Phase One of this study. This theme encapsulates the *Preferences* of participants in terms of body image professional development training, and also recounts the training that educators received in relation to *Nutrition*, together with the training required for dealing with weight-based bullying, with *Anti-bullying strategies* identified as the third sub-theme here. Figure 10 shows the theme and sub-themes discussed in this section.

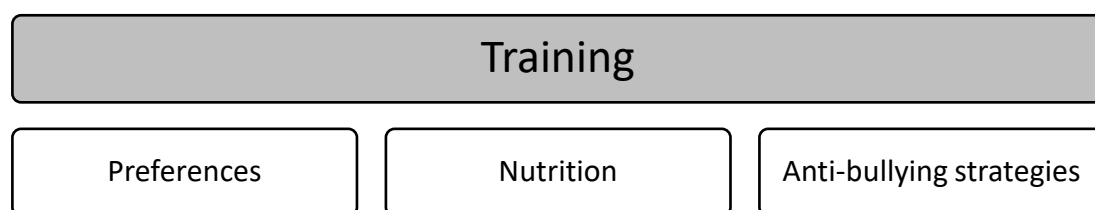


Figure 10: Theme Three: Training

4.7.1 Preferences

The first sub-theme to be identified in *Training* describes the professional development *Preferences* expressed by participants. Participants expressed a range of attitudes in relation to professional development. Some stated they enjoyed professional development, and made an effort to go to all training offered by their service, while others stated that professional development needed to offer something new and interesting to make it worthwhile:

If you've been in childcare a long time, you're repeating the repeated, repeatedly, and it drives you insane. Anything that's going to be a little bit different to what we've been used to - I think carers would probably jump at it anyway (Andrea, Kindergarten).

Andrea's statement is reinforced by the literature in this area, with researchers noting that professional development needs to be personally relevant to participants, otherwise educators are, understandably, unlikely to waste time on the same courses time and again (Brooks & Gibson, 2012). Other participants in this research claimed that professional development was rarely on offer at their service, and more would be appreciated. Many saw professional development as a way to network with other educators, and to discuss skills, strategies and resources, with social interaction constructed as an appealing aspect of training opportunities.

The government assessor and the academic who participated in this research both considered that professional development interventions were problematic. While they

believed that educators would attend professional development, as a workplace requirement, they felt that educators would not translate their new knowledge into practice:

And in terms of professional development...They sit there and then it goes in one ear and out the other, "Yeah thank you, done that, tick the box", and then they walk away. And I found that nobody had implemented anything that I was saying (Samantha, Academic).

A lot of people go to do a workshop, and think yeah I've done that and get the certificate and give it to the office to say they've done their training and that's it: they're finished! (Erica, Government Assessor).

To address this issue, Samantha and Erica both provided recommendations to embed new learning into practice. Samantha recommended that on-going contact be maintained with educators, while Erica felt that some very specific actions needed to be given for educators to implement in their workplaces. Although the notion of monitoring use and implementation of body image professional development materials to increase the accountability of participants was considered appealing, long term, it may have proven difficult to do so. As a means of maintaining contact with participants over the course of this project, the *SNAC* e-newsletter, and the *SNAC* website were identified as being useful features of the intervention design.

Initially, many educators who participated in this research did not see the need for training to improve their knowledge and understanding of body image development in very young children. To overcome this, the researcher explained the concepts of positive body image to participants. Once educators had a greater understanding that resources to be provided aimed to help children *develop positive body image* rather than to *understand negative body image* they were much more receptive to their use. The majority of educators said that face-to-face training and workshops were the most desirable format for training. Others commented that, from their previous experience of professional development in other domains, it was rare for face-to-face

workshop presenters to have both the presentation skills and the intimate knowledge of their subject required to provide engaging and thought-provoking training.

As has been noted in the literature (Desimone, Nolly, & von Frank, 2011; Gosselin et al., 2010; Masuda, Ebersole, & Barrett, 2013) difficulties in scheduling training was regularly mentioned as a barrier by participants in this research. Educators mentioned commitments after work or being tired as barriers to attendance of face-to-face training outside of work hours, and during their work day, difficulties finding adequate relief staff were mentioned:

I think it's just hard finding the time, and then finding someone to cover you in the room. Especially with the shifts...(Christine, long day-care).

For these reasons, some participants said they preferred to use online training modules, since they could access them at times that suited them. This was particularly true of those who worked in family day-care, as they were the sole educators within their small business:

We're all time poor...my boss says, "Why do you want to do that training?" And I say, "Because I can do it online at two o'clock in the morning with my feet up and a glass of wine!" (Danielle, family day-care).

Danielle further explained that she believed most educators were *pretty computer savvy* and that *Google* was regularly used by family day-care educators to source online training. Her comments not only reiterate the time-scarcity experienced by educators, but also highlight the tendency to rely on *Google* searches to gather information rather than accessing more credible sources designed for an early childhood environment (Cole, Vidgen, & Cleland, 2017; Wallace, 2016).

Although these data indicate that online professional development may not be the most desirable format for all participants in this research, the reiteration of barriers to accessing face-to-face professional development by numerous participants indicated

that if the professional development planned for this research intervention was novel, free and easily accessible, it had the capacity to reach many educators.

4.7.2 Nutrition

While participants' understanding of feeding practices were expected to be part of this study due to their influence on body image and relationship with food (Damiano et al., 2016; Musher-Eizenman & Holub, 2007) their knowledge relating to nutrition had not initially been considered particularly relevant. Despite this, during focus groups and interviews conducted in Phase One, nutrition was a topic frequently mentioned by participants, and subsequently, *Nutrition* was identified as a subtheme of the main theme *Training*.

Many participants gave examples of parents asking for nutrition advice, but only one stated explicitly that she felt ill-equipped to deal with parents' concerns or inappropriate behaviours, and as such, she was more likely to refer parents to a dietitian rather than giving them advice herself:

I usually do dietitian referrals. It's often related to food phobias or food aversion.... But if they [parents] come to me and say, "I don't know what to do, my child is overweight", I will say, "Would you like me to write a referral?" Or they can just go and see a dietitian [be]cause often that helps, and that sort of removes me from the situation because I am not an expert at all, in nutrition (Katherine, Kindergarten).

Another participant, Kristen, indicated that the response from educators to parental concerns about nutrition varied according to educators themselves. Kristen described some educators as having confidence in their own *beliefs* to give advice on nutrition, while others may be more likely to point parents *in the right direction*. Kristen went further to say that educators may find it difficult to judge the credibility of nutrition information, even those supported with scientific evidence, especially if it conflicts with their own opinions or beliefs:

I think sometimes it might be hard because there is so much nutrition information out there... to really take on what they learn in the [TAFE] course as the [nutrition] facts. When they've [educators have] grown up being told this, that, and the other... (Kristen, long day-care).

Kristen noted that personal beliefs or opinions about nutrition could be a barrier to effective communication with parents, as it had the potential to obstruct sharing of information or guidelines if they did not align with the educator's personal philosophies. This finding is corroborated by Johnson and colleagues (2013) who found that nutrition guidelines and feeding practices were poorly understood by educators, making it difficult for them to communicate effectively with parents about issues relating to children's nutrition, and were frequently subject to personal beliefs and priorities. Johnson and colleagues noted that educators were receptive to nutrition education, and that such training had positive influences on communication with parents, food provision and children's eating.

This reflects the fact that while educators often provide nutrition education for children, provide nutrition information to parents, and deal with children's difficult eating behaviours, they are not experts in nutrition, and receive very little training for any of these tasks (Boyd, 2015). The ability of educators to comply with government requirements and parent requests, while ultimately providing customer service and maintaining customer satisfaction are demanding tasks not to be underestimated (Moore et al., 2005). Hence, educators need training and support mechanisms in order to legitimately handle complex food and nutrition issues, especially those which require expert intervention, as demonstrated by Katherine's use of dietitian referrals.

Most participants believed the nutrition education they received as part of their mandatory qualifications to be adequate, however, examples described by participants in relation to nutrition were mostly reductionist in nature. For example, participants tended to describe food and nutrition in terms of specific vitamins and

minerals. Additionally, the food pyramid was described by numerous participants, as exemplified by Christine and April below:

They talk more about nutrition with the five food groups and that sort of thing, as against teaching you what the different food groups do for your body, as in, you know...

Like the pyramid....

Like fruit and vegetables has got iron and calcium and this that and the other, which then helps this, this and this...(Christine and April, long day-care).

The food pyramid referred to by participants was released in Australia in 1999, and this was the most current pyramid at the time of interviews (March to April 2014). A new food pyramid was released by Nutrition Australia in May 2015. Participants did not refer to the Australian Guide to Healthy Eating (National Health and Medical Research Council, 2013) although these are the most recent guidelines educators should be following in early childhood education and care services, according to the National Quality Framework (ACECQA, n.d.). Judging by these responses, the nutrition training received by participants was at best, outdated, and needed updating in line with the most current guidelines.

In addition to the food pyramid, participants mentioned the plethora of nutrition information available online, in magazines and on television. Some believed that the information was helpful, and could be harnessed to improve their teaching. A positive example was given by three educators from a long day-care centre who recounted their use of a Jamie Oliver fruit and vegetable promotion available through a local supermarket extensively in their service:

You know when that Jamie Oliver book came out? So we got like five books each, and we were trying to collect the stickers, and the kids loved them and we got to educate them. Yeah like, "This one grows in the ground and this one

grows on top of the ground, and what's this one?" (Courtney and Vanessa, long day-care).

Though it may be promising that educators are utilising free resources available in the community, educators have access to free, credible nutrition resources designed for use in their sector. For example, *Get up and Grow* is an evidence-based guide to nutrition and physical education developed for educators, and is recommended as part of Quality Area 2 of the National Quality Framework, which is available on the Australian Department of Health website to download or print (Department of Health and Ageing, 2013). This resource provides more than 70 pages of information on healthy eating, physical activity and further resources, and contains a paragraph on body image. None of the 44 participants in this Phase of this study mentioned this resource, illustrating issues with the translation of this knowledge into practice by educators. Similarly, in a recent Australian study (n=22 educators) none of the educators mentioned using *Get up and Grow*, stating they relied on "common sense" to write menus for their services (Cole et al., 2017, p. 107).

While nutrition education was not a focus of this research initially, it was identified as an area where participants appeared to need help and advice. It was apparent that participants relied on outdated nutrition information, as well as that available in the media and on the internet, the quality or reliability of which could not be assured. Only one participant appeared to have a strategy for dealing with nutrition questions outside of her area of expertise, though it would appear awareness of free resources, as well as credible nutrition training was required.

4.7.3 Anti-bullying strategies

The final subtheme identified in *Training* was *Anti-bullying strategies*. Participants frequently described situations where they were confronted by children, other educators or parents demonstrating behaviours they believed to be inappropriate in the presence of children. When asked if their service had a policy in place to respond to such situations, some responded that they were unaware of such policies, although

they had developed their own strategies. Others responded that this was an area they struggled with, and were unsure how to respond:

That's something that I think I'd like to get a bit better at. Because I've noticed that sometimes somebody will say something that upsets me and I think, "Hang on, that's not a good thing for the kids to be hearing", but I'll let it go (Kristen, long day-care).

Kristen's comment illustrated a desire for strategies that enable constructive discussions among educators about limiting their fat talk. Mary, who recounted her discomfort when a child at her service described the five or ten nicknames that her family had for her, all related to her large weight, shared this need. Though many educators were present when this conversation was occurring, Mary noted that:

I think staff who hear it [weight-related teasing] pretend not to hear it [be]cause they don't know what to say (Mary, long day-care).

While Mary was sufficiently uncomfortable with this situation to approach senior staff at her service to discuss it further, senior staff were unsure how to broach this with the parent:

And I remember going to my Director afterwards and several people that I work with and saying, "This little girl has just said this, how do we feel about this? Is this an issue that we're talking to the family [about]?" (Kristen, long day-care).

The role modelling of behaviours by parents to their children was frequently viewed as challenging by participants, but talking to parents was seen as painstakingly difficult. This may be because participants viewed parents as paying customers who may withdraw their custom at any time if unhappy with the service being provided, therefore, they were fearful of offending parents in any way.

Mary and Kristen gave examples of the difficulties they experienced when talking to educators and parents about certain behaviours that were likely to impact negatively on the developing body image of young children. Evidence supports the notion that educators could do more to reduce children making negative comments to one another, as this could potentially escalate into bullying behaviours. A number of studies demonstrated that teachers may not intervene in general bullying situations because they are not considered serious, or that these interactions between children are considered a normal part of child development (Troop-Gordon & Ladd, 2015) leaving children to resolve these situations independently (Hektner & Swenson, 2012). These views have not, however, been well researched among early childhood teachers (Su & Di Santo, 2012). A method to improve outcomes for children may be to raise educators' awareness of the need to intervene in bullying amongst very young children, and to provide strategies and examples for educators, particularly in relation to situations where developing body image may be influenced.

A recent study of educators in Australia (n=188) found that although more than 90% of participants believed children aged three to five years were capable of bullying behaviours, 25% of the services where they worked did not have an anti-bullying policy, and of those services that did have such a policy, less than 10% said it described strategies to deal with bullying behaviours (Goryl, Neilsen-Hewett, & Sweller, 2013). Since weight-based teasing is sometimes viewed as the last bastion of acceptable discrimination (Latner & Stefano, 2016) and is engaged in by children (Eli et al., 2014), the development and implementation of anti-bullying strategies in early childhood education and care is also important for the development of positive body image in young children.

Some participants felt that bullying behaviours were not present in their services at all, especially relating to children. For those who believed it was problematic, it appeared that strategies were needed. When asked how educators respond to bullying situations, the most common strategy employed by participants was to talk generally to the group of children:

I will talk with the children one on one with the person they have been teasing, but also I think class groups discussions, talking about emotions and feelings... Empowering the children to kind of make their own strategies as well...So I think things like role plays are good as well, and ...the use of different books and videos (Lisa, Kindergarten).

Lisa was one of several participants who mentioned the use of *social stories*, *books and resources*, and *role modelling* in response to bullying. Participants noted that these were the kinds of strategies they regularly employed, and the usefulness of these approaches is supported by literature in this area (Freeman, 2014; Nguyen & Malti, 2014; Wadian, Barnett, & Sonnentag, 2017). Despite this being a commonly-cited strategy, participants noted that they were not familiar with books they thought would be useful for talking about weight stigma or body image development specifically. This finding indicated that the identification of appropriate resources for educators to use in their services would be a valuable inclusion in the proposed intervention.

4.7.4 Summary of Theme Three: Training

Training was the final theme emerging from the Phase One data, and comprised three sub-themes. The first, *Preferences*, showed that while educators enjoyed face-to-face professional development, time and staff commitments made it difficult for educators to attend. Participants also noted that the professional development offered was often the same each year, so the novelty of body image professional development would work in its favour in terms of recruitment and engagement by educators. Online professional development was being utilised by some educators, especially those who preferred to access this information outside of business hours.

Nutrition, the second theme of *Training* identified in Phase One of this research, was unexpected. The association of this research with the larger *SNAC* study appeared to encourage participants to discuss nutrition training and resources with the researcher. Although most participants reported that they were satisfied with their

level of knowledge and training, their referral to outdated resources flagged issues with their ability to access credible resources and to give advice and information to parents when required. The need for an investigation into current training provided to educators, as well as on-going nutrition support and training appeared to be warranted.

The final subtheme in the larger theme of *Training* was *Anti-bullying strategies*. Participants described a range of challenging parent and educator behaviours, and most described possessing a lack of effective strategies in these situations. While most educators stated that children in their services did not engage in weight-based teasing, they did discuss more generalised bullying and anti-bullying strategies, including role modelling appropriate behaviour, reading prosocial stories, and playing prosocial games.

4.8 Implications for practice

Phase One of this research comprised an exploratory study, the purpose of which was to investigate educators' knowledge, attitudes and behaviours relating to body image development among very young children. Children's developing body image may be influenced by the role modelling of behaviours and attitudes relating to body image, therefore, it was deemed necessary to measure educator's own body image, as well as their understanding of children's body image development.

Several key findings from Phase One of this study have implications for the development of a body image intervention suitable for use by educators, and these are outlined below:

- Educators' understanding of body image was linked to their own body image, which was predominantly described in negative terms, and most educators had not considered positive body image at all. This lack of understanding of positive body image was consistent with findings from other research (Liechty et al., 2016) and indicates the need for an

intervention to be developed that focused on increasing educators' understanding of positive body image.

- Educators expressed some uncertainty about when body image developed in children and typically maintained that children were not aware of the bodies of others. This finding was consistent with the attitudes of parents (Liechty et al., 2016). Despite this, educators then went on to give examples of children laughing at those who were overweight, commenting on those of a different race and comparing each others' heights. These findings suggested that children do exhibit awareness of the bodies of others, and an intervention for educators that not only increases their awareness of children's behaviours and attitudes, but provides sensitive ways to discuss these issues with children was required.
- Several educators appeared to use the terms body image and eating disorders almost interchangeably. This highlighted the need for resources to improve their understandings of the differences between these important issues.
- The majority of educators in this phase of the research applied pressure to children in relation to eating, though they were more likely to describe these behaviours as 'encouraging' children to eat or 'monitoring' their intake (Dev et al., 2016). These behaviours may have unintended consequences on children's developing relationships with their bodies, and food, and therefore, educator awareness of the implications of pressuring children to eat was warranted.
- Diet talk and fat talk was common amongst educators, both within hearing of children and in staff-only areas. Since such conversations role model negative body attitudes, and may influence the body image of both educators and the children who hear them (Berge et al., 2016; Salk & Engeln-Maddox, 2012; Tompkins et al., 2009) an intervention outlining the potential harm of such talk was deemed necessary.

- Educators were eager to discuss nutrition, and there was evidence that their knowledge, nutrition literacy and judgment of foods had the potential to negatively influence their role modelling to children; their interactions with parents; and ultimately, the developing body image of children. There was ambiguity from educators around dietary restrictions and dietary requests from parents, illustrating the need for a more formalised approach to nutrition education, training and policy in early childhood education and care services (Johnson et al., 2013; Sharma et al., 2013).
- Educators in this research felt that parents were often negative influences on children in terms of attitudes towards diet, exercise and body image. This finding has been supported in other research (McCabe et al., 2007). Educational materials that could be set home to parents was therefore a recommendation from Phase One of this research.
- Social stories, books, and resources were identified by participants as the most common ways to help educators to talk about sensitive topics with children, and have been described in other research (Dohnt & Tiggemann, 2008; Goddard, 2010; Heath, Sheen, Leavy, Young, & Money, 2005). The provision of books to be read with children was therefore deemed to be a useful addition to a body image intervention for educators.
- Educators in this research stated a preference for face-to-face training if it was available, but listed barriers to their attendance such as difficulties sourcing relief staff or the times such training was offered, a finding confirmed in other research (Desimone et al., 2011; Gosselin et al., 2010; Masuda et al., 2013). Online training was seen as a viable alternative, and therefore was the method of training delivery utilised in this research.

4.9 Summary of recommendations from Phase One

Phase One data has been presented, analysed and discussed in this chapter. Data analyses revealed that educators would benefit from professional development in a number of specific learning areas, and in a number of formats. Educators required

information and educative materials to improve their knowledge about body image, as well as material to share with parents and children. While educators showed some awareness of the sociocultural influences on body image development, they were not always cognisant of their own role and influence. In addition to knowledge and awareness, it appeared that educators would also value explicit strategies and specific examples for preventing body-image related bullying.

Chapter Five: Phase Two: Development and Data Collection Instruments

5.1 Introduction

This chapter describes Phase Two of this research, which involved utilising the findings from Phase One to develop an educational intervention about body image for educators of very young children. Formative research qualitatively determined baseline knowledge, attitudes, and behaviours of educators in relation to body image, as well as their interest in accessing professional development in this area. Also described in this chapter are the data collection instruments that were developed, piloted, and used to evaluate the impact of the intervention. Phase Two of this research is illustrated in Figure 11.

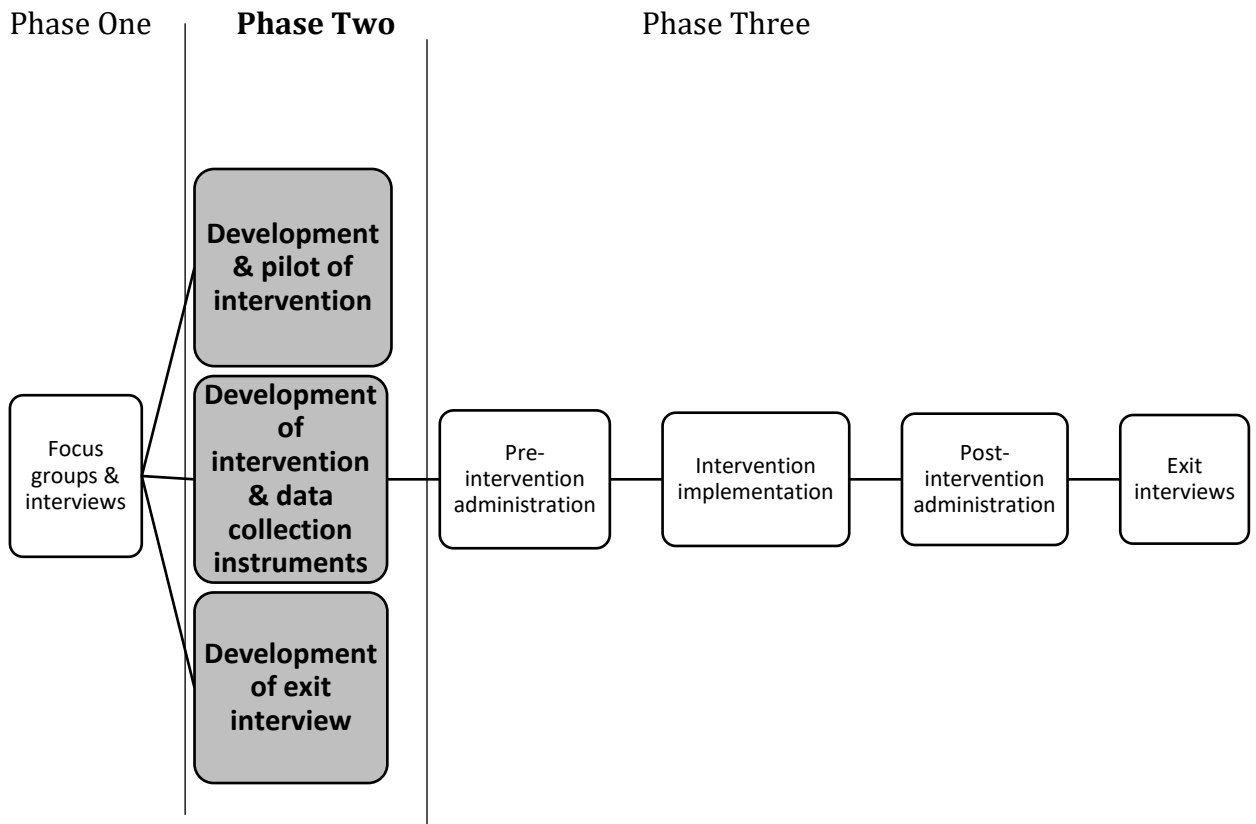


Figure 11: Study design: Phase Two

In order to test the impact of the intervention, a pre and post-intervention survey was designed, where four existing surveys were adapted and combined, then piloted with Western Australian educators. Development of the survey and intervention, and methods used in the pilot will be discussed in this chapter.

5.2 Section One: Intervention Development

The educational intervention developed for this research was housed on the existing *SNAC* website (Wallace, 2016) on the *SNACPlus* portal. *SNACPlus* aimed to determine if a ‘whole-of-centre’ approach to healthy eating was viable; of interest to educators in the early childhood education and care sector; and effective in improving educators and parents’ knowledge, attitudes, self-efficacy and intended behaviours relating to healthy eating. Due to its connection with the broader *SNACPlus* project, the body image resources developed in this doctoral research are referred to as the *SNACPlus Body Image Project* throughout this thesis.

The *SNACPlus* Body Image Project modules were aligned with the Early Years Learning Framework, as well as the National Quality Standards (Australian Children's Education and Care Quality Authority, n.d.). Tip sheets, Case Studies and Learning Activities were developed based on the topic areas identified in Phase One of the research. In keeping with the format of the other *SNACPlus* modules, the *SNACPlus Body Image Project* was divided into three Learning Areas: (1) *What is body image?* (2) *Talking about food and health* and (3) *Words matter* (Table 7). This format was adapted from the [Refresh.ED K-1](#) resources (Miller, Baker, & Devine, 2016). Figure 12 shows the relationship between *SNAC*, *SNACPlus* and the *SNACPlus Body Image Project*.

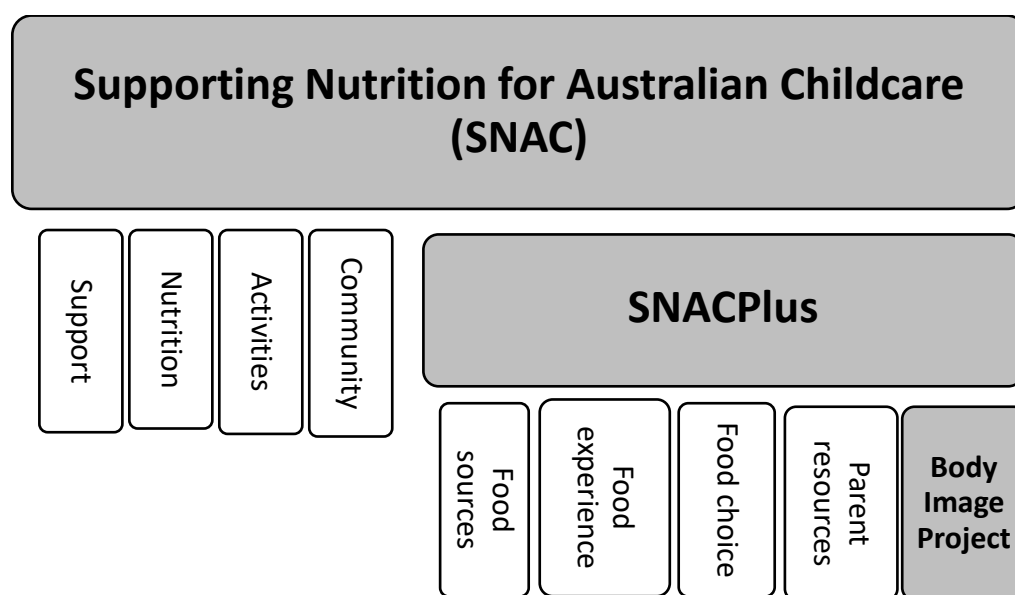


Figure 12: Relationship between *SNAC*, *SNACPlus* and *SNACPlus Body Image Project*.

5.2.1 Learning Areas

Phase One data indicated that while educators recognised the need for body image-related professional development resources, they also felt they needed body image activities for children and that information to send home to caregivers was likewise necessary. As a result, Tip sheets, Case Studies and Learning Activities were developed based on the topic areas identified in Phase One of the research. In keeping with the format of the other *SNACPlus* modules, the *SNACPlus Body Image Project* was divided into three Learning Areas: (1) *What is body image?* (2) *Talking about food and health* and (3) *Words matter* (Table 7).

Learning areas were developed to be stand-alone modules, available on the website as professional development for educators to use online or to print. The format of the modules contained in the broader *SNACPlus* project included nine distinct sections, and was likewise used for the body image modules to maintain consistency of presentation.

Table 7: Learning areas and intervention materials

Learning areas	Children's storybooks	Professional development: Tip sheets	Professional development: Case studies	Learning activities	Caregiver tip sheets	At home activities
1. What is body image?	Shapesville What I like about me.	What is body image? Educators role in developing positive body image.	Body image. Body image. Diversity. Educators' role.	Shapesville What I like about me. All of me. I'm glad I'm me. All about me playlist.	Body image.	I can. Book Bucket. Guess which baby?
2. Talking about food and health.	Full Mouse, empty mouse.	Talking about food and health. Mindfulness and food. Screen time and media.	Educators role.	Full mouse, empty mouse. Eating mindfully.	Talking about food and health. Facts about diets.	
3. Words matter!	The skin you live in.	Teasing does matter. Avoid fat talk.	Fat talk and teasing.	The skin you live in.	Teasing does matter. How to deal with fat talk.	

5.2.2 Professional Development: Tip Sheets

Participants in Phase One of the study identified the need for written information, in formats suitable for printing or reading online. With this view, seven tip sheets were developed, based upon educators' expressed areas of interest or concern identified in Phase One. Tip sheets aimed to provide succinct, evidence-based information on body image development, the role of educators, media, food talk, fat talk, teasing and mindfulness.

Once the tip sheets had been developed for each of the learning areas, their readability was tested, an important factor in the development of health promotion resources (Bartholomew et al., 2010). There are numerous methods of determining readability, including using calculations of the number of words per sentence, syllables per word and sentences per paragraph, to provide an estimate of the number of years of schooling required for comprehension of the material (McInnes & Haglund, 2011). For the purpose of this study, the Simple Measure of Gobbledygook (SMOG)

was used, as it is considered the gold standard for use in health promotion (Cheng & Dunn, 2015).

Grade 8 (i.e. a reading age of between 12 and 13 years) is recommended to be the most accessible reading age for health literature (McInnes & Haglund, 2011). Though these suggested benchmarks are American, it has been argued that since Year 12 in Australia is equivalent to Grade 12 in USA, it may be assumed that a Grade 8 reading level in both countries is comparable (Green & Kreuter, 2005).

The method used by Cheng and Dunn (2015) to determine readability was used in this research. The first 10 sentences of each of the educator tip sheets were placed in a readability score website, and the resultant average score across all tip sheets gave a readability equivalent of Grade 8.4 (Readable IO, 2017). Readability results for each of the tips sheets are listed in Table 8, demonstrating that on average, the readability of resources was slightly higher than the recommended SMOG reading score. Readability was further tested in the pilot of resources, and is described further in the 5.3 Intervention Pilot (Section 5.4).

Table 8: Readability scores of tip sheets for educators

Tip sheet	SMOG*
What is body image?	7.9
Educators role	9.5
Talking about food and health	6.8
Mindfulness	9.2
What is teasing?	9.1
Fat talk	8.6
Media and screen time	7.9
Average readability score	8.4

***SMOG** Simple Measure of Gobbledygook (SMOG) is calculated by counting the words of three or more syllables in three-ten sentence samples, calculating the count's square root and then adding three to obtain the grade level (McLaughlin, 1969).

5.2.3 Case Studies

One outcome of the interviews and focus groups conducted in Phase One of this research was that several participants provided detailed personal stories or scenarios where body image concerns were identified. It was evident that not all educators had appropriate strategies to manage these sometimes awkward situations. In order to provide strategies to assist educators to approach circumstances such as these, six case studies were developed.

Some participants mentioned role play as a method they found helpful in face-to-face professional development, but, since this intervention was designed to be housed online, the development of role plays was not feasible. Instead, situations similar to those described by participants were used to create hypothetical case studies, which could be used by educators to drive conversations and stimulate discussions about body image. A range of positive body image responses to each scenario were provided. One of the case studies is provided as an example in Appendix J: Case Study.

5.2.4 Learning Activities

Several participants in Phase One of this research indicated that they believed it necessary to develop positive body image learning activities for children. Since children taught by educators in this study were predominantly under five years of age, it was imperative that activities be designed to provide clear health messages based on evidence and theory, and that do no harm (O'Dea, 2005). Existing activities were sourced and adapted, with most activities based on four existing children's storybooks. These were chosen for their appropriateness to the topic, as well as the age group of children who predominantly attended early years education.

The use of storybooks in health promotion interventions for very young children has been documented and supported in a number of studies (Goddard, 2010; Goldman & Descartes, 2016; Heath et al., 2005). Storybooks have been established as a successful means of providing a structured technique for introducing and discussing potentially difficult subjects, and can help children to process their own thoughts and feelings (Kemple et al., 2016). In this research children's storybooks were used to introduce the concepts of body image; diversity; and talking about food and feelings. Reading to children is typically undertaken on a daily basis in early years education, so this strategy was easily incorporated into the curriculum currently being taught.

Four children's storybooks suitable for children from age two to eight were identified and included in the *SNACPlus Body Image Project* intervention resources. These included: *Shapesville* (Mills, Osborn, & Neitz, 2003); *Full Mouse, Empty Mouse* (Zeckhausen, 2007); *The skin you live in* (Tyler & Csicsko, 2005); and *What I like about me* (Zobel & Sakamoto, 2005).

Shapesville (Mills et al., 2003) and *Full Mouse, Empty Mouse* (Zeckhausen, 2007) were written by specialists in the areas of eating disorders and body image. *Shapesville* (Mills et al., 2003) was a book written for children aged four to eight years, and aimed to promote positive body image. It tells the story of a group of friends in simple rhyming sentences, with brightly coloured illustrations. The authors provided

ideas for guided discussion, as well as resources on nutrition and physical activity; appearance-based teasing; and stereotypical images in the media (Mills et al., 2003). In a study of girls (n=42) aged five to nine years, this book was found to reduce weight stereotyping in the short term; increase children's awareness of their own talents or skills rather than focusing on appearance; and increase the self-esteem of participants (Dohnt & Tiggemann, 2008).

A more pointed approach to children's disordered eating behaviour was taken in *Full mouse, empty mouse* (Zeckhausen, 2007). This book was chosen as it discussed emotional eating, food restriction and binge eating; all components of disordered eating behaviour. The book tells the story of two mice and their use of food to deal with stressful situations. While one of the mice overeats for comfort, the other restricts her food consumption due to stress and fear. As the story progresses the mice learn more healthful ways to deal with their stress, and are encouraged to listen to the needs of their bodies. Along with the book itself, extensive notes are provided for teachers, and include a range of activities that could be adapted for use with young children.

Along with books specifically focused on body image and eating behaviours, a book addressing diversity was sourced. *The skin you live in* (Tyler & Csicsko, 2005) was an award-winning children's book using simple rhymes to discuss concepts such as self-esteem, acceptance, cultural diversity and friendship, and was included in the list of resources that educators were encouraged to use.

The fourth book, *What I like about me* (Zobel & Sakamoto, 2005) was chosen to promote self-esteem and body image. It celebrates being different, and has a range of sensory additions to make it interesting for young children.

5.2.5 Caregiver Tip Sheets

As well as the need for learning activities for children, participants in Phase One of this research indicated they felt that since parents and caregivers were a major

influence on body image development, it was critical that parents also receive information on fostering positive body image in children. This finding was reinforced in the literature pertaining to body image development in young children, with parents described as a major sociocultural influence (Tatangelo et al., 2016). Professional development tip sheets developed for educators were modified and adapted to be appropriate for caregivers. Educators were able to access these so that they could be printed and provided to caregivers or sent electronically to support curriculum being taught in their service.

5.2.6 At Home Activities

In addition to caregiver tip sheets, three brief activities to be shared with caregivers were devised. These included sharing body image storybooks with families by sending them home with children (*called Book bucket*); asking parents to provide a baby photo of the child to encourage discussion of how children grow and change (*called Guess which baby?*); and a worksheet celebrating children's abilities (*called I can*). Parent resources were not the primary focus of this research, however, their inclusion was based on requests by participants.

Once all intervention materials were drafted, the intervention was piloted. The approaches taken to pilot the intervention materials before their launch are described below.

5.3 Intervention Pilot

Following the development of the intervention materials (In order to test the impact of the intervention, a pre and post-intervention survey was designed, where four existing surveys were adapted and combined, then piloted with Western

Australian educators. Development of the survey and intervention, and methods used in the pilot will be discussed in this chapter.

5.2 Section One: Intervention Development) and the choice of appropriate children's books, the intervention resources were piloted to determine their suitability for the target group. The style, design, content and usability of the tip sheets and resources was piloted with three different but relevant groups of participants.

In the first pilot of the intervention resources, participants from the formative phase of the study (n=14), as well as a panel of researchers experienced in developing health promotion resources (academics in Public Health, n=11) were asked to indicate their design preference. Once the readability of the resources was established, tip sheets were designed in two different styles. The first was an infographic style, which was colourful and contained a number of different shapes and fonts. The second used plain text, with a colourful border. Examples of both of these styles were emailed to participants (n= 25). The infographic style and plain text was chosen by an equal numbers of study participants (plain, n=7, infographic, n =7) though the plain text was chosen by the research panel (plain, n=6, infographic, n =5). Following this pilot, the plain text was chosen as the most appropriate design for intervention materials.

The intervention materials were also piloted using nutrition major tertiary students (n=8) enrolled in the ECU Bachelor of Health Science degree who were recruited via existing networks. These participants were not asked to use the resources but assess content validity and ensure accuracy. Participants were asked to identify what they thought were key messages for each tip sheet and to provide feedback.

Feedback from this pilot group indicated that tip sheets for educators were easy to read and understand, with the format and colours being suitable. Both students and educators gave positive feedback about the resources. Educators suggested a link to the National Quality Standards (ACECQA, n.d.) and student comments related to the

children's activities. Changes were made to the wording of tip sheets (Table 9) to emphasise some of the key messages that had not been identified by the pilot participants. Changed wording appears in **bold** text in this table.

The third group to pilot the resources were educators from a Perth-based early childhood education and care service who had been involved in the pilot of other *SNACPlus* curriculum material. This group of educators (n=11) piloted the *SNACPlus Body Image Project* in their service for a two-week period, and also received copies of the children's books used in *SNACPlus Body Image Project* children's activities. These participants were asked to incorporate the body image resources into their curricula to provide comment on the information; their usefulness and readability; and to offer suggestions for further inclusions. As the materials had not yet been finalised and they were not yet available online, this pilot group was supplied with hardcopy versions of the resources.

Participants were asked to complete a short hardcopy survey (Appendix G) to provide feedback. Survey data were entered into an MS Excel worksheet, and then uploaded to SPSS, Version 21 (IBM Corp, 2012). Open ended responses were uploaded to NVivo, Version 11 (QSR International Pty Ltd, 2012) for analysis.

Educators in the third pilot process, at the early childhood education and care service, felt that some of the books provided were suited to children aged three to five years, while one educator questioned the inclusion of a book on cultural and ethnic diversity (*The skin you're in*) rather than body weight. Since cultural diversity had been a recurring theme in Phase One, it was decided that resources pertaining to diversity would remain part of the project. Once feedback from all pilot groups was incorporated the resources were uploaded to the *SNAC* website for the launch of the *SNACPlus Body Image Project*.

Table 9: Changes to tip sheets made following pilot study

Key messages not identified by pilot groups	Wording of messages in pilot resources	Changes to wording post-pilot in final resources
Negative body image leads to poor mental health outcomes, such as development of anxiety and depression	People may have negative body image to varying degrees. At some levels, it does not cause harm, but at high levels, it can cause depression, anxiety, social isolation and disordered eating and harmful levels of exercising.	People may have negative body image to varying degrees. Poor body image may lead to poor mental health. At some levels, it does not cause harm, but at high levels, it can cause depression, anxiety, social isolation and disordered eating and harmful levels of exercising.
How much TV children watch is important	Preschool children watch 2.5 hours of TV on average, per day; Children aged 2-5 years should be watching a maximum of one hour of television per day	Preschool children watch 2.5 hours of TV on average, per day, instead of the recommended one hour per day
Body image develops between the ages of two and three	Body image begins to develop in young children between the ages of two and three. This is why it is so important that Early Years Educators understand body image and how they are able to influence it in very young children.	Body image begins to develop in young children between the ages of two and three. This is why it is so important that Early Years Educators understand body image and how they are able to influence it in very young children. In our culture, it is common to make judgments about people according to how they look, and some children begin to do this by the time they are age three.
Body image concerns increase when children go to school	There is not a great deal of research about body image development in very young children. We do know that by the time some children get to formal school, their body image concerns are growing. This could be for a range of reasons. Some reasons are out of our control, but by providing good role models of positive body image messages, hopefully the change to big school can be made a little easier.	There is not a great deal of research about body image development in very young children. We do know that by the time some children get to formal school, their body image concerns are growing. This is why it is so important for children to enter school with a positive body image. Some of the influences on body image are out of our control, but by providing good role models of positive body image messages, hopefully the change to big school can be made a little easier.

5.4 Section Two: Data Collection Instrument Development

To determine the impact of the *SNACPlus Body Image Project* intervention on the knowledge, attitudes and behaviours of educators a pre- and post-intervention survey was developed, as well as a protocol for conducting post-intervention exit interviews. Table 10 lists the instruments adapted in Phase Two of this research, as well as the constructs they were designed to measure. Each of these is discussed further in the following sections.

Table 10: Data collection instruments

	Instrument	Constructs measured
Pre- and post-intervention survey	The Body Appreciation Scale (Avalos, Tylka, & Wood-Barcalow, 2005)	Positive opinions about one's own body, acceptance of one's body despite its imperfections, respect for one's body and rejection of unrealistic body ideals.
	The Knowledge Test for Body Image and Eating Patterns in Childhood (Damiano, Hart, & Paxton, 2015)	Educators' knowledge about body image development in children.
	Comprehensive Feeding Practices Questionnaire (Musher-Eizenman & Holub, 2007)	Educators' feeding practices and behaviors that influence body image development, e.g., dietary restriction, food reward and teaching about nutrition.
	Adapted Alcohol Attitudes and Problems Questionnaire (Fitzgerald et al., 2009)	Educators' role adequacy, legitimacy, support and work satisfaction.
Exit interviews		To get more in-depth responses on use and satisfaction Did educators make changes in their centre? Did educators learn anything? Why did educators use the material? Was the training effective?

5.5 Survey Development

While a range of validated instruments exist for use with adult populations to measure an individual's perception of their body image; attitudes towards obesity and overweight individuals; and knowledge and behaviours around nutrition; none appeared to exist specifically for use with early years educators. For the purpose of this research, existing instruments designed for the parents of preschool children and for professionals such as pharmacists, were modified. Each of the existing instruments was mapped against research questions and theoretical frameworks to determine their suitability (Table 11). The modified questions from each tool were combined to form the *SNACPlus Body Image Project survey*.

The pre- and post-intervention survey was based upon existing instruments, including the *Body Appreciation Scale* (Avalos et al., 2005); the *Knowledge Test for Body Image and Eating Patterns in Childhood* (Damiano et al., 2015); the *Comprehensive Feeding Practices Questionnaire* (Musher-Eizenman & Holub, 2007); and the *Alcohol Attitudes and Problems Perception Questionnaire*; and the *Competencies Questionnaire* (Fitzgerald et al., 2009). In order to reduce the burden on participants, some items were omitted from some surveys. This meant that scores from all subscales in the original surveys could not be calculated, and total summed scores were used instead. The rationale for the inclusion of each of these surveys is described in the section below, and the final survey is included as Appendix O. The adaptation of each of the existing instruments as well as the pilot process, is discussed further in the next section of this chapter.

Table 11: Research question, measurement tool and theory matrix

Research question	Measurement tool	Social Cognitive theory concept	Socio cultural theory
How do educators view their own body image?	Body Appreciation Scale (Avalos et al., 2005)	Observational learning: Comparison to others, and emulate their behaviours.	
What do educators know about the development of body image in preschool children in their early childhood education and care settings?	Knowledge Test for Body Image and Eating Patterns in Childhood (Damiano, Hart, & Paxton, 2015)	Facilitation. Reinforcing either approval or disapproval from others; or self-evaluative, that is the behaviours lead to self-worth or satisfaction (Bandura, 2004).	Scaffolding of behaviours
What behaviours related to body image do educators demonstrate to preschool children?	Comprehensive feeding practices questionnaire (Musher-Eizenman & Holub, 2007)	Moral disengagement: Moral agency may be selectively disengaged to allow for justification of immoral behaviours by individuals. Victim blaming, using euphemistic language, and diffusion of responsibility are all means by which individuals can justify actions which may otherwise be seen as forms of bullying (Bandura, 1999).	Interpreting cultural symbols Imaginative play Imitation
How do educators view their role in the development of preschool children's body image?	Adapted Alcohol Attitudes and Problems Questionnaire (Fitzgerald et al, 2009)	Self-efficacy: Four methods for improving self-efficacy recognised (McAlister et al., 2008). (1)Providing the opportunity to master a new task(2) Social modelling, (3) Ensuring emotional states are conducive to learning and (4) Using methods of verbal persuasion	
What was the impact of professional development on early childhood education and care educators' knowledge, attitudes, behaviours and self-efficacy?		Outcome expectancies.	

5.6 Adaptation of Existing Instruments

5.6.1 The Body Appreciation Scale

The Body Appreciation Scale (Avalos et al., 2005) was employed to measure the positive body image of educators, and was used in its entirety in the *SNACPlus Body Image Project survey*. This tool comprises 13 items with Likert scale responses (1=*never*, 5=*always*). Higher scores indicate higher levels of body appreciation and are associated with favourable rating of appearance and low levels of eating disorder behaviour (Avalos et al., 2005). Additionally, high levels of body appreciation appear to be protective against negative sociocultural influences on body image (Tylka & Wood-Barcalow, 2015). First tested in a sample of 424 American women, aged 17 to 50 years (Avalos et al., 2005) the *Body Appreciation Scale* has been modified for use with a range of populations (Swami & Chamorro-Premuzic, 2008; Swami & Harris, 2012; Swami, Stieger, Haubner, & Voracek, 2008). This scale did not appear to have been used with educators as the target group.

5.6.2 The Knowledge Test for Body Image and Eating Patterns in Childhood

As a core construct of the Social Cognitive Theory, knowledge is believed to be a precondition for behaviour change (Bandura, 1998, 2004). To measure the knowledge of educators in relation to body image development, the *Knowledge Test for Body Image and Eating Patterns in Childhood* (Damiano et al., 2015) designed to be used with parents of preschool children, was adapted for use with educators. The questions were designed to test knowledge relating to language, media influence on developing body image and healthy eating, and as such relate directly to tenets of the Social Cognitive Theory and the Sociocultural Theory, as shown in Table 11.

The *Knowledge Test for Body Image and Eating Patterns in Childhood* consisted of 11 items which have a Likert scale response and ten of the 11 were used. A question that asked participants to demonstrate their understanding of body image was deleted, as this was also asked as part of the *Adapted Alcohol Attitudes and Problems*

Questionnaire (see below). For the purpose of this research, the options in the scale were changed from *False, Somewhat false, Somewhat true, True*, to *Strongly disagree, Disagree, Neither agree nor disagree, Unsure and Agree, Strongly Agree* to provide continuity with other scales used in the *SNACPlus Body Image Project* survey. Scores for this scale could range from ten to 50, with a higher score indicating a greater level of body image knowledge (Damiano et al., 2015).

5.6.3 The Comprehensive Feeding Practices Questionnaire

Behaviour is a complex phenomenon in relation to body image development, and a range of behaviours may be viewed as influential in determining a child's relationship not only with their body, but also with food (Rodgers et al., 2013; Satter, 2013). *The Comprehensive Feeding Practices Questionnaire* (Musher-Eizenman & Holub, 2007) was employed as a validated scale previously used to assess feeding practices of parents with preschool-aged children (Blissett, Haycraft, & Farrow, 2010; Melbye, Øgaard, & Øverby, 2011; Rodgers et al., 2013). Subscales including: Child control; Emotion regulation; Encourage balance and variety; Food as a reward; Modelling; Monitoring; Pressure; Restriction for health; Restriction for weight control; and Teaching about nutrition are determined. For the purpose of this research, limited items from each of the subscales of *Pressure; Restriction for health; Encourage balance and variety; Teaching about nutrition; and Modelling* were included. Items used a five point Likert scale (Musher-Eizenman & Holub, 2007) with the addition of a sixth, "unsure" (*Strongly disagree, Disagree, Neither agree nor disagree, Unsure and Agree, Strongly Agree*).

Two questions were also adapted for use from the *Parenting Intentions for Body Image and Eating Patterns in Childhood* (Damiano et al., 2015). The first question asked participants if they had heard educators engaging in fat talk in front of the children, while the second asked participants to respond to a hypothetical parent query regarding weight and diet created by the researcher.

5.6.4 Role Legitimacy and Adequacy

Since this research aimed to develop body image professional development resources for educators, it was important to determine the likelihood and readiness of educators to use the intervention resources. A study by Fitzgerald and colleagues (2009) with pharmacists used the *Adapted Alcohol Attitudes and Problems Questionnaire* to determine their capacity and willingness to screen for alcohol dependency in their patients, and to deliver an intervention as required. For the current research, the questionnaire was adapted by changing references to ‘alcohol’ to ‘body image’ and replacing the term ‘patients’ with ‘children’. Items that could not be modified appropriately, or were not deemed relevant, were discarded, and six of a possible 20 questions were used in the final *SNACPlus Body Image Project survey*, as shown in Table 12.

All items from the subscale *Role Adequacy* were modified and used, one of the three items from the *Role Legitimacy* subscale was used, the item comprising the *Role Support* subscale was adapted and retained, and one of the four items from the *Work Satisfaction* subscale was retained. Items used a five point Likert scale, with the addition of “unsure” (*Strongly disagree, Disagree, Neither agree nor disagree, Unsure and Agree, Strongly Agree*). For ease of comparison, in this research the results from each of these subscales were summed, and referred to as a participant’s Role Score.

Table 12: Subscale and adapted items from the Adapted Alcohol Attitudes and Problems Questionnaire used to measure role

Subscale	Original item	Adapted Item
Role adequacy (all items)	I feel I have a working knowledge of alcohol and alcohol-related problems.	I know what body image means.
	I feel I know enough about the factors which put people at risk of developing drinking problems to carry out my role when working with hazardous drinkers.	I know enough about the factors that put people at risk of developing poor body image.
	I feel I can appropriately advise my patients about hazardous drinking and its effects.	I can encourage the children I work with to develop positive body image.
Role legitimacy (1 out of 3 items)	I feel I have a clear idea of my responsibilities in helping hazardous drinkers.	I have a clear idea of my responsibilities in encouraging positive body image in the children who I teach.
Role support (1 of 1 items)	If I felt the need I could easily find someone who would be able to help me formulate the best approach to a hazardous drinker.	If I needed to, I think I could easily find someone to help me find the best approach to deal with body image concerns.
Work satisfaction (1 of 4 items)	In general, I feel I can understand hazardous drinkers.	In general, I feel I can understand body image development in young children.

Additional demographic questions were added to the *SNACPlus Body Image Project survey* and included age, gender, years of service, type of service, educators' highest level of educational attainment and age range of children in their service. In addition to quantitatively testing the impact of the *SNACPlus Body Image Project* intervention, exit interviews were planned with participants. A request to participate in the planned exit interviews was the final survey question. A text box for participants to provide their contact details was provided. The full *SNACPlus Body Image Survey* is provided in Appendix O.

5.7 Reliability

Reliability is tested to determine the extent to which an instrument measures constructs consistently (Tavakol & Dennick, 2011). To test reliability, the finalised *SNACPlus Body Image Project survey* (Appendix O) was piloted in an early childhood

education and care service with a staff of 50 educators. The Director of the service requested the survey be made available online for staff, and accordingly, it was administered via Qualtrics (Provo, UT, 2015). Information and consent (Appendix O) were embedded in the first page of the online survey, and participants were requested to complete the survey immediately, and then were advised that they would be reminded via email to complete the survey again in two weeks.

Recruitment for the reliability testing was conducted via email with a link to Qualtrics (Provo, UT, 2015). The Director of the service subsequently reported that some educators were uncomfortable in the online environment. Following further consultation with the Director, paper surveys were also provided, and scanned and returned via email when completed. Despite the apparent interest of educators in the research, and support for their participation from the Director of the service, few responses from individual educators were received, so an incentive was offered (i.e. four \$50 gift cards) which increased the response rate slightly. Response rate in the first survey was 62% (n=34) compared with 48% (n=24) in the second survey.

Data were cleaned according to the procedure outlined by Van den Broek and colleagues (2005) comprising a three stage process of screening, diagnosis and editing. During the screening and diagnostic phases, incomplete surveys were deleted (n= 13) as were those who were participants had taken the survey a third time (n=4). In total 24 paired surveys were available for test-re-test analysis.

Cronbach's alpha was calculated for each item of the survey, and $\alpha=0.857$, a high level of internal consistency, was found. The survey was found to be reliable using this measure, and constructs in the survey were consistent, despite the measures having been adapted from their original forms. Cronbach's alphas for each item in the survey is shown in Appendix P.

5.8 Exit Interview Development

To test the impact of, and participant's use and satisfaction with the intervention, semi-structured exit interviews were designed to be administered via telephone

interview post-intervention. Telephone interviews were chosen as an appropriate method in this research as participants populated all Australian states, making face-to-face interviews beyond the budget of this research.

Telephone interviews are an increasingly common method of qualitative interviewing (Irvine et al., 2013) and there is evidence to suggest that for sensitive topics, telephone interviews may elicit greater disclosure from participants, as well as minimising potential harm to both the participant and the researcher (Mealer & Jones, 2014). The telephone interview protocol used in the *SNACPlus Body Image Project* was based on questions from the larger *SNACPlus* project's use and satisfaction tool, and has been included in Appendix U.

5.9 Chapter Summary

This chapter described the development of a body image intervention designed for use by educators of very young children that included curriculum resources based on four children's books; professional development resources; and resources that could be shared by educators with parents and caregivers. Intervention resources were tested for readability and piloted with educators, university nutrition students, and further piloted in an early childhood education and care service. Changes were made to the intervention to clarify key messages in tip sheets, and to the design and layout of the intervention materials according to the pilot results.

To test the impact of the intervention, the *SNACPlus Body Image Project* survey was developed using existing instruments for administration pre- and post-intervention, and found to be reliable using Cronbach's alpha. In addition to this, questions for exit interviews were designed to harness an understanding of the impact of the intervention on educators, as well as their satisfaction with the intervention. An interview question guide with prompts was developed Appendix U and used with consenting educators.

Chapter Six: Phase Three Methods

6.1 Introduction

Following the development and pilot testing of both the *SNACPlus Body Image Project* intervention resources and the survey used to evaluate the intervention's impact (Chapter Five) methods were devised for the implementation of the intervention and data collection which made up Phase Three of this research (see Figure 13). This chapter describes these methods, recruitment of participants, and details the implementation of the intervention, data collection and data management.

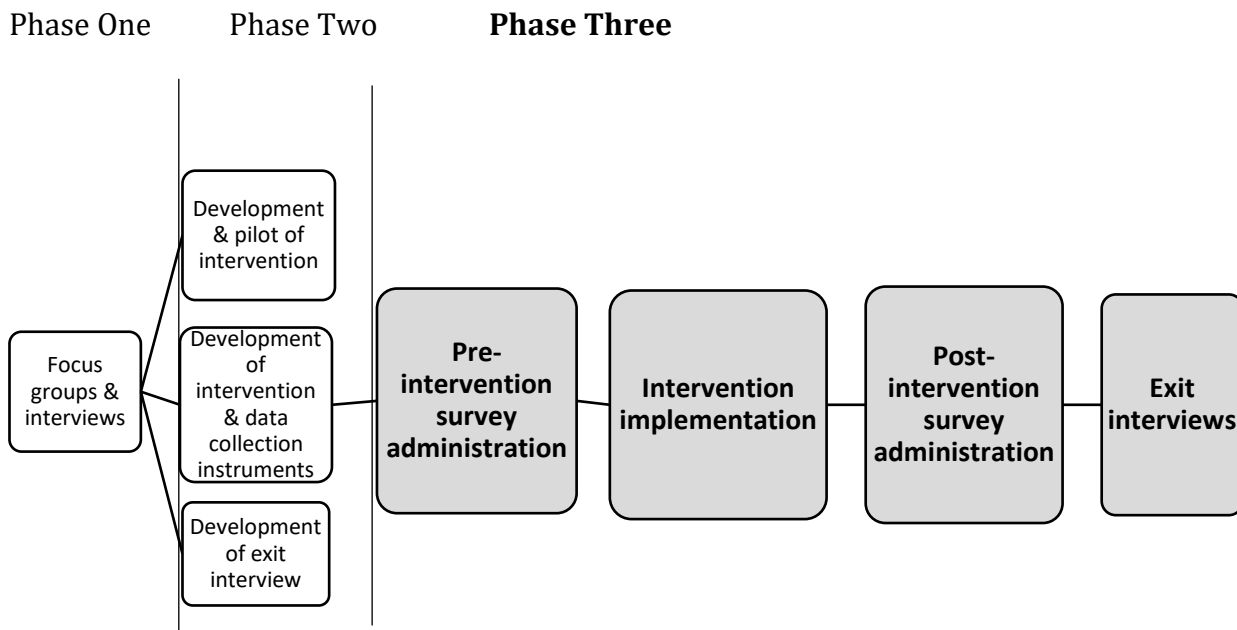


Figure 13: Study design: Phase Three

Phase Three of this research had both quantitative and qualitative data collection components. This chapter describes the methods for quantitative data collection (and the qualitative methods and methodology utilised for exit interviews have been described earlier in Chapter 3). Phase Three quantitative results will be presented and discussed in Chapter Seven, and Phase Three qualitative findings are discussed in Chapter Eight.

6.2 Implementation

After the development and finalisation of the *SNACPlus Body Image Project* intervention modules and pre-intervention survey, both were uploaded to the *SNAC* website by the web developer on the *SNACPlus* tab, as described in Chapter Five (Section 5.3). Researchers from the *SNACPlus Project* tested the online survey prior to launch to ensure its functionality.

The *SNACPlus Body Image Project* was officially launched mid-December, 2015. Participants from the formative stage of the research were informed about the launch and acknowledged for their assistance, though none of these participants completed a pre- or post-intervention survey, reducing the potential risk of Type III error (Creswell, 2009). In addition, 53 early childhood education and care services who had agreed to advertise Phase One of the research in their early childhood education and care were informed of the launch and provided with the *SNAC* website address, and instructions for registering and completing the *SNACPlus Body Image Project* survey.

If not registered already, participants were required to register as *SNAC* members and were then re-directed to the *SNACPlus Body Image Project* survey. The completion of the survey was forced, such that participants were unable to download the body image intervention resources without survey completion.

A multi-faceted approach was taken to recruitment, and a range of strategies were implemented to raise awareness about the intervention and maximise uptake. This section outlines the methods used to drive traffic and encourage participation in the *SNACPlus Body Image Project*.

6.3 Awareness Raising and Recruitment

Awareness raising and recruitment strategies were employed and repeated in each phase of this research. Similar to Phase One, Phase Three of the research utilised three main strategies to drive recruitment and awareness of the *SNACPlus Body Image Project's* launch, i.e. *SNAC* e-newsletters; industry newsletters and *Facebook*, which

are described in this section, and recruitment results for each of these strategies are discussed in Chapter Seven.

6.3.1 SNAC Newsletters

Over the course of the *SNACPlus Body Image Project*, e-newsletters were emailed to more than 1000 registered *SNAC* members on a fortnightly or weekly basis. Newsletters included a range of material, including nutrition information and links to the *SNAC* website. The *SNACPlus Body Image Project* maximised its promotion through this mechanism, and provided weekly invitations to use the body image resources, and to join the *SNACPlus Body Image Project Facebook* page.

6.3.2 Industry Newsletters

A range of early childhood organisations send newsletters and information to their membership. For the purpose of this research, the *Family Day-care Association of Western Australia* published a recruitment call in February 2016, and the national *Family Day-care Association of Australia's Jigsaw* magazine was contacted, and published an article about the study in March 2016.

6.3.3 Facebook

The final method of recruitment used heavily by the *SNACPlus Body Image Project* was *Facebook*. A dedicated *SNACPlus Body Image Project Facebook* page was established and advertised via email to new participants as they joined *SNAC*, and via the weekly *SNAC* e-newsletter. The page attracted 88 members, and was used as a vehicle for the researcher to join educator *Facebook* sites, and to drive traffic back to the *SNAC* website to recruit for the study by engaging with Australian educators on social media.

6.4 Sample Size

For the quantitative data collected in Phase Three of this research, sample size was calculated using G Power (Faul, Erdfelder, Lang, & Buchner, 2007). The sample size

required to detect a small to medium effect size (Cohen's $d = 0.4$) was calculated to be 55 participants, at 80% ($\alpha = 0.0125$). The four variables being tested in this research were; body appreciation, knowledge, behaviour and role legitimacy. Power was reached, as the number of responses in the pre-intervention survey was 187, and in the post-intervention survey was 97 matched pairs.

6.5 Data Collection

The *SNACPlus Body Image Project* survey was built into the *SNAC* website by the *SNACPlus* web developer, allowing digital data to be collected on the *SNAC* website. As described earlier, the intervention resources could only be accessed once a pre-intervention survey had been completed. The *SNACPlus Body Image Project* survey was open between December 4, 2015 and 4 April 2016 to gather pre-intervention data, and was completed by 187 participants, with collected data accessible only by administrators of the site.

Following completion of the pre-intervention survey, participants were sent a personalised email, thanking them for their participation and inviting them to claim the children's books to be used along with the learning activities for children in their service (see Appendix K: Learning Activity). In total, 142 sets of books were provided to participants, and 65 participants expressed interest in being involved in telephone exit interviews at a later date.

The *SNACPlus Body Image Project* survey was re-administered on the Qualtrics survey service (2015) post-intervention. Post-intervention participants were part of the pre-intervention cohort. As email addresses were collected at registration, participants were sent an individual link to the post-intervention survey at least eight weeks after completion of the pre-intervention survey, therefore pre-intervention and post-intervention survey responses could be matched. Four reminders were sent to participants to encourage completion of the survey. Incentives including two gift cards were offered. The post-intervention survey was closed on 30 June 2016 with 103 respondents commencing post-intervention surveys. Six surveys were removed from

the final analysis as they were less than 25% complete, therefore, 97 matched pairs were available for the final analysis.

Data from the pre- and post-intervention surveys were exported to MS Excel spreadsheets for cleaning and then uploaded to SPSS for analysis (IBM Corp, 2012). The next section describes data management and analysis plan for Phase Three quantitative data.

6.6 Data Management

Data were cleaned according to the three stage process outlined by Van den Broek and colleagues (2005). This procedure has been previously explained in Chapter Five, Section 5.7.

6.6.1 Recoding for Comparison

A number of survey responses were reverse coded in SPSS, according to the questionnaire scoring instructions from authors, to ensure that scores were correctly tallied. Reverse codes were applied to the adapted survey and are included in Table 13.

Table 13: Items reverse-coded

I tell the children what to eat without explanation.

Teaching a child about how the media manipulates images of celebrities is unlikely to help a child develop their own body confidence.

Dieting is a healthy behaviour.

Educators need not be concerned about how a child feels about their body until early adolescence.

Educators should judge when a child is full.

Demographic data were collated. Participants gave a range of responses for occupation which were re-coded into four new codes, as shown in Table 14.

Table 14: Recoding of occupations

Re-Code	Self-identified occupations
Manager	Owners/Managers/Supervisors/Second-in-charge
Educator	Teachers/Educators/Family day-care operators
Cook	Food coordinators/Chefs/Cooks
Professional	TAFE lecturers/Health professionals

All scales were then scored and summed accordingly to generate a *Behaviours score* from the *Comprehensive Feeding Practices Questionnaire* (Musher-Eizenman & Holub, 2007); a *Knowledge score* from the *Knowledge test for body image and eating patterns in childhood* (Damiano et al., 2015); a *Body Appreciation score* (Avalos et al., 2005); and a *Role score* to determine the willingness and capacity of participants to deliver body image resources (Fitzgerald et al., 2009).

6.6.2 Preliminary Analyses

Frequencies and descriptive statistics were completed for the intervention survey data using SPSS (IBM Corp, 2012) for paired responses only. Normality testing was performed on outcome variables, namely Knowledge, Behaviour, Role and Body Appreciation scores, which were then treated as continuous data. Statistical significance was set at a level of $p < 0.05$.

As these data were not normally distributed across each of the scores, non-parametric tests were conducted for all variables. The Wilcoxon Signed-Rank Test was used to determine whether there were significant changes in Knowledge, Behaviour, Role and Body Appreciation scores after the intervention. Spearman's Rho was also used to measure the strength of correlations between these variables. General linear modelling was used to determine the impact of the intervention, when controlling for age, education and role at work.

6.7 Chapter Summary

This chapter has described the methods used in the quantitative section of Phase Three of this research. In addition to describing the implementation of the intervention, the recruitment strategies were outlined. Data collection and management strategies employed in this research have been detailed, as has the preliminary data analysis plan for the quantitative data collected in Phase Three.

Chapter Seven presents the results of the *SNACPlus Body Image Project survey*. The results of the qualitative exit interviews undertaken post intervention are discussed in Chapter Eight.

Chapter Seven: Phase Three: Quantitative Results

7.1 Introduction

This chapter presents the results of the Phase Three quantitative *SNACPlus Body Image Project* survey (see Figure 14). Based on a powered analysis, the desired sample size for this study was 55 participants, at 80% ($\alpha=0.0125$). The final sample size of 97 matched pairs exceeded the number of subjects required to have sufficiently acceptable statistical power. As indicated in Chapter Three, a mixed methods approach necessitates the adoption of both interpretivist and positivist ontologies, with a positivist lens utilised here.

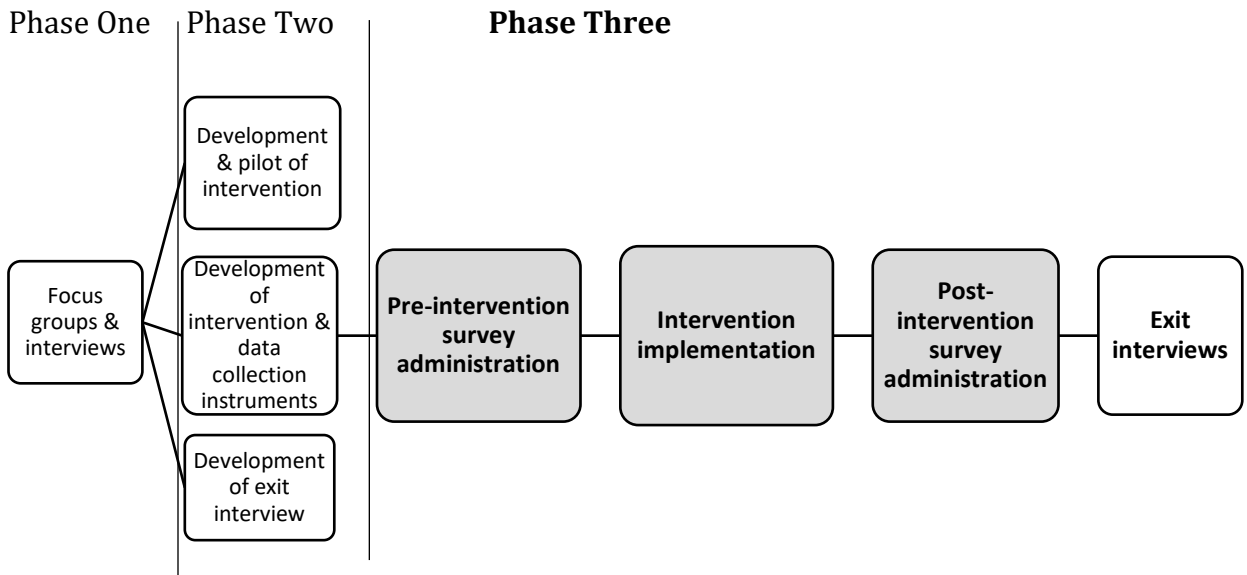


Figure 14: Study design: Phase Three quantitative results

The first section of this chapter, reports recruitment awareness-raising activities and rates of recruitment, followed by pre- and post-intervention survey results. Results indicating the impact of the intervention are described in relation to each of the research questions posed in this study. Only the quantitative results are presented here. Discussion of these results is presented in Chapter Nine.

7.2 Recruitment Results

7.2.1 E-newsletters

To drive recruitment and traffic to the *SNACPlus Body Image Project* site, electronic newsletters were used as a communication strategy as discussed previously (6.3.1 *SNAC Newsletters*). An example of a newsletter advertising the Butterfly Foundations' *Fat Talk Free February* (Butterfly Foundation, 2017) is provided in Figure 15.

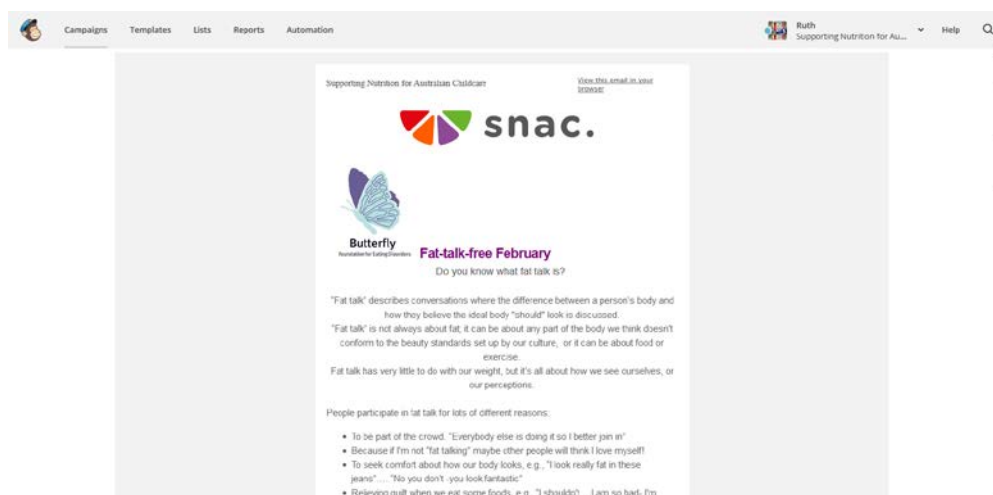


Figure 15: Example of a SNAC e-newsletter: 3 February 2016

This e-newsletter (Figure 15) was sent to more than 1000 *SNAC* members. It was opened by 45% of recipients, with 13% opening embedded links to access the suite of *SNACPlus Body Image* Modules.

7.2.2 Industry Newsletters

Articles included in the e-newsletters of early childhood education and care organisations resulted in approximately 25 family day-care operators and family day-care coordinators becoming *SNAC* members. *Care for Kids* (a website that provides information on early childhood education and care services to educators and parents, as well as an online newsletter) published a short article in February 2016 which

resulted in a spike in membership on the *SNAC* site, and several telephone interviews.

7.2.3 Facebook

At the commencement of this research, membership on the *SNAC website* totalled approximately 900 members. At the conclusion of the *SNACPlus* project's recruitment phase, *SNAC* had doubled in size to more than 1800 members, and though not all of this increase in membership is attributable to the *SNACPlus Body Image Project*, there were apparent spikes in membership which coincided with the *Facebook* advertising undertaken for this research. Figure 16 charts the rate of membership growth which increased in the months of December, January, February and March due to the abovementioned recruitment strategies which are asterisked and plotted accordingly. High levels of engagement with the *SNACPlus Body Image Project Facebook* page recruitment strategies in part explains the increased membership on the *SNAC* website seen in January and February.

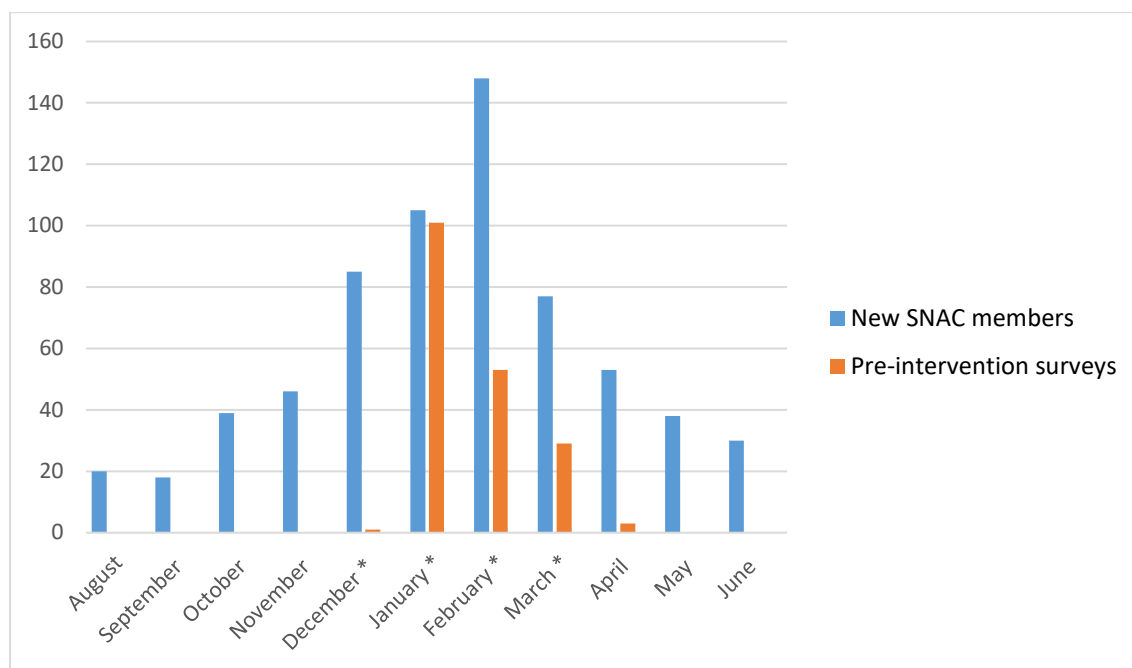


Figure 16: New *SNAC* members and *SNACPlus Body Image Project* pre-intervention surveys August 2015 - June 2016

The post-intervention survey asked participants if they joined the *Facebook* page. Of the participants who responded to this question (n=75) 23 joined the *Facebook*

page, with 100% of these respondents finding the page useful or very useful.

Facebook posts which attracted members and demonstrated the greatest reach were among the most popular posts that received the most shares and clicks (Table 15).

Table 15: Facebook Posts attracting the highest engagement on the *SNACPlus Body Image Project* Facebook page

Date	Post topic	Reach	Engagement	
			Post clicks	Comments & shares
8/2/2016	Recruitment call for project	3.6 k*	328	51
25/1/2016	Recruitment call for project	998	45	2
13/7/2016	Mindfulness	229	8	2
25/3/2016	Thinking nutrition re-post: "Diet books are full of lies"	191	24	5
6/11/2016	Live lighter "Facts about junk food" infographic	167	12	3
6/11/2016	The effects of "Fitspo" on health	149	16	7
7/3/2016	"Girls make your move" clip	148	15	12
18/2/2016	Call for recruitment – "Full Mouse, Empty Mouse"	108	11	5

*k=1000

7.3 Results of Pre- and Post-Intervention Survey

In Phase Three of the research, participants completed both pre- and post-intervention surveys (described earlier in Section 5.6 Adaptation of Existing Instruments). All but one of the participants was female, the majority had completed further studies at TAFE (32.9%) or University (52.1%) and the most commonly-occurring age range of participants was between 36 and 55 years of age (Table 16). Those who identified themselves as educators (educators 13.7% and family day-care educators 11%) comprised almost one quarter of total participants. As the intervention was online there was national representation, with more than half of the sample (54.7%) from New South Wales and Victoria, and one in five participants were from Western Australia.

Table 16: Differences in demographic characteristics of pre (n=187) and post-intervention participants (n=97)

	Pre-intervention		Post-intervention		p value
	n	%	n	%	
Female	186	99.5	96	99	0.635*
Male	1	0.5	1	1	
Total	187	100	97	100	
Age					0.667
Under 25	10	5.3	2	2.1	
26-35	30	16	17	17.7	
36-45	67	35.8	31	32.3	
46-55	61	32.6	36	37.5	
Over 56	19	10.2	10	10.4	
Total	187	100	96	100	
Body Mass Index (based on self-reported height and weight)					0.901
Underweight (BMI <18.5)	3	1.9	1	1.3	
Healthy weight range (BMI 18.6- 25)	65	41.1	34	43.6	
Overweight (BMI 25.1-29.9)	49	31	22	28.2	
Obese (BMI 30 -34.9)	26	16.5	11	14.1	
Obese I (BMI 35+)	15	9.5	10	12.8	
Total	158	100	78	100	
Role					0.250
Managers	62	33.7	22	30.2	
Educators	72	39.1	35	47.9	
Cooks	9	5	6	8.2	
Professionals	41	22.2	10	13.7	
Total	184	100	73	100	
Highest level of education					0.951
Secondary school	5	2.7	2	2.1	
TAFE	70	37.6	38	39.5	
Apprenticeship	1	0.5	0	0	
University	99	53.2	50	52.1	
Other	11	5.9	6	6.2	
Total	186	100	96	100	
State					0.981
New South Wales	72	38.7	33	34.7	
Western Australia	34	18.2	20	21.0	
Victoria	37	19.9	19	20.0	
Queensland	26	14.0	13	13.7	
South Australia	8	4.3	5	5.3	
Tasmania	6	3.2	3	3.2	
Northern Territory	2	1.1	2	2.1	
Total	186	100	95	100	

*Chi-square test was used, except for gender where Fisher's exact test was used.

Analysis of the demographics characteristics revealed participants were not significantly different from pre to post-intervention (Table 16). The post-intervention

sample was therefore deemed representative of the total sample in terms of all demographic variables.

7.4 Use of the Resources

A number of questions in the post-intervention survey asked participants to indicate their use of the *SNACPlus Body Image Project* materials. Participants were asked how often they logged into the body image modules (n=82). While 20.0% of respondents used the materials once per week or more, 44.0% reported they logged in once per month. Almost one third (30.5%) disclosed that they never logged in.

Participants who reported they never logged in, were asked to identify barriers to use. A list of possible barriers was provided in the survey, with the option to add other barriers as required. *Lack of time* was the main barrier (52.0%); while others reported limited access to a computer (20.0%); and *being on leave or forgetting about the program* as responses (Table 17).

Table 17: Barriers to using the body image resources (n=25)

What prevented you from using the Body Image modules?	n=25	%
Lack of time	13	52
Limited access to a computer	5	20
Program already existing in my Early Years Service	5	20
Other	5	20
Lack of interest	1	4
Other resources available	1	4

Participants who reported using the resources (n= 72) indicated the children's books and tip sheets were useful and worthwhile, and more than three-quarters of respondents stated they had made changes in their services or planned to make changes in the future. Of respondents who used the online materials, the majority (80.0%) said they shared the materials with others in their service.

7.4.1 Tip Sheets

Participants were asked to identify whether or not they used the online professional development tip sheets. Of the 82 participants, 67% reported using them,

and 82% of these participants shared these with others in their service, or with other educators, extending the reach of the materials further. Those who used body image tip sheets were then asked to choose which of these they read, how much they read of each sheet (i.e. *all, half, a bit, none*) and then if they would use the tip sheets again (i.e. *yes, no, maybe*) (Table 18).

Table 18: Tip sheet dose (n=55)

	I read this tip sheet				How much of it did you read?						Would you use it again?					
	Yes		No		All		Half		A bit		Yes		No		Maybe	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
What is body image?	53	96.3	2	3.7	47	85.5	3	5.4	5	9.1	47	85.5	5	1.8	7	12.7
Educators role in developing positive body image	51	92.7	4	7.3	47	85.5	3	5.4	5	9.1	48	87.3	-	-	7	12.7
Talking about food and health	48	87.2	7	12.5	42	76.3	2	3.7	11	20.0	45	81.8	-	-	10	18.2
Mindfulness and food	44	80.0	11	20.0	40	72.7	2	3.7	13	23.6	40	72.7	-	-	15	27.3
Screen time and media	45	81.8	10	18.2	37	67.2	4	7.3	14	25.5	40	72.7	1	1.8	14	25.5
Teasing does matter!	41	74.5	14	25.5	36	65.5	3	5.4	16	29.1	38	69.1	1	1.8	16	29.1
Avoid fat talk	42	76.3	13	23.7	36	65.5	4	7.3	15	27.2	36	65.5	-	-	19	34.5

7.4.2 Case Studies

The intervention included professional development case studies that provided educators with scenarios to stimulate awareness and help to develop strategies for responding to children's behaviours (Section 5.2.3 Case Studies). The case studies were used by one-quarter of respondents (n=23). Case studies on 'Fat talk and dieting' were the most utilised (68.2%) while the least utilised case study discussed was 'Diversity' (54.5%). The majority of respondents (95%) who used case studies (n=21) reported *they were useful or very useful*.

7.4.3 Children's Books

A suite of children's books were provided to 86% of participants (n=84). Of these, 69 participants indicated the books they read most frequently were *What I like about me* and *The skin you live in* and 94.2% *liked* or *loved* these books. One third (33%) of the participants indicated children did not like *Full mouse, empty mouse*. The books titled *What I like about me* and *The skin you live in* were read *many times* by participants (42.0% and 39.1% respectively). *Full mouse, empty mouse* was not read by one-third of participants (30.4%).

7.4.4 Learning Activities

Each of the storybooks were accompanied by learning activities, that were reportedly used by 83% of respondents (n=80). Similar to the popularity of the books, learning activities, *What I like about me* and *The skin you live in* were used the most frequently (56.25%) (Table 19).

Table 19: Which of the learning activities did you use? (n=80)

Learning activity	n	%
What I like about me	45	56.25
The skin you live in	45	56.25
Shapesville	27	33.75
All of me	24	30
I did not use any of the learning activities	23	28.75
I'm glad I'm me	19	23.75
Full mouse, empty mouse	19	23.75
Eating mindfully	14	17.5
All about me playlist	5	6.25

Not all participants used the intervention materials, though those who did indicated that the children's storybooks and tip sheets were useful and worthwhile. Despite the lack of use by some, more than three-quarters of respondents stated they had made changes in their services or planned to make changes in the future, and more than two-thirds of respondents who used the resources said they would do so again.

The next section of this chapter reports the program impact using the paired survey data (n=97). Some respondents missed questions therefore the sample size for various questions differs and this has been reported by scale. As the data were continuous and non-normally distributed, Wilcoxon Signed Ranks Tests (WSRT) were used to determine the impact of the intervention.

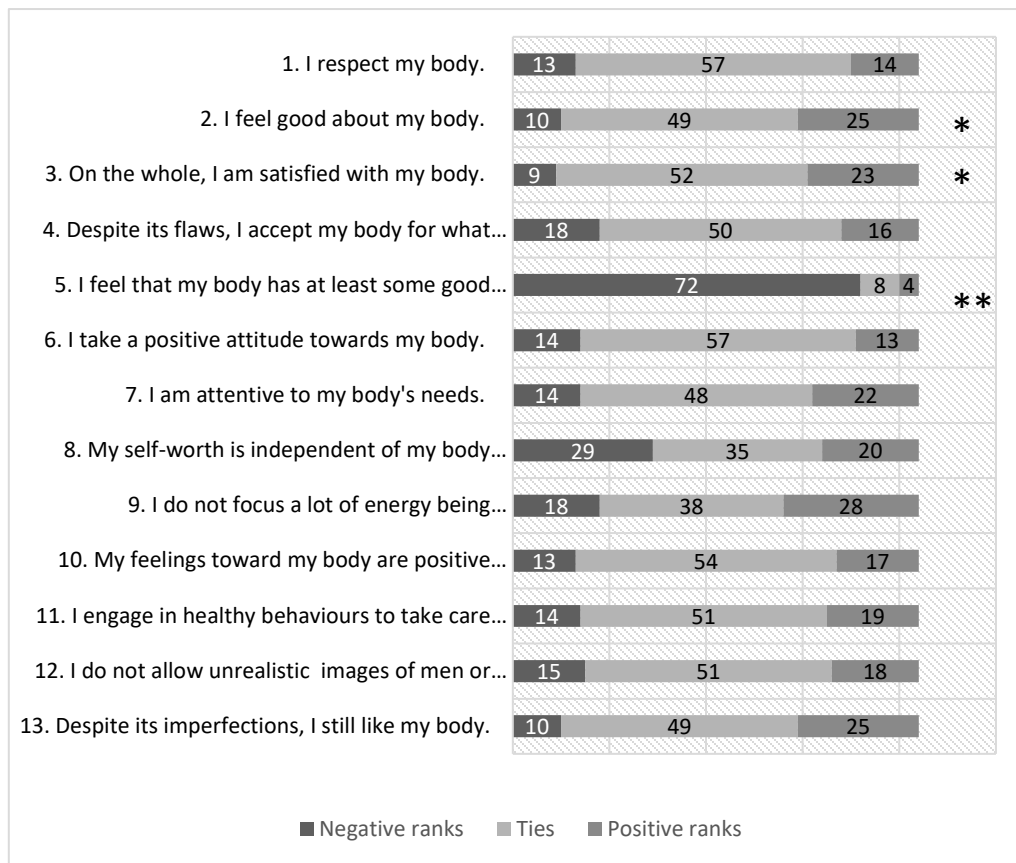
7.5 How do educators view their own body image? Body Appreciation

Participants' body appreciation was measured using the *Body Appreciation Scale* (Avalos et al., 2005) which provides domains for body acceptance, respect and appreciation of one's body (see Section 5.6.1 The Body Appreciation Scale). The cross

sectional survey responses for 187 participants are reported, as well as the 85 matched responses in Appendix Q.

Body appreciation scores were tallied for matched pairs in the pre-intervention and the post-intervention survey, with higher scores indicative of higher levels of body appreciation. Scores ranged from a minimum score of 17 (i.e. low body appreciation) to a maximum score of 65 (i.e. the highest possible score of body appreciation). Pre-intervention body appreciation scores were negatively skewed and clustered (skewness = -0.542, kurtosis = 0.212) indicating the scores were at the higher end of the scale. Post-intervention, body appreciation scores remained high and negatively skewed and clustered (skewness = -0.641, kurtosis = 1.271).

The total body appreciation scores were not markedly different from pre- to post-intervention (Median (IQR) 49 (41-54) versus 49 (44-52), $p > 0.05$). Individual items did change significantly from pre- to post-intervention (Figure 17) such that the negative ranks indicating a negative change (dark grey), ties indicating no change (light grey) and positive ranks indicating a positive change (medium grey). Item 5 (*I feel that my body has at least some good qualities*) showed large changes in a negative direction, indicating reductions in body appreciation scores, however, most changes made by participants were from *Strongly agree* to *Agree* or vice versa, rather than a positive to negative shift in response. Other items which changed significantly included Item 2 (*I feel good about my body*, $p < 0.02$, ES= 0.277), Item 3 (*On the whole I feel satisfied with my body*, $p < 0.02$, ES= 0.273) and Item 13 (*Despite its imperfections, I still like my body*, $p < 0.02$, ES= 0.278) all having a small to medium effect size (between 0.1 and 0.3). Item 5 (*I feel that my body has at least some good qualities*) showed significant change with a large effect size of more than 0.5 ($p < 0.001$, ES= 0.740).



Wilcoxon Signed Ranks Test Denotes * $p < 0.02$, ES Cohen's $r = < 0.3$ Denotes ** $p < 0.001$, ES Cohen's $r > .07$

Figure 17: Change in Body Appreciation Items pre- and post-intervention: (n=85)

Despite a non-significant overall change in body appreciation scores, total scores remained relatively high indicating an initial high level of body appreciation amongst this sample that was maintained post-intervention. Several individual items changed significantly and these were in the domain of body respect. The domains of attending to the body's needs, engaging in healthy behaviours and rejecting unrealistic images did not change significantly post-intervention suggesting the intervention did not impact these areas or resonate with individuals, and may be due to high pre-intervention body appreciation scores.

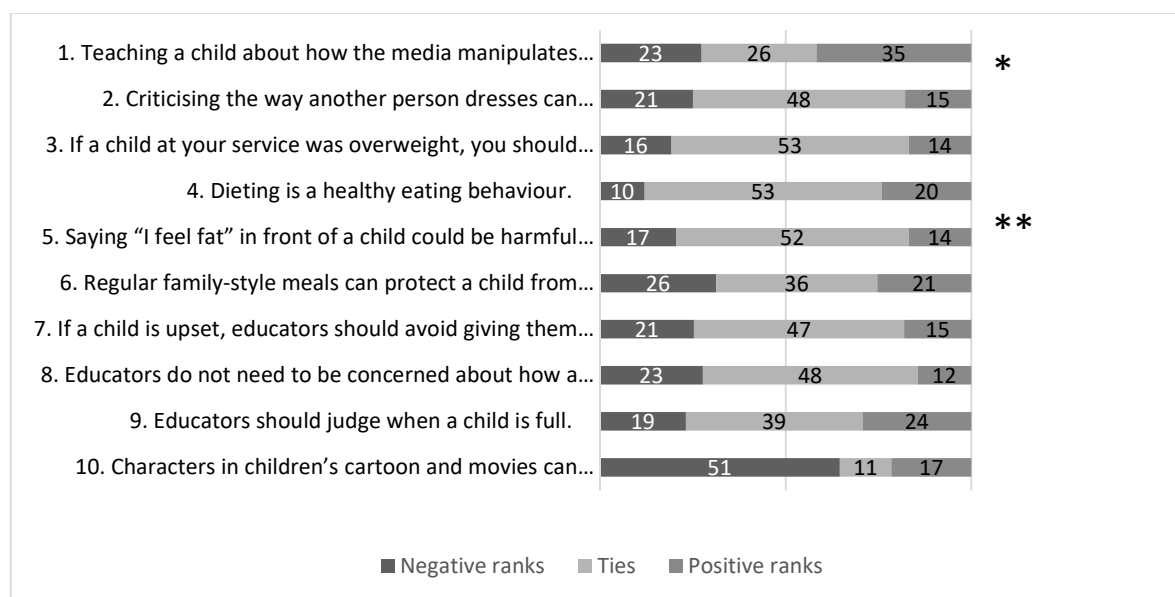
7.6 What do educators know about the development of body image in preschool children in their early year's settings? Knowledge Test for Body Image and Eating Patterns in Childhood

To determine educators' knowledge of body image in very young children, the *Knowledge Test for Body Image and Eating Patterns in Childhood* (Damiano, et al., 2015) was modified (Section 5.5.2) and administered. The adapted test was used to determine participants' knowledge of a range of risk factors associated with the development of negative body image in young children. The sample size for these questions in the pre-intervention ranged from n=169 to 186, and for the post-intervention n=85 matched pairs. Raw data response frequencies are shown in Appendix R.

At baseline, knowledge scores ranged from 26 to 50, from a possible 50 points (Median = 40, IQR 37-42), indicating high levels of pre-intervention knowledge (skewness = -0.188, kurtosis = 0.036). Post-intervention, knowledge scores ranged from 30 to 50 (Median = 38, IQR 36 – 41) indicating that scores remained at the higher end of the scale (skewness = 0.368, kurtosis = 0.871). Overall, the median knowledge score decreased slightly by 1.01 points ($z = -2.466$, $p < 0.014$). This may be explained by significant shifts in certain individual items (Items 1, 4 and 10, Figure 18) and included the understanding of the significant role of media, cartoons and children's characters and eating behaviours. Furthermore, more participants agreed with the statement that *Dieting is a healthy eating behaviour*, despite the intervention resources not endorsing dietary restriction. Effect size for each significant item ranged from 0.3, a small effect, to 0.5, a medium effect size (Figure 18).

Despite no overall improvement in knowledge after the implementation of the intervention, pre-intervention levels were high. It appeared that the intervention had confused the participants' knowledge about; the role media played in the

development of children's body image; that dieting was not a healthy behaviour; and, the need for educators to judge when a child is full.



Wilcoxon Signed Ranks Test Denotes * $p < 0.05$, ES Cohen's $r > 0.3$, **Denotes $p = 0.04$, ES Cohen's $r > 0.3$, ***Denotes $p < 0.01$, ES Cohen's $r = 0.5$

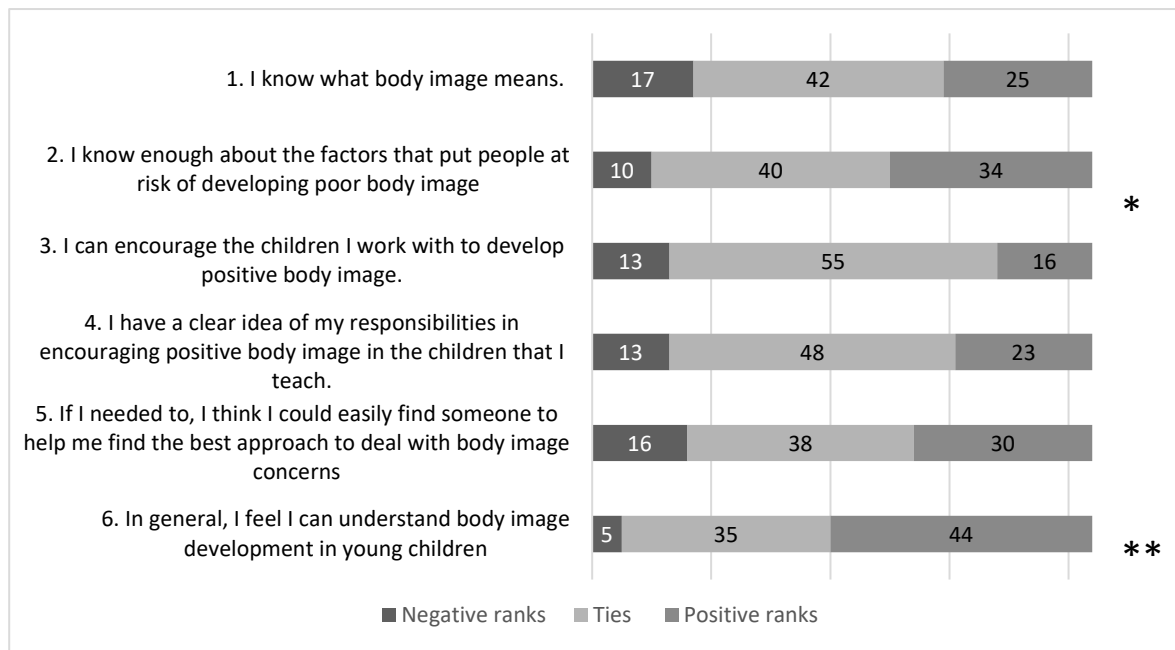
Figure 18: Knowledge test for body image and eating patterns in childhood (n=84).

7.7 How do educators view their role in the development of preschool children's body image? Role legitimacy and adequacy

To determine if educators believed they had a role in fostering the positive body image of young children, six items were adapted from the *Alcohol Attitudes and Problems Perceptions Questionnaire* (Fitzgerald et al., 2009) and included in the pre- and post-intervention survey (as described in detail in Chapter Five). Frequencies of responses are shown in Appendix S (n=77). A total score for role (out of a possible 30) was generated by summing responses, and ranged between 8-30 (pre-intervention) and 7-30 (post-intervention). All responses were positively skewed (skewness=-0.343, kurtosis = 0.747) meaning participants generally viewed their role in children's body image development favourably. Due to non-normal distribution of participants'

scores, non-parametric tests were employed. There was a significant improvement from baseline in scores (IQR) (23 (21-25) vs 24 (23-27), $z=-4.071$, $p<0.001$) using a WSRT.

Analysis of the individual item responses suggested that the participants had a clear idea of their responsibilities in fostering positive body image in young children (pre= 83.4%, post= 93%) and almost all said they understood what body image means (pre = 90.4%, post = 98.8%). Between 10 and 25% of responses to all other questions were unsure, indicating uncertainty of their role in relation to body image. Despite the majority of responses remaining unchanged after the implementation of the intervention, there were some marked improvements in participants' confidence in relation to understanding body image, having capacity to seek help should they require it, and knowledge of risk factors for the development of poor body image. Items that changed significantly with a large effect size were Item 6 ($p<0.01$, $ES=0.567$) and Item 2 ($p<0.05$, $ES= 0.404$) whereas a significant change but small effect size was found for Item 5 ($p<0.05$, $ES=0.224$) (Figure 19). Overall, there was significant change in role scores, with participants appearing to increase their confidence in their ability to foster positive body image and realise this was part of their role.



Wilcoxon Signed Ranks Test *Denotes $p < 0.05$, ES Cohen's $r = 0.404$ **Denotes $p < 0.05$, ES Cohen's $r = 0.224$

Figure 19: Change in role legitimacy, adequacy and competency in 77 educators

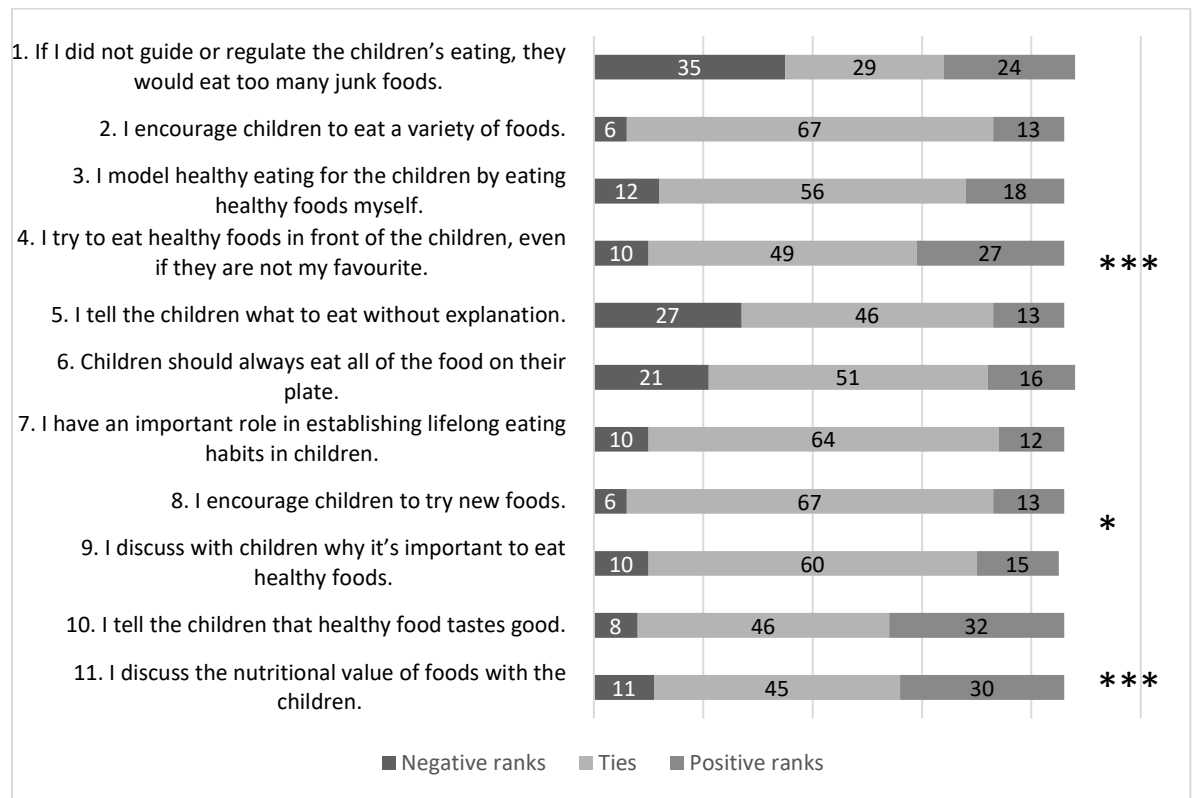
7.8 What behaviours related to body image do educators demonstrate to preschool children? Comprehensive Feeding Practices Questionnaire

In order to test feeding practices and behaviours that influence positive body image development, questions from the *Comprehensive Feeding Practices Questionnaire* were modified (see Chapter Five) and included in the *SNACPlus Body Image Project survey*. Behaviour questions were generally answered decisively, with *neither agree nor disagree* being chosen in less than 10% of cases, except for questions in relation to the subscale *Restriction for health*, an area that indicated some uncertainty (Appendix T).

Behaviour scores were high pre-intervention and ranged from 19-55 (out of a possible 55) with the median (IQR) score of 47(43.74-50). Distribution was clustered and positively skewed (kurtosis = 0.516, skewness = -2.319) meaning that participants reported positive feeding practices. Post-intervention behaviour scores ranged from

39-55 (Median (IQR) 49 (45-51)) and had improved significantly ($z=-2.429$, $p<0.015$) indicating a positive improvement in child feeding practices.

Analysis of individual items using WSRT showed a significant change in four knowledge items (Items 4, 8, 10 and 11) (Figure 20). Each of these items were associated with subscales relating to nutrition and nutrition education, yet no significant change occurred with items relating to pressure or restriction for health being recorded.



Wilcoxon Signed Ranks Test *Denotes $p<0.05$, ES Cohen's $r = 0.217$ **Denotes $p<0.001$, ES Cohen's $r = 0.277$ ***Denotes $p<0.01$, ES Cohen's $r > 0.3$

Figure 20: Behaviour pre- and post-intervention: Wilcoxon Signed Ranks Test

In addition to questions from the *Comprehensive Feeding Practices Questionnaire*, questions were adapted from the *Parenting Intentions for Body Image and Eating Patterns in Childhood* (see Chapter Five) and posed post-intervention only. These questions allowed participants to choose as many responses as they felt appropriate.

The first question asked educators what they would do if they overheard an instance of ‘diet talk’. The majority of participants (76.0%) chose the option *‘Remind the educators that it’s not a good idea to talk about their diet in front of the children’*. A further 11.0% of educators indicated they would be uncomfortable saying something to the educator; 3.1% stated they would ask for details of the diet; and 4.1% indicated they would not be concerned about ‘diet talk’ in front of children.

A second scenario asked participants to indicate how they would navigate a sensitive query from a parent regarding weight. The question asked: *A parent mentions that their child is putting on weight, and they would like you to make sure that the child doesn’t eat too much at meal times*. Three quarters of respondents (75.3%) chose the response which explained that their service took a child-centred approach to food regulation. A further 7.2% of participants indicated that this request would make them feel uncomfortable but would agree to do so, while almost one-quarter of participants indicated they would be pleased the parents had noted changes in the child’s weight; and one quarter agreed to monitor a child’s intake. Less than 10.0% (9.3%) of participants indicated they believed they did not have any responsibility for a child’s weight.

Behaviour scores were high both pre- and post-intervention, and most change occurred in relation to nutrition education and modelling of nutrition-related behaviour. The majority of participants recognised they had some responsibility for children’s weight and chose a child-centred approach to hunger and satiety, and recognised that ‘diet talk’ in front of children was a behaviour best avoided.

7.9 What was the impact of professional development on educators’ knowledge, attitudes, and behaviours in relation to fostering positive body image?

The impact of the intervention on participants’ knowledge, attitudes and behaviours was assessed according to a range of validated measures, participants were also asked to indicate whether they had made changes to practices within their

service due to their participation in the *SNACPlus Body Image Project* (n=77). Almost 60.0% of participants responded they had made some change to their service, 28.6% planned to make changes in the future, and 11.7% stated there had been no change.

Those who answered 'yes', 'maybe' or 'I plan to make changes in the future' (n=61) were directed to complete an open-ended response to the question: *What changes did you make at your service as a result of taking part in this project?* Many of the comments focused on general nutrition; awareness and elimination of 'fat talk' in front of children; changes to feeding practices; and greater understanding of children's hunger and satiety were noted. These comments are outlined and discussed in Chapter Nine.

In an attempt to gain some indication of factors which may confound survey results, participants were asked if they had engaged with any additional resources relating to body image across a number of platforms, including television, the internet, social media and magazines (Table 20). Of the 79 participants who answered this question, more than half had read about body image on social media platforms (51.7%); about one third had engaged with body image resources in traditional media such as television (31.6%); and magazines (31.6%); and almost one quarter had heard body image discussed on radio (22.7%).

Table 20: Media where body image resources was accessed

	n	%
Read about body image on the internet	31	39.2
Read about body image on Facebook	27	34.1
Watched a television show that discussed body image	25	31.6
Read about body image in a magazine	25	31.6
Listened to body image being discussed on the radio	18	22.7
Watched a clip about body image on the internet	14	17.7
Other	11	13.9
Read about body image on Pinterest	9	11.3
Read about body image on other social media sites like Instagram	5	6.3
Watched a movie about body image	4	5

In order to test the impact of the body image intervention, a range of measures were employed. A series of correlations were performed to determine relationships between variables, and General Linear Models (GLM) were used to adjust for confounding factors. Results from these measures are discussed in the following sections.

7.9.1 Correlations

Non-parametric correlations were used to explore the relationships between variables for post-intervention scores. Spearman's rho indicated the presence of a strong positive correlation between post-intervention knowledge scores and role scores ($r_s=0.329$, $p<0.005$, two tailed, $n=74$). As respondents' knowledge increased so too did their role score, indicating that a greater understanding of body image development coincided with participants' greater belief in their role in the body image development of children.

A positive correlation was also indicated between role scores and behaviour scores ($r_s=0.436$, $p<0.001$, two tailed, $n=74$) such that a greater belief in role, was associated with more positive respondents' behaviours and feeding practices. Additionally, knowledge and behaviour scores were positively correlated in this sample ($r_s=0.466$, $p<0.001$, two tailed, $n=74$). It appeared that increases in knowledge

relating to body image development were associated with positive feeding behaviours. No significant correlations, however, were found between body appreciation scores and knowledge, role or behaviour scores ($p>0.05$).

In this research, behaviours relating to the feeding practices of educators were measured, and were generally high pre-intervention, though post-intervention, some scores improved significantly.

7.9.2 General Linear Models

To further explore relationships between variables, General Linear Models (GLM) were used to determine if associations remained between variables after adjustment for co-variates or confounding variables. The following section describes each GLM.

Model 1: Body Appreciation Score, BMI and age

Model 1 explored the relationship between body appreciation scores, BMI and age. A relationship between body appreciation scores and BMI was significant ($p < 0.05$) when adjusted for age (Partial Eta = 0.142) (Figure 21) such that those with a BMI > 35 kg/m² ($n = 9$) showed the highest increase in body appreciation 43.7 to 48.3 (95% CI 43.315, 53.226). There appeared to be little change in body appreciation scores for those with lower BMI (18.5 to 34.9 kg/m²).

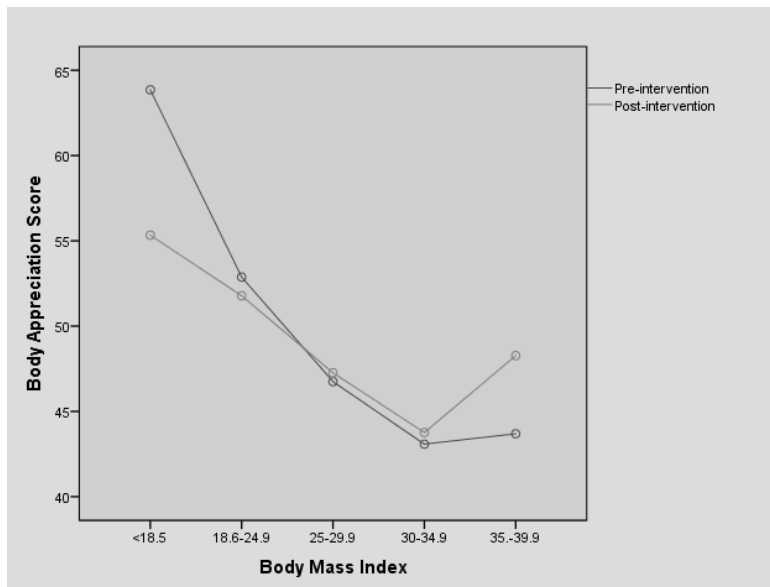


Figure 21: Body appreciation scores and BMI, adjusted for age (n=70). Covariates appearing in the model are evaluated at age range 36-45.

Model 2: Role score, BMI and Age

Model 2 explored the relationship between role scores and age and BMI (Figure 22). Role scores increased across all BMI categories (except <8.4 kg/m², n=1) but most significantly in the highest BMI range (35-39.9 kg/m²) where the mean score increased by 5.1 points. The model illustrated that participants' belief in their role legitimacy increased with BMI ($r = 0.40$, $p = 0.05$) with a medium effect size (Partial Eta = 0.164).

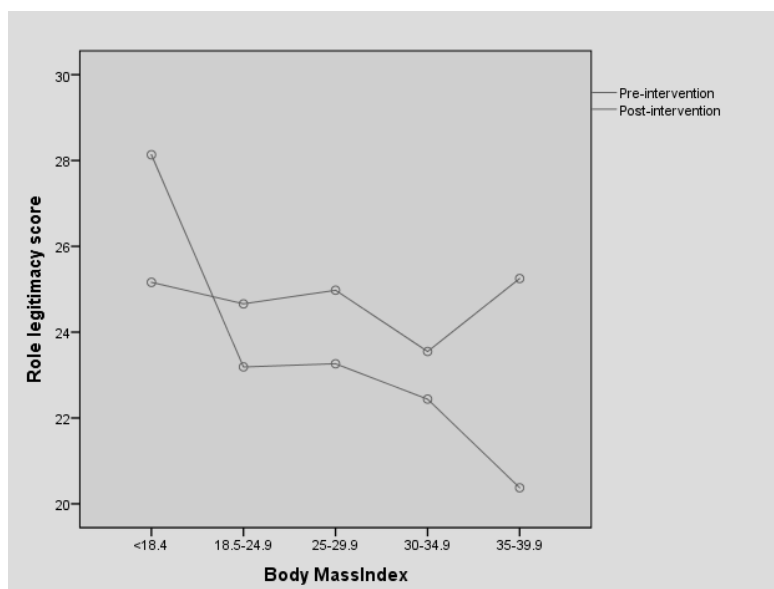


Figure 22: The relationship between role score and BMI, adjusted for age (n=61). Covariates appearing in the model are evaluated at age range 36-45.

GLM was used to further explore the relationships between knowledge and body appreciation scores; knowledge and role legitimacy; and behaviour and role legitimacy; and no significant relationships were found after adjustment for education and age of participants.

7.10 Chapter Summary

This chapter has described the impact of the intervention on the knowledge, feeding behaviours, role beliefs and body appreciation of educators. While not all of the participants made use of each part of the intervention, almost two-thirds indicated they had made organisational changes at their early education and care service following their participation in this research, and almost one-third stated they would be making changes to practices in their services in the future.

Tip sheets, learning activities and children's books were the most commonly-used resources provided to educators and distributed to parents, while case studies and *Facebook* were used less frequently by participants in this sample but were strategic to drive recruitment.

Body appreciation scores were high both pre- and post-intervention, with no significant change apparent in total scores. Individual items, however, did change significantly after the intervention, and in key domains of body respect, rather than in the other areas such as rejection of unrealistic media images or engaging in healthy behaviours. Additionally, body appreciation was found to be associated with BMI such that those who had a high BMI experienced the most significant improvement in body appreciation.

Overall, role scores increased significantly post-intervention, with a consequent rise in self-efficacy, knowledge of risk factors and understanding of the meaning of body image. Key constructs within these scores, role adequacy and role support changed significantly, however, the construct of role legitimacy did not improve. Role scores were found to be correlated with healthier behaviours, and results indicated that greater belief in the educator's role in body image development was aligned with positive feeding practices.

Knowledge scores were high among this sample at base-line, however, a minor but significant decline in post-intervention knowledge scores was driven by responses to questions around food restriction as a healthy behaviour, and children's ability to judge their own satiety, where respondents seemed confused post-intervention. Correlations were found between role and knowledge scores. As knowledge increased so did role legitimacy indicating that as understanding of body image development increased participants' belief in their role which was related to greater self-efficacy to foster positive body image development. Correlations showed that role legitimacy had a statistically significant association with knowledge and behaviour, and modelling suggested that BMI was also associated with higher role scores, possibly as those with higher BMI had experienced more body image concern, and therefore recognised the importance of fostering positive body image in young children.

Behaviour scores were high pre-intervention, and improved significantly post-intervention. Subscales encouraging balance and variety, modelling, and teaching

about nutrition increased, whereas subscales relating to restriction for health and pressure showed no significant change. Correlation was found between knowledge and behaviour scores, indicating that an increase in knowledge was correlated with positive feeding behaviours.

The next chapter describes the findings of post-intervention exit interviews undertaken in the third and final phase of this research project.

Chapter Eight: Phase Three: Qualitative findings and discussion

8.1 Introduction

During Phase Three of this research project, the impact of the intervention was tested both quantitatively and qualitatively. In Chapter Seven, the quantitative results, revealed that the intervention achieved the overarching goal of increasing educators' cognisance with the development of body image in very young children. Significant changes in behaviour and role adequacy were apparent from pre- to post-intervention. In comparison, overall scores for knowledge and body appreciation did not change significantly post-intervention, though significant change did occur in some items.

This chapter presents findings and discussion from the qualitative exit interviews conducted during Phase Three of this research (Figure 23). Exit interviews were used to gain an in-depth understanding of the intervention's usability and participant satisfaction, and to determine if participants made any changes to practice. The data collection method, recruitment, sample, and interview findings are described next.

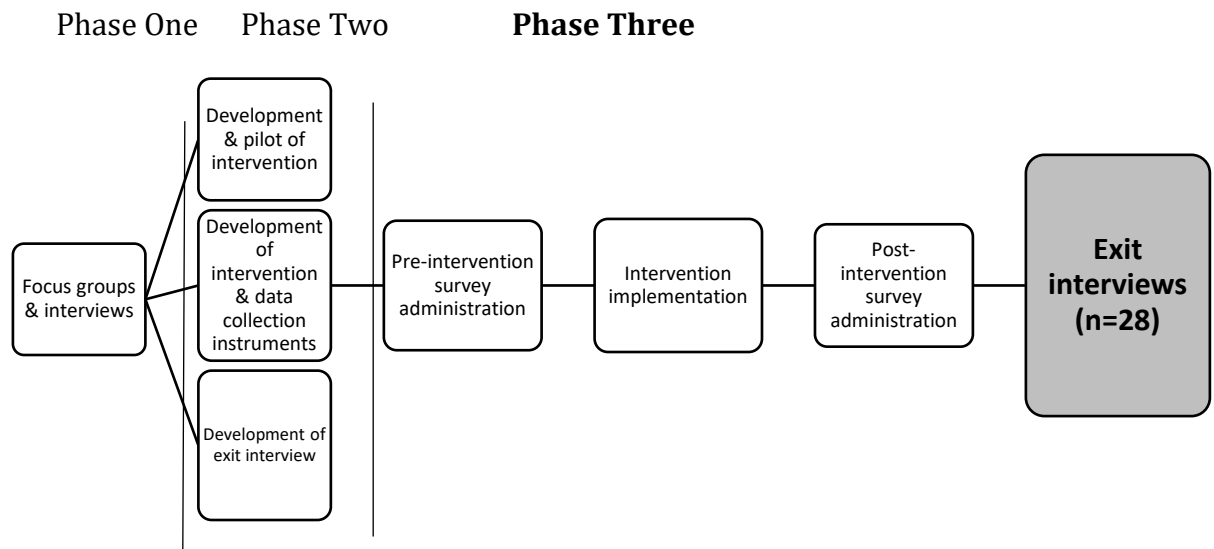


Figure 23: Study design:Phase Three: Exit interviews

8.2 Data Collection

The interview protocol developed for the exit interviews was based on the protocol used by the overarching *SNACPlus* project (Appendix U) with questions incorporated to interrogate issues relating specifically to body image. The exit interviews were conducted via telephone at participants' convenience, in a semi-structured and informal manner, allowing a reflexive and personalised approach (Pezalla, Pettigrew, & Miller-Day, 2012; Turner, 2010). This style of interview allowed rapport to be developed with participants and the opportunity to pursue points of interest (Pezalla et al., 2012) and any disjunctures between participant perspectives to be explored.

8.3 Recruitment and Sample

Participants for this phase of the research were recruited from pre-intervention surveys, where participants were asked to indicate if they could be contacted for a later telephone interview. Of the 187 pre-intervention participants, 65 gave permission to be contacted (i.e. 35%). These participants were contacted initially via email to establish if they were still willing to contribute, and then telephoned to

arrange suitable times for interviews. Of the 65 participants who initially agreed to be contacted at a later date, 28 agreed to be interviewed (i.e. 43%).

The demographic characteristics of participants who participated in an exit interview are presented in Table 21. Of the 28 participants, 17 identified as educators; three were cooks; a further three were managers; one a pre-primary teacher; and one a school psychologist. A further three participants lectured trainee early childhood educators in a TAFE setting. Only one participant was male. More than half of these participants had a university-level education, higher than in the general Australian early childhood education and care workforce where approximately one-third of all educators have a university degree (The Social Research Centre, 2017).

Table 21: Demographic characteristics of interview participants

	n	%
Median age range	36-45 years	
Highest level of education:		
University	15	53.6
TAFE	10	35.7
Secondary school	1	3.6
Other (traineeship)	1	3.6
No response	1	3.6
Type of Early Years' service		
Long day-care	12	42.8
Family day-care	9	32.1
Kindergarten/preschool	4	14.3
TAFE	3	10.7
Role		
Family day-care educators	9	32.1
TAFE lecturer	3	10.7
Director	3	10.7
Educators	8	28.6
Cook	3	10.7
Teacher	1	3.6
Psychologist	1	3.6

These participants had been employed in the early childhood education and care sector for some time: almost half for more than 20 years (44%) more than one-third (36%) for between 10 and 20 years, and 13% for less than 10 years. Only seven per cent (n=2) had been employed in the sector for less than one year.

8.4 Data Analyses

Interviews were digitally recorded and sent to an external service provider for verbatim transcription. The transcriber agreed to the confidentiality of all findings prior to recordings being forwarded. Transcriptions were uploaded to NVivo (QSR International Pty Ltd, 2012) and analysed using the same principles applied in Phase One of this study (see discussion of Braun and Clarke (2006) in Chapter Three). In this manner, initial codes were identified by reading transcriptions and using open coding to identify meaning. Table 22 provides a record of the initial codes identified in these data.

Table 22: Phase Three: Initial codes

Open codes	Elements	Examples of participants words
There is still confusion about age body image starts.	Primary school. Differences in gender. Educator discomfort.	Something happens later. They just accept people as they are.
Responses to the storybooks were positive	Shapes. Diversity.	They loved them. I liked the questions at the end. Start conversations.
Celebrity chefs make a difference to educator responses	Lots of cooking shows on TV. Use Jamie Oliver resources.	Cooking classes for children. Jamie Oliver and the Ministry of Food.
Educators made changes at their services	Policies. Fat talk. Training plans.	Quality Improvement Plan. Not covered in our course.
Educators found the resources on Facebook.	Private group. Sharing of information.	A private Facebook. Share things and discuss .
Educators used the resources in lots of different ways	Staff meetings. Facebook. Printed pdfs.	Staff meetings. Include in our program. Printing out the information.
Parent's Influence body image.	Dietary restriction. Mothers eating behaviours.	Mum has heaps of issues. I can't eat that –it's got sugar.
Educators influence body image.	Fat talk. Diet. Exercise.	Shouldn't be having conversations in front of the children .
Influences on children' body image.	Many aspects of body image – not all focused on weight.	Overweight. Really rotten teeth. Hygiene.
Low SES areas have different body image challenges.	Food provision. Lack of opportunity to engage. Role modelling Mental health.	Family mental health issues. Families need help. Role modelling needed and stuff along those lines.

Educators very interested in nutrition, but not always knowledgeable.	Concerned about food provision. Demonstrate lack of knowledge – don't know about new resources.	Tim Tams sent in for the whole day. Processed and packaged. Allergies. Autism.
Other programs are being used by educators.	Programs being used already. Links from the Body Image project used.	Butterfly foundation tip sheets. Get up and grow. Munch and Move.
Increased awareness about the use of appearance related praise in services.	Gender differences. Focus on appearance.	Educators will say you look beautiful. Focus on appearance.
Increased awareness of educator role in developing body image of children.	Increased awareness and understanding.	We are prepping them to go to school and the things we do now is going to help them.
Educators shared the resources with others.	family day-care schemes. Facebook. Newsletters.	Educational Leader from our family day-care scheme. I put in newsletters for the parents. Education Support Team use it as well.
Educators need resources.	Situations are never scripted.	More strategies and different resources for educators.
Talk about food in services.	Restriction and dieting.	I just can't do it. I just love bread.
There are many uses for <i>SNAC</i> .	Keeps educators informed. Novelty is good. New material motivates educators.	They are good resource materials. I found that I enjoyed getting the information. To keep me enthused. To give me regular information.
Why body image?		I had a bit of an interest personally. I struggled with my body image my whole life. Daughter had been calling people in the park fat.

The next stage in data analysis of exit interviews comprised of axial coding (Corbin & Strauss, 1990). Subsequently, these categories and subcategories were read repeatedly and re-grouped, with a further iteration shown in Table 23.

Table 23: Phase Three: Open codes, axial codes and emerging themes

Open codes	Axial codes	Emerging themes
Why body image?	Some were champions. Body image information unnecessary.	Champions. Cynics. There is still confusion about age body image starts.
Celebrity chefs make a difference to educators responses. Parent's Influence body image.	Media. Children cooking .	Sociocultural influences on use. Sociocultural influences on use.
Educators influence body image.		Sociocultural influences on use.
Influence Children's body image.		Sociocultural influences on use.
Low SES areas have different body image challenges.		Sociocultural influences on use.
Educators made changes at their services.	Impact	Impact of the intervention.
Educators found the resources on Facebook.	Sharing. Reach.	Use and satisfaction.
Educators used the resources in lots of different ways.	Use and satisfaction	
Responses to the storybooks were positive.	Use and satisfaction	
Other programs are being used by educators.	Use and satisfaction	
Educators shared the resources with others.	Use and satisfaction	Impact of the intervention.
There are many uses for <i>SNAC</i> .	Use and satisfaction	
Increased awareness about the use of appearance related praise in services.	Increasing awareness	Impact of the intervention.
Increased awareness of educator role in developing body image of children.		Impact of the intervention.
Educators very interested in nutrition, but not always knowledgeable.		Need more training.
Educators need resources.		Need more training.
Talk about food in services.		More training needed.

The aim of exit interviews was threefold: firstly, to determine participants' use of the intervention, and their satisfaction with the resources; secondly, to further investigate their reasons for accessing the body image intervention material; and finally, to qualitatively assess the impact of the intervention. With this view, in the final stage of coding these data, similar codes were grouped under three overarching categories and emerging sub-themes were identified. Following the elimination of superfluous codes, remaining codes were regrouped, to arrive at ten sub-themes, arranged under pre-determined categories (Figure 24). These are defined and discussed in the next section.

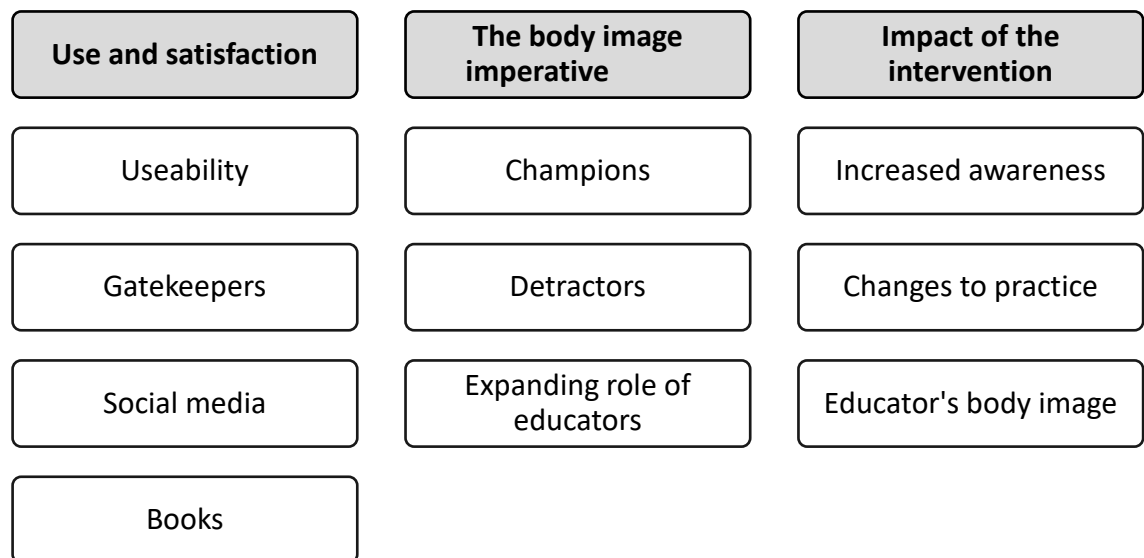


Figure 24: Post-intervention interview categories and sub-themes.

8.5 Findings

This section describes the sub-themes identified from the exit interview data, according to categories. Pseudonyms have been given to each participant to maintain anonymity, and the type of service they work in has been indicated after each quote.

Quotes appear in *italics*, and where the researcher’s response to the participants is displayed, it appears in ***bold italics***.

8.6 Use and Satisfaction

Participants were asked about how they used the *SNACPlus Body Image Project* resources, or in some cases, why they did not use them (see Figure 25). In addition to findings relating to use and satisfaction, exit interviews revealed that the resources were shared by participants in unexpected ways, such as on social media, in educator training and through the sharing of books with parents, increasing the reach of the *SNACPlus Body Image Project*.



Figure 25: Theme One: Use and satisfaction

8.6.1 Usability

Usability is a defining criteria consumers employ when determining the trustworthiness of information presented online (Devine, Broderick, Harris, Wu, & Hilfiker, 2016) and for the purpose of this research, the ease of navigation and use of the *SNACPlus Body Image Project* was explored in exit interviews. The consensus from exit interview participants was that the website and *SNACPlus Body Image* resources were easy to navigate and access, and were very easy to read and understand. Several

participants appreciated the addition of links to the National Quality Framework (NQF):

I love when they link up with our regs [regulations from the NQF]...it makes it easy for me because I just come along and say, "That's great, download, print". There we go (Jennifer, long day-care).

I love this because it is set out for me. I don't have to do a lesson plan or anything with it. It's all done for me. I didn't have to do a thing, except do it with the kids (Jessica, family day-care).

Some participants who were interviewed for this research had been a part of the original *SNAC* research; hence they had joined the website some time ago. For these members, the inclusion of new body image resources added novelty, and they reported using them in conjunction with existing materials, and sharing them with others:

All that kind of stuff helps us to keep things fresh and new. Being able to program stuff every week we have to have new and exciting ideas. I think having those modules to fall back on is such a great attribute to have (Sarah, family day-care).

Jennifer, a cook at a long day-care centre, had been a member of the *SNAC* website since its inception in 2013, and was considered a long-time champion of the *SNAC* website by the then moderator of the site (R.Wallace, personal communication, November 2016). Jennifer was identified as a member who frequently contributed to discussions, posted information for others on the website, used social media, and encouraged others to join the website. In her exit interview, Jennifer reported that she shared the body image resources within her service, and with others at new early childhood education and care services. She used the *SNAC* website as an adjunct to existing resources:

We use the Munch and Move, [the] New South Wales guidelines. So I am between the two of you. Jumping to SNAC and Munch and Move and full of information (Jennifer, long day-care).

A further three participants said that although they only visited the website once, they had printed off the intervention resources, for use at a later date, and that they had been using them very frequently. Jessica's comment provides a tangible example of the limitations of the quantitative survey data gathered in relation to use and satisfaction in this research, and in this instance highlights one of the benefits of a mixed methods approach:

I think in your survey you ask how many times I went on to get it [the body image resources]. Well, I actually printed it [modules] and I actually had it [modules] sitting on my desk, because I had kids at different times and you sort of keep referring back. I'm going to keep using it (Jessica, family day-care).

This illustrates that while Jessica did not go on to the site to access the resources regularly (as per the survey questions) she did use the resources often in her early childhood education and care service. Providing information in a number of different formats was mirrored by the ways that participants used the resources, with some preferring to login through the website, others accessing resources via social media (8.6.3 Social media) and others using the PDFs suitable for printing. This is discussed further in the following sections.

8.6.2 Gatekeepers

An unexpected finding in this research was the interest in the study from TAFE lecturers and family day-care coordinators, whose participation in this research increased the reach of intervention materials. These participants acted as both

gatekeepers and champions, embedding the *SNACPlus Body Image Project* resources as part of their TAFE classes and in training at their family day-care schemes.

Gatekeepers facilitate access to participants (McFadyen & Rankin, 2016) and in this research their participation increased the reach and capacity of the *SNACPlus Body Image* resources to effect change. In fact, the family day-care coordinators who participated in exit interviews (n=3) indicated they had shared the information with as many as 60 family day-care educators in their schemes, while TAFE lecturers (n=3) shared the information with several classes; one lecturer alone said she shared it amongst her 110 online students. Others described how they shared the resources and storybooks with other lecturers at their institutions. The actions described by these gatekeepers greatly increased the reach of the intervention resources beyond that which was indicated in the quantitative survey data.

TAFE lecturers reported emailing students the link to the *SNAC* website, including details of the *SNACPlus Body Image Project*, and two reported using the body image resources as part of their own teaching. Brittany described how she used the resources with the 60 students in her classes by developing a teaching experience based on their use:

I've been using the package with my TAFE students... Yes, we have looked at the [body image] resources in class, in groups and then swapped the resources around and discussed in small groups how they could use them. What they liked about them, what they didn't like about them. They all said how great the resources were and it was something that previously they probably hadn't considered teaching, but it was something that they would now look further into...So, I think that's a really positive thing (Brittany, TAFE lecturer).

In comparison, Melissa, another TAFE lecturer, directed students to use the body image resources in their own time, and then noted the frustrating lack of engagement with the resources by these students:

I am a bit frustrated at the lack of student use.... We always tell them when we start the new unit, "If you become a member of the SNAC website you get the newsletter and go on regularly and have a look". We find the mature age students will definitely do that... and definitely us as lecturers in our office... There is probably six or seven of us [TAFE lecturers] sharing the information (Melissa, TAFE lecturer).

The experiences of Brittany and Melissa demonstrate that while TAFE lecturers have the capacity to increase student awareness of the resources, maximising their use required a direct approach as part of a class activity. By printing the resources and asking students to critique them, Brittany facilitated increased student awareness of the resources, and provided practical preparation for their future use in teaching situations. Depending on their workload, TAFE lecturers may teach more than 100 pre-service educators. Identifying the needs of TAFE lecturers and designing interventions with the aim of meeting these needs has the potential to make a significant difference to educator understanding and awareness of their role in body image development, even before they become part of the early childhood education and care workforce.

While TAFE lecturers acted as gatekeepers of the body image resources for trainee educators, family day-care coordinators also acted as gatekeepers by sharing the resources with as many as 50 family day-care educators in their schemes. Ashley, a family day-care coordinator in a regional area, described a portable library of resources she shared with educators, and added the Body Image resources to this repository:

Yes, I manage our [family day-care] scheme and we have at the moment about 26 educators who cover six towns in a 200 kilometre radius. We have got this resource library for books... So the body image books [modules for educators and children's story books] fit in very nicely (Ashley, family day-care coordinator).

In addition to expanding the reach of the resources, the engagement of family day-care coordinators increased the number of individual participants who took part in the research. Several family day-care participants stated that they had discovered the *SNACPlus Body Image Project* through their family day-care scheme coordinator, team leader or on a closed educator Facebook page:

One of our other educators posted it [the call for participants on Facebook]. We have an educator group for our scheme, but it's a private Facebook thing; we can share things, and discuss things, and ask things safely, and she shared it [the research] there (Amanda, family day-care).

In fact, both TAFE lecturers and family day-care coordinators seemed to employ “word of mouth” (Kozinets, de Valck, Wojnicki, & Wilner, 2010, p. 71) as a means of diffusing the *SNACPlus Body Image Project* resources. Word of mouth is a potent marketing tool for spreading new ideas, and may be employed in traditional face-to-face interactions, as in the case of TAFE lecturers running classes with trainee educators, or in online environments, such as the sharing of information via Facebook.

Social media proved to be a successful recruitment method. Key participants shared information about the study and educators easily shared recruitment calls across a number of educator groups, some that would not have been possible to access without the help of these gatekeepers.

8.6.3 Social media

In this research, social media was used to raise awareness about the intervention amongst educators, and a number of participants joined the project's Facebook pages. It is apparent in this research that word of mouth not only occurs in face-to-face interactions, but also within online communities (Kozinets et al., 2010). Educators shared details of the intervention in their own social networks, increasing participation and engagement:

I'm thankful that we are all now on Facebook.... If I find information [on the SNAC Facebook pages] and I can share it now, which is a useful tool and [it's] quick to do that sort of thing (Jennifer, long day-care).

The engagement of participants with social media was a factor utilised by this research to drive recruitment, and it is unsurprising that social media was used by participants to share material. A recent social media use study showed that 69% of Australians who used the internet had a social media profile, and of these, 95% used Facebook (Sensis, 2016). Moreover, social media use occurs predominantly on smart phones, with 90% of those aged 18 to 39 years accessing social media through applications rather than on websites (Sensis, 2016). Since more than half of all participants in this research were under the age of 45, it is likely that their levels of social media use are high.

In this intervention, social media provided an additional outlet for engagement, as did weekly e-newsletters sent to participants in the *SNAC* project via *Mailchimp* (The Rocket Science Group, 2015). Participants in exit interviews conducted in this research described the newsletters as excellent sources of information for sharing and gave examples of distributing information from them to colleagues across family day-care services, in long day-care and by TAFE lecturers with their students. Furthermore, participants reported regularly sharing articles, recipes or links from

the *SNAC* newsletters in their service newsletter sent to parents or on their noticeboards for the parents.

While the effect of social media on reach and engagement in this research was difficult to quantify, it was apparent from exit interview data that this forum was used to communicate with parents. Several participants stated that their services had private Facebook pages for parents of the children who attend their services, where they share photos, information and ideas:

We have a parent Facebook page too, and I have just put the latest [SNAC] cookbook on there as well. And we have used the parent resources as well, and have directed parents towards that (Stephanie, long day-care).

Participants reported a willingness to use social media in this research, and developing future interventions designed primarily for use on social media may capitalise on the apparent universality of these platforms. Although the success of social media in health promotion has not always been well understood or evaluated (Neiger et al., 2012) the use of social media platforms in health promotion programs is growing (Capurro et al., 2014). Evidence suggested that providing information across a number of different platforms has the potential to increase reach, and to reduce potential obstacles to program use, such as time barriers (Capurro et al., 2014).

The use of social media by *SNACPlus Body Image Project* participants suggest that social media is a credible means of extending the reach of health promotion programs, as well as a potentially potent tool for recruitment and engagement. Social media provides a platform for health promotion programs to raise awareness of health issues, share information and results, and to foster public engagement, particularly in hard-to-reach audiences (Neiger et al., 2012). Studies have shown that health researchers have reservations about the use of social media (Capurro et al., 2014; Grande et al., 2014) emanating from a lack of familiarity with these platforms, but also due to the lack of evidence supporting their use. The value of increased use of this

medium in health promotion, where the public are already engaged, would seem self-evident, though it would appear that without adequate evaluation of its effectiveness, it will remain under-utilised (Grande et al., 2014).

By recruiting gatekeepers from early childhood and education and care services, it appears that typically hard to reach, time poor parents may also be accessed.

8.6.4 Books

As part of the intervention, participants were provided with four children's storybooks (see Section 5.2.4 Learning Activities). These books were the basis of the children's activities in the *SNACPlus Body Image Projects'* modules. Although not all participants logged into the online resources, all said they read the storybooks to the children. In all exit interviews, participants discussed the storybooks in positive terms:

We received the books that you guys sent us, and they've actually been around in our [family day-care] services and the educators have been more aware of what we need to do and to say. It is okay to eat that certain food, it is okay that different people are different shapes and sizes. Definitely, it's something our educators are more aware of now (Laura, family day-care coordinator).

One of the books *Full mouse, empty mouse* was, however, described as being quite complex for the younger children by several participants, and was used less frequently than others:

Yes, it [Full mouse, empty mouse] was too long. They just sort of lost interest very quickly (Jessica, family day-care).

Overall, educators were positive about the inclusion of storybooks as part of the body image project, in many instances, because they had previously not been aware

that books to promote positive body image in young children existed. Given that participants had not learnt about body image previously in their training, nor did they refer to the small section on body image in the *Get up and Grow* resource (Department of Health and Ageing, 2013) the supply of storybooks relating to this topic seemed appropriate. Brittany, a TAFE lecturer who used the storybooks in class activities with trainee educators noted that the resources could be used with a variety of age groups in early childhood education and care settings:

And they liked the fact that the resources were a bit flexible, so you could use them with quite young children and simplify it down, or you could use it with the older children and even add some more things to it if you wanted to (Brittany, TAFE lecturer).

The books were used in a variety of ways in services, including broaching conversations with parents about food provision, an area where participants reported that they had previously experienced difficulty:

After one of the stories [a child said], “My Mum is always on a diet”. Just as children do, because they hear that conversation at home... [the educator] was able to talk to that parent and say, “This is the conversation we had today, and we have been reading these books” and she shared those with the parent. The parent was surprised that their daughter had actually spoken about that and that allowed us to say, “Even if they appear not to be listening, they actually are” (Lauren, long day-care).

This section of the chapter has provided an overview of the use and satisfaction of participants with the *SNACPlus Body Image Project* and their engagement with various aspects of the intervention. The following section of this chapter explores the next theme identified from interview data, namely the Body Image Imperative.

8.7 The Body Image Imperative

Participants in all exit interviews agreed that developing positive body image was important for the health and wellbeing of children, hence *The Body Image Imperative* was developed as a useful category in which to organise the related themes in this section. Nonetheless, there were some differences amongst participants as to when it became imperative that positive body image was fostered. As was the case in Phase One, not all were convinced that this imperative applied to very young children, therefore, participants fell into two very distinct groups: *Champions* and *Detractors*. Others discussed their role in the body image development of young children in terms of the *Expanding role of educators* (Figure 26).

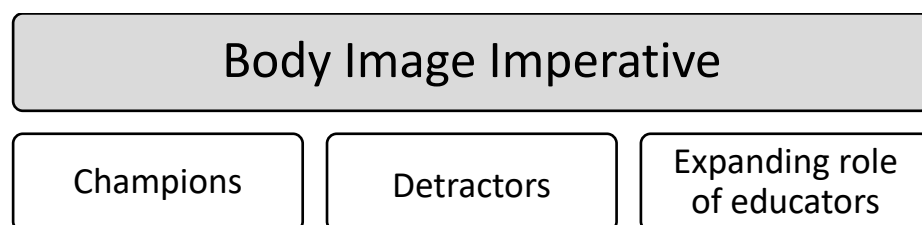


Figure 26: Theme Two: Body image imperative: Champions, Detractors, and the Expanding role of educators .

Exit interview participants identified as *Champions* reported being likely to use the resources, encouraged others to use them, and often perceived themselves to be active advocates of the positive body image cause in their services. They also had other attributes in common: they had either experienced their own body image concerns, or had children, friends or family who they believed were experiencing, or had experienced body image concerns. For these participants, such experiences meant they acted as gatekeepers of the *SNACPlus Body Image Project* information.

8.7.1 Champions

Champions were those participants who saw themselves as strong proponents of increased understanding and awareness of body image development amongst

educators. The value of champions and gatekeepers in health promotion research has been detailed elsewhere (Amaya, Melnyk, Buffington, & Battista, 2017; Edmunds & Clow, 2016) and recruiting gatekeepers to research has been described as critical for the research's success (McFadyen & Rankin, 2016).

In addition to the Champions described in TAFE and family day-care settings, there were also Champions in schools and Kindergartens who promoted the body image resources provided on the website. For example, Nicole, a school psychologist at a large girls' school with students from Kindergarten to Year 12, noted that the *SNACPlus Body Image Project* had been brought to her attention by Kimberley, a teacher in the Kindergarten class. Kimberley not only brought the *SNACPlus* online professional development and curriculum material to the attention of Nicole (who subsequently used the *SNACPlus Body Image* materials in early primary classes) but also to the school librarian, who purchased a range of the books and resources recommended in the intervention material for the school's library collection:

Yes, things are changing. Definitely. Kimberley [Kindergarten teacher] has made a big difference because she is so proactive and embracing the [body image] materials and the understanding. She is changing things (Nicole, school psychologist).

On further questioning, Nicole noted that Kimberley was interested in introducing policy relating to children's food and eating on school grounds, particularly relating to communication with parents relating to food provision, and in terms of talk by educators relating to weight, or fat talk. As the school psychologist in a large girls' school, Nicole reported being asked by parents about weight concerns regularly and for referrals to dietitians, and as there was no clear policy relating to how this should be broached at their school, following her participation in the *SNACPlus Body Image Project*, Kimberley proposed this be introduced.

As found in Phase One, educators believed that in order to instil positive body image in children, they needed to foster their own positive body image. Elizabeth, a family day-care educator, said that her use of the body image resources made her think about her own body image:

I guess it makes you more aware...I suppose it gives you a bit of a wake up to say, "Look, we play an important role" (Elizabeth , family day-care).

A number of Champions described body image as an important issue in their own lives. Several participants disclosed experiences of disordered eating, eating disorders and bariatric surgery, and cited these as contributing factors for their participation in the project:

I went to a ballet class at age seven ... my mother afterwards [said] that I was lumbering around like a baby elephant. I'm at a space now where I'm actually OK with it, but certainly when I was younger, [I had] lots and lots of issues (Stephanie, long day-care).

I am a person who was once 15 stone, and am no longer, and so those sorts of things have always been very much in my thinking (Kimberly, Kindergarten teacher).

I actually had anorexia and bulimia as well. I did the diet pills, I did the laxatives (Rebecca, TAFE lecturer).

I had a gastric sleeve done, so I know a little bit about trying to get healthy and everything... (Sue, long day-care).

I've battled weight my entire life, so that's been something that I have been conscious of, and tried very hard not to bring my kids into it (Amanda, family day-care).

Amanda, a family day-care educator, described not only her own battles with being overweight at various stages throughout her life, but also the experience of losing a friend to an eating disorder in her teens:

I did have a friend in Year 8/Year 9 who got bulimic and then that went anorexic and she ended up dying. She didn't make it... (Amanda, family day-care).

Comments such as Amanda's reinforce the seriousness of eating disorders, and the young age when adolescents may begin to experience them. Amanda's very personal experience of eating disorders reflects their prevalence in Australia, where almost one million people are diagnosed with an eating disorder, and of these, 64% are female (The Butterfly Foundation & Deloitte Access Economics, 2012). Furthermore, not only are many people living with eating disorders, many people, like Amanda, know someone with an eating disorder. Australian research conducted in 2010 showed that most young people (84%) say they think they know someone who they believe has an eating disorder (National Eating Disorders Collaboration, 2016). With more than three-quarters of Australian young people acquainted with eating disorder behaviours (National Eating Disorders Collaboration, 2016), it is unsurprising that educators experience eating disorders or behaviours associated with disordered eating themselves, having the potential to influence the way they approach the developing body image of children.

Moreover, while Champions acted as advocates for the body image material, they also supported their colleague's efforts in developing their own positive body image. Not only did they describe methods used to foster positive body image in the children they taught, but also in each other. Melissa, a TAFE lecturer, described the responsibility educators had to one another to support positive body image, and the important role of modelling positive behaviours for younger educators, specifically in relation to fat talk in the workplace:

Yes, I find, even an older educator slips up, the younger ones will use that as a role model. And everything that we have taught them in the classroom can be undone by one bad role model in the workplace (Melissa, TAFE lecturer).

This section has indicated that Champions felt strongly that they had an important role to play in fostering positive body image, and that body image was an appropriate topic to discuss with young children. In contrast, other participants reported that they felt that body image should not be brought to the attention of children attending early childhood education and care services. Some believed the children were too young for such conversations, while others felt that body image was believed an issue which should be broached by a child's family. These participants were labelled *Detractors*, and their views are discussed in the next section.

8.7.2 Detractors

In contrast to the Champions, there was a group of participants who felt that body image development was something which occurred later in children's development, and saw little reason to discuss this topic with young children, and in this research, were labelled Detractors. These participants believed childhood was an age of innocence, and a time when body image talk was more likely to create problems than to prevent them:

The kids are little, so they don't really understand body image I don't think (Tiffany, long day-care, educator).

I am not too sure about the age group. Maybe more so primary school (Amber, long day-care, cook).

While Amber and Tiffany both felt that the children in their care were too young to render the body image resources to be necessary, other participants appeared to believe that teaching children about body image may result in negative consequences, and as such, should only be discussed within the family unit:

Quite a few of the team felt uncomfortable when it came to discussing what different people look like. We are all different shapes and sizes. So a couple of the team felt as though that [body image] is not a conversation we should be having, it should be a family conversation (Lauren, long day-care).

Despite Lauren's assertion that the educators at her early childhood education and care service felt that body image was a family responsibility, evidence demonstrates that parents are also unsure if this topic should be broached with their young children, and, in fact, believe it is best avoided (Liechty et al., 2016). In a recent study of American parents (n=30), researchers found that such avoidance might have been due to parents' limited understanding of body image; given the parents in their study associated body image with objectification and sexualisation of children's bodies (Liechty et al., 2016). Since such evidence exists that parents are unsure how to discuss body image appropriately to foster positive body image in their young children, educators may be well placed to provide innovative resources and information to help them to achieve this goal. Although the *SNACPlus Body Image Project* provided tip sheets specifically designed for parents and caregivers of children who attend early childhood education and care services, survey data collected post-intervention suggested that these were only used by a small number of participants (15%). Further research investigating the resources educators would share more readily with parents may be necessary to guarantee adequate dissemination of this information.

Another cause for educator discomfort in relation to body image being included in curriculum, was the perceived association of body image with eating disorders, suggesting that some educators saw body image as an inherently negative concept, rather than one which can be constructed positively:

[Focusing on] body image specifically, with like, anorexia and being overweight and those sort of things we're better to leave for that older age group (Melissa, TAFE lecturer).

Regrettably, Melissa's confusion relating to concepts such as overweight and anorexia is widespread in the community, and a number of studies have illustrated the apparent misunderstanding of mental health issues such as body image, disordered eating and eating disorders. Studies have demonstrated that many of the general population often associate eating disorders and disordered eating with vanity and weakness (Mond, Robertson-Smith, & Vetere, 2006) while individuals who exhibit eating disorder symptomology may believe their behaviours are normal or even desirable (Mond et al., 2010).

Such misunderstandings are of concern, particularly if they are diffused among other educators, especially those who are being trained or newly recruited to an occupation in early childhood education. While it is true that such young children are unlikely to experience an eating disorder, young children can exhibit disordered eating or food refusal (Cardona Cano et al., 2015) as well as overweight and obesity (ABS, 2016). Children who exhibit these issues early in childhood are more likely to develop eating disorders as they grow and age. It is critical that educators understand these issues, and know how to respond to them appropriately.

In addition to showing limited understanding of the concepts of eating disorders and body image, the 'Detractors' identified in this thesis seemed to have also misunderstood the potential negative influence of fat talk. Given obesity prevention takes priority in public health (Bucchianeri & Neumark-Sztainer, 2014), and body image, eating disorders and disordered eating are largely ignored, it is not surprising that these conditions are poorly understood by the general population (Mond, 2014). Post-intervention, several participants described fat talk in their workplaces, and though most expressed an increased awareness of this amongst their colleagues, it was still deemed acceptable if it occurred in staff-only areas:

They [educators] are really quite switched on and we have one lady who is diabetic and overweight, but she doesn't say anything in front of the kids. She

might to us in the staff room, but no, I haven't heard anybody say anything [about their bodies, in front of the children] (Tiffany, Kindergarten).

Tiffany's comment infers that because diet and weight talk was happening in the staff room, it was acceptable. Given fat talk has been found to negatively influence body image, and to reduce workplace confidence (Clode, Lewis, & Fuller-Tyszkiewicz, 2016) its practice in a work environment is best avoided. Apart from the detrimental implications of fat talk for adults, such behaviours and attitudes may be inadvertently passed on to children (Engeln & Salk, 2016).

Interviewees were divided into two groups: Champions and Detractors. While the identification of Champions in health promotion has been shown to influence the implementation and success of nutrition programs in a range of settings (Jones et al., 2014) it would appear that the identification of Detractors may also be an important factor in improving implementation of programs and their success in changing behaviour. Harnessing Champions to advocate for the implementation of programs to foster positive body image is an approach that should be considered for future work in this area, and efforts directed to explore utilising Champions motivation to engage Detractors may also be worthwhile.

8.7.3 Expanding role of educators

The role of educators in Australia has grown and changed (Minicozzi, 2016) hence the need for innovative resources to up-skill educators across a range of previously unconsidered areas, such as body image development. A number of exit interview participants talked about the changing nature of their work and the increasing diversity of the work they are expected to take on as part of their role:

I think the role of an educator is getting wider and wider as the years go by, and you put your counsellor hat on, and you put an educator hat on, and you

put your caring hat on. There are so many different hats to our jobs these days... (Megan, long day-care).

Megan appeared to be referring to not only the changing expectations of the role of educators, but also the emotional nature of their work. The “daily performances of emotion by staff” required in early childhood education (Andrew, 2015, p. 653) often mean that educators prioritise the needs of the children above their own (Jovanovic, 2013). Moreover, the work is viewed as women’s work, and is typically poorly paid, since caring work is believed to be inherently part of a woman’s character, and as a consequence, not seen as a profession (Andrew, 2015; Cook, Corr, & Breitzkreuz, 2017). Megan went on to say:

I think that’s the reason why some people don’t stay in the industry for too long these days...they are just so overwhelmed by the job (Megan, long day-care).

Megan’s comment proposes that the demanding nature of the work was significant for some educators, and may have influenced their mental health, as they feel so *overwhelmed by the job*. A review of literature exploring the mental health of educators indicated that higher levels of educator mental health and wellbeing was associated with higher quality care for children (Corr et al., 2014). These findings suggest the importance of supporting the mental health of educators, as this has a positive flow-on effect for the education of the young children they teach.

Christina also described the difficulty staff turnover caused when trying to implement new programs, and stated this was a reason they had not used the body image resources as much as they initially planned to:

We are just going through a lot of people at the moment, leaving and things... We just had an educator stay a week and that was it. A bit difficult when you have that situation (Christina, long day-care).

While staff turnover in the early childhood education and care sector was beyond the scope of this research, it is an important factor to take into consideration when designing and implementing future programs. High staff turnover is likely to influence continuity of care for children, and therefore influence the quality of Australian early childhood education (Corr et al., 2014) to the detriment of children's health, wellbeing, and educational outcomes.

The themes presented under the first category, *The Body Image Imperative*, have described the findings of this research in relation to the views of educators about body image development. It has outlined the expanding role of educators alluded to by study participants, and their belief that educators were expected to take on a variety of roles in order to cope with staff turnover, emotionally draining work, and a challenging working environment. While body image development was not an area all participants had previously considered in relation to children, most participants considered that the *SNACPlus Body Image Project* resources would be used in their services in the future. The identification of Champions within services, TAFE or schools, and providing them with means to influence Detractors would appear to be worthwhile, otherwise efforts in this regard may be stifled. Fostering positive body image in children was seen by some participants as imperative, and these participants acted as Champions for the resources, sharing them with other educators and using them often with children. In contrast, other participants believed that body image development occurred much later, and as such, should not be brought to children's attention.

8.8 Impact of the intervention

The third theme identified in the exit interview data related to the impact of the intervention. Findings suggested that use of the *SNACPlus Body Image Project* resources influenced educators in a number of different ways, and three sub-themes were identified (Figure 27). The sub-themes described in this section are: Increased awareness; Changes to practice; and Educators body image.

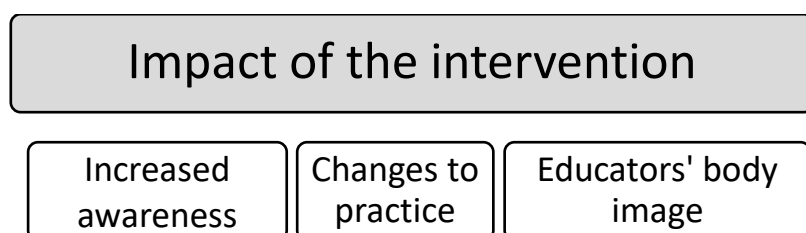


Figure 27: Theme Three: Impact of the intervention

8.8.1 Increased awareness

Many interviewees stated that body image development among children was not something they had previously considered prior to taking part in this research. These participants reported that preceding the launch of the *SNACPlus Body Image Project*, body image was not an area they would have considered teaching to such young children:

I don't think it [body image] was something that they [educators] did recognise was an issue to start with. A few of the educators did say that it [body image] was, after they had read through some of the Tip Sheets... but they hadn't recognised it previously (Crystal, long day-care).

I think it was a definite eye opener to them when we mentioned that. We do talk a lot about early brain development ...the most vital time is in those early first three years. So, then to go on to say these attitudes [body image]

and attitudes to food] shape around this time as well, is an eye opener to them (Melissa, TAFE lecturer).

Other participants found that their use of the *SNACPlus Body Image Project* modules led them to a range of resources they had not previously accessed, as suggested by Stephanie:

I really like the resources that are on the website and the links to other resources. So, like the Butterfly Foundation and those resources are quite good (Stephanie, long day-care).

More than 20 links to other organisation's websites were provided in each of the *SNACPlus Body Image* modules, including links to information on body image, teasing and bullying articles, the media, and mindfulness. Like Stephanie, several participants found the links to other sites were a welcome addition to the modules and their professional development, and it appeared that while there are numerous providers of resources appropriate for use by educators, they were previously undiscovered.

When discussing body image in the exit interviews, many participants appeared to associate children's body image development with weight. Interestingly, rather than talking about children who were overweight or obese, participants remarked on the body image of children who were short in stature or 'smaller' for their age than others. Participants saw these children as being at greater risk of teasing, than overweight children, as indicated by Amanda:

They [smaller children] get really paranoid about their height. They [educators] have got to be really careful about the words that are used and things like that with them (Amanda, family day-care).

This observation is substantiated in work by O'Dea and Amy (2011) whose study of 8550 children aged between six and 18 years found that short children were also likely to be substantially thinner than others. Furthermore, thin children were more

likely to be teased than those who were overweight or within the typical weight range, and were less likely to enjoy school or participate in sports. Their study suggested that thin children should be included in body image interventions, although at present most interventions focus on children considered overweight or obese.

In addition to the weight status of children, participants also described the differential treatment of children by educators according to their gender. It seemed that this was not an issue considered previously by some participants, for example:

Educators will say to girls in particular, “You look beautiful in that dress”, or, “Your hair looks beautiful today”. And I have really been trying to pull away from that focus on appearance and more about, “It’s really good to see you today” (Stephanie, long day-care).

We talk about praising girls for what they look like... and how we tend not to do that with boys ...we tend to pick out the boys when we say I need someone with strong muscles to come and help me (Rachel, TAFE).

Educators’ focus on girls’ appearance reported here was supported in a number of other studies (Blaise, 2005; Chapman, 2016; Lynch, 2015), as was the focus on strength and muscles in boys (McCabe et al., 2007; Tatangelo & Ricciardelli, 2013). An Australian study of preadolescent girls and boys (n=68) showed that the gendered ideals were prevalent as children entered preadolescence, with boys continuing to focus on strength and physical capacity, while girls continued to focus on appearance and celebrity (Tatangelo & Ricciardelli, 2013). Such findings indicate that comments made to young children may have implications on body image development for years to come, so increased awareness by educators may have long-term influence.

Awareness of body image development in very young children appeared to be enhanced by participation in the *SNACPlus Body image Project*. Though not all participants in the exit interviews of the project could be described as being

‘consciously competent’, or aware of their new knowledge and apply it unconsciously, it appeared that providing strategies for participants to navigate sensitive situations was helpful; by increasing awareness of, and changing, long-established attitudes and beliefs, and subsequently, patterns of behaviour.

8.8.2 Changes to practice

The majority of exit interview participants were positive about the *SNACPlus Body Image Project* resources, and noted their use of the resources would begin or continue into the future, especially when developing staff training plans and policies:

It [body image] is in our Quality Improvement Plan and something for us to work towards a bit more... it [body image] is something that we will start focusing on and we will just go through it [the body image resources] at staff meetings and then implement different bits with the kids at the Centre (Anna, long day-care manager).

Anna’s commitment to including body image as part of her service’s Quality Improvement Plan is promising, and appears to indicate a willingness to make a concrete commitment to making changes at her service. According to the NQF, it is mandatory for Australian early childhood education and care services to have a Quality Improvement Plan, and such plans should be updated annually (ACECQA, n.d.). Quality Improvement plans should identify areas that services identify as areas of their service that need improvement, and that reflect their service’s philosophy. It is also mandatory that services have a nutrition and physical activity policy (ACECQA, n.d.) although not all services are compliant (Jones et al., 2015). Furthermore, the inclusion of guidelines that have the potential to influence the development of positive body image are not always included in these policies, even if they exist, though they are compatible.

In addition to the inclusion of body image at a macro-level, the resources gave participants scope to apply a more flexible approach to children's eating:

[The body image resources have] given some validity to what I am saying and to what the others have felt, but weren't confident enough to say. It supported me in the conversation with staff [about feeding practices]. [Other educators say]" You have to eat your fruit first, and you have to eat your sandwiches first for lunch", whereas I don't have that perspective. It's trying everyday foods first, and then sometimes if you want to eat your fruit for lunch, then that's cool. You can have your sandwich for morning tea, it's really not an issue (Lauren, long day-care).

Participants, like Lauren, who believed that the use of the body image resources served to validate and consolidate their existing practice, generally appeared to display a more flexible approach to food and eating. Mindfulness practices and acceptance of all food as part of a healthy diet are part of a *health at every size* approach (Bacon & Aphramor, 2011) where the focus of health is shifted from weight and onto health promotion, consistent with development of positive body image and a positive relationship with food:

I am aware of what I am saying, because of this body image thing. You know, like talk. Now I am aware, I am trying to be very careful (Jessica family day-care).

Educators reported new knowledge around the need for strategies in relation to body image issues, and for some, it changed the way they talked about food and health with the children. In this instance, Jessica was describing the way that her increased awareness of children's body image changed the way that she talked to a lactose intolerant child about her intake of dairy foods. Jessica mentioned that she needed to frame her discussion of restricted foods carefully, to ensure that she did not appear to judge dairy foods as *bad*. For some participants, the *SNACPlus Body Image Resources*

consolidated their current practices. These participants used the resources to justify their existing practices in ways that could be explained and reinforced to other stakeholders in their early education and care services.

Applying pressure to children to eat, monitoring food intake or providing encouragement to eat was described in Phase One interviews, and consequently, were included in the pre and post-intervention survey administered as part of Phase Three of this research. Pressure to eat has been described in other studies of the feeding practices of those who feed young children (Dev et al., 2016; Moore et al., 2005). Such practices are commonly employed by parents in an attempt to encourage children to eat (Moore, Tapper, & Murphy, 2007), illustrating the cultural acceptability of these practices when feeding children, and the inroads made by the body image resources.

Most exit interview participants felt that incorporating positive body image practices into everyday activities was the most appropriate way to encourage positive body image development, and understood the importance of prevention of body dissatisfaction at an early age, as noted by Elizabeth:

It doesn't have to be a huge issue...I think it is more the scaffolding in early childhood on which other skills can be built and can be based on.... it's the beginning of learning and the beginning of that self-confidence and being really happy in their own skin and with who they are (Elizabeth, family day-care).

A small number of educators who participated in exit interviews stated that although they had engaged with the body image resources, they felt they did not need to make changes to their educational programs. These participants felt that the body image resources reinforced their current practices, particularly in relation to social and emotional wellbeing:

It was mostly reiterating what we knew. It reminded me, because we did quite a bit of mindfulness over the last couple of years...so it brought those things back and put it in context for eating and food and whatever (Kimberly, Kindergarten).

Kimberley was a school Kindergarten teacher at a large girls' school with an existing health and wellness focus, and as part of this, had a number of professional development experiences that introduced the concept of positive self-esteem. Kimberley practiced mindfulness with her Kindergarten class, though they had not applied this to eating. Even for those educators who felt they had some understanding of body image development, the sensitivity required to approach conversations with children and parents in their services meant that their use of the resources helped them to go from *learners* to *'do-ers'*:

Situations are never scripted are they? ...that whole, they are unconsciously incompetent and they are consciously incompetent, well now hopefully they are consciously competent and eventually the more they use it, the more we spread the word. (Ashley, family day-care coordinator)

Ashley's reference to *conscious competence* can be traced to a model of learning first described by Noel Burch (1970) as "The four stages of competence": unconscious incompetence; conscious incompetence; conscious competence; and unconscious competence (Burch as cited in Jaszczyszyn & Cichocki, 2015, pp. 22-23) The first stage, 'unconscious incompetence', referred to by Ashley describes the learner being unaware of what they do not know. In terms of this research, educators may not have been aware of the development of body image in very young children, or of their role in its development. Although Ashley suggested conscious competence as the end-point for educators in her family day-care services, stage four, where learnt behaviours have become so habitual they require no particular effort or concentration is the desirable goal for consolidating new knowledge into behaviour change (Burch as cited in Jaszczyszyn & Cichocki, 2015, p. 23).

The *SNACPlus Body Image Project* appeared to have a positive impact on the behaviours of educators, their own body image and their understanding of body image development.

8.8.3 Educators' body image

As described earlier (Section 8.7.1 Champions) many interviewees had participated due to their own body image concerns. Participants gave numerous examples of how using the *SNACPlus Body Image Project* resources had made them question their own behaviours relating to body image, and subsequently, made them question the behaviours they demonstrated to the children:

If you are trying to promote [positive body] image in others, then you really have to become more comfortable in who you are. Because it doesn't really work if you try to say to others, "Feel good about yourself, accept who you are and what you look like", and things like that, if you don't actually apply that to yourself (Sarah, family day-care).

Did it make you think about your own body image?

I think so. And I suppose more so the language that I use about myself and my own body image and how it may work for my children and how they may think. Yes, absolutely (Elizabeth, family day-care).

While Sarah and Elizabeth seemed to suggest that their thoughts and behaviours had changed following their use of the *SNACPlus Body Image Project* resources, Stephanie provided an example of her behaviour change as a 'work in progress':

I have got a bit of a fat tummy. I have had several children and I am old. The older children have come up and said, "You've got a fat tummy, "and I've said, just thinking about my own body image, I have said, "Yes, I ate too much cake". Then I'm thinking, "Why don't I say, 'Everybody is different'? Why did I say the eating too much cake thing?" (Stephanie, long day-care).

Stephanie's comment shows that her use of the body image resources increased her awareness of ways in which she could have reacted to children's comments about her *fat tummy*. While her immediate and automatic response was to blame her eating patterns (*I ate too much cake*) it was apparent that Stephanie was able to recognise that this response may not have been the most appropriate to model for children, something she might not have considered prior to her participation in this project.

Stephanie's response to the children demonstrates the connection between her *fat tummy* and an abundance of discretionary food (*cake*). While this association between overweight and discretionary food is culturally endorsed, that is, where poor diet equals overweight, recent reviews of literature focusing on the causes of obesity in both adults and children are somewhat inconclusive (Ross, Flynn, & Pate, 2016). While research suggests that diet and exercise are influential in weight status, more recent scientific developments suggest that factors such as the gut microbiome, sleep and endocrinology also warrant future attention (Ross et al., 2016).

In addition to drawing attention to the connection between discretionary foods and weight status for the children at her early childhood education and care service, Stephanie went on to explain that that she was *old*, and as a consequence of her age, had a *fat tummy*. Not only does Stephanie's remark show her use of fat talk, but also of "old talk" (Becker, Diedrichs, Jankowski, & Werchan, 2013).

"Old talk" occurs when an individual makes comments which reinforce the culturally-accepted thin and young ideal (Becker et al., 2013), such as, "Look at my wrinkles" or "She looks so young". Old talk was identified as a variant of fat talk, and though it often occurs with fat talk, has been shown to increase with age.

The comment by Stephanie shows that educators may be internalising the thin ideal, but also have to contend with the culturally accepted young ideal. Despite this, Stephanie's recognition that her response was inappropriate, and her ability to indicate ways in which her responses could have been improved, supported the idea

that although behaviour change may be slow, with access to resources and training, it can be supported and encouraged.

In contrast to Stephanie's negative focus on age, Jennifer, Amanda and Brittany suggested that their body image had changed or improved as they got older:

As I have gotten older, I am happy with who I am now (Jennifer, long day-care).

I am well aware of my own body image as I am getting older and hitting 50 this year, really evaluating everything and sort of looking at it (Amanda, family day-care).

Everything goes south as they say. But I think I've been thankful for having a reliable, healthy body, that does what it's supposed to do and not being so caught up about what we look like, and having a different perspective of it I guess (Brittany, TAFE lecturer).

Participants represented a range of ages and educational backgrounds, and as expected, brought with them a range of body image experiences of their own. This section has described the impact of their participation in this study on their own body image.

8.9 Summary of Chapter

This chapter described the qualitative findings of Phase Three of this study. This phase comprised 28 exit interviews with educators recruited from the larger sample who took part in pre- and post-intervention testing. Semi-structured interviews

guided participants to comment on their use of the intervention and their satisfaction with the resources in order to gain richer data than the survey alone could provide.

Responses from the interviewees to the intervention material were positive, with participants stating they were easy to read and use, and practical. The storybooks were used by all participants, and were shared with parents and other educators by several participants. The participation of TAFE lecturers and family day-care coordinators greatly improved the reach of the resources, and meant that they were used in training and development activities for trainee educators.

While some participants saw themselves as championing the body image cause, others felt that since children in this age rarely mentioned their bodies in negative terms, the children they taught were too young for such material. The focus of these participants on negative body image, and a lack of understanding of positive body image, mirrors that found in other research, and in the population more broadly.

Use of the intervention resources increased the awareness of some educators in relation to body image in young children, and led to behaviour change, particularly in relation to fat talk and feeding practices, while for others the resource consolidated and justified their current practice. Behaviour change and increased awareness of the role of educators in body image development described here shows that the resources had some impact with these educators, although deeper engagement with the material by some would have been desirable. The use of these resources extensively with pre-service educators through the participation of TAFE lecturers is a promising outcome not anticipated when designing the study, and extended the reach of the intervention materials substantially.

Chapter Nine: Synthesis of findings, strengths and limitations, recommendations, implications and conclusions

9.1 Introduction

So far this thesis has presented the background, methods and findings of a mixed methods study which formatively explored the knowledge and understanding of body image among educators of very young children. It described the development of the *SNACPlus Body Image Project*: consisting of an intervention, and quantitative and qualitative data collection instruments designed to assess the impact of the intervention. This research provided several original contributions to the body image literature, as the body image and body appreciation of educators of very young children did not appear to have been previously explored. Furthermore, an evaluated intervention dedicated to the early years sector and designed to influence the development of positive body image had not previously been produced.

This research was situated in a pragmatic epistemological paradigm. This meant that to answer the questions posed, a number of different research methods were appropriate. While quantitative aspects of this research were conducted using a positivist approach, qualitative phases used an interpretivist ontology. This chapter provides a synthesis of results from all three phases of this research, arranged according to the research questions they sought to answer. An interpretivist approach to results and discussion is adopted here, as this allowed for findings from all phases to be interwoven, and triangulation to occur, thus strengthening the findings of this research.

This chapter details the conclusions drawn from this study, and the implications for further research. This research is not without strengths and limitations and these are described, and further research recommendations made.

9.2 Phases of Research

This research comprised three phases: Phase One, a qualitative exploration of educators' knowledge and understanding of body image; Phase Two, the development of an intervention which aimed to build educators' capacity to foster positive body image development in young children and instruments to evaluate the impact of the intervention; and Phase Three, the intervention implementation and analyses of its impact.

9.2.1 Phase One

The research aim of Phase One was to explore the knowledge and understanding of educators in relation to body image. In this phase, 44 educators participated in focus groups and telephone interviews, and described their experiences of body image; their understanding of body image development; and their interest in capacity-building professional development activities to foster positive body image in young children. This phase used a generic qualitative approach to data collection and analysis.

9.2.2 Phase Two

Following the analysis of Phase One findings, a body image intervention for educators was developed, underpinned by three theories. Body image is a complex phenomenon, consequently, three theoretical frameworks underpinned this research, namely the Socio-ecological Model, the Sociocultural Theory and the Social Cognitive Theory. The intervention aimed to deliver online body image professional development for educators. Prior to piloting the intervention was tested for readability, and according to the *Simple Measure of Gobbledygook (SMOG)* formula (McInnes & Haglund, 2011; McLaughlin, 1969) was deemed suitable for those with a reading age of 12 to 13 years. The intervention was then piloted with a small group of educators who participated in Phase One of the study and with undergraduate health

science students. Changes were made to the layout of the intervention according to pilot feedback, and the finalised material was uploaded to the *SNAC* website by the web developer, housed online as a module within the existing *SNACPlus* curriculum materials.

The intervention was developed in the style of existing *SNACPlus* curriculum materials. The *SNACPlus Body Image Project* therefore included three learning areas, six case studies, seven tip sheets and eight children's activities (see In order to test the impact of the intervention, a pre and post-intervention survey was designed, where four existing surveys were adapted and combined, then piloted with Western Australian educators. Development of the survey and intervention, and methods used in the pilot will be discussed in this chapter.

5.2 Section One: Intervention Development).

Instruments were developed to evaluate the impact of the intervention in Phase Two of this research. These were adapted from a range of existing instruments designed to test knowledge in relation to body image; feeding practices and behaviours; body appreciation; and role beliefs. The final instrument was piloted (see Section 5.7 Reliability) and found to be reliable ($\alpha=0.857$). The data collection instrument was embedded as part of the registration process on the existing *SNAC* website, and post-intervention, participants were administered the same survey via Qualtrics (Qualtrics, 2015).

9.2.3 Phase Three

The aim of Phase Three of the research was to implement and measure the impact of the intervention, using quantitative and qualitative measures. A number of strategies were used to encourage participation in the *SNACPlus Body image Project*, including social media posts, advertising in the early childhood education and care sector blogs and newsletters. Existing *SNAC* members were targeted using the regular

SNAC e-newsletter and *Facebook* pages. In total 187 surveys were completed pre-intervention, and results were analysed post-intervention using 97 matched pairs, with analyses indicating that this sub-set of the sample was representative of the demographic characteristics of the sample as a whole.

Survey results were uploaded to SPSS (IBM Corp, 2012) and analysed using non-parametric measures, as data was non-normally distributed.

In addition to the pre- and post-intervention survey results, 28 exit telephone interviews were conducted. The aim of these interviews was to enable participants to discuss their use and satisfaction with the intervention, and to establish if any changes in relation to the promotion of positive body image development had been made at their service. These data were transcribed and uploaded to NVivo (QSR International Pty Ltd, 2012) for analysis.

9.3 The Purpose and Contributions of the Research

The purpose of this research was to build the capacity of educators who work in early childhood education and care to foster positive body image in young children. This goal was met by firstly assessing the needs of educators via formative research; secondly, developing an online professional development intervention and instruments to assess the intervention's impact; and third, implementing the intervention, and then collecting and analysing quantitative and qualitative data

This research provided five original contributions to the research literature in the area of body image and young children, the first of which was the innovative nature of this study. This research was novel as the influence of educators on body image development in young children did not appear to have been previously considered. While there is a wealth of literature about the role and influence of educators in primary and secondary schools on the body image of children and adolescents, there are increasing numbers of children attending Australian early childhood education

and care services, thus rendering educators an important influence on such young children's body image. Despite evidence that body image starts developing during the peak time for early childhood education and care attendance in Australia (i.e. around three years of age) participants reported not receiving previous training in relation to body image when completing their TAFE or university courses, or when completing professional development activities.

The second contribution this research makes to existing research is that body image disturbance is an often overlooked public health concern, and is not commonly considered in health promotion, despite being influential in the aetiology of depression, anxiety, disordered eating and exercise, problematic drug use, and obesity (Bucchianeri & Neumark-Sztainer, 2014). There is compelling evidence to suggest that body image influences the development of several health concerns preeminent in public health. The scrutiny of this issue and early intervention in this area was innovative

The third contribution this research makes to the field is that it was arguably the first study to measure both body dissatisfaction and body appreciation among early childhood education and care educators. Reflective of the general Australian population, 80% of participants in Phase One of this research were dissatisfied with their bodies, as measured using a Figure Rating scale. As educators are important role models of body image attitudes and behaviours for the children in their care, the promotion of positive body image in educators is imperative.

Furthermore, the role beliefs of educators in relation to fostering positive body image had not been previously explored. This is the fourth original contribution made by this research, as role legitimacy was found to be an important variable in predicting educators' feeding practices, such as allowing children to determine their hunger and satiety. These findings suggested that future interventions focusing on boosting role adequacy and legitimacy beliefs of educators may have the capacity to improve behaviours relating to body image development.

The fifth and final contribution made by this research was its focus positive body image, the antithesis of what most educators in this research believed body image to be. Educators who understood body image development based much of their knowledge on their own body image experiences, and these were predominantly negative. Participants described their personal involvement in disordered eating practices, their own eating disorders, and struggles with their own body weight, and these descriptions seemed to inform their understanding of this concept. Educators were shown to have limited awareness of the *positive* body image concept, how it develops, or their role in its development. Post-intervention, many educators understood the importance of fostering positive body image in children, however, it appeared they lacked the knowledge and skills to do so effectively.

9.4 Synthesis of Research Findings

This study sought to answer the following research questions:

1. How do educators view their own body image?
2. What do educators know about the development of body image in preschool children in their early year's settings?
3. What behaviours related to body image do educators demonstrate to the preschool children in their care?
4. How do educators view their role in the development of preschool children's body image?
5. What are the preferences of early childhood education and care educators regarding professional development relating to body image development of preschool children?
6. What was the impact of professional development on educators' knowledge, attitudes and behaviours in relation to fostering positive body image?

The next section of this chapter describes the findings of this study relative to each of the above research questions that were answered across Phases One and Three, and resulted from the analyses of both qualitative and quantitative data.

9.4.1 How do educators view their own body image?

In this research, participants' body image was measured in Phases One and Three. Although this research focused predominantly on educators as conduits to foster positive body image in young children, it was important to recognise the influence of their own body image in this process. Body dissatisfaction has been linked with high levels of fat talk, disordered eating patterns and weight stigmatisation, and according to the Sociocultural Theory (Clark & Tiggemann, 2008) and the Social Cognitive Theory (Hendy et al., 2010) these issues are potentially influential in the developing body image of very young children.

According to the Sociocultural Theory, adults, and in particular, educators working in early childhood education and care services, can provide scaffolding for children's learning (Bodrova & Leong, 2003). Furthermore, Vygotsky suggested that children's social interactions, and the cultural context in which these interactions take place, can influence their cognition, which then becomes internalised (Peterson, 2014). This means that educators have the potential to scaffold children's understanding of body image through their day to day interactions, to transfer knowledge about the culturally ideal body type, and to model their relationships and behaviours related to food and eating.

The Social Cognitive Theory, which also underpinned this research, emphasises the influence of role models and observational learning on child development, while acknowledging the importance of factors such as self-efficacy and self-regulation on children's learning and behaviours (Peterson, 2014). Educators are positioned to model both negative and positive body image-related behaviours and attitudes. It was, therefore, important to gather data about educators' own body image. Baseline body

image self-assessment data was collected in Phase One of this research, and body appreciation data in Phase Three. More than three-quarters of participants experienced negative body image. This was a concern as the negative behaviours associated with poor body image may be modelled by educators to the children attending their services.

Body dissatisfaction was measured in Phase One using a Figure Rating Scale (Stunkard et al., 1986). Results showed that participants experienced body dissatisfaction at rates comparable to women in the general population (Mond et al., 2013) although it is important to note that while body dissatisfaction is said to be typical in women, the negative effects should not be underestimated. While the effects of body dissatisfaction on educators had not been tested previously, from data relating to fat talk, relationships with food and exercise and their own body image, it appears that participants in this research were conveying negative messages to children in their early education and care services. Body dissatisfaction is associated with a reduced quality of life, in particular mental health and some aspects of physical health. For example, individuals who experience high levels of body dissatisfaction are more likely to experience depressive symptoms, low self-esteem and eating disorder symptomology (Mond et al., 2013).

In Phase Three of this study, participants' body appreciation was measured through the online pre- and post-intervention survey, and this study was arguably the first to measure the body appreciation of educators using the Body Appreciation Scale (Avalos et al., 2005). This scale was designed to determine whether respondents accepted their bodies despite any perceived imperfections; whether they respected their bodies; and protected themselves from unrealistic images in the media. Body appreciation scores were high both pre- and post-intervention, indicating that in this group, eating disorder symptomology was likely to be low. Despite no significant change in overall body appreciation scores post-intervention, there were some

statistically significant changes in some individual items, particularly in the key domain of body respect.

High body appreciation scores have been reported elsewhere, raising questions about the widely-held assumption that women's body image is inherently negative (Avalos et al., 2005). It is worth noting that somewhat counterintuitively, body dissatisfaction and body appreciation may be present in the same individual, at the same time (Tiggemann & McCourt, 2013). Body appreciation is associated with the way in which individuals process sociocultural influences on body image. Individuals may do this in a protective way (Halliwell, 2013), for example, by rejecting the narrow definitions of beauty, or the thin ideal, as defined by the media (Andrew, Tiggemann, & Clark, 2015b). Furthermore, levels of body appreciation are known to improve with age (Tiggemann & McCourt, 2013) and are positively related to sun protection and seeking medical attention when required (Andrew, Tiggemann, & Clark, 2016a). Body appreciation may improve as women age, as they are believed to become increasingly appreciative of their body's functionality and health (Tiggemann & McCourt, 2013). Participation in the *SNACPlus Body Image Project* was skewed towards a middle to older age group, thus, the age of this sample may in part explain the relatively high body appreciation scores found in this research.

Interestingly, the participants in this research who experienced the greatest positive change in body appreciation scores pre- to post-intervention were those with a self-reported BMI over 35kg/m². This finding suggests that obese women's perception of their body may be positively improved when they undertake professional development relating to fostering positive body image. As two-thirds of the Australian population is overweight or obese, the development of positive body image in this population is critical. The association of body appreciation with a range of health-promoting behaviours illustrates the importance of this construct in the overall health and wellbeing of women, and reveals the importance of fostering positive body image among educators as well as among the young children they teach.

Positive changes in body appreciation amongst the obese participants in this study are noteworthy, since obesity is linked to a range of poor health outcomes, both physical and psychological (Puhl & Brownell, 2006) while body appreciation is linked to positive health outcomes (Andrew et al., 2016a). This group of participants, with a BMI over 35kg/m², arguably had the most to gain from developing positive body image, as individuals with higher BMI have been shown to experience higher rates of depression, lower self-esteem and worse body image than less obese individuals (Friedman, Reichmann, Costanzo, & Musante, 2002).

In addition to measuring body dissatisfaction and appreciation quantitatively, participants' body image was explored qualitatively both pre- and post-intervention. In Phase One of this study, many participants discussed their own body image concerns and experiences as the impetus for their involvement in the research. In particular, some participants gave examples of childhood experiences which shaped their body image, which were largely negative. Participants desire to shield children from similar experiences was often given as a reason for their involvement in this research, and such a desire to protect children from negative body image experiences has also been found elsewhere (Eli et al., 2014; Wansink, Latimer, & Pope, 2016).

Post-intervention, changes to participants' own body appreciation were also explored qualitatively in this research. Most participants described increases in their body appreciation following their participation in this research, and something they needed to continue to work on. For some participants, body appreciation was linked to their body's function or health, with some stating that since they were physically active and fit, they had not experienced negative body image. These participants appeared to be describing some level of embodiment; a connection with the physicality of their bodies associated with positive body image, a finding confirmed in other studies of women's body appreciation (Andrew, Tiggemann, & Clark, 2016b; Tiggemann et al., 2014).

Phase Three exit interviews sought to understand if participants' body image had changed in any way as a result of their participation in this study. While many participants indicated being a part of the project had caused them to question their attitudes towards their body, many stated that it increased their awareness of their fat talk, fat bias, or made them think about their attitudes toward food. Some participants appeared to be proponents of a 'health at every size' attitude, acknowledging that they believed body weight was only one aspect of health rather than the whole picture. These participants described their body image positively, and ascribed these attitudes to looking after one's body by having a balanced diet and regular exercise, much like the findings of research into the positive body image of adolescent participants (n=30) (Frisén & Holmqvist, 2010) and of young women (n=321) (Homan & Tylka, 2014).

Findings from the exit interviews also showed that while the aim of this study was to provide educators with the tools to foster positive body image in young children who attend early childhood education and care services, it would appear that it also influenced the body image of the individuals who participated. Health promotion interventions are most successful when they aim to affect change across multiple layers of influence (McLeroy et al., 1988; Sallis & Owen, 2015). According to the Socio-Ecological Theory (Bronfenbrenner, 1994) this research intervened in the sphere of interpersonal factors, that is the influence that educators have on children in their services. It also appeared to have influenced the intrapersonal factors of educators in relation to their attitudes towards their own bodies, and their eating and exercising behaviours.

9.4.2 What do educators know about the development of body image in preschool children in their early years settings?

Knowledge about body image and the development of body image was a concept explored qualitatively in Phase One of this research, and quantitatively in Phase Three. Knowledge was a theme identified in Phase One data, where participants

revealed their understanding of the body image concept was narrow, and predominantly negative. Educators felt that since talk about body image was fundamentally negative, it was something to be avoided, and to shield children from, a finding corroborated in studies which examined the attitudes of parents to body image in their preschool-aged children (Liechty et al., 2016).

In addition to Phase One data, this research question was addressed by findings from Phase Three. Quantitatively, knowledge relating to body image was tested using the *Knowledge Test For Body Image and Eating Patterns in Childhood* (Damiano et al., 2015) a scale designed for use with parents of preschool-aged children, and adapted for use with educators as part of this research. Knowledge scores were high pre- and post-intervention, although scores reduced slightly post-intervention. There appeared to be some confusion in relation to dieting being a healthy behaviour, which may have accounted for the apparent reduction in knowledge scores.

It is possible that the participants did not fully understand the term 'diet' in the same way that health professionals would perceive the term (Cairns & Johnston, 2015; McFerran & Mukhopadhyay, 2013). Diet is a word often used in the framework of an ideal 'healthy diet', and is often discussed in positive terms (NHMRC, 2013). Therefore a diet may be viewed by some as a desirable style of eating (McFerran & Mukhopadhyay, 2013). Though some public health professionals claim that dieting is a healthy behaviour (Coyne et al., 2016; Hoyt, Burnette, & Auster-Gussman, 2014; Katz & Meller, 2014) in terms of body image, body acceptance and long-term health, the restriction of dietary intake has been demonstrated as an unhealthy behaviour, rarely resulting in long term weight reduction (Ross et al., 2015). Yet, despite this scientific evidence, in 2011-2012, more than 2.3 million Australians aged over 15 years were practicing dietary restriction (ABS, 2014a).

During interviews conducted in Phase One and Phase Three, several participants discussed their desire to lose weight, concerns about family members' weight and dieting. In the formative interviews conducted in Phase One, some educators

described their colleagues refusing to eat the same meals served to children as they were “*high in carbs*”, or had too many “*points on Weight Watchers*”. Another recounted how an educator at her service would bring a meal replacement shake for lunch, and consume this while sitting with the children as they ate their packed lunches. Since a reduction in rates of overweight and obesity is a public health priority, the desirability of weight loss is reinforced by the advertising campaigns of many health promotion programs. The prevalence of these media messages and the environment this subsequently produces may stimulate the desire for weight loss amongst many, and foster the belief that food restriction is healthy (Sharma et al., 2013). Consequently, these participants’ apparent confusion about dieting as a health behaviour was unsurprising.

Research by Sharma and colleagues (2013) and O’Dea and Abraham (2001) suggested that educators and trainee teachers engaged in high levels of dieting and disordered eating behaviours, and were likely to be modelling some level of restrictive eating to children. While this research did not explore the prevalence of these behaviours amongst the Australian educators who engaged with this study, it is worth noting that based on others’ research, such behaviours are likely to be evident in this sample, and accordingly, could be modelled to children. It is known that Australian children aged three years have some understanding of restrictive eating patterns and this understanding increases significantly between the ages of three and five years (Rodgers et al., 2015). Although children in this age group do not necessarily use the term ‘diet’, they demonstrate understanding of the concept in terms of manipulating food intake and exercise in order to reduce weight (Rodgers et al., 2015).

Taking these points into consideration, it is clear that a short-term intervention to actively address and influence the prevalence of dieting behaviours, the pervasiveness of dieting messages in the media and the cultural acceptance of dieting as healthy may not be adequate. Health promotion which goes further to explain a healthy diet rather

than a restrictive diet, promotes body acceptance and sustainable changes to lifestyle without a focus on weight would have beneficial effects in the long-term (Salas, 2015).

Further to the quantitative measurement of participants' knowledge about body image, this concept was also explored qualitatively. In Phase One interviews and focus groups, participants were asked the age at which they believed body image developed in children, with responses indicating that most participants were reluctant to give a definitive answer. Many believed body image development was something which happened when children started school, or in pre-adolescence. This lack of understanding was concerning, as their belief that body image was something which happened later was likely to lessen their appreciation of their own role in its development.

While it is difficult to ascertain an accurate measurement of children's body dissatisfaction (Dunphy-Lelii et al., 2014) there is evidence that children as young as three years stigmatise the overweight and obese, prefer thin playmates and internalise the thin ideal (Harriger et al., 2010; Su & Di Santo, 2012). This suggests that children are susceptible to the sociocultural influences in their environments which act to reinforce anti-fat bias, weight stigma and the desirability of the thin ideal (Tatangelo et al., 2016). Since educators model behaviours, attitudes and pass on body image knowledge to children, it can be assumed that they have significant influence in the body image development of children attending their early childhood education and care services. It is, then, imperative that educators have an evidence-based understanding of body image development, and the self-efficacy and support to foster positive body image in the children they teach.

Although survey results showed a small reduction in participants' knowledge relating to body image development in children, post-intervention exit interviews indicated a more sophisticated understanding of body image development had been achieved. Educators acknowledged their expanding role in influencing children in a variety of areas, such as nutrition education and intake, and a growing awareness of

body image development. Issues of gender, of pressure and restriction relating to food and a greatly increased understanding of ‘fat talk’ were exhibited, demonstrating that the *SNACPlus Body Image Project* intervention materials increased educators’ awareness of the issue of body image in very young children, and created new knowledge around the need for strategies and policies relating to talk about bodies, diets and exercise in the early childhood education and care sector.

In relation to the research question of what educators know about the development of body image in children, the use of mixed data collection methods across various phases of this research project mitigated some of the difficulties associated with using a single data collection method, as it allowed for confirmation of results, and provided reliability and dependability to findings (Eisner, 1991). Formative research undertaken in Phase One indicated that educators had limited knowledge relating to body image development, and that most had not previously considered positive body image. According to the quantitative data collected in Phase Three, knowledge scores were, however, high, and reduced only slightly post-intervention. Similarly, exit interview data indicated participants’ awareness and understanding of body image had increased, and many were planning further implementation of the *SNACPlus Body Image Project* intervention at their services

9.4.3 How do educators view their role in the development of preschool children’s body image?

Participants’ understanding of their role in the development of body image in young children was explored qualitatively in Phase One, and measured quantitatively in Phase Three using a modified version of the *Adapted Alcohol Attitudes and Problems Questionnaire* (Fitzgerald et al., 2009).

A notable theme to emerge from the formative discussions was participants’ lack of understanding about their role in the development of children’s body image. A number of explanations were provided. For example, some participants believed body

image development was something that happened much later in children's development, while others felt that parents were more of an influence than educators. While parents are undoubtedly a primary influence on children's body image development (Tatangelo et al., 2016) research in older children and adolescents suggests that teachers also have an important role to play (Yager & O'Dea, 2009).

In the Phase Three quantitative data analysis, role scores were calculated for participants, and comprised measures of role legitimacy, role adequacy, role support and work satisfaction (Fitzgerald et al., 2009). Role scores increased significantly between pre- and post-intervention, appearing to indicate the impact of the intervention in increasing participants' understanding of body image; their self-efficacy in promoting positive body image; their confidence to seek help and information; and their belief that they had an important role to play in the development of positive body image among the young children they teach. Despite these significant improvements in role scores, the dialogue at exit interviews included some educators claiming they were being asked to fulfil parental roles in relation to body image development, and a few participants noted the ever-expanding role of educators had led to an over-crowded curriculum.

Clearly, when viewed from the perspective of the theoretical frameworks underpinning this research, educators have a legitimate role in the development of body image in very young children. For example, according to the Social Cognitive Theory, individuals learn behaviours through complex processes such as imitation, modelling and reinforcement (Peterson, 2014). Furthermore, Bandura (2004) stated knowledge is a prerequisite for change, highlighting the importance of the *SNACPlus Body Image Project* intervention resources to increase educators' awareness of their role. Nevertheless, while knowledge is an important factor in role adequacy, an individual's confidence to undertake this role is paramount.

Survey results showed that the self-efficacy, or confidence of educators to fulfil their role in fostering positive body image in young children was increased by the

intervention. Similar to findings in studies on role with pharmacists (Fitzgerald et al., 2009) and nurses (Nolan et al., 2012) educators who recognised their role in the body image development of young children expressed a desire for information and support to enable them to foster positive body image. Information was provided in the form of tip sheets, support in the form of social media and e-newsletters, and educators were given the opportunity to master new skills by using case studies and activities for children. The provision of *SNACPlus Body Image Project* intervention resources not only appeared to enhance skills, but gave educators opportunities to practice and role-model their new learnings. If entrenched behaviours are to be changed, individuals need opportunities to master tasks, and subsequently ensure they develop the self-efficacy necessary to use these new skills consistently in a range of circumstances (Bandura, 2004).

During the exit interviews, several participants gave examples of their increased confidence to introduce and reinforce the concept of positive body image with the children they taught, in particular the use of the children's storybooks supplied as part of the intervention. These books were viewed as providing a segue into conversations with children about diversity and self-esteem, and were used in education and care settings. Additionally, participants noted they felt more confident talking about feeding practices with children and other educators, which ultimately influences educators' modelling of positive behaviours in relation to food.

Participants indicated that their increased awareness of the role they played in developing children's positive body image changed their own behaviours. This was evident in changes to gendered praise, with several participants stating that they had become aware that they had commented on the appearance of girls, and they had made a conscious effort not to do so since taking part in the research. In this regard, participants demonstrated self-regulation (Bandura, 1998). That is, they demonstrated increased awareness of their own behaviour, were able to evaluate their behaviour according to their newly-acquired understanding of their role in body

image development, and then evaluated their performance of this behaviour. Although participants indicated such changes in behaviour were not always consistent, their enhanced understanding of their role in body image development meant they were more likely to evaluate their behaviours with this specific role in mind, and be able to make changes to their responses in the future.

A novel finding in analysis of quantitative data collected in this research was the correlation between educators' role beliefs and other variables. Correlations suggested that a participant's role score, that is the strength of their belief that they played an important role in fostering positive body image in children, was positively correlated with both knowledge relating to body image development and more positive feeding practices. This association between these variables suggests that future work exploring educators' role beliefs would be worthwhile, as would interventions which aim to increase educators' confidence and understanding of their role in relation to other aspects of early childhood development more broadly, such as nutrition or mental health.

Furthermore, a high BMI was associated with a positive increase in role score, with particular changes made post-intervention by participants with BMI between 35 and 39 kg/m². This finding suggested that obese participants may have perceived their role in body image development as more important than those with lower BMI, possibly due to their own personal body image experiences.

9.4.4 What behaviours related to body image do educators demonstrate to preschool children?

Educators display a range of behaviours associated with body image development in young children, and in this research, such behaviour was interrogated using a mix of both quantitative and qualitative data in Phases One and Three. In formative interviews, educators described behaviours relating to food provision and feeding practices and modelling of food choices and dieting behaviours by educators, as

described in Section 9.4.2, in their centres, including pressuring children to eat and dichotomous judgements about food.

Phase One participants recalled instances of pressuring children to eat regularly, although participants were more likely to employ more euphemistic terms such as ‘monitoring’ to explain these behaviours. Monitoring children’s eating included practices such as encouraging children to finish meals, apparently in the absence of hunger; to eat some aspects of their meals before others, for example, to eat a sandwich before fruit; and the restriction of some foods in centres. While restricting certain foods may be a desirable practice in early childhood education and care services (Wallace et al., 2017) there was some evidence that children and parents felt ‘bullied’ or shamed when they subsequently provided these restricted foods. Phase One data indicated that among this group of participants, pressure to eat was applied most commonly to encourage children to eat healthy foods, and to try new foods.

Pressuring children to eat appears to be a common practice for individuals who are responsible for feeding young children, and has been demonstrated in studies among both mothers and fathers (Ellis et al., 2016; Gregory et al., 2010) and educators (Dev et al., 2016; Lynch & Batal, 2011). While pressuring children to eat might be practiced for altruistic reasons, such as the desire to ensure children have eaten enough or are getting an adequate intake of nutrients, applying pressure may be counterintuitive, and could lead to the development of fussy eating or eating in the absence of hunger, as children become disassociated from their hunger and satiety cues (Satter, 2007a).

In contrast to participants’ apprehension in relation to their role in body image development shown during Phase One interviews, most educators felt more comfortable in their role providing nutrition education to children. Several gave examples of foods sent home as these were not allowed at their services, such as cordial and lollies, while others described placing notes in lunchboxes for parents suggesting that the foods provided were unsuitable. When queried about these

practices, participants reported that they believed the guidelines relating to food provision to be explicit and clearly communicated to parents. In all but one of these instances, educators did not appear to consider the possible negative effect these actions had on children or parents. One participant recalled, with some consternation, being labelled a 'bully' by a child's family for enforcing healthy food provision guidelines.

There is evidence to suggest that parents may feel judged by others, including health researchers, (Sitnick, Ontai, & Townsend, 2014), other parents (Appleton, Fowler, & Brown, 2014) and by teachers in relation to the food choices they make for their children (McSweeney, Rapley, Summerbell, Houghton, & Adamson, 2016). A qualitative study undertaken in the United Kingdom found parents were open to health promotion in early childhood settings, but that some resented being made to feel like "bad parents" when preschool staff were "telling them what to do" (McSweeney et al., 2016, p. 5). McSweeney and colleagues suggested that parents' misperceptions relating to healthy food practices could sometimes lead them to believe that information provided to them by teachers was not relevant to their personal circumstance. These findings highlight the need for educators to have access to credible resources, and to develop appropriate strategies to provide information to parents in a sensitive manner.

Australian early childhood education and care services are mandated to follow the Australian Dietary Guidelines for food provision. It appears, however, that these guidelines are not well understood or followed (Wallace et al., 2017). In spite of explicit guidelines relating to the kinds of foods that should be served, participants recalled with relish the kinds of 'inappropriate' foods provided to children by parents, including whole packets of chocolate biscuits, family size packets of chips, or breakfast items from takeaway outlets. Participants provided numerous examples of talking to children about the meals they were consuming, frequently referring to 'good' and

‘bad’ food, or commenting to children that certain foods should be consumed only ‘sometimes’.

Food practices, intake and choices have long been associated with identity, social class and economic factors (Graham, Stolte, Hodgetts, & Chamberlain, 2016) but evidence suggests that population-wide, approaches to food are becoming increasingly reductionist (Fardet & Rock, 2015; Scrinis, 2008). The fixation on certain foods as ‘good’, and others as ‘bad’, or a focus on specific nutrients was described by many participants, both when referring to their own understanding of nutrition and the understanding of parents. Such reductionist thinking is potentially detrimental to food choice and overall health, and moreover, dichotomous thinking about food is associated with the development of disordered eating behaviours, and body dissatisfaction (Alberts et al., 2012). The elucidation of reductionist thinking in relation to food by educators in front of children has the potential to teach children to approach food in a dichotomous manner, therefore, has the potential to influence children’s attitudes toward food, and to negatively influence their developing body image.

In Phase Three, behaviours related to body image development were measured in terms of feeding practices, using *The Comprehensive Feeding Practices Questionnaire* (Musher-Eizenman & Holub, 2007). Children may be offered as many as five meals and snacks during a full day when attending an early childhood education and care service; consequently, educators have numerous opportunities to model both positive and negative behaviours relating to food and health. Children are excellent observational learners and have the capacity to retain and reproduce behaviours demonstrated to them by others, even weeks after they were first exhibited (Peterson, 2014). Children’s imitation of the behaviours of significant carers may be motivated by holding this person in esteem (Bandura, 2004) as they do with their teachers and educators. It is, therefore, imperative that educators are both aware of their status as role-models, and have adequate understanding of body image development, and the

capacity to model positive behaviours for children. Providing educators with tip sheets, activities for children and case studies through the *SNACPlus Body Image Project*, provided educators with evidence-based educational material, together with practical examples of when this knowledge could be implemented.

According to the quantitative survey results in this research, there were significant change in educators' overall behaviour scores post-intervention, and indicated that encouraging children to eat a balanced diet which included variety, modelling healthy eating habits and teaching about nutrition all improved significantly. Additionally, scores were high in relation to 'restriction for health', meaning that participants restricted foods due to concern for children's health, such as restricting energy-dense foods or those they considered to be of low nutritional value. Moreover, it has been argued that since the food provided by early childhood education and care services should adhere to the Australian Dietary Guidelines, discretionary foods have no place in this setting (Wallace et al., 2017).

In contrast to Phase One, where most participants appeared to be confident talking with parents about food provision, during the post-interviews conducted in Phase Three, participants appeared to be more circumspect, a finding confirmed in other studies (Moore et al., Dev et al., 2016; 2005). One participant, a TAFE lecturer, noted that even with the availability of resources relating to food provision, she believed that educators may feel uncomfortable talking to parents about food provision, and in her view, this was especially apparent in privately-run services. Parents with children attending these 'for profit' services were viewed as 'customers', hence, criticising the food they provided for their children posed the risk of losing business revenue if parents chose to leave their services because of the perceived criticism. Despite this reluctance to talk with parents about the kinds of foods children brought to early childhood education and care services, educators' frequent discussion of food with children and dichotomous judgements about foods suggests that this reluctance was not shared when talking with children.

While participants described their frustration about the less healthful foods provided to children by their parents, the provision of these foods was perhaps a symptom of children's food insecurity (Godrich, Davies, Darby, & Devine, 2017; Nackers & Appelhans, 2013). Food insecurity is a public health issue associated with a range of poor developmental outcomes for children, including inattention, behavioural and emotional difficulties (Shankar, Chung, & Frank, 2017) and as such, educators need to be aware of this issue, and practice sensitivity and caution when enforcing nutritional guidelines in their services.

Post-intervention, participants continued to discuss the provision of food in interviews, although the nature of these conversations had changed markedly. Participants no longer talked about pressuring children to finish their lunches so that they did not get hungry before afternoon tea, but instead discussed allowing children to determine how much they would prefer to eat. In this regard, it appeared that educators had a greater understanding of allowing children to determine their own hunger and satiety, as promoted and recommended within intervention resources.

Participants also stated post-intervention that their confidence to talk about topics relating to body image had increased, whereas previously they reported feeling unable to discuss these topics with parents or other educators. For example, participants reported providing the intervention storybooks for parents to share with their children when they had heard children making negative comments about the weight of other children. The provision of these materials to scaffold learning experiences and to open discussion adheres to the principles of the Sociocultural Theory. That is, the sharing of language and books with children leads to the internalisation of cultural concepts, and by sharing these resources with an adult, a child is able to develop higher cognitive skills (Bodrova & Leong, 2003).

Engaging in fat talk while in the presence of children may be detrimental to children's body image development as it may facilitate the cultural transmission of negative attitudes and behaviours relating to body image. Both the Sociocultural

Theory and the Social Cognitive Theory recognise the importance of role models, such as educators, in children's learning and the development of health behaviours. The Sociocultural Theory emphasises the importance of adults in scaffolding children's learning and development. Adults in the children's environment, including educators, parents and other family members, convey cultural learning through interactions that may occur during play, intentional teaching, or when children imitate adult behaviours (Peterson, 2014). This theory also explains how emotional development is influenced, as children often imitate adult behaviours, and may then internalise their cultural meanings. Hence, children's exposure to fat talk increases the likelihood that they will imitate this style of conversation, and may also internalise the meaning, potentially causing children to experience feelings of body dissatisfaction, guilt and possibly engage in disordered eating.

Participants described a number of sociocultural influences on children's developing body image, including their peers, parents and the media, as well as the increasing exposure of very young children to cultural diversity and disability. Children have ample opportunities to learn attitudes toward difference in others in their early childhood education and care environments. The Social Cognitive Theory posits that children learn a number of complex behaviours through imitation, including altruism, aggression, their gender roles, and conscience (Peterson, 2014). In this research, several educators discussed cultural diversity as a factor pertinent to body image in their early childhood education and care services. While most educators gave positive examples of the influence of diversity on body image, there were concerns relating to the attitudes of some educators.

The behaviours and practices relating to feeding children demonstrated by educators was an area where participants appeared to be aware of their role in both nutrition education and the role modelling of healthy eating. They may not have, however, understood this in relation to children's body image development. Participants appeared to understand they should be acting as role models to support

positive feeding practices, although not all educators were able to share mealtimes with children. Educators described very limited access to nutrition education and information, meaning opportunities for providing children with nutrition education were lost, or worse, educators were providing children with inaccurate information.

Using verbal messages to reinforce behaviours is a core tenet of the Social Cognitive Theory, as is the development of outcome expectancies (Bandura, 1998) however, the focus of educators on making moral judgments around food may have reinforced negative messages rather than positive ones. Children learn a variety of behaviours through modelling, both healthy and unhealthy (Peterson, 2014) and in the context of this research, much of the modelling which occurred appeared to be somewhat unhealthy. Teaching young children that consumption of certain foods leads to ill-health may be beyond their level of comprehension, and lead to misinterpretation of messages and confusion or worry (Birbeck & Drummond, 2006). A more sustainable healthy approach to eating is take a total diet approach, where eating occurs in moderation, in appropriate portions, and in response to hunger and satiety (Freeland-Graves & Nitzke, 2013) and the modelling of this approach by educators, without dichotomous judgements may be beneficial for children.

Moreover, in early childhood education and care services where meals were not provided, educators often described making suboptimal food choices to eat in front of children, such as take-away meals, soft drinks, or very low calorie meal replacements. By consuming energy-dense rather than nutrient-dense foods in the presence of children, educators are modelling and normalising these eating behaviours. Social modelling is known to be a powerful influence on children's eating behaviours (Cruwys, Bevelander, & Hermans, 2015) and the importance of the early childhood education and care sector as a health promoting opportunity should not be overlooked (Birch, Savage, & Ventura, 2007). Given that early childhood is universally acknowledged as crucial in the development of lifelong nutritional habits, it is worth

noting body image development in young children is as important (Eli et al., 2014) yet educators in this research reported not receiving training for their role in this area.

9.4.5 To what extent do educators perceive the need for professional development related to the development of positive body image among preschool children?

A key determinant of the use of the *SNACPlus Body Image Project* intervention resources, was educators' perception of the need for them to understand body image development in children, and therefore, to require professional development in this area. Phase Three quantitative surveys asked participants if they knew how body image developed; if they knew where to seek help if they had concerns relating to children's body image development; and if they understood the risk factors influencing negative body image. Post-intervention responses to each of these quantitative questions improved significantly.

In qualitative interviewing undertaken in Phase One, not all participants perceived the need for professional development relating to body image, with two main factors being influential in their assessment. Firstly, there were a group of participants in both Phases One and Three who believed body image developed later in childhood, and as such, it was an issue that fell outside of their role working with very young children. Their assumptions relating to body image development were often built on their beliefs that young children did not comment on their own bodies, the bodies of others, and showed little awareness of their own appearance, ergo, this was not an issue that needed to be addressed. Some participants reported that it was only after they had read the tip sheets provided in intervention resources, that they recognised the issues of body image development being pertinent to young children.

Secondly, participants' focus on negative body image meant they believed encouraging children to think about body image would be detrimental to the children's development. This particular group of participants equated body image

with disordered eating and exercise practices, and eating disorders. It was apparent that awareness of positive body image was lacking in this group, although when the concept was explained more fully, these participants agreed that developing positive body image in young children would be worthwhile.

In terms of professional development, participants noted that the novelty of body image material worked in its favour in relation to generating interest and attracting participants. They reported that professional development opportunities available to early childhood education and care services tended to be somewhat limited and repetitive. While face-to-face professional development workshops were often reported as the preferred method of delivery, participants stated that staffing difficulties made such training opportunities difficult to attend, and the cost of such face-to-face workshops could also be prohibitive. The online availability of the *SNACPlus Body Image Project* professional development materials was viewed positively, as participants would be able to access them at their convenience, and return on multiple occasions if required.

9.4.6 What are the preferences of early childhood education and care Educators regarding professional development relating to body image development of preschool children?

While the *SNACPlus Body Image Project* intervention resources were designed to be housed online as part of the broader *SNAC* website, during the initial scoping for this project it was important to determine the acceptability of this method by educators. During Phase One interviews participants were asked how they preferred to access professional development opportunities. Although face-to-face workshops were popular, barriers to attending such workshops were reported as cost, lack of staff cover, and ineffective workshop facilitators. In contrast, participants in this research described enjoying the 24/7 accessibility of the online materials, as they could use the resources at times suitable for them, and return to the resources as

often as required, a finding corroborated in other studies of online professional development (Brooks & Gibson, 2012; Capps et al., 2012; Davis, 2009).

9.4.7 What was the impact of professional development on educators' knowledge, attitudes and behaviours in relation to fostering positive body image?

The impact of the intervention on educators' own body image, their knowledge about body image development, their understanding of their role in body image development and their desire and preferences for professional development have been described in the preceding sections of this chapter. This section, therefore, focuses upon the impact of the intervention in terms of changes made at a macro level in the early childhood education and care services where participants worked.

Quantitative data gathered post-intervention, showed that 60% of participants stated they had made changes at their services following their involvement in the *SNACPlus Body Image Project* and a further 30% said they planned to make changes in the future. Written responses gathered in the survey (n=60, Appendix W) suggested that participants had reduced their levels of fat talk in their services; had increased their awareness of the importance of allowing children to determine their own satiety at meal times; and were making conscious efforts to model healthy eating. Additionally, participants reported increased self-efficacy to talk about diversity with children, and to talk to families about body image or nutritional concerns.

This research used a Socio-ecological Framework, where resources were provided to allow for change across a number of systems. On an intrapersonal level, the intervention may not have increased knowledge in the ways expected, but it succeeded in raising awareness of educators' behaviours, such as reducing moral judgement relating to children's food. On an interpersonal level, the intervention worked increased educators' awareness of their role in children's body development, as well as interpersonal behaviours such as engaging in fat talk in front of children.

The nature of early childhood education and care services allow educators multiple opportunities to model interpersonal interactions, both with other educators, and with children, though the intervention's impact at this level is difficult to quantify without extensive observation of interactions, which were outside the scope of this research. Post-intervention interviews suggested that its impact was, however, significant with participants able to give numerous examples of increased awareness and changes in behaviour on an interpersonal level. Intervention materials provided a scaffold for educators to build on their own knowledge, but by providing activities and resources, also scaffolded the learning of children. The self-efficacy of participants to promote positive body image increased, as did their recognition of their role as a model of positive body image behaviours.

The impact of this research at an institutional level was also described by participants, both in Phase Three surveys and post-intervention exit interviews. The impact at this level included reported changes at early childhood education and care services, such as the inclusion *SNACPlus Body Image Project* intervention tip sheets for educators as part of their staff induction process, raising issues from tip sheets at staff meetings, and including body image as an area to be included in future quality improvement plans or centre policy. One school reported purchasing copies of all of the children's storybooks and educators' resources suggested in the *SNACPlus Body Image Project* resources list to be housed in their library for teachers to use.

In addition to institutional changes made at the early childhood education and care service level, changes were also reported in institutions where new educators received their training, such as TAFE. Establishing the *SNACPlus Body Image Project* resources as material to be used in pre-service educator training was an unexpected positive outcome of this research, and it has the potential to impact the practice of new educators. TAFE lecturers recognised the value of adding these resources to training, however, their responses in interviews indicated that they had some gaps in knowledge themselves, particularly in relation to body image development and their

understanding of eating disorders. These findings illustrate the need for the upskilling of those who deliver training to educators, and future research and intervention in this area appears to be required.

The final sphere of the Socioecological Framework influenced by this research was the home. Many of the participants in this research were involved due to their own personal experiences, or the experiences of friends or family. Educators in Phase One and in the Phase Three exit interviews described these personal experiences at length. In Phase Three, many participants recounted their increased awareness of the way they spoke in front of their own children, their desire to increase awareness amongst their own family members, and changes in their own positive body image following their exposure to the intervention materials.

This research was able to impact the behaviour of educators, their self-efficacy and their appreciation of their role in the body image development of the very young children they teach. Given participants body appreciation and knowledge relating to body image and eating patterns of children was high both pre- and post-intervention, the intervention had little impact in these areas when measured quantitatively, but participants in post-intervention interviews gave several examples of changing awareness relating to their role, their behaviours, and their understanding relating to children's body image development.

9.5 Strengths and Limitations

This study adopted a novel approach to fostering positive body image in young children, in that it focused on educators in early childhood education and care services as an under-utilised conduit for this important public health issue. While in previous research, educators have been included in studies of body image development in children (Hart et al., 2015; McCabe et al., 2007) their influence has been treated as somewhat peripheral when compared to the influence of parents. It is important to note that since young children spend an average of 28 hours in early childhood

education and care in Australia, the influence of educators should be given attention. This study had a number of strengths, as well as limitations, and each of these will be described in this section.

9.5.1 Strengths

A crucial strength of this research was inherent in its design. The mixed methods design of this research increased its methodological rigour (Creswell, 2009) as it provided the capacity for qualitative and quantitative findings to be compared and contrasted, and for triangulation of data to occur. For example, the inclusion of exit interviews in Phase Three of the research allowed for disparities in the quantitative results, such as a slight reduction in knowledge post-intervention, to be further interrogated, and better understood.

Furthermore, the association of this research with the broader *SNAC* project proved to be an asset to this study. As part of a larger body of research into nutrition in the early childhood education and care sector, this research benefitted from the ability to pool resources (such as website development) and having access to an already-engaged *SNAC* community. The *SNACPlus Body Image Project* was able to consolidate resources with the larger study, and to recruit from a large pool of existing participants. Being a part of the larger project, raised the profile of this study and generated interest within the sector.

The novelty of material provided by the *SNACPlus Body Image Project* was a further strength in terms of recruitment of participants, and increased its appeal. This research provided educators with the opportunity to access online professional development related to body image, a professional development topic not previously available to them. The research participants reported professional development opportunities for educators to be limited, and reported attending the same workshops year after year. Moreover, the availability of the *SNACPlus Body Image Project* intervention online made it accessible to educators who were unable to attend

workshops during their work day, such as family day-care educators. Additionally, the resources were provided at no-cost to participants, with membership to *SNAC* and *SNACPlus* being free, removing cost as a barrier to educators' ability to access professional development.

This research was funded by Healthway, the Health Promotion Foundation of Western Australia, in the form of a PhD research training scholarship with generous project funding, allowing for the development of high quality online resources and a survey launched by a professional web-developer, as well as the provision of published children's storybooks. While the provision of storybooks to educators was a strength in terms of allowing them to access novel material, it may also be viewed as an inducement to participate, a possible limitation discussed in the next section of this chapter.

In addition to providing the funding to support a research project with expenses, Healthway's support of this project raised awareness of body image as a public health concern. While body image has been somewhat overlooked in public health (Bucchianeri & Neumark-Sztainer, 2014) the funding of this project by Western Australia's peak health promotion organisation lends research into body image a level of credibility and prominence, furthered by the reporting and networking requirements of Healthway-funded research.

The final strength of this research was its presentation to several different audiences, increasing awareness not only of body image as a public health issue, but additionally, awareness of the age that body image begins to develop. The research was presented at international and national conferences, as well as at a range of early childhood education events. While public health concerns relating to obesity are well publicised and understood, the sensitivity required to discuss obesity concerns while doing no harm are often not acknowledged in public health circles (Bombak, 2014; O'Dea, 2005; O'Hara et al., 2016). By delivering several presentations on this topic,

awareness in the public health sector relating to the role of body image in health and wellness may have been increased.

9.5.2 Limitations

This research was not without limitations, some of which relate to the study's design. In the quantitative phase of this research the sample size was relatively small, although it exceeded the sample size recommended for statistical power (55 matched pairs according to G Power versus 97 matched pairs who participated). This means that caution should be used when interpreting these results.

Additionally, there was some attrition of participants between the administration of the pre-intervention (n=187) and post-intervention survey (n=97). Analysis and comparison of the demographic characteristics of participants lost to attrition indicated, however, that the post-intervention sample were representative of the demographic characteristics of the total sample.

This research may also have benefitted from a more sensitive instrument to measure the impact of the intervention. Although adaptations were made to existing instruments to suit this research, and the instrument was piloted, achieving a suitable level of reliability ($\alpha=0.857$) feedback from participants suggested not all survey questions were appropriate for the range of services and settings where Australian educators work. It may be worthwhile then for further research to consider developing a more sensitive quantitative instrument, suited to the task.

Furthermore, the sample in this research was not randomised, and therefore results cannot be generalised. Participants volunteered to take part in the research, so it may be assumed that those with an existing interest in body image, or some experience in this area, would be more likely to take part than others, and may have biased the results. This, as well as participants modulating their responses in order for them to be socially desirable, is evident in many studies of a similar nature

(Bethlehem, 2010; Larouche, Garriguet, & Tremblay, 2017; Liechty et al., 2016). The Hawthorne effect, where participants are aware they are being studied and modulate their behaviour accordingly may have biased the results of this research (McCambridge, Witton, & Elbourne, 2014).

At some services, Directors were keen to participate and mentioned that they felt they had a civic duty to take part in research they believed would benefit their sector, an attitude observed by other researchers (Cachia & Millward, 2011). As a result, three focus groups (n=20) were conducted at two early childhood education and care services in Perth during lunch breaks and after service hours. While all participants were offered the opportunity (by the researcher) to leave focus groups if they did not wish to attend, all stayed. These focus groups were attended by a mix of both senior and junior staff simultaneously, which may have curtailed open discussion of issues, and added an element of social desirability bias to their responses. Attempts were made to encourage all participants to give their opinions or responses, however, it was not possible to know if data collected would have been different if more homogenous groups were interviewed (Robinson, 2014).

Additionally, educators who opted to participate in exit interviews in Phase Three of this research may have had more extensive experience than the general early childhood education and care workforce. More than 80% of research participants had been employed in the early childhood education and care sector for more than 10 years, compared with 2016 census data which stated that two-thirds of educators had worked in the sector for *less* than 10 years, and only 27% for more than 10 years (The Social Research Centre, 2017). This high level of experience means that caution should be used when interpreting these results.

Another limitation of this research which should be noted is the lack of a control group or comparison group, an omission which influences the conclusions that can be drawn in relation to the impact of the intervention. While the findings of this research are promising the cannot be generalised.

The findings of this research may have been influenced by an upsurge of media coverage on body image, which may have introduced the potential for Type III error , (Creswell, 2009) where the results of this research may have been due to participants engagement with material from sources other than the intervention material. This potential for confounding was anticipated, and questions were included in the post-intervention survey to gauge the engagement of research participants with educational materials other than the research intervention. While it is not possible to accurately interpret the influence of media on the results of this research, there was considerable body image coverage at the time of the intervention.

A possible consequence of increased media coverage of body image material, may have been an increased awareness of body image amongst the general Australian population. Several significant media events occurred during the time the *SNACPlus Body Image Project* intervention was being implemented and evaluated, including screenings of the *Embrace* documentary, released towards the end of the intervention period and viewed by more than 100 million people worldwide (Body Image Movement, 2017) and subsequently there were numerous appearances by the documentary's creator, Taryn Brumfitt, on a range of Australian television programs. *Embrace* was released on 12 June 2016, towards the end of the *SNACPlus Body Image Project* intervention period, and was heavily advertised in Australian media leading up to its release. Appearances by Taryn Brumfitt on morning news shows in May, June and July of 2016 may have led to increased awareness of body image during the time of the intervention.

Furthermore, ABC 's youth radio station *Triple J* hosted a one week feature on body image both on radio and on free-to-air television on ABC2 (Stenhouse, 2016). Australian national broadcasters *ABC2* (television) and *Triple J* (radio) featured one week of programming focusing on body image called *Naked as* (March 13 to 19, 2016) during the intervention period (Stenhouse, 2016). Content on topics such as body obsession, self-harm, eating disorders, plastic surgery and obesity were featured in 18

different programs over the course of the week, and exposure to this content may have biased the responses of participants in this project.

The final limitations in this research relate to funding. This research was funded by the WA Health Promotion Foundation (Healthway) which, while it gave credence to the importance of body image development in young children, may also be viewed as a limitation. The provision and delivery of 85 sets of children's storybooks to early childhood education and care centres all around Australia was expensive, and the purchase of these books may be outside the financial means of some early years services. It is worth noting, however, that all early childhood education and care services may access the online professional development materials at no cost, and since the purpose of this research was to upskill educators in their promotion of positive body image by providing professional development, the aim of this research was met.

Financial incentives were used to encourage participation in this research, with a total of six gift cards being offered as incentives for participation, as well as the provision of free books for children. Monetary incentives or entry into a prize draw (as occurred in the *SNACPlus Body Image Project*) has been shown to have a positive influence on recruitment and retention of research participants (Brueton et al., 2013). The provision of free storybooks in the pre-intervention may have incentivised some participants, and consequently, biased the sample (Hsieh & Kocielnik, 2016). It could, however, also be argued that providing participants with these books may have broadened the appeal of the intervention to a wider range of educators, since those who had not experienced body image concerns were encouraged to take part in order to claim and access the resources, and thereby extending the reach of important body image messages.

9.6 Recommendations and implications for further research

Several recommendations emerged from the current study, and these are discussed below.

1. Health promotion should be positive

Positive body image is associated with a range of health benefits, however participants in this sample had a far greater awareness of negative rather than positive body image. This finding indicates the need for health promotion programs and strategies which increase the focus on positive health messages, rather than messages which exacerbate blame and stigma on those experiencing health concerns, as positive health messages are shown to improve body image (Puhl & Heuer, 2010).

There have been some positive steps in this direction where public health organisations are highlighting the non-weight-related advantages of a healthy lifestyle (Bucchianeri & Neumark-Sztainer, 2014; Salas, 2015) including campaigns such as *This girl can* in the United Kingdom (England Sport, 2017) and *Girls make your move* in Australia (Department of Health, 2017). Despite the promising introduction of more positive health campaigns, well-known and well-funded campaigns such as *Live Lighter* continue to use body shaming messages and strategies (Lupton, 2015). While the intended audience of the *Live Lighter* campaign is adults aged over 25 years (Morley et al., 2016) these negative health messages are also viewed by children, and could potentially reinforce the stigma and moralising around weight and thinness (Lupton, 2015). The use of negatively-framed health messages in the media influence personal communication around weight and stigma further entrenching the belief that overweight and obesity are entirely within an individual's control, therefore the overweight or obese individual is at fault (Thomas, Olds, Pettigrew, Randle, & Lewis, 2014).

2. Educators need more training about body image

Many participants in this research were not aware of the age when body image development began in children, hence their reluctance to use the intervention resources or to make changes to their practices. Since there is increasing evidence to suggest very young children are 1) internalising the thin ideal, 2) experiencing and propagating weight stigma; and 3) understanding the concept of dieting to lose weight, it is vital that educators, who spend a considerable amount of time with very young children, not only understand these concepts, but also appreciate the important role they play in their transmission. The inclusion of body image development education for pre-service educators, as well as those educators currently practicing, is warranted, and further professional development in relation to child feeding practices, fat talk and role modelling appears to be necessary.

3. Identification of body image champions is worthwhile

In Phase Three of this research, it was apparent that there were a number of participants who acted as ‘champions’ of the body image intervention. The qualitative results of this study demonstrated that these body image champions disseminated the intervention resources to many other educators, using Facebook, existing networks or through their roles in the training of pre-service educators. The identification and engagement of body image champions within early childhood education and care would be worthwhile, and future research to establish how champions could be accessed and utilised to maximise the reach of professional development interventions would be valuable. The role of champions could be extended to include other aspects of health and wellness as well as body image, such as a healthy approach to food and nutrition in services, physical activity and toward other aspects of children’s mental health.

Moreover, it is important to note the valuable contribution made by champions in this research, as its reach was increased by the participation of two key groups, i.e.

TAFE lecturers and family day-care coordinators. While these groups were not the focus of recruitment in this study, a targeted approach to their recruitment for future similar studies seems appropriate. Not only are lecturers and coordinators in positions where they are able to provide guidance to high numbers of educators, but they are also as they are in positions to influence policy relating to body image and training. Development of body image materials for inclusion in their training curricula needs to be explored further. Embedding the *SNACPlus Body Image Project* intervention resources in TAFE training has the capacity to influence a larger number of future educators, many of whom will hold future leadership roles. Those training as early childhood teachers may also be a group of potential future participants for this kind of study, one which was not explored in the current research.

4. Educators' mental health literacy needs improvement

A concerning finding in this research was the limited mental health literacy shown by individuals in roles where they provide training and support to educators. Both TAFE lecturers and family day-care coordinators expressed confusion related to body image and eating disorders, and limited understanding of positive body image. Further training and research needs to be undertaken in relation to the mental health literacy of educators themselves, and also the understandings of TAFE lecturers and family day-care coordinators. Not only do educators experience poor mental health themselves (Corr et al., 2014) but increasingly, so do young children (Slee et al., 2012). It is vital then that educators have the capacity to understand and recognise mental health concerns, and know how to get help or treatment as required. TAFE educators have the capacity to disseminate this information widely, making them an excellent conduit for research relating to knowledge, capacity and education in these areas.

5. Educators need more nutrition education

Although measuring nutrition knowledge was outside the scope of this study, it was apparent that many participants wanted training in this area. Participants

referred to out-of-date resources, such as the 1999 Food Pyramid (Nutrition Australia, 2015) and their understanding of allergy and restriction of food components as a health strategy, such as gluten or dairy, appeared limited. The sheer volume of nutrition information available has increased rapidly, however, the ability of consumers to differentiate between credible information and misinformation has not kept the same pace (Wansink, 2006). Food choice and feeding practices of both parents and educators may not be based on sound nutrition information (Sharma et al., 2013; Spronk et al., 2014; Yager & O'Dea, 2009) highlighting the importance of a credible repository of nutrition information specific to children and the early childhood education and care sector, such as that provided by *SNAC* and *SNACPlus* (Wallace, 2016). Participants also lacked appropriate strategies for dealing with nutrition concerns voiced by parents. While these deficits in knowledge certainly need to be addressed, there were nutrition and feeding issues relating to body image which also warrant future research.

6. Educators need strategies to talk about food, exercise and fat talk

The ways in which many participants reported talking about food was often concerning. A dichotomous approach to food was observed as the norm, with food being described as 'good' or 'bad', and preferential treatment given to some foods, while restriction of other foods was encouraged. Research suggests that restriction and negative judgement of food makes those foods more desirable, and can lead to problematic eating behaviours, even in very young children (Satter, 2007b). Modelling a more inclusive, less judgmental approach to food has the potential to influence positive body image development in children, and also improve educators' own positive body image and that of their wider community, families and friends. There appeared to be very little understanding of the potential negative impact of a dichotomous approach to food, and this is an area which warrants further

investigation and intervention to minimise the possible development of children's future problematic relationships with food and their bodies.

Fat talk, and its influence on young children exposed to it in an early childhood education and care setting is another public health issue area that merits further exploration. Evidence suggests that older children, women and men all experience the detrimental effects of such talk (Engeln & Salk, 2016; Martz et al., 2009; Neumark-Sztainer et al., 2010). Findings from this study suggested that educators frequently engage in such talk within children's hearing and many participants were unaware that they engaged in such talk, and others lamented their lack of strategies to call out such talk when they heard it. Though there was improvement post-intervention in fat talk awareness, a targeted, large-scale intervention with very specific strategies for educators to intervene in situations where fat talk is occurring would be a fruitful area for future investigation.

7. Educators need greater understanding of eating competency

Participants' understanding of eating competency in children appeared to be limited among the participants in this research, and they stated they encouraged children to eat what they were provided with at mealtimes, rather than allowing children autonomy in the types of food eaten, or the amount they chose to eat. The provision of family-style meals, where children learn to share and take responsibility for their own choices and portions, is a style of dining that is recommended in the literature given the benefits to children's social and emotional development, its implementation warrants further research. Educators experience barriers to providing this kind of mealtime environment, so further research into overcoming these barriers and limitations would be beneficial.

8. Role is an important construct that needs to be explored further

The results of this research suggested that educators' appreciation of their role in body image development was a significant factor in changing their feeding practices and behaviours. The *SNACPlus Body Image Project* intervention was successful in increasing the role legitimacy expressed by educators, which in turn, was shown to be correlated with changed feeding practices and increased knowledge about body image development and influences. Further research into how educators perceive their role, and the influence of these perceptions on their self-efficacy to deliver a variety of important health messages to children therefore seems warranted.

9. Educators need support for their own mental health and body image concerns

This study demonstrated that, like the wider Australian population, participants were experiencing their own personal issues with weight control, eating disorders, disordered eating and body dissatisfaction. The emotional labour that working in the early childhood education and care setting demands means that these health issues may be exacerbated, and research into strategies for providing appropriate support for educators' mental and physical health would be beneficial, both for individuals and the early childhood education and care sector

9.7 Conclusions

The role of early childhood educators is expanding. Moreover, the Australian government have called for an increase in professionalism among early childhood educators, and concurrently there are demands for more appropriate remuneration and a greater focus on the importance of education in early childhood (United Voice, 2014). With this drive for improvement, comes the need for educators to develop a variety of new skills and competencies in the early childhood education and care workforce. The changing nature of society means that very young children are

influenced by the media, peers and families, as well as by educators, and their developing body image is shaped by these influences.

This research contributed to the body image literature in a number of ways. It explored the body dissatisfaction and body appreciation of early childhood educators; their understanding of body image development in children; and their appreciation of their role in its development. An online intervention, designed to translate evidence-based research into professional development for educators was developed, piloted, implemented and evaluated. Research on nutrition and physical activity has previously been conducted in the early childhood education and care sector, but the sector's role in body image development has not to date been previously explored in any depth.

The findings of this research suggest that many educators in this sector are experiencing their own body image and eating concerns, and although this may have contributed to their willingness to participate in this research, it also calls into question the kinds of behaviours, conversations and attitudes that are being modelled to the young children they teach. It is, therefore, worthwhile to work on interventions which improve educators' own body image as they are significant role models for young children.

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Appendices

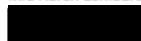
Appendix A: Ethics Approval Project 10910

HUMAN RESEARCH ETHICS COMMITTEE

For all queries, please contact:
Research Ethics Officer
Edith Cowan University
270 Joondalup Drive
JOONDALUP WA 6027
Phone: 8304 2170
Fax: 8304 5044
E-mail: research.ethics@ecu.edu.au

3 July 2017

Mrs Karen Lombardi



Dear Karen

CONFIRMATION OF ETHICS APPROVAL

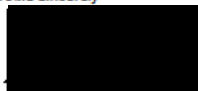
Project Code:	10910	
Project Title:	Fostering positive body image among young children: Development and evaluation of an online professional development resource for Early Childhood Educators:	
Chief Investigator:	Mrs Karen Lombardi	
Supervisors:	Dr Shelley Beatty Associate Professor Amanda Devine Dr Rebecca Glauert	
Approval Dates:	From: 19 November 2014	To: 31 December 2017

Student number: [REDACTED]

Ethics approval for this project was originally granted from 19 November 2014 to 17 April 2017. An extension of ethics approval until 31 December 2017 was subsequently granted.

The project was approved subject to the general conditions of approval.

Yours sincerely



Kim Giffkins
SENIOR RESEARCH ETHICS ADVISOR



OFFICE OF RESEARCH
AND INNOVATION

270 Joondalup Drive,
Joondalup
Western Australia 6027
Telephone: 134 338
Facsimile: (08) 8300 1257
CRICOS 002798

ABN 54 361 485 381

Appendix B: Centre Recruitment Letter



JOONDALUP CAMPUS

270 Jannalakop Drive, Jannalakop
Western Australia 6027
☎ 134 323

www.ecu.edu.au

628 P. 59 351 452 281 17 1135 1-7 002945

Dear Sharon

My name is Karen Lombardi and I am a PhD student at Edith Cowan University (ECU). I am undertaking a project which aims to explore the knowledge, attitudes and behaviours of Early Years Educators in relation to body image. Poor body image is a significant problem in Australian society, and children as young as three years of age may be affected. This project hopes to develop online professional development resources for Early Years Educators, which will be delivered as part of the Supporting Nutrition for Australian Childcare (SNAC) website which was developed by Ruth Wallace at ECU.

To ensure the professional development is relevant and addresses contemporary issues, I would like to invite the Early Years Educators in your organisation who are over 18 years of age to take part in a telephone interview, which will take around twenty to forty minutes. Prior to the interview they will also be asked to complete a short survey, which is expected to take around five minutes.

Should you believe your educators would like to be involved, I have attached an item which could be emailed to them. It is anticipated that the interviews will take place in the coming weeks. They will held at times convenient to staff.

The centres involved in this study will receive a report on its overall findings. Participants would be very welcome to make comment on these findings, and how they viewed the process should they wish to do so.

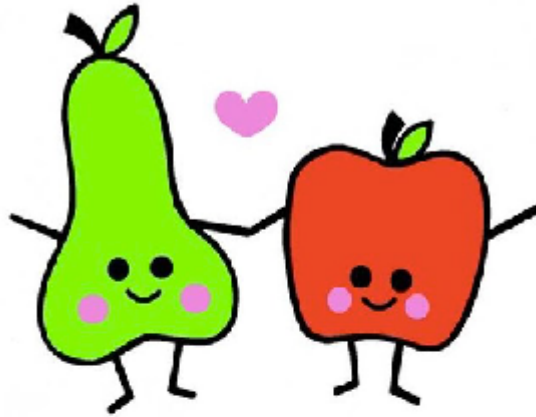
This study has approval from Edith Cowan University's Ethics Committee. If you wish to speak with an independent person about how the project is being conducted or was conducted, please contact the Ethics Research office on 6304 2170 or research.ethics@ecu.edu.au

Should you wish to discuss this matter further, please do not hesitate to call on [REDACTED] or email klomban@our.ecu.edu.au, or you may contact my research supervisor Dr. Shelley Beatty, on 63045602 or email s.beatty@ecu.edu.au.

Thank you very much for your help.

Regards

Karen Lombardi
Edith Cowan University
BHSc (Hons)
PhD Candidate
Edith Cowan University
School of Exercise and Health Sciences
k.lombardi@ecu.edu.au



**If you have body image or
eating disorder concerns,
or want more
information,
please contact:**

Butterfly foundation support

Telephone:

1800 ED HOPE / 1800 33 4673

Monday-Friday 8am to 9pm AEST

support@thebutterflyfoundation.org.au

For more information:

<https://thebutterflyfoundation.org.au/facts-sheets/>



Butterfly
Foundation for Eating Disorders

Appendix C: Facebook advertisement for telephone interview participants

Thanks so much to everyone who got in touch about my study on body image in preschool children.

To make sure that I have all the information I need, I will be conducting one on one telephone interviews with educators at times which suit them. Interviews will take around 30 minutes.

If you would like to be involved, please send me an FB message or email me (k.lombardi@ecu.edu.au) and I will arrange the interview at a time that's convenient to you. Feel free to pass on my details to other educators you think may have an interest in participating 😊

So far, I have had the pleasure of meeting many caring, passionate people! I look forward to being able to meet others, and to developing the kinds of materials educators will find worthwhile.

Appendix D: Consent for telephone interviews/focus groups

Development of an online professional development intervention to foster positive body image in young children.

Consent Form

- I have read and understood the information letter about the project, or have had it explained to me in language I understand.
- I have taken up the invitation to ask any questions I may have had, and am satisfied with the answers I received.
- I understand that participation in the project is entirely voluntary.
- I am willing to become involved in the project by: (Please tick)

☐ By completing a short survey; and

☐ By taking part in a focus group.

- I understand I am free to withdraw that participation at any time without affecting my relationship with the researcher, or anyone within my workplace.
- I give permission for my contribution to this research to be used as part of a thesis and published research papers, provided that I or my workplace is not identified in any way.
- I understand that I can request a summary of findings once the research has been completed.

Name of Participant (printed):

Signature of Participant:

Date: / /

Appendix E: Demographics questionnaire: Phase One

Please answer all of the following questions to the best of your ability. There are no right or wrong answers, and all surveys will be kept strictly confidential.

1.	What is your gender? (Please circle)	
	a) Female	
	b) Male	

2.	What is your highest level of education? (Please circle)	
	a) Primary school	
	b) Secondary school	
	c) Apprenticeship	
	d) TAFE	
	e) University	

3.	What is your age group? (Please circle)	
	a) Under 25	
	b) 26-35	
	c) 36-45	
	d) 46-55	
	e) Over 56	

4.	What is your job title? (Please write in the space provided)	
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5.	<p>Please estimate how long have you worked in the childcare industry?</p> <p>(Please write in the space provided)</p> <p>_____ years _____ months</p>	
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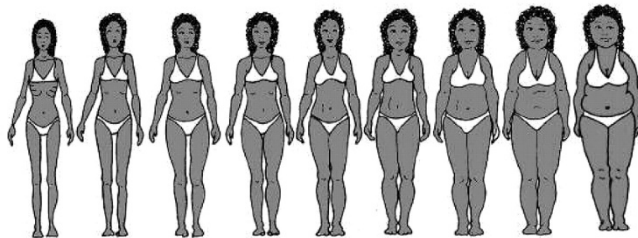
6.	<p>What is the age range of the children you usually work with?</p> <p>(Please write in the space provided)</p> <p>_____</p>	
----	--	--

7.	<p>Please estimate the number of children who usually attend your centre?</p> <p>(Please write in the space provided)</p> <p>_____</p>	
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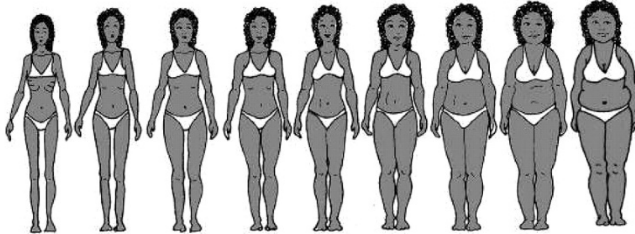
8.	<p>Does the centre provide long day care, occasional care or both?</p> <p>(Please write in the space provided)</p> <p>_____</p>	
----	---	--

9.	<p>Have you undertaken any professional development courses in the last 6 months? (Please circle)</p> <p>a) Yes (please list in the space provided below)</p> <p>b) No</p> <p>c) Not sure</p>	
----	---	--

10. Please circle the figure which you believe most accurately represents ***the way you look***.



11. Please circle the figure which represents the ***way you would like to look***.



12.	Please estimate your height. (Please write in the space provided) _____cm or _____feet _____ inches	
-----	--	--

13.	Please estimate your weight. (Please write in the space provided) _____ kg or _____ lbs	
-----	--	--

Thank you for your participation in this research. Your contribution is greatly appreciated!

Appendix F Pilot: ECU students



SNACPlus Body Image Project Pilot



Hello

Thank you for being part of the SNACPlus Body Image Project pilot. The aim of this study is to design, implement and evaluate the impact of a professional development intervention that can be used by Early Years Educators (EYE) to develop their knowledge, attitudes and skills regarding the promotion of positive body image in preschool children. I would like to get your feedback on the materials I have developed.

The materials from this study will be available online for educators to use later in the year. If you know any educators of children under five years of age, feel free to pass on my details and ask them to get in touch. The project also has a Facebook page (SNACPlus Body Image Project) and Pinterest page (SNACPlusBIP) that you and other educators can access.

If you would like more information about this study, please contact me at k.lombardi@our.ecu.edu.au or on [REDACTED]

Warm regards

Karen Lombardi

PhD Candidate

School of Exercise and Health Sciences

Edith Cowan University

Email: k.lombardi@ecu.edu.au | Phone: [REDACTED]

Appendix G: Pilot by Early childhood educators

Pilot of *SNACPlus* Body Image module

Consent Form

- I have read and understood the information letter about the project, or have had it explained to me in language I understand.
- I have taken up the invitation to ask any questions I may have had, and am satisfied with the answers I received.
- I understand that participation in the project is entirely voluntary.
- I am willing to become involved in the project by: (Please tick)

☐

By reviewing the resources and completing a survey.

- I understand I am free to withdraw that participation at any time without affecting my relationship with the researcher, or anyone within my workplace.
- I give permission for my contribution to this research to be used as part of a thesis and published research papers, provided that I or my workplace is not identified in any way.
- I understand that I can request a summary of findings once the research has been completed.

Name of Participant

(printed):

Signature of Participant:

Date: / /

Following interviews and focus groups with early years educators from around Australia, we have developed resources for early years centres about body image. These include professional development for educators, infographic tip sheets for parents and for use in the centre and learning activities for children. Your feedback about these resources will be vital in this process. Please answer the following questions as honestly as possible, and elaborate on them where you can.

1.	Which resources did you review? (please circle) a) What is body image? b) Talking about food and health c) Words matter d) ALL OF THE ABOVE	
2.	What do you think were the key messages in the professional development for the educators that you reviewed?	
3.	What do you think were the key messages in the case study activities you reviewed?	
4.	What do you think were the key messages in the infographic tip sheets for parents that you reviewed?	
5.	Did you think any of the information was not relevant? (please circle) a) Yes (if yes please list in the space provided b) No	

Please choose the answer you think best represents your thoughts by placing a circle around the number in the appropriate box:

6.	These statements relate to the educator professional development resources:	Yes	Not sure	No
a)	The information is easy to understand.			
b)	The information is relevant to an educator of young children.			
c)	The style of the material is pleasing to the eye.			
d)	The style of the font is easy to read.			
e)	The style of the font is easy to read.			
f)	The colours used are appropriate.			
g)	The colours used distract from the information.			
h) Any comments/suggestions:				

Please choose the answer you think best represents your thoughts by placing a circle around the number in the appropriate box:

7.	These statements relate to the parent infographic sheets:	Yes	Not sure	No
a)	The information is easy to understand.			
b)	The information is relevant to an parent of young children.			
c)	The style of the material is pleasing to the eye.			
d)	The size of the font is easy to read.			
e)	The style of the font is easy to read.			
f)	The colours used are appropriate.			
g)	The colours used distract from the information	1		
h)	Any comments/suggestions:			

Please choose the answer you think best represents your thoughts by placing a circle around the number in the appropriate box:

8.	These statements relate to the children's learning activities:	Yes	Not sure	No
a)	The information is easy to understand.			3
b)	The information is relevant to an educator of young children.			
c)	The style of the material is pleasing to the eye.			
d)	The size of the font is easy to read.			
e)	The style of the font is easy to read.			
f)	The colours used are appropriate.			
g)	The colours used distract from the information.			
h)	Any comments/suggestions:			

9. If you have any suggestions for other materials which you believe should be included please write them here:
10. If you have any general comments about the materials please write them

The following questions ask some general information about you.

11.	What is your gender? (Please circle c) Female d) Male	
12.	a) How long have you worked as an Early Years Educator? b) What is your current role?	
13.	What age are the children you currently work with most often ? (Please circle) a) Less than one year of age b) Between one and two years of age c) Between three and four years of age d) Between four and six years of age e) Before and after school care	
14.	What is your age? (Please circle) f) Under 25 g) 26-35 h) 36-45 i) 46-55 j) Over 56	

Thank you for your help in ensuring these resources are useful and worthwhile.

Appendix H: Student pilot

Student pilot



SNACPlus Body Image

Project Pilot



Thank you for being part of the SNACPlus Body Image Project pilot. The aim of this study is to design, implement and evaluate the impact of a professional development intervention that can be used by Early Years Educators (EYE) to develop their knowledge, attitudes and skills regarding the promotion of positive body image in preschool children. I would like to get your feedback on the materials I have developed.

The materials from this study will be available online for educators to use later in the year. If you know any educators of children under five years of age, feel free to pass on my details and ask them to get in touch. The project also has a Facebook page (SNACPlus Body Image Project) and Pinterest page (SNACPlusBIP) that you and other educators can access.

If you would like more information about this study, please contact me at k.lombardi@our.ecu.edu.au or on [REDACTED]

Warm regards

Karen Lombardi

PhD Candidate

School of Exercise and Health Sciences

Edith Cowan University

Email: k.lombardi@ecu.edu.au | Phone: [REDACTED]

Student pilot of *SNACPlus* Body Image module

Consent Form

I have read and understood the information letter about the project, or have had it explained to me in language I understand.

I have taken up the invitation to ask any questions I may have had, and am satisfied with the answers I received.

I understand that participation in the project is entirely voluntary.

I am willing to become involved in the project by: (Please tick)

☐

By reviewing the resources and completing a survey.

I understand I am free to withdraw that participation at any time without affecting my relationship with the researcher, or anyone within my workplace.

I give permission for my contribution to this research to be used as part of a thesis and published research papers, provided that I or my workplace is not identified in any way.

I understand that I can request a summary of findings once the research has been completed.

Name of Participant
(printed):

Signature of Participant:

Date: /

Following interviews and focus groups with early years educators from around Australia, we have developed resources for early years centres about body image. These include professional development for educators, infographic tip sheets for parents and for use in the centre and learning activities for children. Your feedback about these resources will be vital in this process. Please answer the following questions as honestly as possible, and elaborate on them where you can.

1.	Which number pilot group did you receive?	
2.	What do you think were the key messages in the professional development for the educators that you reviewed?	
3.	What do you think were the key messages in the case study activities you reviewed?	
4.	What do you think were the key messages in the infographic tip sheets for parents that you reviewed?	
5.	Did you think any of the information was not relevant? (please circle)	
	c) Yes (if yes please list in the space provided)	
	d) No	

Please choose the answer you think best represents your thoughts by placing a circle around the number in the appropriate box:

6.	These statements relate to the educator professional development resources:	Yes	Not sure	No
a)	The information is easy to understand.	1	2	3
b)	The information is relevant to an educator of young children.	1	2	3
c)	The style of the material is pleasing to the eye.	1	2	3
d)	The size of the font is easy to read.	1	2	3
e)	The style of the font is easy to read.	1	2	3
f)	The colours used are appropriate.	1	2	3
g)	The colours used distract from the information.	1	2	3
h) Any comments/suggestions:				

Please choose the answer you think best represents your thoughts by placing a circle around the number in the appropriate box:

7.	These statements relate to the parent infographic sheets:	Yes	Not sure	No
a)	The information is easy to understand.	1	2	3
b)	The information is relevant to an parent of young children.	1	2	3
c)	The style of the material is pleasing to the eye.	1	2	3
d)	The size of the font is easy to read.	1	2	3
e)	The style of the font is easy to read.	1	2	3
f)	The colours used are appropriate.	1	2	3
g)	The colours used distract from the information.	1	2	3
h)	Any comments/suggestions:			

Please choose the answer you think best represents your thoughts by placing a circle around the number in the appropriate box:

8.	These statements relate to the children's learning activities:	Yes	Not sure	No
a)	The information is easy to understand.	1	2	3
b)	The information is relevant to an educator of young children.	1	2	3
c)	The style of the material is pleasing to the eye.	1	2	3
d)	The size of the font is easy to read.	1	2	3
e)	The style of the font is easy to read.	1	2	3
f)	The colours used are appropriate.	1	2	3
g)	The colours used distract from the information.	1	2	3
h)	Any comments/suggestions:			

9. If you have any suggestions for other materials which you believe should be included please write them here:

10. If you have any general comments about the materials please write them here:

The following questions ask some general information about you. Please choose circle the best response.

11.	What is your gender? (Please circle) e) Female f) Male	
12.	a) What is the name of your course? (Please write in the space provided) b) What is your major/minor?	
13.	What year level are you? (Please circle) a) 1 st year b) 2 nd year c) 3 rd year d) 4 th year	
14.	What is your age? (Please circle) k) Under 25 l) 26-35 m) 36-45 n) 46-55 o) Over 56	
15.	What is code of the unit in which you are filling out this survey? (Please write in the space provided _____	

Appendix I: Tip sheet



Professional development : Educator tip sheets

What is body image?

Body image is the thoughts and feelings we have about our bodies. It does not depend upon the way we actually look. Both males and females develop body image, which can be positive or negative.

Body image begins to develop in young children between the ages of two and three. This is why it is so important that Early Years Educators understand body image and how they are able to influence it in very young children.

In Western culture, children as young as three years of age learn that being thin is thought to be attractive for women, and being muscular is considered attractive for men.

People may have negative body image to varying degrees. Poor body image may lead to poor mental health. At some levels it doesn't cause harm, but at high levels it can cause depression, anxiety, social isolation and disordered eating and harmful levels of exercising.

In our culture it's common to make judgments about people according to how they look. Some children begin to do this by the time they are age three.

Research has indicated that:

At 18 months of age:

- Children have developed some idea of 'themselves' as separate beings from those around them;
- Researchers are not sure when children begin to compare their bodies to others.

At three years of age, some children:

- Prefer thin friends to overweight ones;
- Believe that obese people are lazy, mean and untidy; and
- Want to be thin or muscular themselves.

By age 5:

- 20% of girls are unhappy with their bodies;
- Between 34 and 65% of girls understand the concept of dieting and those whose mothers dieted, understood dieting the best.

Children grow and develop by watching, copying and soaking up the information they get from all kinds of sources, including the TV and movies, their friends and their families and teachers.

Appendix J: Case study



Professional development: Case studies for educators

Poor body image

After a water play activity, a child says they would like to change into a dry shirt. As he takes off his t-shirt, he mentions that his tummy is getting fat from eating too much cake at the weekend.

As a group, discuss what would you do in this situation.

Some examples of how to deal with this situation include:

- *Talk to the child about how everyone grows and changes at different rates – some grow faster than others.*
- *Talk to the child about how cake is okay to eat on special occasions, and that eating a piece of cake at a birthday party isn't a problem.*
- *Talk about what other kinds of foods were available at the party.*
- *Talk about the kinds of foods it's important to eat every day, such as vegetables, fruit, some meat and some bread, pasta or rice.*

Appendix K: Learning activity



Learning Activity

Shapesville: Read and create

Read the book 'Shapesville' by Mills, Osborn, & Neitz.

- Use the discussion points at the back of the book in a mat session to discuss diversity and acceptance.
- Draw pictures of the characters inside the book, talking about their colour and their shapes.
- Ask questions such as:
 - "How many sides does Sam the Blue Square have?"
 - "How many legs does Tracey Triangle have?"
- Allow children to make their own Shapesville character using recycled materials such as boxes paper towel holders or egg cartons.
- Educators could write the child's description of their character.
- Photographs could be taken of the children's 'Shapesville' creations.
- Photographs and descriptions could be made into a book for children to read and look at.

Learning Activity

All about me playlist: Singing and dancing

Listen to the "All about me playlist" available for free on Spotify by clicking [here](https://play.spotify.com/user/1238733012/playlist/2pMOHgnv3u9GQRwtegg4AS).

Or COPY AND PASTE this link into your internet browser

<https://play.spotify.com/user/1238733012/playlist/2pMOHgnv3u9GQRwtegg4AS>

Let children sing and dance and have fun!

Appendix L: Caregiver tip sheet



Caregiver tip sheet: Positive body image

What is positive body image?

Research over the last 40 years has focused mainly on negative body image. Focusing on helping a young child to develop positive body image is a new idea.

Positive body image is important because it protects children from the possible outcomes of poor body image, such as poor relationships with food, anxiety and depression.

By increasing children's self-acceptance, they are less likely to be influenced by harmful messages from the media and friends.

- Young children have been shown to compare themselves to their friends; images in the media; and also to their toys.
- Studies have shown that young girls who play with 'fashion' dolls such as Barbie, are more likely to eat less after playing with them, compared to children who played with other dolls.

Helping children to develop positive body image means that we:

- Help them to develop resilience and flexibility;
- Help them to develop ways of filtering the information with which they are bombarded; and
- Influence their views about the ideal way to look.

Tips for caregivers:

1. Encourage children to be themselves

- Encourage children to talk about their own skills, abilities and differences rather than how they look.
- Celebrate difference and individuality.

2. Encourage children to treat their bodies well

- Healthy eating and exercise are important for a healthy body and mind, but restricting foods and over-exercising can be harmful.
- Talk in a positive way about food. Don't label foods as 'good' or 'bad'. All foods have a place in a varied diet.
- Encourage healthy eating and physical activity as healthy behaviours, rather than behaviours which lead to being thin or muscular.

Appendix M: At home activities



I can....

Make a list of all the great things your child can do!

I can _____

I can _____

I can _____

I can _____

I can _____

I can _____

I can _____

Ask your child to draw a picture here of their favourite thing they can do.

Appendix N: Email to survey participants

Hello (NAME)

I would like to thank you for taking the time to complete the SNACPlus body image survey.

By completing the survey, and receiving free books, you are part of a PhD study, and as such, I ask that you use the books, the professional development and the children's activities available on the SNACPlus website over the next two to three months. At the end of this period, I will email and ask you to complete the survey once again, and to offer you the opportunity to take part in a telephone interview to discuss the body image resources. Telephone interviews are entirely voluntary, however it would be very helpful if you took part.

I would ask that each centre/early years' service claim only one set of books, however, as many educators as possible are encouraged to take part in the survey and to use the resources - there are no limits on how many people per early years' service take part, so encourage others in your centre/service to use the resources and complete the survey too!

- In order to provide you with the four free children's books, please provide the following details:
- The name of your centre/early years' service
- The postal address of your service
- A contact telephone number (if you wish to provide one for future contact).

If for any reason you are no longer interested in taking part in the study, please let me know. You can withdraw at any time.

Also, feel free to join our Facebook pages to keep up to date with the project at:

<https://www.facebook.com/SNACPlus-Body-Image-Project-733363996768946/?ref=hl>

Once again, I thank you for your participation, and look forward to hearing from you in the near future.

Best regards

Karen Lombardi

PhD Candidate

School of Medical and Health Sciences

Edith Cowan University

Email: k.lombardi@ecu.edu.au | Phone: [REDACTED]

Appendix O: Phase Three: Post Intervention Survey

Q1 My name is Karen Lombardi and I am conducting a research project that aims to explore the knowledge, attitudes and behaviours of Early Years Educators in relation to their influence on the body image of preschool children, and to provide a suite of resources on body image, which includes professional development for educators, as well as resources for use with parents and children. The project is being conducted as part of a PhD degree in Public Health I am undertaking at Edith Cowan University (ECU).

This study will provide resources for educators, and your involvement will help to ensure these materials are relevant and useful. Participating in this research project is entirely voluntary. Information that identifies anyone will be removed from the data collected. These data will only be used for research purposes. All data will be stored securely at ECU for a period of five years, after which it will be destroyed, as per ECU's protocol. Members of the research team will only be able to access the data with the use of a password. Your privacy and the confidentiality of information disclosed by you, is assured at all times. All surveys are completely anonymous, and as such the researcher is unable to identify you should you wish to withdraw your responses. Incomplete surveys will not be included in the final analysis of the survey data.

It is intended that the findings of this study will be used in the writing a thesis to be submitted at ECU, as well as in peer-reviewed journal articles. If you would like a summary of the results that will be available in 2016, please contact me via email on k.lombardi@ecu.edu.au This research has been approved by ECU Human Research Ethics Committee (Approval number 10910). If you would like to discuss any aspect of this study with a member of the research team, please contact Dr. Shelley Beatty via email at s.beatty@ecu.edu.au or by telephone on 08 6304 5602. If you wish to speak with an independent person about the project, please contact ECU Ethics Research Officer on 6304 2170 or research.ethics@ecu.edu.au Talking about body image can be difficult for some people.

If at any time, you feel that you may benefit from talking about the issues raised in relation to your body image, eating or exercise, please contact the Butterfly Foundation on 1800 33 4673 Monday–Friday 8am to 9pm. The Butterfly Foundation provides support for all people affected by eating disorders and negative body image – a person with the illness, their family and their friends. This service is fully confidential and is provided at no cost. Thank you for your involvement in this study.

Yours sincerely
Karen Lombardi
PhD Candidate
School of Exercise and Health Sciences
Edith Cowan University
Email: k.lombardi@ecu.edu.au | Phone: [REDACTED]

Q2 Please indicate whether you think the following statements are true or false, or if you are not sure.

	True (11)	Not sure (12)	False (13)
Children as young as age three compare themselves to images in the media. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Negative body image can lead to anxiety and depression. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It's important not to talk with children about differences in appearances. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Children between the ages of two and five years should watch 2.5 hours of TV per day. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Children get much of their health information from TV programs. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Body image begins to develop during puberty. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Weight based teasing is so common that it is not believed to cause long term harm. (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
'Fat talk' is a kind of conversation which focuses on weight and shape. (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It's fine to talk about body weight and shape around children because they are too young to understand. (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Children should be told which foods are 'good' and 'bad'. (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Talking about dieting with children is very important – we need to encourage them not to overeat. (17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Children find it hard to tell when they are hungry or full. (18)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q3 The statements in the next three questions relate to food service at your early childhood service. Please answer them as honestly as possible. Remember, there are no right or wrong answers, and this survey is strictly confidential.

Q4 Choose the response that best describes your behaviours in relation to food service practices at your early childhood service over the last month:

	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)	Unsure (6)
At meal time do you let children choose the foods they want from what is served? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When children get fussy, is giving them something to eat the first thing you do? (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you give the children something to eat if they are bored, even if you think they are not hungry? (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you give children something to eat if they are upset, even if you think they are not hungry? (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If a child does not like what is being served, do you offer them something else? (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q5 Choose the response that best represents your behaviours and opinions in relation to food service practices at your early childhood service in the last month:

	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)	Unsure (6)
Children should always eat all of the food on their plate. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I offer children their favourite foods in exchange for good behaviour. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I encourage the children to eat less so that they won't get fat. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I did not guide or regulate the children's eating, they would eat too many junk foods. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I give children small helpings at meals to control their weight. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If a child says, "I'm not hungry," I try to get him/her to eat anyway. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I withhold sweets/dessert from children in response to bad behaviour. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't allow children to eat between meals because I don't want	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

<p>them to get fat. (8)</p> <p>When a child says they have finished eating, I try to get them to eat one more (two more, etc.) bites of food. (9)</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Q6 Choose the response that best represents your actions and opinions in relation to food service practices at your early childhood service in the last month:

		Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)	Unsure (6)
I encourage children to eat a variety of foods. (1)		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tell the children what to eat without explanation. (2)		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tell the children what not to eat without explanation. (3)		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I model healthy eating for the children by eating healthy foods myself. (4)		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I try to eat healthy foods in front of the children, even if they are not my		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

favourite. (5)						
I have an important role in establishing lifelong eating habits in children. (6)		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I encourage children to try new foods. (7)		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I discuss with children why it's important to eat healthy foods. (8)		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tell the children that healthy food tastes good. (9)		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I discuss the nutritional value of foods with the children. (10)		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q7 The following statements are about how you view your role as an early years educator. Please answer them as honestly as possible. Remember, there are not right or wrong answers, and this survey is strictly confidential.

Q8 Choose the response that best represents your view:

I know what body image means. (1)						
I know enough						

about the factors that put people at risk of developing poor body image. (2)						
I can encourage the children I work with to develop positive body image. (3)						
I have a clear idea of my responsibilities in encouraging positive body image in the children that I teach. (4)						
If I needed to, I think I could easily find someone to help me find the best approach to deal with body image concerns. (5)						
In general, I feel I can understand body image development in young children. (6)						

Q9 The following statements relate to your attitude and feelings towards your own body at the present time. There are no right or wrong answers, and all responses are completely confidential. Please answer them as honestly as possible.

Q10 For each item, please choose the response that best characterises your attitude towards your own body:

--	--	--	--	--	--

<p>I respect my body. (1)</p> <p>I feel good about my body. (2)</p> <p>On the whole, I am satisfied with my body. (3)</p> <p>Despite its flaws, I accept my body for what it is. (4)</p> <p>I feel that my body has at least some good qualities. (5)</p> <p>I take a positive attitude towards my body. (6)</p> <p>I am attentive to my body's needs. (7)</p> <p>My self-worth is independent of my body shape or weight. (8)</p> <p>I do not focus a lot of energy being concerned with my body weight or shape. (9)</p> <p>My feelings toward my body are positive for the most part. (10)</p> <p>I engage in healthy behaviours to take care of my body. (11)</p>					
---	--	--	--	--	--

<p>I do not allow unrealistic images of men or women presented in the media to affect my attitude towards my body. (12)</p> <p>Despite its imperfections, I still like my body. (13)</p>					
--	--	--	--	--	--

Q11 Please read the following statements and rate according to your level of agreement with each:

<p>Teaching a child about how the media manipulates images of celebrities is unlikely to help a child develop their own body confidence. (1)</p> <p>Criticising the way another person dresses can encourage a child to worry about their appearance. (2)</p> <p>If a child at your service was overweight, you should encourage them to feel</p>					
---	--	--	--	--	--

<p>good about the body they have. (3)</p> <p>Dieting is a healthy eating behaviour. (4)</p> <p>Saying “I feel fat” in front of a child could be harmful to their development. (5)</p> <p>Regular family-style meals can protect a child from developing disordered eating. (6)</p> <p>If a child is upset, educators should avoid giving them a special food to help them feel better. (7)</p> <p>Educators do not need to be concerned about how a child feels about their body until early adolescence. (8)</p> <p>Educators should judge when a child is full. (9)</p> <p>Characters in children’s cartoon and movies can teach children that being thin or muscular</p>					
---	--	--	--	--	--

will lead to success and happiness. (10)					
--	--	--	--	--	--

Q12 For the next questions, please choose as many responses as you think are appropriate:

Q13 You overhear an educator talking about how they'd eaten so badly on the weekend they were going to start a diet this week. Children were close by, though they appeared not to be listening. Do you: (Please choose as many responses as you think are appropriate)

Remind the educator that it's not a good idea to talk about their diet in front of the children.

(1)

Ask for details of the diet. (2)

Feel uncomfortable about saying anything to the educator. (3)

Not worry about it. (4)

Q14 A parent mentions that their child is putting on weight, and they would like you to make sure that their child doesn't eat too much at meal times. Do you: (Please choose as many responses as you think are appropriate)

Feel pleased that the parent is recognising their child is putting on weight. (1)

Agree to monitor the child's food intake and make sure they don't have too much. (2)

Explain to the parent that you encourage the children to determine how much food they need.

(3)

Feel uncomfortable to be asked to do this but agree to do so. (4)

You're not really sure how to talk to the parent about this issue. (5)

Believe that children's weight is not your responsibility. (6)

Q15 The next questions ask which parts of the SNACPlus Body Image materials you used, as well as questions about how useful you found them.

Q16 How often did you log into the Body Image module?

Daily (4)

2-3 times a week (5)

Once a week (6)

Once a fortnight (7)

Once a month (8)

Never (9)

Answer If How often did you log into the Body Image module? Never Is Selected

Q17 What prevented you from using the Body Image modules?

Lack of time (4)

Lack of interest (5)

Limited access to a computer (6)

Other resources available (7)

Program already existing in my Early Years Service (8)

Other (Please describe) (9) _____

Answer If How often did you log into the Body Image module? Daily Is Selected And How often did you log into the Body Image module? 2-3 times a week Is Selected And How often did you log into the Body Image module? Once a week Is Selected And How often did you log into the Body Image module? Once a fortnight Is Selected And How often did you log into the Body

Image module? Once a month Is Selected

Q18 Which of the body image modules did you use? Please choose as many as apply.

What is body image? (4)

Talking about food and health (6)

Words matter! (7)

I did not use any of the body image modules (8)

Q19 Did you use any of the SNACPlus Body Image Professional Development tip sheets?

Yes (4)

No (5)

If No Is Selected, Then Skip To Did you claim the free books from the...

Answer If Did you use any of the SNACPlus Body Image Professional Development tip sheets

Yes Is Selected

Q20 Please choose which of the Professional Development tip sheets you read: Please choose as many as apply.

	Yes (1)	No (2)	All (1)	Half (2)	A bit (3)	Yes (1)	No (2)	Maybe (3)
What is body image? (1)								
Educators role in developing positive body image (2)								
Talking about food and health (3)								
Mindfulness and food (4)								
Screen time and media (5)								
Teasing does matter! (6)								
Avoid fat talk (7)								

Q21 Did you share these with others at your service?

Yes (23)

No (24)

Q22 Did you claim the free books from the Body Image project?

Yes (23)

No (24)

If No Is Selected, Then Skip To Please choose which of the learning a...

Q23 Please choose which of the books you used in your service: Please choose as many as apply.

	Once (1)	A few times (2)	Many times (3)	Never (4)	Did not like this book (1)	Liked this book (2)	Loved this book (3)	Once (1)	A few times (2)	Never (3)
Full mouse empty mouse (1)										
The skin you live in (2)										
What I like about me (3)										
Shapesville (4)										

Q24 Please choose which of the learning activities you used:Please choose as many as apply.

Shapesville (4)

What I like about me (5)

All of me (6)

I'm glad I'm me (7)

All about me playlist (8)

Full mouse, empty mouse (9)

Eating mindfully (10)

The skin you live in (11)

I did not use any of the learning activities (3)

If I did not use any of the le... Is Selected, Then Skip To Did you use the case studies for educ...

Q25 Did you share these with others in your service or recommend them to other educators?

Yes (23)

No (24)

Q26 Did you use the case studies for educators provided?

Yes (23)

No (24)

If No Is Selected, Then Skip To Did you send any of the body image ma...

Q27 Please choose which of the case studies you used:

	Once (1)	A few times (2)	Many times (3)	Never (4)	Very Useful (1)	Useful (2)	Not useful (3)
Poor body image - child hates their nose (1)							
Poor body image - child talks about big tummy (2)							
Diversity - playground example (3)							
Teasing - a visitor comes to the centre (4)							
Fat talk and dieting- Educator drinking a shake (5)							

Q28 Did you send any of the body image materials home to parents?

Yes (28)

No (29)

If No Is Selected, Then Skip To The following question asks about whe...

Q29 Please choose any of the materials you sent home to parents. Please choose as many as apply.

I can (24)

Book Bucket (25)

Guess which baby? (26)

Parent tip sheets (22)

Resource list (23)

Body image books (21)

Other (30) _____

I did not send any of the body image materials home to parents (31)

If I did not send any of the b... Is Selected, Then Skip To The following question asks about whe...

Q30 The following question asks whether you obtained information about body image from any other sources since completing the first body image survey. Please choose as many as apply.

Q31 Since completing the first body image survey, I have:

Watched a television show that discussed body image (1)

Read about body image on Facebook (2)

Read about body image on Pinterest (11)

Read about body image on other social media sites like Instagram (12)

Read about body image in a magazine (3)

Listened to body image being discussed on the radio (4)

Read about body image on the internet (6)

Watched a clip about body image on the internet (7)

Watched a movie about body image (9)

Other (10) _____

Q32 Did you join the SNACPlus Body image Facebook page?

Yes (23)

No (24)

If No Is Selected, Then Skip To Did participating in this project res...

Q33 I found the SNACPlus Body Image Facebook page:

Very useful (38)

Useful (39)

Not at all useful (42)

Q34 Did participating in this project result in you making any changes to your Early Childhood Service?

Yes (4)

Maybe (5)

No (6)

I plan to make changes in the future (7)

If No Is Selected, Then Skip To The next questions are to gather some...

Q35 What changes did you make at your service as a result of taking part in this project?

Q36 The next questions are to gather some general details about you and this helps us to ensure we have included a range of people in our study.

Q37 What is your gender?

Male (1)

Female (2)

Q38 What is your age?

Under 25 years (1)

- 26-35 years (2)
- 36-45 years (3)
- 46-55 years (4)
- Over 56 years (5)

Q39 What is your job title? (Please write in the space provided)

Q40 Please estimate how long you have worked in early childhood services? (Please write in the space provided)

Q41 What is the age range of the children in your care? (Please write in the space provided)

Q42 How many children are usually in your care?

Q43 What is the postcode of your workplace?

Q44 What is your highest level of education?

- Primary school (1)
- Secondary school (2)
- Apprenticeship (3)
- TAFE (4)
- University (5)
- Other (6) _____

Q45 Would you like to take part in a telephone interview to discuss the body image materials available on the SNACPlus website?

Yes- please write your phone number in the space below (1) _____

No (2)

Appendix P: Phase Three Survey: Cronbach's alpha

Cronbach's alpha is **0.857**, which indicates a high level of internal consistency for our scale with this specific sample

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation		Cronbach's Alpha if Item Deleted
Please indicate whether you think the following statements are true or false, or if you are not s					
...-Negative body image can lead to anxiety and depression.	366.50	280.783	.366	.	.855
It's important not to talk with children about differences in appearances.	364.92	295.732	-.439	.	.863
Children between the ages of two and five years should watch not more than 2.5 hours of TV per day.	366.46	279.129	.443	.	.854
Children get much of their health information from TV programs.	365.79	276.607	.318	.	.854
Body image begins to develop during puberty.	365.33	289.536	-.111	.	.862
Weight-based teasing is so common that it is not believed to cause long term harm.	365.04	280.911	.210	.	.856
Fat talk' is a kind of conversation which focuses on weight and shape.	365.92	283.471	.096	.	.858
It's fine to talk about body weight and shape around children because they are too young to understand.	364.75	282.891	.417	.	.855
Children should be told which foods are 'good' and 'bad'.	366.63	287.984	-.158	.	.858
Talking about dieting with children is very important – we need to encourage them not to overeat.	365.83	303.014	-.507	.	.869
Children find it hard to tell when they are hungry or full.	365.63	288.071	-.063	.	.861
Choose the response that best describes your behaviours in relation to food service practices at...-					
At meal time do you let children choose the foods they want from what is served?	359.92	294.514	-.321	.	.863
When children get fussy, is giving them something to eat the first thing you do?	358.00	291.739	-.307	.	.861
Do you give children something to eat if they are upset, even if you think they are not hungry?	357.71	289.520	-.379	.	.859
If a child does not like what is being served, do you offer them something else?	358.83	279.275	.256	.	.855

...I encourage the children to eat less so that they won't get fat.	374.13	292.288	-.203	.	.863
...I give children small helpings at meals to control their weight.	374.71	301.433	-.431	.	.869
I don't allow children to eat between meals because I don't want them to get fat.	374.21	299.303	-.356	.	.868
When a child says they have finished eating, I try to get them to eat one more (two more, etc.) bites of food.	374.54	304.259	-.552	.	.869
If a child says, "I'm not hungry," I try to get him/her to eat anyway.	374.33	293.971	-.226	.	.865
Choose the response that best represents your behaviours and opinions in relation to food service...-					
Children should always eat all of the food on their plate.	375.42	261.123	.493	.	.850
If I did not guide or regulate the children's eating, they would eat too many junk foods.	374.50	263.826	.536	.	.849
I encourage children to eat a variety of foods.	373.17	277.014	.226	.	.856
I model healthy eating for the children by eating healthy foods myself.	373.42	272.254	.338	.	.854
I tell the children what not to eat without explanation.	376.00	274.087	.323	.	.854
I try to eat healthy foods in front of the children, even if they are not my favourite.	373.04	277.607	.372	.	.854
I have an important role in establishing lifelong eating habits in children.	372.96	280.824	.378	.	.855
I encourage children to try new foods.	372.96	279.346	.475	.	.854
I discuss with children why it's important to eat healthy foods.	372.92	279.906	.461	.	.854
I tell the children that healthy food tastes good.	373.38	280.505	.198	.	.856
I discuss the nutritional value of foods with the children.	373.08	276.688	.451	.	.853
Choose the response that best represents your view:-					
I know what body image means.	372.96	280.563	.286	.	.855
I know enough about the factors that put people at risk of developing poor body image.	373.67	275.188	.373	.	.853
I can encourage the children I work with to develop positive body image.	373.33	276.145	.403	.	.853
I have a clear idea of my responsibilities in encouraging positive body image in the children that I teach.	373.17	270.754	.606	.	.850
If I needed to, I think I could find someone to help me find the best approach to deal with body image concerns.	373.21	274.781	.486	.	.852

In general, I feel I understand body image development in young children.	373.33	271.188	.605	.	.850
For each item, please choose the response that best characterises your attitude towards your own...-					
I respect my body.	373.58	264.428	.716	.	.847
...-I feel good about my body.	374.04	257.259	.780	.	.844
...-On the whole, I am satisfied with my body.	374.08	255.732	.766	.	.844
Despite its flaws, I accept my body for what it is.	373.63	267.027	.861	.	.847
I feel that my body has at least some good qualities.	373.63	274.679	.515	.	.852
I take a positive attitude towards my body.	373.96	263.085	.782	.	.846
I am attentive to my body's needs.	373.75	269.674	.711	.	.849
My self-worth is independent of my body shape or weight.	373.96	266.476	.627	.	.849
I do not focus a lot of energy being concerned with my body weight or shape.	374.54	277.911	.243	.	.856
My feelings toward my body are positive for the most part.	373.79	265.129	.761	.	.847
I engage in healthy behaviours to take care of my body.	373.71	264.911	.761	.	.847
I do not allow unrealistic images of men or women presented in the media to affect my attitude towards my body.	373.75	261.500	.709	.	.846
Despite its imperfections, I still like my body.	373.75	267.587	.739	.	.848
Please read the following statements and rate according to your level of agreement with each:					
-Teaching a child about how the media manipulates images of celebrities is unlikely to help a child develop their own body confidence.	374.79	277.998	.217	.	.856
Criticising the way another person dresses can encourage a child to worry about their appearance.	373.67	275.884	.328	.	.854
-If a child at your service was overweight, you should encourage them to feel good about the body they have.	373.67	276.493	.599	.	.852
-Dieting is a healthy eating behaviour.	374.54	255.303	.768	.	.844
-Saying "I feel fat" in front of a child could be harmful to their development.	373.58	275.123	.524	.	.852
: -Regular family-style meals can protect a child from developing disordered eating.	373.88	283.940	.068	.	.859

-If a child is upset, educators should avoid giving them a special food to help them feel better.	373.38	271.027	.536	.	.851
Educators do not need to be concerned about how a child feels about their body until early adolescence.	376.04	289.259	-.125	.	.860
Educators should judge when a child is full.	374.79	280.694	.158	.	.857
-Characters in children's cartoon and movies can teach children that being thin or muscular will lead to success and happiness.	374.17	279.536	.176	.	.857

Cronbach's alphas per pilot participant

Participant	Cronbach's alpha
1	0.995
2	0.982
3	0.994
4	0.988
5	0.989
6	0.991
7	0.979
8	0.980
9	0.986
10	0.995
11	0.994
12	0.995

Appendix Q: Body Appreciation Scale – pre and post-intervention frequency table

		Strongly disagree		Disagree		Neither agree nor disagree		Agree		Strongly agree	
		Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1	I respect my body.	%	%	%	%	%	%	%	%	%	%
2	I feel good about my body.	1.6	1.2	7.0	8.2	13.9	3.5	62.0	68.2	15.5	18.8
3	On the whole, I am satisfied with my body.	5.3	2.4	19.8	17.6	25.7	22.4	42.8	45.9	6.4	11.8
4	Despite its flaws, I accept my body for what it is.	4.3	1.2	22.5	17.6	18.2	18.8	47.6	50.6	7.5	11.8
5	I feel that my body has at least some good qualities.	2.7	1.2	9.6	10.6	16.0	20.0	55.1	51.8	16.6	16.5
6	I take a positive attitude towards my body.	2.1	0	1.6	1.2	7.5	4.7	64.7	74.1	24.1	20.0
7	I am attentive to my body's needs.	4.3	1.2	7.0	8.2	21.9	21.2	54.0	55.3	12.8	14.1
8	My self-worth is independent of my body shape or weight.	3.2	1.2	8.6	7.1	18.2	12.9	55.6	62.4	14.4	16.5
9	I do not focus a lot of energy being concerned with my body weight or shape.	10.7	7.1	11.8	18.8	17.6	11.8	35.3	38.8	24.6	23.5
10	My feelings toward my body are positive for the most part.	6.4	3.5	19.8	16.5	24.6	14.1	39.0	50.6	10.2	15.3
11	I engage in healthy behaviours to take care of my body.	2.7	2.4	16.0	10.6	15.5	16.5	52.9	54.1	12.8	16.5
12	I do not allow unrealistic images of men or women presented in the media to affect my attitude towards my body.	1.1	1.2	9.1	2.4	18.2	12.9	50.8	67.1	20.9	16.5
13	Despite its imperfections, I still like my body.	1.6	2.4	10.7	10.6	16.6	5.9	47.6	56.5	23.5	24.7

Appendix R: Knowledge Test for Body Image and Eating Patterns in Childhood– pre and post-intervention frequency table

		Strongly disagree		Disagree		Neither agree nor disagree		Agree		Strongly agree	
		Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1	Teaching a child about how the media manipulates images of celebrities is unlikely to help a child develop their own body confidence*	13.9	15.3	28.3	43.5	24.6	25.9	27.3	8.2	5.9	7.1
2	Criticising the way another person dresses can encourage a child to worry about their appearance.	2.1	1.2	4.8	4.7	5.3	5.9	57.8	62.4	29.9	25.9
3	If a child at your service was overweight, you should encourage them to feel good about the body they have.	2.7	0	4.3	0	17.2	15.3	55.9	63.5	19.9	21.2
4	Dieting is a healthy eating behaviour*	25.8	35.3	42.5	48.2	17.2	10.3	11.8	4.1	2.7	0
5	Saying “I feel fat” in front of a child could be harmful to their development.	0.5	2.4	2.2	2.4	8.6	7.1	52.7	52.9	36.0	35.3
6	Regular family-style meals can protect a child from developing disordered eating.	2.7	4.7	6.5	7.2	17.3	21.2	49.2	49.4	24.3	16.5
7	If a child is upset, educators should avoid giving them a special food to help them feel better.	8.1	4.7	7.0	2.4	3.2	8.2	42.2	47.1	39.5	37.6
8	Educators do not need to be concerned about how a child feels about their body until early adolescence *	58.9	49.4	37.8	45.9	0.5	2.4	1.6	1.2	1.1	1.2
9	Educators should judge when a child is full *	33.9	30.6	34.4	43.5	16.4	20.0	12.0	4.7	3.3	1.2
10	Characters in children’s cartoon and movies can teach children that being thin or muscular will lead to success and happiness.	12.4	9.4	11.2	7.1	18.3	20.0	45.6	45.9	12.4	17.6

*Reversals

Appendix S: Role adequacy and legitimacy– pre and post-intervention frequency table

	Strongly disagree		Disagree		Neither agree nor disagree		Agree		Strongly agree		Unsure	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
I know what body image means.	1.1	0	0	0	8.0	1.2	61.0	64.7	29.4	34.1	0.5	0
I know enough about the factors that put people at risk of developing poor body image.	2.7	0	12.3	7.1	20.3	8.2	44.4	63.5	15.5	18.8	4.8	2.4
I can encourage the children I work with to develop positive body image.	1.1	0	1.1	0	8	5.9	54.5	62.4	32.6	31.8	2.7	0
I have a clear idea of my responsibilities in encouraging positive body image in the children that I teach.	1.6	0	1.6	2.4	11.8	3.5	57.2	61.2	26.2	31.8	1.6	1.2
If I needed to, I think I could easily find someone to help me find the best approach to deal with body image concerns.	2.1	1.2	9.6	5.9	15.0	8.2	45.5	54.1	21.9	29.4	5.9	1.2
In general, I feel I can understand body image development in young children.	0.5	0	12.8	4.7	21.4	10.6	51.9	62.4	8	22.4	5.3	0

Appendix T: Comprehensive Feeding Practices Questionnaire items – pre and post-intervention frequency table

Subscale		Strongly disagree		Disagree		Neither agree nor disagree		Agree		Strongly agree	
		Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Restriction for health	If I did not guide or regulate the children's eating, they would eat too many junk foods.	10.2	14.6	16.0	24.7	23.5	24.7	39.6	28.1	10.7	7.9
Pressure	Children should always eat all of the food on their plate*.	75.4	41.6	17.1	52.8	3.2	5.6	0.5	0	3.7	0
Encourage balance and variety	I encourage children to eat a variety of foods.	3.7	0	0	0	1.1	0	31	24.1	64.2	75.9
	I tell the children that healthy food tastes good.	2.1	0	3.7	2.3	20.9	16.1	41.7	27.6	36.1	54.0
	I encourage children to try new foods.	1.1	0	0	0	0.5	0	34.2	27.6	64.2	72.4
Modelling	I model healthy eating for the children by eating healthy foods myself.	8	1.1	1.1	0	2.1	2.3	26.7	27.6	62.0	68.0
	I try to eat healthy foods in front of the children, even if they are not my favourite.	0.5	0	4.8	1.1	8.6	6.9	53.5	41.4	32.6	50.6
Teaching about nutrition	I tell the children what not to eat without explanation. *	49.7	33.3	43.3	52.6	5.3	5.7	1.1	2.3	0.5	0
	I discuss with children why it's important to eat healthy foods.	1.6	0	0	0	3.7	2.3	30.5	24.1	64.2	73.6
	I discuss the nutritional value of foods with the children.	1.1	0	1.6	1.1	10.7	6.9	50.8	39.1	35.8	52.9
	I have an important role in establishing lifelong eating habits in children.	1.1	1.1	0	0	1.6	2.9	26.2	20.7	71.1	75.9
*Reversals											

Appendix U: Exit interview protocol

Aims of the interviews

To get more in-depth responses on use and satisfaction

Did they make changes in their centre?

Did they learn anything?

Why did they use the material?

Was it valuable?

Questions

Did you use the body image materials?

- Could you tell me the ways that you used the body image material?
- Did you find the materials easy to use?

Were there areas that you would have liked to see included in the materials that weren't?

- Would you be able to describe any of those for me?
- Were there any parts that you didn't like or find useful?
- What kind of things helped you to use the resources?

Could you explain why you were interested in using the body image materials?

What kind of things made it hard to use the resources?

Were you aware of body image development in young children before you used the materials?

Can you describe anything you learned from the resources?

- Do you think the body image material changed the way you think about your role as an educator?
- Do you think the body image materials changed the way you thought about your own body image in any way?
- Are you able to describe these for me?

Did you make any changes in your centre after using the body image materials?

- Could you describe these for me

Appendix V: Resource list from body image modules



Other resources

The following pages list body image resources, including books and webpages.

These include:

- Children's books about body image and self-esteem;
- Children's books about diversity;
- Children's books about food and feelings;
- Reference books for educators.
- Links to online materials.

You can access the SNACPlus body image resources Facebook page and Pinterest page.



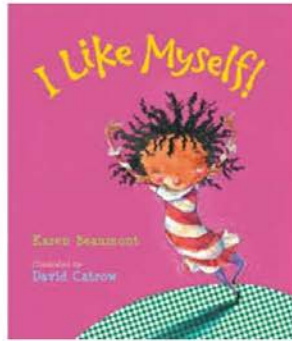
To access the Facebook page click [here](#)



To access the Pinterest page, click [here](#)



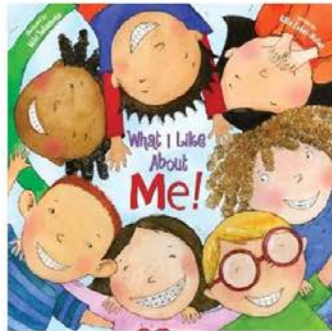
Books about body image and self-esteem



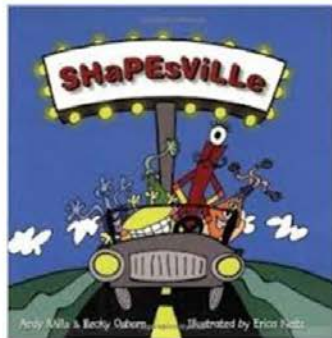
Beaumont, K. , & Catrow, D. (2004). *I like myself!* Boston Houghton Mifflin Harcourt.

Activities can be found at :

<http://thepicturebookteachersedition.blogspot.com.au/2013/04/i-like-myself-by-karen-beaumont.html>



Zobel, N. A., & Sakamoto, M. (2005). *What I like about me!* New York: Reader's Digest Children's Books.



Mills, A., Osborn, B., & Neitz, E. (2003). *Shapesville*. Carlsbad, Calif.: London: Gurze ; Hi Marketing.

Activities can be found at:

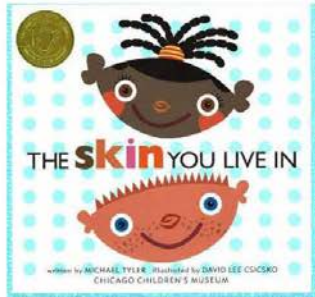
<http://www.edcatalogue.com/preschool-lesson-plan/>



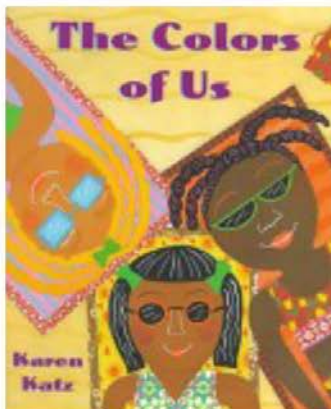
Books about diversity

Activities can be found at:

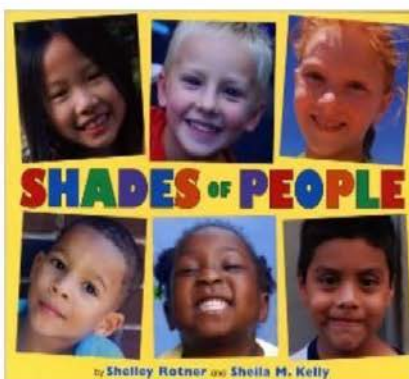
<http://www.123child.com/lessonplans/other/multicultural.php>



Tyler, M., & Csicsko, D. L. (2005). *The skin you live in*. Chicago, Ill: Chicago Children's Museum.



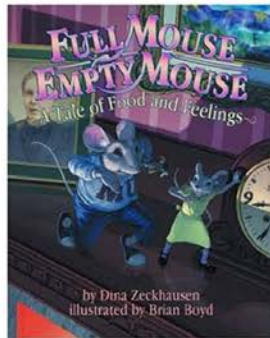
Katz, K. *The colors of us*. New York: Henry Holt and Co.



Rotner and Kelly. (2011). *Shades of people*. New York: Holiday House.



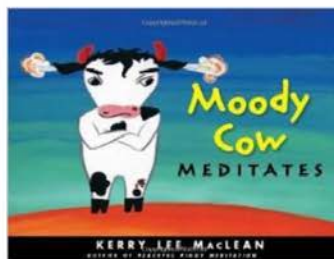
Books about food and feelings



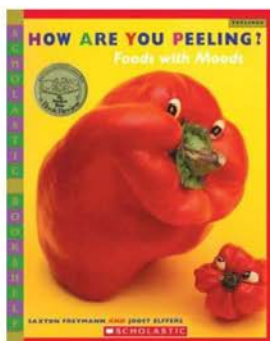
Zeckhausen, D., & Boyd, B. (2008). *Full mouse, empty mouse: A tale of food and feelings*. Washington, DC: Magination Press.

Activities can be found at:

<http://learningtogive.org/lessons/unit408/lesson3.html>



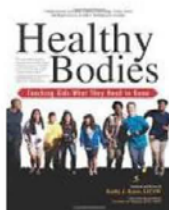
MacLean, k. (2009). *Moody cow meditates*. Somerville: Wisdom Publications.



Freyman, S., & Elffers, J. (1999). *How are you peeling? Foods with moods*. New York: Arthur A. Levine Books.



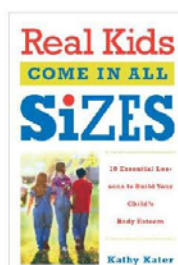
Reference books for educators



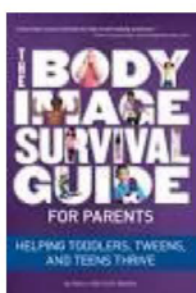
Kater, K. (2012). *Healthy Bodies; Teaching Kids What They Need to Know: A Comprehensive Curriculum to Address Body Image, Eating, Fitness and Weight Concerns in Today's Challenging Environment* (Volume 3). New York: Body Image Health



O'Dea, J.A. (2007). *Everybody's different: A positive approach to teaching about health, puberty, body image, nutrition, self-esteem and obesity prevention*. Sydney: University of Sydney Press.



Kater, K. (2004) *Real kids come in all sizes*. New York: Broadway Books.



Warhaft-Nadler, M. (2013). *The Body Image Survival Guide for Parents: Helping Toddlers, Tweens, and Teens Thrive*. Germany: Eifrig Publishing.



Links to online materials

BODY IMAGE:

http://thebutterflyfoundation.org.au/wp-content/uploads/2013/11/Whole-of-School-Education_PDF-for-website.pdf

<http://gdhr.wa.gov.au/-/media-and-body-image>

<http://www.kidshelp.com.au/grownups/news-research/hot-topics/body-image.php>

kidshealth.org/teen/food_fitness/problems/body_image.html

www.healthactive.gov.au

au.reachout.com/find/articles/body-image-blokes

http://www.betterhealth.vic.gov.au/bhcv2/bhcarticles.nsf/pages/Body_image_tips_for_parents

<http://www.cyh.com/HealthTopics/HealthTopicDetails.aspx?p=243&np=293&id=2248>

<http://www.cyh.com/HealthTopics/HealthTopicDetailsKids.aspx?p=335&np=287&id=1634>

<http://wellbeingaustralia.com.au/wba/promoting-positive-body-image-in-childhood/>

<http://www.essentialkids.com.au/preschoolers/preschooler-development/when-body-image-concerns-start-early-20130925-2udbe.html>

<http://www.everychancetolearn.com.au/young-children-body-image/>

<https://www.common sense media.org/lists/books-that-promote-a-healthy-body-image>

<http://blogs.psychcentral.com/weightless/2015/04/a-powerful-body-image-book-for-kids/>

<http://www.amightygirl.com/blog?p=1757>

<http://blogs.psychcentral.com/weightless/2011/11/7-of-my-favorite-books-on-body-image/>

TEASING AND BULLYING:

<http://bullyingnoway.gov.au/national-day/for-schools/class-activities.html>

MEDIA

<http://mediasmarts.ca/digital-media-literacy/media-issues/body-image>

<http://mediasmart.uk.com/teachers>

<https://www.common sense media.org/blog/5-ways-parents-of-preschoolers-can-raise-a-body-positive-kid>

<https://www.common sense media.org/blog/boys-deserve-more-from-tv-than-muscles-and-machine-guns>

MINDFULNESS

<https://www.kidsmatter.edu.au/health-and-community/enewsletter/mindfulness-made-easy>

http://www.huffingtonpost.com/sarah-rudell-beach-/8-ways-to-teach-mindfulness-to-kids_b_5611721.html

<http://www.actonpurpose.com.au/Mindfulness-activities-for-young-children.pdf>

Appendix W: Text responses from Phase Three post-intervention survey

I have to admit I have participated in conversations about diet and body image in front of the children and now am more aware of how this could potentially effect the children. I think in general women like to talk about their bodies and their concerns about how things are going. Playgroup is where a large group of us meet and sometimes get carried away with saying funny things about ourselves and our relationships. We try to be discreet and only talk in the kitchen or out in the yard at a good distance from the children. my being more aware means I tend to not participate in conversations that are inappropriate.
Approach to meal time being full etc
As a whole staff we will look at this for a PD session later in the year. I have just done some small trialling in our service.
As part of this program we are looking into including it in our service QIP and having a ongoing relationship with the families to research and inform about body image. The educators are also making it part of their curriculum on a regular basis.
Being aware of educators discuss food in a positive way in front of children. Children are explained about food choices that help our bodies and teeth.
changed the size of meals and menus
Children are offered food twice and then left to make their own choice. Positive body image promoted
Discussed with staff the importance of not discussing their own body shape in a negative manner in front of children
Discussing with educators the need to be mindful about the image that they are demonstrating for young children. Encouraging them to be mindful about their interactions with food, around the children. Supporting the children to really listen to their bodies re the amount of food that they eat eg when they have had enough food they let an educator know, rather than continue eating until all of the food from their lunchbox is eaten.
Discussions with educators on how we project ourselves in front of the children
Educators engaged in open dialogue with the children and around the children about body image and we celebrated our love of our body.
Educators have been able to use the resources to help the children to embrace body diversity, to show respect and kindness towards each other.
Greater awareness
I am now aware of the language that I previously used around the children and how this can be misconstrued as negative. I am now a more positive educator who focuses on healthy eating and lifestyles rather than calories and diet.

I am still working through some of the material in order to continue planning to make some changes. I plan to use some of the materials with parents in the coming weeks. We continue to focus on eating healthy foods and a balanced diet rather than talking about good/bad foods. Children are encouraged to eat when hungry at our service and to stop if they are feeling full.
I have introduced the materials into lessons for student educators
I plan to add elements to our centre curriculum
I plan to make changes in the future
I think the project hasn't been understood and that the person in charge of the older group, who would be able to appreciate the activities would struggle herself. At the moment I re engaging with cooking with the children and letting them manipulating the food I cook and talk about it + its benefits. / I also plan to do a big poster of their favourite food to be able to chat about it.
In future plan to engage all staff
in future will use the material during our food and nutrition activities
in the long term program
Include body shape differences in discussions about difference between people. More nutritional talk at meal times about food eaten. Planting food to eat in our gardens.
Increase Logon activity to extend knowledge
increased the intentional teaching opportunities and planned for more in our program planning
Introduced body image to the children - used resources provided
introduced the books
Listened more to the children about eating. Did more talking about why food is healthy and what types of foods are good to eat. Made sure I modelled healthy eating.
Looking into it
Making an effort to do more with children and the students I work with to recognise the value of wonderful eating habits
More discussion around food during meal times , added regular activities on body image to my program
More free choice,
None
None yet, but I will direct other educators to the SNACC resources in the future.
None. I forgot about it, unfortunately. I just read a couple of the books.
Not currently working in ECEC

Our service works well with the children and their families in relation to body image, food intake and eating healthy meals. We provide a cook book for families, display information on notice boards, have a weekly cooking lesson Junior Chef with the children, undertake a nature walk each week alternating days so all children get to experience such experiences, have a chef that prepares healthy meals for the children including fruit and cheese with milk or water for morning tea, a cooked lunch (main meal only) and fruit and an extra item i.e. banana muffin, blueberry pikelet, carrot cake, dip and vegie sticks for afternoon tea. All meals are served with milk or water so I believe we support a healthy outlook and encourage good eating habits and healthy activities as an ongoing service to the children in our care. Your program supports what we are undertaking.
Promoting acceptance of many physical characteristics and body types. Being mindful of educators participating in "fat talk" around young children (some still persist even though I've requested them not to). Discussing the nutrition of our foods and encouraging a variety of foods.
Really started to be proactive about addressing "fat talk", addressing negative commentary about weight and size, making sure people are not monitoring eating of children and making sure servings are adequate to allow children to regulate themselves freely. But also looked at how to support each other in developing our own self esteem better around that stuff. (work in progress that latter!!!)
Rethinking how we talk to children about food, what other educators eat in front of the children, reading the books and promoting discussions on body image.
Sharing and talking about healthy eating and, sharing ideas on what's healthy in lunch boxes , eating more real food and exercising and drinking lots more water /
Sharing of resources, newsletter, Facebook page and website with educators, increased awareness and knowledge, opened up discussion about meal/snack times and practices around these routines.
Sharing the resources with the team, having discussions that are ongoing regarding body image and being more mindful of our own conversations, feelings, practices in relation to our work with children
Slowly educating the educators on body image, healthy choice making, over eating and serving an alternative food to the original meal. Intend on ensuring all educators are aware of all resources on the snac plus site.
Talk about healthy eating with staff and children
The educators are more aware of what they talk about in regards to their own body image in front of the children. The educators are more confident in talking about body image and passing this information onto families.
The resources are being used by staff when developing programs. / we have not finished looking at the SNAC resources completely we do these at our bi monthly staff meetings. / information made available for families.
This project enabled us to access resources to compliment our "Healthy Living" program we run with our kinder and pre-kinder rooms. Each week children take turns in a number of activities based around healthy lifestyles from visits to community garden, making their own lunches and smoothies, active play and yoga sessions and discussions about everyday and sometimes foods.

Time has not been on my side as of yet. The project has reaffirmed what I thought was the best way to help children and parents so I will continue to follow. The books were a huge hit with the kids (they love books) but at the present time I have 1yr olds and 2 yr olds so we haven't dug too deep yet. I haven't had a chance to use the activities (lots of illness here at present - FDC) but plan to use them in the future
understanding how to help the children with their body image using the activities to bring the information to their level. Allow the children to let me know when they have enough the eat.
Used books and talked to peers /
We changed the way we all about body image to the children. / We changed to the children self serving their lunch
We discussed the difference between people. Found resources about food group quantities. I was unaware of all the literature and worksheets to work with the books
we do a lot of physical play, the children like to eat a variety of healthy food when they look good.
We don't provide the food for the service but encouraged more families to provide healthy options
We have added in our staff handbook that educators are not to discuss their food issues (diets etc) in front of children and are to actively promote positive body image.
we have introduced the body image books to the children in the preschool room and they have shown a lot of interest in these and asking different questions over the weeks following which has prompted re-reading of the books.
We have not fully participated in this project yet We had an introduction to educators in Feb, including doing some of the quizzes and watching some of the videos and have the resources to read We have a big project on Positive Education and plan to use the books with children as part of this. However this will not be until the second half of 2016
Will make the books available for families and staff to use when they want to in our programme
Wrote log on physical health and screen time, shared information with educators and became more aware of images and language used