Maternal self-efficacy in mothers of children with and without clinical feeding problems

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Maternal Self-Efficacy in Mothers of Children with and without Clinical Feeding Problems

by

Caroline Jordan

Doctoral Thesis

Submitted in partial fulfilment of the requirements for the award of

Doctor of Philosophy of Loughborough University

July 2016

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Abstract

The understanding of maternal factors associated with child feeding problems is limited due to a lack of research which has examined a comprehensive range of maternal factors and the existing literature focussing on a narrow range of ideas about the wider familial context in which feeding problems occur. The broad aim of this thesis is to investigate maternal parenting of children with and without clinical feeding problems to provide insights into the wider context in which feeding problems occur.

In study 1, thematic analysis of interviews with 10 mothers of children with, and 10 mothers of children without, clinical feeding problems revealed that mothers of children with clinical feeding problems appeared to have less maternal self-efficacy for managing parenting challenges than mothers in the non-clinical group. A template analysis found that these perceptions seemed to be informed by four theoretical sources of self-efficacy: mastery experiences, verbal persuasion, vicarious experience and physiological state.

In study 2, 278 mothers of children with and without clinical feeding problems completed existing self-report measures of maternal self-efficacy. It was found that lower levels of maternal self-efficacy for establishing structure and routine around instrumental child care tasks and for implementing discipline and setting limits for the child was predictive of problematic child feeding behaviour and maladaptive maternal responses to child feeding problems.

In study 3, 215 mothers of children with and without feeding problems completed self-report measures of the theoretical components of self-efficacy (mastery experiences, verbal persuasion, vicarious experience, physiological state). Physiological state was found to be the strongest predictor of maternal self-efficacy for establishing structure and routines as well as for providing discipline and setting limits for the child. Maternal self-efficacy mediated the relationship between physiological state and problematic child feeding behaviour and the relationship between parenting stress and maladaptive maternal responses.

The final study was a pilot study using autophotography. This study explored parenting dimensions and tasks which contributed towards perceptions of maternal self-efficacy in 13 mothers of children without clinical feeding problems. Findings suggested that child
feeding was an especially difficult and complex task for mothers to manage, with many mothers reporting perceptions of low efficacy for managing mealtimes. This appeared to be due to the large number of health related concerns and the worry mothers felt when children did not eat a healthful diet.

Overall, results of this thesis suggest that mothers who lack confidence in their ability to manage child behaviour report more problematic child feeding behaviours and use more maladaptive strategies for managing feeding problems. Findings of the studies in this thesis suggest that mothers of children with feeding problems, and who are experiencing high levels of stress, may be especially vulnerable to lower levels of maternal self-efficacy which may exacerbate difficulties. Increasing maternal self-efficacy for providing structure, routines and discipline in mothers experiencing feeding problems in their children may improve outcomes for those affected.

Keywords:

Problematic child feeding; clinical feeding problems; maternal self-efficacy; parenting self-efficacy; behaviour management; maternal experiences.
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Publications and Presentations

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Articles in Preparation


**Oral Presentations Derived from this Thesis**


**Poster Presentations Derived From this Thesis**


1. General Introduction

1.1. Overview

This chapter will introduce feeding problems in young children and include a broad review of the literature about feeding problems in clinical and non-clinical populations, the prevalence of clinical and non-clinical feeding problems, and the physical and psychosocial outcomes related to clinical and non-clinical feeding problems. This will be followed by a review of the research relating to maternal factors that have been associated with clinical feeding problems in children. The concept of maternal self-efficacy will then be introduced followed by research relating to how this construct is measured. Research focusing on the association between maternal self-efficacy and problematic feeding behaviours in children will then be presented. This introduction will conclude with the presentation of the aims of this thesis.

1.2. Feeding Problems in Young Children

Concerns about feeding are a commonly occurring behavioural issue reported by parents of young children (e.g. Northstone, Emmett & Nethersole, 2001). Within the literature, a variety of terms have been used to describe patterns of problematic feeding behaviours exhibited by children, where the outcome could be detrimental to their physical and psychosocial health and wellbeing. For the majority of children difficulties related to feeding are mild, developmentally appropriate and transient, which will resolve without consequence, however for some, difficulties are severe and persistent, and can develop into life-threatening difficulties, which may ultimately require supplemental tube feeding (Luiselli, 1989; Pliner, Pelchat & Grabski, 1993; Williams, Field, & Seiverling, 2010).

Understanding the differences between child feeding behaviours that are problematic and will ultimately resolve and those that may require clinical intervention has been the subject of a considerable amount of research attention over the last decade, in order to inform diagnostic criteria (i.e. the American Psychological Association’s (APA) Diagnostic and Statistical Manuals (DSM) IV (2000) and V (2013)). In line with the contemporary understanding of clinically diagnosable feeding problems the terminology used to describe
feeding problems has changed over time. As a result, descriptors within the literature include, but are not limited to: picky eating; fussy eating; selective eating; food refusal; failure to thrive; infantile anorexia; feeding disorder; and, feeding problem. Although the behaviour labels are similar, the use of each term represents a slightly different pattern of insufficient intake and underlying behaviours (Dovey, Farrow, Martin, Isherwood, & Halford, 2009). For example, picky or fussy eating has been described as a rejection of a large number of familiar and novel foods which results in a diet habitually low in variety (Dovey, Staples, Gibson & Halford, 2008) and infantile anorexia is considered to be a developmental disorder of separation and individuation which underlies the rejection of food (Chatoor, Egan, Getson, Menvielle & O'Donnell, 1988). However, in all cases, these descriptive labels are related to the refusal of food by the child (e.g. Dahl & Sunderlin, 1986; Levy et al., 2009; Matson & Fodstad, 2009). An in-depth review of controversies relating to diagnostic criteria and descriptors is outside the scope of this thesis, however the following section gives a broad overview of what is currently considered to constitute commonly observed problematic child feeding behaviour.

This section includes literature in which authors describe problematic child feeding behaviour and populations as 'clinical', it also includes literature in which authors describe child feeding behaviour, observed in the general or 'non-clinical' population, which they consider to be clinically relevant but where the child has not been diagnosed by a clinician as having a feeding disorder. It is acknowledged that disparate descriptions and criteria are used within the literature to determine clinical status which may result in bias or inconsistency in the reported results. Therefore, to maintain consistency with terms used in cited articles, within this literature review the term 'clinical feeding problem(s)' is used interchangeably with the term 'clinical feeding disorder' and indicates a pattern of problematic child feeding behaviour which has been diagnosed as disordered by a clinician. In this thesis the term 'clinical feeding problem(s)' is used interchangeably with the term 'feeding problem' and 'problematic feeding behaviour' and indicates a pattern of child feeding behaviour which is considered to be problematic enough to have a significant impact on the child functioning (as per DSM diagnostic criteria) but has not been diagnosed as disordered by a clinician. The term 'failure to thrive'; now more commonly referred to as 'growth faltering', is a serious child outcome where the child has not grown at the expected rate, and is indicative of a clinical feeding problem (Gahagan, 2006; Levy et al., 2009; Gahagen). These terms are used within this literature review only where they have been used within the article being reported on.
1.2.1. Non-Clinical and Clinical Feeding Problems

In otherwise healthy infants and young children, feeding behaviours that cause concern for parents include a lack of hunger at mealtimes, lack of enjoyment, strong food preferences, refusal of meals, requesting specific foods which are subsequently refused, and ending meals after only a few bites (Reau, Senturio, Lebailly & Christoffel, 1996). Children may also exhibit disruptive behaviours such as spitting out food, vomiting, whining, crying and complaining at mealtimes, getting up from the table, and non-compliance with adult instructions (Crist & Napier-Phillips, 2001; Lindberg, Bohlin & Hagekull, 1991; Sanders, Patel, Le Grice & Shepherd, 1993). These early patterns of food refusal may be based upon innate and developmentally appropriate barriers to food acceptance such as food neophobia, which is the rejection of novel foods (Dovey, Staples, Gibson, & Halford, 2008), or pickiness, which is the rejection of familiar foods (Galloway, Lee & Birch, 2003). As such, these feeding difficulties may be intermittent and short lived, although a positive parental child feeding style is essential to overcoming a child’s natural rejection and expanding the variety of food a child will accept (e.g. Dovey, et al, 2008; Galloway et al., 2003). For example, the development of appropriate and inappropriate feeding behaviour in children can be socially facilitated by parents through their own eating behaviour (e.g. Addessi, Galloway, Visalberghi & Birch, 2005) and by parental reinforcement (e.g. Casey, Cooper-Brown, Wacker et al., 2006; Piazza, 2008).

Comparisons between clinical and non-clinical populations of children exhibiting food refusal have revealed that many children exhibit several of the same problematic behaviours, however it is the frequency, consistency, intensity and persistence of problems that distinguishes between clinical and non-clinical groups (e.g. Crist & Napier-Phillips, 2001; Dovey, Farrow, Martin et al., 2009; Sanders et al., 1993). Early efforts to understand the aetiology of poor feeding and low weight in children attempted to classify food refusal as being driven by either organic causes such as reflux, airway obstruction, swallowing disorders, oral-motor dysfunction, and inflammatory bowel disease (Bacon, Spencer, Hopwood, & Kelch, 1982; Carr, Hguyen & Nagy, 2000; Mathisen, Skuse, Wolke, & Reilly, 1989) or non-organic causes, such as developmental disabilities (e.g. autism), or psychosocial factors, relating to the individual or environment in which feeding occurs (e.g. Budd, McGraw, Farbitz et al., 1992; Werle, Murphy & Budd, 1999). However, attempts to link specific symptoms to the organic/non-organic dichotomy have been unsuccessful because symptoms believed to indicate organic food refusal, such as gagging, retching, or vomiting are often present in the absence of any organic cause, and
psychosocial symptoms, thought to indicate non-organic food refusal, also fail to discriminate between groups (e.g. Levy et al., 2009; Reilly, Skuse, Wolke & Stevenson, 1999). It has been concluded that clinically diagnosable feeding problems are heterogeneous and cannot be classified according to only organic or only non-organic causes (e.g. Dahl & Sunderlin, 1986).

The contemporary understanding of clinical feeding problems is that there is often a mixed or complex aetiology (e.g. Dovey, Isherwood, Aldridge & Martin, 2010) and it acknowledges that an interaction between biological and environmental variables operates in many clinically diagnosed feeding problems. Given that many clinical feeding problems do not have an exclusively underlying organic cause (e.g. Dahl & Sunderlin, 1986; Levy et al., 2009; Reilly, et al., 1999), research has investigated psychosocial variables that can contribute to or exacerbate feeding problems. Because feeding young children occurs within a dyadic context, parent characteristics and the home environment are often assumed to play a role (Budd, et al., 1992). Empirical studies have found associations between clinical feeding problems and family health problems, family conflicts, negative experiences of parenting, maternal depression, household disorganization, social isolation, parents’ beliefs about nutrition, and parent-child interaction during mealtimes (Agras, Berkowitz, Hammer, & Kraemer, 1988; Budd, et al., 1992; Dahl & Sunderlin 1986; Dahl & Sundelin, 1992; Lindberg et al., 1991; Pugliese, Weyman-Daum, Moses, & Lifshitz, 1987).

1.2.2. Outcomes Related to Non-Clinical and Clinical Feeding Problems

Feeding problems, whether clinical or non-clinical, can place the child at risk for poor physical and psychosocial developmental outcomes (e.g. Heffer & Kelley, 1994). Patterns of child feeding that are established in early childhood are likely to continue into late childhood, through adolescence and into adulthood (Lytle, Seifert, Greenstein, & McGovern, 2000), therefore establishing a healthy eating pattern in early life is important for the related lifelong health benefits. Feeding problems that are not severe enough to require a clinical diagnosis can present barriers to the development of healthy eating patterns by shaping food preferences, which lead to reduced fruit and vegetable consumption and poor dietary variety (Skinner, Carruth, Bounds & Ziegler, 2002). For some children, even mild levels of food selectivity can impair the development of healthy eating behaviours and result in nutritional deficiencies, psychological and social difficulties which may persist into middle childhood and adolescence (Timimi, Douglas & Tsiftspoulou, 1997).
As food refusal becomes more severe, and becomes clinically significant, failure to maintain an appropriate body weight becomes the most obvious physical outcome for the child (e.g. Lindberg, Bohlin & Hagekull, 1994; Lindberg, Ostberg, Isacson & Dannaeus, 2006). Failure to maintain an appropriate body weight can have serious consequences for health and growth and can cause developmental delays in fine and gross motor control, and cognitive performance (e.g. Dahl & Sundelin, 1992; Wolke, Skuse, & Mathisen 1990). However, many children who exhibit serious feeding difficulties can maintain their body weight through parental strategies to increase calorific intake, for instance eating calorie dense foods and snacks (Werle et al., 1999). However, these children remain at risk for nutritional deficiencies, such as iron deficiency anaemia, which have been associated with negative physical outcomes, such as recurrent infections, and negative developmental outcomes, such as cognitive delay (Black 2003; Budd et al., 1992; Lindberg et al., 2006).

There has been little longitudinal research following the progression of clinical feeding problems diagnosed in infancy or early childhood through adolescence and into adulthood therefore there is limited evidence for the long-term outcomes of clinical feeding problems. The small amount of evidence available suggests that clinical feeding problems identified in early life are relatively stable across a ten-year period throughout childhood (Marchi & Cohen, 1990). Adequately controlled research studies have also identified links between growth faltering during infancy and cognitive impairments in early childhood which have the potential to continue into later childhood for a small number of children (Corbett & Drewett, 2004). Additionally, clinical feeding problems identified during early childhood have the potential to result in the later development of eating disorders (Marchi & Cohen, 1990), with infant feeding problems and undereating in later childhood, particularly when exhibited in female children, being identified as risk factors for eating disorders at age thirty (Nicholls & Viner, 2009).

Clinical feeding problems in children also have implications for the wider family system. Families may experience psychosocial problems, for example, conflicts between the infant’s parents and the infant’s grandparents (Lindberg et al., 1994) and have less adaptive relationships, in terms of cohesion and low expression of emotion (Drotar & Eckerle, 1989). It is also well evidenced that the parents of children with clinical feeding problems experience increased parental emotional distress in comparison to controls (e.g. Budd et al., 1992; Garro, Thurman, Kerwin, & Ducette, 2005; Greer, Gulotta, Masler & Laud, 2008). Such disturbances to family functioning can result in parents perceiving their children as being more difficult to care for and report that their children are less adaptable,
more inconsolable and more unhappy than children without clinical feeding problems; with mothers in particular having less positive perceptions of parenting children with clinical feeding problems (Lindberg et al., 1994; Singer, Song, Hill, & Jaffe 1990). This pattern of child behaviour, which is perhaps indicative of a difficult temperament (see section 1.4), is frequently associated with feeding difficulties (e.g., Ammaniti et al., 2010; Hagekull, Bohlin & Rydell, 1997; Niegel, Ystrom, Hagtvet, & Vollrath, 2008). Research has shown, however, that these negative family outcomes may be mediated by the mothers’ coping ability, social support and self-esteem (Garro, 2004; Lindberg et al., 1994).

1.2.3. Prevalence of Non-Clinical and Clinical Feeding Problems

Understanding the prevalence of non-clinical and clinical feeding problems is difficult. This is because figures vary considerably depending on the behaviours that are considered to constitute a clinical feeding problem, the population under investigation and also who is reporting the behaviour (Dovey et al., 2009). Feeding problems that are considered to be normative are very widespread within the general population, when reported by parents. In a cross sectional study of 9360 mothers in the UK, 40% of mothers had experienced some degree of difficulty with establishing a feeding routine, slow feeding, consuming small quantities, choking, refusal of milk and solid foods, or persistent hunger during the first 15 months of their child’s life (Northstone et al., 2001). In longitudinal research, 51% of parents report that their child has exhibited persistent food refusal in the first year of life (Coulthard & Harris, 2003). Commonly reported behaviours in toddlers such as lack of hunger, strong food preferences, and ending meals after only a few bites of food have been reported by between 33-52% of mothers (Coulthard & Harris, 2003).

When using clinical diagnostic criteria in non-clinical populations, prevalence rates reduce, with between 25% and 28% of parents reporting that their child exhibited food refusal in the first six months of life and 10-12% of parents report that problems had persisted for some length of time. Only 8% of parents report that feeding problems had persisted for longer than one month (Lindberg et al., 1991). Despite the reported prevalence of persistent feeding difficulties being 25-28% of the total sample, 3% of parents reported that they required professional help but only 1.4% of problems were considered severe enough to require professional intervention (Lindberg et al., 1991). This suggests that approximately half of feeding problems that could be considered to be persistent (i.e. having persisted for more than one month; APA, 2000) ultimately resolve without professional intervention.
The prevalence of clinically significant feeding problems is considerably less when reported by clinicians. Dahl and Sunderlin (1986) reported that 1.4% of children aged between three and twelve months of age had food refusal and associated difficulties that were persistent and severe enough to require clinical attention. These feeding problems persisted and developed into long-term problems for 70% of these children (Dahl & Sunderlin, 1992). Despite the reported differences in prevalence, the age at onset was consistently reported to be at around the age of weaning which was between 4.3 and 6.4 months (average 5.3 months) of age (Coulthard & Harris, 2003; Dahl & Sunderlin, 1986). Taking into account the reported mean age of onset of food refusal (Coulthard & Harris, 2003; Dahl & Sunderlin, 1986) and persistent food refusal for at least one month (APA, 2000), children aged over six months – i.e. those who have been weaned onto solid foods and have an established eating pattern- are a population likely to be of particular interest for researchers studying feeding problems.

The difference between parent report and clinician report outlined above suggests that there are a large number of children and their families who are experiencing feeding difficulties but do not meet the criteria for clinical treatment (Dovey et al., 2009). Additionally, the difference between parentally reported prevalence of persistent feeding problems and the number of parents who ultimately seek professional support suggests that approximately half of persistent feeding problems either resolve without intervention, or are managed in the home. This suggests that a large number of parents manage and potentially overcome feeding difficulties in the home without professional support. Information from the audit of a clinical feeding service shows that from the existing intervention case load, 64% of children were between one and five years old, 18% were between six and eight years old, and 18% were between nine and eleven years old (Martin & Dovey, 2010). This suggests that parents whose children ultimately access clinical intervention also attempt to manage feeding problems for a considerable amount of time without professional support. An understanding of how parents manage early difficulties that ultimately resolve and how parents manage feeding problems that eventually require professional intervention may highlight factors that could be useful for the development of community based and clinical interventions to prevent feeding problems.

1.2.4. Section Summary

In summary, research indicates that problematic feeding affects a large number of children and their families and often has an onset during the first year of life, especially
around the time of weaning. Some feeding problems are developmentally appropriate and may resolve without consequence. However, a pattern of food refusal which is consistent and persistent coupled with intense disruptive behaviours may indicate the development of a serious problem that may ultimately become a clinical feeding problem.

Clinical feeding problems have the potential to result in serious physical, nutritional and psychosocial outcomes for children and their families. Clinical feeding problems are heterogeneous, occurring without a distinct pattern of underlying causes. This has been increasingly reflected in a biopsychosocial approach to understanding and classifying this disorder.

Some feeding problems could be considered to be persistent according to diagnostic criteria but will resolve without clinical intervention and a small number of children will develop a pattern of problematic feeding behaviour which is persistent and/or severe enough to meet the criteria for a clinical diagnosis. However, there could be a considerable amount of time before clinician intervention is accessed and during this time families must attempt to manage problematic feeding in the absence of professional support. An understanding of parent perceptions of problematic child feeding behaviours and a comparison of the ways in which parents attempt to manage normative and clinically significant problematic feeding behaviours may be useful for researchers and clinicians who aim to develop interventions at a community and a clinical level.

1.3. Maternal Factors Associated with Clinical Feeding Problems

It is understood that both the child and the parent bring their own predispositions, abilities and behaviours to the feeding situation which “sets the stage” for mealtime interactions (Davies, Satter, Berlin et al, 2006; p. 413). Given the importance of the mother in the feeding of infants and young children (e.g. Patrick, Nicklas, Hughes, & Morales, 2005; Wardle, Carnell, & Cooke, 2005), it follows that a considerable amount of research investigating parental factors has focussed on understanding the specific contribution of maternal characteristics, cognitions and behaviours to the development and maintenance of clinical feeding problems in children. The following section provides a narrative review of this literature which focuses exclusively on research relating to clinical child feeding problems. This is in order to highlight directions for the initial exploratory study within this thesis.

Systematic literature searches of peer reviewed journal articles published prior to 2017 were performed using available online databases: psychINFO; psychArticles; ASSIA;
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MEDLINE; and, Zetoc. The initial search of article titles included the terms: ‘feeding disorders’ OR ‘feeding problems’ OR ‘food refusal’ OR ‘feeding dysfunction’ OR ‘ARFID’ OR ‘avoidant/restrictive feeding intake disorder’. Searches were also made using terms cited in the literature such as: ‘failure to thrive’ OR ‘FTT’ OR ‘infantile anorexia’. Searches were refined to include ‘maternal’ OR ‘mother’ OR ‘parent’ OR ‘caregiver’.

After removing studies duplicated across different databases, each remaining abstract was screened to assess the relevance of the article. Articles which contained a sample of children diagnosed with a feeding problem, or a sample recruited from an intervention for a feeding problem and measures of at least one maternal variable were retained. Case studies and studies where the primary focus was not clinical feeding problems in children (i.e. the main focus was feeding behaviour of children with medical conditions or disabilities) were excluded. Based on the main findings reported, articles were subcategorised as follows: Attachment or Attunement, Feeding Practices, Psychopathology, and Cognitions. Some sections have been augmented with literature pertaining to relevant maternal factors which do not contain samples of children diagnosed with a feeding problem/ARFID. In these cases, it has been made clear that the research employed a non-clinical, population sample.

1.3.1. Attachment

Early research conceptualised and examined the mother-child relationship in terms of attachment and often investigated attachment as an integral component of non-organic failure to thrive; reflecting the belief that failure to thrive resulted from maternal rejection and emotional deprivation (Skuse, Gill, Reilly, Wolke & Lynch, 1995). Attachment has traditionally been investigated using the ‘strange situation procedure’ (Ainsworth, Blehar, Walters & Wall, 1979) to measure child attachment style and the Adult Attachment Interview (George, Kaplan, & Main, 1985) to measure maternal attachment style. The strange situation procedure utilises the child’s behavioural responses to separation and reunion with the primary caregiver, usually the child’s mother, to assign the child to either a ‘secure’ attachment style, or ‘anxious-avoidant’ or ‘anxious-resistant’ attachment styles, or the least optimal ‘anxious-disorganised’ attachment style, which was later identified by Main and Solomon (1990). A high concordance rate has been reported between measures suggesting that maternal and child attachment styles reflect each other (Ward, Lee & Altman, 2000).
Research using these measures has been successful in showing associations between maternal/child attachment style and failure to thrive. For instance, children experiencing failure to thrive have been found to be significantly more likely to have a disorganised attachment style, whereas controls were more likely to have a secure attachment style (Chatoor et al., 1998; Ward et al., 1993; Ward et al., 2000). Mothers of children with failure to thrive have also been found to be significantly more likely to have a non-autonomous (insecure) attachment style and controls were more likely to have an optimal, autonomous (secure) attachment style (Benoit, Zeanah & Barton, 1989; Coolbear & Benoit, 1999; Ward et al., 2000).

Although attachment style is a proxy measure of the interactions that occur between mother and child, the association between failure to thrive and child and maternal attachment style alone explains very little about specific behaviours occurring within the mother-child relationship. Ward, Kessler and Altman’s (1993) inclusion of a social interaction measure highlighted an association between non-autonomous maternal attachment style and a reduced level of sensitivity towards children during play. Ward and colleagues hypothesised that unresolved trauma or loss, associated with non-autonomous attachment, interfered with the mother’s ability to provide the consistently responsive care associated with secure attachment in children. However, subsequent research has found that, although mothers of children experiencing a failure to thrive were significantly more likely to have non-autonomous attachment styles than controls, there was no significant difference between groups in their unresolved trauma narratives (Benoit et al., 1989). This suggests that unresolved trauma may be more relevant for some mother-child dyads than others and may also point to additional factors that may serve a protective function against insecure attachment styles.

It has been suggested, however, that mothers of children with failure to thrive can be significantly less satisfied in their relationship with their partner (Benoit et al., 1989), suggesting that the wider context in which attachments and mother-child interactions occur might play an important role. This assumption is supported by Ward et al. (1993) who reported that mothers of children with disorganised attachment perceived significantly lower levels of social support and higher stress levels irrespective of the weight status of the child. Notwithstanding these associations, the ways in which attachment might influence a child’s weight status remains unclear from these studies.

In an attempt to explain the relationship between attachment style and the weight status of children with failure to thrive, researchers have investigated links between attachment
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style and maternal and child behaviour during feeding. It was found that mothers of children experiencing failure to thrive, who display behaviours related to children’s insecurity of attachment, such as less delight, less emotional expression, less sensitivity and more ignoring, rejecting and interfering behaviours, also make more arbitrary terminations of feeding than controls (Drotar, Eckerle, Satola, Pallotta & Wyatt, 1990). Coolbear and Benoit (1999) revealed that in addition to having a non-autonomous state of mind, failure to thrive mother-child pairs displayed less dyadic reciprocity than controls, thereby highlighting the interactional nature of feeding and potential mechanisms by which attachment style could affect the weight status of the child.

Research that has investigated clinical feeding problems in children rather than failure to thrive has provided less evidence for the relevance of attachment style. Comparisons between mother-child dyads with and without clinical feeding problems have found that, although mothers of children with clinical feeding problems displayed less sensitivity, were less cooperative and exerted more verbal teaching/control during play and feeding than mothers in a control group, child attachment style only marginally predicted clinical or non-clinical feeding group status (Lindberg, Bohlin, Hagekull & Palmerus, 1996). Furthermore, in a study comparing attachment styles in clinical, subclinical and control samples Chatoor et al., (1998) demonstrated that although children in the clinical and subclinical groups exhibited more insecure attachment, the majority of children across all groups had a secure attachment style. Moreover, disorganised attachment was not represented and clinical feeding problems were found to occur in the context of secure and insecure attachments (Chatoor et al., 1998).

Research appears to suggest that children with clinical feeding problems exhibit communication signals that are not as clear for the mother to read as those exhibited by children without clinical feeding problems (Lindberg et al., 1996). Also, children with clinical feeding problems are perceived to have a temperament that is more difficult to manage which, in combination with reduced maternal sensitivity to the child’s needs, has been found to predict the development of feeding problems in longitudinal research (Hagekull, Bohlin & Rydell, 1997). This offers further evidence that dysfunctions in the mother-child feeding interactions, rather than attachment, are relevant in clinical feeding problems.

Other researchers have focussed on theoretical applications of mother-child interactions which have been implicated in the pathology of anorexia nervosa. However, empirical evidence to support this assumption is inconclusive. Chatoor and colleagues (e.g.
Chatoor, Dickson, Schafer & Egan, 1985; Chatoor, Egan, Getson, Menvielle & O'Donnell, 1988; Ammaniti, Ambruzzi, Lucarelli, Cimino & D'Olimpio, 2004) propose that ‘infantile anorexia’ is an expression of underlying separation disorder, in which autonomy related conflict resulting from non-contingent responses from the caregiver interfere with the child’s process of distinguishing somatic sensations (such as hunger and satiety) from emotions (such as affection and anger). In infantile anorexia dyads, children have been found to exhibit more behaviour problems and problem characteristics during feeding while mothers display increased intrusiveness and control, and a lower ability to read communication signals from the child (Ammaniti et al., 2004). Although, research using the scales developed by Chatoor and colleagues (Chatoor et al., 1985) which measure dimensions of feeding interactions relevant to infantile anorexia found no association between failure to thrive and maternal non-contingency, dyadic conflict or struggle for control during feeding interactions (Coolbear & Benoit, 1999).

Evidence does suggest, however, that specific attachment-separation interactions may be related to child age. Ammaniti et al. (2004) reported that interactional conflict has been found to increase with child age, peaking at 9-12 months and lessening at 12-36 months whereas in a control group interactional conflict was lower overall and more stable over time (Ammaniti et al., 2004). Maternal affective symptoms (depression and anxiety) have been found to be higher in infantile anorexia mother-child dyads when compared to controls, peaking when the child is between 18-24 months of age when symptoms were at their lowest in the control group (Ammaniti et al., 2004). This suggests that the affective state of the dyad may also interfere with mother-child feeding interactions. The relevance of negative affect was further evidenced by Feldman, Keren, Gross-Rozval and Tyano (2004) who found that mothers of children with clinical feeding problems displayed less affectionate touch, more negative touch, more withdrawal and rejection during the feeding interaction which was related to depressive symptomology. However, it is difficult to establish whether negative affect is the cause or result of difficult feeding interactions.

In summary, research provides mixed evidence for the relationship between attachment and clinical feeding problems. Traditional measures of maternal and child attachment suggest a link between failure to thrive in children and insecure and disorganised attachment styles. However, this explains very little about behaviours occurring in the mother-child feeding relationship. Evidence suggests that mother-child interactions in insecure dyads are less reciprocal than those in secure dyads, with children displaying unclear communication signals and mothers displaying less sensitivity to the child’s
signals. Therefore, it appears likely that the mechanisms by which attachment influences the weight status of a child are related to mother-child feeding interactions. This suggests that poor attunement, that is the reciprocal relationship between a mother and child, rather than attachment between mother and child is associated with clinical feeding problems. A successful reciprocal feeding relationship depends on the child's ability to send out hunger cues to the mother, and the mother's ability to accurately read, interpret and respond appropriately to a child’s cues (Satter, 1990). Research suggests that the wider context in which the mother-child feeding relationships occur may be important (Benoit et al., 1989), however this research is underrepresented.

1.3.2. Feeding Practices

Feeding practices have been described as the specific strategies that are used in an attempt to maintain or modify a child's eating style and diet (Ventura & Birch, 2008). Much of what is currently known about the strategies used in feeding children with clinical feeding problems is based on intervention studies (e.g. Borrero, Woods, Borrero, Masler & Lesser, 2010; Piazza, Fischer, Brown et al., 2003). Typically, this research uses an assessment of the child’s behaviour whilst being fed by parents or clinician and a subsequent manipulation or implementation of a feeding strategy performed by a clinician to measure acceptance of food.

Clinical observations of parent-child feeding interactions when the child has a feeding disorder have shown that parents give attention to a child’s food inappropriate behaviours, such as gagging, vomiting, negative vocalisations and aggression, by means of reprimands, soothing comments, coaxing, removing the food offered and giving the child a tangible item such as a toy or a preferred food (Piazza et al., 2003). Borrero, England, Sarcia and Woods, (2016) reported that verbal coaxing includes phrases such as “come on”, “you like this”, “dad will be happy if you eat this”, instructions such as “swallow” and comforting and praise include such as “it’s ok”, “you’re ok” and “good job” and reprimands such as “no”, “stop that”, “don’t do that”. Whilst it might seem probable that coaxing, comforting and praise would serve to increase appropriate feeding behaviour and reprimands serve to reinforce inappropriate behaviours, in clinical testing, parental attention resulted in an increase in inappropriate child feeding behaviour in ten out of fifteen children and the use of positive reinforcement, which could be considered to be a positive strategy, contributed to the maintenance of inappropriate behaviour in over half of the sample (Piazza et al., 2003).
A more in depth assessment of feeding strategies has shown that the use of reprimands and coaxing resulted in decreases in inappropriate feeding behaviour in the majority of children with clinical feeding problems, but also led to an increase in inappropriate feeding behaviour in a small number of children; concern on the other hand, affected a decrease in inappropriate feeding behaviour for a large number of children but did not result in an increase in inappropriate feeding behaviour in any child (Woods, Borero, Laud & Borrero, 2010). In a subsequent study, Woods and colleagues also found that reprimands, coaxing and concern increased the probability of future acceptance of food in some children but did not decrease acceptance in any child (Borrero et al., 2010). Overall this suggests that feeding behaviours associated with clinical feeding problems could be improved by focussing on appropriate behaviour rather than inappropriate behaviour. Coaxing in particular resulted in a greater difference in the rate of acceptance and decrease in inappropriate behaviour. Consistent with this assertion, a maternal training intervention aimed at encouraging positive attention (e.g., praise, smiles, behavioural descriptions, and eye contact) while actively ignoring child avoidance, complaining, and negative mealt ime behaviours has been successful in reducing both clinically observed and maternally reported feeding difficulties Murphy and Zlomke, (2016).

Observations of the use of verbal and physical coaxing and prompts during feeding interactions between mothers of children with and without clinical feeding problems have found that although mothers in both groups do not differ significantly in the amount of non-aversive feeding strategies, mothers of children with clinical feeding problems employ significantly higher levels of aversive strategies such as vague negative and vague positive instructions, specific negative instructions, negative prompts, negative physical contact, negative eating comments, and negative social attention, than mothers of children without clinical feeding problems (Sanders et al., 1993). This could suggest that the way in which a strategy is applied, rather than the strategy itself, is of greater importance in the context of clinical feeding problems.

Research using parental report has been less successful in identifying specific parent feeding practices associated with clinical feeding problems. A large-scale study by Williams, Hendy and Knecht (2008) identified six parentally reported feeding practices: ‘set meal rules’, ‘insist food amounts are eaten’, ‘increase intake with food’, ‘use non-food rewards’, ‘become punitive’ and ‘become permissive’. However, only ‘set meal rules’ and ‘use non-food rewards’ predicted problem feeding behaviours. Specific practices within these dimensions were related to restricting foods, sending the child away from the table,
and providing rewards such as activities, praise and making meals fun. Furthermore, none of the parents’ child feeding practices predicted the weight status of the child. These confounding results led the authors to conclude that strategies which parents use are likely to be a result of the child’s behaviour and that the way in which strategies are implemented, rather than the strategy itself, could be implicated in clinical feeding problems.

Feeding strategies associated with the weight status of the child were identified in a similar study by Hendy, Williams, Riegel and Paul (2010) which used validated measures of child eating behaviour (Children’s Eating Behaviour Questionnaire (CEBQ); Wardle, Guthrie, Sanderson & Rapoport, 2001) and parental feeding strategies (Parent Mealtime Action Scale (PMAS); Hendy, Williams, Camise, Eckman & Hedemann, 2009). It was found that from the four feeding strategies assessed (‘positive persuasion’, ‘insistence on eating’, ‘snack modelling’ and ‘special meals’), only ‘special meals’ predicted weight status and decreased dietary variety. Subsequent analysis found that the increased weight status of fussy eaters (indicated by the ‘fussy eating’ subscale of the CEBQ) was mediated by parents providing the child with a meal specially prepared at mealtimes. It was concluded that whilst the use of special meals was useful for improving child weight, it may have perpetuated the limited dietary variety. It was hypothesised that special meals may have been calorie dense but, without further research to confirm or refute this, it is equally as likely that children who were not prepared special meals would simply eat less at mealtimes. In a revision of the PMAS Hendy, Harclerode and Williams, (2016) reported that parents of children with clinical feeding problems who also had medical needs were more likely to implement strategies to increase calorie consumption such as making snacks available rather than those which encouraged the best nutritional choices such as increasing fruit and vegetable consumption, because they were more difficult to maintain in this population. This suggests that parental strategies to manage feeding are responses rather than antecedents to child feeding problems in this population, although further research would be needed to confirm or refute this assertion.

While these results indicate that parents of children with clinical feeding problems engage in maladaptive feeding strategies, it is difficult to determine the reasons parents may employ a particular strategy. Sanders et al. (1993) found evidence to suggest that the age of the child, mother-child interaction, and maternal perceptions may be important factors. They reported that although there was no significant difference between the behaviours of younger children with clinical feeding problems and controls, mothers of younger children
with clinical feeding problems perceived their children to be more difficult to feed at home and more aversive in their behaviour in a higher percentage of meals than mothers of older children with clinical feeding problems. Perceptions of increased mealtime difficulties may suggest that mothers of younger children with clinical feeding problems encounter additional stressors, however, no differences between groups were found between perceptions of marital satisfaction, depression or social support. These results suggest that a deeper understanding of maternal perceptions may provide further insights into the use of maladaptive strategies.

In summary, research suggests that parents of children with clinical feeding problems use feeding strategies that have been found to increase problematic feeding behaviours. These practices include the use of physical or verbal prompts and instructions, attention for appropriate and inappropriate eating, and the use of ineffective consequences such as threats and rewards. Given the methodologies employed, it is not possible to determine whether the feeding strategies used by parents are the cause or consequence of feeding behaviour. It is likely that parents employ these practices in an attempt to encourage their children to eat and counter a child’s problematic feeding behaviour. However further research is needed to understand how and why mothers employ these strategies. There is evidence to suggest that perceptions of difficulties in feeding young children may prompt the parent to employ well-meaning but maladaptive strategies. Over time, this may serve to exacerbate feeding difficulties and encourage the more forceful use of these practices. Research to examine why mothers employ specific maladaptive strategies is lacking.

1.3.3. Psychopathology

There is a long-standing association between maternal psychopathology and clinical feeding problems. This has its foundations in early anecdotal reports about the mothers of children experiencing failure to thrive, who were described as being depressed, sad, helpless and having low self-esteem (Skuse, 1985). Clinical observations and interviews have also described mothers of children with clinical feeding problems as being stressed, anxious, depressed, angry and frustrated (Chatoor et al., 1988; Douglas & Byron, 1996; Harris & Booth, 1992). However, research which has assessed maternally reported anxiety and depression in mothers of children with and without clinical feeding problems has not substantiated these reports (Lindberg, Bohlin, Hagekull & Thrunstrom, 1994). Furthermore, studies using clinically validated measures of psychopathology have shown contradictory results. For instance, research has found no differences between the stress
and depression scores of mothers of children with failure to thrive and a non-clinical control group (Singer, Song, Hill & Jaffe, 1990) and, in a group of mothers of children with clinical feeding problems, no participants reported a score indicative of clinically relevant stress (Greer et al., 2005). Other studies have shown that in a group of mothers of children with clinical feeding problems, all participants reported a score clinically relevant stress score (Garro et al., 2005) and that mothers of children with clinical feeding problems have significantly higher stress levels compared to matched controls (Fishbein, Benton & Struthers, 2016).

Interestingly, this research has utilised the same measure of parenting stress, which was completed by mothers at varying stages of clinical intervention. Children in the study reported by Garro et al. (2005) and Fishbein et al., 2016 had been recently hospitalised due to feeding problems, whereas children in the studies reported by Greer et al. (2005) and Singer et al. (1990) had already entered clinical interventions. This could suggest that the level of stress reported by mothers was related to attempting to manage feeding problems without support and that once mothers who had had accessed the support their child needed, their stress levels decreased. Indeed, research has found a significant reduction in parenting stress as a result of inpatient therapy for a clinical feeding problem (Fishbein et al., 2016).

Consistent with this assertion, mothers of children with failure to thrive perceive their children to be more stressful to care for, less adaptable, more inconsolable and unhappier, compared to mothers in a non-clinical group (Singer et al., 1990). Furthermore, mothers of children with clinically diagnosed feeding problems also perceived mealtimes with their children as being more stressful than controls but, despite this suggesting the presence of an increased number of stressors, mothers did not report significantly higher levels of depression or reduced social support (Sanders et al., 1993). The burden of caring for a child with a clinical feeding problem is a potential mechanism by which stress could influence feeding interactions, given that the emotional burden of childcare has been associated with increased hostility in feeding interactions (Sayer, Pianta, Marvin & Saft, 2001). Research employing a longitudinal design, has found that mothers of children with infantile anorexia experience increases in emotional distress, anxiety, depression, and also difficulty with their own regulation of eating as child feeding difficulties continue over time (Ammaniti, Lucarelli, Cimino, D'Olimpio & Chatoor, 2012).

In research measuring a wide range of psychopathologies, it has been found that mothers of children with failure to thrive have higher diagnosis rates of affective disorders,
personality disorders, psychiatric vulnerability and comorbidity compared to mothers in a non-clinical control group and higher rates of past mental health evaluation and treatment (Polan, Kaplan, Kressler et al., 1991). Although this research indicates a role for maternal psychopathology in failure to thrive, the mechanisms by which psychopathology influences child body weight are not clear. Consistent with these results, more recent research (Ammaniti et al., 2010) has shown that mothers of children with infantile anorexia have significantly higher scores for somatisation, obsessive compulsive behaviour, depression, anxiety, phobic anxiety, paranoid ideation and psychoticism than controls. However, crucially, all domains of psychopathology were associated with interactional conflict and affective state of the dyad, and depression, anxiety, and psychoticism were related to less interpersonal sensitivity and hostility. All these factors were significantly associated with children's food refusal, indicating potential routes through which symptomology might be linked to feeding interactions. This supports previous research which found an association between depression, maternal attunement and clinical feeding problems (e.g. Feldman et al., 2004).

In summary, clinical observations and reports which suggest that mothers of children with clinical feeding problems may be significantly more vulnerable to stress, anxiety and depression are not fully substantiated by empirical research. Research employing a high quality methodology and clinical and non-clinical comparisons (e.g. Ammaniti et al., 2010) offers perhaps the strongest evidence to suggest the relevance of maternal psychopathology. Importantly, it also highlights the relationship between psychopathology and dysfunctions in the feeding interaction as a potential mechanism by which maternal mental health symptoms can impact on child feeding behaviour. Overall, it is difficult to establish causal relationships and the direction in which these relationships occur. Evidence tentatively suggests that high levels of maternal stress may be related to perceptions of burden for parenting a child with a clinical feeding problem and attempting to manage feeding problems without professional support. Alternatively, visible signs of anger and frustration in the mother could lead to stress and food avoidance in the child. Research which could further explain the relationship between maternal psychopathology and/or affective state and maternal feeding practices is lacking.

1.3.4. Cognitions

It has been proposed that an understanding of parental social cognitions, which are the beliefs and attributions that guide parents' perceptions of and responses to their child's behaviour, could be instrumental in highlighting ways in which parents influence the
development of clinical feeding problems (Boddy & Skuse, 1994). However, to date, only a small number of studies have investigated maternal cognitions in relation to clinical feeding problems.

**Attitudes and Attributions**

Examination of the eating and food related attitudes of mothers of children with clinical feeding problems has found that mothers of children with diagnosed feeding problems have different eating attitudes related to dietary restraint, bulimia, concerns about body shape, eating and weight, when compared to mothers of children who do not have clinical feeding problems (Stein, Stein, Walters & Fairburn, 1995). It has been suggested that these cognitions become distorted health beliefs about what constitutes a normal diet for children given that mothers of children with failure to thrive restrict the types of food they offer their children, particularly sweet foods, fattening foods and food perceived to be unhealthy despite their child’s low weight (McCann, Stein, Fairburn & Dunger, 1994). A large percentage of mothers believe their child to be a normal weight or just slightly underweight, despite their children’s weight being at the third centile or below (McCann et al., 1994). According to Costanzo and Woody’s (1985) model, parents’ control over their child’s feeding is motivated by their concerns and perceptions regarding the child’s risk for obesity or when they perceive their child to be incapable of self-control over eating. For some mothers, such concerns about obesity, heart disease and that their child will become junk food dependent, and/or develop eating habits that parents believed were unhealthy, were found to be the cause of an inadequate provision of calories in a small proportion of infants with growth faltering (Pugliese et al., 1987).

Interview data from mothers of preschool children diagnosed with clinical feeding disorders, have also revealed distorted cognitions which indicate an attributional bias towards medical causes for very low body weight and poor growth, despite none of the children having an underlying organic condition (Sturm & Drotar, 1991). An extension of this research which compared clinical and non-clinical families found that the majority of mothers in both groups showed a bias towards medical causes for clinical feeding problems rather than family causes (Sturm, Drotar, Laing & Zimmet, 1997). Furthermore, when asked to assign a cause of growth faltering to their own and another baby, mothers expressed a greater agreement with statements about the other baby than about their own baby (Sturm et al., 1997). This suggests that mothers of children with clinical feeding problems engage in defensive self-serving, external attributions to counter actual or potential blame being directed towards themselves.
Research which has examined both external and internal attributions has found that parents use similar strategies to manage problems such as making special meals made for the child and limiting snacks, although those with external attributions decreased food choices whereas internal attributers increased food choices available to their children (Hendy, Williams, Harclerode, Reigel, 2014). Interestingly, parents who believed that permissive parenting and feeding strategies were responsible for their child’s feeding problem externalised ‘blame’ - reporting that their child’s food refusal behaviour was due to new foods, food brands and food appearance (Hendy et al., 2014). This could suggest that external attributions are used as a coping strategy.

Problem Solving

The use of feeding strategies such as making special meals may also be an attempt to cope with a child’s feeding problem, however research has shown these strategies to be counterproductive – increasing, rather than reducing parental stress and reinforcing undesired feeding behaviour (Blissett, Harris, & Kirk, 2000; Harris & Booth, 1992). Robinson, Drotar and Boutry, (2001) reported that mothers of children with clinical feeding problems had deficits in problem solving ability which motivated the use of maladaptive strategies. They postulated that problem-solving deficits hindered a mother’s ability to make necessary and appropriate changes in childcare in response to their child’s development and suggested that this increased maternal frustration, increased interactional conflict and decrease their sense of competence. Although these findings are based on research measuring maternal problem-solving skills across several parenting domains (childcare, development, interpersonal issues and child management) rather than the management of specific feeding difficulties. In an extension of this research, Martin, Dovey, Coulthard and Southall, (2013) investigated stress and maternal problem-solving strategies around commonly occurring child feeding problems in mothers of children with and without clinical feeding problems. They reported that mothers of children diagnosed with a feeding disorder demonstrated poorer problem-solving skills, producing fewer appropriate strategies and preferred more direct and high-power feeding strategies such as punishment and forcing their will. Whereas mothers in the typically developing group offered more indirect and panned strategies to overcome feeding difficulties. It was also found that as feeding problems increased and became more severe, parental stress increased; and as stress increased, problem-solving ability decreased. Problem-solving is a cognitive process by which the individual identifies or creates coping strategies in
response to a stressful event (Tak & McCubbin, 2002). This suggests that the way in which mothers cope with having a child with a feeding problem may be maladaptive.

Coping

Although there are a large number of studies which report on the negative impact of feeding problems on children and their families (see above for a review), the way in which families cope with the impact of clinical feeding problems is relatively unreported. According to existing models of coping with paediatric chronic conditions (e.g. Tak & McCubbin, 2002) coping involves meeting the demands and challenges of stressful situations through the utilisation of existing resources or developing new resources/behaviours; appraising and reframing the meaning of the crisis, managing multiple stressors and taking direct problem-solving actions. Consistent with this finding, Garro (2004) reported that mothers of children who are hospitalised due to serious feeding problems, used coping strategies which helped them understand the medical situation, such as asking questions or speaking to medical staff, and coping strategies to maintain family integration and use family orientated activities, such as spending time with their spouse, playing with their children, talking to relatives. However, mothers were less likely to use coping strategies which helped to maintain social support and self-esteem (Garro et al., 2004). This is contrary to previously reported findings from research into strategies used by parents of children with anorexia which showed that parents actively sought out social support as a way of coping (Honey & Halse, 2006). Although previous research suggests that mothers of children with clinical feeding problems perceive themselves to have low levels of social support (Lindberg et al., 1994).

Self-Perceptions

The small number of studies which have investigated maternal self-perceptions in the context of clinical feeding problems have found differences between mothers of children with and without clinical feeding problems. Lindberg, Bohlin, Hagekull & Thunstrom, (1994) reported that mother of children with clinical feeding problems reported that they perceived themselves to have lower levels of maternal competence. Benoit, Zeanah & Barton (1989) reported similar findings but they also found that mothers of children without clinical feeding problems, who were insecurely attached, reported significantly higher levels of competence than mothers of children with clinical feeding problems who were insecurely attached. This suggests that maternal perceptions of competence might act as a buffer to attachment difficulties. Further to this, Feldman, Keren, Gross-Rozval,
and Tyano, (2004) found that mothers of children with clinical feeding problems perceived themselves to have lower levels of maternal self-efficacy than mothers of typically developing children and mothers of children with diagnosed developmental conditions. Suggesting that mothers of children with feeding problems may be at higher risk for perceptions of low maternal self-efficacy.

Blissett, Meyer, Farrow et al., (2005) hypothesised that a possible mechanism by which maternal cognitions influence the feeding relationship, is through the association between feeding interactions and core beliefs’. Core beliefs are maladaptive schemas that develop from early negative interpersonal experiences (Blissett et al., 2005, suggesting that negative core beliefs underlie unhealthy functioning within the mother-child dyad. Blissett et al., (2005) found that in non-clinical populations, core beliefs of abandonment, dependence/ incompetence, enmeshment, and defectiveness/shame were correlated with maternally reported feeding problems and negative mealtime interactions in mothers of girls. In contrast, emotional deprivation and subjugation beliefs were correlated with maternal reports of fussiness and refusal in boys and maternal perceptions of failure to achieve were correlated with all measures of feeding difficulty. Furthermore, in a longitudinal design, Farrow and Blissett (2006) found that maternal reports of feeding difficulties were predicted by low levels of self-esteem, higher levels of emotional deprivation and entitlement core beliefs and lower levels of self-sacrifice and enmeshment core beliefs during pregnancy. This suggests a role for maladaptive self-beliefs in the development of feeding difficulties in non-clinical populations. Although differences in self-esteem have not been found in comparisons of mothers of children with and without clinical feeding problems (Benoit et al., 1989), to date core beliefs have not been investigated in in clinical populations.

Mind Mindedness

Mind-mindedness is a mother’s ability to consider her child as an individual (Meins & Fernyhough, 1999). High levels of mind-mindedness predict sensitive parenting and positive child outcomes (Meins Fernyhough, De Rosney et al., 2012). In the feeding context, longitudinal research has found that high levels of mind mindedness in mothers of children aged 6 months of age, was directly predictive of more positive and sensitive maternal behaviours during feeding with the child at one year (Farrow & Blissett, 2014). Given that children with clinical feeding problems have been found to exhibit communication signals that are not clear for the mother to read (Lindberg et al., 1996) and mothers have been found to have reduced maternal sensitivity to the child’s needs
Mind-mindedness may be an important factor to consider in the development and maintenance of feeding problems, however research investigating mind-mindedness in mothers of children with feeding problems is lacking.

In summary, cognitive factors relating to clinical feeding problems are limited and varied and research has, for the most part, not explained the mechanisms by which maternal cognitions might influence child feeding behaviour. Although research has suggested a possible mechanism is through the influence of core beliefs or maternal min-mindedness on mother-child feeding interactions, this has not been replicated in clinical samples. Research does suggest, however, that negative family outcomes may be mediated by the mother’s coping ability, and self-concepts such as self-efficacy. These cognitive factors are of particular interest to the development of interventions to support families of children with clinical feeding problems because they have the potential to be modified. Despite this, research which has sought to understand the role that maternal cognitive factors might play in clinical feeding problems and, crucially, in the role maternal cognitive factors play in the mother-child feeding interaction is underrepresented in the literature.

1.3.5. Section summary

The existing literature suggests that mothers are likely to shape clinical feeding problems through the attunement they have with their child, the feeding practices that they use, through the impact of psychopathologies, and their cognitions regarding eating and coping, problem solving and self-perceptions. It is difficult to draw conclusions about the relative importance of individual factors. This is mainly due to a paucity of research examining a comprehensive range of maternal factors within a single sample. As a result, the current understanding of the relevance of maternal factors must be drawn from multiple studies. The problem inherent to this approach is that there is some inconsistency between reported findings; for example, maternal stress has (Singer, et al., 1990) and has not (Greer et al., 2005) been associated with clinical feeding problems. Nevertheless, taken together, the research outlined in the section above suggests that maternal characteristics and predispositions, cognitions and contextual factors can have a negative impact on maternal behaviour during feeding interactions over time.

It has been proposed that an understanding of parental cognitions, that is the beliefs, emotions and attributions that guide parents’ perceptions of and responses to their child's behaviour and environment, and the context in which feeding problems occur, could be instrumental in highlighting how parenting practices are related to the development of
clinical feeding problems, offering a direction for future research (Boddy & Skuse, 1994; Nicholls & Viner, 2009). To date, research has focussed on a narrow range of predefined ideas about the wider context in which clinical feeding problems occur, with research typically examining social support and family conflict. Furthermore, there is a lack of research which has investigated the role of maternal cognitions in the development of clinical feeding problems, in particular, the way in which maternal self-concept can influence the mother-child feeding interaction. Therefore, maternal cognitions and the wider context in which clinical feeding problems in children occur are highlighted as potential gaps in the current understanding of maternal influences implicated in the development of clinical feeding problems in children.

1.4. Child Factors Associated with Clinical Feeding Problems

The focus of this literature review, and thesis, is on maternal factors associated with clinical feeding problems in children, however, this section will consider factors relating to the child which can contribute to clinical feeding problems and to mother-child interactions during feeding.

1.4.1. Physical or Medical Conditions

Clinical feeding problems commonly occur due to underlying physical or medical conditions, such as anatomical disorders, food allergies, cystic fibrosis and disorders of the gastrointestinal tract, however these feeding problems are different from those arising from a psychological aetiology because they can be treated medically (Haas, 2010; Heyman, Eicher & Alavi, 1995; DeMoor, Didden & Tolboom, 2005). However, clinical feeding problems associated with a medical or physical condition and those with psychological causes are not mutually exclusive; they commonly occur together and interact (Berlin Davies, Lobato, & Silverman, 2009; Budd et al., 1992; Levy et al., 2009; Rommel et al., 2003). Feeding problems with a mixed aetiology, also known as 'complex cases', are very common (Dovey et al., 2010) because physical or medical conditions can result in negative associations around food and feeding for the child, which can lead to the development of behaviours such as food refusal, selectivity around types or textures of food and a general aversion to feeding persisting once the condition has resolved (Field, Garland, & Williams 2003; Haas, 2010; Luiselli & Luiselli, 1995). It is also possible that some conditions (e.g. mild reflux, poor gastric motility/gastric emptying, food allergies or celiac disease) may be undiagnosed but result in a reduced appetite or food refusal (Field et al, 2003; Fortuna & Scheimann, 2008; Haas, 2010; Heyman et al., 1995;
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Kerzner, 2009; Manikam & Perman, 2000). Once a physical or medical condition is resolved and the feeding problems persists, it is likely that a behaviourally based, clinically diagnosable, feeding problem has developed (Ayoob & Barresi, 2007).

1.4.2. Sensory Sensitivity

Sensory hyper-sensitivity (also referred to as sensory defensiveness or just sensory sensitivity within the literature) refers to discomfort arising from visual, olfactory, taste or textural input. In children with clinical feeding problems, hyper-sensitivity to the texture and taste characteristics of certain foods is common and is likely to result in refusal of that food and potentially other, similar foods (Berlin et al., 2009; Smith Roux, Naidoo, & Venter, 2005). During the weaning period, when exposure to new tastes and textures is essential for the development of normative feeding behaviour, sensitivity can be particularly problematic because the child is likely to be averse to the sensory characteristics of these foods on their hands, face and mouth (Miller Burklow, Santoro et al., 2001). Sensory sensitivities can also be a feature of pervasive developmental disorders such as Autistic Spectrum Disorder (Lockner, Crowe & Skipper, 2008) but are also common within typically/normally developing children (Baranek & Berkson, 1994). Hypo-sensitivity refers to the under responsiveness to sensory input, and this can also be problematic for the development of normative feeding behaviour because the sensory input that is needed to signal the presence and position of foods in the mouth is too weak (Berlin, Lobato, Pinkos, et al., 2011; Case-Smith, 1989; Morris, 1989). As a result, food cannot be well controlled in the mouth which can cause additional chewing and swallowing difficulties (Case-Smith, 1989; Cloud, Ekvall & Hicks, 2005) and is also linked to a reduced motivation to eat (Case-Smith, 1989; Cloud et al., 2005).

1.4.3. Temperament

A difficult temperament is characterised by behaviour that is more emotional, difficult to console, inadaptable, fussy and demanding than that observed in child peers (e.g., Ammaniti et al., 2010; Hagekull, Bohlin & Rydell, 1997). Difficulties regulating behaviour and emotions during early childhood are related to an increased likelihood of feeding problems, and deficits to adaptive behaviour and social skills (Schmid, Schreier, Meyer, & Wolke, 2010). A difficult temperament can interfere with this process due to the child's inflexibility towards dietary changes; the child may also be easily distracted during feeding and could be difficult to calm if they are emotional during feeding (e.g. Micali, Simonoff,
Stahl & Treasure, 2011). However, it is the combination of the child’s ability to self-regulate and the parent’s ability to understand and respond appropriately to the child cues which are fundamental to the development of successful feeding interactions (Hagekull et al., 1997). Maternal factors have been found to mediate the relationship between child temperament and feeding where the mother interprets the child’s temperament as being wilful or non-compliant and responds with maladaptive strategies to manage the behaviour (Ammaniti et al., 2010).

1.4.4. Section Summary

Research which has investigated the role of child characteristics and their relationship with feeding behaviour suggests multiple factors that might play a role in the way that mothers respond to feeding difficulties. In a study examining the contribution of maternally perceived child characteristics to problematic feeding in a non-clinical sample, it was found that problematic child feeding behaviour was explained by child hyperactivity and conduct difficulties and maladaptive maternal responses to feeding difficulties was associated with perceived child social deficits (Aldridge, Dovey Martin & Meyer, 2016). Although this research has not been replicated within a clinical sample, it highlights the importance of the interplay between maternal perceptions of the child and their role how mothers respond to feeding difficulties.

1.5. The Theory of Self-Efficacy

Self-efficacy (Bandura, 1977, 1986, 1997) refers to the way in which an individual evaluates their capability to perform a particular behaviour. It is not a global or fixed personality trait which can be generalised between unrelated domains of functioning but rather a dynamic system, which varies according to the changing demands of the task, the individual and the situation (Bandura, 1989). According to the theory of self-efficacy (Bandura, 1986), how individuals judge their abilities in a given domain of functioning, can play a major role in how goals, tasks, and challenges are approached. Individuals with high self-efficacy, that is those who believe they have the ability to perform well, are more likely to successfully perform a given behaviour than individuals with low self-efficacy, that is those who have less belief in their ability to perform well (Bandura, 1977, 1986, 1997). This is because highly efficacious individuals are more likely to view difficult tasks as something to be mastered and will subsequently initiate new behaviours and persevere in their attempts in the face of impending failure (Bandura, 1997). In contrast, individuals
with low self-efficacy tend to view difficult tasks as threats and will avoid situations that put their capabilities under pressure or will give up quickly in situations which present barriers to the successful performance of a behaviour (Bandura, 1997).

1.5.1. Maternal Self-Efficacy

The theory of self-efficacy (Bandura, 1977, 1986, 1997) provides a useful framework in which to examine the mother’s role in parenting as it posits that how an individual judges their ability to perform a given behaviour can play a major role in the way they approach related goals, tasks, and challenges. Effective parenting, conceptualised as parenting practices that nurture optimal physical, emotional, social, and cognitive development in children, involves the ability to successfully perform several fundamental tasks. These tasks include, but are not limited to, the provision of safety and sustenance, socio-emotional support, adequate stimulation and instruction, surveillance and monitoring, structure and social connectedness (Bradley, 2007). Attaining proficiency in the performance of these tasks, in accordance with the child’s ever changing developmental needs, can prove to be challenging even under the most optimal conditions (O’Brien, 1996). Hence in the application of self-efficacy to parenting, parenting can be viewed as a domain of behavioural functioning, consisting of numerous challenging tasks.

In accordance with the basic tenets of self-efficacy theory (Bandura, 1977, 1986, 1997), maternal self-efficacy is described as the degree to which a mother perceives herself as capable of performing the necessary tasks associated with the parenting role (Coleman & Karraker, 2000). Maternal self-efficacy has been used to predict a variety of maternal and child outcomes such as: fear of childbirth (Lowe, 2000); infant crying behaviour in the postpartum period (Bolten, Fink & Stadler, 2014); maternal separation anxiety (Hsu & Sung, 2008); and, maternal ability to care for an infant (Froman & Owen, 1989). In mothers of young children, maternal self-efficacy has also been found to predict discipline style (Sanders & Wooley, 2005), problem solving and resourcefulness (Johntson & Mash, 1989), and involvement in school activities such as homework (Hoover-Demsey, Bassler & Brissie, 1992).

In terms of atypical child development, self-efficacy in mothers of preschool children has been found to predict child conduct disorders in later years and to predict coping and adjustment in parents of children with autism (Pakenham, Sofronoff, & Samios, 2004; Weaver, Shaw, Dishion & Wilson, 2008). Maternal self-efficacy also mediates the effects of child behaviour problems on anxiety and depression and the effects of parenting stress.
on maternal depression in mothers of children with autism (Hastings & Brown, 2002; Rezendes & Scarpa, 2011). This research shows that maternal self-efficacy has been well evidenced within the parenting literature. It has been found to predict and mediate maternal and child outcomes across the transition to motherhood and throughout early childhood. Maternal self-efficacy can also be applied to normative and atypical child development. This suggests that maternal self-efficacy may be an important factor to consider in understanding the role of the mother in the management of clinical feeding problems in children.

1.5.1.1. Maternal Self-Efficacy and Problematic Child Feeding

Within the broad field of child feeding behaviour, maternal self-efficacy has been predominantly used to determine breast feeding initiation and duration (e.g. Bythe Creedy, Dennis, Moyle et al., 2002; Dennis & Faux, 1999) but has also been used to predict general feeding competence (Carruth, Ziegler, Gordon, & Hendricks, 2004), and responsive maternal behaviour during feeding (Donovan, Taylor, & Leavitt, 2007). Furthermore, maternal self-efficacy has been positively associated with increased fruit and vegetable intake and decreased snacking and intake of energy dense foods in young children (Campbell, Hesketh, Silverii, & Abbott, 2010). Despite the applicability of maternal self-efficacy across this broad range of maternal and child feeding behaviours, only a small number of studies have reported findings relating to the relationship between maternal self-efficacy and clinical feeding problems in children.

Interviews with mothers of children who require enteral feeding have shown that providing physical nourishment to a child is considered to be one of a mother's most fundamental responsibilities. The inability to feed a child can have profound effects on perceptions of self-efficacy, and confidence in parenting resulting in mothers feeling personally responsible for their child's feeding disorder (Craig, Scambler & Spitz, 2003; Powers, Bryars, Mitchell et al., 2002; Spalding & McKeever, 1998). Interviews with mothers of children with clinical feeding problems have also revealed that mothers express a great deal of anxiety about their children's eating and feel that they had lost confidence in their ability to parent (Timini et al., 1997).

Further to this, research by Lindberg et al. (1994) found that, when compared to non-clinical controls, mothers of children with clinical feeding problems reported less positive perceptions of parenting (measured in terms of lower levels of competence), less
pleasure and increased irritation with the child. Mothers of children with clinical feeding problems also have lower levels of maternal self-efficacy than mothers of typically developing children and mothers of children with diagnosed developmental conditions (Feldman et al., 2004). Importantly, it has been reported that maternal self-efficacy might act as a buffer to attachment difficulties. Specifically, Benoit et al. (1989) found that mothers of children without clinical feeding problems reported significantly higher levels of competence than mothers of children with clinical feeding problems. While maternal self-efficacy had not been the main focus of this research, the results suggest that mothers of children with clinical feeding problems are a population particularly at risk for experiencing low levels of maternal self-efficacy. Low levels of maternal self-efficacy have the potential to negatively affect perceptions of parenting and therefore the mother-child relationship. Increasing maternal self-efficacy in mothers of children with clinical feeding problems may be useful for improving outcomes for families affected.

1.5.1.2. Conceptualisation and Measurement of Maternal Self-Efficacy

In accordance with Bandura’s (1977; 1986; 1997) conceptualisation of self-efficacy, measures of self-efficacy should be tailored to the particular domain of functioning under investigation. However, within the domain of parenting, there is variability in how self-efficacy is conceptualised and measured. Three different approaches to measuring self-efficacy in the domain of parenting have been described within the literature (see Coleman & Karraker, 1997; Jones & Prinz, 2005 for reviews). These approaches are domain-general, domain-specific and task-specific.

The domain-general approach is based on measures of global self-efficacy (e.g. General Self-Efficacy Scale; Schwarzer & Jerusalem, 1995), however, questions have been adapted to focus on the broad role of parenting, without reference to specific tasks associated with parenting. For example, the item “I can solve most problems if I invest the necessary effort” from the global self-efficacy measure (Schwarzer & Jerusalem, 1995), which refers to problem solving ability in general, is adapted in a domain specific approach to “The problems of taking care of a child are easy to solve once you know how your actions affect your child” (Johnston & Mash, 1989). The domain-general approach is often measured using the Parenting Sense of Competence Scale (PSOC: Gibaud-Wallson & Wandersman, 1978; Johnston & Mash, 1989), which has shown associations between parenting self-efficacy and inconsistent discipline (Hill & Bush, 2001) and perceptions of child emotionality (Coleman & Karraker, 2000).
The domain-specific approach focuses on perceptions of competence across a number of discrete dimensions of parenting, such as providing nurturance and healthcare. The Self-Efficacy for Parenting Tasks Index-Toddler Scale (Coleman & Karraker, 2003) is a domain-specific approach which measures seven dimensions of parenting: emotional availability, nurturance, protection, discipline, teaching, play, and structure and has evidenced associations between parenting self-efficacy and parenting satisfaction (Coleman & Karraker, 2000) and positive family functioning (Sevigny & Loutzenheiser, 2010).

The task-specific approach focuses on parents’ perceptions of their efficacy for performing specific tasks associated with the parenting role, such as playing with the child and feeding the child. Task-specific parenting self-efficacy is often measured with the Maternal Efficacy Questionnaire (Jones & Prinz, 2005; Teti & Gelfand, 1991), which has demonstrated associations between parenting self-efficacy and observed parenting competence (Teti & Gelfand, 1991) and dyadic conflict (Raver & Leadbetter, 1999).

A comparison conducted by Coleman and Karraker (2003) of the three different approaches to measuring maternal self-efficacy has supported the utility of the domain-specific approach over the domain-general approach in predicting several dimensions of child behaviour (e.g. compliance, affection, negativity). However, to date, only the domain-general measure (Parenting Sense of Competence Scale; Gibaud-Wallson & Wandersman, 1978) has been employed in the study of clinical feeding problems (Feldman et al., 2004). Therefore, it is unclear whether the domain-general, domain-specific or task-specific approach is the most effective way, in terms of predictive utility, to measure maternal self-efficacy in the context of feeding problems in children. Determining the most predictive measure of maternal self-efficacy would be helpful for increasing the current understanding of the relationships between maternal self-efficacy and problematic feeding behaviour in children and maternal management of feeding problems.

1.5.2. Sources of Self-Efficacy Information

The theory of self-efficacy (Bandura, 1977; 1986; 1997) states that beliefs about one’s self-efficacy are created and developed from four main sources of information: 1) Mastery experiences, 2) Vicarious experience, 3) Verbal persuasions, and 4) Physiological state. Mastery experiences are direct experiences of success and failure in performing a particular behaviour and, therefore, according to Bandura mastery experiences are the most influential source of self-efficacy. Experiences of success raise an individual’s
appraisal of their self-efficacy, especially where success has been acquired in the face of difficulty, and experiences of failure serve to lower appraisals of self-efficacy, especially if failure occurs early in the course of events before a robust belief about one’s efficacy has been firmly established (Bandura, 1979; 1986; 1997).

The second most influential source of information is vicarious experience. Vicarious experience is a form of social learning based on social comparisons; people make judgements about their own capabilities by comparing themselves to observations or visualisations of people similar to themselves. Observing failure in people who are judged as having a lesser ability does not impact on effort, however, observing failure in people perceived to possess similar ability can lower self-perceptions of ability and reduce effort.

Verbal persuasions are suggestions about one's ability in performing a particular behaviour and are the third most influential source of self-efficacy information (Bandura, 1977; 1986; 1997). It is proposed that the power of verbal persuasion alone is limited and based on an individual's belief in what they are told. To be successful the persuasion must be a realistic appraisal of competence, this is because an unrealistic appraisal of competence invites failure. Persuading individuals of their capabilities is likely to produce from a source credible to the individual greater sustained effort which leads to success (Bandura, 1999). However, it is easier to undermine self-efficacy with verbal persuasion than it is to produce lasting increases; those who are persuaded of their lack of efficacy tend to avoid challenging activities and give up quickly in the face of adversity.

According to Bandura (1979; 1986; 1997), the least important determinant of self-efficacy, is considered to be an individual’s physiological state. Bandura has conceptualised physiological state as being somatic or emotional arousal in stressful or anxiety provoking situations. This state of arousal in such circumstances can be interpreted as a sign of vulnerability to dysfunction which can impair an individual's performance in a given behaviour by diverting attention away from how to effectively manage the situation to concerns about failure and mishaps. Individuals who believe that they are inefficacious in their ability to cope may dwell on their personal deficiencies and produce the dejecting, ruminative thoughts associated with depression, creating the belief that tasks are harder than they are. As such, individuals are more likely to feel efficacious when they are not experiencing strong arousal (Bandura, 1979; 1986; 1997).

A systematic search of the parenting literature identified just two studies which have investigated sources of self-efficacy information, either individually or in combination, as
sources of parenting self-efficacy. A recent study by Cassé, Oosterman and Schuengel (2015) used an experimental design to examine the effects of positive and negative verbal persuasions on self-efficacy and subsequent ability to successfully perform a childcare task. Results showed that positive verbal persuasions of efficacy resulted in increases in parenting self-efficacy and were associated with task performance success. However, increases in parenting self-efficacy were not maintained following a manipulation to produce task failure. While this study offers support for Bandura’s assertion that it is more difficult to raise self-efficacy than to undermine it, the design of the study limited the findings about verbal persuasion. This was due to investigators informing the study’s participants about their performance success or failure in the task prior to their completion of the measure of parenting self-efficacy. Feedback about success or failure in performing a particular behaviour reflects mastery; therefore, participants’ perceptions of efficacy were influenced by verbal persuasion and mastery, rather than verbal persuasion alone.

The second study (Biehle & Mickleson, 2011) examined the development of parenting self-efficacy during the transition to parenthood using proxy measures of mastery experiences, emotional arousal, and verbal persuasion. Participation in childcare tasks was used to assess mastery experiences, emotional support was used to measure verbal persuasion, and scales measuring anxiety and depression symptoms were used to assess physiological arousal. Contrary to Bandura’s assertion that mastery experiences constitute the strongest predictor of self-efficacy, physiological state (anxiety and depressive symptoms) was found to be a strong predictor of parenting self-efficacy (Biehle & Mickleson, 2011). The relative contribution of mastery to parenting self-efficacy was limited, however, by the authors measuring mastery as the division of childcare tasks between mother and father. This conceptualisation does not closely reflect Bandura’s original description of mastery which is individuals’ direct experiences of success and failure (Bandura, 1977). The absence of a measure of vicarious experience also prevents a comparison of the relative importance of each individual source of self-efficacy information which would have increased the strength of the results found.

A systematic search of the literature revealed that there is currently no research that has investigated the contribution of sources of self-efficacy information in the context of feeding problems. Therefore, this was highlighted as a potential gap in the literature and as an opportunity for novel investigation. Biehle and Mickleson (2011) examined parenting self-efficacy using proxy measures of mastery experiences, emotional arousal,
and verbal persuasion. A similar approach could be employed to explore the contribution of sources of self-efficacy information in parents of children with clinical feeding problems.

In the context of child feeding, mastery experiences could be gained through the outcomes of maternal feeding practices. Experiences of failure, which reflect a lack of mastery in feeding, are often encountered by mothers of children with clinical feeding problems during their attempts to encourage their children to eat (e.g. Hendy et al., 2010; Piazza et al., 2003; Woods et al., 2010). Verbal persuasions of efficacy could be provided to the mother via social contacts in the mother’s environment and also from attunement feedback from the child. Research also shows that mothers of children with clinical feeding problems report low levels of social support and lower levels of satisfaction with social support (e.g. Lindberg et al., 1994) and also have poor attunement with their child (Hagekull et al., 1997; Lindberg et al., 1996). This could indicate that they have fewer social contacts to provide verbal persuasions and that those relationships are not supportive, perhaps indicating a lack of positive persuasion.

As highlighted by Biehle and Micklesson (2011), vicarious experience appears to be a difficult construct to measure. However, evidence suggests that parents of children with clinical feeding problems feel relieved at meeting other families with feeding difficulties when they enter clinical intervention because they have the opportunity to meet similar others (Douglas & Harris, 2001). However, the extent to which mothers make social comparisons is unclear from existing research. Although Bandura (1977; 1986; 1997) suggests that physiological state (physiological or emotional arousal) constitutes the least influential source of self-efficacy information (see section 1.5.2 for full explanation), there is a substantial amount of research to show that mothers of children with clinical feeding problems experience higher levels of anxiety, stress and depression than non-clinical controls (e.g. Drewett, Blair, Emmett & Emond, 2004; Douglas & Byron, 1996; Greer et al., 2008). Given the amount of research which has highlighted links between clinical feeding problems and anxiety, stress or depression, this may suggest that, in the context of clinical feeding problems, physiological state (measured in terms of emotional arousal: anxiety, stress or depression) may exert a greater influence on an individual’s appraisal of their efficacy than has been suggested by Bandura (1998; 1986; 1997). Further research would be needed to confirm or refute this assertion.

1.5.3. Section Summary
Self-efficacy (Bandura, 1977, 1986, 1997) refers to the way in which an individual evaluates their capability to perform a particular behaviour. The theory of self-efficacy (Bandura, 1977, 1986, 1997) can be used to examine the mother’s role in parenting as it posits that how individuals judge their ability to perform a given behaviour can play a major role in the way they approach related goals, tasks, and challenges. Maternal self-efficacy has been well evidenced within the parenting literature and has been found to predict and mediate maternal and child outcomes across the transition to motherhood and throughout early childhood and can be applied to normative and atypical child development. Although, evidence to date suggests that mothers of children with clinical feeding problems are a population particularly at risk for experiencing low levels of maternal self-efficacy. Low levels of maternal self-efficacy have the potential to negatively affect perceptions of parenting and therefore the mother-child relationship. Despite this, maternal self-efficacy has not been the main focus of research in the domain of clinical feeding problems in children. Furthermore, there is currently no research that has investigated the contribution of sources of self-efficacy information as sources of parenting self-efficacy in the context of clinical feeding problems. However, sources of information could be investigated using proxy measures of self-efficacy information. Improving maternal self-efficacy in mothers of children with clinical feeding problems may be important for improving the health and wellbeing of families affected by clinical feeding problems.

1.6. Summary of Extant Literature

The preceding literature has shown that feeding problems affect a large number of children and their families. A pattern of food refusal which is consistent and persistent, coupled with intense disruptive behaviours, may ultimately develop into a clinically diagnosable feeding problem. Both non-clinical and clinical feeding problems have the potential to result in serious physical, nutritional and psychosocial outcomes for children and their families. The behavioural manifestations of feeding dysfunctions tend to be evident long before the associated physiological effects become apparent (Aldridge, Dovey, Martin & Meyer, 2010) and, given the time between the onset of difficulties and the age of children entering clinical intervention, this suggests that families must attempt to manage problematic feeding for a considerable amount of time in the absence of professional support. Therefore, gaining an understanding of parent perceptions of problematic child feeding behaviours and a comparison of the ways in which parents attempt to manage normative and clinically significant problematic feeding behaviours
may be useful for researchers and clinicians who aim to develop interventions at a community and a clinical level.

Theories of the aetiology of clinical feeding problems have increasingly reflected the complex interplay of child and parent biological, behavioural, and social factors (Sanders et al., 1993). As such, clinical feeding problems have been conceptualised as secondary to impairments in the child’s physical and psychosocial development which are secondary to characteristics of the parent or family system (Davies et al., 2006). The existing literature pertaining to maternal factors associated with clinical feeding problems supports this assertion, suggesting that mothers are likely to shape the development of clinical feeding problems through the feeding practices that they use, through the impact of psychopathologies, and through cognitions such as distorted beliefs and attitudes towards eating, their cognitions regarding coping, problem solving and self-perceptions.

It is difficult to draw conclusions about the relevance of these maternal factors. This is due to the paucity of research which has examined a comprehensive range of maternal factors, compounded by literature which currently contains a narrow range of predefined ideas about the wider familial context in which clinical feeding problems occur. Furthermore, there is a lack of research which has investigated the role of maternal cognitions in the development of clinical feeding problems, in particular the way in which maternal self-concept can influence the mother-child feeding interaction and the way in which mothers manage clinical feeding difficulties. Therefore, an understanding of the wider context in which clinical feeding problems in children occur, and an understanding of maternal cognitions, are highlighted as potential gaps in the current understanding of maternal factors which might be associated with clinical feeding problems in children.

Given that maternal self-efficacy theory (Bandura, 1977, 1986, 1997) posits that how individuals judge their ability to perform a given behaviour can play a major role in the way they approach related goals, tasks, and challenges, an investigation of maternal self-efficacy may provide novel insights into the ways in which mothers manage the challenge of feeding children with clinical feeding problems. Research also suggests that mothers of children with clinical feeding problems are a population particularly at risk for experiencing low levels of maternal self-efficacy. Low levels of maternal self-efficacy have the potential to negatively affect perceptions of parenting and therefore adversely impact on the mother-child relationship. Despite this, maternal self-efficacy had not been the main focus of research in the domain of clinical feeding problems in children and therefore little is
known about how this construct should be measured and factors that determine mothers’ levels of self-efficacy.

1.7. Thesis Aims

The broad aim of this thesis is to investigate maternal experiences of parenting children with and without clinical feeding problems, to provide novel insights into the wider context in which clinical feeding problems occur. Maternal self-efficacy, that is the perceived level of confidence a mother has in her ability to perform the tasks and duties which she associates with the parenting role (Coleman & Karraker, 2000), was identified as an area worthy of further study in the context of feeding problems in children. This was initially based on a review of existing literature which revealed a paucity of literature which had investigated maternal self-efficacy in relation to child feeding problems and subsequently further confirmed as worthy of additional exploration as a focus of this thesis by the results of study 1; which identified maternal self-efficacy as an integrative theme. The specific aims of this thesis are listed below, with the relevant chapter numbers. These aims and potential pathways between maternal parenting, maternal self-efficacy, problematic child feeding behaviour and maladaptive maternal responses to problematic child feeding, which are investigated in this thesis, are presented in Figure 1.1.

1. To explore and compare maternal experiences and perceptions of parenting children with and without clinical feeding problems (Chapter 3).

2. To explore the four theoretical sources of self-efficacy information (mastery experiences; verbal persuasion; vicarious experience; physiological state) in mothers of children with and without clinical feeding problems (Chapter 4).

3. To examine four different approaches to measuring maternal self-efficacy (general self-efficacy; domain-general parenting self-efficacy; domain-specific parenting self-efficacy and task-specific parenting self-efficacy) to determine which conceptualisation is the strongest predictor of problematic child feeding behaviour (Chapter 5).

4. To examine four different approaches to measuring maternal self-efficacy to determine which measure is the strongest predictor of maladaptive maternal responses to problematic child feeding behaviour (Chapter 5).
5. To examine sources of self-efficacy information (mastery experiences; verbal persuasion; vicarious experience; physiological state) as predictors of maternal self-efficacy in mothers with children with a range of feeding behaviours (Chapter 6).

6. To examine sources of self-efficacy information (mastery experiences; verbal persuasion; vicarious experience; physiological state) as predictors of problematic child feeding behaviour (Chapter 6).

7. To examine sources of self-efficacy information (mastery experiences; verbal persuasion; vicarious experience; physiological state) as predictors of maladaptive maternal responses to problematic child feeding behaviour (Chapter 6).

8. To explore parenting dimensions and tasks associated with maternal perceptions of maternal self-efficacy in mothers of children exhibiting a range of feeding behaviours (Chapter 7).
Figure 1.1: Model to show potential pathways between maternal parenting experiences, maternal self-efficacy, sources of self-efficacy information, problematic child feeding behaviour and maladaptive maternal responses to be investigated in this thesis.
2. General Methodology

2.1. Introduction

This chapter outlines the methodologies used in the studies contained within this thesis. This thesis adopts a mixed methods approach to data collection and analysis, employing a variety of quantitative and qualitative approaches. This chapter describes ethical considerations, the definition of, and criteria used to identify, a clinical feeding problem, participants, recruitment procedures, methodologies and analyses used in each study.

2.2. Ethical Considerations

All of the studies within this thesis received ethical approval from the Loughborough University Ethics Approvals (Human Participants) Sub-Committee. Study 1 was granted approval on 19.11.2010 (reference number: 901), study 2 was granted approval on 24.10.2011 (reference number: 1114), study 3 was granted approval on 02.12.2011 (reference number: 1163), and study 4 was granted approval on 27.11.2012 (reference number: 1383). A number of studies within this thesis contain what is described as a clinical sample however NHS ethical approval was not required. This was because the focus of the research was mothers of children who had received a clinical diagnosis and not the child who had been diagnosed. The mothers of children with a diagnosed feeding disorder, who were involved in this research, were recruited through an independent psychology service and not through an NHS service. None of the studies in this thesis involved collecting data directly from children.

2.3. Participants, Inclusion and Exclusion Criteria

2.3.1. Participants

Participants involved in this research were mothers of children with and without clinical feeding problems. Data reported in this thesis were collected prior to the publication of the DSM-V (APA, 2013) which has amended the classification of feeding disorders to
Avoidant/Restrictive Food Intake Disorder (ARFID). Therefore the diagnostic criteria for a feeding disorder in this thesis were based on the DSM-IV-TR, (2000) criteria for a Feeding Disorder of Infancy or Early Childhood. This was also supported by a diagnosis from a clinical psychologist who acknowledged the relevance of poor nutritional intake which aligns with DSM-V criteria. Consequently, the weight status of children was not considered to be indicative of the feeding disordered status of any child and therefore child weight was not recorded in any study contained within this thesis.

2.3.2. Definitions of Clinical and Non-Clinical Feeding Problems in this Thesis

Throughout this thesis, a distinction is made between 'non-clinical' and 'clinical' feeding problems. The literature review (section 1.2) acknowledged that disparate descriptions and criteria are used within the existing literature. The following section will outline the criteria used in all of the studies contained within this thesis. At the time data were collected for this thesis, a working party had been established to review the DSM-IV-TR (APA, 2000) criteria for Feeding Disorder of Infancy and Early Childhood. Given the uncertain diagnostic criteria for a feeding disorder at the time of data collection, the term 'clinical feeding problem' is used throughout this thesis to describe feeding behaviours exhibited by children, where the outcome is a failure to maintain an appropriate weight and/or poor nutritional intake and/or psychosocial dysfunction which had been identified as a disordered feeding pattern by a clinician. The term 'non-clinical feeding problem(s)' is used interchangeably with the term 'problematic child feeding behaviour', both terms indicate a pattern of child feeding behaviour which is considered to be problematic by the child's mother but had not been identified as a disordered feeding pattern by a clinician.

Study 1 (Chapters 3 and 4) recruited a clinical (N=9) and a non-clinical sample (N=9). The sample in study 2 (Chapter 5) consisted of a small clinical sample (N=15) and a large non-clinical sample (N=263). Study 3 (Chapter 6) also consisted of a small clinical sample (N=8) and a large non-clinical sample (N=209) and study 4 (Chapter 7) was an entirely non-clinical sample (N=13). Recruitment information was distributed across a large geographical area of the UK, which included a range of ethnic and socio-economic groups. Demographic information for participants in individual studies is in reported in each chapter.

2.3.3. Inclusion and Exclusion Criteria

All participants were required to be 18 years old or over to remove the need for parental consent and chaperoning. Participants were also required to be the biological mother of a
child who was at least 6 months of age and under 7 years of age. This was to enable a comparison of clinical and non-clinical samples, taking into account one of the diagnostic criteria for a feeding disorder (DSM-IV; APA, 1994), which requires the child to have an age of onset prior to 6 years of age and to have experienced failure to gain or maintain weight for at least one month. A lower child age limit of 6 months was included to capture children that had begun the weaning process and had an established feeding pattern with solid food. The research included questions relating to pregnancy and birth; therefore all participants were required to be the biological mother of their child. Mothers who had a child under the age of 6 months or over 7 years, and mothers who were not the biological parent of their child were excluded from the research.

Participants included in clinical samples were mothers who had a child with a diagnosis of a feeding disorder. It was recognised that it is common for clinical specialists, such as paediatricians, dieticians and speech and language therapists, to receive referrals for serious feeding problems. Therefore, participants who had a child who had been referred to a clinical psychologist or other specialists involved in the care of children with feeding disorders (dietician; speech and language therapist) were included in the clinical samples for studies 2 and 3.

On the demographics questionnaire (Appendix 1), participants were asked to indicate if their child had ever seen a specialist (a dietician, a speech therapist or a psychologist) for a feeding issue. Participants who answered ‘yes’ to this question then indicated if they had been discharged. Participants who had seen a specialist and had not been discharged were identified as having a ‘Current Referral’ in order to accurately describe the sample in terms of the range of treatment-seeking behaviour. These participants were included in studies requiring a clinical sample (Study 1) and studies that investigated a range of child feeding behaviour including clinical feeding problems (Studies 2 and 3). Participants who had a child with a diagnosis of a feeding disorder secondary to a disability which significantly affected their physical and cognitive abilities were excluded from the research.

Mothers included in the non-clinical samples had children with a wide range of feeding behaviours, from normative to problematic, but did not have a diagnosed feeding disorder at the time of data collection. Mothers of children who had never been referred to a specialist for a feeding problem were identified as ‘Never Referred’ in order to describe the sample in terms of the range of treatment-seeking behaviour. These participants were included in the non-clinical sample for study 1 and studies that investigated a range of
child feeding behaviour (Study 2, 3 and 4). For all studies, where mothers had more than one child fitting the inclusion criteria, they were asked to participate in the research with the youngest child in mind, to control for bias towards children with problematic feeding behaviours. This child was referred to as the target child.

Mothers of children who had been referred to a specialist for a feeding problem but had subsequently been discharged were identified as having a ‘Historical Referral’ in order to describe the sample in terms of the range of treatment-seeking behaviour. These participants were excluded from study 1, which required distinct clinical and non-clinical samples. However, these participants were included in studies that investigated a range of child feeding behaviour (Studies 2, 3 and 4) although the reason for their discharge (e.g. closure of the service, inappropriate referral, no problem found or child recovery) was not recorded.

Table 2.1: Inclusion and exclusion criteria for clinical and non-clinical samples within this thesis

<table>
<thead>
<tr>
<th>Inclusion Criteria</th>
<th>Exclusion Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Clinical Sample</strong></td>
<td></td>
</tr>
<tr>
<td>Parent</td>
<td>Parent</td>
</tr>
<tr>
<td>18 years old or over</td>
<td>Under 18 years old</td>
</tr>
<tr>
<td>Biological mother to a child*</td>
<td>Mothers not the biological parent of a child*</td>
</tr>
<tr>
<td>Child</td>
<td></td>
</tr>
<tr>
<td>Aged 6 months to 7 years</td>
<td>Under the age of 6 months or over</td>
</tr>
<tr>
<td>Under the current care of a specialist (psychologist; speech and language therapist; dietician) due to a feeding problem</td>
<td>Discharged from the care of a specialist (psychologist; speech and language therapist; dietician) for a feeding problem</td>
</tr>
<tr>
<td></td>
<td>Feeding problem secondary to a disability affecting cognitive or physical ability</td>
</tr>
<tr>
<td><strong>Non-Clinical Sample</strong></td>
<td></td>
</tr>
<tr>
<td>Parent</td>
<td>Parent</td>
</tr>
<tr>
<td>18 years old or over</td>
<td>Under 18 years old</td>
</tr>
<tr>
<td>Biological mother to a child*</td>
<td>Mothers not the biological parent of a child*</td>
</tr>
<tr>
<td>Child</td>
<td></td>
</tr>
<tr>
<td>Aged 6 months to 7 years</td>
<td>Under the age of 6 months or over</td>
</tr>
<tr>
<td>Discharged from the care of a specialist (psychologist; speech and language therapist; dietician) for a feeding problem</td>
<td>Under the current care of a specialist (psychologist; speech and language therapist; dietician) due to a feeding problem</td>
</tr>
</tbody>
</table>
2.4. Recruitment

2.4.1. Clinical Samples

A clinical psychologist, who was employed by an independent UK psychology service and who coordinated a feeding disorders support group for parents in the Midlands region of the UK, was contacted to help recruit participants into the clinical samples. This was to ensure a clinical diagnosis had been given as per the inclusion criteria. The researcher attended several group sessions and gave mothers verbal information about the research and asked for volunteers to take part. Each mother who expressed an interest in participating was given written information about the research and the researcher's contact details. Mothers were given the choice of arranging to participate in the research at the end of the session or by contacting the researcher directly at a later date.

Initially, a total of thirteen participants were recruited from the feeding support group to participate in research for this thesis; one participant was excluded because her child had a feeding disorder which was secondary to multiple disabilities and three participants withdrew from the first study prior to data collection. A total of nine mothers participated in study 1. From this original group of participants, nine were retained, five withdrew prior to data collection and four participants took part in study 2. Four participants were retained for study 3 but subsequently withdrew prior to data collection. None of the originally recruited participants took part in study 3 or study 4. Three additional participants were recruited from the feeding support group to participate in study 4. Although these participants took photographs for study 4, they declined to participate in interviews and were therefore excluded from the study.

To recruit additional participants for studies 2 and 3, online versions of the questionnaires used in study 2 and study 3 were produced using Bristol Online Surveys (www.onlinesurveys.ac.uk). This is a Loughborough University approved and licensed method of online data collection which provides a cost effective method to access participants from a wider geographical area of the UK. Advertisements, giving brief details of the research and the website address, were placed on consenting online parenting forums and distributed at the feeding support group, pre-school playgroups, nurseries and primary schools across the Midlands of the UK. The website address was also included
on the participant information sheets for studies 2 and 3. Study 1, which required clinician diagnosed feeding disorder, did not recruit participants online.

The online version of the questionnaires provided exactly the same participant information as the paper versions and required that participants gave informed consent and applied the existing participant inclusion and exclusion criteria for clinical samples. Participants indicated their informed consent by typing a 'X' in a box adjacent to each item on the informed consent form and providing a unique identification code. The online questionnaire was formatted so that participants who did not type an 'X' in every box on the informed consent page were unable to proceed with the online questionnaire.

A total of fifteen participants in study 2 and eight participants in study 3 identified their child as being currently diagnosed with a disordered feeding pattern by a clinician (clinical feeding problem), however, it is important to consider that this was self-reported and not confirmed by a clinician. Furthermore, the date of diagnosis was not recorded therefore the sample may have included participants at different stages of intervention. However, analysis for studies 2 and 3 relied on maternally reported feeding behaviour and not clinical and non-clinical classification. The recruitment, attrition and retention of clinical participants is detailed in Table 2.1.

2.4.2. Non-Clinical Samples

Coordinators of pre-school playgroups, managers of pre-school nurseries and head teachers of primary schools across the Midlands region of the UK were contacted by telephone to help recruit participants into non-clinical samples. At consenting pre-school playgroups, the researcher attended several sessions, gave mothers verbal information about the study and asked for volunteers to take part. Mothers who expressed an interest in participating were given written information about the research and the researcher’s contact details; they were also given the choice of arranging to participate in the research at the end of the session or by contacting the researcher directly at a later date. Pre-school nurseries and schools that consented were given a pack containing written information about the research, the researcher’s contact details and, where relevant, questionnaires to send home with children. Mothers who were interested in participating in studies 1 and 4 contacted the researcher directly. A total of 600 questionnaire packs for studies 2 and 3 were distributed to mothers attending preschool playgroups, pre-school nurseries and primary schools.
In order to recruit additional non-clinical participants for studies 2 and 3, online versions of the questionnaires in study 2 and study 3 were produced using Bristol Online Surveys (www.onlinesurveys.ac.uk). Advertisements, giving brief details of the research and the website address, were placed on several online parenting forums and distributed to pre-school playgroups, nurseries and primary schools across the Midlands of the UK. The website address was also included on the participant information sheets for studies 2 and 3. Study 1, which required clinician diagnosed feeding disorder, did not recruit participants online.

The online version of the questionnaires provided exactly the same participant information as the paper versions, applied the same participant inclusion and exclusion criteria and required participants to give their informed consent. Participants indicated their informed consent by typing an 'X' in a box adjacent to each item on the informed consent form and providing a unique identification code. The online questionnaire was formatted so that participants who did not type an 'X' in every box, on the informed consent page were unable to proceed with the online questionnaire. Participants who did not meet the inclusion criteria or did not give informed consent were unable to proceed with the online questionnaire.

It was not possible to determine whether any participants in the non-clinical samples had children with serious feeding problems, therefore, the non-clinical samples may have included participants whose children had a serious feeding problem. However, analysis of studies 2 and 3 relied on maternally reported questionnaire scores and not clinical and non-clinical classification. All participants were given a written debrief which provided signposting to appropriate support, in the event that they felt that they needed professional support for themselves or their child. The recruitment, attrition and retention of non-clinical participants is detailed in Table 2.1.
**Table 2.1: Recruitment, attrition and retention of clinical and non-clinical participants for studies within this thesis**

<table>
<thead>
<tr>
<th>Recruitment Location:</th>
<th>Feeding Group</th>
<th>Online</th>
<th>Playgroup, Nursery, School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical Status:</td>
<td>CR</td>
<td>CR</td>
<td>HR</td>
</tr>
<tr>
<td>Study 1: N = 18</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recruited</td>
<td>13</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Excluded</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Withdrew</td>
<td>3</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Participated</td>
<td>9</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Group Total</td>
<td>9</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Study 2: N = 278</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retained</td>
<td>9</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Recruited</td>
<td>-</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Excluded</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Withdrew</td>
<td>5</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Participated</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Group Total</td>
<td>4</td>
<td>66</td>
<td></td>
</tr>
<tr>
<td>Study 3: N = 215</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retained</td>
<td>4</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Recruited</td>
<td>-</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Excluded</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Withdrew</td>
<td>4</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Participated</td>
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<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Group Total</td>
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<td>74</td>
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<tr>
<td>Study 4: N = 13</td>
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</tr>
<tr>
<td>Retained</td>
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<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Recruited</td>
<td>3</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Excluded</td>
<td>3</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Withdrew</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Participated</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Group Total</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

CR = Current Referral; HR = Historical Referral; NR = Never Referred; - = Not Applicable
2.5. Quantitative Measures and Procedures

2.5.1. Questionnaire Measures

Demographics Questionnaire

The demographics questionnaire (Appendix 1) was developed by the researcher and requested information about participants and their children. These included participant gender, age, ethnicity, marital status, education, employment status and child age and gender. For the purpose of identifying participants for clinical samples, questions determining the clinical status of the child in accordance with the inclusion and exclusion criteria (see section 2.4) were also included. Children were identified as having a ‘Current Referral’, a ‘Historical Referral’ or as ‘Never Referred’ to a specialist for a feeding problem.

Behavioural Paediatrics Feeding Assessment Scale (BPFAS: Crist & Napier-Phillips, 2001)

The BPFAS (Appendix 2) is a 35 item questionnaire which measures 25 mealtime behaviours in children aged 7 months to 7 years (e.g. “My child enjoys eating”) and 10 parent feelings and strategies associated with poor nutritional intake (e.g. “I get frustrated and/or anxious when feeding my child”). Participants respond to each item on a 5-point scale ranging from 1 (never) to 5 (always) indicating how often each of the 35 behaviours described in the items occurs. In addition to this, participants indicate whether each of the 35 behaviours was a problem for them by responding ‘yes’ or ‘no’ to the question “Is this a problem for you?”. The questionnaire produces four domain scores: child behaviour-frequency, child behaviour-problems, parent behaviour-frequency, and parent behaviour-problems. Frequency scores reflect how often parent and child behaviours occur and problem scores reflect the number of behaviours considered to be a problem by the parent. A total of 10 items are reverse scored: 6 on the child-behaviour frequency domain and 4 on the child-behaviour frequency domain. Possible scores on the child behaviour-frequency subscale range from 25 to 125 and from 10 to 25 on the parent behaviour-frequency subscale. Possible scores on the child problem subscale range from 0 to 25 and from 0 to 10 on the parent problem subscale. Higher scores suggest problematic child feeding behaviours and maladaptive parental strategies for managing problematic feeding behaviour in children. This feeding measure was selected for use throughout this thesis due to its well documented validity and reliability across clinical and non-clinical samples (Crist, McDonnell, Beck et al., 1994; Marshall, Raatz, Ward, & Dodrill, 2015) and
test-retest validity (Crist, Dobbelsteyn, Brousseau & Phillips, 2004), and also for its ability to discriminate between clinical and non-clinical samples of children with feeding problems with a high level of accuracy (Dovey, Jordan, Aldridge & Martin, 2013).

**General Self-Efficacy Scale (GSES: Schwarzer & Jerusalem, 1995)**

The GSES (Appendix 3) is a 10 item scale which measures the optimistic self-beliefs used to cope with a variety of demands in life (e.g. “Thanks to my resourcefulness, I can handle unforeseen situations”). Participants respond to each item on a 4-point scale, ranging from 1 (not at all true) to 4 (exactly true). No items are reverse scored. Possible scores range from 10 to 40 with higher scores suggesting stronger general self-efficacy beliefs.

**Parenting Sense of Competence (PSOC: Johnston & Mash, 1989)**

The PSOC (Appendix 4) is a 17 item scale measuring domain-general self-efficacy. It consists of two subscales: ‘efficacy’ which reflects competence, problem solving ability and capability and ‘satisfaction’ which reflects parenting frustration, anxiety and motivation. In the current thesis only the ‘efficacy’ subscale of the PSOC was used in order to assess domain-general maternal self-efficacy. The seven item efficacy subscale reflects competence, problem solving ability and capability (e.g. “Being a parent is manageable and any problems are easily solved”). Participants respond to each item on a 6-point scale ranging from 1 (disagree strongly) to 6 (agree strongly). No items are reverse scored. Possible scores on the efficacy subscale range from 8 to 48 and possible scores on the satisfaction subscale range from 9 to 54. Higher scores suggest stronger self-efficacy beliefs. Construct validation for the PSOC has found the efficacy subscale to possess sufficient internal consistency reliability (Johnston & Mash, 1989) and has been validated for use with parents of younger children (Coleman & Karraker, 2003).

**Self-Efficacy for Parenting Tasks Index - Toddler Scale (SEPTI-TS: Coleman & Karraker, 2003)**

The SEPTI-TS (Appendix 5) is a 53 item scale measuring domain-specific parenting self-efficacy. This measure consists of seven subscales which measure self-efficacy across different domains of parenting: 1) emotional availability (e.g. “When my child needs me, I am able to easily put aside whatever else I may be doing”), 2) nurturance, valuing the child, and empathetic responsiveness (e.g. “My toddler knows that I understand when his/her feelings are hurt”), 3) Protection from harm or injury (e.g. “I am very good about
never leaving my child unattended”), 4) Discipline and limit setting (e.g. “Setting limits for my toddler is relatively easy for me”), 5) Play (e.g. “I can always think of something to play with my child”), 6) Teaching (e.g. “I believe my toddler learns a great deal from my efforts to show him/her things”) and 7) Instrumental care and establishment of structure and routines (e.g. “I have been able to establish a daily routine with my toddler that feels comfortable to both of us”). For the purpose of this thesis, the word “toddler”, which is used interchangeably with the word “child” throughout the scale, was changed to “child” to maintain consistency and to suit the age range of children involved in the research. Participants respond to each item on a 6-point scale ranging from 1 (strongly disagree) to 6 (strongly agree). A total of 21 items across the domains are reverse scored. Possible scores range from 53 to 318, with higher scores suggesting stronger self-efficacy beliefs. The scale has been validated for use with parents of young children demonstrating internal consistency reliability (Coleman & Karraker, 2003).

Maternal Efficacy Questionnaire (MEQ; Teti & Gelfand, 1991)

The MEQ (Appendix 6) is a 10 item scale which measures task-specific maternal self-efficacy. Within the scale, nine items measure self-efficacy beliefs about specific infant care tasks (e.g. “Understanding your child’s needs and wants”), and one item measures general feelings of competence in parenting (“In general, how good a parent do you feel you are”). Participants respond to each item on a 4-point scale ranging from 1 (not good at all) to 4 (very good). No items are reverse scored. Possible scores range from 10 to 40, with higher scores indicating stronger maternal self-efficacy beliefs. Internal consistency of the MES has been documented (Teti & Gelfand, 1991) and the measure has been validated for use with parents of young children (Corpaci & Wachs, 2002; Teti & Gelfand, 1991).

Social Support Questionnaire-6 (SSQ-6: Sarason, Sarason, Shearin & Pierce, 1987)

The SSQ-6 (Appendix 7) is a 6 item scale measuring social support. It consists of two subscales: number and satisfaction. The number subscale reports the number of people who provide support and their relationship to the individual across six situations in which social support might be important (e.g. when under pressure, when feeling down in the dumps, or when very upset). The number of people offering support, from zero to a maximum of nine, is added to create a number score, with a higher score indicating more people to offer support to the individual. The satisfaction subscale measures satisfaction with the level of social support available. Participants respond to each item on a 6-point scale ranging from 1 (very dissatisfied) to 6 (very satisfied). Possible scores range from 6
to 36, with higher scores indicating higher levels of satisfaction with the support available. No items are reverse scored. With the SSQ–6, it is possible for participants to indicate that they do not have people available to offer support but that they are very satisfied with that level of support. The SSQ-6 is a shortened version of the 27 item SSQ (Sarason, Levine, Basham & Sarason, 1983). The SSQ-6 has been found to correlate significantly with the SSQ and demonstrates high internal consistency and test-retest reliability (Sarason, Sarason & Shearin, 1986).

*The Parenting Stress Index - Short Form (PSI–SF: Abidin, 1990)*

The PSI–SF (Appendix 8) is a 36-item scale measuring parent and child domains of stress. This measure consists of three subscales: 1) The ‘parental distress’ subscale, which measures distress resulting from personal factors such as depression, conflict with a partner and life restrictions due to the demands of child-rearing; 2) The ‘parent–child dysfunctional interaction’ subscale, which measures parental dissatisfaction with interactions with their children and the degree to which parents find their children unacceptable; and, 3) the ‘difficult child’ subscale, which measures parental perceptions of their children’s self-regulatory abilities. Participants respond to each item on a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). No items are reverse scored. Possible scores range from 36 to 180 with higher scores indicating higher stress levels. The PSI–SF is a validated (Abidin, 1990), shortened version of the 101 item Parenting Stress Index (Abidin, 1995). Reitman, Currier and Stickle (2002) found that the measure demonstrated very good internal consistency and was reliable when compared to measures of child behaviour, child adjustment and parent psychopathology. Haskett, Ahern, Ward and Allaire (2006) found the PSI–SF significantly correlated with the PSI and was stable over time.

*Scale for Social Comparison Orientation (SSCO; Gibbons & Buunk, 1999)*

The SSCO (Appendix 9) is an 11 item scale measuring the extent to which people make social comparisons about abilities, opinions and their situation with those of other people, for example comparing accomplishments in life, social skills and popularity. Participants respond on a 5-point scale ranging from 1 (disagree strongly) to 5 (agree strongly). No items are reverse scored. Possible scores range from 11 to 55 with higher scores suggesting a greater tendency for social comparisons. The scales exhibits good test-retest reliability and has been used in female adult populations demonstrating good internal reliability with a Cronbach’s alpha of 0.85 (Gibbons & Buunk, 1999).
2.5.2. Procedures for Quantitative Studies

Studies 2 (Chapter 5) and 3 (Chapter 6), could be completed in either paper or online formats, online versions were formatted with similar layouts and were worded the same way as the corresponding paper versions. All participants completed an informed consent form (Appendix 10) and generated their own unique identifying code to maintain anonymity; this code was used to identify all participant data. All participants then completed the demographics questionnaire and the Behavioural Paediatrics Feeding Assessment Scale. Participants in study 2 also completed the General Self-Efficacy Scale (GSES; Schwarzer & Jerusalem, 1995), the Parenting Sense of Competence scale (PSOC: Johnston & Mash, 1989), the Self-Efficacy for Parenting Tasks Index - Toddler Scale (SEPTI-TS: Coleman & Karraker, 2003) and the Maternal Efficacy Questionnaire (MEQ; Teti & Gelfand, 1991). Participants in study 3 also completed the Self-Efficacy for Parenting Tasks Index - Toddler Scale (SEPTI-TS: Coleman & Karraker, 2003), the Maternal Efficacy Questionnaire (MEQ; Teti & Gelfand, 1991), the Social Support Questionnaire-6 (SSQ-6: Sarason, Sarason, Shearin & Pierce, 1987), the Parenting Stress Index - Short Form (PSI–SF: Abidin, 1990 and the Scale for Social Comparison Orientation (SSCO; Gibbons & Buunk, 1999). Participants in both studies were then provided with a debrief (Appendix 17) and were given details to enable them to withdraw their data from the research for 48 hours after participation.

2.6. Qualitative Methods and Procedures

2.6.1. Interviews and Interview Schedules

Semi-structured interviews were conducted for study 1 (Chapter 3 and Chapter 4) and for study 4 (Chapter 7), which facilitated a flexible approach to the exploration of participant experiences and perceptions. This method allows the interviewer to ask questions based around topics of interest and gather further information or gain clarification from the interviewee about their responses to questions. Interviews took place in participants’ own homes to enable the interviewee to feel relaxed enough to discuss information of a personal and potentially sensitive nature. Interview schedules were developed by reviewing existing literature pertinent to the research questions and identifying gaps in
knowledge. A conversational style of interview was used which avoided closed or leading questions and adopted a position of ‘talking back’ to the interviewee (Griffin, 1990). To facilitate this style, introductory questions were used at the start of interviews to put the interviewee at ease before asking questions from the schedule. Interview schedules are available in Appendix 10 (Study 1) and Appendix 16 (Study 4).

2.6.2. Autophotography

Autophotography is a research method in which participants are asked to take photographs and choose images that are meaningful to them (Phoenix, 2010) in order to answer a research question. This method allows participants the freedom to choose what is meaningful to them using their own surroundings (Phoenix, 2010). This level of freedom and choice provides insights into the lives of participants and facilitates the production of more authentic data because it enables researchers to look at the participants’ world entirely from their own perspective (Noland, 2006). The method has been widely used to answer broad questions relating to constructions of self-concept, such as personality and identity, in relation to the social environment (e.g. Dollinger, 2002; Dollinger & Dollinger, 1997; Ziller & Rorer, 1985). Given that maternal self-efficacy is concerned with self-referent judgements of parenting ability, which are informed by personal and social influences (Bandura, 1997), autophotography was considered an ideal method for enabling participants to present their own ideas and representations of this self-concept for Study 4 (Chapter 7), which explored parenting tasks and dimensions from the maternal perspective.

2.6.3. Procedures for Qualitative Studies

Prior to participation in interviews for study 1 (Chapter 3 and Chapter 4) and study 4 (Chapter 7), all participants completed an informed consent form (Appendix 10) and generated their own unique identifying code to maintain anonymity; this code was used to identify all participant data. Participants were also given the opportunity to ask questions, were given assurance that personal or identifying information disclosed during the interview would remain confidential and anonymous in transcripts and any subsequent dissemination of the research.

Participants were informed that they did not have to answer any questions they did not want to and that once recording had commenced, it could be stopped at any point during the interview and only restarted if they agreed to continue. All interviews took place in participants own homes. Recorded interviews were stored on a password protected
memory stick and personal or identifying information disclosed during the interview was removed from transcripts. Only the researcher had access to the original recordings. Following the interview, participants completed a demographics questionnaire and a Behavioral Pediatrics Feeding Assessment Scale. They were also given a written debrief (Appendix 17) and a further opportunity to ask questions. Participants were given details to enable them to withdraw their data from the research for 48 hours after participation.

In the autophotography study (study 4, Chapter 7), participants were asked to use their own camera, or a camera that was provided by the researcher, to take at least six photographs, over the course of 7 days, that said something about their level of confidence in performing tasks or duties that they associated with their role as a mother. Participants were then asked to select six of the photographs they had taken, which best reflected their confidence in being a mother and to make a note of the reasons they chose these final six images. They were then asked to send the images by email to the researcher who printed the images out in colour and took them to the interview and to bring their camera/camera phone to the interview, with a data cable that has a USB connection so that the images could be stored by the researcher. Participants then took part in an interview, in their own homes, to talk about what the six photographs meant to them in terms of their parenting confidence. The lay term ‘confidence’ was used rather than ‘self-efficacy’ in order to prevent confusion or uncertainty about the meaning of self-efficacy.

2.7. Analysis

This thesis adopts a mixed methods approach to data collection and analysis, employing a variety of quantitative and qualitative approaches. A mixed methods approach allows the researcher to draw upon the strengths of each methodology to minimise weaknesses which may arise by using a single approach (Johnson & Onwuegbuzie, 2004). This approach can be used interchangeably within a single investigation or to bring together different data sets (Moran-Ellis et al., 2006) to generate new knowledge through a synthesis of findings (Foss & Ellefsen, 2002). Within this thesis, qualitative methods were used in studies 1 and 4 (Chapters 3, 4 and 7) to gather information and insights into experiences and perceptions of parenting children with and without clinical feeding problems. A quantitative approach was used in studies 2 and 3 (Chapters 5 and 6) to measure these perceptions.
2.7.1. Quantitative Analysis

Quantitative data were analysed using the software Statistical Package for the Social Sciences version 22 (SPSS v22). Preliminary analysis was conducted to compare data collected in paper and online formats and to assess the distribution of the data in order to determine the use of parametric and non-parametric tests. In study 2 (Chapter 5), power analysis, which was conducted using G*Power 3.0.10, indicated that a minimum sample of $N = 156$ would be required for a medium effect size and $N = 226$ for a small effect size. This was based on the number of possible predictors (20), the level of power (0.8) and alpha level (0.05) desired. One-tailed Pearson’s correlation analyses were conducted to examine relationships between problematic child feeding behaviours, maladaptive maternal responses to problematic feeding behaviour and maternal self-efficacy measured at global, domain-general, domain-specific and task-specific levels. Stepwise regression analyses were used to examine the contribution of global, domain-general, domain-specific and task-specific self-efficacy to problematic child feeding behaviours and maladaptive maternal responses to child feeding problems.

In study 3 (Chapter 6), power analysis, which was conducted using G*Power 3.0.10, indicated that a minimum sample of $N = 146$ would be required for a medium effect size and $N = 212$ would be needed for a small effect size. This was based on the number of possible predictors (17), and also the level of power (0.8) and alpha level (0.05) desired. One-tailed Pearson’s correlation analyses were used to examine the relationships between problematic child feeding behaviours, maladaptive maternal responses to problematic feeding behaviour, maternal self-efficacy and sources of information about self-efficacy. Hierarchical regression analyses were conducted to examine the contribution of sources of self-efficacy information, self-efficacy, child problematic feeding behaviours and maternal maladaptive feeding strategies. Mediational analyses were also conducted in study 3 using a series of regression analyses to examine the effect of self-efficacy on the relationship between sources of self-efficacy information, and maladaptive maternal feeding strategies.

2.7.2. Qualitative Analysis

Participant interviews from study 1 (Chapter 3 and Chapter 4) and study 4 (Chapter 7) were transcribed verbatim by the researcher and analysed using thematic analysis (Chapter 3), template analysis (Chapter 4), and autophotgraphy (Chapter 7).
Thematic analysis is described by Braun and Clarke (2006, p.79) as “a method for identifying, analysing and reporting patterns or themes with data” with themes capturing “something important about the data in relation to the research question”. In this thesis, thematic analysis was based on the six phase approach outlined by Braun and Clarke (2006). Phase 1 of this approach is to become familiarised with the data through a process of reading and rereading the data, initial interesting ideas or features were underlined and a summary noted in the margins of each transcript. Phase 2 involves generating initial codes, which was achieved by listing interesting ideas and features from each transcript, systematically identifying similarities with other transcripts and assigning a meaning or code to each group of features. In Phase 3, codes generated in Phase 2 are combined to form overarching themes. During this phase visual representations or thematic maps can be produced to aid the process of Phase 4 which is a review of themes. The purpose of the review is to refine themes by re-reading extracts from the transcriptions, ensure the themes form a coherent pattern and produce a satisfactory thematic map. In Phase 5 themes are refined, clear definitions of each theme are generated and assigned names to reflect the ‘story’ of each theme. Phase 6 is the production of a written account of the data, explaining themes using extracts from the transcripts to form a response to the research question. Through extensive studying of the emerging themes, a comprehensive picture of the participants collective experience is formulated (Aronson, 1994).

Template analysis is a combination of an inductive and deductive approach to the coding of data. King (2004; 2012) describes template analysis as a flexible approach to hierarchical coding of data which involves the development of a coding template that can include the use of a priori themes expected to be relevant to the analysis; codes on the template can be modified or deleted as appropriate throughout the analysis. In this thesis, the analysis was based on the six step procedure outlined by Brooks and King (2014). Step 1 is to become familiarised with the raw data to be analysed through a process of reading and rereading the data. Step 2 involves undertaking a preliminary coding of the data by highlighting anything relevant to the research question. In step 3 an initial coding template is developed on a subset of the data with codes organised so that the template usefully and meaningfully represents the relationship between different themes or codes. In step 4 the initial template is applied to more data and modified as necessary. Where existing themes do not “fit” the new data, the template should be modified where necessary with new themes inserted and existing themes redefined or even deleted. Step 5 involves the iterative process of producing different versions of the template, modifying
each template for as long as necessary to allow a rich and comprehensive representation of the data. In step 6 once a final template has been defined it is applied to the full data set and serves as a useful guide and structure to the writing-up of research findings.

Visual analysis, including autophotography has been shaped by several different methods and perspectives (Van Leeuwen & Jewitt, 2000) and, therefore, there is no particular method of analysis for autophotography described in the existing literature. In the current study, the method of analysis outlined by Phoenix (2010) was used as a template. This involved transcribing participant interviews verbatim and assigning either single or multiple units of meaning, or codes, taken from participant interviews, to each participant photograph. These codes were then grouped together and refined into themes and subthemes by the researcher to create a meaningful description of parenting dimensions and tasks that participants associated with the role of being a mother. Further analysis was conducted to determine how these tasks informed maternally reported perceptions of maternal self-efficacy. The final results of the analyses combined participant images and their assigned themes, with the meanings of the themes being supported by quotations taken from participants’ transcripts. Themes and subthemes from the current study were compared to parenting dimensions and tasks reported on the domain-specific parenting self-efficacy measure (SEPTI-TS: Appendix 5) and the task specific maternal self-efficacy measure (MEQ: Appendix 6) and similarities and differences reported in the discussion section.

Coding agreement for the qualitative analyses was established in studies 1 (Chapter 3 and 4) and 4 (Chapter 7) using a second coder who analysed 10% of the data. The second coder was given a list of themes and sub-themes from each analysis, a description of each theme and a sample of transcribed interviews. The second coder was asked to determine the extent to which they found evidence of each of the themes within the sample of data and any discrepancies were discussed until agreement was reached. Checks of the coding process, themes and written work were also made through constant review and discussion with a primary academic supervisor; discrepancies were discussed until agreement was reached. An academic psychologist was then asked to review and comment on the clarity of the final written work. Recommended amendments were discussed with the primary academic supervisor and changes were made where necessary.

2.8. Design of Studies within this Thesis
The design of each study within this thesis, including recruitment of clinical and non-clinical samples, data collection, analysis and the chapter number each study is reported in, is included in Figure 2.1 – Figure 2.4.
Chapter 2

Figure 2.1: Research Design for Study 1

STUDY 1

Qualitative Design

Recruitment

Clinical Sample
Feeding Support Group
N=9

Non-Clinical Sample
Playgroups
Nurseries
Primary Schools
N=9

Total N=18

Data Collection

Interviews

Analysis

Thematic Analysis

Template Analysis

CHAPTER 3

CHAPTER 4
Figure 2.2: Research Design for Study 2

STUDY 2

Quantitative Design

Recruitment

Clinical Sample
Feeding Support Group
Online
Playgroups
Nurseries
Primary Schools
Total N= 15

Non-Clinical Sample
Online
Playgroups
Nurseries
Primary Schools
Total N=263

Total N=278

Data Collection

Questionnaires

Statistical Analysis

CHAPTER 5
Figure 2.3: Research Design for Study 3

STUDY 3

Quantitative Design

Recruitment

Clinical Sample
- Feeding Support Group
- Online
- Playgroup
- Nurseries
- Primary schools
- Total N=7

Non-Clinical Sample
- Online
- Playgroup
- Nurseries
- Primary schools
- Total N=208

Total N=215

Data Collection

Questionnaires

Statistical Analysis

CHAPTER 6
Figure 2.4: Research Design for Study 4

STUDY 4

Qualitative Design

Recruitment

Non-Clinical Sample
- Playgroup
- Nurseries
- Primary schools
- N=13

Total N = 13

Interviews and Photographs

Data Collection

- Interviews
- Autophotography

Analysis

Thematic Analysis

CHAPTER 7
3. Maternal Experiences of Parenting Children With and Without Clinical Feeding Problems

3.1. Introduction

Characteristics inherent to a child, such as developmental and medical conditions, sensory sensitivities, phobias and temperament, are implicated in the aetiology of clinical feeding problems (e.g. Ammaniti, Lucarelli, Cimino, et al. 2010; Burklow & Linsheid, 2004; Field, Garland & Williams, 2003). However, parental factors may also influence and maintain feeding difficulties (Manikam & Perman, 2000). Mothers play a crucial role in the development of feeding behaviour of infants and young children (Satter, 1990) and consequently a substantial amount of research has focused on explicating factors related to the mother that are associated with clinical feeding problems. A wide range of maternal cognitive, behavioural and emotional factors have been associated with clinical feeding problems, including limited problem solving abilities (Robinson, Drotar & Boutry, 2001), stress, anxiety and depression (e.g. Coulthard & Harris 2003; Singer Song, Hill & Jaffe, 1990), insensitivity to child cues (e.g. Hagekull, Bohlin & Rydell, 1997), mismanagement of mealtimes (e.g. Woods, Borrero, Laud & Borrero, 2010), and feeding location (Sanchez & Castillo-Duran, 2004) (See Chapter 1 for a review).

A considerable amount of research related to maternal factors has been informed by clinical observations of mother-child feeding interactions and clinical interviews with mothers about their affective state and family functioning (e.g. Douglas & Byron, 1996; Nicholls, Christie, Randall & Lask, 2001; Piazza, Fischer, Brown et al., 2003). This approach has been invaluable for clarifying the definition and improving identification of disordered feeding (DSM V; APA, 2013). However, it has resulted in research with a focus on a narrow range of predefined ideas about the family context in which clinical feeding problems occur. Typically, research examining familial context has focussed on social support and familial conflict (e.g. Chatoor & Egan, 1983; Lindberg, Bohlin & Hagekull, 1996). Despite the suggestion that clinical feeding problems may be secondary to characteristics of the parent and family system (Davies, Berlin, Sato et al., 2006), and that an understanding of these systems would be useful for improving clinical interventions (Douglas & Harris, 2001; Martin, Southall, Shea & Marr, 2008), there is a paucity of research which has attempted to understand and expand the current view of the family
context in which clinical feeding problems occur. A deeper understanding of a range of maternal factors and their relevance in the wider context in which clinical feeding problems occur, could be gained through an exploration of the maternal perspective.

Early research has highlighted the importance of exploring the maternal perspective of feeding problems (e.g. Douglas & Byron, 1996; Hagekull & Dahl, 1987). However, research is limited by a lack of comparison between clinical and non-clinical groups (e.g. Douglas & Byron, 1996) which might provide insights into the unique context in which clinical feeding problems occur. Research is also limited by a lack of clinical identification of feeding problems (e.g. Hagekull & Dahl, 1987). Clinical identification is important because children in clinical and non-clinical groups often experience similar feeding difficulties (Douglas & Byron, 1996; Martin et al., 2008) yet research employing parent perception typically reports higher prevalence of feeding problems than objective measures (Carruth, Ziegler, Gordon & Barr, 2004; Dahl & Sundelin, 1986). The study by Hagekull and Dahl, (1987) is also limited because families who elected to participate all had children under 12 months of age. The difficulty inherent to focussing on such a narrow age range is that early feeding problems are very common (Reau, Senturio, Lebailly & Christoffel, 1996) and, for many children, these difficulties are transient and developmentally appropriate (Luiselli, 1989; Pliner, Pelchat & Grabski, 1993). Clinical referral is not usually given until problems have persisted and the child is between 2 and 3 years so that children receive an accurate diagnosis (Martin & Dovey, 2010).

In summary, research has identified a wide range of maternal factors that are associated with clinical child feeding problems, but the current understanding of maternal factors is limited. This is due to a paucity of research which has sought to understand the wider context in which clinical feeding problems occur and a paucity of research which has investigated the maternal perspective. The small number of studies which have explored the maternal perspective are limited by the lack of comparison between clinical and non-clinical groups and by focussing on a very narrow child age range. The current study aims to expand on the existing understanding of the maternal perspective and the context in which feeding problems occur, by exploring maternal experiences across the transition to parenthood and the experiences of parenting children under the age of seven, with and without clinical feeding problems. This may provide novel insights into contextual features that are unique to clinical populations, providing future directions for research and clinical intervention to further the development of interventions for children and families affected by clinical feeding problems.
3.2. **Method**

3.2.1. **Participants**

Eighteen mothers of children over the age of six months and less than seven years of age participated in the study. Participants were recruited to either a clinical group (N = 9) or a non-clinical group (N = 9). Participants were recruited to the clinical group if their child had a current diagnosis of a feeding disorder given by a paediatric clinical psychologist. Participants recruited into the non-clinical group were mothers of children representing a range of feeding behaviours but did not have a diagnosed feeding disorder (full details of inclusion and exclusion criteria and the recruitment process in Chapter 2).

Maternal age ranged from 24 to 45 years (M = 34.95, SD = 6.47). In the clinical group, mothers’ age ranged from 24 to 41 years (M = 33.24 years, SD = 5.72). In the non-clinical group mothers’ age ranged from 25 years to 45 years (M = 36.67, SD = 7.05). Age did not differ significantly between the groups ($t(16) = -1.13, p = 0.27$). Five children (28%) were male and 13 children were female (72%). Child age ranged from 8 months to 6 years 6 months, (M = 38 months, SD = 19.32). In the clinical group, child age ranged from 24 months to 6 years 6 months (M = 41.67, SD = 16.14). In the non-clinical group, child age ranged from 8 months to 5 years 5 months (M = 34.56, SD = 22.46). Age did not differ significantly between the groups ($t(16) = 0.77, p = 0.45$). Participants were 89% white, 89% were married or living with a partner, 50% were not in paid employment and 39% worked part-time, 44% had a family income of at least £35,000 and 50% were educated to degree or post graduate level. Demographics of clinical and non-clinical groups are reported in Table 3.1.
Table 2.1: Demographic Characteristics of Clinical and Non-Clinical Participants

<table>
<thead>
<tr>
<th></th>
<th>Clinical Group N</th>
<th>Non-Clinical Group N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>Indian</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>In a relationship</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Living with partner</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Married</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Current Employment Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full time</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Part time</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Not working</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Highest Level of Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NVQ/GCSE</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Degree/Postgraduate</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Annual Family Income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>£35k+</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>£15-35k</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>£5-15k</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

Total N = 18

3.2.2. Materials and Procedure

Following ethical approval, granted by the Loughborough University Ethics Approvals (Human Participants Sub-Committee), the researcher contacted the coordinator of a feeding disorder support group, parent and toddler playgroups and head teachers of primary schools across the Midlands area of the UK to recruit participants. At consenting playgroups and the feeding support group, the researcher attended several sessions and gave mothers verbal information about the study and asked for volunteers to take part. Mothers who expressed an interest in participating were given a written information sheet (Appendix 11) containing the researcher’s contact details or arranged an interview at that time with the researcher. Schools that consented were given written information (Appendix 11) about the study to send home with children under the age of 7 and mothers who expressed an interest in participating contacted the researcher directly to arrange an interview. Mothers who contacted the researcher to arrange to participate were asked to complete an informed consent form (Appendix 10), a demographics questionnaire (Appendix 1), a child feeding questionnaire (Appendix 2) and took part in an interview about their experiences and perceptions of parenting and child feeding.
Demographics Questionnaire

The demographics questionnaire collected information about the mother’s age, ethnicity, marital status, educational level, employment status, household income and the child’s age and gender.


The BPFAS is a 35 item standardised and validated scale measuring 25 mealtime behaviours in young children (aged 6 months to 7 years) and 10 parent feelings and strategies associated with feeding problems in children. The questionnaire produces four domain scores: child behaviour-frequency, parent behaviour-frequency, child behaviour-problems and parent behaviour-problems. Frequency scores reflect how often parent and child behaviours occur and problem scores reflect the number of behaviours considered to be a problem by the parent. Higher scores suggest problematic child feeding behaviours and maladaptive parental responses to problematic child feeding behaviour; see section 2.5.1. In the current sample, Cronbach’s alpha coefficient for the child behaviour-frequency subscale was 0.89 and 0.78 for the parent behaviour-frequency subscale. Cronbach’s alpha coefficient for the child behaviour-problem subscale was 0.92 and 0.86 for the parent behaviour-problem subscale.

Participant Interviews

Interviews took place in participants’ own homes with only the researcher and participant present, these interviews were audio recorded. The aim of this approach was to allow the interviewee to feel relaxed enough to discuss information of a personal and potentially sensitive nature. Semi-structured interviews were conducted to facilitate a flexible approach to the exploration of interviewee experiences and perceptions. This method allows the interviewer to ask questions based around topics of interest and gather further information or gain clarification from the interviewee about their responses to questions. The interview schedule (Appendix 12) was developed by reviewing existing literature about maternal factors associated with child feeding problems, and in consultation with clinical and cognitive-behavioural psychologists. Questions followed a timeline approach to the process of becoming a mother beginning with questions about life before becoming a mother and pregnancy and birth before moving onto questions about initial feeding and weaning experiences. Questions then focused on the present time and were related to
child characteristics and behaviour, typical mealtimes, problematic feeding, and parenting support. Interviews lasted between 16 and 109 minutes (M = 68.89, SD = 23.63).

Immediately prior to each interview, participants were given the opportunity to ask questions, were given assurance that personal information discussed during the interview would be removed and that they would not be identifiable in any subsequent dissemination of the research. It was also explained to participants that they did not have to answer questions they did not want to and that once recording had commenced, it could be stopped at any point during the interview and only restarted if they agreed to continue. A conversational style of interview was used which avoided closed or leading questions and adopted a position of ‘talking back’ to the interviewee (Griffin, 1990). Following the interview, participants were given a full debrief and a further opportunity to ask questions.

3.2.3. Analysis

Interviews were transcribed verbatim and analysed using thematic analysis, based on the six phase approach outlined by Braun and Clarke (2006). Braun and Clarke (2006, p.79) describe thematic analysis as “a method for identifying, analysing and reporting patterns or themes with data” with themes capturing “something important about the data in relation to the research question”. Phase 1 of this approach is to become familiarised with the data through a process of reading and rereading the data, initial interesting ideas or features were underlined and a summary noted in the margins of each transcript. Phase 2 involves generating initial codes, which was achieved by listing interesting ideas and features from each transcript, systematically identifying similarities with other transcripts and assigning a meaning or code to each group of features. In Phase 3, codes generated in Phase 2 are combined to form overarching themes. During this phase, visual representations or thematic maps can be produced to aid the process of Phase 4 which is a review of themes. The purpose of the review is to refine themes by re-reading extracts from the transcriptions, ensure the themes form a coherent pattern and produce a satisfactory thematic map. In Phase 5 themes are refined, clear definitions of each theme are generated and assigned names to reflect the ‘story’ of each theme. Phase 6 is the production of a written account of the data, explaining themes using extracts from the transcripts to form a response to the research question. Through extensive studying of the emerging themes, a comprehensive picture of the participants collective experience is formulated (Aronson, 1994).
3.2.4. Coding Agreement

Coding agreement was established using a second coder who analysed 10% of the data. The second coder was given a list of themes and sub-themes which were produced during the analysis, a description of each theme and a sample of transcribed interviews. The second coder was asked to determine the extent to which they agreed with the themes and sub-themes. In the current study all of the themes and sub-themes were confirmed by the second coder and a further two codes identified by the second coder were discussed but were not included in the final table of codes. Checks of the coding process, themes and written work were also made through constant review and discussion with a primary academic supervisor. An academic psychologist was then asked to review and comment on the clarity of the final written work. Recommended amendments were discussed with the primary academic supervisor and changes were made where necessary.

3.3. Results

3.3.1. Descriptive Statistics

In the clinical group, one participant reported that her child was currently fed through a percutaneous endoscopic gastrostomy (PEG), had a narrowed oesophagus and asthma. Another participant reported that her child had been diagnosed with intrauterine growth restriction and one participant reported that her child had tonsillar hypertrophy and was awaiting surgery.

In the non-clinical sample, one participant reported that the target child had a hiatus hernia and a narrowed oesophagus which had been surgically corrected, and one participant reported that the target child had experienced tonsillar hypertrophy and had subsequently had her tonsils removed. As these medical conditions matched those of two participants children in the clinical group, these participants were not excluded from the study.

Analysis of the Behavioural Paediatrics Feeding Assessment Scale (BPFAS) showed that scores were higher in the clinical sample than in the non-clinical sample across all four subscales. These results followed a pattern reported elsewhere in comparable samples.
(Crist & Napier-Phillips, 2001; Dovey, Jordan, Aldridge & Martin, 2013). As the data were not normally distributed, Mann-Whitney U tests were used to compare clinical and non-clinical scores on the BPFAS subscales. Results showed that only scores on the child behaviour frequency subscale and the child behaviour problem subscales were significantly different (Table 3.2). This indicated that maternal perceptions of the eating behaviour of children differed significantly between the groups, however maternal reports of how they responded to problematic feeding behaviour did not differ significantly.

Dovey et al. (2013) found that a child behaviour-frequency score of at least 61, together with a child problem-frequency score of at least 6, was able to distinguish clinically significant feeding problems from normative feeding problems with 87% accuracy. This result was also found in the current study, with all participants in the clinical sample reporting child behaviour-frequency scores of 61 or greater (range 61-82) and child behaviour problem scores ranging from 4-18. Only one participant reported a score less than 6 on the child behaviour problem subscale (score of 4). This was due to the family having recently entered a clinical feeding intervention which encouraged parents to offer the child foods they would accept rather than previously refused or new foods. This mother reported that doing this had removed a considerable amount of problems the family had been experiencing. BPFAS scores by domain and participant group are shown in Table 3.2.

<table>
<thead>
<tr>
<th>BPFAS Subscale</th>
<th>Clinical Group (N = 9)</th>
<th>Non-Clinical Group (N = 9)</th>
<th>Mann-Whitney U</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Range</td>
<td>Mean</td>
<td>(SD)</td>
</tr>
<tr>
<td>Child Behaviour Frequency</td>
<td>61 – 82</td>
<td>68.11</td>
<td>(7.75)</td>
</tr>
<tr>
<td>Parent Behaviour Frequency</td>
<td>18 – 33</td>
<td>26.56</td>
<td>(4.50)</td>
</tr>
<tr>
<td>Child Behaviour Problem</td>
<td>4 – 18</td>
<td>11.22</td>
<td>(3.77)</td>
</tr>
<tr>
<td>Parent Behaviour Problem</td>
<td>0 – 8</td>
<td>4.44</td>
<td>(2.65)</td>
</tr>
</tbody>
</table>

*p < 0.05
3.3.2. Thematic analysis

Groups were analysed separately before being analysed together to identify differences and similarities. Four main themes were identified: ‘Feeding’; ‘Transition to Motherhood’; ‘Social Support’; and ‘Child Characteristics’, with each theme having a number of subthemes as summarised in Table 3.3. Similarities and differences between the clinical (c) and non-clinical (nc) groups were identified within each theme and are outlined below. Following the descriptive analysis, an interpretative approach was used which aimed to characterise the data set. This resulted in the identification of one integrative theme: ‘Maternal Self-Efficacy’, which permeated and connected all of the main themes. Differences in the maternal self-efficacy of mothers in the clinical and non-clinical groups are discussed below.

**Table 3.4: Themes identified in the analysis of participant interviews**

<table>
<thead>
<tr>
<th>Themes</th>
<th>Subthemes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Feeding</td>
<td>1.1 Early Feeding Difficulties</td>
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<tr>
<td></td>
<td>1.2 Current Feeding Difficulties</td>
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<tr>
<td></td>
<td>1.3 Mealtime Environment</td>
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<tr>
<td></td>
<td>1.4 Feeding Strategies</td>
</tr>
<tr>
<td>2. Transition to Motherhood</td>
<td>2.1 Parenting Expectations</td>
</tr>
<tr>
<td></td>
<td>2.2 Pregnancy &amp; Birth</td>
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<td></td>
<td>2.3 Parenting Style</td>
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<tr>
<td></td>
<td>2.4 Maternal Identity</td>
</tr>
<tr>
<td>3. Social Support</td>
<td>3.1. Instrumental &amp; Emotional Support</td>
</tr>
<tr>
<td></td>
<td>3.2. Daughter-Mother Relationship</td>
</tr>
<tr>
<td>4. Child Characteristics</td>
<td>4.1 Temperament</td>
</tr>
<tr>
<td></td>
<td>4.2 Non-Feeding Behaviour</td>
</tr>
</tbody>
</table>

*Integrative Theme: Maternal Self-Efficacy*
Theme 1: Feeding

The theme ‘Feeding’ describes maternal experiences and perceptions of feeding children. It consists of four sub-themes relating to early feeding difficulties, current feeding difficulties, the mealtime environment and feeding strategies that mothers employ to encourage their children to eat.

1.1. Early Feeding Difficulties

In the clinical and non-clinical groups, mothers talked about difficulties they had experienced with early feeding. In both groups, mothers reported that breastfeeding difficulties such as reflux, low milk supply and their child’s failure to gain weight had prevented them from continued breast feeding although there was no discernible difference between the groups. Weaning difficulties were reported by two mothers in the non-clinical group and by all mothers in the clinical group. In all but one case, mothers in the clinical group believed that a respiratory or gastric illness had triggered or exacerbated difficulties accepting textured or lumpy foods and delayed the weaning process. Interestingly, mothers in the non-clinical group, who reported similar difficulties with weaning, had children with medical conditions relating to the digestive tract and respiratory system.

“He loved his food he was a really healthy baby and then I think it was it was either just before his first birthday or just after his first birthday, he had a gastro bug… he was really sick, he was really violently sick and since then he just wouldn’t eat and his eating got less and less and more fussy in what he would eat” (c4)

“She was very nasal all the time and you know a colic baby and then she sort of outgrew that and then when we started giving her a bit of rice milk that seemed to be ok…the minute you put anything with a slight little lump she would gag and she would bring it right up…then I noticed the yoghurts - she started to gag at that but that had no lumps…it just got worse and worse and the minute she turned one that’s just when it went downhill” (nc3)

1.2. Current Feeding Difficulties

In the clinical group, mothers described problematic feeding behaviours such as gagging, choking and vomiting when attempting to eat textured or solid foods and refusal of solid foods based on texture, brand of food and/or a specific food group (i.e. proteins and
vegetables). These difficulties were described as a continuation of weaning difficulties that had persisted to the present time.

“It was when we were going from puree foods to the lumpy food and he just used to gag [and] the pieces of carrot would just come up, he couldn’t even do jelly, biscuits, anything, he’s choked on biscuits, mushed up food…he would literally just gag and he’d just choke on it” (c1)

In the non-clinical group, most mothers had experienced similar current problematic feeding behaviours to those reported by mothers in the clinical group, such as children refusing meals or certain foods, based on their texture, brand and/or specific food group (i.e. vegetables and proteins). However, the majority of problems were not experienced during weaning and were not a continuation of weaning difficulties and were intermittent.

“I’m always worried about his little stomach shrinking, that’s probably my biggest worry cos then they won’t eat more but then, he surprises us sometimes eating like a huge portion of pasta” (nc6)

Mothers in the clinical group reported that the most common foods rejected by their children were fruit, vegetables and meat. Where solid foods were accepted, mothers in the clinical group stated that they tended to be plain carbohydrates such as mashed potato, pasta and bread; foods that could be sucked or chewed until soft such as biscuits, chocolate, cakes and breakfast cereals, and foods that could be swallowed without chewing such as yoghurt and ice-cream.

“He eats yoghurt, a bit of mashed banana and yoghurt, bit of custard, sometimes dry breakfast cereal, biscuits, chocolate, cheese, that’s about it” (c5)

Mothers in both clinical and non-clinical groups said that their children had displayed food neophobia and had also rejected previously accepted foods.

“He just wouldn’t try anything new at all, wouldn’t try anything, he was just stuck on the things that he eats” (c6)

“He loved roast potatoes last month now he’s not touching it and he hasn’t had the vegetables and he doesn’t really eat a lot of meat” (nc6)

Some mothers in the clinical group reported that their children were not interested in food and had a small appetite; this may have been related to a consistently reported problem
in the clinical group which was that children expressed a preference for drinks rather than food, which may have interfered with appetite.

“I think a big problem is fluid intake, I’ve never known a child to drink so much, I’ve actually had to curb what he drinks because it was drink after drink after drink after drink, which obviously could have been a problem why he didn’t eat, you know, he was filling himself up” (c3)

Four mothers in the non-clinical group had been, or were currently, very concerned about their child’s feeding behaviour. Two mothers were concerned that their children were eating a restricted diet; however, they were eating a variety of foods from different food groups.

“The only vegetables he will eat with no protest is carrot, potato and he will bite florets off a bit of broccoli…and cucumber…and with fruit it’s apples, grapes and bananas” (nc7)

Two mothers in the non-clinical group reported that their children had medical conditions that had resulted in prolonged feeding difficulties with an onset during weaning. Following surgical intervention, one child’s feeding problems had completely resolved and one child still had some difficulties.

“She’d sort of had the textures in her mouth before so, I suppose because she sort of knew what to do…once she got home after she had the operation she was really good, I gave sort of small things that you know, that are easy to chew and just built them up quite gradually” (nc2)

“[my child’s eating is] slow, [she] still finds it hard to chew, stores food in her mouth, is more experimental [sic]. Though on the other hand, she does try, I’ll give her that much…she’s very nervous around food, but she will try” (nc3)

1.3. Mealtime Environment

Mealtime environments were described differently by mothers in clinical and non-clinical groups. Mothers in the non-clinical group described mealtimes as a time to sit together and be sociable with other family members. In the clinical group, where families did sit together, they were less interactive and focussed mainly on getting the child to eat.

“I do believe that the family mealtimes should be about sharing information and chatting…sometimes I’ll say “oh what have you been doing today” and
he’ll [partner] say “just let him eat his dinner for a bit you know cos this is why we are getting the problems with him talking” (nc1)

“My sister actually has [child] quite a lot for tea…it’s better that [child] actually gets that food in” (c6)

Some mothers in the clinical group had only recently introduced a table at mealtimes, having previously allowed children to eat whilst watching the television. In the non-clinical group mealtimes tended to take place at a dinner table and distractions such as the television removed.

“I didn’t have space for a dining table down [at] the flat but when we moved here obviously with the kitchen being as big as it is I’ve got a dining table in there and that really helps because he’s not in front of the telly and if I’d have turned the telly off while he was eating in front of the telly he’d have kicked off and that would have made it ten times worse” (c4)

“We always sit in there [dining room] we never ever have the telly on” (nc2)

Mothers in the non-clinical group demonstrated an awareness of the importance of modelling, which was not as apparent in the clinical group.

“It worries me enormously to have someone who’s got an outward problem with eating, in a household where you’re raising children” (nc 7)

“The funny thing is, I was at my mum and dad’s the other week and we were all sitting down at the table and he said “I want a plate with that food on”. He’s never asked that before, so we put him some peas on [a plate], and some runner beans, and some potato and I couldn’t believe it, out of nowhere [he] put the peas in his mouth and ate them; picked up a runner bean and nibbled the end and he didn’t like that; [he] put some potato in his mouth and swallowed a bit of that, and I thought, “that’s out of nowhere”…I just thought “what triggered it that day?”” (c5)

1.4. Feeding Strategies

Mothers in both groups reported that they used a variety of strategies such as coaxing, bargaining and giving food incentives or rewards, to encourage their children to eat.
“If you don’t eat your main course you don’t get a little treat or something afterwards” (nc2)

“If he’s gonna eat it he’ll eat it, if not I’ll try you know “do you want mummy to feed you?” and then my aunty will say [to the child] “do you want me to feed you?”” (c3)

Although it was not a preferred strategy for mothers in either group, mothers in the clinical group and mothers in the non-clinical group, who were very concerned about their child’s eating behaviour, had offered alternative foods or meals. Mothers in the clinical group used this strategy because it had been suggested by their clinician to maintain calorific intake in the child and to remove mealtime stress.

“I have replaced foods which I’m not happy about it ‘cos I always think he should eat what’s on the plate but at the end of the day he has to eat something” (nc6)

“At the moment he’s no problem because he’s not being challenged, [I] just give him what he wants and he eats it” (c6)

Mothers in the clinical group tended to encourage snacking, either as meal replacement or to compensate for low intake during meals. In the non-clinical group, mothers believed snacks would interfere with a child’s appetite and tended not to give them.

“I always find, to stay away from the sort of snacking even with much fruit and things in the morning cos then they’ll sit down and eat their dinner properly” (nc2)

“He’s better snacking” (c2)

Distractions (such as toys and other play items) during mealtimes were discouraged by mothers in the non-clinical group whereas for some mothers in the clinical group they had been used to purposefully distract children and aid feeding. Whilst distraction had led to short term improvements, they had proved ineffective in the long term.

“He doesn’t bring games or toys to the table or anything like that” (nc1)

“We had toys, we had cars, we had books, we had everything on the kitchen table and as soon as I got him to look at something else I shovelled a bit in” (c3)
Mothers in the non-clinical group were also more likely than mothers in the clinical group to purposefully avoid the use of coercive strategies and tended to remove food temporarily if it was refused.

“We’ve said we’ll not force him to eat” (nc6)

“I just take it off them and say “well that’s it you’re not having it”, you know and then the issue will be resolved because it would be like “I’m hungry I want it back”” (nc4)

In the clinical group, mothers reported that they had used force or coercion to try and get their children to eat. They did not use coercion as a purposeful strategy but rather as a last resort because they were concerned about their child’s health and desperate for their children to eat.

“I did probably try to make him eat more than I should have done cos you don’t want them not to eat, you know it’s for their health and their growth and development” (c7)

“Many times I sat there with him in his high chair when I’ve just cried pleading with him to eat” (c4)

**Theme 2: Transition to Motherhood**

The second theme, ‘Transition to Motherhood’, describes maternal experiences and perceptions of becoming a mother. It consists of subthemes relating to expectations about becoming a parent, pregnancy and birth, parenting style, and maternal identity.

2.1. Parenting Expectations

Expectations about what becoming a parent would involve differed considerably between groups. Mothers in the non-clinical group did not express any strong or fixed expectations and where they did, they appeared to be realistic whether or not they were positive or not.

“You don’t really plan it…obviously I knew it’d be different and I wouldn’t be able to go out all the time and do things that I did before but I just, you know, go with the flow really” (nc 4)
Many mothers in the clinical group had strong and unrealistic expectations. Mothers with very strong and unrealistically high expectations about becoming a parent were all in the clinical group. These mothers often spoke about their need for perfection.

“\textit{I wanted everything to be perfect that’s how it was going to be in my mind}”

\textit{(c1)}

When expectations were not met, mothers in the non-clinical group seemed much more able to adapt to the new situation and manage the challenges compared to mothers in the clinical group. Mothers in the clinical group who expressed very strong expectations seemed much less able to adapt and manage.

“\textit{I really did want the water birth and wanted it all to be nice and you know lovely, and it wasn’t but you know what, it’s reality isn’t it?}” \textit{(nc1)}

“I’m quite a planner, I always have been, and if I’m following a plan or something I’m absolutely fine you know but when the unexpected happened it threw me” \textit{(c5)}

2.2. Pregnancy and Birth

Overall the pregnancy and birth experiences of mothers not differ between groups. Most mothers had a straightforward pregnancy, although there were three mothers who had complications. In the non-clinical group, one mother experienced thrombosis and in the clinical group one mother had been admitted to hospital the week before the birth with asthma and one had been admitted with preeclampsia.

“\textit{The whole pregnancy he was really, really good actually, [husband] did all the cooking, all the cleaning I was lady of leisure, I didn’t do anything}” \textit{(c1)}

“I didn’t get sickness or anything really they were both like normal, fine, natural births both of them, yeh I didn’t have any problems” \textit{(nc4)}

Mothers who had complications during pregnancy reported difficult births. In the clinical group, one baby was delivered by emergency surgery 13 weeks prematurely because the mother had preeclampsia and another baby was delivery by emergency surgery because the mother had been admitted to hospital with asthma. In the non-clinical group, a mother who had experienced thrombosis had a lengthy birth with medical intervention. Difficult births were also reported by mothers in both non-clinical and clinical groups who had
uncomplicated pregnancies. Difficulties included birth assisted by ventouse, lengthy births resulting in exhaustion and painful births.

“She said “start pushing you can start pushing” and of course I was just too exhausted at that point…they just grabbed my legs stuck them in stirrups, cut me and pulled him out with a ventouse” (c5)

“The first one was thirty hours and then went to emergency caesarean, they tried the ventouse which was hell, even with the epidural” (nc1)

2.3. Parenting Style

In the non-clinical group, mothers tended to be consistent in their approach to parenting but were flexible in meeting parenting challenges, relying on their parenting ‘instinct’.

“You just have to do whatever works for you as individuals…You just have to go with instincts…make it up as you go along and work it out” (nc5)

Mothers in the clinical group often talked about needing to be perfect and in control even before the birth of their child. Their need for control seemed to be reflected in a lack of flexibility in their approach to being a mother. Mothers in the clinical group tended to be inconsistent in their parenting style and permissive when they felt they had not control over their children’s behaviour.

“I like to be in control, I have to be the best, I’m one of these people, I have to be perfect, not perfect but close to perfect” (c1)

”[The clinical psychologist] has said “ignore the bad behaviour and praise the good behaviour”. I’ve tried explaining I can’t ignore bad behaviour because [if] I’m ignoring it he thinks that’s ok for him to do…I know it’s going back on everything I’ve said about ignoring the bad behaviour but I’ve noticed if I react less and just ignore the fact that he’s there and that he’s doing it, he gets bored and he stops doing it and he walks off” (c4)

2.4 Maternal Identity

Mothers in both clinical and non-clinical groups seemed to differ in how they had adapted to their identity as a mother. Mothers in the clinical group, felt that their identity had changed in a negative way as a result of becoming a mother whereas mothers in the non-clinical group spoke positively about their maternal identity.
“it’s all about finding yourself as a person and being happy with yourself and that’s how I feel at the minute” (nc7)

“I still don’t think I’m the person I was…I just think you lose yourself along the line” (c5)

In both groups there were mothers who felt that returning to work had enabled them to regain a sense of balance in their identity.

“I was me again and I was nobody’s partner, nobody’s mum, and I was just me” (c9)

“You need your own sense of control over your own life, you need to feel that you have got some sense of autonomy left” (nc1)

**Theme 3: Social Support**

The theme ‘Social Support’ describes maternal experiences and perceptions of social support. It consists of subthemes relating to instrumental and emotional support, and the mother-daughter relationship.

3.1 Instrumental and Emotional Support

Mothers in both groups had a variety of people in their environment who were available to offer support including; partners, immediate family, in-laws, friends, and peers. However, in both groups mothers relied mostly on their partner and their mother. Mothers in the non-clinical group felt that their partners provided both instrumental and emotional support but in the clinical group, mothers felt that although instrumental support was offered by partners, they did not have the emotional support they needed. This was reflected in the quality of relationships mothers in the clinical group had with their partners, which were often strained or had ended since the birth of their children or the onset of feeding problems.

“Emotionally he’s [husband] good, if you’ve got something that they’ve concerned you about or if they’re awful, at the end of the day you can say “oh god I’ve had the day from hell and they’ve been doing this, that and the other” so, emotionally he gives me that support. Practically he’s always been very hands on he’s, he’ll change nappies, he’ll feed them, I can go out and do whatever and I’ve no worries that everything won’t be ok here, so he’s very supportive” (nc7)
“He starts a new job on Monday, he’s going to live there 5 days and come back here 2 days cos we’re sort of splitting up…I just feel like he hasn’t supported me…he’s just not that sort of a person to know what to do to offer any sort of support” (c9)

Whereas mothers in the non-clinical group tended to rely on a wider circle of support including friends and peers, mothers in the clinical group tended to rely less on people, other than their partner, who may have been able to offer emotional support.

“When you meet with the mums for me it was like, I’m not the only one who thinks like this and that was lovely, because you can get isolated and you can think, I’m doing something wrong, why do I feel like this? And then you’d speak to someone and they’d say exactly what you were thinking and you’d go yes this is normal” (nc1)

“It’s just us basically we’ve got no support network here… I’m not a big one for going and mixing, I didn’t take [child] to toddlers or anything like that” (c2)

3.2 Daughter - Mother Relationship

For most mothers in both groups, the relationship they had with their own mothers seemed particularly important for providing support, however mothers in both groups spoke about experiencing loss in this relationship. The sense of loss was most evident in the clinical group; some spoke about the death of their mothers occurring shortly after the birth of their children, some felt that they were not able to talk about their feelings with their mothers and others spoke about being estranged from their mothers since childhood due to their mother’s mental illness.

“I never really had much of a childhood because my mum suffered with depression”(c4)

There were mothers in the non-clinical group who also spoke about being estranged from their own mothers. However, they felt they had resolved issues surrounding the estrangement or were able to rely on alternative sources of support to provide that important mother-daughter relationship.
“I don’t have any contact with any of my family, that had to be severed unfortunately but that’s the way it goes and I feel better for it I’ve got to be honest” (nc8)

Theme 4: Child Characteristics

The fourth theme, ‘Child Characteristics’, describes maternal perceptions of their children. It includes subthemes relating to child temperament and other (non-feeding-related) behaviours.

4.1. Child Temperament

In both clinical and non-clinical groups, there were mothers who described their children as being “determined” or “headstrong”. However, mothers in the non-clinical group described children who were self-sufficient or independent and content whereas mothers in the clinical group were more likely to report that their children were clingy, dependant and demanding.

“I always say he’s like my little accessory, I can’t go anywhere without him…he’s literally by my side all the time I can’t go to the toilet I can’t go upstairs” (c1)

“She’ll play on her own for a bit you know say if I’m doing the washing or something like that” (nc2)

The most consistent difference between clinical and non-clinical groups was child sociability. Mothers in the clinical group described their children as having some degree of difficulty with social interaction, whereas mothers in the non-clinical group unanimously described their children as being sociable with others.

“You take him to party or the park sometimes or the mother and toddlers, it’s like he can’t deal with it he just…it’s almost like it blows his mind, I had to take him out in the car in the end to calm him down” (c5)

“She’s very sociable” (nc5)

4.2. Child Behaviour
Mothers in the non-clinical group described behaviour that was for the most part stable, well behaved and compliant with only occasional ‘tantrums’ which were considered to be age related and short lived.

“We had a few problems when he was younger with, you know, tantrums if he didn’t get his own way and he can’t wait for anything, but he’s really good now he’s really grown up a lot since he’s started school” (nc4)

Mothers in the clinical group described their children as having emotional responses and behaviour that was extreme. The child displayed loving moods and also moods that were characterised by behaviour that was overactive, defiant, angry and aggressive with ‘tantrums’ that were enduring.

“He seems to be in good moods and bad moods...when he’s in one of his good moods you know he’s lovely and you can have a nice time with him but then if he’s not then he fights everything” (c7)

A small number of mothers from both groups described their children's behaviour as being rigid, repetitive, fixated, preferring routine, resistant to change, and not expressing an interest in physical closeness. Mothers in the clinical group perceived this behaviour pattern as “strange”, “bizarre”, “embarrassing” and believed them to be autistic traits, whereas the behaviour pattern was described as being an acceptable part of the child’s personality by mothers in the non-clinical group.

“If there’s anything sort of out of the blue, he doesn’t sort of respond well to that...he has to have everything lined up for when he gets out of his bath, like his toothbrush has to be ready, he won’t get out of the bath unless his toothbrush and everything is ready...I think [it] is [a] bit bizarre” (c6)

“He’ll get his toys and he’ll stack them all up in a row, and he’s the one that likes routine...he’s repetitive, he’s very deep...he likes things to be in a set order, he doesn’t like being touched or hugged...we don’t take it personally it’s just that that’s the way he is” (nc9)

**Integrative Theme: Maternal Self-Efficacy**

Following the descriptive analysis, an interpretative approach was used which aimed to characterise the data set. This resulted in the identification of an integrative theme: ‘Maternal Self-Efficacy’, which permeated and connected all of the main themes. Maternal
self-efficacy has been described as a mother’s perception of her parenting ability (Coleman & Karraker, 2000). In the current study, early experiences of parenting appeared to have influenced the development of mother’s perceptions of their maternal self-efficacy. Mothers’ perceptions of their self-efficacy also appeared to influence the way in which they approached to subsequent parenting challenges.

As previously described, the majority of mothers had experienced challenges relating to early and current child feeding. There were mothers in both groups who reported that they had struggled to establish breast feeding and there were four mothers in the non-clinical group who had encountered significant difficulties and, in two instances, serious difficulties with their children’s current feeding. However, mothers approached and managed these difficulties with different levels of confidence in their parenting ability. Mothers in the non-clinical group displayed a more relaxed and confident approach to feeding compared to mothers in the clinical group.

“We started out giving him the ‘no spoon, no pureed food’ method where you give them a lump of broccoli from a very early age...now it was supposed to mean he would eat anything and everything, it worked for a while...he’d try broccoli and carrots and peas and all these foods and then suddenly he hit that wall, he didn’t like texture and it was just ‘forget it’, after that he was on [the method of] puree the vegetables and pour it over pasta” (nc8)

“I never did my own baby food cos I was so worried about making it right because I wanted it to be spot on and whose food do you trust more than anybody’s? Your mum’s, so my mum would do. It sounds so silly when I look back at it, but my mum would puree food for [child’s name]” (c1)

Mothers in both groups had also experienced similar difficulties during the transition to motherhood, especially whilst pregnant and during the birth of their children. Mothers differed again in their perceptions of these similar experiences and their level of confidence in their ability to manage the challenges they had encountered.

“I was kind of a little bit worried about the birth but I was mainly looking forward to it. I did a lot of research and instead of scaring me, it just made me feel [like] “I, know what could happen. But I know this is what I want to happen. But I know it might not” and that really helped” (nc9)
“The thought of giving birth terrified me I just was dead against giving birth…I didn’t really want him to come out” (c5)

Similarly, mothers in the non-clinical group demonstrated confidence in managing difficult child temperament and behaviour and often spoke about relying on their own instincts, whereas mothers in the clinical group appeared less confident in their own ability and needed support with many aspects of childcare.

“You obviously can’t be taught how to be a parent and it’s just all your natural instincts really” (nc8)

“His behaviour had got really bad and it was causing problems between me and my partner and I just felt like I couldn’t get further, I was just stuck” (c4)

Despite needing support, mothers in the clinical group seemed to lack the self-confidence to judge advice they were given and try helpful advice or effectively reject advice they did not feel would be useful.

“Everybody kept saying to me “if he’s not eating his meals don’t give him treats, if you’re gonna give him anything just give him fruit”, but you don’t like seeing your baby being hungry so I’d give him a bag of crisps or I’d do him a piece of toast or something” (c6)

“My family have come round and they’ve been trying to encourage him to eat and they’re like “do this, do that” and I’m like “but I’ve tried all that” [and they would say] “oh well you’re not doing it right”…people telling me that I’m not doing it right isn’t what I need, I need people supporting me and helping me, not telling me that I’m doing everything wrong (c8)

For many mothers in the clinical group the practical support they received was not what they wanted and yet they appeared to lack the confidence to seek the emotional support they wanted from the people who they turned to.

“They’ve helped me a lot, my mum and dad, but you know I didn’t really want to [tell them], I never told them how I felt” (c5)

In the non-clinical group mothers were confident enough to both ask for advice and reject advice they felt would not work.
“I’d speak to people about it and ask them what I should do and probably speak to absolutely everyone and listen to everyone’s advice and I’d probably try it all out but definitely the ones I thought “hhmmmm that might work”” (nc2)

“[Husband] thought that we were struggling because she wasn’t sleeping enough and he bought me the book and I was like “I don’t want that, I’m not reading that” I just took it back and got a refund” (nc2)

In both groups there were mothers who made direct reference to the levels of confidence they had themselves as a mother. Mothers in the non-clinical group felt confident in their role as a mother whereas mothers in the clinical group felt they were less confident.

“I’ve got more confident in myself…I haven’t really got issues and I’ve resolved all the things in my past…it’s all about finding yourself as a person and being happy with yourself and that’s how I feel at the minute” (nc7)

“I’m not that confident, even though people sometimes think I am and I think I need to be reassured and I need to be told sometimes (,) this is what you need to do and I think it’s [parenting] all just guessing games and when things didn’t look right I’d judge myself…I just think you judge yourself too much” (c1)

Some mothers also talked about judging their own parenting ability. Mothers in the clinical group judged themselves as being less able, whereas in the non-clinical group, mothers judged themselves as being very competent at overcoming parenting challenges.

“I just didn’t want to do anything for him, not that I didn’t want to, [but] because I didn’t think I was doing my job good enough, so it was only cos I was judging myself not that I didn’t want to do it for him, I just didn’t think I was doing it good enough for him so I didn’t want to do it” (c3)

“I always think it is bad to get one point of view. I think you must always get two or three. Three would be better because it’s biased otherwise, I’m also a believer in get the Google out and look at forums to see what other mothers are doing when their children and then you can evaluate and see what’s best for your child; self-help” (nc8)

3.4. Discussion
The aim of this study was to expand on the current understanding of the maternal perspective and the context in which feeding problems occur, by exploring maternal experiences across the transition to parenthood and the experiences of parenting children under the age of seven, with and without clinical feeding problems. Thematic analysis of interviews with nine mothers of children with clinical feeding problems and nine mothers of children without clinical feeding problems identified four main themes: Feeding, Transition to Motherhood, Social Support, and Child Characteristics. An integrative theme ‘Maternal Self-Efficacy’ was identified which represented a fundamental difference in perceptions between the groups and provided a novel insight into parenting children with feeding problems.

In the theme ‘Feeding’, it was found that mothers in both groups had encountered similar problems with breast feeding and it was not until children started weaning that more serious feeding difficulties became apparent for mothers in the clinical group. Weaning difficulties reported by mothers in the clinic group included the refusal of solid foods, gagging, choking and vomiting when attempting to feed their children textured or solid food. These difficulties have been frequently reported in clinical populations (e.g. Dovey, Farrow, Martin, Isherwood & Halford, 2009) and are consistent with research showing that the onset of clinical feeding problems occurs before the age of 12 months (Dovey & Martin, 2010). The majority of mothers in the clinical group believed that the weaning process had been interrupted by a gastric or respiratory illness and that feeding problems appeared to have escalated from that point. This opinion was also expressed by two mothers in the non-clinical group who reported current feeding difficulties; these children also had medical complications relating to the gastric or respiratory system which mothers felt had interfered with the weaning process.

Mothers in both groups were currently experiencing some similar difficulties such as their children refusing to eat fruit, vegetables and textured foods, food neophobia, and rejecting previously accepted foods; all of which are feeding behaviours common amongst young children in both clinical and non-clinical populations (e.g. Dovey, Staples, Gibson & Halford, 2008). However, mothers in the clinical group reported that additional difficulties such as a lack of interest in food and a small appetite which are frequently cited in clinical research (e.g. Ramsey, Gisel & Boutry, 1993). These additional problems may have been related to a problem consistently reported in the clinical group which was the child’s preference for drinks rather than food, which may have interfered with appetite (e.g. Smith & Lifshitz, 1994).
Mealtimes in the clinical group were reported to be more functional and less sociable than those of the non-clinical group. All of the mothers in the non-clinical group demonstrated an awareness of the importance of parent modelling for the promotion of healthy child eating behaviours (e.g. Palfreyman, Haycraft & Meyer, 2014; 2015; Savage, Fisher & Birch, 2007; Wardle, 1995). In the non-clinical group, all mothers described mealtimes that took place around a table with other family members, with everyone eating the same foods. The majority of mothers in the clinical group did not demonstrate this awareness and in all but two cases, mothers in the clinical group had only recently introduced a table at mealtimes, having previously allowed children to eat sitting on the floor or sofa whilst watching the television. This behaviour is also consistent with previous findings in clinical populations (Sanchez & Castillo-Duran, 2004).

Mothers in both groups had used a number of similar strategies to encourage their children to eat, such as coaxing, bargaining and giving food incentives or rewards, which have been found to be ineffective or counterproductive (e.g. Carruth & Skinner, 1998; Galloway, Fiorito, Francis & Birch, 2006; Pelchat & Pliner, 1986; Sanders, Patel, Le Grice & Shepherd, 1993). However, it emerged that mothers in the clinical group had also used strategies that were purposefully avoided by mothers in the non-clinical group. These included using toys and other tangible items as distractions during meals, watching television and giving the child snacks, which may have interfered with appetite regulation and increased consumption of fatty foods (e.g. Coon, Goldberg, Rogers & Tucker, 2001; Werle, Murphy & Budd, 1993; 1999). These strategies can be useful for maintaining child weight but it is likely that they did not increase consumption of rejected foods but actually served to reinforce dysfunctional feeding behaviours. Mothers in the clinical group also reported using coercion, which is often cited in research employing clinical samples (e.g. Sanders et al., 1993). However, current findings suggest that coercion was not used as a purposeful strategy but rather in desperation to encourage the child to eat as mothers become increasingly concerned about the child’s health and mother-child feeding interactions developed into the paradoxical cycle described above.

The identification of the theme ‘Transition to Motherhood’ represented a novel finding in the context of clinical feeding problems. It emerged that in the clinical group, mothers expressed more unrealistic expectations than mothers in the non-clinical group about what becoming a mother would involve. Realistic expectations about parenting have been linked to better post-natal adjustment (Pancer, Pratt, Hunsberger & Gallant, 2000). This was supported in the current study, which showed that mothers in the non-clinical group seemed to be much more able to cope than mothers in the clinical group when their
expectations were violated. According to Stern (1995), maternal identity formation arises during parenting experiences with the child. Considering the experiences mothers in the clinical group had encountered, it follows that some mothers in the clinical group felt that their identity had changed in a negative way as a result of being a mother, whereas mothers in the non-clinical group considered their changing identity to be positive.

Mothers in the clinical group often talked about needing to be “perfect” and “in control”; parent behaviour that has previously been linked to feeding problems (Lindberg, Bohlin & Hagekull, 1996). Within the parenting literature, perfectionism has been defined as the tendency to set excessively high standards and engage in overly critical self-evaluations (Frost, Marten, Lahart, & Rosenblate, 1990) and, in the current study, self-criticism was evident for some mothers in the clinical group. Evidence from several parenting studies suggests that perfectionism tends to develop in families with overly critical parents, with perfectionism being associated with reports of harsh or authoritarian parenting styles (Flett, Howitt & Singer, 1995; Frost et al., 1991; Rice, Ashby & Preusser, 1996). In the current study a number of mothers in both groups spoke of having critical parents, although these mothers did not appear to have an authoritarian parenting style. According to Costanzo and Woody (1985), parents exert more control over specific areas of their child’s development that they are concerned about, which suggests a reactive response to feeding difficulties. Although serious concerns about child feeding were expressed by all mothers in the clinical group, and some in the non-clinical group, only mothers in the clinical group spoke about a need for control. This drive for control and perfection preceded the birth of their child, perhaps suggesting a personality or cognitive style. Mothers in the clinical group who expressed a need for control also displayed less flexibility in their approach to parenting compared to mothers in the non-clinical group. When mothers in the clinical group encountered difficult child behaviour, they were often permissive and inconsistent in their parenting. This reflected the inconsistent approach to managing feeding behaviour also seen in the clinical group, suggesting a link between permissive parenting style and a permissive approach to feeding which has been reported in non-clinical populations (Blissett & Haycraft, 2008; Blissett, Meyer & Haycraft, 2011).

The theme ‘Social Support’ revealed that mothers in the non-clinical group felt they had good levels of instrumental and emotional support from their partners. Mothers in the clinical group also relied on a wide circle of people outside their family to provide extra support which they felt they needed. Consistent with previous research (Lindberg et al., 1994), mothers in the clinical group felt that although instrumental support was offered by their partners, they did not have the emotional support they needed. Mothers in the
clinical group also reported that relationships with partners were strained or had ended since the onset of feeding problems. Despite needing and wanting additional support, mothers in the clinical group did not tend to rely on people outside their family to provide support. Mothers in both groups described the importance of the relationship they had with their own mothers. However, there were mothers in both groups who had encountered some form of loss in the relationship with their mother. Previous research has shown that unresolved loss is associated with insecure attachment in mothers of children with clinical feeding problems (Ward, Lee & Lipper, 2000). This was evident in the current findings, with mothers in the non-clinical group having resolved their issues and mothers in the clinical group appearing to have unresolved issues surrounding this loss.

In the theme ‘Child Characteristics’, mothers’ descriptions of child temperament and behaviour differed between the groups. Mothers in the non-clinical group described calm and sociable children, in contrast to this, mothers in the clinical group described children who had a difficult temperament, characterised by poor emotional regulation and some degree of difficulty with social interaction. These characteristics are frequently associated with clinical feeding problems (e.g. Ammaniti et al., 2010; Wolke, Skuse & Mathisen, 1989) but may indicate developmental conditions which are also associated with clinical feeding difficulties (Ahern, Castine, Nault & Green, 2001; Hagekull et al., 1997). A small number of mothers in both groups described a pattern of child behaviour that was rigid and repetitive, which may have added further support for the presence of developmental conditions, such as autism, in their child. Maternal perceptions of this behaviour pattern were very different. Mothers in the non-clinical group described this behaviour positively and as part of the child’s personality, whereas mothers in the clinical group described this behaviour negatively, which may have indicated that they had less positive perceptions of their child, which has observed in clinical populations (Lindberg et al., 1994).

Results showed that many of the main themes and subthemes emerging from the analysis support previous research examining associations between maternal factors and clinical feeding problems in children. This suggests that maternal factors, which have been considered distinct in previous research, may be interconnected. This is a novel finding in the context of clinical feeding problems in children. In order to further explore the connectivity of these maternal factors, a more interpretative approach to analysis was conducted which aimed to find a deeper meaning within the themes. This interpretative analysis showed that although many of the mothers’ experiences were similar, their
perceptions of experiences and responses to experiences appeared to be different. This resulted in the identification of the integrative theme: ‘Maternal Self-Efficacy’.

Maternal self-efficacy is the extent to which a mother perceives herself to be capable of performing the tasks associated with being a mother (Coleman & Karraker, 2000). This integrative theme of maternal self-efficacy was evident throughout the themes identified in this study and represented a fundamental difference between mothers of children with clinical feeding problems and mothers of children without clinical feeding problems. Mothers’ recollections of their early parenting experiences of managing challenges during the transition to motherhood and early feeding appeared to have influenced the development of perceptions of maternal self-efficacy. These perceptions of maternal self-efficacy seemed to influence how mothers approached subsequent parenting challenges relating to child feeding and broader behaviour and accessing social support. It was consistently found that mothers in the non-clinical group had a more confident approach to managing parenting challenges, which reflected higher levels of maternal self-efficacy. Mothers in the clinical group were less confident in their approach to managing parenting challenges, which reflected lower levels of maternal self-efficacy.

A review of the available literature identified only a handful of studies that had investigated maternal self-efficacy in the context of clinical feeding problems. One study had employed a measure of parenting self-efficacy (Feldman, Keren, Gross-Rozval & Tyano, 2004), one study had employed a measure of self-esteem with a subscale relating to maternal competence (Benoit, Zeanah & Barton, 1989), and one study had employed a small number of researcher defined questions relating to maternal self-confidence (Lindberg et al., 1994). Therefore the findings of the current study provide novel insights into the context in which clinical feeding problems occur by showing that maternal experiences of parenting children with clinical feeding problems are linked to lower perceptions of maternal self-efficacy for managing challenges related to feeding and broader child behaviour, the transition to motherhood and social support. These results suggest that mothers who encounter early difficulties feeding their children and do not feel that they have the appropriate levels of social support may be particularly vulnerable to experiencing low levels of maternal self-efficacy. It should also be considered that child factors (e.g., difficult child temperament) could play a role in decreasing maternal levels of self-efficacy, however, these were not measured in the current study. Future research should aim to measure - or at least control for - child factors in relation to maternal self-efficacy. Interventions aimed at improving maternal self-efficacy could be useful for
families affected by clinical feeding problems. Further research is needed to identify ways in which maternal self-efficacy could be improved in this population.

The current study presents original findings relating to maternal self-efficacy in mothers of children with clinical feeding problems. The results may be limited by the recruitment process and small sample size. The recruitment of the non-clinical sample was aimed at mothers of children without clinical feeding problems however mothers who took part may have been motivated to do so because they were experiencing difficulties feeding their children. This was supported by analysis of BPFAS scores which showed that some individual scores in the non-clinical group were at the higher end of the range. The sample size employed in the current study was small, which, although typical of studies employing a qualitative methodology, results in findings that cannot be generalised to wider clinical or non-clinical populations.

3.4.1. Conclusions

The aim of the current study was to explore the context in which clinical feeding problems occur, by comparing maternal experiences and perceptions of parenting children with and without clinical feeding problems across the transition to motherhood. Results provided novel insights into maternal self-efficacy in the context of clinical feeding problems. It was found that many parenting experiences of mothers in the clinical and non-clinical groups were similar however perceptions of experiences and responses to experiences appeared to be different. This suggested that maternal factors such as maternal stress (Singer et al., 1990) and feeding practices (Woods et al., 2010) should not be considered in isolation from each other, but as connected issues which can occur simultaneously with the potential to cumulate to reach a point at which they impact on the maternal management of feeding problems. This interconnectivity was supported by the identification of the integrative theme ‘Maternal Self-Efficacy’. This theme represented a fundamental difference in how mothers in the clinical and non-clinical groups responded to the parenting challenges they encountered from the transition to parenthood to the present time. Mothers in the clinical group appeared to have less confidence in their ability to manage parenting challenges than mothers in the non-clinical group. Further research is needed to understand the relationship between perceptions of parenting confidence and clinical feeding problems which could inform family based intervention.
Chapter 4

4. Sources of Maternal Self-Efficacy Information: A Template Analysis of Interviews with Mothers of Children With and Without Clinical Feeding Problems

4.1. Introduction

Maternal self-efficacy has been broadly defined as the degree to which a mother perceives herself as capable of performing tasks that she associates as being important to the role of being a mother (e.g. Coleman & Karraker, 2000). A mother with a high level of maternal self-efficacy is confident that she is capable of performing important parenting tasks whereas a mother with a low level of maternal self-efficacy is less confident that she can perform important parenting tasks. High and low levels of maternal self-efficacy have been associated with a range of parenting outcomes.

High levels of maternal self-efficacy have been linked to a wide range of positive maternal and child outcomes, such as observed parenting competence (Teti & Gelfand, 1991), positive interactional behaviours (Bohlin & Hagekull, 1987), maternal sensitivity (Bohlin & Hagekull, 1987), and an active maternal coping style (Wells-Parker, Miller & Topping, 1990). Conversely, low levels of maternal self-efficacy have been linked to less favourable outcomes, such as inconsistent discipline (Dumka, Stoerzinger, Jackson & Roosa, 1996), maternal depression (Cutrona & Troutman, 1986), a passive coping style (Wells-Parker et al., 1990), and poor socio-emotional development in children (Donovan, Taylor & Leavitt, 2007).

In the domain of normative child feeding behaviour, maternal self-efficacy has been associated with a range of outcomes, such as observed feeding competence (Carruth, Ziegler, Gordon et al., 2004), responsive maternal behaviour during child feeding interactions (Donovan et al., 2007), increased intake of fruit and vegetables (Campbell, Hesketh, Silverii, & Abbott, 2010), and breast feeding duration (Blyth, Creedy, Dennis et al., 2002). Despite the importance of maternal self-efficacy across this broad range of outcomes, only a small number of studies have reported findings relating to the relationship between maternal self-efficacy and clinical feeding problems in children.

For example, Feldman, Keren, Gross-Rozval, & Tyano, (2004) found that mothers of children with clinical feeding problems have lower levels of maternal self-efficacy than
mothers of typically developing children and mothers of children with diagnosed developmental conditions. Similarly, mothers of children with clinical feeding problems reported less positive perceptions of parenting, which was measured in terms of lower levels of competence, less pleasure and increased irritation with the child (Lindberg, Bohlin, Hagekull & Thunstrom, 1994). Further to this, it has been reported that maternal self-efficacy might act as a buffer to attachment difficulties. Specifically, Benoit, Zeanah & Barton (1989) reported that mothers of children without clinical feeding problems, who were insecurely attached, reported significantly higher levels of competence than mothers of children with clinical feeding problems who were insecurely attached. Although maternal self-efficacy had not been the main focus of this research, the results suggest that increasing maternal self-efficacy in mothers of children with clinical feeding problems may be useful for improving outcomes for families affected.

Results presented in Chapter 3 of this thesis also provide evidence to suggest that maternal self-efficacy is lower in mothers of children with clinical feeding problems and higher in mothers of children without clinical feeding problems. The Chapter 3 findings also demonstrated that maternal perceptions of self-efficacy may influence the way in which mothers approach parenting challenges. Specifically, mothers in the clinical group appeared to display less confidence in their ability to manage parenting challenges than mothers in the non-clinical group. Taken together, the previously reported findings of Benoit et al. (1989), Feldman et al. (2004) and the results from Chapter 3, indicate that maternal self-efficacy for managing parenting challenges may be an important factor to consider in the context of clinical feeding problems. What remains unclear is an understanding of the factors that could determine a mother’s perceptions of parenting self-efficacy.

The theory of self-efficacy (Bandura, 1977, 1986, 1997) states that perceptions of self-efficacy are informed by four principal sources of information: 1) Mastery experiences, (direct experiences of success or failure in performing a particular behaviour), 2) Verbal persuasion (from similar others about the individuals’ ability), 3) Vicarious experience (social learning based on observations or visualisations of the performance of others), and 4) Physiological state (somatic arousal or affective reactions to fearful, stressful or anxiety provoking situations). Research has investigated maternal factors that could be considered to reflect sources of self-efficacy information and their relationship with feeding problems. For example, experiences of failure, which reflect a lack of mastery in feeding, are reported to be encountered by mothers of children with clinical feeding problems during their attempts to encourage their children to eat (e.g. Hendy et al., 2010;
Piazza et al., 2003; Woods, Borrero, Laud & Borrero, 2010); mothers of children with clinical feeding problems also report low levels of social support and lower levels of satisfaction with social support (e.g. Lindberg, Bohlin & Hagekull, 1994), which suggests that they may have fewer social contacts to provide verbal persuasions and that those relationships are not supportive, perhaps indicating a lack of positive persuasion.

In addition to this, a small number of studies have directly investigated sources of self-efficacy information in parents; Cassé, Oosterman and Schuengel (2015) found that positive verbal persuasions resulted in increases in parenting self-efficacy and Biehle and Mickleson (2011) found that, contrary to Bandura’s assertion that mastery experiences constitute the strongest predictor of self-efficacy, physiological state (anxiety and depressive symptoms) was found to be a strong predictor of parenting self-efficacy. However, given that these studies did not investigate all four sources of self-efficacy information, a full understanding of the relative importance of each individual source of self-efficacy information could not be determined. Therefore exploring sources of self-efficacy information using participant interviews may provide further support for the relevance of maternal self-efficacy within the context of clinical feeding problems and provide insights for future research to determine the relevance of all four sources of maternal self-efficacy information and contribute to the future development of clinical interventions.

In summary, evidence suggests that mothers of children with clinical feeding problems experience lower levels of self-efficacy than mothers of children without clinical feeding problems (Feldman et al., 2004) and higher levels of maternal self-efficacy could act as buffer for parenting difficulties (Benoit et al., 1989). However, to date, maternal self-efficacy has not been the primary focus of research in the context of clinical feeding problems. Results from Chapter 3 suggest that maternal self-efficacy for managing parenting challenges may be an important factor to consider in the context of clinical feeding problems. The theory of self-efficacy proposes that there are four main influences on perceptions of self-efficacy, however, an understanding of how these factors might influence maternal self-efficacy in the context of clinical feeding problems remains unknown. The aim of the current study is to expand on the present understanding of maternal self-efficacy in the context of clinical feeding problems and the findings reported in Chapter 3 by exploring sources of self-efficacy information that may influence mothers’ perceptions of their maternal self-efficacy (Bandura, 1977, 1986, 1997).
4.2. Method

4.2.1. Participants

Participants were eighteen mothers of children under the age of seven. Mothers were recruited into a clinical (N = 9) or a non-clinical group (N = 9) based on their feeding disorder status. Further participant details including participant age range, child age range and demographics are reported in section 3.2.1.

4.2.2. Materials and Procedure

Following ethical approval from the Loughborough University Ethics Approvals (Human Participants) Sub-Committee, the researcher contacted a feeding disorder support group in the Midlands region of the UK, parent and toddler playgroups and head teachers of primary schools across the Midlands area of the UK to recruit participants. Consenting participants completed a demographics questionnaire (Appendix 1), a validated child feeding questionnaire (the Behavioural Paediatrics Feeding Assessment Scale; Crist & Napier-Phillips, 2001, Appendix 2), and took part in a semi-structured interview about their experiences and perceptions of child feeding and parenting (Appendix 13). Participants were informed about their right to withdraw from the study and about their right to confidentiality and anonymity prior to participation. They were also informed about the use and storage of their information. Following participation, participants were given a full debrief (Appendix 17) and the opportunity to ask questions.

4.2.3. Analysis

Participant interviews from the study reported in Chapter 3 were analysed using a deductive approach, using a priori themes reflecting sources of self-efficacy information (mastery experiences, verbal persuasion, vicarious experience, physiological state) described by Bandura (1977; 1986; 1997). This hybrid method of analysing the same data set, using an inductive and deductive approach, has been previously used by Fereday and Muir-Cochrane (2006) and Swanson, Nichol, McInnes et al. (2012). In the current study, template analysis was used because it can accommodate the use of a priori themes expected to be relevant to the analysis. It is also a useful approach to use when analysing a larger data set because the analysis uses a small subset of data to produce an initial template which is then applied to the remaining data. These codes are used to develop a template which can be modified or deleted as appropriate throughout the
analysis (King, 2004). The current analysis was based on the six step procedure outlined by Brooks and King (2014) (Figure 4.1).

Step 1 is to become familiarised with the raw data to be analysed through a process of reading and rereading the data. Step 2 involves undertaking preliminary coding of the data by highlighting anything relevant to the research question. In step 3 an initial coding template is developed on a subset of the data with codes organised so that the template usefully and meaningfully represents the relationship between different themes or codes. In step 4 the initial template is applied to more data and modified as necessary. Where existing themes do not “fit” the new data, the template is modified, with new themes inserted and existing themes redefined or even deleted. Step 5 involves the iterative process of producing different versions of the template, modifying each template for as long as necessary to allow a rich and comprehensive representation of the data. In step 6, once a final template has been defined, it is applied to the full data set and serves as a useful guide and structure to the writing-up of research findings.

**Figure 4.1: Six step approach to template analysis outlined by Brooks and King (2014)**
4.2.4. Coding Agreement

Coding agreement was established using a second coder who analysed 10% of the data. In the current study all of the codes included in the final template were agreed by the second coder. Checks of the coding process, themes and written work were also made through constant review and discussion with a primary academic supervisor. An academic psychologist was then asked to review and comment on the clarity of the final written work. Recommended amendments were discussed with the primary academic supervisor and changes were made where it was agreed they helped clarify the content.

4.3. Results

4.3.1. Descriptive Statistics

Information about historical or current, medical, psychological and developmental conditions experienced by clinical and non-clinical participants, their children or their partner, along with descriptive statistics from the BPFAS about the child feeding scores of children in both groups, are available in section 3.3.1.

4.3.2. Template Analysis

The aims of the current study were to explore perceptions of maternal self-efficacy and to expand on the findings reported in Chapter 3, by exploring the four sources of information that can influence self-efficacy, in mothers with and without feeding problems. An initial template was produced which consisted of four a priori codes which reflected the four factors identified by Bandura (1977, 1986) that can influence self-efficacy: 1) Mastery experiences, 2) Verbal Persuasion, 3) Vicarious Experience, and 4) Physiological State. The final template is reported in Table 4.1.

The four level one themes represent the a priori themes relating to sources of information about maternal self-efficacy. Level two and three themes describe experiences which provided opportunities for mothers to develop and refine their perceptions of maternal self-efficacy. Within each theme, similarities and differences were identified between the clinical (c) and non-clinical (nc) groups, which are outlined below.
Table 4.1: Final template of themes

<table>
<thead>
<tr>
<th>Level 1 Themes</th>
<th>Level 2 Themes</th>
<th>Level 3 Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Mastery Experiences</td>
<td>1. Managing Child Feeding</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Managing Child Behaviour &amp; Temperament</td>
<td></td>
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<tr>
<td>2. Verbal Persuasion</td>
<td>1. Family</td>
<td>1. Own Parents</td>
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<tr>
<td></td>
<td>2. Non-Familial Significant Others</td>
<td>2. Other Parents</td>
</tr>
<tr>
<td></td>
<td>3. Mother-child Interactions</td>
<td></td>
</tr>
<tr>
<td>3. Vicarious Experience</td>
<td>1. Social Comparisons</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>1. Own Parents</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Other Parents</td>
</tr>
<tr>
<td>4. Physiological State</td>
<td>1. Birth Experiences</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Feeding Interactions</td>
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<td></td>
<td>3. Relationship with Partner</td>
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<td></td>
<td>4. Depression</td>
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Theme 1: Mastery Experiences

The theme ‘Mastery Experiences’ reflected direct experiences of success and failure in parenting and describes mothers’ experiences of achieving success or failure in parenting their child. For the majority of mothers, the main experiences of parenting success and failure occurred when they managed difficulties they encountered feeding their child and managing their child’s difficult behaviour.

1.1.1. Experiences of Success and Failure: Managing Child Feeding

Feelings of failure about the earliest feeding interactions were evident in both groups. However, differences between groups appeared to be related to how mothers dealt with feelings of failure. Mothers who overcame feelings of failure quickly were in the non-clinical group and mothers who experienced sustained feelings of failure were in the clinical group.

“Feelings of failure and all that rubbish…within a week I forgave myself” (nc 6)

“I felt terrible, ‘why can’t I feed my baby?’ you’ve carried them, you’ve given birth to them and you can’t supply them with their food” (c 1)

Sustained feelings of failure were likely to be as a result of repeated failures during feeding interactions, which were more apparent in the clinical group. Mothers in the clinical group believed that their children were highly resistant to the strategies they used
to encourage them to eat. They reported that the strategies they used only worked for a short time or did not work at all. Mothers in the clinical group often felt that they had exhausted all the strategies they could think of which potentially indicated they had less confidence in their ability to overcome difficulties.

“I’ve tried everything I possibly could and nothing helped and nothing worked”
(c 4)

The majority of mothers in the non-clinical group appeared to have experienced less failure during feeding interactions, which may have been due to the transient nature of their children’s feeding difficulties and intermittent success of the strategies that they used.

“They [child] can start messing around with their food, pushing it off the plate and that sort of thing, I just take it off them and say “well that’s it you’re not having it” and then the issue will be resolved because it would be like “I’m hungry I want it back” (nc 2)

Some mothers in the non-clinical group had children with more persistent feeding problems. These problems seemed to be more resistant to the strategies used. However, mothers believed they would ultimately resolve which potentially indicates that mothers in the non-clinical group had confidence in their ability to eventually overcome the problems.

“Can I get my kids near a pepper and a hummus dip? No I can’t, I’ve tried peeling them, I’ve tried cutting them into chunks, cutting them thin, that’s still flummoxed me. I don’t know why and I feel that there must be something that I could have done better. I introduced all the foods but I haven’t found the answer…they just hit that wall and I think you just have to ride through it” (nc 6)

Mothers in the non-clinical group also seemed to rely on their past experiences of success to reassure them that they would eventually overcome current difficulties.

“You think “what if it doesn’t sort itself out? what if there isn’t a light at the end of the tunnel?” when there often is and often it works itself out” (nc 9)

“I think you have like a tool box, a tool kit in yourself of experiences and you would try everything you thought you could to overcome any problem with your children” (nc 7)
1.1.2. Experiences of Success and Failure: Managing Child Behaviour & Temperament

Experiences of success and failure were also apparent in mothers’ accounts of how they managed their children’s non-feeding behaviour and their child’s temperament. In the clinical group mothers felt they were often unsuccessful in managing a difficult temperament and challenging behaviour.

“It got to the point where, I remember one day [son] was screaming the place down and [daughter] was crying and neither of them would settle down and I just felt like it was all getting on top of me and I just locked myself in my kitchen for ten minutes” (c 2)

“I don’t know how to deal with it [child’s behaviour]” (c 5)

Mothers in the non-clinical group had also encountered behavioural difficulties with their children however they seemed more able to manage these challenges successfully. Mothers in the non-clinical group often sought to identify potential causes for the behaviour which informed how they dealt with the child’s behaviour.

“We had a few problems when he was younger with tantrums if he didn’t get his own way… just silly things like when he gets tired and if he wanted to do something and I said “No”, or he wanted some chocolate and we told him he couldn’t have any…[we] just ignore it and let him cry it out in the corner. He’s fine now he’s really, really good now” (nc 4)

Mothers in the non-clinical group also seemed to have learned from previous experiences when they had been unsuccessful in managing behaviour so they did not repeat unsuccessful strategies.

“He was the molly coddled baby of the family and I can see now in hindsight why he had more temper tantrums than any other child I can think of. I think I contributed to that” (nc 6)

Theme 2: Verbal Persuasion
The theme ‘Verbal Persuasion’ describes interactions between mothers and people in their social environment during which people provided information for mothers about the mothers parenting ability. In the current study, verbal persuasion took the form of comments made to the mother about her parenting. These persuasions came from people who were perceived to be credible sources of information to the mother, such as family members or significant others in the mothers’ social environment such as friends, other parents, medical professionals, neighbours and teachers. However, some persuasions of parenting ability were interactional in nature rather than verbal and took the form of the mothers’ perceived quality of her relationship with her child.

2.1. Verbal Persuasion: Family

Mothers in both groups described comments that had been made by partners, husbands and other immediate family members which had given them information about their parenting ability. In both groups mothers had received comments about their parenting ability which they considered to be negative however these were referred to more frequently by mothers in the clinical group. In the non-clinical group mothers seemed able to ignore these comments more easily than mothers in the clinical group.

“My husband will say it’s my fault because I’ve mollycoddled [him], I proper wrapped him up in cotton wool all the time…he says “yeh you should never have wiped his face with towels all the time, you shouldn't have kept him clean”… my mum will say “you never all sat down at meal times did you!” and I’m thinking my two closest people in adults to me and I’ve got my mum saying this, and husband saying this, and I’ve got him not performing, and I’m just thinking “anyone else wanna throw something at me?” (c 1)

Only one mother, who was in the clinical group, referred to a positive comment about her parenting ability and although the comment came from the participants own mother, the participant believed the comment to be unrealistic and disregarded it.

“She [participant’s mother] always says “you are a far better mother than I was”… I think she just says that to help with the bad moments” (c 7)

2.2. Verbal Persuasion: Non-familial Significant Others

A wide variety of significant people in mothers’ social environment (including friends, other parents, medical professionals, neighbours and teachers) had also contributed to social persuasions of parenting ability. Although relationships that mothers had with these
people may not have been as close as those with their family members, again, mothers in
the clinical group seemed less able than mothers in the non-clinical group to ignore
negative comments made about their parenting.

“My neighbours had mentioned to my aunty, who’s a social worker, that I do
nothing but shout at the kids and that annoyed me because they’re quick to
judge. I’m in a no win situation. If I don’t tell them off I’m being a bad mum but
if I do tell them off and I’m shouting at them, I’m being a bad mum” (c 4)

“There’s always someone who makes you feel that you should be doing the
other, you know you speak to someone who’s not working and think I should
be doing that and I should be at peace with that” (nc 1)

2.3. Verbal Persuasion: Mother-Child Interactions

Children also provided mothers with information about their parenting ability, although
social persuasion from children was interactional in nature rather than verbal. The
reciprocal relationship between a mother and child can be described as attunement – that
is the ability of the mother to accurately read, interpret and respond to the child’s cues
(Satter, 1990). In the current study mothers in the non-clinical group tended to speak
about happy, easy relationships and an ability to accurately read, understand and
respond to their child’s needs.

“If she’s upset usually I know, I can tell what kind of cry; a pain cry or a tired
cry or whatever” (nc 5)

Mothers who found it difficult to describe their relationship with their child tended to be in
the clinical group; these mothers described their relationship in terms of the child
behaviour rather than in emotional terms.

“Interviewer: What’s your relationship like with him?

“Mother: Erm, I always say he’s like my little accessory I can’t go anywhere
without him, he’s literally by my side all the time I can’t go to the toilet, I can’t
go upstairs” (c 1)

Those mothers who talked about the lack of a close relationship with their children were in
the clinical group. One mother in the clinical group who felt that she had experienced loss
of the relationship beginning in pregnancy and another mother described emotional
detachment immediately after the birth.
“I never got to be big because [child] was one pound twelve so I never got to experience the full pregnancy thing and I think it affected me quite a bit, I felt as if I’d missed something as if I’d lost something…I could touch him through the thing [incubator] but I couldn’t hold him for five weeks, that was hard, it got worse I think as the weeks went on” (c 2)

“He was born at half past four on a Saturday morning and by the Saturday night I just thought “what have I done?”. I just remember thinking “oh my god look what it’s done to me” they handed him to me I just thought “who is this?” I just didn’t feel anything towards him” (c 5)

Problematic feeding and behaviour appeared to perpetuate relationship difficulties with the child for one mother.

“Sometimes he’s almost difficult to love because he’s been such hard work” (c8)

Theme 3: Vicarious Experience

The theme ‘Vicarious Experience’ describes observations made by mothers about the way other people parented their children. The theme ‘Social Comparisons’ reflected observations that mothers made to their own parents and to other parents which served as a reference for mothers to make favourable or unfavourable judgements about their own parenting ability.

3.1.1. Social Comparisons: Own Parents

Mothers in both groups spoke about how their childhood experiences with their own parents had shaped their ideas about parenting and how they wanted to replicate their positive experiences with their own children.

“I felt that the way my parents had brought me up, not that I wanted to be a total copycat of what they’d done with us, but I thought, I felt that they’d brought me and my brothers up really, really well” (nc 2)

“I thought I was going to be great, I thought I was going to be really loving, caring, happy, do anything, just be a really good mum cos that’s what I’ve
always wanted and I've always felt so loved by my mine that I just thought that I'd be exactly the same” (c 9)

Conversely, mothers in both groups who had a negative perception of the parenting they experienced as children, spoke about ensuring their own children did not have similar experiences.

“My parents weren't brilliant parents at all, I wouldn't class them as highly abusive, I would just call them very useless…I suppose, I wanted to get it right and my goal was that I would give my children what I didn't have, not because I wanted to mend myself, although there must be something in that, but I just wanted to make sure that I broke the chain of rubbish parenting” (nc 7)

“Mum had bipolar and she didn't manage anything, she didn't get out of bed, we'd have to take ourselves to school and we wouldn't go with any dinner money cos we couldn't wake mum up…I always said I'm never gonna be like my mother, I am gonna be the one who takes [child] to school, I'm gonna be the one who picks him up, I never want him to walk home from school on his own', you know just the simple things” (c 4)

In the non-clinical group, mothers had managed to use comparisons with their own parents to either replicate or avoid similar experiences with their own children.

“I do believe that the family mealtimes should be about sharing information and chatting…without even realising it, it probably comes from how you were brought up…I didn't live with my dad for most of my life but when I did live with my dad we weren't allowed to speak at all, which is probably why I think you should speak at the table” (nc 1)

Mothers in the clinical group were not always able to replicate positive experiences that their parents had provided however the majority of mothers who talked about negative experiences felt that they had avoided similar negative experiences for their own children.

“I thought that I'd make sure he didn't watch any television and that he'd have all the best food to eat and healthy food and he had all the attention given to him and everything…cos of how mum and dad were…nothing’s gone as I thought it would” (c 5)
3.1.2. Social Comparisons: Other Parents

Mothers in both groups also compared their own parenting to that of other parents. Where comparisons were made to their peers, mothers in the clinical group compared themselves in a less favourable way.

“My friends will say you know why, “why don’t you want another one?”…it’s hard because you can see how happy they are you feel like you should be like that as well” (c 5)

In the non-clinical group, mothers who compared their own parenting to that of their peers appeared to use the comparisons as a learning tool which informed the way in which they intended to manage similar difficulties. They compared themselves in a more favourable way.

“I have a brother who’s got a wife and two children, again very different from me, very fun loving but very strict disciplinarian as well in a way that I’m not, and in a way that I never liked when I watched the way in which he treated his children” (nc 2)

Theme 4: Physiological State

The theme ‘Physiological State’ describes mothers’ affective state and/or responses to parenting experiences. Mothers spoke about experiences during the birth of their children, during feeding interactions and interactions they had with their partners which provoked a stress or anxiety response. A small number of mothers also spoke about their experiences of depression.

4.1. Physiological State: Birth Experiences

In clinical and non-clinical groups, mothers spoke about experiences, occurring prior to the onset of feeding problems, surrounding conception, pregnancy, birth, or in the postnatal period, which they had found extremely stressful. However, mothers in the clinical group reported a higher number of stressful experiences than mothers in the non-clinical group. Mothers in the non-clinical group who reported stressful experiences seemed to have coped well whereas mothers in the clinical group appeared to find it stressful talking about their experiences.
“My mum had been diagnosed with cancer and there was a timescale, I wanted her to see me have me second child so it was sort of a rushed thing… I lost mum eleven days after having [child]… for the first few weeks of having [child] I have no idea [about] anything about him, I was literally on autopilot…and he was passed around a lot” (c 3)

“I didn’t know what was going on and I felt completely out of control, really frightened, I couldn’t wait for the feeling to go away but that had gone in the end so then actually, when he arrived it was great it was all wonderful, really happy” (nc 7)

Interestingly, one mother in the non-clinical group who talked about a very stressful post-delivery environment and had continued to be very anxious about parenting, had a child with feeding difficulties that had persisted despite surgery to resolve the underlying medical issue.

“She must have gone blue at that point and all I remember was every man and his dog came running in, within the minute it was fine but within that minute my heart just jumped out…you don’t know if you’ve had a still born, [I was in] complete fear, complete shock” (nc 3)

4.2. Physiological State: Feeding Interactions

In the earliest feeding interactions many mothers experienced difficulties with breast feeding and/or weaning. However, several mothers in the clinical group described feeding interactions in which either they or their child were anxious, upset or fearful.

“I came home and couldn’t latch him on at all, so I ended up in hysterics, I told my mum I wanted to get back up to the hospital “I don’t feel very well, I feel poorly, I should never have come out” (c 1)

In their attempts to overcome feeding difficulties, mothers in both groups had used similar strategies. However, the emotional atmosphere appeared to be different. For instance, mothers in the non-clinical group tended to manage food refusal with a calm and assertive approach, whereas the approach used by mothers in the clinical group tended to be less self-assured and more emotional.
“[child] definitely gets offered alternative foods and sometimes I think should I be doing this and other times I think ahhh well she was fine yesterday it’s just a day, a phase, I’m not going to get stressed about it” (nc 1)

“I could have managed it a lot better than I did, I just used to get really angry and frustrated and I got to the point where I was scared in case I actually hurt him because you’d get that wound up and you don’t know what to do no more” (c 4)

4.3. Physiological State: Relationship with Partner

In the clinical group, mothers spoke about relationships with their partners that were characterised by conflict about parenting whereas in the non-clinical group they were characterised by shared decision making about parenting, even when there was conflict.

“Things are not good at the minute with me and my husband. I don’t know whether we’ve fallen out or we don’t get on since the eating or whether it’s since the postnatal depression thing and then my mum got involved and he didn’t like my mum involving herself and having opinions and helping me by telling me what to do and everyone just kind of getting niggly with one another” (c 1)

“We are best friends and on a very equal basis, we have a healthy amount of shouting as well as support and we do it together - we’re a team” (nc 4)

In the non-clinical group one mother described a relationship with her husband that was characterised by a considerable amount of conflict about parenting, however, she felt confident that these difficulties would resolve.

“He just really doesn’t believe what I use works…he’ll start shouting really straight away…so it just ends up completely erupting…so we do struggle like that and we’ll get there, I’m sure of it” (nc 7)

4.4. Physiological State: Depression

In the clinical group, two mothers believed that they had experienced post-natal depression but had not sought support. They felt that they were still experiencing depressive symptoms and that feeding difficulties had triggered or exacerbated the condition. In the non-clinical group, one mother had been diagnosed with depression before she had become pregnant with her child. However, she had regular contact with a
counsellor and was taking medication and felt that the depression had improved since having her baby.

“I look back now and I know I had post-natal depression…I know I’m not right now but I just won’t take myself to the doctors, I should go and speak to somebody but I won’t” (c 1)

“It [depression] was a lot better in a way, I’d got a lot better since getting pregnant and having her cos you know, it was just amazing” (nc 5)

4.4. Discussion

The aim of the current study was to expand on the findings reported in Chapter 3 by exploring maternal experiences and perceptions of ‘Mastery Experiences’, ‘Verbal Persuasion’ ‘Vicarious Experience’ and ‘Physiological State’ as sources of information that can influence perceptions of maternal self-efficacy. Template analysis of interviews with nine mothers of children with clinical feeding problems and nine mothers of children without clinical feeding problems found that experiences and appraisals of sources of self-efficacy information were different in the clinical and non-clinical groups. This could offer support for Bandura’s (1977; 1986; 1997) suggestion that sources of information about self-efficacy can inform perceptions of self-efficacy.

The theme ‘Mastery Experiences’ revealed that experiences of failure and success were not limited to the management of feeding problems but were also evident in the management of non-feeding behaviour in the clinical and non-clinical group. This supports previous research which has found an association between problematic feeding and broader behaviour problems in children within the general population (e.g. Blissett, Meyer & Haycraft, 2011). Although mothers in both groups had experienced what could be described as early failures in managing feeding and other behavioural difficulties, mothers in the clinical group were more likely to report experiencing more severe and more frequent difficulties which may have consequently led to more perceived experiences of failure than success. This may have contributed to lower levels of maternal self-efficacy. Due to the intermittent nature of their children’s feeding difficulties, mothers in the non-clinical group had apparently experienced more success which may have contributed to the higher level of efficacy they had in their ability to overcome subsequent difficulties. Findings related to this theme could offer support for Bandura’s (1986) assertion that early
experiences of success and failure can inform self-efficacy and can be instrumental in determining how individuals approach subsequent difficulties. However, mothers in the non-clinical group also appeared to be more analytical than mothers in the clinical group about their past experiences of managing child feeding and behaviour and may have used their experiences of failure to inform subsequent attempts to manage difficulties. This is consistent with research showing that mothers of children with clinical feeding problems generate fewer problem solving strategies and strategies that are less likely to result in success, than mothers of children without clinical feeding problems (Robinson, Drotar & Boutry, 2001). The current results extend this finding by suggesting that maternal self-efficacy may play a role in maternal problem solving.

In the theme ‘Verbal Persuasion’ it was found that mothers in both groups reported they had received mostly negative verbal persuasions about their parenting ability from people whose opinion was important to them. One mother reported receiving a positive comment about her parenting ability however this comment appeared to be judged as unrealistic by the mother and therefore was disregarded. However, mothers in the non-clinical group appeared to be more able to ignore negative comments whereas mothers in the clinical group appeared to be more vulnerable to negative persuasions. These findings may support Bandura’s (1986) suggestion that higher levels of self-efficacy are more resistant to the influence of negative feedback and that it is easier to undermine efficacy with verbal persuasions than it is to raise it, especially when persuasions come from a credible and realistic source. The link between dysfunctional mother-child relationships is well documented in the literature (e.g. Chatoor, Ganiban, Colin, Plummer & Harmon, 1998; Coolbear & Benoit, 1999) and was also supported in the current study with mothers in the non-clinical group describing easy, happy relationships with good attunement (Satter, 1990; 1995) between mother and child whereas mothers in the clinical group found it difficult to describe their relationship with their child and talked about attachment difficulties. These results contributed to existing knowledge by showing that the quality of mother-child interactions could also be a form of social feedback which has the potential to inform maternal self-efficacy.

The theme ‘Vicarious Experience’ suggested that mothers in both groups made social comparisons to their own parents, and sought to replicate positive experiences and avoid negative experiences. This extended the current understanding of the influence of one’s own childhood experiences on later child rearing practices and attitudes (see Van Ijzendoorn, 1992, for a review) by suggesting that mothers in the non-clinical group were able to achieve these goals but that mothers in the clinic group found it harder to replicate
positive experiences with their own children. Where mothers reported making comparisons between themselves and other parents, mothers in the non-clinical group seemed to compare themselves more favourably, potentially indicating a higher level of maternal self-efficacy. Mothers in the clinical group tended to make less favourable comparisons about themselves, perhaps indicating a lower level of maternal self-efficacy. These results could support Bandura’s (1986) assertion that observing failure in others who are perceived to have less ability does not impact on efficacy, however, seeing oneself surpassed by credible and similar others can undermine self-efficacy.

The theme ‘Physiological State’ suggested that although mothers in both groups experienced parenting challenges around feeding and wider child behaviour, mothers in the clinical group described situations in which they became highly anxious, upset or fearful. Mothers in the non-clinical group were more likely to report being calm and self-assured in their approach. Mothers in the clinical group also described relationships with their partners that were characterised by conflict about parenting, whereas mothers in the non-clinical group were more likely to have relationships characterised by shared decision making. Despite encountering more emotional difficulties than mothers in the non-clinical group, findings suggest that mothers in the clinical group were less likely to seek help even for more serious difficulties relating to depressive symptoms. It appeared that this was because they felt that they should be able to manage emotional problems themselves. Many researchers have noted an association between feeding problems and maternal stress (e.g. Greer, Gulotta, Masler & Laud, 2008; Sanchez & Castillo-Duran, 2004) although it is often unclear whether stress is a cause or consequence of feeding difficulties. Current evidence suggests that maternal emotional state in stressful or anxiety provoking situations were both a cause and consequence of feeding difficulties, beginning during the transition to parenthood and reinforced by parenting experiences and a lack of social support. These findings support Bandura’s (1982) notion that physiological state can be interpreted as a sign of dysfunction which can divert attention from effectively managing the situation to concerns about failure, thus reducing self-efficacy. However, it also suggests that Bandura’s conceptualisation of physiological state, which is described as somatic or emotional arousal and also as an affective state, is too broad to provide a meaningful description. In the current study physiological arousal is not measured per se and therefore physiological arousal is better described as emotional or an affective state in the current context. While there is evidence to suggest that physiological state, measured through galvanic skin responses, is linked to emotional arousal in stressful parenting situations (e.g. Leerkes, Su, Calkins, Supple & O’Brien, 2016), further research
would be needed to confirm this relationship in the feeding context. Results of the current study suggest potential ways in which experiences and appraisals of ‘Mastery Experiences’, ‘Verbal Persuasion’, ‘Vicarious Experience’, and ‘Physiological State’ could inform maternal perceptions of parenting ability and their approach to managing parenting challenges. In the clinical group, mothers appeared to have a negative evaluation of their parenting self-efficacy and felt unable to manage parenting challenges whereas mothers in the non-clinical group appeared to have a positive evaluation of their parenting self-efficacy and felt able to manage parenting challenges. Results could offer support for Bandura’s (1977; 1986; 1997) suggestion that perceptions of self-efficacy are informed by four principal sources of information and also expand on the findings reported in Chapter 3, providing further evidence to suggest that maternal self-efficacy may be a factor relevant to the study of clinical feeding problems in children. These results may be useful for interventions aimed at improving outcomes for children with clinical feeding problems and their families. Results suggest that difficulties with early feeding and attunement with the child, low levels of social support, and high levels of stress and anxiety are potential indicators of low maternal self-efficacy. Interventions aimed at enhancing maternal self-efficacy may benefit from involving partners or other close family members to develop relationships based on shared decision making and verbal encouragement around child feeding and wider behaviour management. Mothers may also benefit from support to construct realistic expectations and goals about parenting, child feeding and behaviour which should be supported by coping strategies to reduce somatic arousal. Group based interventions would also provide families with a social network of similar others who could offer emotional support and further verbal encouragement.

4.4.1. Strengths and Limitations

The current study was the first to explore how Bandura’s (1977; 1986; 1997) four sources of information about self-efficacy (‘Mastery experiences’, ‘Verbal Persuasion’, ‘Vicarious Experience’ and ‘Physiological State’) were linked with perceptions of maternal self-efficacy in the mothers of children with and without clinical feeding problems. However, the theme ‘physiological state’ was perhaps better conceptualised as ‘emotional state’. Results were strengthened by the use of an interview schedule which did not specifically refer to maternal self-efficacy, therefore the emergence of sub-themes relating to sources of self-efficacy were spontaneous. Findings of the current study were however limited by reliance on maternal recall of experiences that had occurred in the past which may have resulted in an inaccurate memory of events. Given the method used and small size of the sample results of this study cannot be generalised to the wider population.
4.4.2. Conclusions

The results of this study have highlighted the ways in which sources of self-efficacy information can influence levels of maternal self-efficacy among mothers of children with and without clinical feeding problems and how varying levels of maternal self-efficacy can affect the way in which mothers approach parenting challenges. This supports Bandura’s (1977; 1986; 1997) suggestion that perceptions of self-efficacy are informed by four principal sources of information and also expands on the findings reported in Chapter 3, providing further evidence to suggest that maternal self-efficacy may be a factor relevant to the study of clinical feeding problems in children. An understanding of the factors that contribute to perceptions of maternal self-efficacy may be useful for interventions aimed at improving outcomes for families affected by clinical feeding problems. Further research to determine the most optimal method of measuring maternal self-efficacy in the context of feeding problems would be useful for assessment and intervention.

5.1. Introduction

Mothers of children with clinical feeding problems have been found to have lower levels of self-efficacy for parenting (maternal self-efficacy) than mothers of typically developing children and mothers of children with developmental conditions (Feldman, Keren, Gross-Rozval, & Tyano, 2004). This suggests that mothers of children with clinical feeding problems and their children may be especially vulnerable to the negative effects of low levels of parenting self-efficacy, such as suboptimal parent-child interactions (Bohlin & Hagekull, 1987), and lax or harsh discipline (Sanders & Wooley, 2005). These maladaptive approaches to child behaviour management may further exacerbate feeding difficulties (e.g. Ammaniti, Lucarelli, Cimino, D'Olimpio, & Chatoor, 2010; Sanders, Patel, Le Grice & Shepard, 1993). The results of study 1, presented in Chapter 3 of this thesis support these findings and suggest that maternal perceptions of self-efficacy may influence the way in which mothers approach parenting challenges. Specifically, mothers in the clinical group appeared to display less confidence in their ability to manage child feeding than mothers in the non-clinical group.

Furthermore, the suggestion that high levels of self-efficacy in mothers may act as a buffer to the parenting difficulties encountered by mothers of children with clinical feeding problems (Benoit, Zeanah & Barton, 1989) was also supported by the results presented in Chapter 3 and 4 of this thesis. Findings suggested that although mothers in the non-clinical group experience similar feeding difficulties to mothers in the clinical group, they were more confident in their approach to managing difficulties. Therefore, improving maternal self–efficacy might be an important factor to consider for improving the health and wellbeing of those affected by feeding problems.

Self-efficacy is an individual's belief in their ability to successfully perform a particular behaviour (Bandura, 1977). Bandura (1989) posits that self-efficacy is a dynamic system which changes according to the demands of the task, situation and individual rather than a trait that can be generalised between unrelated domains of behaviour. As such,
measures of self-efficacy should be tailored to the specific behaviour under investigation. However, there are inconsistencies in how self-efficacy is conceptualised and measured within the domain of parenting. In addition to the global approach to self-efficacy, three different approaches to measuring parenting self-efficacy have been described within the literature (see Coleman & Karraker, 1997; Jones & Prinz, 2005, for reviews). These approaches are: domain-general, domain-specific and task-specific. Within the parenting literature, frequently cited measures for assessing these three approaches to parenting self-efficacy are the Parenting Sense of Competence Scale (Johnston & Mash, 1989), the Self-Efficacy for Parenting Tasks Index-Toddler Scale (Coleman & Karraker, 2003) and the Maternal Efficacy Questionnaire (Teti & Gelfand, 1991).

The domain-general approach is based on measures of global self-efficacy (e.g. General Self-Efficacy Scale; Schwarzer & Jerusalem, 1995) with questions adapted to focus on the broad role of parenting. For example the item “I can solve most problems if I invest the necessary effort” from the global self-efficacy measure (Schwarzer & Jerusalem, 1995), which refers to problem solving ability in general, has been adapted to “The problems of taking care of a child are easy to solve once you know how your actions affect your child” in the domain specific approach (Johnston & Mash, 1989). The Parenting Sense of Competence Scale (PSOC: Gibaud-Wallson & Wandersman, 1978; Johnston & Mash, 1989) is often used to measure domain-general parenting self-efficacy. This measure has found associations between parenting self-efficacy and parent outcomes including inconsistent discipline (Hill & Bush, 2001) and varying perceptions of child emotionality (Coleman & Karraker, 2000).

The domain-specific approach focuses on perceptions of competence across a number of discrete dimensions of parenting, such as providing healthcare and nurturance. The Self-Efficacy for Parenting Tasks Index-Toddler Scale (Coleman & Karraker, 2003) is a domain-specific approach which measures seven dimensions of parenting including: emotional availability, nurturance, protection, discipline, teaching, play, and structure. This measure has found associations between parenting self-efficacy and parent outcomes such as parenting satisfaction (Coleman & Karraker, 2000) and positive family functioning (Sevigny & Loutzenheiser, 2010). The task-specific approach to measuring parenting self-efficacy, focuses on parental perceptions of efficacy for performing specific tasks associated with parenting, such as playing with the child and feeding the child. Task-specific parenting self-efficacy can be measured using the Maternal Efficacy Questionnaire (Jones & Prinz, 2005; Teti & Gelfand, 1991). This measure has
demonstrated associations between parenting self-efficacy and observed parenting competence (Teti & Gelfand, 1991) and dyadic conflict (Raver & Leadbetter, 1999).

A comparison of the three different approaches to measuring maternal self-efficacy has supported the utility of the domain-specific approach over the domain-general approach in predicting several dimensions of child behaviour (e.g. compliance, affection, negativity) (Coleman & Karraker, 2003). However, to date, only the domain-general measure (Parenting Sense of Competence Scale; Gibaud-Wallson & Wandersman, 1978) has been employed in the study of clinical feeding problems (Feldman et al., 2004). Therefore, it is unclear whether the domain-general, domain-specific or task-specific approach is the most effective way, in terms of predictive utility, to measure maternal self-efficacy in the context of feeding problems in children. Determining the most predictive measure of maternal self-efficacy would be helpful for increasing the current understanding of the relationships between maternal self-efficacy and problematic feeding behaviour in children and the maternal management of feeding problems. An increased understanding of these relationships could be useful for interventions aimed at improving the health and wellbeing of those affected by feeding problems.

The aim of current study is therefore to examine four existing measures of self-efficacy in order to determine which self-efficacy measure (domain-general, domain-specific, task-specific or global) is the strongest predictor of problematic child feeding behaviour and which self-efficacy measure is the strongest predictor of maladaptive maternal responses to problematic child feeding. Based on the basic tenets of self-efficacy theory (Bandura, 1989; 2006), i.e. that measures of self-efficacy are more predictive when tailored to the particular domain of functioning under investigation, it was hypothesised that the global self-efficacy measure would demonstrate discriminant validity from the other self-efficacy measures. It was also hypothesised that global self-efficacy would not be predictive of problematic child feeding behaviour, or predictive of maladaptive maternal responses to problematic child feeding behaviour. It was hypothesised that the domain-specific measure would be the strongest predictor of problematic child feeding behaviour and maladaptive maternal responses to problematic child feeding behaviour, given that this measure is the most comprehensive in terms of the number of parenting dimensions measured. Associations between the subscales of the domain-specific measure of self-efficacy, child feeding behaviour and maladaptive maternal responses to problematic child feeding behaviour were anticipated but no hypotheses were formulated. This was because these investigations were exploratory in nature and there were no existing research findings on which to base any hypotheses.
5.2. Method

5.2.1. Participants

A cross-sectional sample of 278 mothers of children was recruited from parent support groups, nurseries and primary schools across the Midlands region of the UK. Participants were mothers of children who represented a wide range of feeding behaviours observed within the general child population, from mothers who had children with clinical feeding problems to mothers who had no problems with the feeding behaviour of their children. Participants were included in the sample if they had a child over the age of 6 months and under the age of 7 years. To ensure that a wide range of feeding behaviours was represented within the sample, in addition to completing a validated feeding measure, participants were asked to indicate whether or not their child had ever been diagnosed with a feeding problem and whether they were currently receiving treatment or had been discharged. The final sample included 15 mothers of children who had a current referral to a specialist for a clinical feeding problem (current referral), 11 mothers of children who had been referred to a specialist for a feeding problem and had been discharged (historical referral), and 252 mothers of children who had never had a referral to a specialist for a clinical feeding problem (never referred). This information was used for descriptive purposes; therefore all statistical analyses were conducted using the full sample. Maternal age ranged from 20 years 2 months to 49 years 3 months (M = 36.31 years, SD = 5.56). Child age ranged from 20 months to 83 months (6 years 11 months) (M = 53.23 months, SD = 19.18) and 144 (52%) of the children were female and 134 (48%) were male. Mothers were predominantly white (85%) and married or living with a partner (86%). The majority of mothers worked full or part-time (65%), 36% were educated to degree or postgraduate level and 46% had an annual household income of £35,000 or over.

5.2.2. Materials and Procedure

Following ethical approval, granted by the Loughborough University Ethics Approvals (Human Participants) Sub-Committee, parent support groups, nurseries and primary schools across the Midlands region of the UK were approached to distribute questionnaire packs to mothers on behalf of the researcher. Each pack included a detailed information sheet (Appendix 13), an informed consent form (Appendix 10), a demographics questionnaire (Appendix 1), a child feeding measure (Appendix 2), self-efficacy measures (Appendices 3, 4, 5 & 6), and a debrief sheet (Appendix 17) which could be detached for participants to keep. Participants were asked to complete the questionnaires and return...
them in the envelopes provided to a sealed collection box at the support group, nursery or school. A total of 300 questionnaire packs were distributed and 212 questionnaires were returned (71% response rate). An online version of the questionnaire pack was also made available which was completed by a further 66 participants (see section 2.5.1. and 2.5.2. for full details).

Demographics Questionnaire

The demographics questionnaire (Appendix 1) provided basic information about the mother’s age, ethnicity, marital status, employment status, educational level, household income, and the child’s age and gender. Participants also provided information to determine the child’s clinical referral status (current referral, historic referral, never referred), see section 2.2.2. for full details.

Child Feeding Measure: Behavioural Pediatric’s Feeding Assessment Scale (BPFAS: Crist & Napier-Phillips, 2001)

The BPFAS (Appendix 2) is a 35 item standardised and validated scale measuring 25 feeding behaviours in young children (aged 6 months - 7 years) and 10 parent feelings and strategies associated with feeding problems in children. The questionnaire yields four domain scores: ‘child behaviour frequency’, ‘parent behaviour frequency’, ‘child behaviour problems’ and ‘parent behaviour problems’. Full details are provided in section 2.6.2. Using the current sample, Cronbach’s alpha coefficients for the ‘child behaviour frequency’ subscale were 0.86 and 0.79 for the ‘parent behaviour frequency’ subscale. Cronbach’s alpha coefficients for the ‘child behaviour problem’ subscale were 0.90 and 0.86 for the ‘parent behaviour problem’ subscale.


The GSES (Appendix 3) is a 10 item scale which measures optimistic self-beliefs used to cope with a variety of demands in life (e.g. “Thanks to my resourcefulness, I can handle unforeseen situations”). Higher scores indicate stronger global/general self-efficacy beliefs. See section 2.6.2 for full details. Using the current sample, the Cronbach’s alpha coefficient was 0.81.

Chapter 5

The PSOC (Appendix 4) is a 17 item measure of parenting self-esteem consisting of 2 subscales: ‘efficacy’ which reflects competence, problem solving ability and capability and ‘satisfaction’ which reflects parenting frustration, anxiety and motivation. In the current study only the ‘efficacy’ subscale of the PSOC was used in order to assess domain-general maternal self-efficacy. This subscale consists of seven items which reflect parenting competence, problem solving ability and capability (e.g. “Being a parent is manageable and any problems are easily solved”). Higher scores represent stronger self-efficacy beliefs. See section 2.6.2 for full details. Using the current sample, reliability analysis revealed that Cronbach’s alpha coefficient for the ‘Efficacy’ subscale was 0.83.

**Domain-Specific Self-Efficacy: Self-Efficacy for Parenting Tasks Index—Toddler Scale (SEPTI-TS: Coleman & Karraker, 2003)**

The SEPTI-TS (Appendix 5) is a domain-specific measure of parenting self-efficacy. This is a 53 item scale measuring seven dimensions of parenting: 1) emotional availability (e.g. “When my child needs me, I am able to easily put aside whatever else I may be doing”), 2) nurturance, valuing the child, and empathetic responsiveness (e.g. “My toddler knows that I understand when his/her feelings are hurt”), 3) protection from harm or injury (e.g. “I am very good about never leaving my child unattended”), 4) discipline and limit setting (e.g. “Setting limits for my child is relatively easy for me”), 5) play (e.g. “I can always think of something to play with my child”), 6) teaching (e.g. “I believe my child learns a great deal from my efforts to show him/her things”), and 7) instrumental care and establishment of structure and routines (e.g. “I have been able to establish a daily routine with my child that feels comfortable to both of us”). Higher scores are indicative of stronger self-efficacy beliefs. Refer to section 2.6.2 for full details. Using the current sample, Cronbach’s alpha for the scale was 0.93 and Cronbach’s alpha coefficients for the subscales ranged from 0.71 (Protection) to 0.88 (Play).

**Task-Specific Self-Efficacy: Maternal Efficacy Questionnaire (MEQ; Teti & Gelfand, 1991).**

The MEQ (Appendix 6) is a 10 item measure of task-specific parenting self-efficacy consisting of nine items measuring self-efficacy beliefs about specific infant care tasks (e.g. “Understanding your child’s needs and wants”), and one item measuring general feelings of competence in parenting (“In general, how good a parent do you feel you are”). Higher scores indicate stronger self-efficacy beliefs. See section 2.6.2 for full details. Using the current sample Cronbach’s alpha was 0.82.
5.2.3. Preliminary Data Analyses

Data analysis was conducted using SPSS version 22. Preliminary analysis using two-tailed Pearson’s correlations was conducted to examine relationships between demographic variables, child feeding measure variables and self-efficacy measure variables. No relationships reaching the strength and level of significance required for further analyses were found (Appendix 18; Appendix 19). Child gender was weakly correlated with the child behaviour frequency subscale of the feeding measure and reached a low level of significance ($r = 0.12, p<0.05$), therefore exploratory analyses to further consider potential child gender differences on the child feeding measure subscale were conducted however, no significant difference was found. The mean score on the child behaviour frequency subscale of the child feeding measure (BPFAS) was higher for female children ($M = 46.50; SD = 46.50$) than for male children ($M = 43.07; SD = 10.71$); this difference was found to be significant ($t (276) = 2.14, p = 0.26$). Given this difference, child gender was included in regression analyses but was not found to be significant in the final model (Appendix 20). Within this chapter, regression models reported did not control for child gender and all analyses were run for the child sample as a whole. Preliminary analysis also showed that there was no significant difference between respondents who completed questionnaires online ($N = 66$) and those who completed them on paper ($N = 208$), therefore subsequent analysis was conducted combining these different response modes into a single sample.

Initial screening of the child feeding measure (BPFAS) found that a large number of mothers reported a score of zero on the child behaviour problem subscale ($N = 154$) and on the parent behaviour-problem subscale ($N = 204$). This observed ‘floor effect’ (Goth-Marnat, 2003) indicated that the data could not be transformed therefore, these subscales were removed from subsequent analyses. Scores on the child behaviour frequency and the parent behaviour frequency subscales of the child feeding measure (BPFAS) were positively skewed; therefore, transformations were applied to the data prior to analysis. Following transformations, skew values and p-plot analysis indicated that data were normally distributed, although one score on the child behaviour frequency subscale and three scores on the parent behaviour frequency subscale remained high score outliers. Analysis of residuals using Cook’s Distance and Leverage scores indicated that these outliers did not have a leverage effect on the data and therefore these scores were retained in the data set for subsequent analysis.
Further screening revealed that 27 participants reported scores on the BPFAS which indicated clinically significant levels of problematic feeding (a score of 61 or above on the BPFAS child behaviour frequency subscale and a score of 6 or above on the BPFAS child behaviour problem subscale) (Dovey, Jordan, Aldridge & Martin, 2013). However from this group of 27, only two had a current referral, which indicated that clinically significant levels of problematic feeding affected 25 participants who were not accessing clinical intervention. Scores on the self-efficacy measures were negatively skewed therefore transformations were applied to the data prior to analysis. Following transformations, skew values and p-plot analysis indicated that data were normally distributed although two low score outliers remained on the task-specific maternal self-efficacy measure (MEQ). Analysis of residuals indicated that outliers did not have a leverage effect and therefore they were retained in the data set for subsequent analysis.

Preliminary analysis to determine significant relationships between the study variables was conducted using one-tailed Pearson’s correlations. Correlations determined the strength and direction of the relationship between maternal self-efficacy and child feeding behaviour and between maternal self-efficacy and maladaptive maternal responses. To test the study’s hypotheses, hierarchical regressions were conducted to explore which of the significantly correlated self-efficacy scales was the strongest statistical predictor of problematic child feeding behaviour and which of the significantly correlated self-efficacy scales was the strongest statistical predictor of maladaptive maternal responses to problematic feeding behaviour. Hierarchical regression was used for these analyses as it enables different variables to be entered in a theoretical order and it was expected that the domain specific measure would be the most predictive and the global measure would be the least predictive measures. This was based on the basic tenets of self-efficacy theory (Bandura, 1989; 2006), i.e. that measures of self-efficacy are more predictive when tailored to the particular domain of functioning under investigation and previous research which had confirmed these assertions (Coleman & Karraker, 2003).

Given that this was the first study to examine the relationship between specific domains of the maternal self-efficacy measure and child feeding behaviour, there was no theoretical precedent or existing research on which to formulate hypotheses about which parenting domains might be predictive of child feeding behaviour. Therefore stepwise regression was used for these analyses to examine which of the maternal self-efficacy subscales were predictive of child feeding variables. This was preferred over the enter method of regression, considering the large number of subscale variables and the exploratory nature of the analyses.
A *p*-value of < 0.01 was used to indicate significance in correlation analyses, given the large number of analyses being conducted, and a *p*-value of < 0.05 was then used to indicate significance in regression. The reported strength of correlations were based on Cohen (1992) and Field (2009) with $r = 0.10$-0.29 reported as a weak correlation; $r = 0.30$-0.49 reported as a moderate correlation and $r \geq 0.50$ reported as a strong correlation. A correlation coefficient of $r \geq 0.8$ was considered very high and an indicator of multicollinearity (Pallant, 2010). Four of the scales used in the current study were measures of self-efficacy, which increased the likelihood of multicollinearity. However, correlations of $r \geq 0.8$ were not observed between these variables and collinearity statistics showed that VIF values were lower than 10 and that tolerance values were above 0.20; further checks of variance proportions showed that the variance for each predictor loaded onto different dimensions and as such did not indicate multicollinearity with the data set.

### 5.3. Results

#### 5.3.1. Descriptive Results

Mothers of children with a current referral for a feeding problem reported the highest mean frequency of problematic child feeding behaviour and mothers of children who had never been referred reported the lowest mean frequency of problematic child feeding behaviour (Table 5.1). Similarly, mothers of children with a current referral for a clinical feeding problem reported the highest mean frequency of maladaptive maternal responses to problematic feeding and mothers of children who had never been referred reported the lowest mean frequency (Table 5.1).

**Table 5.1: Behavioral Pediatrics Feeding Assessment Scale subscale scores for the total sample and by child referral status**

<table>
<thead>
<tr>
<th>BPFAS Subscale</th>
<th>Child Behaviour Frequency</th>
<th>Parent Behaviour Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M (SD)</td>
<td>M (SD)</td>
</tr>
<tr>
<td>Current Referral (N = 15)</td>
<td>57.40 (15.43)</td>
<td>21.20 (6.83)</td>
</tr>
<tr>
<td>Historical Referral (N = 11)</td>
<td>47.45 (11.27)</td>
<td>17.45 (4.44)</td>
</tr>
<tr>
<td>Never Referred (N = 252)</td>
<td>43.99 (11.77)</td>
<td>15.96 (5.23)</td>
</tr>
</tbody>
</table>
Initial screening of the maternal self-efficacy measures found that the mean self-efficacy score, measured at domain general, domain-specific and task-specific levels, was lowest in mothers who had a current or historical referral for a child feeding problem and highest in mothers who had never been referred (Table 5.2). These observed score differences between groups were consistent with research by Feldman et al. (2004) which also found that maternal self-efficacy was lower in mothers of children with clinical feeding problems than in mothers of children without feeding problems.

<table>
<thead>
<tr>
<th>Maternal Self-Efficacy Measure</th>
<th>Domain-General M (SD)</th>
<th>Domain-Specific M (SD)</th>
<th>Task-Specific M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Sample (N = 278)</td>
<td>36.45 (6.2)</td>
<td>263.55 (26.45)</td>
<td>33.46 (3.87)</td>
</tr>
<tr>
<td>Current Referral (N = 15)</td>
<td>35.60 (6.37)</td>
<td>252.80 (32.96)</td>
<td>31.2 (3.65)</td>
</tr>
<tr>
<td>Historical Referral (N = 11)</td>
<td>35.64 (5.71)</td>
<td>254.73 (33.46)</td>
<td>32.91 (5.03)</td>
</tr>
<tr>
<td>Never Referred (N = 252)</td>
<td>36.58 (6.28)</td>
<td>264.58 (25.60)</td>
<td>33.62 (3.80)</td>
</tr>
</tbody>
</table>

5.3.2. Discriminant Validity of the Global Self-Efficacy Measure

In order to test the hypothesis that global self-efficacy would demonstrate a degree of discriminant validity from the domain-general, domain-specific and task-specific measures of maternal self-efficacy, one-tailed Pearson’s correlations were conducted between global self-efficacy (GSES) with domain-general (PSOC: Efficacy), domain-specific (SEPTI-TS) and task-specific (MEQ) maternal self-efficacy (Table 5.3). Discriminant validity refers to the distinctiveness of constructs, even if those constructs are similar (Campbell & Fisk, 1959). The most common approach to establishing discriminant validity between similar construct measures is to examine the strength of associations; high correlations indicate a lack of discriminant validity while low correlations between factors indicate discriminant validity (Campbell & Fisk, 1959). In this study, results showed a range of significant, positive and moderate correlations between the measures ($r$ values 0.46 – 0.49). However, weaker correlations were observed between the global self-
efficacy measure and the other maternal self-efficacy measures, demonstrating a degree of discriminant validity (Table 5.3).

### Table 5.3: One-tailed Pearson’s correlations between self-efficacy measures

<table>
<thead>
<tr>
<th>Self-Efficacy measure</th>
<th>Domain-General</th>
<th>Domain-Specific</th>
<th>Task-Specific</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domain-Specific</td>
<td>0.63**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Task-Specific</td>
<td>0.58**</td>
<td>0.67**</td>
<td></td>
</tr>
<tr>
<td>Global</td>
<td>0.46**</td>
<td>0.49**</td>
<td>0.46**</td>
</tr>
</tbody>
</table>

**p < 0.01; ***p < 0.001, N = 278

5.3.3. Maternal Self-Efficacy as a Predictor of Problematic Child Feeding Behaviour

To test the hypothesis that maternal self-efficacy beliefs measured at the domain-specific level would be a stronger predictor of problematic child feeding behaviour, than domain-general and task specific maternal self-efficacy, and global self-efficacy, one-tailed Pearson’s correlations were conducted to examine relationships between the maternal self-efficacy measures (domain-specific: SEPTI-TS; task specific: MEQ; domain-general: PSOC), the global self-efficacy measure (GSES), and problematic child feeding behaviour (BPFAS: child behaviour frequency). Moderate, significant, negative relationships were found between the variables, indicating that lower levels maternal self-efficacy were associated with an increased frequency of problematic child feeding behaviour (Table 5.4).

### Table 5.4: One-tailed Pearson’s correlations between maternal self-efficacy and child behaviour frequency

<table>
<thead>
<tr>
<th>Self-Efficacy Measure</th>
<th>Child Behaviour Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domain-General</td>
<td>-0.26**</td>
</tr>
<tr>
<td>Domain-Specific</td>
<td>-0.38**</td>
</tr>
<tr>
<td>Task-Specific</td>
<td>-0.38**</td>
</tr>
<tr>
<td>Global</td>
<td>-0.25**</td>
</tr>
</tbody>
</table>

**p < 0.01; ***p < 0.001, N = 278
As all four maternal self-efficacy variables were significantly related to the child behaviour frequency subscale of the BPFAS, a hierarchical regression was conducted to identify the strongest statistical predictor. Self-efficacy variables were entered according to the hypothesised predictive ability of the measure, which was based on Bandura's (1989; 2006) assertion that measures of self-efficacy are more predictive when tailored to the behaviour. The domain-specific measure (SEPTI-TS) was entered in the first step and contributed significantly to the model, explaining 14% of the variance. The task specific (MEQ) was entered in the second step and significantly contributed a further 3% to the explained variance. In the third step, the domain-general measure (PSOC) was entered but did not contribute significantly to the model, and in the fourth and final step, the global self-efficacy measure (GSES) was entered but did not contribute significantly to the model. In the final model only the domain-specific and the task-specific measures remained as significant predictors of problematic child feeding behaviour, \( F(4, 277) = 14.33, p < 0.001 \), explaining 17% of the variance (Table 5.5).

### Table 5.5: Hierarchical regression using self-efficacy measures as predictors of child behaviour frequency

<table>
<thead>
<tr>
<th>Self-Efficacy Measure</th>
<th>Model ( R^2 )</th>
<th>Model ( F )</th>
<th>( t )</th>
<th>( \beta )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
<td>0.14</td>
<td>46.56***</td>
<td>-6.82***</td>
<td>-0.38</td>
</tr>
<tr>
<td>Model 2</td>
<td>0.17</td>
<td>28.29***</td>
<td>-2.95**</td>
<td>-0.22</td>
</tr>
<tr>
<td>Model 3</td>
<td>0.17</td>
<td>18.81***</td>
<td>0.23</td>
<td>0.02</td>
</tr>
<tr>
<td>Model 4</td>
<td>0.17</td>
<td>14.33***</td>
<td>-0.95</td>
<td>-0.06</td>
</tr>
</tbody>
</table>

*p < 0.05, **p < 0.01; ***p < 0.001, N = 278

5.3.4. Maternal Self-Efficacy as a Predictor of Maladaptive Maternal Responses

To test the hypothesis that maternal self-efficacy beliefs measured at the domain-specific level would be a stronger predictor of maladaptive maternal responses to problematic
child feeding behaviour than domain-general and task specific maternal self-efficacy measures, and global self-efficacy, one-tailed Pearson’s correlations were conducted to examine relationships between the maternal self-efficacy measures (domain-specific: SEPTI-TS; task specific: MEQ; domain-general: PSOC), the global self-efficacy measure (GSES), and maladaptive maternal responses to problematic child feeding behaviour (BPFAS: parent behaviour frequency). Moderate, significant, negative relationships were found between the variables (Table 5.6).

<table>
<thead>
<tr>
<th>Self-Efficacy Measure</th>
<th>Parent Behaviour Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domain-General</td>
<td>-0.37**</td>
</tr>
<tr>
<td>Domain-Specific</td>
<td>-0.48**</td>
</tr>
<tr>
<td>Task-Specific</td>
<td>-0.43**</td>
</tr>
<tr>
<td>Global</td>
<td>-0.30**</td>
</tr>
</tbody>
</table>

**p < 0.01, ***p < 0.001, N = 278

As all four maternal self-efficacy variables were significantly related to the parent behaviour frequency subscale of the BPFAS, a hierarchical regression was conducted to identify the strongest statistical predictor. Self-efficacy variables were entered according to the hypothesised predictive ability of the measure, which was based on Bandura’s (1989; 2006) assertion that measures of self-efficacy are more predictive when tailored to the behaviour. This assertion was reflected in the strength of correlations between the maternal self-efficacy measures and the parent behaviour frequency subscale of the BPFAS.

The domain-specific measure (SEPTI-TS) was entered in the first step and contributed significantly to the model, explaining 23% of the variance. The task-specific measure was entered in the second step and contributed significantly to the model, explaining a further 2% of the variance. In the third step, the domain-general measure was entered but did not contribute significantly to the model, and in the fourth and final step, the global measure (GSES) was entered but did not contribute significantly to the model. In the final model only the domain-specific and the task-specific measures significantly predicted
maladaptive maternal responses, $F(4, 277) = 23.64, p < 0.001$ and together explained 25% of the variance (Table 5.7).
Table 5.7: Hierarchical regression using self-efficacy measures as predictors of parent behaviour frequency

<table>
<thead>
<tr>
<th>Self-Efficacy Measure</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$R^2$</td>
<td>$F$</td>
<td>$t$</td>
<td>$\beta$</td>
</tr>
<tr>
<td>Model 1</td>
<td>0.23</td>
<td>84.45***</td>
<td>-9.19***</td>
<td>-0.48</td>
</tr>
<tr>
<td>Domain-Specific</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Task-Specific</td>
<td>0.25</td>
<td>46.49***</td>
<td>-2.60**</td>
<td>-0.18</td>
</tr>
<tr>
<td>Domain-General</td>
<td>0.25</td>
<td>31.21***</td>
<td>-0.06**</td>
<td>-0.06</td>
</tr>
<tr>
<td>Global</td>
<td>0.25</td>
<td>23.64***</td>
<td>-0.97</td>
<td>-0.06</td>
</tr>
</tbody>
</table>

*p < 0.05; **p < 0.01; ***p < 0.001, N = 278

5.3.5. Sub-Scales of the Domain-Specific Measure as Predictors of Problematic Child Feeding Behaviour and Maladaptive Maternal Responses

The domain-specific measure of self-efficacy (SEPTI-TS) was found to be predictive of both problematic child feeding behaviour and of maladaptive maternal responses to problematic child feeding behaviour. The SEPTI-TS is made up of seven subscales representing dimensions of parenting (emotional availability, nurturance, protection, discipline and limit setting, play, teaching, instrumental care, structure and routines); therefore, subsequent analysis was conducted using one-tailed Pearson’s correlations to examine relationships between the subscales of the maternal self-efficacy measure (SEPTI-TS) and problematic child feeding behaviour (BPFAS: child behaviour frequency). Significant, weak to strong, negative correlations were found between all of the variables (see Appendix 21 for correlations). As all of the SEPTI-TS subscales were correlated with the child behaviour frequency subscale of the BPFAS, a stepwise regression was then conducted to explore the contribution of the SEPTI-TS subscales to problematic child feeding behaviour. The seven SEPTI-TS subscales were entered as predictor variables and the child behaviour frequency subscale of the BPFAS was entered as the outcome variable. Results showed that the ‘instrumental care, structure and routines’ and the ‘discipline and limit setting’ subscales were significant negative predictors of problematic child feeding behaviour and the ‘teaching’ subscale was a significant, positive predictor of...
problematic child feeding behaviour, $F (3, 277) = 46.37, p < 0.001$ and together explained 33% of the variance (Table 5.8).

Table 5.8: Stepwise regression to determine the strongest of the domain-specific self-efficacy variables as predictors of child behaviour frequency

<table>
<thead>
<tr>
<th>Domain-Specific Self-Efficacy Variables</th>
<th>Model $R^2$</th>
<th>Model $F$</th>
<th>$t$</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instrumental care, structure, routine</td>
<td>-7.43***</td>
<td>-0.46</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discipline, limit setting</td>
<td>-4.81***</td>
<td>-0.27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teaching</td>
<td>0.33</td>
<td>46.37***</td>
<td>2.80**</td>
<td>0.16</td>
</tr>
</tbody>
</table>

*p < 0.05, **p < 0.01; ***p < 0.001, N = 278

One-tailed Pearson’s correlations were conducted to examine the relationships between the subscales of the maternal self-efficacy measure (SEPTI-TS) and maladaptive maternal responses to problematic child feeding behaviour (BPFAS: parent behaviour frequency). Significant, weak to strong, negative correlations were found between all of the variables (see Appendix 21 for correlations). As all of the SEPTI-TS subscales were correlated with the parent behaviour frequency subscale of the BPFAS, a stepwise regression was then conducted to explore the contribution of the SEPTI-TS subscales to maladaptive maternal responses to problematic child feeding behaviour. The parent behaviour frequency subscale of the BPFAS was entered as the outcome variable and the seven SEPTI-TS subscales were entered as predictors. Results showed that the ‘instrumental care, structure and routines’ and the ‘discipline and limit setting’ subscales were significant, negative predictors of maladaptive maternal responses, $F (2, 277) = 75.79, p < 0.001$, explaining 35% of the variance (Table 5.9).
Table 5.9: Stepwise Regression to determine the strongest of the domain-specific self-efficacy variables as predictors of parent behaviour frequency

<table>
<thead>
<tr>
<th>Domain-Specific Self-Efficacy Variables</th>
<th>Parent-Behaviour Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model $R^2$</td>
</tr>
<tr>
<td>Discipline and limit setting</td>
<td>-6.45***</td>
</tr>
<tr>
<td>Instrumental care, structure, routine</td>
<td>0.35</td>
</tr>
</tbody>
</table>

*p < 0.05; **p < 0.01; ***p < 0.001, N = 278

5.4. Discussion

The aim of current study was to examine four existing measures of self-efficacy in order to determine which self-efficacy measure (domain-general, domain-specific, task-specific or general) is the strongest predictor of problematic child feeding behaviour and which self-efficacy measure is the strongest predictor of maladaptive maternal responses to problematic child feeding. It was hypothesised that the general self-efficacy measure would demonstrate discriminant validity from the other self-efficacy measures and would not be predictive of problematic child feeding behaviour, or maladaptive maternal responses.

Consistent with the study hypothesis, results of the current study showed that the general measure of self-efficacy demonstrated a degree of discriminant validity, which broadly supported the study hypothesis. As hypothesised, the general measure of self-efficacy did not significantly predict problematic child feeding behaviour or maladaptive maternal responses to child feeding problems, which also supported the study hypotheses.

Results showed that lower levels of maternal self-efficacy (measured at the domain-general, domain-specific and task specific levels) were associated with problematic child feeding behaviour and with maladaptive maternal responses to problematic child feeding. As hypothesised, the domain-specific maternal self-efficacy measure was the strongest predictor of problematic child feeding behaviour and maladaptive maternal responses to problematic child feeding behaviour. It is likely that the increased predictive utility of the domain-specific maternal self-efficacy measure is due to the measure being more comprehensive in terms of the range of parenting dimensions and tasks included on the measure compared to the domain-general and the task-specific measures. The domain-
specific measure and the task-specific measure may not have been specific enough to capture the complexity of parenting or in depth enough to capture the large number of tasks involved (Bradley, 2007; Markman & Brooks-Gunn, 2005).

Further exploratory analysis of the subscales of the domain-specific measure of maternal self-efficacy (emotional availability; nurturance; protection; discipline and limit setting; play; teaching; instrumental care, structure and routines) was conducted, although no hypotheses had been formulated. Results showed that lower levels of maternal self-efficacy for implementing discipline and setting limits and for establishing structure and routines around instrumental childcare tasks, and higher levels of self-efficacy for teaching, were predictive of problematic child feeding behaviour. Lower levels of maternal self-efficacy for implementing discipline and setting limits and for establishing structure and routine around instrumental care tasks were also predictive of maladaptive maternal responses to problematic child feeding behaviour. These results suggest a complex relationship between maternal self-efficacy, problematic child feeding behaviour and maternal management of feeding problems and wider child behaviour.

Current understanding of the relationship between child feeding problems and maternal management of feeding behaviour suggests that emotional responses, such as anxiety, frustration and anger, which are common responses to child feeding problems, are usually a result of the stress of parenting a child with feeding problems and concerns about the child’s health (e.g. Dovey, Farrow, Martin, Isherwood & Halford, 2009; Hagekull & Dahl, 1987). These maternal feelings can have a direct negative effect on child feeding behaviour by unintentionally increasing anxiety around food and feeding in the child. These feelings can also exert an indirect negative effect on child feeding behaviour by increasing the use of strategies such as coaxing, threats, force feeding and making replacement meals which, although intended to encourage the child to eat, can unintentionally exacerbate existing difficulties (e.g. Hendy, Williams, Riegel & Paul, 2010; Piazza et al., 2010; Piazza, Fisher, Brown et al., 2010; Sanders et al., 1993).

The present study expands this understanding by suggesting that low levels of maternal self-efficacy for behaviour management (discipline and limit setting; instrumental care, structure, routines and teaching) might contribute to the paradoxical cycle of behaviour described above by reinforcing maladaptive responses to problematic child feeding behaviour and problematic child feeding behaviour. Results suggest a scenario in which a mother’s attempts to manage difficult child behaviour by promoting discipline, structure and instruction might be met with resistance from the child. High levels of maternal verbal
teaching and control during feeding and play interactions have previously been reported in mother-child dyads experiencing clinical feeding problems (Lindberg, Bohlin, Hagekull & Palmerus, 1996). The failure of this approach to manage child feeding and wider behaviour could potentially result in maladaptive emotional responses which exacerbate problematic child feeding behaviour. The increase in problematic child feeding behaviour may signal failure to the mother which could reinforce low maternal self-efficacy for behaviour management. This would support Bandura’s (1982) view that the relationship between self-efficacy beliefs and performance is bidirectional. However further research would be needed to confirm or refute these suggestions.

Although the domain-specific measure of maternal self-efficacy was the strongest individual predictor of child feeding behaviour and maladaptive maternal responses, the task-specific measure also contributed a small but significant amount of variance to each model (3% and 2% respectively). This indicates that the task specific approach to measuring maternal self-efficacy enhances the predictive utility of the domain-specific approach. This is supported by the predictive utility of the ‘instrumental care’ subscale of the domain-specific measure of maternal self-efficacy in the current study. These results suggest that an increased understanding of tasks that are relevant to mothers of children with problematic feeding behaviour may be useful for interventions aimed at enhancing maternal self-efficacy.

Previous research suggests that mothers of children with serious feeding problems are at risk of experiencing low levels of maternal self-efficacy and that increasing maternal self-efficacy in those affected by feeding problems may be an important factor to consider for improving their health and wellbeing (e.g. Benoit et al., 1989; Feldman et al., 2004). Therefore a better understanding of maternal self-efficacy in this population may be useful for the development of parent based interventions. Results of the current study suggest that parent based interventions to improve maternal self-efficacy for behaviour management would be useful for mothers experiencing difficulties feeding their children. Intervention should specifically target improving maternal self-efficacy for implementing discipline and setting limits, providing direction and instruction, and establishing structure and routine around instrumental care tasks.

5.4.1. Strengths and Limitations

The current study was the first to examine maternal self-efficacy in the context of child feeding problems using three different approaches outlined in the parenting literature (e.g. Prinz, 2005). Previous research has found an association between domain-general
maternal self-efficacy and clinical feeding problems in children (Feldman et al., 2004). However the current study was the first to examine the relationship between maternal self-efficacy and problematic child feeding and the relationship between maternal self-efficacy and maladaptive maternal responses to feeding problems using several different approaches outlined in the parenting literature (e.g. Prinz, 2005). It is also the first study to demonstrate that low levels of maternal self-efficacy were predictive of problematic feeding behaviours in children and maladaptive maternal responses to feeding problems, such as coaxing, threats, force feeding, frustration, anger and anxiety, which may exacerbate child feeding difficulties (Crist & Napier-Phillips, 2001).

The results presented can be viewed with confidence given the large sample size and level of significance achieved. Results were further strengthened by employing a sample of mothers who had children with a wide range of feeding behaviours, including clinical feeding problems and those discharged from treatment, which is representative of feeding behaviours observed within the general population. The use of stepwise regression may have produced results which underestimated alternative combinations of variables that, whilst not being statistically as strong, may represent a more fitting ‘real world’ scenario. Whilst every effort was made to reduce this by entering variables that reached a high level of statistical strength in their correlation relationships with outcome variables, the result presented may fit the current data set rather than being generalizable to the wider population. Although results suggest that there is a relationship between low levels of maternal self-efficacy and the presence of feeding problems in children, the results presented here are cross-sectional and therefore cannot be used to establish causality.

5.4.2. Further Research

Bandura (1982; 1986; 1989) asserted that judgements about one’s self-efficacy are created and developed from four main sources of information: mastery experiences, which are direct experiences of success and failure in performing a particular behaviour; vicarious experience, which is a form of social learning based on observations or visualisations of the performance of similar others; verbal persuasions from similar others about the individual’s ability to perform a behaviour; and, physiological state, which describes somatic and emotional reactions to fearful, stressful or anxiety provoking situations. Therefore, further research to increase understanding of self-efficacy in the context of feeding problems in children should investigate what Bandura (1977; 1986; 1989) refers to as sources of maternal self-efficacy.
The paradoxical cycle of mother-child behaviour during feeding interactions, described above, suggests that maternal physiological state may have a direct influence on child feeding behaviour and an indirect effect on child feeding behaviour, through the resulting use of maladaptive feeding strategies. Therefore the relationship between physiological state, maternal self-efficacy, child feeding behaviour and maladaptive maternal feeding responses, is of particular interest.

In the current study the task-specific measure of maternal self-efficacy contributed a small but significant amount of variance to problematic child feeding behaviour and to maladaptive maternal responses. Therefore, further research should also aim to increase the current understanding of parenting tasks which may enhance or have a deleterious effect on self-efficacy in mothers of children problematic feeding behaviour.

5.4.3. Conclusions

The results of this study support Bandura’s (2006) assertion that global measures of self-efficacy fail to contextualise self-efficacy and that measures of self-efficacy are more predictive when tailored to the particular domain of functioning under investigation. The current study is the first to demonstrate that low levels of maternal self-efficacy, measured at the domain-specific level, are predictive of maternally reported problematic feeding behaviour in children and maladaptive responses to problematic feeding in mothers. Results also showed that lower levels of maternal self-efficacy for establishing structure and routine around instrumental childcare tasks, lower levels of maternal self-efficacy for implementing discipline and limits for the child, and a higher tendency to direct and instruct the child is predictive of problematic child feeding behaviour and maladaptive maternal responses to child feeding problems. Results suggest that mothers who lack confidence in their ability to establish structure and routines for instrumental childcare, enforce discipline and set limits for their children have children with problematic feeding behaviours and use maladaptive strategies for managing problematic feeding behaviour. Therefore interventions aimed at enhancing maternal self-efficacy for these parenting dimensions may be useful for mothers of children with feeding problems in a clinical and community setting.

6.1. Introduction

The results presented in Chapter 5 showed that lower levels of maternal self-efficacy for behaviour management (‘discipline and limit setting’; ‘instrumental care’, structure, routines) (Coleman & Karraker, 2003) significantly predicted problematic child feeding behaviour. Similarly, lower levels of maternal self-efficacy for behaviour management predicted the increased use of maternal emotional responses and feeding strategies which have been found to exacerbate feeding difficulties (e.g. Hendy, Williams, Riegel & Paul, 2010; Piazza, Fisher, Brown et al., 2010; Sanders et al., 1993; Piazza et al., 2010). The understanding of maternal self-efficacy could be increased by an understanding of the factors that could determine a mother’s perceptions of parenting self-efficacy.

The theory of self-efficacy (Bandura, 1977; 1986; 1997) asserts that there are four principle sources of information that are considered to influence perceptions of self-efficacy: mastery experiences, verbal persuasion, vicarious experience and physiological state. According to Bandura (1977; 1986; 1997), mastery experiences constitute the most influential source of information about self-efficacy. This is because they are direct experiences of success and failure in performing any particular behaviour; success in performing a particular behaviour increases efficacy whereas repeated failure lowers it. The theory also asserts that the second most influential source of information is vicarious experience. Vicarious experience is a form of social learning based on social comparisons to others engaging successfully or unsuccessfully in any particular behaviour (Bandura, 1977; 1986; 1997). Observing failure in others who are perceived to have less ability does not impact on efficacy, however, observations in which one is surpassed by similar and credible others can weaken self-efficacy (Bandura, 1977; 1986; 1997).

Verbal persuasions, which are suggestions about ability in performing a particular behaviour, are considered to be the third most influential source of self-efficacy information (Bandura, 1977; 1986; 1997). The theory of self-efficacy (Bandura, 1977; 1986; 1997) suggests that it is easier to undermine efficacy with verbal persuasions than
it is to raise it, especially when persuasions come from a credible and realistic source. Physiological state refers to somatic or emotional arousal in stressful or anxiety provoking situations and has been suggested to be the least important source of self-efficacy information (Bandura, 1977; 1986; 1997). A heightened state of arousal can be interpreted as a sign of vulnerability to dysfunction which can also induce rumination about failure and feelings of depression; therefore, individuals are more likely to feel efficacious when they are not experiencing strong arousal (Bandura, 1977; 1986; 1986).

A review of the parenting literature identified two studies which have investigated sources of self-efficacy information. Cassé, Oosterman and Schuengel (2015) found that positive verbal persuasions resulted in increases in parenting self-efficacy however increases were not maintained following performance failure. While this study offers support for Bandura’s assertion that it is more difficult to raise self-efficacy than to undermine it, the design of the study limited the findings about verbal persuasion. This was due to investigators informing the study’s participants about their performance success or failure in the task prior to their completion of the measure of parenting self-efficacy. Feedback about success or failure in performing a particular behaviour reflects mastery; therefore participants’ perceptions of efficacy were influenced by verbal persuasion and mastery, rather than verbal persuasion alone.

The second study, by Biehle and Mickleson (2011), examined the development of parenting self-efficacy during the transition to parenthood using proxy measures of mastery experiences, physiological state, and verbal persuasion. Participation in childcare tasks was used to assess mastery experiences, emotional support was used to measure verbal persuasion, and scales measuring anxiety and depression symptoms were used to assess physiological state. Contrary to Bandura’s assertion that mastery experiences constitute the strongest predictor of self-efficacy, physiological state (anxiety and depressive symptoms) was found to be a strong predictor of parenting self-efficacy. The relative contribution of mastery to parenting self-efficacy was limited, however, by the authors measuring mastery as the division of childcare tasks between mother and father. This conceptualisation does not closely reflect Bandura’s original description of mastery which is individuals’ direct experiences of success and failure (Bandura, 1977). The absence of a measure of vicarious experience also prevents a comparison of the relative importance of each individual source of self-efficacy information which would have increased the strength of the results found.
There is a considerable amount of research investigating maternal factors that could be considered to be proxy measures of sources of self-efficacy information and their relationship with feeding problems. For example, experiences of failure, which reflect a lack of mastery in feeding, are encountered by mothers of children with clinical feeding problems during their attempts to encourage their children to eat (e.g. Hendy et al., 2010; Piazza et al., 2003; Woods, Borrero, Laud & Borrero, 2010). Research also shows that mothers of children with clinical feeding problems report low levels of social support and lower levels of satisfaction with social support (e.g. Lindberg, Bohlin & Hagekull, 1994). This could indicate that they have fewer social contacts to provide verbal persuasions and that those relationships are not supportive, perhaps indicating a lack of positive persuasion. As highlighted by Biehle and Mickleson (2011), vicarious experience appears to be a difficult construct to measure. However evidence suggests that parents of children with clinical feeding problems feel relieved at meeting other families with feeding difficulties when they enter clinical intervention because they have the opportunity to meet similar others (Douglas & Harris, 2001). However, it is remains unclear whether these opportunities provide useful social comparisons and to what extent mothers of children with feeding problems make social comparisons.

Although Bandura (1977; 1986; 1997) suggests that physiological state, described by Bandura as being stress, anxiety or depression (Bandura, 1977; 1986; 1997), constitutes the least influential source of self-efficacy information, there is a substantial amount of research to show that mothers of children with clinical feeding problems experience higher levels of anxiety, stress and depression than non-clinical controls (e.g. Douglas & Byron, 1996; Drewett, Blair, Emmett & Emond, 2004; Greer, Gulotta, Masler & Laud, 2008). Maternal stress is believed to be a result of parenting a child with feeding problems but can also have a direct negative effect on child feeding behaviour by unintentionally increasing anxiety around food and feeding in the child (Dovey, Farrow, Martin, Isherwood & Martin, 2009; Hagekull & Dahl, 1987). Maternal stress can also have an indirect effect on child feeding behaviour, by increasing the use of strategies such as coaxing, threats, force feeding and making replacement meals, which are intended to encourage the child to eat, but can exacerbate difficulties (e.g. Hendy, Williams, Riegel & Paul, 2010; Piazza et al., 2010; Sanders, Patel, Le Grice & Shepherd, 1993). The evidence could suggest that physiological state is a more influential source of efficacy information for mothers of children with problematic feeding than is suggested by Bandura (1977; 1986; 1997). Therefore, the physiological state of mothers of children with problematic feeding is of
particular interest in research examining the relationship between maternal self-efficacy and problematic child feeding behaviour.

In summary, research suggests that sources of self-efficacy information (mastery experiences; vicarious experience; verbal persuasion; and physiological state) may be important factors to consider in research investigating maternal self-efficacy in the context of feeding problems in children. Identifying factors which exert the greatest influence on perceptions of maternal self-efficacy for behaviour management, and an understanding of how they relate to problematic child feeding behaviour and the maternal management of problematic child feeding behaviour, may be useful for interventions aimed at improving outcomes for children affected by feeding problems and their families. The small number of studies available in the parenting literature suggest that verbal persuasion and proxy measures of mastery experiences, emotional arousal, and verbal persuasion are related to perceptions of maternal self-efficacy. However, methodological concerns limited the understanding of the relative contribution of each of the four sources of self-efficacy information.

The current study will examine the relative contribution of sources of self-efficacy information in the context of child feeding. The first aim of this study is to expand on previous research (Biehle & Mickleson, 2011; Cassé et al., 2015) and the results of Chapter 5, by examining the relative contribution of all four sources of self-efficacy information to maternal self-efficacy for behaviour management (discipline and limit setting; instrumental care, structure and routines) using proxy measures of mastery experiences, verbal persuasion, vicarious experiences and physiological state. The second aim is to examine the relationships between sources of self-efficacy information, maternal self-efficacy for behaviour management and problematic child feeding behaviour. The third aim was to examine the relationships between sources of self-efficacy information, maternal self-efficacy for behaviour management and maladaptive maternal responses to problematic child feeding behaviour. Further aims are to examine the mediating effect of maternal self-efficacy for child behaviour management on the relationship between sources of self-efficacy information and problematic child feeding behaviour and to examine the mediating effect of maternal self-efficacy for child behaviour management on the relationship between sources of self-efficacy information and maladaptive maternal responses to problematic child feeding behaviour.

Based on previous research, which has shown links between factors that reflect proxy measures of maternal self-efficacy information and child feeding problems, it was
hypothesised that mastery experiences, vicarious experience, verbal persuasion and physiological state would be associated with, and predictive of, maternal self-efficacy for child behaviour management and that physiological state would be the strongest individual predictor of maternal self-efficacy for child behaviour management. It was also hypothesised that maternal physiological state would be associated with, and predictive of, problematic child feeding behaviour and maladaptive maternal response to problematic child feeding. Investigating the mediating effect of maternal self-efficacy for child behaviour management was exploratory in nature and therefore no hypotheses were formulated.

6.2. Method

6.2.1. Participants

A cross-sectional sample of 215 mothers of children was recruited from parent support groups, nurseries and primary schools across the Midlands region of the UK. Participants were mothers of children who represented a wide range of feeding behaviours observed within the general child population, from mothers who had children with clinical feeding problems to mothers who had no problems with the feeding behaviour of their children. Participants were included in the sample if they had a child over the age of 6 months and under the age of 7 years. The final sample included 7 mothers of children who had a current referral to a specialist for a clinical feeding problem (current referral), 5 mothers of children who had been referred to a specialist for a feeding problem and had been discharged (historical referral), and 203 mothers of children who had never had a referral to a specialist for a clinical feeding problem (never referred). Child age ranged from 20 months to 84 months (M = 52.24, SD = 19.19); 51% of the children were female (N = 109) and 49% were male (N = 106). Maternal age ranged from 20 years 3 months to 49 years 3 months (M = 36.31 years). Mothers were predominantly white (90%), married or living with a partner (87%), and educated to degree or postgraduate level (56%). The majority of mothers worked full or part-time (74%) and just over half (58%) had an annual household income of £35,000 or over.

6.2.2. Materials and Procedure

Following ethical approval, granted by the Loughborough University Ethics Approvals (Human Participants) Sub-Committee, parent support groups, nurseries and primary
schools across the Midlands region of the UK were approached to distribute questionnaire packs to mothers on behalf of the researcher. Each pack included a detailed information sheet (Appendix 13), an informed consent form (Appendix 10), a demographics questionnaire (Appendix 1), a child feeding measure (Appendix 2), a self-efficacy measure (Appendix 5), proxy measures of sources of self-efficacy information (Appendices 6, 7, 8 & 9), and a debrief sheet (Appendix 17) which could be detached for participants to keep. Participants were asked to complete the questionnaires and return them in the envelopes provided to a sealed collection box at the support group, nursery or school. A total of 300 questionnaires were distributed and 141 were returned (47% response rate). An online version of the questionnaire pack was also made available and was completed by 74 participants (see section 2.5.1. and 2.5.2. for full details).

**Demographics Questionnaire**

The demographics questionnaire (Appendix 1) provided basic information about the mother’s age, ethnicity, marital status, educational level, employment status, household income, pregnancy planning and the child’s age and gender. Participants also provided information to determine the child’s clinical referral status (current referral, historical referral or never referred), see section 2.2.2. for full details.

**The Behavioural Pediatrics Assessment Scale (BPFAS: Crist & Napier-Phillips, 2001).**

The BPFAS (Appendix 2) is a 35 item self-report scale measuring 25 feeding behaviours in young children (aged 6 months – 7 years) and 10 parent feelings and strategies associated with feeding problems in children. The questionnaire yields four domain scores: ‘child behaviour frequency’, ‘parent behaviour frequency’, ‘child behaviour problems’ and ‘parent behaviour problems’. See section 2.6.2. for full details. Using the current sample, Cronbach’s alpha coefficient was 0.86 for the ‘child behaviour frequency’ subscale and 0.77 for the ‘parent behaviour frequency’ subscale, 0.91 for the ‘child behaviour problem’ subscale and 0.89 for the ‘parent behaviour problem’ subscale.

**The Self-Efficacy for Parenting Tasks Index – Toddler Scale (SEPTI-TS: Coleman & Karraker, 2003).**

The SEPTI-TS (Appendix 5) is a 53 item self-report measuring domain-specific parenting self-efficacy across seven dimensions of parenting: 1) emotional availability (e.g. “When my child needs me, I am able to easily put aside whatever else I may be doing”), 2) nurturance, valuing the child, and empathetic responsiveness (e.g. “My toddler knows that
I understand when his/her feelings are hurt”), 3) protection from harm or injury (e.g. “I am very good about never leaving my child unattended”), 4) discipline and limit setting (e.g. “Setting limits for my toddler is relatively easy for me”), 5) play (e.g. “I can always think of something to play with my child”), 6) teaching (e.g. “I believe my toddler learns a great deal from my efforts to show him/her things”) and 7) instrumental care and establishment of structure and routines (e.g. “I have been able to establish a daily routine with my toddler that feels comfortable to both of us”). Higher scores indicate stronger self-efficacy beliefs. (See section 2.6.2. for full details). In the current sample, Cronbach’s alpha coefficients for the subscales ranged from 0.67 (protection) to 0.86 (play).

The Maternal Efficacy Questionnaire (MEQ: Teti & Gelfand, 1991)

The MEQ (Appendix 6) is a 10 item self-report measure of task-specific parenting self-efficacy consisting of nine items measuring self-efficacy beliefs about specific infant care tasks (e.g. “Understanding your child’s needs and wants”) and one item measuring general feelings of competence in parenting (“In general, how good a parent do you feel you are”) (See section 2.6.2. for full details). In the current study the MEQ was used as a proxy measure of mastery experiences, with the measure adapted so that participants rated how successful they felt they were at performing each of the nine childcare tasks on the measure. Higher scores indicated higher levels of mastery. Using the current sample Cronbach’s alpha was 0.87.

Social Support Questionnaire-6 (SSQ-6, Sarason, Sarason, Shearin & Pierce, 1987)

The SSQ (Appendix 7) is a 6 item self-report measure of social support consisting of 2 subscales: ‘Number’ which measures the number of people available to provide social support to the individual across six situations in which social support might be important, and ‘satisfaction’ which measures satisfaction with the level of social support available. Higher scores indicate higher levels of social support and increased satisfaction with social support. (See section 2.6.2. for full details). In the current study the SSQ-6 was used as a proxy measure of verbal persuasion, determining the number of people in the participants’ environment who were available to offer verbal persuasions of efficacy about their parenting (level of support) and participant satisfaction with the level of support available (satisfaction). Using the current sample Cronbach’s alpha was 0.92 for the ‘number’ subscale and 0.96 for the ‘satisfaction’ subscale.
Parenting Stress Index – Short Form (PSI–SF, Abidin, 1990)

The PSI-SF (Appendix 8) is a 36 item self-report measure of parenting stress consisting of three subscales: the ‘parental distress’ (PD) subscale which measures distress resulting from personal factors such as depression, conflict with a partner and from life restrictions due to the demands of child-rearing; the ‘parent–child dysfunctional interaction’ (P-CDI) which measures parental dissatisfaction related to interactions with their children and the degree to which parents find their children unacceptable; and the ‘difficult child’ (DC) subscale which measures parental perceptions of their children’s self-regulatory abilities. Higher scores indicate higher stress levels. In the current study the PSI–SF total score was used as a proxy measure of physiological state in relation to parenting. Using the current sample, Cronbach’s alpha was 0.93.

Scale for Social Comparison Orientation (SSCO; Gibbons & Buunk, 1999).

The SSOC (Appendix 9) is an 11 item self-report measure of social comparison measuring the extent to which people make comparisons about abilities, opinions and their situation with those of other people (e.g. comparing accomplishments in life, social skills and popularity). Higher scores indicate a greater tendency for social comparisons. In the current study the SSCO was used as a proxy measure of vicarious experiences and was adapted to determine predisposition for social comparisons to other mothers. Using the current sample Cronbach’s alpha was 0.84.

6.2.3. Preliminary Data Analysis

Data analysis was conducted using SPSS version 22. Preliminary analysis using two-tailed Pearson’s correlations was conducted to examine relationships between demographic variables, child feeding variables and maternal self-efficacy variables. No significant relationships were found. Preliminary analysis also showed that there was no significant difference between questionnaires completed online (N = 74) and those completed on paper (N = 141) therefore subsequent analysis was conducted combining these different response modes into a single sample.

Initial screening of the child feeding measure (BPFAS) found that many of the mothers reported a score of zero on the child behaviour-problem subscale (N = 109) and on the parent behaviour-problem subscale (N = 149). This observed ‘floor effect’ (Goth-Marnat, 2003) indicated that the data could not be transformed and so these subscales were
removed from subsequent analyses. Scores on the child behaviour-frequency and the parent behaviour-frequency subscales of the child feeding measure (BPFAS) were positively skewed therefore transformations were applied to the data prior to analysis. Following transformations, skew values and p-plot analysis indicated that data were normally distributed, although four scores on the parent behaviour frequency subscale remained high score outliers. Cook’s Distance score and centred leverage value analysis indicated that one outlier had a leverage effect on the data set. However this data point was from a clinical participant and was a high but valid score on the feeding measure, therefore the data point was retained for subsequent analysis.

Further screening revealed that 18 participants (8.4%) achieved a score on the BPFAS which indicated clinically significant levels of problematic feeding (61 or above on the BPFAS child-behaviour frequency subscale together with a score of 6 or above on the BPFAS child-behaviour problem subscale (Dovey, Jordan, Aldridge & Martin, 2013). From this group of 18, only 4 (1.9%) had a current referral for a feeding problem, indicating that clinically significant levels of problematic feeding affected 14 participants (6.5%) who were not accessing clinical intervention.

Initial screening of the maternal self-efficacy measure (SEPTI-TS) and the proxy measure of vicarious learning (SSCO) found that scores were normally distributed with no outliers. Scores on the proxy measures of mastery experiences (MEQ) and verbal persuasion (SSQ-6: Satisfaction) were negatively skewed and scores on the SSQ-6: number subscale and the physiological state measure (PSI-SF) were positively skewed therefore transformations were applied to the data. Following transformations, skew values and p-plot analysis indicated that the data were normally distributed.

To test the study’s hypotheses, one-tailed Pearson’s correlations were conducted to determine significant relationships between study variables, followed by stepwise regressions to explore which of the significantly correlated variables were most predictive of maternal self-efficacy (SEPTI-TS), problematic child feeding behaviour (BPFAS: child behaviour frequency) and maladaptive maternal responses to problematic child feeding (PBFAS: parent behaviour frequency). Mediation effects were then tested using the three step method outlined by Baron and Kenny (1986). In step 1, a regression analysis using the enter method is conducted to establish whether there is a significant relationship between the predictor/independent variable (IV) and the outcome/dependent variable (DV). Step 2 establishes whether there is a significant relationship between the IV and mediator variable (M). In step 3, the effect of the mediator variable (M) is established by
entering the IV and M as predictors of the DV and observing changes in the relationship (β value) between the IV and the DV after controlling for M. A p-value of < 0.01 was used to indicate significance in correlation analyses, given the large number of tests run, and a p-value of < 0.05 was used to indicate significance in the regressions. The reported strength of correlations were informed by Cohen (1992) and Field (2009) with $r = 0.10-0.29$ reported as a weak correlation; $r = 0.30-0.49$ reported as a moderate correlation and $r = 0.50-0.79$ reported as a strong correlation.

6.3. Results

6.3.1. Descriptive Results

The highest mean frequency of problematic child feeding behaviour was reported by mothers of children with a historical referral and the lowest mean frequency was reported by mothers of children who had never been referred. The highest mean frequency of maladaptive maternal responses to problematic feeding (parent-behaviour frequency) was reported by mothers of children with a historical referral for a feeding problem and the lowest mean frequency was reported by mothers of children who had never been referred for a feeding problem (Table 6.1).

<table>
<thead>
<tr>
<th></th>
<th>Child Behaviour Frequency M (SD)</th>
<th>Parent Behaviour Frequency M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Sample (N = 215)</td>
<td>51.53 (13.39)</td>
<td>16.25 (4.87)</td>
</tr>
<tr>
<td>Current Referral (N = 7)</td>
<td>61.00 (17.07)</td>
<td>20.41 (6.19)</td>
</tr>
<tr>
<td>Historical Referral (N = 5)</td>
<td>64.60 (14.26)</td>
<td>20.60 (7.16)</td>
</tr>
<tr>
<td>Never Referred (N = 203)</td>
<td>50.88 (13.02)</td>
<td>16.00 (4.67)</td>
</tr>
</tbody>
</table>

Mean maternal self-efficacy score was lowest in mothers with a historical referral for a feeding problem and highest in mothers of children who had never had a referral (Table 6.2), these self-efficacy score differences between mothers of children with and without
clinical feeding problems were consistent with previous research (Feldman, Keren, Gross Rozval and Tyano (2004)).

6.3.2. The Relationship Between Sources of Self-Efficacy Information and Maternal Self-Efficacy for Child Behaviour Management

To test the hypothesis that sources of efficacy information would be associated with and predictive of maternal self-efficacy for establishing structure and routines around instrumental childcare tasks and implementing discipline and limit setting, one-tailed Pearson’s correlations were conducted to examine the relationships between sources of self-efficacy information variables: ‘mastery experiences’ (MEQ); ‘physiological state’ (PSI-SF); ‘verbal persuasion’ (SSQ-6: number, SSQ-6: satisfaction); ‘vicarious experience’ (SSCO); and the ‘structure’ and ‘discipline’ subscales of the maternal self-efficacy measure (SEPTI-TS).

Positive, weak to strong, significant relationships were found between the sources of self-efficacy information variables: ‘mastery experiences’ and ‘verbal persuasion: satisfaction’ and the ‘structure’ and ‘discipline’ subscales of the maternal self-efficacy measure. This showed that higher levels of mastery and higher levels of satisfaction with social support were associated with higher levels of maternal self-efficacy for implementing structure and routines for the child. Higher levels of mastery and higher levels of satisfaction with social support were also associated with higher levels of maternal self-efficacy for providing discipline and setting limits for the child (Table 6.3).

Negative, weak to strong, significant relationships were found between sources of self-efficacy information variables: ‘physiological state’ and ‘vicarious experience’ and the ‘structure’ and ‘discipline’ subscales of the maternal self-efficacy measure. This showed that higher levels of somatic or emotional arousal (physiological state) and higher levels of vicarious experience (greater tendency for social comparisons) were associated with lower levels of maternal self-efficacy for establishing structure and routines around instrumental childcare tasks. Higher levels of somatic or emotional arousal and higher levels of vicarious experience were also associated with lower levels of maternal self-efficacy for implementing discipline and setting limits for the child (Table 6.3).
Table 6.2: Correlations between sources of self-efficacy information and maternal self-efficacy measure subscales variables

<table>
<thead>
<tr>
<th>Sources of Self-Efficacy Information</th>
<th>Maternal Self-Efficacy Subscales</th>
<th>Structure</th>
<th>Discipline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mastery Experiences</td>
<td>0.41**</td>
<td>0.51**</td>
<td></td>
</tr>
<tr>
<td>Physiological State</td>
<td>-0.48**</td>
<td>-0.56**</td>
<td></td>
</tr>
<tr>
<td>Verbal Persuasion: Level of support</td>
<td>0.15</td>
<td>0.06</td>
<td></td>
</tr>
<tr>
<td>Verbal Persuasion: Satisfaction with Support</td>
<td>0.32**</td>
<td>0.23**</td>
<td></td>
</tr>
<tr>
<td>Vicarious Experience</td>
<td>-0.23**</td>
<td>-0.31**</td>
<td></td>
</tr>
</tbody>
</table>

**p < 0.01; ***p < 0.001, N = 215

To test the hypothesis that physiological state would be the strongest predictor of maternal self-efficacy for the ‘structure’ subscale of the SEPTI-TS, a stepwise regression was then conducted to identify which of the sources of self-efficacy information variables that were significantly correlated with the ‘structure’ subscale of the maternal self-efficacy measure were statistical predictors. The sources of self-efficacy information variables ‘mastery experiences’ (MEQ), ‘physiological state’ (PSI-SF), ‘verbal persuasion: satisfaction with support’ (SSQ-6: Satisfaction) and ‘vicarious experience’ (SSCO) were entered as predictor variables and the ‘structure’ subscale of the maternal self-efficacy measure (SEPTI-TS) was entered as the outcome variable. Results showed that ‘physiological state’, ‘verbal persuasion’ and ‘mastery experiences’ were significant predictors of the ‘structure’ subscale of the maternal self-efficacy measure (SEPTI-TS), $F$ (3, 209) = 34.30, $p < 0.001$, explaining 32% of the variance. ‘Physiological state’ was found to be the strongest individual significant predictor of ‘structure’ ($\beta = -0.31$, $t = -4.53$, $p < 0.001$) (Table 6.4).
Chapter 6

**Table 6.3: Stepwise regression using sources of self-efficacy information variables as predictors of the ‘structure’ subscale of the maternal self-efficacy measure**

<table>
<thead>
<tr>
<th>Sources of Self-Efficacy Information Predictor Variables</th>
<th>( \beta )</th>
<th>( t )</th>
<th>Model ( R^2 )</th>
<th>Model ( F )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physiological State</td>
<td>-0.31</td>
<td>-4.53***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Verbal Persuasion: Satisfaction with Support</td>
<td>0.24</td>
<td>3.80***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mastery Experiences</td>
<td>0.20</td>
<td>3.04**</td>
<td>0.32</td>
<td>31.30***</td>
</tr>
</tbody>
</table>

\*\( p < 0.05; \ **p < 0.01; \ ***p < 0.001, N = 215 \)

In order to test the hypothesis that physiological state would be the strongest predictor of the ‘discipline’ subscale of the SEPTI-TS, further stepwise regression was conducted to identify which of the sources of self-efficacy information variables that were significantly correlated with the ‘discipline’ subscale of the maternal self-efficacy measure were statistical predictors. The sources of self-efficacy information variables ‘mastery experiences’ (MEQ), ‘physiological state’ (PSI-SF), ‘verbal persuasion: satisfaction with support’ (SSQ-6: Satisfaction) and ‘vicarious experience’ (SSCO) were entered as predictor variables and the ‘discipline’ subscale of the maternal self-efficacy measure (SEPTI-TS) was entered as the outcome variable. Results showed that ‘physiological state’, ‘verbal persuasion’ and ‘mastery experiences’ (MEQ) were significant predictors of the ‘discipline’ subscale of the maternal self-efficacy measure (SEPTI-TS), \( F (3, 208) = 49.02, \ p < 0.001 \), explaining 41% of the variance. ‘Physiological state’ was also the strongest individual significant predictor of ‘discipline’ (\( \beta = -0.38, \ t = -6.15, \ p < 0.001 \)) (Table 6.5).

**Table 6.4: Stepwise regression using sources of self-efficacy information variables as predictors of the ‘discipline’ subscale of the maternal self-efficacy measure**

<table>
<thead>
<tr>
<th>Sources of Self-Efficacy Information Predictor Variables</th>
<th>( \beta )</th>
<th>( t )</th>
<th>Model ( R^2 )</th>
<th>Model ( F )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physiological State</td>
<td>-0.38</td>
<td>-6.15***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mastery Experiences</td>
<td>0.31</td>
<td>5.08***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vicarious Experience</td>
<td>-0.14</td>
<td>-2.48*</td>
<td>0.41</td>
<td>49.02***</td>
</tr>
</tbody>
</table>

\*\( p < 0.05; \ **p < 0.01; \ ***p < 0.001, N = 215 \)
6.3.3. The Relationship Between Sources of Self-Efficacy Information, Maternal Self-Efficacy and Problematic Child feeding Behaviour

To test the hypothesis that physiological state would be associated with and predictive of problematic child feeding behaviour, a one-tailed Pearson’s correlation was conducted between ‘physiological state’ (PSI-SF) and the ‘child behaviour frequency’ subscale of the BPFAS. Results showed a positive, weak relationship between these variables which indicated that higher levels of physiological arousal (parenting stress) were associated with problematic child feeding behaviour (Table 6.6). A simple regression was then conducted with ‘physiological state’ (PSI-SF) entered as the predictor variable and the ‘child behaviour frequency’ subscale of the BPFAS entered as the outcome variable. Results showed that physiological state was a significant predictor of problematic child feeding behaviour ($\beta = -0.17$, $t = 2.42$, $p < 0.017$).

To further explore the relationship between the ‘structure’ and ‘discipline’ subscales of the maternal self-efficacy measure (SEPTI-TS) and problematic child feeding behaviour, one-tailed Pearson’s correlations were conducted between the ‘structure’ and ‘discipline’ subscales of the maternal self-efficacy measure (SEPTI-TS), and the ‘child behaviour frequency’ subscale of the BPFAS. Negative, weak, significant relationships were found between the ‘discipline’ and ‘structure’ and ‘child behaviour frequency’ variables. This indicated that lower levels of maternal self-efficacy for implementing discipline and setting limits, and for providing structure and routines for the child, were associated with problematic child feeding behaviour (Table 6.6).

Table 6.5: Correlations between maternal self-efficacy and problematic child feeding behaviour

<table>
<thead>
<tr>
<th>Maternal Self-Efficacy Variables</th>
<th>Child Behaviour Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physiological State</td>
<td>0.17**</td>
</tr>
<tr>
<td>Structure</td>
<td>-0.29**</td>
</tr>
<tr>
<td>Discipline</td>
<td>-0.24**</td>
</tr>
</tbody>
</table>

**$p < 0.01$; ***$p < 0.001$, N = 215

As the ‘structure’ and ‘discipline’ subscales of the maternal self-efficacy measure (SEPTI-TS) were both significantly associated with the ‘child behaviour frequency’ subscale of the
BPFAS, a stepwise regression analysis was conducted to determine whether these subscales were predictive of problematic child feeding behaviour. The ‘discipline’ and ‘structure’ subscales of the maternal self-efficacy measure (SEPTI-TS) were entered as predictor variables and problematic child feeding behaviour (BPFAS: child behaviour frequency) was entered as the outcome variable. Results showed that only the ‘structure’ subscale of the maternal self-efficacy measure significantly predicted problematic child feeding behaviour, \( F(1, 211) = 19.22, p < 0.001 \), explaining 8% of the variance (Table 6.7).

**Table 6.6: Stepwise regression using maternal self-efficacy subscales as predictors of child behaviour frequency**

<table>
<thead>
<tr>
<th>Self-Efficacy Subscale</th>
<th>Predictor Variables</th>
<th>Child Behaviour Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( \beta )</td>
<td>( t )</td>
</tr>
<tr>
<td>Structure/ Discipline</td>
<td>-0.29</td>
<td>-4.38***</td>
</tr>
</tbody>
</table>

\*p < 0.05; \**p < 0.01; \***p < 0.001, N = 215

To determine whether maternal self-efficacy for ‘structure’ would mediate the relationship between maternal physiological state and problematic child feeding behaviour, a series of regression analyses, using the enter method, was conducted. Step 1 had previously been conducted, showing that ‘physiological state’ was a significant predictor of problematic child feeding behaviour. Therefore this step was not repeated. In step 2, ‘physiological state’ (PSI-SF) was entered as the predictor variable and the ‘structure’ subscale of the maternal self-efficacy measure (SEPT-TS) was entered as the outcome variable. Results showed that ‘physiological state’ significantly predicted ‘structure’, \( \beta = -0.50, t = -8.32, p < 0.001 \). In step 3, the effect of the mediator variable was established by entering ‘physiological state’ (PSI-SF) and ‘structure’ subscale of the maternal self-efficacy measure (SEPT-TS) as predictors of problematic child feeding behaviour (BPFAS: child behaviour frequency). Results showed that the maternal self-efficacy subscale operated as a full mediator of the relationship between physiological state and problematic child feeding behaviour \( \beta = 0.02, t = 0.26, p > 0.05 \) (Figure 6.1).
6.3.4. The Relationship between Sources of Self-Efficacy Information, Maternal Self-Efficacy and Maladaptive Maternal Responses to Problematic Child Feeding.

To test the hypothesis that physiological state would be associated with and predictive of maladaptive maternal responses to problematic child feeding behaviour, a one-tailed Pearson’s correlation was conducted between ‘physiological state’ (PSI-SF) and the ‘parent behaviour frequency’ subscale of the BPFAS. Results showed a positive, moderate relationship between these variables (Table 6.8). This indicated that higher levels of physiological arousal were associated with maladaptive maternal responses to problematic child feeding behaviour. A simple regression was then conducted with ‘physiological state’ (PSI-SF) entered as the predictor variable and the ‘parent behaviour frequency’ subscale of the BPFAS entered as the outcome variable. Results showed that ‘physiological state’ was a significant predictor of problematic child feeding behaviour ($\beta = 0.44$, $t = 7.10$, $p < 0.001$). To further explore the relationship between these self-efficacy variables and maladaptive maternal responses to problematic child feeding behaviour, one-tailed Pearson’s correlations were conducted between the ‘structure’ and ‘discipline’ subscales of the maternal self-efficacy measure (SEPTI-TS) and the ‘parent behaviour frequency’ subscale of the BPFAS. Negative, moderate and significant relationships were found between the ‘discipline’ and ‘structure’ maternal self-efficacy and ‘parent behaviour frequency’ subscale.
frequency’ variables. This showed that lower levels of maternal self-efficacy for implementing discipline and setting limits, and for providing structure and routines for the child, were associated with maladaptive maternal responses to problematic child feeding behaviour (Table 6.8).

**Table 6.7: Correlations between maternal self-efficacy and maladaptive maternal responses to problematic child feeding behaviour**

<table>
<thead>
<tr>
<th>Maternal Self-Efficacy Variables</th>
<th>Parent Behaviour Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physiological State</td>
<td>0.43**</td>
</tr>
<tr>
<td>Discipline</td>
<td>-0.40**</td>
</tr>
<tr>
<td>Structure</td>
<td>-0.56**</td>
</tr>
</tbody>
</table>

**p < 0.01; ***p < 0.001, N = 215

As both the ‘structure’ and ‘discipline’ subscales of the maternal self-efficacy measure (SEPTI-TS) were significantly associated with the ‘parent behaviour frequency’ subscale of the BPFAS, a stepwise regression analysis was conducted to determine if these subscales were predictive of maladaptive maternal responses to problematic child feeding behaviour. The ‘discipline’ and ‘structure’ subscales of the maternal self-efficacy measure (SEPTI-TS) were entered as predictor variables and maladaptive maternal responses to problematic child feeding behaviour (BPFAS: parent behaviour frequency) was entered as the outcome variable. Results showed that both the ‘structure’ and ‘discipline’ subscales of the maternal self-efficacy measure significantly predicted maladaptive maternal responses to problematic child feeding behaviour ($F(1, 211) = 49.15$, $p < 0.001$), explaining 31% of the variance (Table 6.9).

**Table 6.8: Stepwise regression using maternal self-efficacy subscales as predictors of parent behaviour frequency**

<table>
<thead>
<tr>
<th>Self-Efficacy Subscale Predictor Variables</th>
<th>Parent Behaviour Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\beta$</td>
</tr>
<tr>
<td>Structure</td>
<td>-0.48</td>
</tr>
<tr>
<td>Discipline</td>
<td>-0.14</td>
</tr>
</tbody>
</table>

*p < 0.05; **p < 0.01; ***p < 0.001, N = 215
To determine whether maternal self-efficacy would mediate the relationship between sources of self-efficacy information and maladaptive maternal responses to problematic feeding, a series of regression analyses, using the enter method, was conducted. Previous analyses found that both the ‘structure’ and ‘discipline’ subscales of the maternal self-efficacy measure (SEPTI-TS) were predictive of maladaptive maternal responses to problematic child feeding behaviour (Table 6.5). Therefore a composite subscale ‘discipline/structure’ was created by combining z-scores for the ‘structure’ and ‘discipline’ subscales. This composite score was used in mediation analysis. Step 1 had previously been conducted, showing that ‘physiological state’ was a significant predictor of maladaptive maternal responses to problematic child feeding behaviour. Therefore this step was not repeated. In step 2, ‘physiological state’ (PSI-SF) was entered as the predictor variable ‘structure/discipline’ maternal self-efficacy subscale entered as the outcome variable. Results showed that ‘physiological state’ significantly predicted ‘structure/discipline’, $\beta = -0.61$, $t = -10.97$, $p < 0.001$. In step 3, the effect of the mediator variable was established by entering ‘physiological state’ (PSI-SF) and ‘structure/discipline’ as predictors of problematic child feeding behaviour (BPFAS: parent behaviour frequency). Results showed that the ‘structure/discipline’ maternal self-efficacy subscale operated as a partial mediator of the relationship between physiological state and problematic child feeding behaviour $\beta = 0.19$, $t = 2.64$, $p < 0.01$ (Figure 6.2).

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$, $N = 215$

**Figure 6.2: Maternal self-efficacy as a partial mediator of the relationship between physiological state and maladaptive maternal responses to problematic child feeding behaviour**
6.4. Discussion

The first aim of the current study was to examine the relative contribution of four sources of information about self-efficacy (‘mastery’, ‘verbal persuasion’, ‘vicarious experience’ and ‘physiological state’) to maternal self-efficacy for child behaviour management. The second aim was to examine relationships between sources of self-efficacy information, maternal self-efficacy for child behaviour management and problematic child feeding behaviour. This included a secondary aim of exploring maternal self-efficacy for child behaviour management as a mediator of the relationship between sources of self-efficacy information and problematic child feeding behaviour. The third aim was to examine the relationships between sources of self-efficacy information, maternal self-efficacy for behaviour management and maladaptive maternal responses to problematic child feeding behaviour. This included a secondary aim of exploring maternal self-efficacy for child behaviour management as a mediator of the relationship between sources of self-efficacy information and problematic maladaptive maternal responses to problematic child feeding behaviour.

Results of the current study showed that lower levels of maternal self-efficacy for managing child behaviour (establishing structure and routines around instrumental care tasks and providing discipline and setting limits for the child), were associated with higher levels of parenting stress (physiological state), an increased tendency for making social comparisons (vicarious experience), fewer experiences of successful parenting (mastery experiences) and lower satisfaction with social relationships (verbal persuasion). The number of socially supportive relationships available to the mother was not significantly associated with maternal self-efficacy for child behaviour management.

The relative strength of physiological state in comparison to other sources of self-efficacy information was confirmed by regression analyses. High levels of parenting stress (physiological state), lower levels of satisfaction with social support (verbal persuasion) and fewer experiences of successful parenting (mastery experiences) were significant predictors of lower levels of maternal self-efficacy for establishing structure and routines around instrumental care tasks. Higher levels of somatic arousal (physiological state), fewer experiences of successful parenting (mastery experiences) and an increased tendency for social comparisons (vicarious experience) were significant predictors of lower levels of maternal self-efficacy for providing discipline and setting limits for the child.
In both analyses, physiological state was the strongest individual predictor of maternal self-efficacy for behaviour management. This finding is contrary to Bandura’s (1977; 1986; 1997) assertion that mastery experiences are the most influential source of self-efficacy information and physiological state is the least influential source.

Results of the current study supported the hypothesis that high levels of parenting stress arousal (physiological state), are the most influential source of information for individuals reporting low levels of maternal self-efficacy for managing child behaviour through providing routines and structure, providing discipline and setting limits for the child. Results suggests that providing social support, reinforcing positive family relationships and positive role models of success may be useful for interventions aimed at improving outcomes for families affected by problematic child feeding behaviour. However, reducing emotional arousal during stressful feeding and wider parenting interactions may be the single most important factor to consider for enhancing maternal self-efficacy for child behaviour management.

Previous research has suggested that high levels of maternal stress and anxiety can have a direct effect on child feeding behaviour by increasing the child’s anxiety during feeding (e.g. Martin, Dovey, Coulthard, & Southall, 2013; Hagekull & Dahl, 1987). Maternal distress can also have an indirect effect on child feeding behaviour, by increasing the use of strategies which exacerbate existing feeding difficulties (Hendy et al., 2010; Borrero et al., 2010; Piazza, et al., 2003; Sanders et al., 1993). These findings were supported by results of the current study, which showed that high levels of emotional arousal (physiological state) were significantly associated with, and predictive of, both problematic child feeding behaviour and maladaptive maternal responses to problematic child feeding behaviour.

Results of the current study further explicated this understanding, by showing that the relationship between high levels of parenting stress (physiological state) and problematic child feeding behaviour was fully mediated by lower levels of maternal self-efficacy for establishing structure and routines around instrumental childcare tasks. This suggests that the extent to which mothers perceive themselves to be capable of managing child behaviour through establishing structure and routines around instrumental childcare tasks influences the effect that maternal physiological state has on problematic child feeding behaviour. It was also found that the relationship between high levels of parenting stress (physiological state) and maladaptive maternal responses to problematic child feeding behaviour was partially mediated by low levels of maternal self-efficacy for establishing
structure and routines around instrumental childcare tasks and providing discipline and limits for the child. This suggests that the extent to which mothers perceive themselves to be capable of managing child behaviour through establishing structure and routines around instrumental childcare tasks and by providing discipline and limits for the child, partially influences the effect that maternal physiological state has on maladaptive maternal responses to problematic child feeding.

6.4.1. Strengths and Limitations

The current study was the first to examine all four sources of self-efficacy information in the context of problematic child feeding behaviour and to demonstrate that maternal physiological state is the most influential determinant of maternal self-efficacy for child behaviour management. It was also the first to show that maternal self-efficacy for managing child behaviour mediated the direct relationship between physiological state of the mother and problematic child feeding behaviour and partially mediated the relationship between physiological state of the mother and maladaptive maternal responses to problematic feeding behaviour in children.

These results were strengthened by the use of a sample reflecting the diversity of child feeding behaviour observed in the general population. This included mothers of children with clinical feeding problems, those discharged from clinical intervention, mothers of children with clinically significant levels of feeding dysfunction who have never accessed clinical interventions and mothers experiencing no feeding problems. Results presented here can be viewed with confidence, considering the large sample size and level of significance achieved. Although, results are cross sectional and therefore cannot be used to infer causality.

Although every effort was made in the current study to use measures that accurately reflected Bandura's original conceptualisation of sources of self-efficacy, results should be viewed with caution given that proxy measures of sources of self-efficacy information were used. This was due to there being no existing validated measures which could be used. Although a published study has examined sources of self-efficacy information using similar proxy measures (Biehle & Mickleson, 2011), individual sources of self-efficacy information can be interpreted differently by researchers. In the current study proxy measures of sources of self-efficacy information were used, such that, mastery was examined using self-reported success in carrying out parenting tasks; verbal persuasion was examined using self-reported levels and satisfaction with social support; physiological
state was examined using self-reported parenting stress and vicarious experience was examined using a self-report measure of predisposition for making social comparisons.

The measure of parenting stress (PSISF; Abidin, 1990) was the only measure used that has been previously validated within parenting research, which may have contributed to the strength of the results in this study. In addition to this, it should be considered that parenting stress is only part of the original conceptualisation of physiological state given by Bandura (1977; 1986; 1989). Further research should aim to examine physiological state in further detail by also including measures of anxiety and depression or by using objective measures to directly measure physiological arousal and to determine if parenting stress, measured using the PSI-SF (Adidin, 1990), is a valid proxy measure of physiological arousal.

Furthermore, the measure of verbal persuasion did not directly reflect Bandura's (1977; 1986; 1997) conceptualisation. In the current study, the measure of verbal persuasion (SSQ-6: Sarason et al., 1987) consisted of two subscales: ‘number’, which measured the number of people available to offer social support and ‘satisfaction’, which measured satisfaction with the level of support offered. This measure was intended to reflect the number of people in mothers’ social environments who may be available to offer verbal persuasions of efficacy and the quality of those relationships, with increased satisfaction reflecting more positive verbal persuasions. Findings reported in Chapters 3 and 4 showed that mothers of children with clinical feeding problems described relationships with significant others in their social environment that were characterised by blame which suggests negative verbal persuasions. Although these findings support the relevance of the subscales used in the current study, negative and positive persuasions of efficacy were not directly assessed using the current measure of verbal persuasion.

6.4.2. Further Research

While the measure of parenting self-efficacy used in this study (SEPT-TS: Coleman & Karraker, 2003) is validated within the parenting literature and has demonstrated predictive validity in the context of feeding problems in children in the current and previous chapter (Chapter 5), it is based on parenting dimensions formulated by Emde (1989) and Zeanah, Boris Heller et al. (1997) rather than research conducted by the authors. Furthermore, the measure was not specifically designed to measure tasks or dimensions of parenting relevant to mothers of children with feeding problems. Therefore further research to explore parenting tasks and dimensions relevant to the context of
problematic child feeding behaviour would be useful for research investigating maternal self-efficacy in the context of feeding problems in children.

6.4.3. Conclusions

In conclusion, results of the current study have extended those of the previous chapter, and contributed new information to the current understanding of the relationship between maternal stress and anxiety, and problematic child feeding behaviour. The current study was the first to examine all four sources of self-efficacy information in the context of problematic child feeding behaviour and to demonstrate that a high level of maternal emotional arousal (psychological state) is a strong determinant of perceptions of low self-efficacy for child behaviour management.

The current study was also the first to show that the extent to which mothers perceive themselves to be capable of managing child behaviour, through establishing structure and routines around instrumental childcare tasks, can be related to the extent to which maternal emotional arousal impacts on problematic child feeding behaviour. It also shows that the extent to which mothers perceive themselves to be capable of managing child behaviour, through establishing structure and routines around instrumental childcare tasks and providing discipline and limits for the child, can partly be related to the role that maternal emotional arousal has on the use of maladaptive maternal responses to problematic child feeding behaviour.

Results suggest that providing social support, reinforcing positive family relationships and positive role models of success may be useful for interventions aimed at improving outcomes for families affected by problematic child feeding behaviour. However, reducing somatic and emotional arousal during stressful feeding and wider parenting interactions may be the single most important factor to consider for enhancing maternal self-efficacy for child behaviour management. Reducing maternal somatic and emotional arousal during stressful or anxiety provoking feeding and wider parenting interactions, may increase maternal self-efficacy for behaviour management.

Enhancing maternal self-efficacy for child behaviour management, through establishing structure and routines around instrumental childcare tasks and providing discipline and limits for the child, may reduce problematic child feeding behaviour and maladaptive maternal responses to feeding problems. Bandura, (1977; 1986; 1997) suggests that an
effective way to strengthen maternal self-efficacy is to increase perceptions of control over physiological responses during feeding interactions. Therefore interventions aimed at improving outcomes for families affected by problematic child feeding behaviour may benefit from helping mothers to recognise and gain control over their physiological responses to stressful and anxiety provoking parenting experiences. Further research is required to understand the optimal techniques needed to identify and reduce somatic and emotional arousal in mothers.
7. Using Autophotography to Explore Parenting Tasks and Maternal Self-Efficacy: A Pilot Study

7.1. Introduction

Bandura (1989) states that self-efficacy is not a fixed, global personality trait but a dynamic system which changes according to the demands of the task, individual and situation. As such, measures of self-efficacy should be tailored to the particular domain of functioning under investigation. This assertion has been supported by research showing that measures of parenting self-efficacy which focus on perceptions of competence across specific parenting tasks and dimensions (e.g. protection, discipline, playing and feeding), are stronger predictors of parent and child outcomes, than measures which focus on the broader role of parenting (domain-general approach) and global self-efficacy (see Coleman & Karraker, 2003; Jones & Prinz, 2005, for reviews).

A comparison of three different approaches to measuring maternal self-efficacy (domain-general; domain-specific; task-specific) is reported in Chapter 5 of this thesis. Results supported the strength of the domain-specific approach (SEPTI-TS: Coleman & Karraker, 2003) over the task-specific approach (MEQ: Teti & Gelfand, 1991) for predicting problematic child feeding behaviour and maladaptive maternal responses to problematic child feeding behaviour, although the MEQ did contribute a small but significant amount to the predictive model (see section 5.3). The SEPTI-TS and the MEQ are well validated in the parenting literature (see reviews by Coleman & Karraker, 2003; Jones & Prinz, 2005), however there are limitations with both of these measures which may reduce their utility.

The MEQ (Teti & Gelfand, 1991) consists of one item which measures overall parenting self-efficacy and only nine items which are intended to represent tasks associated with parenting. These items are related to soothing and comforting the child, understanding the child’s wants and needs, getting the child to pay attention to the parent, making the child understand what the parent wants, getting the child to play and have fun with the parent, knowing what activities the child enjoys, getting the child to show off for visitors, keeping the child occupied when the parent does housework, and feeding the child. Although it is a quick and easy measure for parents to complete, the study reported in Chapter 5 showed that the MEQ contributed only small amount of variance to the
prediction of problematic child feeding behaviour and maladaptive maternal responses to problematic child feeding predictive (3% and 2% respectively). The weak predictive utility of this measure could potentially be explained by the small number of items which may not adequately capture the large range and number of tasks involved in parenting (Bradley, 2007; Brooks-Gunn & Markman, 2005).

In contrast to the MEQ (Teti & Gelfand, 1991), the SEPTI-TS (Coleman & Karraker, 2003) is more comprehensive in terms of its broader range parenting dimensions. Parenting dimensions included relate to: emotional availability; nurturance, valuing and empathy; protection from harm; discipline and limit setting; play; teaching; instrumental care, structure and routine. In Chapter 5, the SEPT-TS accounted for a much larger amount of unique variance in child and parent feeding behaviour than the MEQ (14% and 23% respectively). This variance was explained by parenting dimensions relating to providing discipline, structure and routine around instrumental childcare tasks and teaching the child; dimensions which are absent from the MEQ. However, the measure consists of fifty three items and therefore is time consuming to complete.

The SEPTI-TS is based on parenting dimensions formulated by Emde (1989) and Zeanah, Boris Heller et al. (1997) and the task-specific measure (MEQ: Teti & Gelfand, 1991) was developed by the researchers for the purpose of the reported study. Therefore the decision making process about inclusion and omission of parenting tasks and dimensions is unclear. This makes it difficult to determine the extent to which these measures reflect the parenting experience and, therefore, the relevance of each parenting dimension and task in contributing to perceptions of maternal self-efficacy. The results of the study presented in Chapter 3 of this thesis (see section 3.3) and literature relevant to problematic feeding behaviour (e.g. Lindberg, Bohlin & Hagekull, 1994; Wolke, Skuse & Mathisen, 1989) suggest that important aspects of the maternal parenting experience, such as parent social support and the social development of the child, which could increase the understanding of maternal self-efficacy in the context of child feeding, are absent from both measures.

Exploring the maternal perspective may highlight additional parenting tasks and dimensions which contribute to perceptions of maternal self-efficacy that are not currently assessed by existing measures. This would also allow mothers to express the relative importance of maternal self-efficacy for feeding in relation to other parenting tasks. This is important as previous studies within this thesis identified that mothers found managing other challenging child behaviour difficult in addition to feeding. Autophotography is a
research method in which participants take photographs and choose images that are meaningful to them (Phoenix, 2010). By giving participants the freedom to choose aspects of their environment, issues, objects and people important to their construction of the self, rather than categories generated by the researcher, it can generate data that are more authentic (Noland, 2006). The method has its origins in ethnography (Ziller, 1990) and has been widely used to answer broad questions relating to constructions of self-concept, such as personality and identity, in relation to the social environment (Dollinger, 2002; Dollinger & Dollinger, 1997; Ziller & Rorer, 1985). Given that maternal self-efficacy is concerned with self-referent judgements of parenting ability, which are informed by personal and social influences (Bandura, 1997), autophotography is considered a suitable method for enabling participants to present their own ideas and representations of this self-concept.

Therefore the current investigation is a pilot study to explore parenting tasks and dimensions from the maternal perspective using autophotography, rather than using pre-existing or researcher defined ideas. By employing this approach, this study aims to expand on the current understanding of parenting tasks and dimensions which are thought to contribute towards perceptions of maternal self-efficacy. This method also aims to expand on the current understanding of maternal self-efficacy for child feeding in relation to other parenting tasks. An increased understanding of perceptions of self-efficacy in mothers of children with problematic feeding behaviour may be useful for interventions aimed at improving outcomes for affected children and their families.

In summary, research shows that the domain-specific (SEPTI-TS) and task-specific (MEQ) approaches to measuring maternal self-efficacy are predictive of problematic child feeding behaviour and maladaptive maternal responses to problematic child feeding behaviour. However, the predictive utility of these measures may be limited; the SEPTI-TS is lengthy and therefore time consuming to complete and the MEQ consists of a small number of items, which may not adequately capture the range of tasks involved in parenting. Furthermore, both measures employ pre-existing and researcher defined parenting tasks and dimensions, which may not be relevant to the experience of parenting children with problematic feeding behaviour. Consequently, existing measures may not fully capture parenting experiences which contribute towards perceptions of maternal self-efficacy in mothers of children with problematic feeding behaviour. Therefore, the aim of the current study is to explore parenting tasks and dimensions from the perspective of the mother.
7.2. Method

7.2.1. Participants

Thirteen mothers of children over the age of 6 months and under the age of 7 years, participated in the study (see section 2.5.2. for full details of recruitment, inclusion and exclusion criteria). Maternal age ranged from 23 years to 49 years 2 months (M = 33.11, SD= 8.76). Five children (38.5%) were male and eight children were female (61.5%). Mean child age was 44 months (SD = 18.09) and ranged from 25 months (2 years, 1 month) to 81 months (6 years, 9 months). Participants were twelve mothers of children who had never had a referral for a clinical feeding problem and one mother of a child with a historical referral for a feeding problem. This child had been discharged from treatment one month prior to maternal participation. Participants were 92% white; 54% were married or living with a partner; 54% were working part time; 69% had a family income of less than £25,000; and 62% were educated to A-Level or NVQ equivalent.

7.2.2. Materials and Procedure

Following ethical approval, granted by the Loughborough University Ethics Approvals (Human Participants Sub-Committee), the researcher contacted coordinators of parent and toddler playgroups and head teachers of primary schools across the Midlands area of the UK to recruit participants. At consenting playgroups the researcher attended a single session, gave mothers verbal information about the study and asked for volunteers to take part. Mothers who expressed an interest in participating were given a written information sheet (Appendix 14) containing the researcher’s contact details or arranged to take part at that time with the researcher. Schools that consented were given written information about the study (Appendix 14) to send home with children under the age of 7. Mothers who expressed an interest in participating contacted the researcher directly to arrange to take part. Mothers who contacted the researcher to arrange to participate in the research were asked to complete an informed consent form (Appendix 10), a demographics questionnaire (Appendix 1) a child feeding questionnaire (Appendix 2). Participants were then asked to take photographs of tasks and duties that they associated with their role as a mother and were given detailed instructions about how to do this (Appendix 15) and took part in an interview (Appendix 16) to discuss their photographs.
**Demographics Questionnaire**

The demographics questionnaire (Appendix 1) provided basic information about the mother’s age, ethnicity, marital status, educational level, employment status, household income and the child’s age and gender.

**Child Feeding Measure: Behavioural Paediatric Feeding Assessment Scale (BPFAS: Crist & Napier-Phillips, 2001).**

The BPFAS (Appendix 2) is a 35 item standardised and validated scale measuring 25 mealtime behaviours in young children (aged 6 months to 7 years) and 10 parent feelings and strategies associated with feeding problems in children. The questionnaire yields four domain scores: ‘child behaviour frequency’, ‘parent behaviour frequency’, ‘child behaviour problems’ and ‘parent behaviour problems’. Frequency scores reflect how often parent and child behaviours occur and problem scores reflect the number of behaviours considered to be a problem by the parent. Higher scores indicate problematic child feeding behaviour and maladaptive parental responses to problematic feeding behaviour such as coaxing, threats, force feeding, frustration, anger and anxiety which exacerbate difficulties (Crist et al., 2001). Full details of scoring are provided in section2.5.1. In the current sample, Cronbach’s alpha coefficients were 0.81 for the child behaviour-frequency subscale and 0.66 for the parent behaviour-frequency subscale.

**Autophotography**

Following the method outlined by Ziller and Lewis (1981), participants were asked to take their own photographs of tasks and duties that they associated with their role as a mother which “said something” about their maternal self-efficacy. To reduce participant uncertainty about the meaning of ‘maternal self-efficacy’, participant instructions used the lay description “confidence in your ability to fulfil your role as a mother”. Participants were asked to select six photographs which best reflected what they considered to be salient aspects of their role as a mother and their self-efficacy. They were asked to make notes about the photographs’ meaning so that they could later reflect on what the photographs said about their self-efficacy in an interview with the researcher. During the interview, participants were given the opportunity to “story their meanings” in collaboration with the investigator (Phoenix, 2010, p167).
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Participant Interviews

Participants took part in unstructured interviews, during which they were asked to take the six final photographs they had chosen, spread them out over a table and select photographs in order of their significance and then tell the researcher what each photograph represented and what it ‘said’ about their maternal self-efficacy. Interviews were recorded in audio format and took place in participants’ own homes to allow the interviewee to feel relaxed enough to discuss information of a personal nature. A conversational style of interview was used which avoided closed or leading questions and adopted a position of ‘talking back’ to the interviewee (Griffin, 1990). Prior to each interview, participants were given the opportunity to ask questions and were assured that any personal information disclosed during the interview, or in their photographs, would be removed so that participants would not identifiable in any subsequent dissemination of the research. Participants were also assured that they did not have to answer questions they did not want to and that once recording had commenced, it could be stopped at any point during the interview and only restarted if they agreed to continue. Following the interview, participants were given a full debrief (Appendix 17) and a further opportunity to ask questions. Interviews lasted between 16 and 45 minutes ($m = 24.67; M = 7.80$).

7.2.3. Analysis

In the current study, the method of analysis outlined by Phoenix (2010) was used as a template. This involved transcribing participant interviews verbatim and assigning either single or multiple units of meaning, or codes, taken from participant interviews, to each participant photograph. These codes were then grouped together and refined into themes and subthemes by the researcher to create a meaningful description of parenting dimensions and tasks that participants associated with the role of being a mother. Further analysis was conducted to determine how these tasks informed maternally reported perceptions of maternal self-efficacy. The final results of the analyses combined participant images and their assigned themes, with the meanings of the themes being supported by quotations taken from participants’ transcripts. Themes and subthemes from the current study were compared to parenting dimensions and tasks reported on the domain-specific parenting self-efficacy measure (SEPTI-TS: Appendix 5) and the task specific maternal self-efficacy measure (MEQ: Appendix 6) and similarities and differences reported in the discussion section.
7.2.4. Coding Agreement

Coding agreement was established using a second coder who analysed 10% of the data. The second coder was given a list of the parenting tasks/dimensions which were produced during the analysis and was asked to determine the extent to which they agreed with the researcher’s themes resulting from the analysis. In the current study all of the main themes and fourteen of the eighteen subthemes were agreed by the second coder. Four themes were not identified by the second coder. This was primarily due to the fact that not all the codes were in all of the participant interviews. These codes were retained and the written work reflected this by stating the number of participants who contributed to each theme. The process of analysis and the quality of the written work were checked through constant review and discussion with an academic supervisor. The final written work was also reviewed for quality and clarity by an academic psychologist who made recommendations for amendments.

7.3. Results

7.3.1. Descriptive Results

Screening of the child feeding measure (BPFAS) showed that five mothers reported a score of zero on the ‘child behaviour problem’ subscale and nine mothers reported a score of zero on the ‘parent behaviour problem’ subscale. Mean scores for the ‘problem’ subscales were very low, indicating that mothers did not consider their child’s eating pattern to be problematic. Mean scores reported on the ‘child behaviour frequency’ subscale of the BPFAS were comparable to those reported in published research (Crist et al., 2001) (Table 7.1). One mother reported a score which was indicative of a clinically significant level of problematic feeding: a score of 61 or above on the BPFAS child behaviour frequency subscale and a score of 6 or above on the BPFAS child behaviour problem subscale (Dovey, Jordan, Aldridge & Martin, 2013). However, this child had never received a referral for a clinical feeding problem.
Table 7.1: Behavioral Pediatrics Feeding Assessment Scale subscale scores for the total sample

<table>
<thead>
<tr>
<th>BPFAS Subscales</th>
<th>Possible Score Range</th>
<th>Observed Score Range</th>
<th>Mean (SD)</th>
<th>N = 13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child Behaviour Frequency</td>
<td>25 - 125</td>
<td>29 - 69</td>
<td>46.38 (11.02)</td>
<td></td>
</tr>
<tr>
<td>Parent Behaviour Frequency</td>
<td>10 - 25</td>
<td>11 - 24</td>
<td>17.69 (4.39)</td>
<td></td>
</tr>
<tr>
<td>Child Behaviour Problem</td>
<td>0 - 25</td>
<td>0 - 11</td>
<td>2.15 (3.00)</td>
<td></td>
</tr>
<tr>
<td>Parent Behaviour Problem</td>
<td>0 – 10</td>
<td>0 – 6</td>
<td>1.00 (1.83)</td>
<td></td>
</tr>
</tbody>
</table>

7.3.2. Autophotography

The aim of the current study was to explore parenting tasks from the maternal perspective. This was in order to provide an understanding of parenting tasks that were considered important to the role of being a mother, to explore how these parenting tasks might contribute towards perceptions of maternal self-efficacy, and to provide an understanding from the maternal perspective of the relative importance of maternal self-efficacy for feeding in relation to other parenting tasks. All of the mothers in the study chose six images to reflect parenting tasks they felt were important to their role as a mother and said something about their parenting efficacy. However analysis of the interview transcripts showed that individual images often reflected more than one parenting task. Therefore many of the images were assigned several meanings and contributed to the generation of multiple themes and subthemes. The analysis produced five main themes which reflected parenting tasks relating to 1) Bonding and Attachment; 2) Behaviour Management; 3) Child Development; 4) Protection from Harm; 5) Social Support (Table 7.2). Analysis of the transcripts revealed that within each theme and subtheme there were factors which influenced maternal perceptions of parenting efficacy. Differences in maternal perceptions of self-efficacy are outlined below. A comparison of themes and subthemes of the current study and parenting dimensions and tasks of the SEPT-TS and the MEQ are also discussed below.
Table 7.2: Themes and subthemes relating to parenting tasks and perceptions of maternal self-efficacy

<table>
<thead>
<tr>
<th>Main Themes</th>
<th>Subthemes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Bonding &amp; Attachment</td>
<td>1.1 Instinct</td>
</tr>
<tr>
<td></td>
<td>1.2 Comforting the Child</td>
</tr>
<tr>
<td></td>
<td>1.3 Reciprocity</td>
</tr>
<tr>
<td></td>
<td>1.4 Attachment Style</td>
</tr>
<tr>
<td>2. Routines &amp; Discipline</td>
<td>2.1 Managing Bathtime</td>
</tr>
<tr>
<td></td>
<td>2.2 Managing Bedtime</td>
</tr>
<tr>
<td></td>
<td>2.3 Managing Mealtimes</td>
</tr>
<tr>
<td></td>
<td>2.4 Managing General Behaviour</td>
</tr>
<tr>
<td>3. Child Development</td>
<td>3.1 Play &amp; Fun</td>
</tr>
<tr>
<td></td>
<td>3.2 Teaching</td>
</tr>
<tr>
<td></td>
<td>3.3 Social Skills</td>
</tr>
<tr>
<td>4. Protection from Harm</td>
<td>4.1 Illness</td>
</tr>
<tr>
<td></td>
<td>4.2 Balancing Safety &amp; Development</td>
</tr>
<tr>
<td></td>
<td>4.3 Road Safety</td>
</tr>
<tr>
<td></td>
<td>4.4 Sun Safety</td>
</tr>
<tr>
<td>5. Social Support</td>
<td>5.1 Maternal Wellbeing</td>
</tr>
<tr>
<td></td>
<td>5.2 ChildCare, Routines &amp; Discipline</td>
</tr>
<tr>
<td></td>
<td>5.3 Child’s Social Development</td>
</tr>
</tbody>
</table>

Theme 1: Bonding and Attachment

All mothers provided an image or spoke about bonding as being a very important part of being a mother and all mothers felt highly efficacious about their ability to bond with their child (e.g. Figure 7.1). For the majority of mothers, this was the first photograph they chose to talk about, which highlights the importance of the mother-child relationship. All mothers described the bonding experience as being instinctive or natural, and as an overwhelming feeling of love for their child. Mothers felt that being available to comfort a distressed child and having their love reciprocated by the child enhanced their perceptions of efficacy for bonding.
Most mothers described children, who were able to play independently at home without becoming distressed when they were separated from their mother, which may have indicated a secure attachment style. This time apart was important for mothers because it allowed them to complete household chores easily. These mothers also felt confident about leaving their children alone to play in a different room of their home because the children understood that their mother was returning for them.

However some mothers described children who became very upset when they were separated from their mothers whilst playing at home, which may have indicated an insecure attachment style. Mothers did not feel confident in leaving their children to play alone whilst they completed household chores because doing so often resulted in child distress, crying and tantrums which was difficult for mothers to manage and caused a considerable amount of frustration (e.g. Figure 7.2).
Figure 7.2: Low maternal self-efficacy for bonding and attachment

“She doesn’t like playing on her own; it’s something that I’m not confident about. You can guarantee, not even five minutes after I’d left the room, I can hear the door open and she’ll shout “mummy, mummy are you going to be long, have you nearly finished? I don’t want to play on my own mum”, sometimes I do lose my patience”

Mothers who described children who did not like to be left alone in a room at home to play whilst mothers completed household chores also reported that their children became distressed when they were left at nursery and school, long after this had become a well-established part of their daily routine. Conversely, mothers whose children demonstrated that they were happy to play alone for a short time whilst mothers were in a different room enjoyed going to nursery or school and did not become distressed. This further reinforced feelings of efficacy.

Theme 2: Routines and Discipline

All mothers provided images related to routines and discipline around managing instrumental childcare tasks; bathtime, bedtime and mealtimes and managing the child’s general behaviour. Establishing routines and discipline around these tasks helped mothers effectively manage child behaviour and meet the aims of each specific task. Mothers’ ability to meet those aims appeared to determine the level of self-efficacy they reported. Bathtime often occurred just before bedtime and provided a relaxing opportunity for mothers to have fun, play and to bond with the child. Mothers did not need to provide
discipline around bathtime and routines around bathtime seemed easy to establish. All mothers reported that they felt highly efficacious in their ability to provide a consistent routine around bathtime (e.g. Figure 7.3).

Figure 7.3: High maternal self-efficacy around bathtime

“He just loves going in the bath and that makes me happy. He knows what he can and can’t do, so I can just like put him in the bath and come in here and do what I need to do and get all his pyjamas and stuff ready”

Routines around bedtimes were much more difficult to establish than bathtime routines. Mothers aimed to get their child to sleep in their own beds and to sleep through the night without waking. It was thought that poor quality sleep made the child irritable and moody which made their behaviour difficult to manage. Mothers who felt efficacious had a well-established routine which was implemented consistently (e.g. Figure 7.4). One mother talked about this being an important buffer for occasions when she needed to be more relaxed about the bedtime routine. When children woke during the night, mothers who reported a high level of efficacy felt that their child would be safe if they did not attend to them and left the child to resettle themselves.

Figure 7.4: High maternal self-efficacy around bedtime
“She’ll always say “I’m tired” I want to go to sleep now, it’s never a case where I have to keep saying “get back in bed, go to sleep” she just does it, she’s no problem at all and she doesn’t wake up in the night really, only if she has a little bit of a bad dream or she’s a bit poorly”

Mothers who felt less efficacious about managing bedtime had children who exhibited behaviour that the mother found difficult to manage, such as demanding the mother’s attention, wanting a dummy to settle themselves, wanting to sleep on the sofa or in the mother’s bed, and waking through the night and not being able to resettle themselves (e.g. Figure 7.5). Some mothers became frustrated or angry with their child but also said they felt guilty or did not like to leave their child if they wanted attention. Mothers who reported low levels of maternal self-efficacy for managing bedtimes felt they lacked the knowledge and experience to manage difficult behaviour and night waking.

Figure 7.5: Low maternal self-efficacy around bedtime

“She’s never been a very good sleeper, she’s never stuck her routine, you have to let her play and tire herself out. If you try and put her in bed she’ll stand upstairs and shout, it’s no use leaving her up there by herself because she won’t give in. You don’t want them to cry themselves to sleep it’s not fair, I don’t think it’s nice to let babies cry to sleep no matter how old they are”

Managing mealtimes was a very important parenting task; eleven mothers provided at least one image about mealtimes. One mother, who felt highly efficacious about managing mealtimes, provided three images (e.g. Figure 7.6). Managing mealtimes seemed to be much more complex than other instrumental childcare tasks with nine mothers reporting that they felt mixed levels of efficacy and only two mothers reporting that they felt highly efficacious managing mealtimes. All mothers wanted their children to
eat enough food to satisfy their hunger and to eat a healthy, balanced diet, which included fruit, vegetables and a willingness to try novel foods. Mothers who reported that they were able to achieve these aims reported high levels of efficacy and described mealtimes as being enjoyable and sociable experiences for the family. Although they did not appear to have stronger routines around mealtimes, they had realistic expectations about their child’s eating pattern and when the child refused foods and exhibited behaviour that they considered to be difficult at mealtimes, they were calm and consistent with the strategies they used. However, when their strategies did not improve the child’s behaviour or eating at mealtimes they felt less efficacious.

Mothers who felt lower levels of maternal self-efficacy around mealtimes were less able to meet their aims around feeding which created stress, worry, frustration and anxiety. They reported that their children had a strong preference for junk foods, sugary foods, snacks and drinks, and did not enjoy eating fruit and vegetables (e.g. Figure 7.7). They also felt that their children’s eating and behaviour during mealtimes was difficult or unpredictable and that they were uncertain about how to manage the behaviour. Mothers with low or mixed levels of efficacy did not seem to have a consistent approach to managing mealtimes and did not appear to be aware of the role they played in reinforcing the child’s behaviour. Inconsistencies in routine and discipline also resulted from other people, such

Figure 7.6: High maternal self-efficacy around mealtimes

“If I just put some chicken, broccoli and carrots in front of her, she won’t necessarily eat it as happily as when I’ve let her help chop the vegetables but if she just decides she doesn’t want to eat it, she won’t eat it, but then you have to try and get her to eat it, so that’s probably something as well that doesn’t necessarily go smoothly every time”
as fathers and grandparents, providing meals for their children and using approaches that contradicted the way mothers managed mealtimes.

“He’s really good with things like pasta and fish, fruit he eats all the time, but as soon as he’s had fruit, he’ll want some sweets. You can’t really bargain with him because he’s set in his ways [so] that now [when] he’s done something good, he gets something sweet…I don’t like him eating loads of sweets, but, sometimes I will give it him if he has been good through the day, or if he’s ate all his dinner, I don’t mind then”

However, some mothers reported that their children ate well at nursery but not at home which suggests that less effective strategies may have been used at home than at nursery. Some mothers reported that their children ate well and behaved well during mealtimes at home but their children’s behaviour was difficult and disruptive when they ate out at restaurants. They found this behaviour embarrassing and were afraid of being negatively evaluated by others.

Figure 7.7: Low maternal self-efficacy around mealtimes

“She likes finger foods, but not meals. At nursery, she’s sat with other children, so she eats it, but at home she can be up and down. She messes around a little bit, she will mess around and that’s a bit I’m not very confident with”

Ten mothers provided images which related to routines and discipline around their child’s general behaviour. Mothers’ who felt they had low levels of maternal self-efficacy for managing their child’s general behaviour, stated that when their children asserted their
independence and were non-compliant with adult instructions they did not know how to manage the child’s behaviour or know the appropriate level of discipline to apply. This reduced their perceptions of efficacy (e.g. Figure 7.8). Maternal self-efficacy was also reduced when mothers provided discipline for the child, which was ineffective.

Not knowing how to manage the behaviour led to mothers feeling frustrated and angry and one mother smacked her child because she couldn't think of any other strategy to use. Mothers reported being permissive with the child because they felt guilty about the discipline they used and were afraid the child would not love them. One mother who felt highly efficacious in her ability to manage her child’s behaviour and trusted her ‘instincts’ felt that her efficacy was reduced when she thought she was being judged by other people (e.g. Figure 7.9).

“*She’s very independent; she doesn’t like you to interfere if she’s getting dressed. She’ll get angry and say “no I can do it!” sometimes she’ll shout at me, I do find that hard to deal with. I try and stay calm, but it’s not always that easy. I worry that the behaviour will get worse but you never know how it’s going to go, every occasion it can go differently, she’ll be naughty, on purpose and I get angry with her*”

*Figure 7.8: Low maternal self-efficacy for managing general behaviour*
Figure 7.9: High maternal self-efficacy for managing general behaviour

“He’s at that age where if he walks on foot he’ll trash the place, and pull everything off the shelves, so I’ve made it into a game and I go “do you want to get in mummy’s trolley?” so we sit him in and put items in. I do trust my own instincts but I am very sensitive to what people think of me, you worry sometimes that people are judging you”

Theme 3: Child Development

Twelve mothers provided at least one image which represented parenting tasks related to child development. All of the mothers who talked about the importance of supporting their child’s educational, emotional and social development, felt highly efficacious about their ability. Supporting the child’s development through play and having fun was very important to all mothers and they felt that teaching children was best achieved through play because it was more enjoyable for the mother and the child (e.g. Figure 7.10). Supporting the teaching that children received at nursery or school and seeing children make progress, greatly improved mothers’ efficacy for teaching.
Figure 7.10: High maternal self-efficacy for playing, having fun and teaching

“She wants to get the paints out and stuff like that, then that leads on to teaching because it helps with her colours and stuff like that and it’s dead easy. We always put our wellies on and go outside and go digging for worms and stuff like that, it’s easy and it’s fun”

School and nursery was also considered to be important for developing the child’s social skills. Mothers reported that seeing their children enjoy nursery or school, knowing that their children had friends in and out of nursery or school and that they played nicely with other children made them feel efficacious about their ability to support the development of their child (e.g. Figure 7.11). Mothers also reported that spending time teaching their children and playing with them strengthened the bond they had which also improved their overall parenting efficacy.

Figure 7.11: High maternal self-efficacy for developing social skills

“She really likes nursery, she’s really, really happy at nursery. They have parents evening and we talk about how she’s developing and her behaviour. The last time we went they said they all loved her, they all thought she was a lovely little girl and she interacted well with other children so that really boosts your confidence to know that”
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Theme 4: Protection from Harm

Protection from harm was an important parenting task for six mothers; two of whom provided two images about protection. Dealing with child illness, keeping the child safe by roads, keeping the child safe in the sun and balancing safety with development were all important elements related to protection from harm.

Dealing with child illness was a frequently reported parenting task related to protection from harm. Mothers with lower levels of maternal self-efficacy for dealing with child illness reported that they felt vulnerable, scared, worried and anxious when they did not know how serious the illness was and were concerned that they would not recognise the signs of a serious illness (e.g. Figure 7.12). Some mothers who felt less efficacious believed that it was because they had little experience of dealing with child illness. However some mothers who had experienced a serious illness with their child also reported that they felt low levels of self-efficacy for managing illness because they worried about the seriousness of subsequent illnesses.

![Figure 7.12: Low maternal self-efficacy for dealing with child illness](image)

“The first time he was sick it horrified me, I felt frightened. I rang my mum and she actually came over straight away and it was just great having that support. I think he could see that I was frightened, so I’ve got to make sure that my fears, and my worries don’t make him worse and that I make him feel safe and it’s probably the area that I’m least confident in as a mum”

Some mothers with high levels of self-efficacy for managing child illness reported that they had lots of experience with illness. Experience had helped them panic less about subsequent illness, however, some mothers still felt that when they encountered a new illness or did not know what was wrong with their child they felt less efficacious (e.g. Figure 7.13). One mother reported that although she felt very efficacious in her ability to manage minor illnesses, illness impacted on routines she had established around other
parenting tasks, which were then difficult to re-establish once her child was recovered from the illness. Mothers who reported low and high levels of efficacy for dealing with child illness, said that they felt more efficacious if they were able to get support from partners, their own mothers or health professionals because it helped alleviate much of their anxiety.

"I'm quite confident that I know when something's not right with her, it's just your instinct really; you know that they're not well. I don't tend to panic; I just get on with it. I did used to panic quite a bit; I just used to think the worst. I think I've learnt from [older child] because I used to panic about everything. It helps now because I've got a nurse living on the street"

Three mothers provided images relating to the tasks of balancing child safety with development. Mothers reported high levels of self-efficacy but felt that it was difficult to achieve the balance because their instinct was to protect the child from harm but letting the child get minor cuts and bruises played an important role in helping the child develop their own sense of safety when playing and helping them learn from mistakes (e.g. Figure 7.14).
Figure 7.14: High maternal self-efficacy for providing protection from harm

“I feel confident in how I’m protecting [child] yet giving him that balance of independence to explore and learn from his mistakes and grow as a little person, and the little bumps that come along, are part of learning and discovering as long as I look after him and make sure he’s safe”

One mother provided an image relating to road safety. She felt that teaching her child the importance of road safety helped her control her worry about her child getting hurt which made her feel highly efficacious in her ability to keep her child safe whilst walking near to a road (Figure 7.15). In contrast to this one mother provided an image which represented keeping her child safe in the sun. She had mixed feelings about her efficacy to keep her child safe because she felt she had less control over how the sun would affect her child. However she did not want her fears to prevent her child from enjoying a holiday.

Figure 7.15: High maternal self-efficacy for protection from harm
“I’m confident in taking [child] out and him being able to walk sensibly with me because I know as soon as I need to tell him to hold my hand he’ll hold my hand and be sensible. I wanna [sic] know that he’s safe and aware that there are cars coming down the road. He’s not fully aware that if a car’s coming down the road that he needs to stop but he’s learning and I’m very confident in the way that he is learning”

Theme 5: Social Support

Three mothers provided images relating to social support. Having socially support relationships was important for mothers overall parenting self-efficacy and enhancing multiple domains of maternal self-efficacy simultaneously, such as maternal self-efficacy for managing instrumental childcare tasks, protecting the child from harm and supporting the child’s development.

Having social support was important for the mothers’ emotional well-being which seemed to influence maternal self-efficacy for parenting in general. One mother felt that since she had become a mother she had lost touch with her friends because they did not have children. She felt that her friends did not understand how much her life had changed since becoming a mother or how difficult being a mother was which made her feel very isolated. This mother reported that being a single mother made it especially difficult to commit to occasions that would provide social support because she did not always have help with childcare (Figure 7.16).

Figure 7.16: Loss of social support reduced emotional wellbeing
I used to be with my friends all the time but since I’ve had [child] I hardly see them. My friends that have had babies they can understand it, and [say] “oh don’t worry about it if you can’t make it” or “don’t worry if you can’t do this” but the people that haven’t and you still wanna [sic] be friends with, they don’t get it, so, that is tough. Sometimes I get down about it”

Being able to rely on social support for help with childcare was also important for mothers. They felt that having people they could trust to protect their children from harm and provide a consistent approach to routines and discipline, alleviated a large amount of worry they had which enhanced their maternal self-efficacy for managing instrumental childcare tasks and protection from harm (e.g. Figure 7.17).

Figure 7.17: Social support enhanced maternal self-efficacy for routines and discipline

“I’m very comfortable leaving him with my sister, because he loves it there, he has loads of fun, I just feel happy leaving him there it’s not a worry. She knows his routine, she knows what he’s like, she knows when he’s being mardy, when he needs something so I’m happy leaving him there”

One mother felt that her mother did not support her in the discipline she provided for her child which made his subsequent behaviour difficult to manage, which in turn, reduced her self-efficacy for managing his general behaviour. However, she felt that taking her child to her mother’s house was good for developing his social skills because he had the opportunity to be around other children and this enhanced her feel efficacious for developing her child’s social skills (Figure 7.18).
Figure 7.18: Social support enhanced maternal self-efficacy for child development

“He is a lot different at my mum’s than anywhere else, he feels like he can get away with a lot because my mum always interrupts me when I am telling him off. It makes it a lot harder to tell him to stop messing around so I don’t feel confident telling him off when I’m at my mums but as soon as we’re on our own, he’s fine”

7.4. Discussion

The current investigation was a pilot study to explore the use of Autophotography as a method of investigating maternal self-efficacy; specifically the maternal perspective of parenting dimensions and tasks which contribute to perceptions of maternal self-efficacy in mothers of children exhibiting a range of feeding behaviours. The study aimed to increase the current understanding of the relative importance of feeding in relation to other parenting tasks. This was an important aim as previous studies reported within this thesis found that mothers who reported that managing child feeding was a challenging parenting task also reported that managing other child behaviours was challenging. Autophotography was used to give mothers the freedom to choose aspects of their environment that were important to their construction of the self. Mothers provided photographic images which represented parenting dimensions and tasks that they felt were important to their maternal self-efficacy, and ‘storied’ their images with an interview. Analysis of the images and interviews produced five main themes (‘Bonding & Attachment’; ‘Routines & Discipline’; Child Development’; ‘Protection from Harm’; and ‘Social Support’) which reflected dimensions of parenting that were important to the mothering role and to perceptions of maternal self-efficacy. Each main theme contained
subthemes which reflected specific parenting tasks that contributed towards perceptions of maternal self-efficacy for each parenting dimension.

Results of the current study suggest that maternal self-efficacy for ‘Bonding & Attachment’ was enhanced by feelings of having an instinctive bond, comforting the child, by the child reciprocating the mother’s love and by having a child who was independent. Perceptions of efficacy were lower when mothers felt that their child was less independent when playing or when being left at nursery or school. Opportunities for bonding also occurred when mothers carried out instrumental childcare tasks, such as bathing and putting the child to bed, and also when mothers supported their child’s development. The parenting dimensions ‘emotional availability’ and ‘nurturance, valuing, empathy’ of the SEPTI-TS, contain items relating to the emotional availability of the mother, comforting the child, and the child’s feelings of security and acceptance; the MEQ also contains items relating to providing comfort for the child, meeting the needs of the child and the independence of the child. However, neither measure includes items relating to the instinctive nature of the mother-child bond, the child reciprocating the mother’s love, or parenting situations which provided opportunities for bonding; all of which were found to contribute to perceptions of maternal self-efficacy in the current study.

Perceptions of high maternal self-efficacy for providing ‘routines & discipline’ appeared to be important for the successful management of general child behaviour and child behaviour around instrumental childcare tasks, including bathtimes, bedtimes and mealtimes. These results support findings presented in Chapter 5, which showed that the parenting dimensions ‘discipline & limit setting’ and ‘instrumental care, structure & routines’ of the SEPTI-TS predicted problematic child feeding behaviour and maladaptive maternal responses to problematic child feeding. The SEPTI-TS includes two items relating to eating and two items relating to sleeping, and the MEQ includes one item relating to feeding. However neither measure includes items which relate to bathtime which was found to be important for enhancing maternal self-efficacy for establishing routines and discipline in all mothers in the current study.

Maternal self-efficacy for establishing routines and discipline for managing bathtimes and bedtimes seemed to be higher than maternal self-efficacy for establishing routines and discipline for managing mealtimes. Results suggested that it was easier for mothers to establish routines around instrumental childcare tasks that had fewer aims, which supports Bandura’s (1986) suggestion that maternal self-efficacy is related to task difficulty. It appeared to be easier for mothers to complete instrumental childcare tasks.
when the aims could be met whilst providing fun and enjoyment for mother and child and also when they provided an opportunity for mother-child bonding. This seemed to be because mothers were required to provide less discipline. It appeared to be more difficult for mothers to meet the aims of childcare tasks when routines and discipline were applied inconsistently or when child behaviour was inconsistent. Although the SEPTI-TS includes one item which measures perceptions of difficulty for setting limits, neither the SEPTI-TS nor the MEQ measure the difficulty of instrumental childcare tasks or include items that measure the consistency of routines and discipline.

Mealtimes seemed to be a particularly difficult task for mothers to manage and accordingly involved the largest number of aims. Aims around mealtimes included ensuring children ate a healthy, balanced diet (high consumption of fruit, vegetables, acceptance of novel foods and low consumption of unhealthy foods), ensuring that children ate enough food and that children were compliant with adult instructions during mealtimes. Mothers who were able to meet these aims and mothers who were relaxed about achieving these aims and were able to enjoy mealtimes as a family reported higher levels of efficacy. When mothers were unable to meet these aims, they reported becoming frustrated, stressed, worried and anxious about their child’s health. This suggests that emotional responses around routines, discipline and instrumental care tasks contribute towards maternal perceptions of self-efficacy. However, maternal emotional responses are not measured on the SEPTI-TS or the MEQ. Maternal narratives highlighted that mothers felt especially uncertain and inconsistent with their approach to managing mealtimes; they reported that children were also disposed to exhibit inconsistent eating behaviour and general behaviour at mealtimes which reduced perceptions of maternal self-efficacy. The environment in which children ate meals also seemed to contribute towards perceptions of inconsistent child eating behaviour which also weakened feelings of efficacy around mealtimes. This suggests that the consistency of maternal and child behaviour, as well as situational variables, are important for maternal perceptions of self-efficacy for managing mealtimes.

Results showed that supporting the child’s emotional, educational and social development was important to perceptions of maternal self-efficacy for ‘Child Development’. Maternal self-efficacy for child development was enhanced when mothers had fun and played with the child and when they helped the child to learn through play. Supporting their child’s learning in formal childcare and educational settings and observing their progress also enhanced maternal self-efficacy for child development. The MEQ includes two items relating to play but does not include any items measuring teaching; the parenting
dimensions ‘play’ and ‘teaching’ are included on the SEPTI-TS which has two items which measure being actively involved with the child’s play but does not include items relating to the child learning through play or parental monitoring of progress. Furthermore, neither the SEPTI-TS nor the MEQ include items relating to the child’s social development, which was important for perceptions of maternal self-efficacy in the current study.

Road safety, sun safety, balancing protection with development, and managing illness contributed towards maternal self-efficacy for ‘Protection from Harm’. Protection from harm is not included on the MEQ and although the parenting dimension ‘protection’ is included in the SEPTI-TS, the majority of questions relate to safety in the home. Results of the current study showed that maternal efficacy was enhanced by keeping the child safe near roads and by providing sun safety. However mothers reported mixed levels of efficacy for dealing with child illness. Feelings of vulnerability, fear, worry and anxiety about child illness appeared to be linked to lower levels of efficacy. Mothers reported that increased experience, knowledge of child illness and access to support reduced worry which enhanced efficacy. Although one item relating to the child's physical well-being is included on the SEPTI-TS, no questions relate specifically to child illness or maternal feelings around child illness. The SEPTI-TS does include one question relating to balancing safety with development, however, this is included in the parenting dimension ‘discipline and limit setting’.

It was found that ‘Social Support’ was important for maternal emotional well-being which enhanced overall maternal parenting efficacy and also contributed towards maternal self-efficacy for ‘routines and discipline’, ‘child development’ and ‘protection’. Maternal self-efficacy for ‘discipline and routines’ was enhanced when support provided consistency for routines and discipline but weakened maternal self-efficacy when people offering support interfered with discipline. Social support also enhanced maternal self-efficacy for ‘child development’ when providing opportunities to develop the social skills of the child and supporting the mother with managing child illness. Although social support was found to be important to perceptions of maternal self-efficacy in the current study, items relating to social support are not included on the SEPTI-TS or the MEQ.

7.4.1. Strengths and Limitations

The current study is the first to highlight important parenting dimensions and tasks that are not adequately assessed in current self-report measures of maternal self-efficacy (SEPTI-TS and MEQ). However, the study may have been limited by the lack of a numerical rating system for maternal self-efficacy for each parenting task that mothers
were asked to consider. Asking participants to rate their efficacy on a pre-determined scale (e.g. 1 to 10) may have made it easier to compare maternal perceptions of self-efficacy across different parenting tasks. While this study was a pilot which aimed to focus on assessing the method of Autophotography in a novel domain (maternal self-efficacy), the study could have been strengthened by the addition of standardised measures of maternal self-efficacy (e.g. SEPTI-TS) which was used in previously reported chapters of this thesis (chapter 5; chapter 6). This would allow a comparison of maternal self-efficacy across predefined and participant generated parenting domains. Future research could therefore use both standardised measures and Autophotography to increase the understanding of maternal self-efficacy, specifically the task of child feeding in relation to other parenting tasks. It may also be useful to reproduce this study focussing solely on child feeding; this may provide a deeper insight into specific feeding related tasks and their relationship with perceptions of maternal self-efficacy.

This study employed a sample representing a range of child feeding behaviour which included one participant with a historical referral for a clinical feeding problem and one participant with a score on the child feeding measure which was indicative of a clinically significant feeding problem. However the sample did not include any participants with a current diagnosis of a clinical feeding problem. Therefore the study could be further strengthened by the inclusion of mothers of children with clinical feeding problems which would enable a comparison of parenting dimensions and tasks and perceptions of maternal self-efficacy across a wider range of child feeding behaviour.

7.4.2. Conclusions

In conclusion, the current study was the first to use autophotography to explore mothers’ perspectives of parenting dimensions and tasks which contribute towards perceptions of maternal self-efficacy. Five main themes, and a number of subthemes within each main theme, were identified. Main themes reflected parenting dimensions and subthemes reflected parenting tasks which contributed towards perceptions of maternal self-efficacy in each dimension.

Results supported the relevance of parenting dimensions and tasks included in two existing measures of maternal self-efficacy (SEPTI-TS; MEQ) and also highlighted additional parenting dimensions (e.g. ‘social support’) and tasks (e.g. ‘managing bathtime’; ‘illness’) that are absent from these measures. Results also suggest that these two existing measures (SEPTI-TS; MEQ) do not fully contextualise self-efficacy in line with the assertions of Bandura (1989). This is because they do not include items relating
to task difficulty, personal factors (e.g. knowledge, experience and emotional responses), and situational factors (e.g. different environments) which were found to contribute to perceptions of maternal self-efficacy in the current study.

Using Autophotography to allow mothers to freely explore parenting tasks and their self-efficacy for performing these tasks, in the current study it was found that in relation to other parenting tasks mealtimes appeared to be an especially difficult task for mothers to manage. The vast majority of mothers reported perceptions of lower self-efficacy or mixed levels of self-efficacy around this task. Important elements of this task, which mothers felt influenced their perceived level of self-efficacy, included meeting the aims mothers had around mealtimes which were focussed around the health and behaviour of the child. When mothers were unable to meet these aims they reported feeling stressed, worried, anxious and frustrated. Mothers who reported higher levels of efficacy were able to enjoy mealtimes as a sociable family time and they provided an opportunity to bond with their child. These results suggest that mealtimes were linked to other parenting dimensions and tasks which influenced perceptions of maternal self-efficacy, such as ‘protection from harm’, ‘maternal wellbeing’ ‘bonding & attachment’ and ‘child development’ (see Table 7.3).

Table 7.3: Table to show the links between the parenting task ‘managing mealtimes’ and other parenting dimensions and tasks identified in the current study

<table>
<thead>
<tr>
<th>Parenting Task</th>
<th>Task Elements</th>
<th>Links to</th>
<th>Parenting Dimensions &amp; Tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managing Mealtimes</td>
<td>Aims related to child health</td>
<td></td>
<td>Protection from harm</td>
</tr>
<tr>
<td></td>
<td>Maternal emotional responses</td>
<td></td>
<td>Maternal Wellbeing</td>
</tr>
<tr>
<td></td>
<td>Enjoyment of mealtimes</td>
<td></td>
<td>Bonding &amp; Attachment</td>
</tr>
<tr>
<td></td>
<td>Mealtime sociability</td>
<td></td>
<td>Child Development</td>
</tr>
</tbody>
</table>

This offers further support for findings from previous chapters in this thesis; that mothers who reported that child feeding was challenging also found managing other child behaviour challenging. These findings further highlight the complexity of managing mealtimes and the way in which child feeding difficulties have such a pervasive relationship with maternal self-efficacy (see Table 7.4).

Based on the current findings, it is suggested that a measure of maternal self-efficacy which may be useful in the context of child feeding problems would benefit from the inclusion of parenting dimensions and tasks from the SEPTI-TS and the MEQ which were supported in the current study. In addition to this, the measure should also include
parenting dimensions and tasks which were identified in the current study that are absent from these existing measures, such as ‘Social Support’, ‘Managing Bathtime’ and ‘Illness’ (see Table 7.4). Such a measure would bring together all the key self-efficacy constructs that have been highlighted by mothers as being important to their levels of self-efficacy. Once such a measure, or collection of measures, has been created or collated the next step would be to test this in the context of child feeding problems.
Table 7.4: Parenting dimensions and tasks identified in the current study and those which are included in the SEPTI-TS and the MEQ

<table>
<thead>
<tr>
<th>Parenting Dimensions</th>
<th>Parenting Tasks</th>
<th>Important Elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bonding &amp; Attachment</td>
<td>Instinct</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Comforting the child (s) (m)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reciprocity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Attachment Style (m)</td>
<td></td>
</tr>
<tr>
<td>Protection From Harm (s)</td>
<td>Illness</td>
<td>Personal Factors: Knowledge, experience, emotional responses</td>
</tr>
<tr>
<td></td>
<td>Balancing Safety &amp; Development (s)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Road Safety</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sun Safety</td>
<td></td>
</tr>
<tr>
<td>Routines &amp; Discipline (s)</td>
<td>Managing Bathtime</td>
<td>Fun &amp; enjoyment, consistency, bonding</td>
</tr>
<tr>
<td></td>
<td>Managing Bedtime</td>
<td>Task difficulty</td>
</tr>
<tr>
<td></td>
<td>Managing Mealtime (s) (m)</td>
<td>Personal Factors: Expectations, knowledge, experience, emotional responses</td>
</tr>
<tr>
<td></td>
<td>Managing General Behaviour (s) (m)</td>
<td>Situational Factors: Environment</td>
</tr>
<tr>
<td>Child Development</td>
<td>Play &amp; Fun (s) (m)</td>
<td>Supporting formal learning</td>
</tr>
<tr>
<td></td>
<td>Teaching (s)</td>
<td>Observing child progress</td>
</tr>
<tr>
<td></td>
<td>Social Skills</td>
<td>Child learning through play</td>
</tr>
<tr>
<td>Social Support</td>
<td>Maternal emotional well-being</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Support with childcare, routines &amp; discipline</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Child’s social development</td>
<td></td>
</tr>
</tbody>
</table>

(s) = included in the Self-Efficacy for Parenting Tasks Index – Toddler Scale (SEPTI-TS)  
(m) = included in the Maternal Efficacy Questionnaire (MEQ)
8. **General Discussion**

8.1. **Overview**

This chapter provides an overview of the main research findings from this thesis. The aims of the thesis and the results of the study reported in each chapter are presented within the relevant sections below. This is followed by a review of the strengths and limitations of the studies reported on within this thesis, suggestions for future research, and final conclusions about the findings from the research presented within this thesis.

8.2. **Aims of this Thesis**

The broad aim of this thesis was to investigate maternal experiences of parenting children with and without clinical feeding problems in order to provide novel insights into the wider context in which clinical feeding problems occur. Maternal self-efficacy was identified as an area worthy of further study in the context of feeding problems in children therefore, a specific focus was given to this construct. A further aim was to examine four different approaches to measuring maternal self-efficacy to determine the most predictive measure of problematic child feeding behaviour and maladaptive maternal responses to problematic child feeding behaviour. Another aim was to examine sources of self-efficacy information (mastery experiences; verbal persuasion; vicarious experience; physiological state) as predictors of maternal self-efficacy, problematic child feeding behaviour and maladaptive maternal responses to problematic child feeding behaviour. A final aim was to explore parenting dimensions and tasks associated with maternal perceptions of maternal self-efficacy in mothers of children with a range of feeding behaviours. The relationships between maternal parenting, maternal self-efficacy, problematic child feeding behaviour and maladaptive maternal responses to problematic child feeding, which were found within this thesis are presented in Figure 8.1. and discussed in section 8.3.
Figure 8.1: Model to show relationships between maternal parenting experiences, maternal self-efficacy, sources of self-efficacy information, problematic child feeding behaviour and maladaptive maternal responses to problematic child feeding behaviour.
8.3. Main Findings

8.3.1. Chapter 3: Maternal Experiences of Parenting Children With and Without Clinical Feeding Problems

The aim of the study reported in Chapter 3 (study 1) was to expand the existing understanding of the wider context in which feeding problems occur by exploring maternal perspectives and experiences of parenting, in order to highlight potential directions for research. A small number of studies have explored the maternal perspective of parenting children with clinical feeding problems (e.g. Douglas & Byron, 1996; Hagekull & Dahl, 1987). However these studies are limited due to the lack of comparison between clinical and non-clinical groups and by focussing on a very narrow child age range. This study in chapter 3 expanded on past studies by exploring maternal experiences of parenting children under the age of seven, with and without clinical feeding problems. It also explored maternal experiences of parenting across the transition to parenthood to the present time.

Thematic analysis of interviews with mothers of children with and without clinical feeding problems found that although many parenting experiences of mothers in the clinical and non-clinical groups were similar, their perceptions of experiences and responses to experiences appeared to be different. This suggests that maternal factors which have previously been associated with clinical feeding problems, such as feeding practices (Woods, Borrero, Laud & Borrero, 2010) and maternal stress (Singer, Song, Hill & Jaffe, 1990), should be considered as connected issues which can occur simultaneously and which have the potential to cumulate to reach a point at which they could influence child feeding behaviour and the maternal management of child feeding behaviour. This idea of interconnectivity between maternal factors was supported by the identification of the integrative theme ‘Maternal Self-Efficacy’. This theme represented a fundamental difference in how mothers in the clinical and non-clinical groups responded to the parenting challenges they encountered from the transition to parenthood to the present time. Mothers in the clinical group appeared to have less confidence in their ability to manage parenting challenges than mothers in the non-clinical group.

To date, only a small number of studies have reported findings related to maternal self-efficacy in the domain of clinical feeding problems (Benoit, Zeanah & Barton, 1989; Feldman, Keren, Gross-Rozval, & Tyano, 2004; Lindberg, Bohlin, & Hagekull, 1994). These previous studies have found that mothers of children with clinical feeding problems report lower levels of competence which contribute to less positive perceptions of
Chapter 8

parenting (Lindberg et al., 1994) and suggest that mothers of children with clinical feeding problems are a population particularly at risk for experiencing low maternal self-efficacy (Feldman et al., 2004). Further to this, it has been reported that maternal self-efficacy might act as a buffer to parenting difficulties (Benoit et al., 1989). Taken together, this previous research, alongside the results presented in Chapter 3, suggests that maternal self-efficacy is a topic worthy of further investigation in the context of clinical child feeding problems.

8.3.2. Chapter 4: Sources of Maternal Self-Efficacy Information: A Template Analysis of Interviews with Mothers of Children With and Without Clinical Feeding Problems

The theory of self-efficacy (Bandura, 1977, 1986, 1997) posits that perceptions of self-efficacy are informed by four main sources of information: 1) Mastery experiences, (experiences of success or failure in performing a particular behaviour), 2) Verbal persuasion (persuasions of performance ability from other people), 3) Vicarious experience (observations or visualisations of the performance of others), and 4) Physiological state (somatic arousal or affective reactions to fearful, stressful or anxiety provoking situations).

The aim of the study reported in Chapter 4 (study 1) was to expand on both the present understanding of maternal self-efficacy in the context of clinical feeding problems (Benoit et al., 1989; Feldman et al., 2004; Lindberg et al., 1994), as well as the findings reported in Chapter 3, by exploring theoretical sources of information which are thought to influence perceptions of self-efficacy (Bandura, 1977, 1986, 1997). There is no current research which has explored sources of self-efficacy information in the context of child feeding and therefore this study was completely novel within this field. The same sample of mothers as reported on in Chapter 3 participated.

Template analysis identified each of the four main sources of self-efficacy information within all of the mothers of children with and without clinical feeding problems. Mothers in the non-clinical group appeared to have an increased mastery of parenting compared to mothers in the clinical group. In the clinical group, mothers seemed to be more vulnerable to negative verbal persuasions than mothers in the non-clinical group. Mothers in the clinical group tended to compare themselves less favourably to other parents whereas mothers in the non-clinical group compared themselves more favourably. In the clinical group, mothers responded to the challenges of parenting with stress and anxiety whereas
mothers in the non-clinical group appeared to respond in a calm and self-assured in their ability to manage parenting challenges. These perceptions were perhaps related to perceptions of a higher level of self-efficacy in mothers in the non-clinical group and perceptions of lower level of self-efficacy in the clinical group.

The results of this study expanded on the current understanding of the relationship between maternal self-efficacy and clinical feeding problems. This was by highlighting the ways in which sources of self-efficacy information could potentially influence levels of maternal self-efficacy in mothers of children with and without clinical feeding problems. Results also suggest that perceived levels of maternal self-efficacy could affect the way in which mothers approach parenting challenges, including the management of problematic feeding behaviours in children. These findings are likely to be important because they highlight specific sources of maternal self-efficacy that can be targeted through intervention to enhance maternal self-efficacy.

8.3.3. Chapter 5: Maternal Self-Efficacy as a Predictor of Problematic Child Feeding Behaviour and Maladaptive Maternal Responses to Problematic Child Feeding Behaviour

The aim of the study reported in chapter 5 (study 2), was to determine the most effective way, in terms of predictive utility, to measure maternal self-efficacy in the context of problematic feeding behaviour. Three different approaches to measuring parenting self-efficacy have been described within the parenting literature: the domain-general approach, the domain-specific approach, and the task-specific approach. A comparison of these three approaches has supported the utility of the domain-specific approach over the domain-general approach in predicting several dimensions of child behaviour (e.g. compliance, affection, negativity; Coleman & Karraker, 2003). However, to date, only a domain-general measure (Gibaud-Wallson & Wandersman, 1978) has been used to measure maternal self-efficacy in the study of clinical feeding problems (Feldman et al., 2004). In this study, a domain-general approach, a domain-specific approach, a task-specific approach and a general self-efficacy measure were compared, to determine the strongest predictor of problematic child feeding behaviour and the strongest predictor of maladaptive maternal responses to problematic child feeding behaviour.

In a sample of 278 mothers of children with a range of feeding behaviours, it was found that the domain-specific maternal self-efficacy measure was the strongest predictor of
problematic child feeding behaviour and maladaptive maternal responses to problematic child feeding behaviour, contributing 14% and 23% respectively. This was likely due to the measure being more comprehensive in terms of the range of parenting dimensions and tasks included on the measure compared to the domain-general and the task-specific measures. The task-specific measure did, however, contribute a small but significant amount of variance to the prediction of child feeding behaviour (3%) and maladaptive maternal responses to problematic feeding (2%).

Further analysis of the subscales of the domain-specific measure showed that lower levels of maternal self-efficacy for implementing discipline and setting limits and for establishing structure and routines around instrumental childcare tasks, and higher levels of self-efficacy for teaching, were predictive of problematic child feeding behaviour. It was also found that lower levels of maternal self-efficacy for implementing discipline and setting limits and for establishing structure and routine around instrumental care tasks were also predictive of maladaptive maternal responses to problematic child feeding behaviour.

These results confirmed the findings reported in Chapter 3; that mothers who perceive themselves to have lower levels of maternal self-efficacy for managing parenting challenges, have children who exhibit more problematic feeding behaviours. Results also expanded the current knowledge of maternal self-efficacy in the context of problematic child feeding in two ways: first, by showing that the domain-specific approach to measuring maternal self-efficacy was the most predictive in the context of problematic child feeding behaviour; second, by showing that mothers who lack confidence in their ability to establish structure and routines for instrumental childcare, enforce discipline and set limits for their children report an increased frequency of problematic child feeding behaviours and use maladaptive strategies for managing problematic feeding behaviour with an increased frequency.

8.3.4. Chapter 6: Sources of Maternal Self-Efficacy Information as Predictors of Problematic Feeding Behaviour in Children and Maladaptive Maternal Responses to Problematic Child feeding behaviour

The first aim of the study reported in Chapter 6 (study 3) was to examine the relative contribution of the four theoretical sources of self-efficacy information: ‘mastery experiences’, ‘verbal persuasion’, vicarious experience’, and ‘physiological state’, to
maternal self-efficacy for child behaviour management. The second aim was to examine relationships between sources of self-efficacy information, maternal self-efficacy for child behaviour management and problematic child feeding behaviour. This included a secondary aim of exploring maternal self-efficacy for child behaviour management as a mediator of the relationship between sources of self-efficacy information and problematic child feeding behaviour. The third aim was to examine the relationships between sources of self-efficacy information, maternal self-efficacy for behaviour management and maladaptive maternal responses to problematic child feeding behaviour. This included a secondary aim of exploring maternal self-efficacy for child behaviour management as a mediator of the relationship between sources of self-efficacy information and problematic maladaptive maternal responses to problematic child feeding behaviour.

The study design was based on previous research (Biehle & Mickleson, 2011) and used proxy measures of all four sources of self-efficacy information to examine the relationships between sources of self-efficacy information, maternal self-efficacy for behaviour management, problematic child feeding behaviour and maladaptive maternal responses to problematic feeding. As in the study conducted by Biehle & Mickleson (2011), the proxy measure of ‘physiological state’ used in this study was the Parenting Stress Index – Short Form (PSI-SF, Abidin, 1990). This measure was thought to most accurately measure ‘physiological state’ according to the conceptualisation by Bandura (1977; 1986; 1997) as ‘somatic or emotional arousal’ within the specific domain of parenting.

It was found that high levels of parenting stress (physiological state), lower levels of satisfaction with social support (verbal persuasion), and fewer experiences of successful parenting (mastery experiences) were significant predictors of lower levels of maternal self-efficacy for establishing structure and routines around instrumental care tasks. Higher levels of parenting stress (physiological state), fewer experiences of successful parenting (mastery experiences), and an increased tendency for social comparisons (vicarious experience) were significant predictors of lower levels of maternal self-efficacy for providing discipline and setting limits for the child. In both analyses, physiological state was the strongest individual predictor of maternal self-efficacy for behaviour management.

It was also found that a high level of parenting stress (physiological state) was a significant predictor of problematic child feeding behaviour. Maternal self-efficacy for behaviour management mediated this relationship, which suggests that the extent to which mothers perceive themselves to be capable of managing child behaviour through
establishing structure and routines around instrumental childcare tasks might be implicated in the effect that maternal physiological state has on problematic child feeding behaviour.

A high level of parenting stress (physiological state) was also a significant predictor of maladaptive maternal responses to problematic child feeding. Maternal self-efficacy for behaviour management partially mediated this relationship. This suggests that the extent to which mothers perceive themselves to be capable of managing child behaviour through establishing structure and routines around instrumental childcare tasks and by providing discipline and limits for the child, partially determines the effect that maternal physiological state has on maladaptive maternal responses to problematic child feeding.

These results further expanded the current understanding of the relationship between maternal self-efficacy and problematic child feeding behaviour in a number of ways. First, they suggest that from the four theoretical sources of self-efficacy information, physiological state (parenting stress) is the strongest source of maternal self-efficacy for child behaviour management. Second, they suggest that a high level of parenting stress is predictive of a low level of maternal self-efficacy for child behaviour management, and that maternal self-efficacy mediates the relationship between parenting stress (physiological state) and problematic child feeding behaviour. Finally, they suggest that a high level of parenting stress predicts low levels of maternal self-efficacy for child behaviour management, and that maternal self-efficacy partially mediated the relationship between physiological arousal and maladaptive maternal responses to problematic child feeding behaviour. This suggests that maternal self-efficacy may act as a buffer to potential links between maternal stress and problematic child feeding behaviour and the use of maladaptive responses to feeding problems.

8.3.5. Chapter 7: Using Autophotography to Explore Parenting Tasks and Maternal Self-Efficacy: A Pilot Study

The study reported in Chapter 7 (study 4) aimed to use autophotography to expand on the current understanding of parenting tasks and dimensions which may contribute towards perceptions of maternal self-efficacy. The comparison of different approaches to measuring maternal self-efficacy reported in Chapter 5 of this thesis showed that both the domain-specific approach (SEPTI-TS: Coleman & Karraker, 2003) and the task-specific approach (MEQ: Teti & Gelfand, 1991) predicted problematic child feeding behaviour and maladaptive maternal responses to problematic child feeding behaviour. The results
supported the strength of the domain-specific approach (SEPTI-TS: Coleman & Karraker, 2003) for predicting problematic child feeding behaviour and maladaptive maternal responses to problematic child feeding behaviour. Although, the task-specific approach (MEQ: Teti & Gelfand, 1991) contributed a small but significant amount towards the model. Both the SEPTI-TS and the MEQ are well validated in the parenting literature (e.g. Coleman & Karraker, 2003; Jones & Prinz, 2005). However the domain-specific approach is limited by the use of predefined ideas about parenting dimensions and the task-specific approach is very short and may fail to capture the complexity of parenting (Bradley, 2007; Markman & Brooks-Gunn, 2005). A pilot study was conducted with 13 mothers of children over the age of 6 months and under the age of 7 years, using autophotography rather than using pre-existing or researcher defined ideas, to explore parenting tasks and dimensions from the maternal perspective.

Results supported the relevance of parenting dimensions and tasks included in both the domain-specific and task-specific measure and also highlighted additional parenting dimensions (e.g. ‘social support’) and tasks (e.g. ‘managing bathtime’ and ‘illness’) that were absent from these measures. It is also suggested that these two measures (SEPTI-TS: Coleman & Karraker, 2003; MEQ: Teti & Gelfand, 1991) do not fully contextualise self-efficacy within the specific domain of parenting (Bandura, 1989) because they do not measure task difficulty, personal factors such as knowledge, experience and emotional responses or situational factors such as the environment/location, which were found to contribute to perceptions of maternal self-efficacy in this study.

Mealtimes appeared to be an especially difficult task for mothers to manage. Several elements were associated with this task which may have influenced its complexity and also mothers’ perceived self-efficacy for managing mealtimes. For instance, the large number of aims that mothers reported around mealtimes, which were focussed around the health and behaviour of the child, was an important element because when mothers were unable to meet these aims they reported feeling stressed, worried, anxious and frustrated. The sociability of mealtimes was also an important element because being sociable with the child created an opportunity of bonding. This finding suggests that mealtimes were linked to other parenting dimensions and tasks such as ‘protection from harm’, ‘maternal wellbeing’ ‘bonding & attachment’ and ‘child development’. This further highlights the complexity of managing mealtimes and the pervasive relationship between feeding difficulties and maternal self-efficacy. These findings suggest that to be useful in the context of child feeding behaviour, a measure of self-efficacy would benefit from combining parenting dimensions and tasks from the SEPTI-TS and the MEQ and those
identified in the current study that are absent from these existing measures, such as ‘Social Support’, ‘Managing Bathtime’ and ‘Illness’.

8.4. Contribution of Research in this Thesis to Existing Knowledge

Throughout this thesis, it has consistently been found that lower levels of maternal self-efficacy, specifically lower levels of maternal self-efficacy for managing child feeding and wider behaviour, are linked to problematic feeding behaviours in children and to the use of maladaptive responses to problematic feeding in mothers. It has also consistently been found that parenting stress, which was a proxy measure of the theoretical source of information about self-efficacy ‘physiological state’, was related to perceptions of maternal self-efficacy for child behaviour management. These findings are novel and extend our understanding of the factors which may be important in families where a child has problematic feeding behaviours.

Previous research has examined links between clinical feeding problems and a wide range of maternal factors such as attachment, feeding practices, psychopathology and maternal cognitions (e.g. Ammaniti et al., 2010; Borrero, Woods, Borrero, Masler & Lesser, 2010; Garro, et al., 2004; Ward et al., 2000), however, to date, there is no research which has investigated multiple maternal factors. Study 1 (Chapter 3) was the first to explore multiple maternal factors from the maternal perspective and to make a comparison of the parenting experiences of mothers of children with and without clinical feeding problems in relation to these factors. Results of this study expanded the existing understanding of maternal factors associated with clinical feeding problems by showing that multiple maternal factors (attunement, feeding practices, psychopathologies, and cognitions) may be implicated in clinical feeding problems. It is also suggested that these factors have the potential to cumulate until they reach a point at which mothers cannot manage feeding problems.

Although previous research had suggested a link between maternal self-efficacy and feeding problems (e.g. Benoit et al., 1989; Feldman et al., 2004; Lindberg et al., 1994), maternal self-efficacy was not investigated as the main focus of the research therefore, the understanding of maternal self-efficacy in the context of feeding problems was limited to the acknowledgement of a link. The identification of the integrative theme ‘maternal
self-efficacy’ in study 1 increased this knowledge by suggesting that differences in how mothers in the clinical and non-clinical groups managed parenting challenges, including feeding problems and wider child behaviour, were related to varying levels of maternal self-efficacy. Study 2, also expanded current knowledge by examining different approaches to measuring parenting self-efficacy in the context of feeding problems. Results confirmed the findings of study 1 and also expanded on the existing understanding of problematic child feeding in several ways. It was found that the domain-specific approach to maternal self-efficacy was the most predictive measure, in the context of problematic child feeding behaviour. Results showed that lower levels of maternal self-efficacy were predictive of more frequent problematic child feeding behaviours and the increased use of maladaptive maternal responses to problematic child feeding behaviour. Specifically, results showed that lower levels of maternal self-efficacy for child behaviour management were predictive of increased child feeding problems and the increased use of maladaptive maternal feeding responses. Such findings extend the previous knowledgebase by highlighting the important role of maternal self-efficacy in managing problematic feeding.

Study 3 and study 4 also expanded the findings of previous research examining links between maternal self-efficacy and feeding problems (e.g. Benoit et al., 1989; Feldman et al., 2004; Lindberg et al., 1994). Study 3 achieved this through its unique examination of four theoretical sources of maternal self-efficacy in the context of child feeding problems. The results confirmed those reported in Chapter 3 and Chapter 4 and expanded the existing knowledge of maternal self-efficacy in the context of child feeding problems by showing that all four sources of information were predictive of lower levels of maternal self-efficacy for child behaviour management. It also showed that parenting stress (which was a proxy measure of ‘physiological state’) was the strongest predictor of problematic child feeding behaviour and maladaptive maternal responses to child feeding problems. Furthermore, maternal self-efficacy for child behaviour management mediated the relationship between physiological state and problematic child feeding behaviour and also partially mediated the relationship between physiological state and maladaptive maternal responses to child feeding problems.

Study 4, expanded on previous research by using a novel methodological approach, autophotography, to explore maternal self-efficacy from the perspective of the mother. It was also the first study to use this method to critique existing measures of parenting self-efficacy. Therefore the results of this study are completely unique. Results added to the existing knowledge of maternal self-efficacy in the context of child feeding by identifying
maternally derived parenting dimensions and tasks that were not included in existing measures. It also highlighted ways in which existing measures could be made more appropriate for use within the child feeding context and several mechanisms by which perceptions of maternal self-efficacy for managing mealtimes could be informed.

8.5. **Strengths and Limitations**

8.5.1. **Strengths**

The primary strength of this thesis was in the variety of methodologies employed. The use of this mixed methodology approach across this thesis enabled the methodological triangulation of findings. Triangulation involves the use of multiple qualitative and/or quantitative methods to validate study results. The benefits of triangulation include “increasing confidence in research data, creating innovative ways of understanding a phenomenon, revealing unique findings, challenging or integrating theories, and providing a clearer understanding of the problem” (Thurmond, 2001, p. 254). In this thesis, qualitative methodology was used in study 1 and study 4, which were exploratory studies to gain an in depth understanding of child feeding problems from the maternal perspective. This approach allowed for the identification of topics of interest that were specifically relevant to this population, rather than the identification of subjects of interest to the research. Furthermore, this approach allowed for the identification of pertinent themes that may not have been identified through a review of the literature alone. The quantitative studies in this thesis employed large, cross sectional samples which were collected from a large geographical area of England. As such these samples reflected a range of socio-economic and ethnic groups and also reflected the wide range of child feeding behaviour generally observed within the general population. The results of these studies are therefore broadly generalizable.

8.5.2. **Limitations**

Despite several overall strengths of this thesis being related to the methodologies used, they also limited some of the findings. Within this thesis, findings from studies employing qualitative methodologies, cannot be generalised to wider clinical or non-clinical populations. In questionnaire studies, large cross sectional samples allowed for generalisability of the findings, however, causality cannot be inferred from the studies
employing these samples. In study 3, proxy measures of sources of self-efficacy were employed and although these measures were carefully chosen to reflect Bandura's (1977; 1986; 1997) original conceptualisations, results should be viewed with caution. The measure of 'physiological state' used was the Parenting Stress Index – Short Form (PSISF; Abidin, 1990), this was the only measure employed within this study that had previously been validated within parenting research, which may have contributed to the strength of the results in this study. Further to this, studies reported within this thesis relied on maternal report which may have created bias in the data. Although it is widely acknowledged that a child’s weight is not an indicator of disordered feeding, child height and weight may be a useful indicator of more severe cases of food refusal in non-clinical populations, however child height and weight were not recorded in any of the studies within this thesis therefore child weight status cannot be used to make inferences about the severity of feeding problem. The results of this thesis might also be limited by the recruitment process. Despite being aimed at mothers of children exhibiting a wide range of child feeding behaviour, there may have been bias towards individuals motivated to participate because they were experiencing difficulties feeding their children. Furthermore, the qualitative study reported in chapters 3 and 4 may have also been limited by the inclusion of participants at different stages of intervention. Although participants were recruited during their initial assessment and attendance at a feeding group session, their involvement with prior treatments routes was not recorded. It is also important to consider that a number of questionnaires were collected online, therefore although participants may have indicated that their child had a diagnosed feeding problem, this was not confirmed with any health professional.

8.6. Future Directions

Suggestions for future research are focused on addressing some of the limitations of the research within this thesis. A longitudinal investigation of the development of maternal self-efficacy and its relationship with child feeding behaviour, both normative and problematic, could provide insights into causal relationships and would be a valuable extension of this research. Further research should aim to examine physiological state in further detail by also including using measures of anxiety and depression or by using objective measures to directly measure physiological arousal and to determine if parenting stress, measured using the PSI-SF (Adidin, 1990) is a valid proxy measure of physiological arousal. In addition to this, a replication of study four which included a
clinical sample would allow for a comparison of maternal perceptions of parenting dimensions and tasks that are specifically relevant to each group. Potential differences could be used to inform the development of a measure, or set of measures, for assessing maternal self-efficacy for child feeding.

Other suggestions for future research include an investigation to determine ways in which to increase maternal self-efficacy. Research within this thesis suggests that increased mastery of feeding and wider child behaviour management, resilience against negative judgements of parenting ability, favourable social comparisons, and low levels of physiological arousal are associated with higher levels of maternal self-efficacy. Experimental research has found that manipulating verbal persuasions had an effect on maternal self-efficacy and subsequent performance of a childcare task (Casse, Oosterman & Schuengel, 2015). Therefore further research to determine the effects of experimental manipulations of sources of self-efficacy information could be useful for the development of interventions for child feeding problems. A fuller understanding of maternal parenting stress is also of particular interest within the context of problematic child feeding. Therefore an understanding of parenting stress and how to reduce stress in challenging parenting situations could prove especially useful.

Another beneficial extension to the research within this thesis would be to investigate the effects of child factors. Results of study one, two and four suggested that maternal perceptions of child temperament, especially child sociability, attachment and also subtle developmental difficulties may have played a role in the maternal management of child feeding and wider child behaviour. Understanding how child factors might influence perceptions of maternal self-efficacy and the relationship between maternal self-efficacy and the management of feeding problems would be useful for the development of interventions for families affected by feeding problems.

8.7. Clinical Implications

Overall, the implications of the research findings within this thesis suggest that support may be needed to strengthen parenting self-efficacy in mothers of children with diagnosed feeding problems. Interviews with mothers suggested that self-efficacy in mothers of children with diagnosed feeding problems may be lower than in mothers of children without feeding problems. In a sample of mothers with children displaying a range of feeding behaviour (from no difficulties to clinically diagnosed feeding problems), it was
found that maternal self-efficacy for managing feeding and wider child behaviour, was linked with increased maternal reports of feeding difficulties. Specifically, it was also found that maternal parenting stress may be a particularly pertinent factor linked to maternal self-efficacy for managing child feeding and wider behaviour. Therefore interventions aimed at increasing efficacy for managing child behaviour and reducing mothers stress around parenting, may be of particular benefit to mothers of children currently engaging with a clinical feeding intervention.

Evidence has supported a multifaceted approach to clinical interventions for feeding problems, which include a behavioural training to manage feeding difficulties and addressing the family dynamic (e.g. Douglas & Harris, 2001; Martin, Shea & Marr, 2008). However, currently these approaches do not include an element which is specifically aimed at measuring and strengthening maternal self-efficacy, despite the literature suggesting that interventions aimed at strengthening parenting self-efficacy (e.g. TOPSE; Bloomfield & Kendall, 2007) are successful in helping parents manage child behaviour (Bloomfield & Kendall, 2007). Although further research is needed to determine the efficacy of this intervention within the domain of clinical feeding problems.

8.8. Conclusions

Prior to the research conducted and reported on in this thesis, the existing understanding of maternal self-efficacy in the context of child feeding problems was limited due to a paucity of research within this area. The research presented in this thesis has contributed towards the current understanding of child feeding problems by showing that mothers who have lower levels of maternal self-efficacy for managing child behaviour, specifically for providing discipline and setting limits for the child and for implementing structure and routines around instrumental childcare tasks, report experiencing increased problematic child feeding behaviour and report using more maladaptive strategies to manage feeding problems.

This thesis also expands on the current understanding of the link between maternal stress and child feeding problems by showing that high levels of maternal parenting stress is linked to lower levels of maternal self-efficacy for child behaviour management. Maternal self-efficacy for child behaviour management also mediates the relationship between maternal parenting stress and problematic child feeding behaviour. Maternal self-efficacy for child behaviour management also partially mediates the use of maladaptive maternal strategies for managing problematic child feeding behaviour. This suggests that maternal self-efficacy may serve as a protection function in the development of child feeding
problems, by acting as a buffer between maternal stress and child feeding problems. Therefore, increasing maternal self-efficacy maybe a useful strategy for interventions aimed at improving outcomes for families affected by feeding problems.


Appendices

Appendix 1: Demographics Questionnaire
Appendix 2: Behavioural Paediatrics Feeding Assessment Scale
Appendix 3: General Self-Efficacy Scale
Appendix 4: Parenting Sense of Competence Scale
Appendix 5: Self-Efficacy For Parenting Tasks – Toddler Scale
Appendix 6: Maternal Efficacy Questionnaire
Appendix 7: Social Support Questionnaire – 6
Appendix 8: Parenting stress Index – Short Form
Appendix 9: Scale for Social Comparison Orientation
Appendix 10: Informed Consent Form
Appendix 11: Study 1 Information Sheet
Appendix 12: Study 1 Interview Schedule
Appendix 13: Studies 2 & 3 Information Sheet
Appendix 14: Study 4 Information Sheet
Appendix 15: Study 4 Instructions
Appendix 16: Study 4 Interview Schedule
Appendix 17: Debrief
### QUESTIONS ABOUT YOU

1. What is your date of birth?

2. What is your nationality?  
   - [ ] British  
   - [ ] Non-British

3. What is your ethnicity?  
   - [ ] White / North European  
   - [ ] Mediterranean  
   - [ ] Black African / Caribbean  
   - [ ] Indian subcontinent  
   - [ ] SE Asian/Chinese  
   - [ ] Other

4. What is your marital status?  
   - [ ] Single, never married  
   - [ ] In relationship, living apart  
   - [ ] Married / Civil partnership  
   - [ ] Living together  
   - [ ] Separated / Divorced  
   - [ ] Widowed

5. What is your employment status?  
   - [ ] Working full time  
   - [ ] Working part time  
   - [ ] On maternity leave  
   - [ ] Not employed

6. What is your occupation?

7. What is your annual household income?  
   - [ ] £5-7 thousand  
   - [ ] £7-15 thousand  
   - [ ] £15-25 thousand  
   - [ ] £25-35 thousand  
   - [ ] £35-50 thousand  
   - [ ] £50+ thousand

8. What is your education level?  
   (e.g. GCSE, A-Level, Degree)

### QUESTIONS ABOUT YOUR CHILD

9. What is your child's date of birth?

10. What gender is your child?  
    - [ ] Male  
    - [ ] Female

15. Has your child ever seen a specialist for a feeding issue?  
    - [ ] No  
    - [ ] Yes, they saw a…  
      - [ ] Dietician  
      - [ ] Speech therapist  
      - [ ] Psychologist/CAMHS  
      - [ ] Other

15a. If you answered 'yes' above, has your child been discharged?  
    - [ ] No  
    - [ ] Yes, they were discharged on:
      (Date)........................................................................
Appendix 2: Behavioural Paediatrics Feeding Assessment Scale

There are 2 parts to each question, please **fill in both parts**

**Part 1:** Circle the number describing how often the behaviour currently occurs **and**

**Part 2:** Circle “Yes” or “No” to indicate whether the behaviour is currently a problem for you.

<table>
<thead>
<tr>
<th>MY CHILD</th>
<th>PART 1</th>
<th>PART 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Never</td>
<td>Sometimes</td>
</tr>
<tr>
<td>1. Eats fruit.*</td>
<td>1 2 3 4 5</td>
<td>Yes No</td>
</tr>
<tr>
<td>2. Has problems chewing food.</td>
<td>1 2 3 4 5</td>
<td>Yes No</td>
</tr>
<tr>
<td>3. Enjoys eating. *</td>
<td>1 2 3 4 5</td>
<td>Yes No</td>
</tr>
<tr>
<td>4. Chokes or gags at mealtimes.</td>
<td>1 2 3 4 5</td>
<td>Yes No</td>
</tr>
<tr>
<td>5. Will try new foods. *</td>
<td>1 2 3 4 5</td>
<td>Yes No</td>
</tr>
<tr>
<td>6. Eats meats and/or fish. *</td>
<td>1 2 3 4 5</td>
<td>Yes No</td>
</tr>
<tr>
<td>7. Takes longer than 20 minutes to finish a meal.</td>
<td>1 2 3 4 5</td>
<td>Yes No</td>
</tr>
<tr>
<td>8. Drinks milk. *</td>
<td>1 2 3 4 5</td>
<td>Yes No</td>
</tr>
<tr>
<td>9. Comes readily to mealtimes. *</td>
<td>1 2 3 4 5</td>
<td>Yes No</td>
</tr>
<tr>
<td>10. Eats junky snack foods but will not eat at mealtime.</td>
<td>1 2 3 4 5</td>
<td>Yes No</td>
</tr>
<tr>
<td>11. Vomits just before, at, or just after Mealtimes.</td>
<td>1 2 3 4 5</td>
<td>Yes No</td>
</tr>
<tr>
<td>12. Eats only ground, strained or soft food.</td>
<td>1 2 3 4 5</td>
<td>Yes No</td>
</tr>
<tr>
<td>13. Gets up from table during meal.</td>
<td>1 2 3 4 5</td>
<td>Yes No</td>
</tr>
<tr>
<td>14. Lets food sit in his/her mouth &amp; does not swallow it.</td>
<td>1 2 3 4 5</td>
<td>Yes No</td>
</tr>
<tr>
<td>15. Whines or cries at feeding time.</td>
<td>1 2 3 4 5</td>
<td>Yes No</td>
</tr>
<tr>
<td>16. Eats vegetables. *</td>
<td>1 2 3 4 5</td>
<td>Yes No</td>
</tr>
<tr>
<td>17. Tantrums at mealtimes.</td>
<td>1 2 3 4 5</td>
<td>Yes No</td>
</tr>
<tr>
<td>18. Eats starches (example, potato, noodles). *</td>
<td>1 2 3 4 5</td>
<td>Yes No</td>
</tr>
<tr>
<td>19. Has a poor appetite.</td>
<td>1 2 3 4 5</td>
<td>Yes No</td>
</tr>
<tr>
<td>20. Spits out food.</td>
<td>1 2 3 4 5</td>
<td>Yes No</td>
</tr>
<tr>
<td>21. Delays eating by talking.</td>
<td>1 2 3 4 5</td>
<td>Yes No</td>
</tr>
<tr>
<td>22. Would rather drink than eat.</td>
<td>1 2 3 4 5</td>
<td>Yes No</td>
</tr>
<tr>
<td>23. Refuses to eat but requests food immediately after the meal.</td>
<td>1 2 3 4 5</td>
<td>Yes No</td>
</tr>
<tr>
<td>24. Tries to negotiate what he/she will eat and what he/she will not eat.</td>
<td>1 2 3 4 5</td>
<td>Yes No</td>
</tr>
<tr>
<td>25. Has required nasal-gastric feeds to maintain proper nutritional status.</td>
<td>1 2 3 4 5</td>
<td>Yes No</td>
</tr>
<tr>
<td></td>
<td>PARENT</td>
<td>Never</td>
</tr>
<tr>
<td>---</td>
<td>------------------------------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>26.</td>
<td>I get frustrated and/or anxious when feeding my child.</td>
<td>1 2</td>
</tr>
<tr>
<td>27.</td>
<td>I coax my child to get him/her to take a bite.</td>
<td>1 2</td>
</tr>
<tr>
<td>28.</td>
<td>I use threats to get my child to eat.</td>
<td>1 2</td>
</tr>
<tr>
<td>29.</td>
<td>I feel confident my child gets enough to eat.*</td>
<td>1 2</td>
</tr>
<tr>
<td>30.</td>
<td>I feel confident in my ability to manage my child's behaviour at mealtime.*</td>
<td>1 2</td>
</tr>
<tr>
<td>31.</td>
<td>If my child does not like what is being served, I make something else.</td>
<td>1 2</td>
</tr>
<tr>
<td>32.</td>
<td>When my child refuses to eat, I put the food in his/her mouth by force if necessary.</td>
<td>1 2</td>
</tr>
<tr>
<td>33.</td>
<td>I disagree with other adults (example: my spouse, the child's grandparents) about how to feed my child.</td>
<td>1 2</td>
</tr>
<tr>
<td>34.</td>
<td>I feel that my child's eating pattern hurts his/her general health.</td>
<td>1 2</td>
</tr>
<tr>
<td>35.</td>
<td>I get so angry with my child at mealtimes that it takes me a while to calm down after the meal.</td>
<td>1 2</td>
</tr>
</tbody>
</table>

*Reverse scored items*
Appendix 3: General Self-Efficacy Scale

<table>
<thead>
<tr>
<th></th>
<th>Not at all true</th>
<th>Hardly true</th>
<th>Moderately true</th>
<th>Exactly true</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>I can always manage to solve difficult problems if I try hard enough.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2.</td>
<td>If someone opposes me, I can find the means and ways to get what I want.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3.</td>
<td>It is easy for me to stick to my aims and accomplish my goals.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4.</td>
<td>I am confident that I could deal efficiently with unexpected events.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5.</td>
<td>Thanks to my resourcefulness, I know how to handle unforeseen situations.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6.</td>
<td>I can solve most problems if I invest the necessary effort.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7.</td>
<td>I can remain calm when facing difficulties because I can rely on my coping abilities.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8.</td>
<td>When I am confronted with a problem, I can usually find several solutions.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9.</td>
<td>If I am in trouble, I can usually think of a solution.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10.</td>
<td>I can usually handle whatever comes my way.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
Appendix 4: Parenting Sense of Competence Scale (Efficacy Subscale)

Please circle the number which best reflects the extent to which you agree or disagree with the statements below using the following scores:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Disagree</strong></td>
<td>Strongly</td>
<td>Disagree somewhat</td>
<td>Disagree</td>
<td>Agree</td>
<td>Agree Somewhat</td>
<td>Agree Strongly</td>
</tr>
<tr>
<td>1.</td>
<td>The problems of taking care of a child are easy to solve once you know how your actions affect your child, an understanding I have acquired.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6.</td>
<td>I would make a fine model for a new mother to follow in order to learn what she would need to know in order to be a good parent.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7.</td>
<td>Being a parent is manageable, and any problems are easily solved.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10.</td>
<td>I meet by own personal expectations for expertise in caring for my child.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11.</td>
<td>If anyone can find the answer to what is troubling my child, I am the one.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13.</td>
<td>Considering how long I've been a mother, I feel thoroughly familiar with this role.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>15.</td>
<td>I honestly believe I have all the skills necessary to be a good mother to my child.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>17.</td>
<td>Being a good mother is a reward in itself.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Appendix 5: Self-Efficacy For Parenting Tasks – Toddler Scale

Please circle the number which best reflects the extent to which you agree or disagree with the statements below using the following scores:

<table>
<thead>
<tr>
<th></th>
<th>Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Strongly</td>
<td>Slightly</td>
<td>Slightly</td>
<td>Strongly</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Emotional Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Even when I have had an unusually distressing day, I think my child knows I am available to meet his or her emotional needs.</td>
</tr>
<tr>
<td>2. I believe that I adequately meet my child’s needs to feel secure and accepted.</td>
</tr>
<tr>
<td>3. When my child needs me, I am able to easily put aside whatever else I may be doing.</td>
</tr>
<tr>
<td>4. I find it difficult to always be available to provide my child with the comfort he/she needs in dealing with the many frustrations and fears that children face each day.*</td>
</tr>
<tr>
<td>5. Providing physical comfort for my child is easy for me.</td>
</tr>
<tr>
<td>6. I am usually willing to stop what I’m doing and cuddle my child when he/she seems to need affection.</td>
</tr>
<tr>
<td>7. I am often too preoccupied with my own problems to keep up with my child’s changing emotions.*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nurturance, Valuing, Empathy</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. I am able to sense when my child is starting to become distressed.</td>
</tr>
<tr>
<td>9. My child knows that I understand when his/her feelings are hurt.</td>
</tr>
<tr>
<td>10. I think my child knows by my behaviour how much I really adore him/her.*</td>
</tr>
<tr>
<td>11. My child feels very loved by me.</td>
</tr>
<tr>
<td>12. I think I am ‘tolerant’ and ‘understanding’ when my child displays negative emotions.</td>
</tr>
<tr>
<td>13. I find it very distressing when my child isn’t in a good mood.*</td>
</tr>
<tr>
<td>14. I definitely fulfil my parental duties when it comes to providing emotional support for my child.</td>
</tr>
<tr>
<td>15. When my child has a problem, he/she knows I will want to help.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>16. Providing a safe, hazard-free environment for my child is very difficult for me.*</td>
</tr>
<tr>
<td>17. I feel comfortable with my ability to react well should an emergency arise in which my child’s physical well-being is in danger.</td>
</tr>
<tr>
<td>18. When I leave my child in someone else’s care, I make sure that the substitute care provider will be capable of protecting my child from harm.</td>
</tr>
<tr>
<td>19. I have my home arranged to prevent as many accidents as possible with my child.</td>
</tr>
<tr>
<td>20. I am very good about never leaving my child unattended.</td>
</tr>
</tbody>
</table>
21. I always make sure I can see my child in order to make sure he/she does not get hurt. 1 2 3 4 5 6
22. I have difficulty determining what is & isn't safe for my child to do*. 1 2 3 4 5 6

**Discipline & Limit Setting**

23. Disciplining my child does not seem to be coming as naturally to me as other parts of parenting.* 1 2 3 4 5 6
24. I have trouble getting my child to listen to me.* 1 2 3 4 5 6
25. Other parents seem to have more success with setting limits for their children than I do with my child.* 1 2 3 4 5 6
26. Setting limits for my child is relatively easy for me. 1 2 3 4 5 6
27. When my child tests the limits that I have set up, I find myself becoming extremely discouraged.* 1 2 3 4 5 6
28. Telling my child "no" when safety isn't the issue is hard for me.* 1 2 3 4 5 6
29. Other parents seem to have more success with setting limits for their children than I do with my child.* 1 2 3 4 5 6
30. Setting limits for my child is relatively easy for me. 1 2 3 4 5 6

**Play**

30. I can always think of something to play with my child. 1 2 3 4 5 6
31. I am a fun playmate for my child. 1 2 3 4 5 6
32. I find it hard to loosen up and just play with my child.* 1 2 3 4 5 6
33. I am able to get actively involved in playing with my child. 1 2 3 4 5 6
34. Playing is a part of my relationship with my child that I have very little difficulty with. 1 2 3 4 5 6
35. I really need to learn how to just have fun with my child.* 1 2 3 4 5 6
36. I think I spend an appropriate amount of time just playing with my child. 1 2 3 4 5 6

**Teaching**

37. I believe my child learns a great deal from my efforts to show him/her things. 1 2 3 4 5 6
38. Assisting my child with learning to talk and understand words is a part of parenting that I leave to others.* 1 2 3 4 5 6
39. Sitting down regularly with my child to read or do some other one-on-one activity is not difficult for me. 1 2 3 4 5 6
40. I am probably not that great at teaching my child about the world*. 1 2 3 4 5 6
41. I have some difficulty figuring out the appropriate level of instruction when I'm trying to explain something to my child.* 1 2 3 4 5 6
42. Helping my child learn colours, names of objects, etc. is not one of my strongest points.* 1 2 3 4 5 6
43. My child learns more from me than anyone else in his/her life. 1 2 3 4 5 6
44. I easily find opportunities to point out things about the world during my daily interactions with my child. 1 2 3 4 5 6
45. Although I would like to help my child learn more about his/her surroundings, this is an area of parenting that I do not feel well-equipped for.* 1 2 3 4 5 6
**Instrumental Care, Structure, Routine**

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Scored Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>46</td>
<td>I have been able to establish a daily routine with my child that feels</td>
<td>1 2 3 4 5 6</td>
</tr>
<tr>
<td></td>
<td>comfortable to both of us.</td>
<td></td>
</tr>
<tr>
<td>47</td>
<td>I am able to provide my child with a comfortable amount of daily structure.</td>
<td>1 2 3 4 5 6</td>
</tr>
<tr>
<td>48</td>
<td>I have been successful in getting my child to eat on a fairly regular</td>
<td>1 2 3 4 5 6</td>
</tr>
<tr>
<td></td>
<td>schedule.</td>
<td></td>
</tr>
<tr>
<td>49</td>
<td>I feel like I have no control over my child’s sleep habits.*</td>
<td>1 2 3 4 5 6</td>
</tr>
<tr>
<td>50</td>
<td>I am not very good at getting my child to stick to a regular daily schedule*</td>
<td>1 2 3 4 5 6</td>
</tr>
<tr>
<td>51</td>
<td>Although I have tried to train my child to eat well, my efforts have been</td>
<td>1 2 3 4 5 6</td>
</tr>
<tr>
<td></td>
<td>met with very little success.*</td>
<td></td>
</tr>
<tr>
<td>52</td>
<td>I don’t seem to be able to establish a regular bed time routine with my</td>
<td>1 2 3 4 5 6</td>
</tr>
<tr>
<td></td>
<td>child.*</td>
<td></td>
</tr>
<tr>
<td>53</td>
<td>I have worked out a fairly regular morning routine with my child</td>
<td>1 2 3 4 5 6</td>
</tr>
</tbody>
</table>

*Reverse scored items*
Appendix 6: Maternal Efficacy Questionnaire

Please circle the number which best reflects how good you feel you are at performing the following activities below using the following scores:

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Not good at all</strong></td>
<td><strong>Got good</strong></td>
<td><strong>Good</strong></td>
<td><strong>Very good</strong></td>
</tr>
<tr>
<td>1. Soothing/comforting your child</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2. Understanding your child’s needs and wants</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3. Making your child understand what you want him/her to do</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4. Getting your child to pay attention to you</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5. Getting your child to have play and have fun with you</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6. Knowing what activities your child will enjoy</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7. Keeping your child occupied when you need to do housework</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8. Feeding your child</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9. Getting your child to show off for visitors</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10. In general, how good a mother do you feel you are?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
Appendix 7: Social Support Questionnaire-6

There are 2 parts to each question, please fill in both parts thinking specifically about your role as a mother.

**Part 1:** Circle all the people you know, excluding yourself, whom you can count on for help or support in the manner described.

**Part 2:** Circle how satisfied you are with the overall support you have.

If you have no support for a question, circle the words “No one” but still rate your level of satisfaction.

<table>
<thead>
<tr>
<th>Question</th>
<th>People Available</th>
<th>How Satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Whom can you really count on to be dependable when you need help?</td>
<td></td>
<td>1 – very dissatisfied</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 – fairly dissatisfied</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 – a little satisfied</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 – a little satisfied</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 – fairly satisfied</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 – very satisfied</td>
</tr>
<tr>
<td>2. Whom can you really count on to help you feel more relaxed when you</td>
<td></td>
<td>1 – very dissatisfied</td>
</tr>
<tr>
<td>are under pressure or tense?</td>
<td></td>
<td>2 – fairly dissatisfied</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 – a little satisfied</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 – a little satisfied</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 – fairly satisfied</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 – very satisfied</td>
</tr>
<tr>
<td>3. Who accepts you totally, including both your worst and your best</td>
<td></td>
<td>1 – very dissatisfied</td>
</tr>
<tr>
<td>points?</td>
<td></td>
<td>2 – fairly dissatisfied</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 – a little satisfied</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 – a little satisfied</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 – fairly satisfied</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 – very satisfied</td>
</tr>
<tr>
<td>4. Who can you really count on to care about you, regardless of what is</td>
<td></td>
<td>1 – very dissatisfied</td>
</tr>
<tr>
<td>happening to you?</td>
<td></td>
<td>2 – fairly dissatisfied</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 – a little satisfied</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 – a little satisfied</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 – fairly satisfied</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 – very satisfied</td>
</tr>
<tr>
<td>5. Whom can you really count on to help you feel better when you are</td>
<td></td>
<td>1 – very dissatisfied</td>
</tr>
<tr>
<td>feeling generally down-in-the dumps?</td>
<td></td>
<td>2 – fairly dissatisfied</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 – a little satisfied</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 – a little satisfied</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 – fairly satisfied</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 – very satisfied</td>
</tr>
<tr>
<td>6. Whom can you count on to console you when you are very upset?</td>
<td></td>
<td>1 – very dissatisfied</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 – fairly dissatisfied</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 – a little satisfied</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 – a little satisfied</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 – fairly satisfied</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 – very satisfied</td>
</tr>
</tbody>
</table>
Appendix 8: Parenting Stress Index – Short Form

Please circle the number which best reflects the extent to which you agree or disagree with the statements below using the following scores:

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Not sure</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>I often have the feeling that I cannot handle things very well</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2.</td>
<td>I find myself giving up more of my life to meet my children's need than I ever expected</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3.</td>
<td>I feel trapped by my responsibilities as a parent</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4.</td>
<td>Since having this child I have been unable to do new and different things</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5.</td>
<td>Since having this child I feel that I am almost never able to do the things that I like to do</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6.</td>
<td>I am unhappy with the last purchase of clothing I made for myself</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7.</td>
<td>There are quite a few things that bother me about my life</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8.</td>
<td>Having a child has caused more problems than I expected in my relationship with my spouse/partner</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9.</td>
<td>I feel alone and without friends</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10.</td>
<td>When I go to a party I usually expect not to enjoy myself</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11.</td>
<td>I am not as interested in people as I used to be</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12.</td>
<td>I don't enjoy things as I used to</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13.</td>
<td>My child rarely does things for me that make me feel good</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14.</td>
<td>Sometimes I feel my child doesn't like me and doesn't want to be close to me</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15.</td>
<td>My child smiles at me less than I expected</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16.</td>
<td>When I do things for my child I get the feeling that my efforts are not appreciated very much</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17.</td>
<td>When playing my child doesn't often giggle or laugh</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18.</td>
<td>My child doesn't seem to learn as quickly as most children</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19.</td>
<td>My child doesn't seem to smile as much as other children</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20.</td>
<td>My child is not able to do as much as I expected</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>21.</td>
<td>Compared to the average child my child has a great deal of difficulty in getting used to changes in schedule of changes around the house</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
|22. | When I think about myself as a parent I believe...(circle 1 response)  
1) I can handle anything that happens  
2) I can handle most things pretty well  
3) Sometimes I have doubts but find that I handle most things without problems  
4) I have some doubts about being able to handle things  
5) I don't think I handle things very well at all | 1 | 2 | 3 | 4 | 5 |
|23. | I expected to have closer and warmer feelings for my child than I do and this bothers me | 1 | 2 | 3 | 4 | 5 |
|24. | Sometimes my child does things that bother me just to be mean | 1 | 2 | 3 | 4 | 5 |
|25. | My child seems to cry or fuss more often than most children | 1 | 2 | 3 | 4 | 5 |
|26. | My child generally wakes up in a bad mood | 1 | 2 | 3 | 4 | 5 |
|27. | I feel that my child is very moody and easily upset | 1 | 2 | 3 | 4 | 5 |
28. My child does a few things which bother me a great deal | 1 2 3 4 5
29. My child reacts very strongly when something happens that my child doesn’t like | 1 2 3 4 5
30. My child gets upset easily over the smallest things | 1 2 3 4 5
31. My child’s eating or sleeping schedule was much harder to establish than I expected | 1 2 3 4 5
32. I have found that getting my child to do something or stop doing something... (circle 1 response)
   1) Much harder than I expected
   2) Somewhat harder than I expected
   3) About as hard as I expected
   4) Somewhat easier than I expected
   5) Much easier than I expected
33. Think carefully and count the number of things that your child does that bother you. For example: dawdles, refuses to listen, overactive, cries, interrupts, fights, whines, etc. Please circle the number which includes the number of things you counted (circle 1 response)
   1) 1-3
   2) 4-5
   3) 6-7
   4) 8-9
   5) 10+
34. There are some things my child does that really bother me a lot | 1 2 3 4 5
35. My child turned out to be more of a problem than I had expected | 1 2 3 4 5
36. My child makes more demands on me than most children | 1 2 3 4 5
Appendix 9: Scale for Social Comparison Orientation

Most people compare themselves from time to time with others. For example, they may compare the way they feel, their opinions, their abilities, and/or their situation with those of other people.

There is nothing particularly ‘good’ or ‘bad’ about this type of comparison, and some people do it more than others.

We would like to find out how often you compare yourself with other mothers.

To do that we would like to ask you to indicate how much you agree with each statement below.

<table>
<thead>
<tr>
<th></th>
<th>I Disagree</th>
<th>I Disagree</th>
<th>I Neither Agree Nor Disagree</th>
<th>I Agree</th>
<th>I Agree Strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I often compare myself with other mothers with respect to what I have accomplished in life</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>If I want to learn more about something, I try to find out what other mothers think about it</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>I always pay a lot of attention to how I do things compared with how other mothers do things</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>I often compare how my loved ones who are mothers are doing with how other mothers are doing</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>I always like to know what other mothers in a similar situation would do</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>I am not the type of person who compares often with other mothers</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>If I want to find out how well I have done something, I compare what I have done with how other mothers have done</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>I often try to find out what other mothers think who face similar problems as I face</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9</td>
<td>I often like to talk with other mothers about mutual opinions and experiences</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10</td>
<td>I never consider my situation in life relative to that of other mothers</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11</td>
<td>I often compare how I am doing socially (e.g. social skills, popularity) with other mothers</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
Appendix 10: Informed Consent Form

Informed Consent Form

PLEASE LEAVE THIS SHEET ATTACHED TO YOUR QUESTIONNAIRE

- I confirm that I am eligible to take part in this research
- The purpose and details of this study have been explained to me. I understand that this study is designed to further scientific knowledge and that all procedures have been approved by the Loughborough University Ethical Advisory Committee.
- I have had an opportunity to ask questions about my participation.
- I understand that I am under no obligation to take part in the study.
- I understand that I have the right to withdraw from this study at any stage for any reason, and that I will not be required to explain my reasons for withdrawing.
- I understand that all the information I provide will be treated in strict confidence and will be kept anonymous and confidential to the researchers unless (under the statutory obligations of the agencies which the researchers are working with), it is judged that confidentiality will have to be breached for the safety of the participant or others.
- I understand how all the information I provide will be collected and stored.
- I have read and understood the information sheet and this consent form.
- I agree to participate in this study.

Your signature __________________________

Date: __________________________

Your initials The year of your birth Your house number

Please provide the following details to generate your identification code:

PLEASE LEAVE THIS SHEET ATTACHED TO YOUR QUESTIONNAIRE
What is the purpose of the study?
This study aims to explore parents’ experiences of parenting, feeding children and mealtimes. The purpose of this is to understand the typical difficulties that parents encounter and the ways in which they manage them.

Who is doing this research and why?
This research will be conducted by Caroline Jordan under the supervision of Dr. Terry Dovey, a lecturer at Loughborough University. This study is part of a doctoral student research project funded by Loughborough University. We are keen to help parents of children with severe feeding problems in a hospital setting, to do this we must understand a wide range of maternal perceptions about feeding children.

Who can take part? Any mother over the age of 18 years, who has a child over the age of 6 months of age and under the age of 7 years, can take part. If you have more than one child within this age range you should complete this research with the youngest child within this age range in mind. If you have a child with a diagnosed feeding problem, you will be asked to complete this research with that child in mind. This research is targeted at a wide range of feeding behaviour, so if you are experiencing no challenges, a small number of challenges or many challenges feeding your child, you can make a valuable contribution by taking part.

Are there any exclusion criteria? 
Yes. If your child is less than 6 months old or over 7 years old you will not be able to take part in this research. If you are under 18 years of age you will not be able to take part.

Once I take part, can I change my mind? 
Yes. You will be able to withdraw at any time before and during the interview and for a period of time after the interview. Following participation you will be informed of the final date for withdrawal. You may withdraw for any reason and you will not be asked to explain your reasons.

What will I be asked to do? 
You will be asked to complete a short questionnaire and to take part in an interview with the researcher about being a parent, feeding your child and mealtimes. This interview will be recorded by the researcher.

Where will this take place? 
The interview will take place in your own home or a location of your choice at time to suit you. This will be arranged with the researcher once you have agreed to take part.
How long will it take?
Participation should take approximately 1 hour. This includes 10 minutes to complete the questionnaire and 50 minutes for the interview.

What personal information will be required from me?
If you agree to take part in the research, the researcher will confirm your eligibility to take part in the research and will take your name, your contact details and your address so that an interview can be arranged. Before the interview you will be asked to complete a questionnaire which will ask you to provide demographic information and information about your child’s feeding.

Are there any risks in participating?
No. There are no risks anticipated with taking part in this research. You will be asked to provide information about your normal experiences.

Will my taking part in this study be kept confidential?
Yes. The information you provide will be treated with the strictest confidence. All the information you provide will be kept in accordance with Loughborough University guidelines for data collection and storage and with the Data Protection Act 1998. To keep your information anonymous you will be asked to provide an identification code which will be unique to you, this code will be used to identify the information you provide rather than your name. Information provided on paper will be kept in a locked filing cabinet, electronic versions of your information will be stored on a password protected portable storage device. Only the researcher will have direct access to your information.

What will happen to the results of the study?
The results of the study will form part of the researcher’s doctoral research thesis. As such, the results of this study will be reviewed by researchers directly involved in the research at Loughborough University. The results may also be presented at a conference and/or published in an academic journal. The completed thesis will be assessed by internal and external examiners and may also be kept by Loughborough University library and accessed by staff and students.

What do I get for participating?
There is no direct reimbursement for taking part in this research, however it is hoped that you will find the experience personally rewarding.

I have some more questions who should I contact?
It is important that you feel you have been given the information you need to help you decide whether to take part or not. If you have any further questions or would like to clarify any information please contact the researcher. You will be under no obligation to take part in the research if you contact the researcher.

What if I am not happy with how the research was conducted?
The University has a policy relating to Research Misconduct and Whistle Blowing which is available online at: http://www.lboro.ac.uk/admin/committees/ethical/Whistleblowing(2).htm.

What should I do now?
If you have decided to take part in this research, please use the contact details at the top of this letter to email, telephone or text the researcher so that an interview can be arranged.

If you have decided that you are unable to help on this occasion, I would like to thank you for taking the time to read through this information. If you think you might be interested in future research, please inform the researcher who will keep your details on file.
Appendix 12: Study 1 Interview Schedule

<table>
<thead>
<tr>
<th>Intro: Can you tell me about your family and family life?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What was your life like before you became a parent</td>
</tr>
<tr>
<td>1.1 What was your experience of children and parenting?</td>
</tr>
<tr>
<td>2. What were your expectations about becoming a parent? (in terms of the demands on you, your life and relationships)</td>
</tr>
<tr>
<td>2.1 What kind of parent did you think you would be?</td>
</tr>
<tr>
<td>2.2 Has your experience been different?</td>
</tr>
<tr>
<td>2.3 Have you encountered any particular challenges?</td>
</tr>
<tr>
<td>3. Can you tell me about your pregnancy and birth experience?</td>
</tr>
<tr>
<td>3.1 What were your initial feeding experiences like?</td>
</tr>
<tr>
<td>4. Who offers you practical &amp; emotional parenting support?</td>
</tr>
<tr>
<td>4.1 Do you feel supported in your parenting decisions?</td>
</tr>
<tr>
<td>4.2 What’s your relationship like with other family members?</td>
</tr>
<tr>
<td>4.3 Do you meet up with other parents?</td>
</tr>
<tr>
<td>5. How would you describe your relationship with your child?</td>
</tr>
<tr>
<td>6. What is your child’s personality / temperament like?</td>
</tr>
<tr>
<td>6.1 Do you think anything has influenced that?</td>
</tr>
<tr>
<td>7. What is your child’s behaviour like?</td>
</tr>
<tr>
<td>7.1 What behaviour do/would you find unacceptable in your child?</td>
</tr>
<tr>
<td>7.2 How do/would you deal with those behaviours?</td>
</tr>
<tr>
<td>8. What is your child’s behaviour like?</td>
</tr>
<tr>
<td>8.1 What behaviour do/would you find unacceptable in your child?</td>
</tr>
<tr>
<td>8.2 How do/would you deal with those behaviours?</td>
</tr>
<tr>
<td>9. Can you describe the typical mealtime at home?</td>
</tr>
<tr>
<td>9.1 How would you describe your child’s diet and eating habits?</td>
</tr>
<tr>
<td>9.2 What is your child’s behaviour like at mealtimes</td>
</tr>
<tr>
<td>10. What kind of behaviours do you think are appropriate at mealtimes?</td>
</tr>
<tr>
<td>10.1 Can you explain how you would make that decision?</td>
</tr>
<tr>
<td>11. What kind of behaviours do/ would you find difficult or problematic at mealtimes?</td>
</tr>
<tr>
<td>11.1 Can you explain how you would make that decision?</td>
</tr>
<tr>
<td>11.2 Why do you think a child would behave that way?</td>
</tr>
<tr>
<td>11.3 How do/would you deal with those behaviours?</td>
</tr>
<tr>
<td>12. When do you think it would appropriate to seek help with feeding?</td>
</tr>
<tr>
<td>12.1 Who would you seek help from?</td>
</tr>
<tr>
<td>12.2 What is your experience of seeking help?</td>
</tr>
<tr>
<td>12.3 When do you think it would be inappropriate to seek help?</td>
</tr>
<tr>
<td>12.4 Is there anything that would prevent you from seeking help?</td>
</tr>
</tbody>
</table>
**Information Sheet**

**PLEASE KEEP THIS SHEET FOR YOUR REFERENCE**

Researcher: Caroline Jordan  
School of Sport, Exercise and Health Sciences  
Loughborough University  
Leicestershire, LE11 3TU  
Email: C.Jordan@lboro.ac.uk  
Telephone: [Redacted]

Supervisor: Dr. Terry Dovey  
School of Sport, Exercise and Health Sciences  
Loughborough University  
Leicestershire, LE11 3TU  
Email: T.M.Dovey@lboro.ac.uk  
Telephone: 01509 228 475

**What is the purpose of the study?** The purpose of this study is to examine the relationship between maternal self-efficacy beliefs and child feeding behaviour.

**Who is doing this research and why?** This research will be conducted by Caroline Jordan under the supervision of Dr. Terry Dovey, a lecturer at Loughborough University. This study is part of a doctoral student research project funded by Loughborough University. We are keen to help parents of children with severe feeding problems in a hospital setting, to do this we must first understand a wide range of maternal perceptions about feeding children.

**Who can take part?** Any mother over the age of 18 years, who has a child over the age of 6 months of age and under the age of 7 years, can take part. If you have more than one child within this age range you should complete this research with the youngest child within this age range in mind. This research is targeted at a wide range of feeding behaviour, so if you are experiencing no challenges, a small number of challenges or many challenges feeding your child, you can make a valuable contribution by taking part.

**Are there any exclusion criteria?** Yes. If your child is less than 6 months old or over 7 years old you will not be able to take part in this research. If you are under 18 years of age you will not be able to take part.

**Once I take part, can I change my mind?** Yes. You will be able to withdraw at any time before or during participation and for 48 hours after participating. You may withdraw for any reason and you will not be asked to explain your reasons.

**What will I be asked to do?** You will be asked to complete a series of questionnaires about your child’s feeding behaviour and your self-efficacy beliefs. The questionnaire can be completed at a time and place of your convenience.

**How long will it take?** It should take approximately 20 minutes in total. You do not need to complete the questionnaire all at once. It is recommended that you complete it one section at a time leaving time between sections.

**What personal information will be required from me?** You will be asked to provide anonymous demographic information (e.g. your ethnicity, occupation and education).
Are there any risks in participating? No. There are no risks anticipated with taking part in this research. You will be asked to provide information about your normal experiences.

Will my taking part in this study be kept confidential? Yes. The information you provide will be treated with the strictest confidence. All the information you provide will be kept in accordance with Loughborough University guidelines for data collection and storage and with the Data Protection Act 1998. To keep your information anonymous you will be asked to provide an identification code which will be unique to you, this code will be used to identify the information you provide rather than your name. Information provided on paper will be kept in a locked filing cabinet, electronic versions of your information will be stored on a password protected portable storage device. Only the researcher will have direct access to your information.

What will happen to the results of the study? The information you provide will be combined with those of other participants to produce the results of this study. The results will form part of a doctoral research thesis and as such will be reviewed by individuals who are directly involved in the research at Loughborough University. The results may also be presented at a conference and/or published in an academic journal. The completed thesis will be assessed by internal and external examiners and may also be kept by Loughborough University library and accessed by staff and students.

What do I get for participating? There is no direct reimbursement for taking part in this research, however it is hoped that you will find participation personally rewarding.

I have some more questions who should I contact? It is important that you feel you have all the information you need to help you decide whether to take part or not. If you have any further questions or would like to clarify any information please contact the researcher. You will be under no obligation to take part in the research if you contact the researcher.

What if I am not happy with how the research was conducted? The University has a policy relating to Research Misconduct and Whistle Blowing which is available online at: http://www.lboro.ac.uk/admin/committees/ethical/Whistleblowing(2)

What should I do now?

If you have decided to take part in this research you can complete the attached informed consent form and questionnaire and return it to the researcher or your child’s nursery/school using the instructions on the last page.

If you are unable to help on this occasion, please return the blank questionnaire to the researcher or your child’s nursery/school leaving the envelope open. I would like to thank you for taking the time to read through this information.
Appendix 14: Study 4 Information Sheet

Auto-Photography Study Information Sheet

PLEASE KEEP THIS SHEET FOR YOUR REFERENCE

Researcher: Caroline Jordan
School of Sport, Exercise and Health Sciences
Loughborough University
Leicestershire, LE11 3TU
Email: C.Jordan@lboro.ac.uk
Telephone: 01509 223 048

Supervisor: Dr. Terry Dovey
School of Sport, Exercise and Health Sciences
Loughborough University
Leicestershire, LE11 3TU
Email: T.M.Dovey@lboro.ac.uk
Telephone: 01509 228 475

What is the purpose of the research? This research explores mothers perceptions of the tasks and duties associated with the role of being a mother and how confident mothers feel about fulfilling these tasks and duties.

Who is doing this research and why? This research will be conducted by Caroline Jordan under the supervision of Dr. Terry Dovey, a lecturer at Loughborough University. This study is part of a doctoral student research project funded by Loughborough University. We are keen to help parents of children with severe feeding problems in a hospital setting, to do this we must first understand a wide range of maternal perceptions about feeding children.

Who can take part? Any mother over the age of 18 years, who has a child over the age of 6 months of age and under the age of 7 years, can take part. If you have more than one child within this age range you should complete this research with the youngest child within this age range in mind. If you have a child with a diagnosed feeding problem, you will be asked to complete this research with that child in mind. This research is targeted at a wide range of feeding behaviour, so if you are experiencing no challenges, a small number of challenges or many challenges feeding your child, you can make a valuable contribution by taking part.

Are there any exclusion criteria? Yes. If your child is less than 6 months old or over 7 years old you will not be able to take part in this research. If you are under 18 years of age you will not be able to take part.

Once I take part, can I change my mind? Yes. You will be able to withdraw at any time before and during the interview and for a period of time after the interview. Following participation you will be informed of the final date for withdrawal. You may withdraw for any reason and you will not be asked to explain your reasons.

What will I be asked to do and how long will it take? You will be asked to complete a short questionnaire about yourself and your child’s feeding (10 minutes). Then you will then be asked to photographs that reflect the tasks you associate with your role as a mother and your level of confidence in fulfilling this role (1-2 weeks). You will be asked to talk about these photographs. This talk can take place in your home or by telephone and will be recorded by the researcher (Approximately 40 minutes).
What personal information will be required from me? You will be asked to provide anonymous demographic information (e.g. your ethnicity, occupation and education).

Are there any risks in participating? No. There are no risks anticipated with taking part in this research. You will be asked to provide information about your normal experiences.

Will my taking part in this study be kept confidential? Yes. The information you provide will be treated with the strictest confidence. All the information you provide will be kept in accordance with Loughborough University guidelines for data collection and storage and with the Data Protection Act 1998. To keep your information anonymous you will be asked to provide an identification code which will be unique to you, this code will be used to identify the information you provide rather than your name. Images provided which are presented as part of the thesis or related works, will be anonymised by blurring or blacking out faces or identifiable names. Information provided on paper will be kept in a locked filing cabinet, electronic versions of your information will be stored on a password protected portable storage device. Only the researcher will have direct access to your information.

What will happen to the results of the study? The results of the study, including the photographs you have taken, will form part of the researcher’s doctoral research thesis. As such, the results of this study will be reviewed by researchers directly involved in the research at Loughborough University. The results may also be presented at a conference and/or published in an academic journal. The completed thesis will be assessed by internal and external examiners and may also be kept by Loughborough University library and accessed by staff and students.

What do I get for participating? There is no direct reimbursement for taking part in this research, however it is hoped that you will find the experience personally rewarding.

I have some more questions who should I contact? It is important that you feel you have been given the information you need to help you decide whether to take part or not. If you have any further questions or would like to clarify any information please contact the researcher. You will be under no obligation to take part in the research if you contact the researcher.

What if I am not happy with how the research was conducted? The University has a policy relating to Research Misconduct and Whistle Blowing which is available online at: http://www.lboro.ac.uk/admin/committees/ethical/Whistleblowing(2).htm.

What should I do now?

If you have decided to take part in this research, please use the contact details at the top of this letter to email, telephone or text the researcher so that an interview can be arranged.

If you have decided that you are unable to help on this occasion, I would like to thank you for taking the time to read through this information. If you think you might be interested in future research, please inform the researcher who will keep your details on file.
Appendix 15: Study 4 Instructions

Auto-Photography Study Instructions

We want you to tell us about how confident you feel about your ability to fulfil your role as a mother. To do this we would like you to take at least 6 photographs that tell us about how confident you feel about performing various tasks and duties that you associate with your role as a mother. We would then like you to select 6 of the photographs you have taken which best reflect your confidence in your ability and take part in an interview so that you can tell us about those photographs.

Being a mother may mean different things to different people and because of this, tasks and duties may vary from person to person. It might help to you think about what being a mother involves specifically for you and the things you do in your role as a mother. It might also help to think about things you feel very confident about doing, things you do not feel very confident about and things that come somewhere in the middle. You should then follow the instructions below.

1. Over the next 7 days we would like you to take at least 6 photographs using a camera or camera phone. A disposable camera will be provided if you need one. Please remember:
   - Your skill as a photographer is not important
   - The photographs can be of anything you like, as long as they tell us something about the tasks and duties you associated with being a mother and how confident you feel about fulfilling this role.

2. Write down what each picture means to you. (This will be helpful in the interview as some time will pass between taking the photograph and telling us about it).

3. Either return the camera to the researcher so that the photographs can be developed, send them by email to the researcher who will print them out for you or bring your camera/camera phone to your interview with a data cable that has a USB connection.

4. If an interview has not already been arranged, a researcher will contact you to arrange an interview. Interviews will take place at a location and time that is convenient for you.

5. During the interview you will be asked to tell the researcher about the 6 photographs you selected which best reflect how confident you feel about your ability to fulfil your role as a mother. This interview will be recorded by the researcher and should last about 40 minutes.
Appendix 16: Study 4 Interview Schedule

<table>
<thead>
<tr>
<th>Intro: Can you tell me about your family and family life?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Can you select the photograph that is most important to you from the images presented here</td>
</tr>
<tr>
<td>2. Can you tell me what this picture represents?</td>
</tr>
<tr>
<td>3. What does it say about your confidence?</td>
</tr>
</tbody>
</table>

**Influential circumstances:**
- Personal
- Social
- Situational
- Temporal
Appendix 17: Debrief

Participant Debrief

PLEASE DETACH THIS SHEET AND KEEP FOR YOUR REFERENCE

Researcher: Caroline Jordan
Address: School of Sport, Exercise and Health Sciences
Loughborough University, Leicestershire, LE11 3TU
Email: c.jordan@lboro.ac.uk
Telephone or Text: 07722444024

Thank you for taking part in this research. All the information you have provided will be kept in the strictest confidence. Please enter your identification code here:

________________________________________________________________________

You now have 48 hours to withdraw from the research. Should you wish to withdraw, you should contact the researcher using the details above, quoting your identification code.

Background Information about this research:

Problematic feeding is a widely reported concern for parents of young children, with up to 40% of parents reporting some degree of difficulty with feeding their children. Most families will overcome the difficulties they encounter however, for a small but significant number of families difficulties can be severe or persist. This creates the potential for high levels of distress and anxiety to occur in the family environment which may exacerbate feeding difficulties.

Currently there is a lack of research which has examined the maternal perspective of feeding and managing feeding problems. This research aims to examine the maternal perspective and its relationship with feeding problems. An understanding of this may be useful in the future for helping families who have with children receiving treatment for feeding difficulties in a hospital setting.

If you are concerned about your child’s feeding or if you feel affected by an issue raised by this research, you should contact your health visitor, G.P. or a local counselling service. Further information about children’s feeding can be found on the Loughborough University Centre for Research into Eating Disorders (LUCRED) website: www.lboro.ac.uk/service/feedingdisorders/

Once again, thank you very much for taking part in this research.
Appendix 18: Pearson’s correlations between demographic variables and child feeding variables

One-tailed Pearson’s correlations between demographic variables and child feeding measure subscales (BPFAS)

<table>
<thead>
<tr>
<th>Demographic Variables</th>
<th>Child Behaviour Frequency</th>
<th>Parent Behaviour Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternal age</td>
<td>-0.18*</td>
<td>-0.13*</td>
</tr>
<tr>
<td>Child age</td>
<td>-0.14</td>
<td>-0.06</td>
</tr>
<tr>
<td>Child gender</td>
<td>-0.12*</td>
<td>-0.07</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>0.04</td>
<td>0.09</td>
</tr>
<tr>
<td>Marital Status</td>
<td>-0.11</td>
<td>-0.14*</td>
</tr>
<tr>
<td>Employment Status</td>
<td>0.15*</td>
<td>0.09</td>
</tr>
<tr>
<td>Income</td>
<td>-0.17*</td>
<td>-0.14</td>
</tr>
</tbody>
</table>

*p < 0.05, **p < 0.01; ***p < 0.001, N = 270
Appendix 19: Pearson’s correlations between demographic variables and self-efficacy variables

*One-tailed Pearson’s correlations between demographic variables and self-efficacy measures*

<table>
<thead>
<tr>
<th>Demographic Variables</th>
<th>Global</th>
<th>Domain Specific</th>
<th>Domain General</th>
<th>Task-Specific</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternal age</td>
<td>0.09</td>
<td>0.13*</td>
<td>-0.01</td>
<td>0.03</td>
</tr>
<tr>
<td>Child age</td>
<td>0.58</td>
<td>0.38</td>
<td>0.12</td>
<td>0.13*</td>
</tr>
<tr>
<td>Child Gender</td>
<td>0.07</td>
<td>0.06</td>
<td>-0.04</td>
<td>0.00</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>0.09</td>
<td>-0.00</td>
<td>0.07</td>
<td>0.11</td>
</tr>
<tr>
<td>Marital Status</td>
<td>0.16*</td>
<td>0.16*</td>
<td>0.12*</td>
<td>0.07</td>
</tr>
<tr>
<td>Employment Status</td>
<td>0.13*</td>
<td>-0.06</td>
<td>0.02</td>
<td>-0.06</td>
</tr>
<tr>
<td>Income</td>
<td>0.17*</td>
<td>0.21*</td>
<td>0.01</td>
<td>0.06</td>
</tr>
</tbody>
</table>

*p < 0.05, **p < 0.01; ***p < 0.001, N = 270*
Appendix 20: Hierarchical regression using self-efficacy measures as predictors of child feeding behaviour, controlling for child gender

**Hierarchical regression using self-efficacy measures as predictors of child behaviour frequency, controlling for child gender**

<table>
<thead>
<tr>
<th>Self-Efficacy Measure</th>
<th>Model R²</th>
<th>Adjusted R²</th>
<th>Model F</th>
<th>t</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child Gender</td>
<td>0.02</td>
<td>0.01</td>
<td>4.44*</td>
<td>-2.11*</td>
<td>-0.13</td>
</tr>
<tr>
<td>Model 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child Gender</td>
<td></td>
<td></td>
<td>-1.88</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domain-Specific</td>
<td>0.16</td>
<td>0.15</td>
<td>25.27***</td>
<td>-6.74***</td>
<td>-0.37</td>
</tr>
<tr>
<td>Model 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child Gender</td>
<td></td>
<td></td>
<td>-2.06*</td>
<td></td>
<td>-0.11</td>
</tr>
<tr>
<td>Domain-Specific</td>
<td></td>
<td></td>
<td>-2.98**</td>
<td></td>
<td>-0.22</td>
</tr>
<tr>
<td>Task-Specific</td>
<td>0.18</td>
<td>0.17</td>
<td>20.50***</td>
<td>-3.07**</td>
<td>-0.23</td>
</tr>
<tr>
<td>Model 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child Gender</td>
<td></td>
<td></td>
<td>-2.04*</td>
<td></td>
<td>-0.11</td>
</tr>
<tr>
<td>Domain-Specific</td>
<td></td>
<td></td>
<td>-2.75**</td>
<td></td>
<td>-0.22</td>
</tr>
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<td>Task-Specific</td>
<td></td>
<td></td>
<td>-2.96**</td>
<td></td>
<td>-0.23</td>
</tr>
<tr>
<td>Domain-General</td>
<td>0.18</td>
<td>0.17</td>
<td>15.32***</td>
<td>0.47</td>
<td>-0.03</td>
</tr>
<tr>
<td>Model 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child Gender</td>
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<td>-0.11</td>
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<tr>
<td>Domain-Specific</td>
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<td></td>
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<td></td>
<td>-0.22</td>
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<tr>
<td>Task-Specific</td>
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<td></td>
<td>-2.68**</td>
<td></td>
<td>-0.22</td>
</tr>
<tr>
<td>Domain-General</td>
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<td>0.42</td>
<td>0.02</td>
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<tr>
<td>Global</td>
<td>0.19</td>
<td>0.17</td>
<td>12.36***</td>
<td>-0.95</td>
<td>-0.05</td>
</tr>
</tbody>
</table>

*p < 0.05, **p < 0.01; ***p < 0.001, N = 278
Appendix 21: Pearson’s correlations between SEPTI-TS subscales and BPFAS subscales

**One-tailed Pearson’s correlations between domain-specific maternal self-efficacy subscales and child behaviour frequency**

<table>
<thead>
<tr>
<th>Domain-Specific Self-Efficacy (SEPTI-TS) Subscales</th>
<th>Child Behaviour Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Availability</td>
<td>-0.20**</td>
</tr>
<tr>
<td>Nurturance</td>
<td>-0.22**</td>
</tr>
<tr>
<td>Protection</td>
<td>-0.16**</td>
</tr>
<tr>
<td>Discipline and Limit Setting</td>
<td>-0.45**</td>
</tr>
<tr>
<td>Play</td>
<td>-0.18**</td>
</tr>
<tr>
<td>Teaching</td>
<td>-0.17**</td>
</tr>
<tr>
<td>Instrumental Care, Structure and Routine</td>
<td>-0.53**</td>
</tr>
</tbody>
</table>

*p < 0.05, **p < 0.01; ***p < 0.001, N = 278

**One-tailed Pearson’s correlations between domain-specific maternal self-efficacy subscales and parent behaviour frequency**

<table>
<thead>
<tr>
<th>Domain-Specific Self-Efficacy (SEPTI-TS) Subscales</th>
<th>Parent Behaviour Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Availability</td>
<td>-0.31**</td>
</tr>
<tr>
<td>Nurturance</td>
<td>-0.35**</td>
</tr>
<tr>
<td>Protection</td>
<td>-0.21**</td>
</tr>
<tr>
<td>Discipline and Limit Setting</td>
<td>-0.54**</td>
</tr>
<tr>
<td>Play</td>
<td>-0.29**</td>
</tr>
<tr>
<td>Teaching</td>
<td>-0.24**</td>
</tr>
<tr>
<td>Instrumental Care, Structure and Routine</td>
<td>-0.51**</td>
</tr>
</tbody>
</table>

*p < 0.05, **p < 0.01; ***p < 0.001, N = 278