

University of Alberta

Parental Use of Psychological and Behavioural Control and the
Relationship to Children's Eating Habits

by

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A thesis submitted to the Faculty of Graduate Studies and Research
in partial fulfilment of the requirements for the degree of

Master of Education

in

Psychological Studies in Education

Department of Educational Psychology

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Fall 2010

Edmonton, Alberta

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Abstract

This correlational study examined parent-feeding practices, children's negative affect towards food, and parental psychological and behavioural control, and parenting styles relating to parental behavioural and psychological control. Parents and their children aged 9-13 years completed self-report questionnaires measuring parental behavioural and psychological control, feeding practices, parenting styles and dimensions, and family eating and activity habits. Behavioural control was negatively related to monitoring, but positively correlated to parents using both pressure and rewards to encourage children to eat. Psychological control was negatively correlated to monitoring, but positively correlated to parents' perceptions of their own weight and concerns' about their children being overweight. No correlations were found between parents' perceived use of psychological or behavioural control and children's perceptions of parental control. Parental psychological control was positively correlated to children and parents eating in problematic situations. The three main parenting styles were investigated and behavioural and psychological control were positively related to authoritarian and permissive parenting styles.

Keywords: control, psychological control, behavioural control, eating habits, feeding practices, parental influences

Acknowledgement

I would like to extend my utmost and sincere gratitude to the following people who have provided me with support and encouragement throughout the process and completion of this thesis. Firstly, I would like to thank my supervisor, Dr. Christina Rinaldi, for taking on a student with a vague research idea and for her guidance, patience and feedback throughout all stages of this journey. I would also like to thank Dr. Patricia Boechler and Dr. Deanna Williamson for taking time out of their immensely busy schedules to be on my thesis committee and for their feedback. Finally, to my husband, Rob, for his constant support, motivation, encouragement and unending patience during my times of need. Thank you.

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**Parental Use of Psychological and Behavioural Control and the Relationship
to Children's Eating Habits**

Rates of childhood obesity in Canada have tripled over the past 20 years (Spurgeon, 2002). According to Health Care in Canada (2002), the prevalence of obesity among 7- to 13- year olds rose from 5% in 1981 to 17% in 1996 for boys and 15% for girls. Research indicates that in 1978-79, 12% of 2- to 17- year olds were overweight, and 3% were obese, a combined overweight/obesity rate of 15%; by 2004, the rate for this age group rose to 18% and 8%, a combined rate of 26%, an increase of 11% (Eat Right Ontario, 2007). These statistics highlight how obesity or risk for obesity is currently a pressing Canadian health issue.

Obesity is a huge risk factor for serious medical problems in childhood that could carry on into adulthood, such as: type 2 diabetes, high blood pressure and elevated blood cholesterol, metabolic syndrome, liver disease, bone and joint problems, respiratory problems such as asthma, sleep disorders such as sleep apnea, eating disorders such as anorexia or bulimia, gall bladder disease, osteoarthritis, skin infections or fatigue (Health Canada, 2006). Obesity is also one of the leading factors in heart disease or stroke (Health Canada, 2006). Along with the risk of serious medical problems, overweight or obese children may have an increased threat of severe psychological difficulties, with these children being the target of bullying, resulting in poor self-esteem, social isolation, depression, poorer social skills, stress and anxiety as well as behaviour and/or learning problems, which could mean a diminished quality of life (Raine, 2004).

Many factors contribute to the increasing overweight and obesity problems in childhood. When people consume more food energy than they are expelling or burning off, excess body fat will begin to accumulate, and therefore weight gain occurs (Health Canada, 2006). Changes in our food environment exacerbate overweight and obesity problems, such as larger portion sizes and higher sugar and fat content (Health Canada, 2006). Changes in society, such as a shift towards less physically demanding work, use of automated transport, and an increase in passive leisure activities such as television and playing video games, could be possible reasons for the increase of obesity. Past research found mixed results regarding television and video game use and the rise in childhood obesity. For example, Gortmaker, Dietz, Sobol and Wehler (1987) linked children's television and video game use to the increasing prevalence of obesity in children and adolescence, while Vandewater, Shim and Caplovitz (2004) did not find any significant links to support Gortmaker et al.'s study. Some children live in environments where healthy eating and physical activity are not encouraged, and sometimes use food to help deal with stress or problems. As a result of obesity, it is actually possible for the first time in history that children may have a shorter lifespan than their parents (Raine, 2004).

According to Health Canada's Food Guide (2007), children aged 9-13 years, both boys and girls, should consume six servings of fruit and vegetables (dark green vegetables such as broccoli or spinach and orange vegetables such as carrots and squash), six servings of grain products (whole grains that are low in fat, sugar or salt), 3-4 servings of milk and alternatives, and 1-2 servings of meat

and alternatives (meat alternatives such as beans, lentils and tofu, and include at least two servings of fish each week). These foods should be prepared with little or no added fat, sugar or salt. Parents should also encourage their children to drink water to satisfy their thirst. Health Canada's Food Guide (2007) includes estimated calorie requirements for males and females of different ages. For boys 8- to 13-years-old of a low activity level, they must have an average of 2000 calories a day. For girls 8- to 13-years old of a low activity level, they must have an average of 1800 calories per day. Because children have relatively smaller stomachs, they need to eat small amounts of food more often throughout the day.

Parents are the primary models that children learn their eating (nutrition-related) behaviours from. Parents socialize their children in order to help their children adapt to the values, standards and customs of the society that one lives in, along with the ability to function adaptively to the surrounding social context (Bandura, 1977; Grusec & Davidov, 2007). Families constitute a key social influence for youth, and therefore, children's energy intake is mainly influenced by the family context (Boutelle, Birnbaum, Lytle, Murray & Story, 2003; Moens, Braet & Soetens, 2007). However, any childhood feeding problems (such as selective eating and chronic refusal) have been found to be maintained by the parent-child interaction during mealtimes (for example, parents who described their children as manipulative with food at mealtimes reported complying with children's demands for certain foods, which would further reinforce the children's selective and picky eating) and difficulties in childhood feeding can affect and/or reflect intellectual, social and emotional growth of a child, as well as the parent-

child relationship and overall functioning of the family (Riordan, Iwata, Finney, Wohl, & Stanley, 1984; Timini, Douglas, & Tsiftsopoulou, 1997). Compared to children's internal mechanisms alone, such as cues of satiety and hunger, the family environment may have a relatively larger effect on children's eating behaviour (Mrdjenovic & Levitsky, 2005). As with other areas of development, parents must respect their children's ability to determine how much food they eat, needing a balance between providing structure (predictable mealtimes, healthy choices available, etc.) while also allowing their children autonomy and empowerment. Often, parents encouraged their children to eat past their innate cues of satiety (Orrell-Valente, Hill, Brechwald, Dodge, Pettit, & Bates, 2007), which led to children ignoring these natural cues to tell them they are full, and therefore, they ate more than they actually needed or required.

Health behaviours of both boys and girls were associated with those of their parents, and parental obesity was strongly associated with youth obesity (Carriere, 2003). According to Carriere, 12- to 19-year-olds with a parent who was inactive during leisure time, who was a smoker, or who consumed fruits and vegetables less than five times a day, were likely to report these behaviours as well. Parents may provide their children with examples of behaviours that may influence their health, and parental overweight or obesity may be an early indicator of children at risk for obesity later in life. Children's eating habits often mirror the parents', as the parents often prepare family meals. Modeling studies have found that children do model their parents, and parents who overeat will have children who may overeat as well (Lindsay, Sussner, Kim, & Gortmaker,

2006). For parents to serve as good models for their children, parents must also eat the healthy foods they provide to their children, and this is affected by the parents' dietary awareness and knowledge (Brooks, 2004; Clark, Goyder, Bissell, Blank & Peters, 2007). Parents' knowledge of nutrition, their influence over food selection, meal structure and home eating patterns, as well as levels of physical activity determines the family's health and nutrition practices and by extension their children's practices (Lindsay et al., 2006). In order to understand the risk factors for youth obesity, we must examine parents' behaviours as well as children's.

Parents strongly influence their children's eating habits, and differences in eating habits have been partially attributed to differences in parenting style (Baumrind, 1971; Brooks, 2004; Kremers, Burg, de Vries & Engels, 2003). Parenting style can be distinguished into two dimensions: (a) demandingness or parental control and (b) responsiveness or parental support (Darling & Steinberg, 1993; Hughes, Power, Fisher, Mueller, & Nicklas, 2004; Maccoby & Martin, 1983; Rhee, Lumeng, Appugliese, Kaciroti, & Bradley, 2006). These dimensions can be applied in an adaptive or maladaptive way, with maladaptive parenting being a possible risk factor for developing eating problems in children (Moens et al., 2006). Specifically, control involves the enforcement of rules through the use of persuasion, reasoning, and punishment or power assertion (Grusec & Davidov, 2007). There are two types of control: (1) psychological, characterized by parents who are manipulative and insensitive to the needs of their children and manipulate their children by influencing their emotional state using guilt-inducing strategies,

withdrawal of love, and intrusiveness; and (2) behavioural, characterized by parents reasonable use of rules and enforcement and monitoring of children's activities (Barber, 1996; Gray & Steinberg, 1999; Gurland & Grolnick, 2005). Psychological control is of great interest to researchers, due to high levels of this type of control found to be correlated with internalizing problems in children, such as anxiety, depression, loneliness, low self-esteem, and self-derogation (Barber, 2002; Grusec & Davidov, 2007). Psychological control is also characterized by intrusive parenting, which impinges on the child's opportunity for self-discovery, autonomy and differentiation from the parents, individuation, psychological competence, self-direction, identity, efficacy and worth (Barber, 2002). Further inspection of psychological control has found that this type of control can be predictive of certain negative outcomes for children (Barber, 1996). By identifying family lifestyle factors that could increase children's risk of overweight or obesity, we are contributing to a knowledge base that can inform future prevention/intervention.

The present study, therefore, focuses on parenting style – specifically, psychological and behavioural control – and how it is related to children's eating habits and parent feeding practices. Specifically, we use Barber's definition of psychological control to distinguish the specific parenting practices from behavioural control and how those practices affect children's eating habits (Barber, 1996). Previous studies have operationalized the meaning of control by defining specific practices that are characteristic of control (Barber, 2002; Gurland & Grolnick, 2005; Johannsen, Johannsen, & Specker, 2006). This study

expanded that knowledge and focused on which child-feeding practices were correlated with varying levels of each type of control. We described the specific parenting practices that make up psychological control, and how those practices differed in their association with children's eating habits within each parenting style, and therefore, gained a better understanding of the types of parenting behaviours that may increase children's risk for overweight or obesity. This study also compared parents' perceptions of their use of control with children's ratings of parental control and the familial mealtime environment.

Literature Review

The following chapter provides a review of the literature on parenting styles, parenting practices, psychological control and parental influences on children's eating habits. First, a theoretical background on socialization and parenting will be provided. This section focuses primarily on Bandura's (1977) social learning theory and socialization. The next section then turns to the background research on parenting styles, and discusses the differences between each parenting style, and what types of general parenting practices differentiate each one. Next, we explain why 10- to 14-year-old children and their parents were asked to participate, and why this age group is of interest. A review of various parental influences on children's eating habits will also be included. Finally, the chapter ends with a discussion of the research questions and hypotheses for the current study.

Bandura's Social Learning Theory. Parental socialization of children can be explained by social learning theory (Bandura, 1977). Social learning refers

to all learning that occurs as a result of social interaction, or finding out which behaviours are socially accepted in social situations (Lefrancois, 2006). Social learning occurs through mainly observational learning through the imitation of models (Bandura & Walters, 1963). These models (for example, parents) inform us about how to do certain things, but also about the possible consequences of our behaviours (Lefrancois, 2006). An important factor in observational learning is whether the observer pays attention to the model's behaviour. The effectiveness of a model is dependent upon the value of the model's behaviour (e.g., learning how to cook a meal when the observer has meals cooked for them by a personal chef diminishes the value of the behaviour), the attractiveness of the model, and how trustworthy the model is (Bandura, 1977; Bandura & Walters, 1963; Lefrancois, 2006). For children, parents should be very trustworthy and powerful models, regardless of whether or not the behaviours should or should not be modelled. Parents also have access to their children and children spend a great deal of time with their parents, especially during mealtime. This means that children will attend to parents' behaviours, irrespective of whether these behaviours are socially acceptable. The consequences of the imitative behaviours are also important. If imitated, and the behaviours are reinforced, this could result in the increase of its occurrence (Bandura, 1977). When these imitative behaviours involve eating habits, children are not immediately able to see the benefits of healthy eating.

Underlying the social learning theory is the concept of socialization, which involves the acceptance of the values, standards and customs of the society that

one lives in, along with the ability to function adaptively to the surrounding social context. According to Grusec and Davidov (2007), parents are the primary agents of socialization. Because of parents' close proximity to their children, there must be a congruency between parents' behaviours and children's behaviours and an agreement regarding acceptable behaviour, in order to make the family environment comfortable. Socialization involves different processes in different social contexts. Basically, there are different means to socialization and somewhat different outcomes at the end of each route, with each requiring different practices. The next section will review the distinction between parenting styles and parenting practices.

Parenting Styles, Practices and Control. Parenting style and parenting practices are often used interchangeably, but they are distinct. *Parenting style* is a part of socialization, and is a characteristic of the parent that "alters the efficacy of the parent's socialization efforts by moderating the effectiveness of particular practices and by changing the child's openness to socialization"; whereas, *parenting practices* are behaviours defined by specific content and socialization goals (Darling & Steinberg, 1993, p. 488). Parenting can influence the child's outcome in specific domains through the different effects of both parenting styles and specific parenting practices (Blissett & Haycraft, 2008). Therefore, how a child adapts and learns from parenting practices can depend on the type of environment that a parent creates through his or her type of parenting style.

Past research on parenting style was described using these dimensions: (a) acceptance/rejection and dominance/submission, (b) emotional warmth/hostility

and detachment/involvement, (c) love/hostility and autonomy/control, (d) warmth and permissiveness/strictness, and (e) warmth/hostility and restrictiveness/permissiveness (Darling & Steinberg, 1993). Using those components, researchers have conceptualized parenting style in terms of the amount and quality of two elements – demandingness or parental control, and responsiveness or parental support (Darling & Steinberg, 1993; Golan & Crow, 2004; Hughes et al., 2004; Maccoby & Martin, 1983; Moens et al., 2006; Rhee et al., 2006).

Demandingness or parental control refers to the parent's willingness to act as a socialization agent, and it is how parents integrate their children into the family through the use of maturity demands, supervision, discipline and preparedness to confront the child who disobeys (Hughes et al., 2004; Maccoby & Martin, 1983; Moens et al., 2006; Rhee et al., 2006). Control involves the enforcement of rules through the use of persuasion, reasoning, and punishment or power assertion, each of which can be applied either in a warm and supportive way or in a harsh and rejecting way (Grusec & Davidov, 2007). There are two varieties of control: behavioural (reasonable setting of rules and enforcement, and monitoring of children's activities) and psychological (parents who are manipulative and insensitive to the needs of their children and manipulate their children by influencing their emotional state using guilt-inducing strategies, withdrawal of love, and intrusiveness) (Grusec & Davidov, 2007). Behavioural control refers to parental attempts to control a child's behaviour. Steinberg (1990) defined behavioural control as the level of monitoring and limit-setting that

parents maintain in order to achieve socialization and behavioural regulation. Behavioural control is further characterized by parental attempts to regulate the behaviour of their children, through disciplinary strategies, control of rewards and punishments, or through monitoring and supervision (Barber, 2002). Research has shown that higher behavioural control was associated consistently with lower levels of internalizing problems in adolescents (Galambos, Barker & Almeida, 2003). Therefore, a certain level of set boundaries, rules, disciplinary strategies, monitoring and supervision can regulate the behaviour of children. Psychological control refers to parental attempts that intrude into the psychological and emotional development of the child through use of practices such as guilt induction, withdrawal of love, or shaming, and focus on the control of the child's psychological being (Barber, 2002). Psychological control does not concentrate on behavioural regulation, but on the intrusive control and violation of the child's psychological self (Barber, 2002). According to Steinberg:

Too little behavioural control may leave the youngster without adequate guidance and supervision, and expose him or her... to developmentally risky temptations and dangers. Too much psychological control, in contrast, may facilitate dependency and impede the development of psychological autonomy and self-direction. (1990, pp. 273-274)

According to Barber (2002), psychological control involves socialization pressures that are nonresponsive to the child's emotional and psychological needs, in order to stifle independent expression and autonomy. Galambos et al. (2003) found that parents' higher levels of psychological control were related to adolescents' higher levels of externalizing problems, but only when parents also reported higher behavioural control. Behavioural control, which has been found to

be a positive characteristic of parenting, can actually become ineffective and slightly harmful if combined with other less desirable parenting behaviours, such as high levels of psychological control (Galambos et al., 2003). High levels of behavioural control lead to maladjustment, while high levels of psychological control are correlated with internalizing problems, such as anxiety, depression, loneliness, low self-esteem and self-derogation (Baumrind, 1971; Grusec & Davidov, 2007). Psychological control has consistently been found to be correlated with feelings of guilt, self-responsibility, confession, aggression, dependency, alienation, social withdrawal, low ego strength, inability to make conscious choices, low self-esteem, passive, inhibited, and overcontrolled characteristics, and depressed affect (Barber, 2002). Another characteristic of psychological control is the intrusiveness of the parenting. Intrusive parenting impinges on the child's opportunity for self-discovery, autonomy and differentiation from the parents, individuation, psychological competence, self-direction, identity, efficacy and worth (Barber, 2002), which are all necessary for the healthy development of individuals. Other terms to describe psychological control are demanding, controlling, strict, binding, constraining, manipulative, coercive, hostile, invalidating, protective, possessive and overprotective. Parents who manipulate attempt to shape their child's behaviour using three strategies: inducing guilt, instilling anxiety, and withdrawing love (Barber, 2002). Parents who constrain their children's verbal behaviour inhibit the child's discovery and expression of self. Other parental practices include excessive parental expectations of children, avoiding tenderness or ignoring, affective punishment,

and rejection and hostile detachment (Barber, 2002). Psychological control can also be used to protect or insure parents' position in the family, and their own position in relationship to the child. According to Barber (2002), parents who use psychological control for their own gain are possessive (baby the child, unduly emphasizing affectional bonds between parent and child, restricting the child's activities, and fostering dependency), dominant (placing the child in a subordinate role, parents not willing to share power and responsibility) and enmeshing (blurring individual psychological boundaries in favour of a family identity).

Responsiveness or parental support refers to parents' recognition of their children's individuality, and it is the level at which parents foster self-regulation and self-assertion by being attuned, supportive and acquiescent to children's special needs and demands, and the extent to which parents show affective warmth, acceptance and involvement (Hughes et al., 2004; Maccoby & Martin, 1983; Moens et al., 2006; Rhee et al., 2006). From these two dimensions (Baumrind, 1971; Brooks, 2004; Darling & Steinberg, 1993; Golan & Crow, 2004; Hughes et al. 2004; Rhee et al., 2006), four parenting styles have been conceptualized:

- 1) Authoritative style (high demandingness/high responsiveness) – characterized by parental involvement, nurturance, reasoning and structure. Authoritative parents provide clear and firm direction, with disciplinary clarity moderated by warmth, reason and flexibility. They are assertive, but not intrusive and restrictive and they place a high value on

promoting the growth of their children as individual and autonomous people.

- 2) Authoritarian style (high demandingness/low responsiveness) – characterized by restrictive, punitive, rejecting and power-assertive behaviours. Authoritarian parents are more highly directive with their children and expect complete obedience from their children. They are often insensitive to the child's developmental needs, providing minimal support and are viewed as strict disciplinarians.
- 3) Indulgent or Permissive style (low demandingness/high responsiveness) – characterized by warmth and acceptance in conjunction with a lack of monitoring of the child's behaviour. Indulgent or permissive parents showed low expectations for self-control and discipline.
- 4) Uninvolved or Neglectful style (low demandingness/low responsiveness) – these parents are characterized by little control and involvement with their child, as well as low levels of both demands for self-control and sensitivity.

According to Darling and Steinberg (1993), parenting style moderates the influence of parenting practices on the child's development in two ways: (a) by transforming the nature of the parent-child interaction, which then moderates the specific practices' influence on child outcomes, and (b) by influencing the child's personality, especially the child's openness to parental influence. The type of parenting style used actually altered how open children are to their parents' attempts to socialize them (Darling & Steinberg, 1993).

As said previously, parents are the primary models that children learn their behaviours from, and therefore, it is important to focus on parenting style, and how different child-feeding practices endorsed by parents of varying parenting styles differ on outcomes. Parents are able to strongly influence their children's eating habits, and differences in eating habits have been partially attributed to differences in parenting style (Kremers et al., 2003). Child-feeding practices might have a different relationship with adolescents' behaviour depending on the style of their parents (Van der Horst, Kremers, Ferreira, Sing, Oenema & Brug, 2007). For example, parents who have high expectations for self-control are more definitive about the limits or boundaries regarding what and when their children eat which may have a negative impact, while parents who display more warmth and consideration of the child's developmental abilities may foster a greater capacity in the child for regulating eating behaviour (Rhee et al., 2006). Parental control within the feeding context is defined as attempts to monitor the child's eating by restricting the child from eating certain foods or pressuring the child to eat other foods (Moens et al., 2006). Various types of control include instructions, rewards, punishments, coercion and restriction (Hughes et al., 2004). It is useful, therefore, to examine child-feeding practices and parental control in relation to each parenting style and examine the outcome on children's eating habits.

Measures Used for Psychological Control. Barber (1996) conducted three separate studies to assess parental psychological control which determined

how psychological control differed from other types of control and if and how it is related to aspects of children's development.

Barber's (1996) first study used the Children's Report of Parental Behaviour Inventory (CRPBI) developed by Schaefer (1983). The 10-item psychological control subscale from the Children's Report of Parental Behaviour Inventory was used (Schaefer, 1965). This inventory began with eight molar dimensions (autonomy, autonomy and love, love, love and control, control, control and hostility, hostility, hostility and autonomy), which were broken down into 26 concepts that described relevant, specific, observable parental behaviours (Schaefer, 1965). Barber (1996) found that psychological control, compared to behavioural control, was found to have unique predictive power for internalized behaviour, whereas externalized behaviour was found to be predicted by behavioural control (Barber, 1996).

Barber (1996) conducted a second study which tested an observational coding scheme for psychological control. Families were videotaped doing a problem-solving task to assess parent-child interactions. Before the videotaped interaction, parents and children identified potential conflict topics within the family and rated the emotional relevance of each. The Family Process Code (Dishion, Gardner, Patterson, Reid & Thibodeau, 1983) was used to code the interactions. Barber (1996) found six theoretically relevant identifying characteristics of psychological control: constraining verbal expression, invalidating feelings, personal attack, guilt induction, love withdrawal, and erratic emotional behaviour.

Barber's (1996) third study tested a newly created self-report measure of psychological control. The Psychological Control Scale – Youth Self-Report (PCS-YSR) created by Barber identified characteristics of invalidating feelings, constraining verbal expressions, personal attack and love withdrawal using a self-report questionnaire. Psychological control was found to have the ability to be reliably measured. By refining the existing CRPBI to a six-item measure, and the eight-item Psychological Control Scale – Youth Self-Report, Barber created a measure for the construct of psychological control because of the greater specificity of the items. The survey studies showed that psychological control is a significant predictor of youth problem behaviours (Barber, 1996). Barber believed that more work should focus on specific parenting practices that constrain, invalidate, and manipulate a child's psychological and emotional experience and expression.

From these three studies, Barber (1996) stated that psychological control is different from behavioural control because each type of control is focused on different aspects of the child's development. Psychological control has been correlated with internalized problems in children (such as feelings of guilt; self-responsibility; confession; indirect or non-expression of aggression; dependency; alienation; social withdrawal; low ego strength; inability to make conscious choice; passive, inhibited and over-controlled characteristics; and depressed affect), while high levels of behavioural control should be associated with externalizing problems (Barber, 1996). Barber (1996) believed that more work should focus on specific parenting practices that constrain, invalidate, and manipulate a child's psychological and emotional experience and expression.

Specific parenting practices such as those that would affect children's eating habits could be a possibility for future research. Barber (1996) provided evidence in these three studies for the validity and the unidimensional factor structure for both the Psychological Control Scale and the Psychological Control Scale – Youth Self-Report, with Cronbach's alphas (a measure of the reliability of a psychometric instrument) for these scales to range between 0.72 and 0.86, demonstrating its reliability across samples.

Galambos et al. (2003) used the parent version of the 56-item Children's Report of Parental Behaviour Inventory (CRPBI) (Schaefer, 1965) to assess mothers' and fathers' perceptions of their own support, behavioural control, and psychological control in relation to their adolescent. They found that parents' higher levels of psychological control were related to adolescents' higher levels of externalizing problems but only when parents also reported higher behavioural control. The coupling of high psychological and high behavioural control may actually be a parental response to a misbehaving child by resorting to all available means of control (Galambos et al., 2003). Therefore, while behavioural control is generally positive and is related to lower levels of internalizing problems in adolescents, it is the combination of high behavioural control with high psychological control that leads to adolescents' higher levels of externalizing problems (Galambos et al., 2003).

Age and Psychological Control. Barber's three studies have concentrated on the age group of 10- to 14-years. In Barber's (1996) first study, a sample of 581 middle-income students and 221 low-income students in fifth-, eighth-, and

tenth-grade. The second study had 158 families were self-referred, with the average age of the children (N = 83 males, 75 females) being 12 years. The third study had a stratified random sample of fifth- and eighth-grade students. Barber (1996) reinforced that psychological control appears to be a consistently negative experience for children, and seems to be particularly relevant at this stage of life (approximately 10- to 14-years) because of the autonomy-oriented processes that occur in the identity formation and development of the youth, as well as the transformations in family and peer relationships. While psychological control affects all at any psychological and emotional age, this is the time when children began to firmly define themselves as both connected to and separate from their significant others, and any intrusions into this process would be expected to have negative consequences (Barber, 1996).

Parental Influences on Children's Eating Habits. It is important to discuss current research on parental influences on children's eating habits, as the research covers many different factors that could impact children's eating. Current eating habits research focuses on various topics, from general parenting styles to more specific issues such as using rewards or punishments. This section elucidates the various views of research on parenting influences on children's eating habits, and is divided into different measures used and research on gender and age.

Research on the possible triggers for children's eating habits has identified many possible precursors for children's weight, and it is difficult to decipher whether children's eating habits should be broken down into specific parent child-

feeding practices, or if it should be seen as a whole, with many different factors contributing to eating habits (e.g. Brooks, 2004; Clark et al., 2007; Lindsay et al., 2006; Orrell-Valente et al., 2007).

Studies Looking at Children's Eating Habits. Faith, Berkowitz, Stallins, Kerns, Storey, and Stunkard (2004) found that among children predisposed or at high-risk to obesity (children were classified as high risk for obesity if their mothers had a pre-pregnancy weight of >66th percentile or as low risk if their mothers' weight was <33rd percentile), increased child weight appears to elicit restrictive feeding practices, which may in turn produce additional weight gain. They recruited 57 Caucasian families through the Growth and Nutrition Laboratory of the Children's Hospital of Philadelphia, with children who were 5 and 7 years of age. Parental feeding attitudes and styles were measured with the Child-Feeding Questionnaire (Birch et al., 2001), and the child's weight was measured with a digital scale. The authors observed that parental monitoring of child fat intake was related to child weight status. However, among children who were predisposed to be overweight, excessively restrictive feeding practices increased weight control problems by disrupting the children's eating patterns (Faith et al., 2001; Orrell-Valente et al., 2007). This study concentrated on an important dimension of parenting style – demandingness and control – but did not take into account what specific feeding practices were used by the parents to exert demandingness and control on their children, and did not outline what types of parenting styles were exhibited by the parents.

Hughes, Power, Fisher, Mueller and Nicklas (2004) assessed parents' use of authoritarian feeding practices. The authors observed that parents' attempts to control the food intake of children through authoritarian practices reduced children's responsiveness to energy density and meal size. This study focused on African-American and Hispanic parents with children 3- to 5-years old and used the Child-Feeding Questionnaire – CFQ (Birch et al., 2001), the Parenting Dimensions Inventory (PDI-S) by Power (2002), and the Caregiver's feeding styles questionnaire (CFSQ; Hughes et al., 2004), as well as measuring children's body mass index. The convergent validity of the three scales was established by conducting analyses to compare the CFSQ feeding styles to subscales on the CFQ, and by comparing the CFSQ feeding styles to the parenting subscales from the PDI-S. By instructing children to “clean their plate”, parents were teaching their children to ignore their internal cues of hunger and fullness. Authoritative practices, such as discussion, negotiations, reasoning, providing rationales and praising the child increased the child's interest in food acceptance. Permissive practices included a lack of parental control over the child's eating and letting the child eat whatever he/she wants. Unlike authoritarian practices, authoritative and permissive practices have been studied to a lesser extent.

Blissett and Haycraft (2008) studied whether parenting style and controlling feeding practices were related. The Child-Feeding Questionnaire (CFQ) was used to measure parents' monitoring, restriction, and pressure to eat (Birch, Fisher, Grimm-Thomas, Markey, Sawyer & Johnson, 2001). Blissett and Haycraft (2008) also used the Parenting Styles and Dimensions Questionnaire

developed by Robinson, Mandleco, Olsen and Hart (2001) to assess how often a parent exhibits certain behaviours towards his/her child. They found that parents' feeding practices are broadly linked with their parenting styles, and parenting styles are good predictors of children's BMI, fruit and vegetable intake, healthier eating, physical activity and sedentary behaviours (Blissett & Haycraft, 2008). Highly restrictive feeding practices were most consistently associated with child weight gain and monitoring feeding practices have been associated with slower weight gain. Children of authoritarian, permissive and neglectful mothers were more likely to be overweight than the children of mothers with an authoritative style. More controlling parenting styles were associated with more authoritarian feeding styles, while authoritative feeding styles were related to greater parental responsiveness to children (Blissett & Haycraft, 2008). They found the permissive parenting style was related to lower monitoring of children's unhealthy food intake, and it was also associated with greater use of restrictive feeding practices in mothers and greater application of pressure to eat from fathers. Paternal pressuring feeding practices were associated with more permissive, indulgent or inconsistent parenting and fail to apply appropriate boundaries in the broader context of parenting (Blissett & Haycraft, 2008). This particular study was conducted with a younger population than the present study. Pressuring fathers were more likely to base their rules for food acceptance during the mealtimes on children's emotional reactions, meaning that permissive fathers tended to fluctuate their food acceptance rules depending on their children's reactions to foods. An authoritative parenting style was related to lower use of pressuring

feeding practices in fathers only. Blissett and Haycraft (2008) found that in the context of a warm, supportive parent-child relationship, which facilitated child autonomy, parents were less likely to engage in overtly pressurizing feeding practices.

Birch, Fisher, Grimm-Thomas, Markey, Sawyer, and Johnson (2001) assessed parents' perceptions of their responsibility for child feeding, parent perceived weight, parents' perceptions of their child's weight status history, parents' use of monitoring, restriction, pressure to eat, and parents' concerns about the child's risk of being overweight. Birch et al. (2001) used the Child-Feeding Questionnaire (CFQ), adapted from the first version of the CFQ created by Johnson and Birch (1994), a self-report measure to assess parental beliefs, attitudes, and practices regarding child feeding, with a focus on obesity proneness in children. Birch et al. (2001) tested whether the 7-factor model of the CFQ would provide a good fit to the data, and found that it was an appropriate fit. Birch et al. (2001) observed that parents' feeding attitudes and practices shaped what foods the child is offered, exert control over the timing, size and social context of meals and snacks, and set the emotional tone of eating occasions. Parents were found to exert higher levels of external control over children's eating when the parent was concerned about the child's development and (1) the parents were extremely interested in health, fitness, or child weight issues; (2) the parents perceived the child to be at risk for developing eating and/or weight problems; and/or (3) the parents did not believe the child was capable of self control over eating. The extent to which parents used control in child feeding was due in part

to their perceptions and concerns relating to three factors: (1) concern about child weight, (2) perceived child weight, and (3) perceived parent weight (Birch et al., 2001). Similar to previous research, Birch et al. (2001) found that pressuring children to eat “healthy” foods decreased children’s preferences for those foods, while increasing intake of other foods. Restricting children’s access to snacks and “junk” food increased intake of those foods when parental monitoring was removed.

Certain studies focused on specific parent child-feeding practices, such as using foods as rewards or threats, using prompts or pressures to eat, reasoning, food reward or praise, portion control, threats to withhold food or play, or the offer of play to socialize their children to eat (Orrell-Valente et al., 2007). The parents in the Orrell-Valente et al. study socialized their children to eat past their innate cues of satiety, and they reported that children began to prefer foods that parents used as rewards (such as dessert) and they disliked the foods that were used as threats (such as vegetables) (2007). Children’s response varied depending on the type of practice used. For example, parents’ use of neutral prompts, food rewards and praise was associated with child eating compliance, whereas parental threats to withdraw play privileges were associated with child refusal (Orrell-Valente et al., 2007). While it is important to examine the specific parent-feeding practices that are associated with children’s eating habits, it would also be useful to examine which practices (or strategies, as Orrell-Valente et al. defines them) are related to certain parenting styles (for example, is “pressure/demand to eat strategy” positively correlated with an authoritarian parenting style?) (2007).

Children's eating habits were most strongly influenced by their parents and differences in children's eating habits were partially attributed to differences in parenting style (Brooks, 2004; Kremers et al., 2003). When parental control in child-feeding practices is exercised in an atmosphere of involvement and parental warmth, this may lead to positive effects, while the same parental practice may lead to adverse effects in a highly restrictive and low involvement environment (Kremers et al., 2003). Children's eating habits may be related to the type of child-feeding practices parents use and furthermore, the efficacy of the specific child-feeding practices may be influenced by the parenting style exhibited by the parents.

Gender, Parenting Styles and Children's Eating Habits. Various studies on children's eating habits have also differentiated between the effects on girls versus boys, and the effects of whether the parent was the mother or father.

Studies have also looked at the differences between mothers and fathers and parenting styles, and research by Russell, Aloa, Feder, Glover, Miller and Palmer (1998) found that mothers were more likely to exhibit the authoritative parenting style and authoritative parenting practices, while fathers were found to use the authoritarian style more than mothers. Other research by Smetana (1995) also found that mothers were higher on the authoritative parenting style than fathers. Starrels (1994) found that mothers tended to be more constructive in the traditional, affective sense for sons and daughters (otherwise, more authoritative parenting style), while fathers are more involved with their sons. Research by Rhee, Lumeng, Appugliese, Kaciroti and Bradley (2006) found mothers with an

authoritarian parenting style were significantly more likely to have children who were overweight two years later compared with mothers with an authoritative parenting style. For this study, 1364 families were recruited at the time of their child's birth, and data was collected at about 54 months of age and during the child's first grade year in school. Maternal sensitivity was videotaped through a standardized interaction task between the mother and child. Maternal expectations of self-control were assessed through responses to a 32-item survey (Greenberger & Goldberg, 1989). Permissive and neglectful parenting styles also increased childhood overweight risk, relative to the authoritative style. Rhee et al. (2006) found that maternal parental warmth and sensitivity were associated with parent-child cooperation, which could lead to the child's openness to new foods. Rhee et al. (2006) also observed that parents who are relatively insensitive to their child's emotional needs and development may impose rules or structures surrounding the mealtime, such as requiring a child to clean his or her plate. This results in the child learning to eat on the basis of external cues (the parent's rule/structure to finish all the food on the plate) rather than internal cues (such as the child's own hunger and satiety cues), similar to the study conducted by Hughes et al. (2004).

When young children knew or suspected their parents were watching them, they made relatively more healthy choices than when they were not being watched (Clark et al., 2007). Interestingly, Clark et al. (2007) found that parental pressuring behaviours predicted higher fruit and vegetable intake and lower fat intake by children, and setting a good example and making healthy foods available predicted lower fat intake. Restriction of snack foods actually increased

behavioural response to, selection of and intake of that food (Clark et al, 2007; Orrell-Valente et al, 2007). Restriction of these foods may have the undesired and opposite effect of drawing attention to them and increasing children's desire for them, which may lead to an inability to regulate snack food intake. Infants have a natural ability to self-regulate their feeding and weight gain, due to the innate internal cues of hunger and satiety, therefore any parental control may disrupt these internal cues (Clark et al, 2007). For example, maternal restriction was associated with older girls who were found to have greater snack intake after a meal, while paternal control has been linked to higher percentage body fat (Clark et al, 2007; Orrell-Valente et al, 2007).

Kremers, Brug, de Vries and Engels (2003) observed whether children of specific parenting styles would consume more fruit than children of other parenting styles. One thousand seven hundred seventy-one Dutch 16- and 17-year-old adolescents were assessed cross-sectionally, and 17-item instrument was used to measure the parenting style dimensions of involvement and strictness. Kremers et al. (2003) found that parental warmth, emotional support, appropriate granting of autonomy, and clear, bidirectional communication lead to positive developmental outcomes in adolescents. Some patterns emerged from the Kremers et al. study with regard to parenting styles (2003). First, Kremers et al. reported that adolescents who were raised in authoritative homes showed the healthiest behaviour as well as cognitions and these adolescents perceived the most social support towards eating fruit (2003). Second, children of parents with indulgent parenting styles consumed more fruit than those from authoritarian or

neglectful homes (Kremers et al, 2003). Younger adolescents reported an authoritative parenting style more often than older adolescents. In summary, the Kremers et al. (2003) study underlined the importance of studying specific parental child-feeding practices in the context of general parenting styles.

Golan and Crow (2004), in a review of the environmental risk factors and parents' role in the prevention and treatment of children's weight-related problems, found that highly controlling and restrictive parental feeding strategies contribute to higher body mass index by interfering with children's innate ability to self-regulate their internal cues. These authors discovered that parents who perceived their children to be overweight or at risk of becoming overweight were more likely to exhibit restrictive feeding practices, whereas those who thought their children were too thin were more likely to increase their child's intake. According to Golan and Crow (2004), children learned their food preferences through repeated exposure to foods, and children chose to eat foods that were served most often and preferred what was available and acceptable in the parental household, and parents tended to have foods in the home that they liked and ate, which affected what young children had in their diets. Golan and Crow (2004) also found that when parents spent mealtimes with their children, they established a positive atmosphere and modelled appropriate food-related behaviours, and their children tended to have improved dietary quality. Mothers' own food behaviours, such as time of eating, food preferences, and where eating occurred in the home were correlated with their child's eating behaviours. Golan and Crow (2004) described an authoritative feeding style as one in which adults determined which

foods are offered and available, and parents let their children determine the amount eaten. Parents who used greater pressure in child feeding were found to be negatively related to the children's fruit and vegetable intake and positively related to the fat intake (Golan & Crow, 2004).

Arredondo, Elder, Ayala, Campbell, Baquero and Duerksen (2006) studied whether parenting style was related to children's healthy eating in Latino families. This study did not specify the number of participants recruited, but they did specify that families of children who were enrolled in kindergarten to second grade, were recruited to participate if they met the following criteria: (a) no major health problems, (b) residence within the school attendance boundaries and (c) family did not intend to move away from the area within a year. Parents then completed a self-administered survey at their children's school, and their weight and their children's weight and height were measured. Arredondo et al. (2006) developed their own scale to assess parents' styles associated with children's eating and activity. They found that parents who set appropriate limits, structure and boundaries around healthy eating with tangible reinforcers were more likely to have children who ate healthily. Parents who embodied an authoritarian parenting style (being highly directive, demanding and strict) regarding health behaviours actually increased their children's risk for becoming overweight. Parents who used a controlling parenting style had children who were less likely to consume healthy foods and consume more foods overall. This study focused on specific behaviours, such as control, and found that overweight children may respond more negatively to parental control by eating more calories. Parents who

engaged in a controlling parenting style regarding children's eating had children who ate more unhealthy food (Arredondo et al., 2006). For example, parents who used threats and bribes had children who consumed less healthy foods. Girls were found to consume more foods when their mothers tried to restrain or control them, as well as more likely to eat unhealthy than boys when parents used more control strategies for eating. Arredondo et al. (2006) found that parents who were younger, unemployed and less acculturated were significantly more likely to use a controlling style regarding their children's eating. Therefore, the children of parents who monitored and reinforced healthy behaviours ate more healthy foods and less unhealthy foods, and the use of reinforcement techniques by parents has shown to cause an increase in children's healthy eating.

Van der Horst, Kremers, Ferreira, Sing, Oenema and Brug (2007) conducted a study on perceived parenting style and practices in regards to the consumption of sugar-sweetened beverages by adolescents. The participants in this study were 383 adolescents from 16 first and second grades of five secondary schools. They used the parent-child food control questionnaire developed by Cullen, Baranowski, Rittenberry, Cosart, Hebert and de Moor (2001), assessing perceived parenting practices, and two parenting style dimensions (perceived strictness and perceived involvement). Similar to previous research, Van der Horst et al. (2007) found that strict parenting practices may have increased children's preference for (and the intake of) restricted foods, while some adolescents had a healthier diet and consumed less soft drinks when they reported more health-related foods in the family. From the findings of Van der Horst et al's

study, we can interpret that food-related parenting practices might have a different effect on adolescents' behaviour depending on the parenting style of their parents. For example, when children perceived more restrictive parenting practices, less consumption of sugar-sweetened beverages occurred. However, Van der Horst et al. (2007) found that among younger children, restrictive parenting practices can in fact increase children's preference for, and intake of, the restricted foods. Van der Horst et al. (2007) found that adolescents raised in a family with authoritative parenting style (highly strict and highly involved) showed the most favourable consumption of fruits and vegetables. If parents used a very strict parenting style, parenting practices relating to sugar-sweetened beverage consumption may not have an additional direct limiting result on their children's consumption of these beverages. Instead, restricting practices may have the opposite and undesired outcome.

Summary

Baumrind's research on parenting styles has generated much interest on the ways which parents produced a type of environment for their child and how parents behaved towards their children, both which can have dramatic effects on child outcomes (1971). Parenting styles have been broken down into different types of control, psychological vs. behavioural, and how each has its own diverse effects on child development (Barber, 1996; Grusec & Davidov, 2007). Further inspection of psychological control has outlined specific practices that differentiate it from behavioural control, and how psychological control can be predictive of certain negative outcomes within children (Barber, 1996). High

levels of psychological control were associated with internalized problems, such as anxiety, depression, loneliness, low self-esteem and self-derogation (Baumrind, 1971; Grusec & Davidov, 2007).

Studies on parental influences are divided into specific effects on children's behaviour. One aspect that has drawn much attention is the effect of parental influences on children's eating habits, and how parental influences can help curb the rise in children's obesity levels. While current research has found that practices using behavioural control, such as restricting foods, can lead to opposite effects, such as the increased consumption of restricted foods (Arredondo et al., 2006; Van der Horst et al., 2007), there has been a lack of research on the effects of psychological control on children's eating habits. There is also a scarcity of research operationalizing psychological control in terms of parental feeding practices and the various child outcomes. Research in this area is justified, as different parenting styles can be delineated by the various levels of psychological control and behavioural control. Originally, the question of how specific parenting styles influenced child-eating habits was put forward, only to determine that parenting styles are broken down into parenting practices and differing levels of control (Grusec & Davidov, 2007). By concentrating specifically on psychological control and its effects on child-eating habits, we can add to the existing body of literature in a much needed way.

Purpose of the Study and Hypotheses

The purpose of the present study was to determine: (1) whether specific parent-feeding practices are associated with parental psychological control; (2)

whether parents' ratings of their perceived psychological control are correlated with their children's perceived level of parental psychological control; (3) whether parental psychological control is correlated to children's negative affect towards food and eating in problematic situations; and (4) which parenting styles (and the practices that characterize each style) were more closely associated with (a) behavioural and (b) psychological control.

Based upon the research on parenting styles and psychological control, as well as current research on parental influences on children's eating habits the following predictions were made:

1. Given that psychological control is different from behavioural control in its specific practices (Barber, 1996, 2002), it is hypothesized that parental psychological control will be positively correlated to certain feeding practices, such as pressuring children to eat, using rewards, emotionally cued feeding and restriction, and will be negatively correlated with children's healthy eating habits (examples include eating fruit and vegetables instead of sugary snacks, eating only when hungry, choosing healthy foods over 'junk' food, eating a variety of different foods and not being picky, etc.). Conversely, it was expected that parental behavioural control will be positively correlated with feeding practices such as monitoring and with children's healthy eating habits.

2. Research to date has either concentrated on children's perceived parental control, or on parents' perceived level of control, but not both concurrently. Psychological control must take into account the child's subjective experience because "psychological control is in the eye of the controlled" (Barber,

2002, p. 131). Few researchers have actually asked young children about their experience or perceptions of psychological control of their families in general. For example, Albrecht, Galambos and Jansson (2007) have found that adolescents' reports of parents' psychological control were associated consistently and positively with internalizing behaviours in adolescents, such as depressed mood, anxiety or loneliness, as well as externalizing problems, such as antisocial, delinquent, or substance use behaviours. It is not evident whether parents' perceived level of psychological control and children's perceived level of parental psychological control are congruent, and therefore, it was hypothesized that parents' perceived level of psychological control will be positively correlated to children's perceived level of parental use of psychological control.

3. Psychological control has consistently been found to be correlated with feelings of guilt, self-responsibility, dependency, alienation, low ego strength, inability to make conscious choice, low self-esteem, and depressed affect (Barber, 1996). Previous research has also found that control in the form of threats and bribes resulted in children with an increased consumption of unhealthy foods (Arredondo et al., 2006). Therefore, it was hypothesized that parental psychological control would be positively correlated with children's negative affect regarding eating habits and an increased consumption of unhealthy foods.

4. Parents are able to influence their children's eating habits, and differences in eating habits have been partially attributed to differences in parenting style (Kremers et al., 2003). However, there has been little research to determine whether behavioural or psychological control is correlated with specific

parenting styles. It was expected that parental psychological control would be positively correlated with the authoritarian parenting style, while parental behavioural control would be positively correlated with an authoritative parenting style, and parental behavioural control and psychological control would be negatively correlated with a permissive parenting style.

Method

Participants

One-hundred and fourteen school-age children between the ages of 9- and 13-years old (*Mean Age* = 10.94 years, *SD* = 0.801 years), and a parent or guardian participated in the study. The participants were recruited through the Leduc School Board, first with the approval of the Superintendent, and then through contact and with the approval of the principals of each school. Only 8.8% of the parents or guardians who participated were male, with 91.2% female. The parent/guardian participating were either married (81.6%), divorced (4.4%), common-law (9.6%), separated (2.6%), or single (1.8%). The population studied varied in gross annual income, with 11.9% earning less than \$25,000, 20.8% earning between \$25,000 and \$49,999, 22.8% earning between \$50,000 and \$74,999, 17.8% earning between \$75,000 and \$99,999 and 26.7% earning over \$100,000 (thirteen participants had chosen not to answer this question). Out of the one-hundred and fourteen parent/guardian and child pairings, 92.0% self-identified with the White or Caucasian ethnicity, 1.8% identified as Black, 0.9% identified as Latin American, 0.9% as Japanese, and 4.4% did not identify themselves with any of the ethnicities listed. Of the parents/guardians who

participated in this study, the majority had completed a University/College degree or diploma (52.2%), with a small percentage (6.2%) completing junior high or some high school, with the same percentage (6.2%) completing some graduate school or a Masters/PhD. Of the parents who completed the demographic questionnaire, 16.7% completed their high school diploma and 14.9% completed some college/university. The demographic questionnaire had parents choose from 7 different options for age: 1) Less than 18; 2) 18-25; 3) 26-35; 4) 36-45; 5) 46-55; 6) 56-64 and 7) 65 and over. The minimum age of the parent was 18 years old with the oldest being 55 years old. The number of children within each family ranged from having only one child to a maximum of eight children (*Mean* = 2.68, *SD* = 1.09). The number of people within the household ranged from a minimum of two (single parent and one child) to a maximum of eight people (*Mean* = 4.36, *SD* = 0.90). The maximum number of people in the same household is the same as the maximum number of children in the family, suggesting that some participants included children that no longer actually live in the household.

Procedure

An ethics proposal was submitted to the EEASJ Research and Ethics Board (Education, Extension, Augustana, Campus Saint-Jean) at the University of Alberta using Human Ethics Research Online (HERO). This proposal included information regarding the aims and objectives of the study, the methods that would be used to obtain informed consent from the parents, consent for the children to participate in the study, as well as an assent form for the children to

complete [See Appendix A for letter]. Ethical approval was given independently for this study, as this was not part of any larger study.

Initial visits were made to six consenting schools where envelopes containing consent forms and questionnaires for the parents were distributed among the students in grades 5, 6 and 7. Students brought these packages home for parents to fill out. If parents consented their participation as well as their child's participation in the study, the envelopes with the completed consent forms and questionnaires were returned to the schools one- or two-weeks after the initial visit. The second visit to the schools involved sorting the returned questionnaires and determining which students had been given consent to participate in the study. These students were taken out of class (with their teachers' permission) and completed one questionnaire that took approximately 10-15 minutes to finish. The response rate varied, with an estimated 500 packages distributed and 114 returned and completed.

Measures

Demographic Questionnaire. Parents were asked to complete a demographics questionnaire to gather information regarding their age, gender, marital status, education, ethnicity, gross annual income, the number of children they have, the age of their children, as well as the total number of people in the household.

Child-Feeding Questionnaire. Parents were asked to complete the Child-Feeding Questionnaire (Birch et al., 2001), a self-report measure used to assess feeding strategies and ideas about child feeding. The parent/guardian completed

thirteen subscales of the CFQ, looking at: perceived feeding responsibility (the extent to which the parent/guardian, in comparison to their spouse/partner, reports taking responsibility for feeding their child); monitoring (the extent to which each parent/guardian keeps track of the unhealthy foods their child eats); pressure to eat (the parents' attempts to control their child's eating by encouraging the amount and type of foods); restriction (attempts to control their child's eating by restricting access to types and amounts of foods); perceived parent overweight (the parents' perception of their own weight throughout various stages of life); perceived child overweight (the parents' perception of their child's weight at various stages); concerns about child overweight; rewards used in child feeding (the extent to which the parents use rewards to encourage eating certain types of foods); dietary variety exposure (how varied is the child's exposure to different foods); emotionally cued feeding; child hunger beliefs; time/money constraints and the relative importance of child healthy eating. The parents would rate their responses using a five-point scale (never to always, or agree to disagree).

Research by Birch et al. (2001) indicated that most of the items on the subscales show fairly good reliability and validity, with a confirmatory factor analysis successfully fitting these seven factors: Perceived Parent Overweight, Perceived Child Overweight, Restriction, Pressure To Eat, Feeding Responsibility, Monitoring and Concern about Child Overweight. These seven factors fall into two broad categories: Risk Factors & Concern (factors that may elicit parental control in child feeding, such as perceived feeding responsibility, perceived parent overweight, perceived child overweight and concerns about child overweight);

and Control in Child Feeding: Attitudes and Practices (factors that assess dimensions of control in child feeding such as restriction, pressure to eat, and monitoring). The remaining six subscales (rewards used in child feeding; dietary variety exposure; emotionally cued feeding; child hunger beliefs; time/money constraints and the relative importance of child healthy eating) were additional exploratory items, and the reliability (the requirement that a measure be consistent and reproducible) and validity (the degree to which these measures are accurate) of these subscales have not been tested (Ray, 2003). The authors neither recommended nor discouraged the use of these subscales.

Children's Report of Parental Behaviour Inventory. The CRPBI (Schaefer, 1965) is a 56-item inventory, which was used to assess the parents' perceptions of their (a) own support, (b) behavioural control, and (c) psychological control in relation to their adolescent. There are two versions of this inventory – one for the parents and one for the adolescent. The support measure consisted of the mean of 24 items (statements such as, "I almost always speak to our child in a warm and friendly voice") which were rated on a 5-point Likert scale ranging from 1 (very much unlike me) to 5 (very much like me) (Galambos et al., 2003). The behavioural control measure consisted of the mean of 16 items which were reverse scored compared to the support measure, with statements such as, "I let our child stay up late if he/she keeps asking." The psychological control measure consisted of the mean of 15 items, such as, "I say that someday our child will be sorry that he/she wasn't better as a child," or "I think our child is not grateful when he/she does not obey." The reliability and validity are well-

established, as factor analyses conducted by Schwarz, Barton-Henry and Pruzinsky (1985) replicated the structure of the questionnaire as denoted by Schaefer (1965). Criterion-related validity has been demonstrated for the CRPBI (Litovsky & Dusek, 1985; Schludermann & Schludermann, 1983). The 23 items for the acceptance support subscale has a Cronbach's alpha (used to test for internal reliability – ranging from a score of 1 of perfect internal reliability to 0 denoting none) score of 0.87 (Bryman & Teevan, 2005). The 16 items for the behavioural control subscale has a Cronbach's alpha score of 0.83, and the 15 items for the psychological control subscale has a Cronbach's alpha score of 0.81. These scores indicate that each of the items in each subscale is reliable (whether the results of a study using these measures would be the same if the study were repeated – stable, internally reliable and consistent among different observers) and valid (whether this measure reflects the concept it is supposed to denote) (Bryman & Teevan, 2005).

Parenting Styles and Dimensions Questionnaire. The Parenting Styles and Dimensions Questionnaire (Robinson et al., 2001) is used to assess how often a parent exhibits certain behaviours towards his/her child. This 32-item questionnaire was completed by one parent to rate him or herself and his or her partner, and has three possible factors: (a) authoritative parenting style (measured by the subscales of parent-child warmth and connection, parental use of reasoning, inductive parenting and autonomy granting); (b) authoritarian parenting style (measuring physical coercion, verbal hostility and non-reasoning/punitive disciplinary practices) and (c) permissive parenting style

(measuring parental indulgence and inconsistency). The parent/guardian was asked to respond by indicating on a 5-point scale (1-never to 5-always) how frequently they and their spouse performed the behaviours. According to Robinson et al. (2001), the PSDQ has shown to demonstrate adequate reliability and validity. The reliability of each of the three primary and the 11 secondary subscales was conducted with the current sample. The three calculated Chronbach's alphas are: (a) .93 for authoritative (b) 0.64 for permissive; and (c) 0.86 for authoritarian.

Family Eating and Activity Habits Questionnaire. The Family Eating and Activity Habits Questionnaire (FEAHQ), a 29-item questionnaire completed by parents, is used to assess the factors that affect obesity and weight loss in children (Golan & Weizman, 1998). These factors were broken down into four subscales: (a) activity level (the frequency with which the parent, spouse and child engage in physical and sedentary activity); (b) stimulus exposure (presence and availability of snacks and sweets in the home, boundaries of child's autonomy in buying or taking foods); (c) eating related to hunger (who initiates eating, what do they do if not hungry); and (d) eating style (e.g. eating while standing at the open refrigerator, or following stress). Scores were calculated separately for each member of the family, and each scale was rated and scored differently. Higher numerical scores reflected less appropriate eating patterns (Golan & Weizman, 1998). The questionnaire has been demonstrated to be internally consistent, as well as having adequate reliability and validity. The content (the extent to which a measure represents all facets of a given construct) and construct (whether a scale

measures the scientific construct that it purports to measure) validity of the questionnaire were evaluated and supported (Bryman & Teevan, 2005; Golan & Weizman, 1998). However, when reliability analysis was performed, the subscales of activity level, stimulus exposure and eating style scored a Cronbach's alpha below 0.70, suggesting that these variables do not reliably measure activity level as well as they should, while eating related to hunger scored 0.85, meaning this scale is quite reliable.

Results

In this chapter, the results of the current study will be presented in four different parts for each hypothesis. Bivariate correlational analyses were conducted to analyze the relationships for each hypothesis.

Control, parent-feeding practices and children's eating habits.

Parent/guardian's scores for Behavioural Control and Psychological Control from the Children's Report of Parental Behaviour Inventory (Schaefer, 1965) were correlated with their scores on the thirteen subscales of the Child-Feeding Questionnaire (Birch et al., 2001) as well as the five subscales of the Family Eating and Activity Habits Questionnaire (Golan & Weizman, 1998) to assess the direction and strength of the relationship between psychological control and behavioural control with child-feeding practices and children's eating habits (see Tables 1 and 2 for means and SDs).

Table 1

Means and SDs for the Children's Report of Parental Behaviour Inventory (CRPBI) Subscales

	<i>n</i>	<i>M</i>	<i>SD</i>
Acceptance Support	109	4.18	0.40
Behavioural Control	108	1.86	0.47
Psychological Control	108	2.13	0.51

Table 2

Means and SDs for the Child Feeding Questionnaire (CFQ) Subscales

Subscale	<i>n</i>	<i>M</i>	<i>SD</i>
Perceived Feeding Responsibility	113	3.09	0.36
Monitoring	113	2.90	0.40
Pressure To Eat	112	2.24	1.32
Restriction	112	1.43	0.73
Perceived Parent Overweight	112	2.27	0.67
Perceived Child Overweight	112	1.80	0.72
Concerns about Child Overweight	112	3.36	0.42
Rewards Used Child Feeding	112	1.47	0.52
Dietary Variety Exposure	112	4.65	0.37
Emotionally Cued Feeding	112	3.09	0.36
Child Hunger Beliefs	112	2.90	0.40
Time Money Constraints	112	2.24	1.32
Relative Importance of Healthy Eating	112	1.43	0.73

Table 3

Correlations Between Parental Behavioural Control, Psychological Control and Child-Feeding Questionnaire

Subscale	Behavioural Control	Psychological Control
Child-Feeding Questionnaire		
1. Perceived Feeding Responsibility	-.17	-.18
2. Monitoring	-.27**	-.32**
3. Pressure to Eat	.27**	.06

4. Restriction	.02	.15
5. Perceived Parent Overweight	.06	.34**
6. Perceived Child Overweight	.12	.26**
7. Concerns about Child Overweight	.05	.35**
8. Rewards Used in Child Feeding	.27**	.18
9. Dietary Variety Exposure	.14	.10
10. Emotionally Cued Feeding	.10	.05
11. Child Hunger Beliefs	-.12	.12
12. Time Money Constraints	.15	.26**
13. Relative Importance of Child Healthy Eating	-.13	.04

* $p < .05$ level. ** $p < .01$ level.

It was hypothesized that parental psychological control would be positively correlated to certain feeding practices, such as pressuring their children to eat, using rewards, emotionally cued feeding and restriction, and would be negatively correlated with children's healthy eating habits. In contrast, parental behavioural control was expected to be positively correlated with parental feeding practices such as monitoring, and would be positively correlated with children's healthy eating habits (e.g., only eating when hungry, eating proper meals instead of snacking irregularly or depending on mood, etc.). Bivariate correlations were conducted (see Table 3). Behavioural and psychological control both had a significant negative correlation with monitoring, which may be indicative of parents who exhibit high levels of behavioural control or psychological control use an inversely related level of monitoring. This means that parents who exhibit high levels of either behavioural or psychological control show low levels of monitoring. Significant positive correlations were found between behavioural control and (a) pressure to eat and (b) rewards used in child feeding, indicating

that parents who exhibit high levels of behavioural control also use high levels of the practices of pressuring to eat and using rewards. This finding is congruent with Barber's (2002) study defining behavioural control as the use of rewards and punishments to regulate the behaviour of their children. Psychological control was found to be positively correlated with (a) perceived parent overweight – where parents perceive themselves to be overweight or obese, (b) perceived child overweight – where parents perceive their children to be overweight or obese, (c) concerns about child being overweight, and (d) time money constraints. With regard to children's eating habits, behavioural control was found to have significant positive correlations with parents' scores for leisure time and exposure to problematic foods, while children's scores were significantly positively correlated for eating in problematic situations. Psychological control was significantly positively correlated with mothers' scores for leisure time, and to both parents' and children's scores for eating in problematic situations.

Parents' vs. child's perceived level of psychological control. Parents' perceived level of psychological and behavioural control was hypothesized to correlate with children's perceived level of parental psychological and behavioural control. We, therefore, ran bivariate correlational analyses between parents' scores on the Psychological Control and Behavioural Control subscales Children's Report of Parental Behaviour Inventory (Schaefer, 1965) and their children's scores on those same subscales on the Children's Report of Parental Behaviour Inventory – Adolescent Version (Schaefer, 1965) (see Table 4). While the scores for behavioural control and psychological control do have small

positive correlations, it is only the scores for Acceptance Support subscale that have a significant positive correlation, indicating that parents'/guardians' perceived level of acceptance and support are positively related to their children's perceptions of parental use of acceptance and support. No significant relationship between parents'/guardians' perceived level of behavioural and psychological control to their children's perceptions of parental use of control was revealed.

Table 4

Correlations Between Parents' Perceived Level of Behavioural and Psychological Control and Children's Perceived Level of Parental Behavioural and Psychological Control

	Adolescent's Scores		
	Acceptance Support	Behavioural Control	Psychological Control
Parent/Guardian Scores			
Acceptance Support	.27**	-	-
Behavioural Control	-	.16	-
Psychological Control	-	-	.08

** p < .01 level.

Parental psychological control and children's negative affect towards food. It was hypothesized that parental psychological control would be positively correlated with children's negative affect regarding eating habits and an increased consumption of unhealthy foods. Correlations were run on parental Psychological Control and children's scores on the Eating in Problematic Situations subscale from the Family Eating and Activity Habits Questionnaire (Golan & Weizman,

1998). A significant positive correlation of $r = 0.39$, $p < .01$, between parents'/guardians' level of psychological control and children's scores for eating in problematic situations emerged, as shown in Table 5 below.

Table 5

Correlations Between Parental Behavioural Control, Psychological Control and the Family Eating and Activity Habits Questionnaire (FEAHQ)

Subscale	Behavioural Control	Psychological Control
Family Eating and Activity Habits Questionnaire		
Leisure Time		
Parent	.22*	.24*
Partner	.11	.15
Child	.11	.13
Exposure to Problematic Foods		
Parent	.21*	.03
Partner	.18	.04
Child	.18	.04
Hunger Cues		
Parent	-.15	-.07
Partner	-.08	-.05
Eating in Problematic Situations		
Parent	.12	.28**
Partner	.01	-.03
Child	.22*	.39**
Family Rites		
	.03	-.04
Total Scores		
Parent	.23*	.28**
Partner	.12	.11
Child	.21	.28**

* $p < .05$ level. ** $p < .01$ level.

Psychological and behavioural control and parenting styles. It was hypothesized that high levels of parental self-reported psychological control

would be positively correlated with an authoritarian parenting style, and that high levels of parental self-reported behavioural control would be positively associated with an authoritative parenting style, and low levels of both types of control would be correlated with the permissive parenting style. The results found that parents' scores on the behavioural control subscale of the CRPBI were significantly positively correlated to their scores on the psychological control subscale ($r = .36, p < .01$) along with the following correlations. (see Table 6 below)

Table 6

Correlations Between Parental Acceptance Support, Behavioural Control, Psychological Control and the Parenting Styles and Dimensions Questionnaire (PSDQ)

	Acceptance Support	Behavioural Control	Psychological Control
Authoritative Parenting Style			
Warmth and Involvement	.43**	.02	-.06
Reasoning and Induction	.38**	-.31**	-.13
Democratic Participation	.35**	-.12	-.13
Good Natured and Easy Going	.50**	.04	-.23*
Total	.56**	-.11	-.17
Authoritarian Parenting Style			
Verbal Hostility	-.26**	.15	.50**
Corporal Punishment	-.16	.08	.41**
Non Reasoning Punitive	-.19	.40**	.37**
Directiveness	-.12	-.08	.42**
Total	-.23*	.212*	.55**

Permissive Parenting Style			
Lack of Follow Through	-.07	.34**	.37**
Ignoring Misbehaviour	-.06	.46**	.11
Lack of Self Confidence	-.19	.38**	.30**
Total	-.14	.51**	.37**

* p < .05 level. ** p < .01 level.

Authoritative Parenting Style. The authoritative parenting style is made up four subscales: warmth and involvement; reasoning and induction; democratic participation; and good-natured and easy-going. Parents'/guardians' scores on the Acceptance Support subscale were significantly and positively correlated with warmth and involvement, reasoning and induction, and democratic participation. Scores for the parent/guardian for acceptance support were all significantly positively correlated to the total score for authoritative parenting style. These demonstrate that parental use of acceptance and support is positively related to an authoritative parenting style. Behavioural control was found to be positively correlated with warmth and involvement and positively correlated with democratic participation, and only significantly negatively correlated with reasoning and induction. However, behavioural control was found to be positively correlated (although not significant) to a parent/guardian characterized by being good natured and easy going and there was no significant correlation found between behavioural control and total scores for authoritative parenting style. There were no significant correlations between parents'/guardians' scores for psychological control and the subscales for authoritative parenting, except for a significant negative correlation between parents'/guardians' level of

psychological control and the good natured and easy going subscale, which suggests that parents/guardians who exhibit high levels of psychological control are not found to be good natured and easy going. Other significant correlations included a positive correlation with the Monitoring Subscale on the Child-Feeding Questionnaire ($r = .25, p < .01$), but a negative correlation with the mother's total scores on the Family Eating and Activity Habits Questionnaire ($r = -.33, p < .01$).

Authoritarian Parenting Style. The authoritarian parenting style dimension consisted of four subscales: parents' use of verbal hostility; corporal punishment; non reasoning punitive (parents who punish without providing a reason to their children as to why they are being punished); and directiveness. Parent/guardian scores have a significant negative correlation between acceptance support and verbal hostility as well as acceptance support and the total score for the dimension, indicating that parents/guardians who have high levels of acceptance support use low levels, if any, of verbal hostility towards their children. Parents' scores for behavioural control had a significant positive correlation with the subscale non reasoning punitive, as well as a significant positive correlation with the total score for authoritarian parenting style dimension, indicating that parents/guardians with a high level of behavioural control also had high levels of punishing their children without providing a reason for punishment and the authoritarian parenting style as a whole. Parents'/guardians' scores for psychological control all had a significant positive correlation with every subscale for authoritarian parenting style, including the total score for the dimension, indicating that parents/guardians who exhibit high levels of psychological control

also demonstrate high levels of the practices that characterize the authoritarian parenting style. One other significant correlation includes a negative correlation between parents' scores on psychological control and the Monitoring subscale on the Child Feeding Questionnaire ($r = -.25, p < .01$).

Permissive Parenting Style. The permissive parenting style dimension is characterized by three subscales: parents' lack of follow through; ignoring misbehaviour; and parents' lack of self confidence. No significant correlations emerged for parent/guardian scores on acceptance support and the subscales or total score for this parenting style. Parents'/guardians' behavioural control scores were significantly and positively correlated with all subscales - lack of follow through, ignoring misbehaviour, lack of self confidence and the total permissive parenting style score, indicating that parents/spouses with high levels of behavioural control also exhibited practices lacking follow through and ignoring children's misbehaviour. For psychological control, parent/guardian scores were significantly and positively correlated with lack of follow through, lack of self confidence and total permissive parenting style score. Other significant correlations include a negative correlation with the Perceived Feeding Responsibility subscale on the Child-Feeding Questionnaire ($r = -.23, p < .05$), a negative correlation with the Monitoring subscale ($r = -.34, p < .01$), a positive correlation with the Pressure to Eat subscale ($r = .31, p < .01$), and a positive correlation with Rewards Used in Child Feeding subscale ($r = .20, p < .05$).

Discussion

As outlined previously, the purposes of the present study were to (1) determine which specific parent-feeding practices are correlated with psychological control, (2) correlate parents' ratings of their perceived psychological control are with their children's perceived level of parental psychological control, (3) verify parental psychological control and children's negative affect towards food and (4) establish which parenting styles (and the practices that characterize each style) were more closely associated with (a) behavioural and (b) psychological control.

Control, parent-feeding practices and children's eating habits. From the analyses conducted, the data shed interesting light on relationship between child-feeding practices and control. First, parental behavioural control had a significant negative correlation with the monitoring subscale of the Child-Feeding Questionnaire as self-reported by the parent. This is not congruent with Barber's (2002) findings, where he described behavioural control as characterized by parental attempts to regulate the behaviour of their children through monitoring and supervision. Perhaps, parents who exhibit high levels of behavioural control use an inversely related level of monitoring. Second, an interesting significant positive correlation was found between parents' scores on the behavioural control and psychological control subscales of the CRPBI. Previous research (e.g., Galambos et al., 2003) has suggested that when parents have higher levels of psychological control combined with behavioural control, there was a relationship to adolescents' higher levels of externalizing problems, and that behavioural

control can actually become ineffective and harmful if combined with high levels of psychological control. In other words, it is the combination of behavioural control with psychological control that leads to adolescents' higher levels of externalizing problems. In a study looking at parental control in relation to food and eating behaviours, Birch et al. (2001) also found that parental monitoring of child fat intake was related to child weight status, and because children and parents' BMI and weight were not obtained, it was difficult to determine whether the level of monitoring being inversely related to parental behavioural control was due to the fact that the children's weight status was not at a worrying level for parents to monitor their children's fat intake. Third, significant positive correlations were found between behavioural control and parents' self-report scores for the following subscales: (a) parents using pressure to encourage children to eat and (b) parents using rewards used in child feeding to also encourage children to eat, indicating that parents who exhibit high levels of behavioural control also use high levels of the practices of pressuring to eat and using rewards to regulate the eating behaviour of their children. In the literature, pressuring children to eat and using rewards to encourage eating has been shown to have the reverse effect (e.g., Birch et al., 2001; Clark et al., 2007; Orrell-Valente et al., 2007). Pressuring children to eat "healthy" foods decreased children's preferences for those foods, while increasing intake of other foods, whereas restricting children's access to "junk" food increased intake of those foods when parental monitoring was removed (Birch et al., 2001; Clark et al., 2007; Orrell-Valente et al., 2007). Children end up preferring foods that parents

used as rewards, such as dessert, and disliking the foods that were used as threats, such as vegetables (Orrell-Valente et al., 2007). Again, according to Galambos et al. (2003), a certain level of behavioural control, such as setting boundaries, rules, disciplinary strategies and supervision, can be used to regulate the behaviour of children, while monitoring has been found to be associated with slower weight gain (Blissett & Haycraft, 2008). When young children knew or suspected their parents were watching them, they made relatively more healthy choices than when they were not being watched (Clark et al., 2007). Darling and Steinberg (1990) characterize behavioural control as the level of monitoring and limit setting that parents maintain in order to achieve behavioural regulation, however, from these results, the level of monitoring that parents exhibit is inversely related to their level of behavioural control. Studies by Golan and Crow (2004) and Orrell-Valente et al. (2007) found that highly controlling and restrictive parental feeding strategies contribute to higher body mass index by interfering with children's innate ability to self-regulate their internal cues, therefore, there is a possibility that this inverse relationship is due to the combination of levels of psychological and behavioural control.

In contrast, the present study revealed that psychological control is negatively correlated with monitoring, which is in line with Barber's definition of psychological control, because psychological control does not focus on behavioural regulation, and therefore would not enforce the regulation of their children's behaviour through monitoring (2002). This provides further evidence to support Barber's work of the characteristics of parental psychological control.

Parental psychological control was also found to be positively correlated with (a) parents' perception of their own weight throughout various stages of life (b) parents perceiving their child to be overweight, (c) concerns about child overweight, and (d) time money constraints, demonstrating that parents/guardians that display high levels of psychological control are related to three of the four risk factors and concerns that may elicit parental control in child feeding (Birch et al., 2001). Previous research has found that among children predisposed to obesity, increased child weight appears to elicit restrictive feeding practices, which may in turn produce additional weight gain (Faith et al., 2004). This study has found, however, that parental psychological control was not found to be correlated with restriction, and research by Blissett and Haycraft (2008) has found that more controlling parenting styles were associated with more authoritarian feeding practices, which were more consistently associated with child weight gain. Because I was unable to obtain both parents' and children's BMI and weight for this study, it is difficult to conclude whether parents' scores on the psychological control scale were correlated with parents' and children's BMI and weight.

Parents' vs. child's perceived level of psychological control. Parents' perceived level of psychological and behavioural control was not correlated with their children's perceived level of parental psychological and behavioural control. However, there was a significant positive correlation between parents' perceived level of acceptance and support and children's perceived level of acceptance and support. According to an older study by Slevin and Balswick (1980),

communication is crucial and our perceptions of the behaviour of other people, especially of 'significant' others, will greatly influence our actions. There may be many possible reasons for these results – do children and parents differ in their perceived degrees of control? For example, if a child perceives a parent as being angry with him/her, what matters is not whether the parent is angry but the child's resulting action will be the consequence of his/her perception. Why would children and parents be significantly positively correlated for acceptance and support, but not psychological control or behavioural control? There has been little previous research regarding parent-child perceived levels of parental control, therefore, these results are preliminary and could lead to future development and research of a system for measuring parent-child perceptions of control. For example, if parents are trying to discipline their children, but their children may perceive their parents to be angrier or harsher than the parents want to be, children may not understand why their parents are expressing anger which may lead to unwanted consequences, such as children hiding or further disobeying their parents. Perception dictates how individuals react to others' actions, and therefore, should be examined in relation to parent feeding practices and children's eating habits, as well as parenting styles.

Parental psychological control and children's negative affect towards food. According to the correlational analyses conducted, parental scores on the behavioural control subscale were found to have significant positive correlations with parents' scores for leisure time and exposure to problematic foods, and were also significantly and positively correlated with children's scores for eating in

problematic situations, such as when they are bored or angry. Similarly, Carriere's (2003) study found that 12- to 19-year olds with a parent who was inactive during leisure time, who was a smoker, or who consumed fruits and vegetables less than five times a day, were likely to report these behaviours as well. From this present study, it was found that parents' scores for leisure time were significantly positively correlated with their children's scores for leisure time, and parents' scores for exposure to problematic foods is also significantly positively correlated with children's scores for exposure. Parents' scores for eating in problematic situations was also significantly positively related to children's scores for that subscale, which support Carriere's (2003) study, as well as Lindsay et al.'s (2006) finding that parents who overeat will have children who may overeat as well. Parents are the main examples for their children for behaviours that may influence their health, and children's food intake is mainly influenced by the family context (Boutelle et al., 2003; Carriere, 2003; Moens, 2007). Psychological control was significantly positively correlated with parents' scores for leisure time, and to both parents' and children's scores for eating in problematic situations. The third hypothesis addressed parental psychological control and if it was positively correlated with children's negative affect regarding eating habits, measured by children's scores from the Eating in Problematic Situations subscale in the Family Eating and Activity Habits Questionnaire (Golan & Weizman, 1998). A significant positive correlation between parents' level of psychological control and children's scores for eating in problematic situations emerged. This is in line with other studies such as Galambos et al.'s findings that parents' higher levels of

psychological control were related to adolescents' higher levels of externalizing problems, but only when parents also reported higher behavioural control (2003). This can explain the positive correlation between parents' levels of behavioural and psychological control and the children's incidences of eating in problematic situations. As Galambos et al. (2003) found, high levels of behavioural control can lead to maladjustment (eating alone or when bored or angry rather than with a group or when hungry), while high levels of psychological control are correlated with anxiety, depression, and loneliness (a possible reason for why the child eats when they are alone, angry or bored). Barber (2002) has also found that psychological control has consistently been found to be correlated with alienation and social withdrawal, which can be related to a child eating in problematic situations.

Psychological and behavioural control and parenting styles.

Authoritative parenting style. Looking at specific parenting styles, behavioural control was only significantly negatively correlated to the Reasoning & Induction subscale for the authoritative parenting style (for both self and ratings of partner). Psychological control is significantly negatively correlated to parents' scores on the 'good-natured and easy-going' subscale, which measures the parents' personality trait of being 'good-natured and easy-going'. Neither type of control is significantly correlated to the authoritative parenting style as a whole. The authoritative style has been characterized by high demandingness and high responsiveness, and parents provide clear and firm direction, are assertive, and moderated by warmth, reason and flexibility (Baumrind, 1971; Brooks, 2004;

Darling & Steinberg, 1993; Golan & Crow, 2004; Hughes et al., 2004; Rhee et al., 2006). It was originally expected that parental behavioural control would be positively correlated with authoritative parenting style subscales, but this result did not emerge with the current sample. One possible explanation is that the combined levels of behavioural and psychological control may be confounding the overall result. For example, Galambos et al. found that the parents' combined use of behavioural control with psychological control contribute to adolescents' higher levels of externalizing problems, and that parental behavioural control can actually become ineffective and slightly harmful if combined with high levels of psychological control (2003). While it was beyond the present study's design to test for combined effects, future work should examine the effects of each type of control individually, and then compare to the combined effects in relation to feeding practices and child eating habits. It is also interesting to note that parents who exhibit psychological control are not seen as good-natured and easy going, which is in line with Barber's (2006) findings that psychological control is characterized by parental constraint of verbal expression, invalidating children's feelings, personal attack on their children, inducing their children's guilt, withdrawal of love and erratic emotional behaviour. All three parenting styles were correlated with child-feeding practices. The authoritative parenting style was significantly and positively correlated to the monitoring feeding practice. Blissett and Haycraft (2008) have found that monitoring feeding practices rather than restricting feeding practices have been associated with slower weight gain. To note, adolescents who were raised in authoritative homes showed the healthiest

behaviour as well as perceived the most social support towards eating fruit (Kremers et al., 2003). Arredondo et al. (2003) found that parents who set appropriate limits, structure and boundaries around healthy eating with tangible reinforcers were more likely to have children who eat healthy. Van der Horst et al. (2007) also found that adolescents raised in a family with authoritative parenting showed the most favourable consumption of fruits and vegetables. This past research suggests that an authoritative parenting style would promote relatively healthy eating habits in children.

Authoritarian parenting style. Behavioural control was significantly positively correlated with parents' use of non-reasoning punishment, as well as the overall authoritarian parenting score. Psychological control was significantly positively correlated to parents' use of verbal hostility, parents' use of corporal punishment, directiveness, non-reasoning punishment, and the overall authoritarian score. Authoritarian parenting style scores were also significantly negatively correlated to monitoring, which suggests that monitoring may not be a parent-feeding practice associated with authoritarian parenting style. The authoritarian parenting style was also significantly and positively correlated with the restriction subscale of the Child-Feeding Questionnaire, which was a surprise, considering authoritarian-type parenting was significantly and positively correlated to both psychological and behavioural control. Blissett and Haycraft (2008) found that more controlling parenting styles were associated with more authoritarian feeding styles, and Rhee et al. (2006) found that mothers with an authoritarian parenting style were significantly more likely to have children who

were overweight two years later compared with mothers with an authoritative parenting style. Arredondo et al. (2006) found that parents who embodied an authoritarian parenting style regarding health behaviours actually increased their children's risk for becoming overweight, and their children will be less likely to consume healthy foods and consume more foods overall. Overweight children may also respond more negatively to parental control by eating more calories, and excessively restrictive feeding practices increased weight control problems by disrupting the children's eating patterns (Arredondo et al., 2006; Faith et al., 2004; Orrell-Valente et al., 2007). Overall, parental psychological control appears to be related to every dimension of the authoritarian parenting style.

Permissive parenting style. Permissive parenting is characterized by warmth and acceptance in conjunction with a lack of monitoring of the child's behaviour and parents showed low expectations for self-control and discipline. Uninvolved or Neglectful parenting (low demandingness/low responsiveness) is characterized by little control and involvement with their child, as well as low levels of both demands for self-control and sensitivity. Contrary to what was predicted, behavioural control was significantly positively correlated to the subscales of lack of follow through, ignoring misbehaviour and the overall scores for permissive parenting style. These findings are surprising as this is not in line with Barber's (2002) definition of behavioural control, as behavioural control is characterized by parental attempts to control children's behaviour through monitoring and limit setting. Parents' scores for psychological control were also significantly positively correlated with parents' lack of follow through, lack of

self confidence, and overall permissive parenting style. In sum, parents who reported permissive parenting styles also reported lack of follow through, ignoring misbehaviour, using little monitoring of children's eating, pressuring their children to eat, and using rewards to encourage their children to eat. As stated previously, pressuring children to eat "healthy" foods such as fruit and vegetables can actually decrease their preferences for those foods, and by using rewards of restricted foods such as "junk" food to encourage eating makes these more desirable to the children (Faith et al., 2004; Orrell-Valente et al., 2007).

Overall, parental warmth, emotional support, appropriate granting of autonomy, and clear, bidirectional communication led to the most positive developmental outcomes (Kremers et al., 2003). Parents' feeding practices are broadly linked with their parenting styles, and parenting styles are good predictors of children's BMI, fruit and vegetable intake, healthier eating, physical activity and sedentary behaviours (Blissett & Haycraft, 2008).

Limitations

Firstly, a large limitation of this study was the purely correlational nature of the analyses. While correlational research is able to support a positive or negative correlation between two variables, it is unable to draw any conclusions about causality.

A second limitation this study was the inability to take both parents' and children's weight and BMI, as well as the gender of each child. These pieces of information would have been able to help us to determine if weight and BMI were also determinants of parents' feeding practices, and the gender of each child

would have enabled us to find any gender effects, both for the children and the parents. Other limitations of this study include the cross-sectional nature of this study, concentrating only on a specific age group, which makes it difficult to determine if there are any age effects for this area of research.

A third limitation is the sole use of self-report data to assess parenting and eating behaviours. While it is important to obtain self-report data, future studies would be strengthened by the use and inclusion of multiple informant data such as observations of family mealtime behaviours, observations of parenting styles throughout a normal day, etc. along with the inclusion of measures of weight and BMI, and food intake and preferences. Therefore, parents' perceptions of their children's weight do not have any medical data to coincide with the results.

A fourth limitation is that parents may not be one particular parenting style all of the time but can show elements of many styles depending on the situation. Those who are inconsistent may have the most difficulty with the behaviours of their children, because the children's reactions to their behaviours are also, in turn, inconsistent.

Implications and Future Research

Despite the limitations, important correlational relationships have been revealed in the present study between parenting and children's eating, as well as social learning theory. Social learning theory, as defined by Bandura (1977), refers to all learning that occurs as a result of social interaction and mainly occurs through observational learning. The findings of this study represent the basis for future research on eating habits, which are behaviours that children learn from

their parents. This study looked at the aspects of socialization: parenting style (specifically, control) and parenting feeding practices. Future research should examine varying levels of behavioural and psychological control, and focus on working with parents who exhibit high psychological and behavioural control and help them manage their parental feeding practices for the benefit of their children. Behavioural control was found to be negatively related to monitoring which is inconsistent with past research by Barber (1996). Future research should examine if there is a combined effect of behavioural and psychological control, and determine a method of studying each type of control individually.

No correlations were found between parents' perceived use of psychological or behavioural control and children's perceptions of parental control. Future research should elaborate on the role of children's reactions to parents' actions and expressiveness and how it affects children's eating habits. For example, potential research could expand on older studies such as Slevin and Balswick's study and relate the findings back to children's eating habits (1980).

Psychological control was negatively correlated to monitoring, but positively correlated to parents' perceptions of their own weight and concerns about their children being overweight. However, without any medical data to confirm parents' and children's weight and BMI, it is difficult to determine if parents' concerns about their weight and their children's weight are medically supported or if parents' have an unrealistic viewpoint of healthy weight ranges for themselves and their children. An example of a study that could be replicated or expanded is one by Moens et al. which involved families with both a normal

weight child and families with an overweight child who were observed and completed self-reports of family mealtime functioning (2007). Future research could also use food diaries for families to document their eating and activity habits. This is a basis for further research to examine whether parental psychological control causes parents and children to be overweight, or if children's and parents' overweight issues cause parents' use of psychological control.

Feeding practices could be also be viewed either through specific types of control, or through specific parenting styles, targeting the inconsistencies that this study presented between parenting styles and control, and looking at the inconsistencies between different parents and their parental approaches. Differences and changes in parenting strategies depending on the age group of the child can also be reviewed.

Parental psychological control was positively correlated to children and parents eating in problematic situations. To expand on this finding, future research could focus on the reasons whether children's eating in problematic situations is due to parental psychological control, or if it is due to children modelling after their parents who also eat in problematic situations. This could be done through observing family mealtime environment using a focused-narrative observational system, such as Orrell-Valente et al.'s study (2007). This finding is in support of social learning theory, and future research can expand on the types of modelling in mealtime situations that are more efficient when instilling healthy eating habits

in children. For example, a study can look at whether parents' verbal demands or actions are more influential in children's eating habits.

Conclusion

In conclusion, the findings of the current study provide new insights into parental use of behavioural and psychological control and how they are related to parent-feeding practices and children's eating habits and parenting styles. A surprising finding was that behavioural control was found to be negatively related to monitoring, which is inconsistent with past research by Barber (1996). Basically, parents who are characterized by behavioural control use little monitoring when teaching their children about eating habits. Additionally, parents who are characterized by behavioural control use both pressure and rewards to encourage children to eat, and as past research has found, using pressure and rewards actually produces children who prefer 'junk' food rather than healthy food (Orrell-Valente et al., 2007). Parents who exhibit psychological control are related to perceptions of their own weight and concerns' about their children being overweight which could be a basis for further research to examine whether parental psychological control causes overweight issues in both parents and children, or if overweight issues cause parents' use of psychological control. Interestingly, no correlations were found between parents' perceived use of psychological or behavioural control and children's perceptions of parental control, which can be a basis for further research on children's perceptions and reactions to parents' behaviours and parenting styles. Parental psychological control was positively correlated to children and parents eating in problematic

situations and raises the question of whether children's eating in problematic situations is due to modelling their parents eating in problematic situations or if this is due to parents' use of psychological control. Through these findings, we can now begin to create a framework of parental feeding practices that are healthy for the child, similar to a 'step-by-step how-to' guide for creating a healthier eating and feeding environment for our children, enabling parents and children to step away from the increasing number of obese people in our society, and becoming more than just a statistic.

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Appendix A**University of Alberta
Child Assent Form**

I, _____, hereby
(print name of child participant)

- give my permission and would like to participate
- do not give my permission and do not want to participate

- To complete a survey for approximately 20-30 minutes

by Karyna Soco-Kinsella (graduate student) as part of her Masters thesis requirements at the University of Alberta.

I understand that:

- I may leave and stop the questionnaire at any time without penalty
- My participation is completely voluntary and I am not forced to participate
- All information gathered will be treated confidentially and used for the sole purpose of the assignment
- No identifying information (such as your name) will be on surveys, presentations or publications
- The surveys will be locked in a filing cabinet and destroyed after five years

signature

Date signed: _____

Appendix B**DEMOGRAPHIC QUESTIONNAIRE**

1. What is your age?
 - a. Less than 18
 - b. 18 - 25
 - c. 26 - 35
 - d. 36 - 45
 - e. 46 - 55
 - f. 56 - 64
 - g. 65 and over
 - h.

2. What is your gender?
 - a. Male
 - b. Female

3. What is your marital status?
 - a. Single
 - b. Married
 - c. Divorced
 - d. Widowed
 - e. Common-law
 - f. Separated

4. How many children do you have? _____ How old are they?

5. Who currently lives in your household?

6. What is the highest level of education you have achieved?
 - a. Junior high
 - b. Some high school
 - c. High school diploma
 - d. Some college/university
 - e. University/College degree or diploma
 - f. Some graduate school
 - g. Masters or PhD
 - h. Other

7. What is your gross annual income?
 - a. Less than \$25,000
 - b. \$25,000 - \$49,999
 - c. \$50,000 - \$74,999
 - d. \$75,000 - \$99,999
 - e. \$100,000 and over

8. What is your ethnic origin? Please circle all that apply.
 - a. White or Caucasian
 - b. Chinese
 - c. South Asian (e.g. East Indian, Pakistani, Sri Lankan, Bangladeshi, etc)
 - d. Black
 - e. Filipino
 - f. Latin American
 - g. Arab
 - h. Southeast Asian (e.g. Vietnamese, Cambodian, Malaysian, Laotian, etc.)
 - i. West Asian (e.g. Iranian, Afghan, etc.)
 - j. Korean
 - k. Japanese
 - l. Other _____

Appendix C

Child Feeding Questionnaire (Birch et al., 2001)

INSTRUCTIONS: Using the scale below, please circle one number for each question which best corresponds to your answer. **Please answer about your child who is in our study.**

	Never	Seldom	Half of the Time	Most of the Time	Always
1. When your child is at home, how often are you responsible for feeding her?	1	2	3	4	5
2. How often are you responsible for deciding what your child's portion sizes are?	1	2	3	4	5
3. How often are you responsible for deciding if your child has eaten the right kind of foods?	1	2	3	4	5
	Never	Rarely	Some- times	Mostly	Always
4. How much do you keep track of the <i>sweets (candy, ice cream cake, pies, pastries)</i> that your child eats?	1	2	3	4	5
5. How much do you keep track of the <i>snack food (potato chips, Doritos, cheese puffs)</i> that your child eats?	1	2	3	4	5
6. How much do you keep track of the <i>high fat</i> foods that your child eats?	1	2	3	4	5

Using the scale below, please circle one number for each question which best corresponds to your answer. **Please answer about your child who is in our study.**

	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree
7. My child should always eat all of the food on her plate.	1	2	3	4	5
8. I have to be especially careful to make sure my child eats enough.	1	2	3	4	5
9. If my child says "I'm not hungry", I try to get her to eat anyway.	1	2	3	4	5
10. If I did not guide or regulate my child's eating, she would eat much less than she should.	1	2	3	4	5
11. I have to be sure that my child does not eat too many <i>sweets (candy, ice cream, cake or pastries)</i> .	1	2	3	4	5
12. I have to be sure that my child does not eat too many <i>high fat foods</i> .	1	2	3	4	5
13. I have to be sure that my child does not eat too much of her <i>favourite foods</i> .	1	2	3	4	5
14. I intentionally keep some foods out of my child's reach.	1	2	3	4	5
15. I offer <i>sweets (candy, ice cream, cake, pastries)</i> to my child as a reward for good behaviour.	1	2	3	4	5
16. I offer my child her <i>favourite foods</i> in exchange for good behaviour.	1	2	3	4	5
17. If I did not guide or regulate my child's eating, she would eat too many <i>junk foods</i> .	1	2	3	4	5
18. If I did not guide or regulate my child's eating, she would eat too	1	2	3	4	5

much of her *favourite foods*.

Using the scale below, please indicate how you would classify **your own weight** at **each of these 4 time periods** listed below (Please circle ONLY ONE number for each time period)

	markedly underwei ght	underwei ght	average	overweig ht	markedly overweig ht
19. Your Childhood (5 to 10 years old)	1	2	3	4	5
20. Your Adolescence	1	2	3	4	5
21. Your 20s	1	2	3	4	5
22. Currently	1	2	3	4	5

Using the scale below, please indicate how you would classify **your child's weight** at **each of these 4 time periods** listed below (Please circle ONLY ONE number for each time period)

	markedly underwei ght	underwei ght	average	overweig ht	markedly overweig ht
	1	2	3	4	5
23. Your child during the first year of life.	1	2	3	4	5
24. Your child as a toddler.	1	2	3	4	5
25. Your child as a pre-schooler	1	2	3	4	5
26. Your child kindergarten through 2 nd grade	1	2	3	4	5
27. Your from child 3 rd through 5 th grade	1	2	3	4	5
28. Your child from 6 th through 8 th grade	1	2	3	4	5

Using the scale below, please circle one number for each question which best corresponds to your answer. **Please answer about your child who is in our study.**

	unconcerned	slightly unconcerned	neutral	slightly concerned	concerned
29. How concerned are you about your child <i>eating too much</i> when you are not around her?	1	2	3	4	5
30. How concerned are you about your child having to diet to maintain a desirable weight?	1	2	3	4	5
31. How concerned are you about your child becoming overweight?	1	2	3	4	5

Using the scale below, please circle one number for each question which best corresponds to your answer. **Please answer about your child who is in our study.**

	disagree	slightly disagree	neutral	slightly agree	agree
32. A tasty snack is one of the best ways to reward my child.	1	2	3	4	5
33. I offer <i>sweets (candy, ice cream, cakes, pastries)</i> to my child as a reward for eating other foods that are good for her.	1	2	3	4	5
34. I offer <i>snack foods (chips, cheese puffs)</i> to my child as a reward for eating other foods that are good for her.	1	2	3	4	5
35. I offer <i>high fat foods</i> to my child as a reward for eating other foods that are good for her.	1	2	3	4	5

	disagree	slightly disagree	neutral	slightly agree	agree
36. I offer my child her <i>favourite foods</i> as a reward for eating other foods that are good for her.	1	2	3	4	5
37. I offer <i>snack foods</i> (chips, cheese puffs) to my child as a reward for good behaviour.	1	2	3	4	5
38. I offer <i>high fat foods</i> to my child as a reward for good behaviour.	1	2	3	4	5
39. If my child refuses to eat a new food, I continue to offer it to her on other occasions.	1	2	3	4	5
40. If my child has refused to eat a new food, I typically do not offer it to her on other occasions.	1	2	3	4	5
41. My child's diet consists of only a few foods.	1	2	3	4	5
42. My child often has to be strongly encouraged to eat things that she <u>doesn't</u> like because those foods are often good for her.	1	2	3	4	5
32. My child is unwilling to eat many of the foods that our family eats at mealtimes.	1	2	3	4	5
44. My child is fussy or picky about what she eats.	1	2	3	4	5
45. My child gets distracted at mealtimes.	1	2	3	4	5
46. A snack is a good way to keep my child from fidgeting (in the car, church, Dr.'s office, store, etc.)	1	2	3	4	5
47. A snack is a good way to soothe my child when she is distressed (mad at a friend, hurt, worried, crying).	1	2	3	4	5

	disagree	slightly disagree	neutral	slightly agree	agree
33. Sharing a snack with my child is a good way for us to feel close.	1	2	3	4	5
49. When I can't provide my child with other things that she wants such as toys or special clothes, a special snack usually satisfies her.	1	2	3	4	5
50. My family has special foods that we use to celebrate our child's special achievements (sporting events, recitals, plays, etc.).	1	2	3	4	5
51. My child knows when she is hungry.	1	2	3	4	5
52. When my child says "I'm hungry", I believe her.	1	2	3	4	5
53. When my child says "I'm full", I believe her.	1	2	3	4	5
54. My child knows when she is full.	1	2	3	4	5
55. If my child says "I'm still hungry" after eating most of the food on her plate, I offer her more to eat.	1	2	3	4	5
56. If my child says "I'm hungry" between meals, I let her snack.	1	2	3	4	5
57. If I did not guide or regulate my child's eating, she would eat much more than she should.	1	2	3	4	5
58. If I did not guide or regulate my child's eating, she would eat too many <i>sweets (candy, ice cream)</i> .	1	2	3	4	5
59. If I did not guide or regulate my child's eating, she would eat too many <i>snack foods (chips, cheese puffs)</i> .	1	2	3	4	5
60. If I did not guide or regulate my	1	2	3	4	5

	disagree	slightly disagree	neutral	slightly agree	agree
child's eating, she would eat too many <i>high fat foods</i> .					
61. If I did not guide or regulate my child's eating, she would select healthy foods.	1	2	3	4	5
62. I have to be sure that my child does not eat too much.	1	2	3	4	5
63. I have to be sure that my child does not eat too many <i>snack foods (chips, cheese puffs)</i> .	1	2	3	4	5
64. Generally, my child should only be permitted to eat at set mealtimes.	1	2	3	4	5
65. I have to be especially careful to make sure that my child eats enough healthy foods.	1	2	3	4	5
66. My child decides how much of each food goes on her plate at mealtime.	1	2	3	4	5
67. It is my responsibility to decide how much of each food gets put on my child's plate at mealtimes.	1	2	3	4	5
68. Sometimes life is so stressful or crazy that making sure my kids eat healthy is the least of my worries.	1	2	3	4	5
69. I have bigger problems to worry about than which foods my children are eating.	1	2	3	4	5
70. Because our schedules are too hectic to eat a meal at home, we often eat fast food.	1	2	3	4	5
71. We have so little free time that at meals, I worry more about convenience than whether food	1	2	3	4	5

	disagree	slightly disagree	neutral	slightly agree	agree
are healthy.					
72. When I buy foods for my kids, I have to worry more about cost than if they are good for them.	1	2	3	4	5
73. I worry about being able to buy enough food so that my child doesn’t go hungry.	1	2	3	4	5
74. I worry about being able to buy healthy foods for my kids.	1	2	3	4	5
75. My child often has to “do without” fresh fruits and vegetables so that our family can make ends meet.	1	2	3	4	5

Parents are responsible for many aspects of their children’s life. Depending on each family, some areas are more important than others. For each of the parenting areas listed below, we would like you to do 2 things:

First: Using the following scale, please rate how important each area of parenting is to you.

	1	2	3	4	5			
	Not at all Important		Neutral		Very Important			
76. Your child does well at school?				1	2	3	4	5
77. Your child gets along with other kids?				1	2	3	4	5
78. Your child eats a healthy diet?				1	2	3	4	5
79. Your child is physically active?				1	2	3	4	5
80. Your child has good manners?				1	2	3	4	5

Second: Please rank in order each area of parenting from 1 to 5 with 1 being most important, and 5 being least important. Please assign a different ranking to each area. Do not use a number more than once, and please use each number.

- ___ 81. Your child has good manners?
- ___ 82. Your child does well at school?
- ___ 83. Your child gets along with other kids?
- ___ 84. Your child eats a healthy diet?
- ___ 85. Your child is physically active?

Appendix D

CHILDREN'S REPORT OF PARENTAL BEHAVIOUR INVENTORY (Schaefer, 1965)

On the following pages you will find a series of statements which a person might use to describe himself or herself as a parent. Read each statement and decide which answer most closely describes the way you have acted towards your sixth-grade child. Circle this answer using the following numbers:

Very Much Unlike Me = 1

Unlike Me = 2

Somewhat Like Me = 3

Like Me = 4

Very Much Like Me = 5

Items

	Very Much Unlike	Unlike	Somewhat like	Like	Very Much Like
1. I make our child feel better when he/she talks over his/her worries with me.	1	2	3	4	5
2. I like to talk with our child and be with him/her much of the time.	1	2	3	4	5
3. I am easy with our child.	1	2	3	4	5
4. I seem to see our child's good points more than his/her faults.	1	2	3	4	5
5. I feel hurt when our child doesn't follow advice.	1	2	3	4	5
6. I usually don't find out about our child's misbehaviour.	1	2	3	4	5
7. I worry about how our child will turn out, because I take seriously anything bad he/she does.	1	2	3	4	5

8. I almost always speak to our child with a warm and friendly voice.	1	2	3	4	5
9. I am always thinking of things that will please our child.	1	2	3	4	5
10. I let our child off easy when he/she does something wrong.	1	2	3	4	5
11. I understand our child's problems and worries.	1	2	3	4	5
12. I think our child is not grateful when he/she doesn't obey.	1	2	3	4	5
13. I don't pay much attention to our child's misbehaviour.	1	2	3	4	5
14. If our child breaks a promise, I don't trust him/her again for a long time.	1	2	3	4	5
15. I enjoy talking things over with our child.	1	2	3	4	5
16. I give our child a lot of care and attention.	1	2	3	4	5
17. I can't say no to anything our child wants.	1	2	3	4	5
18. I enjoy going on drives, trips or visits with our child.	1	2	3	4	5
19. I feel hurt by the things our child does.	1	2	3	4	5
20. I don't insist that our child does his/her homework.	1	2	3	4	5
21. I say some day our child will be punished for his/her bad behaviour.	1	2	3	4	5

22. I smile at our child very often.	1	2	3	4	5
23. I often give up something to get something for our child.	1	2	3	4	5
24. I excuse our child's bad conduct.	1	2	3	4	5
25. I am able to make our child feel better when he/she is upset.	1	2	3	4	5
26. I tell our child how much I have suffered for him/her.	1	2	3	4	5
27. I don't check up on our child to see whether he/she has done what I have told him/her.	1	2	3	4	5
28. I think and talk about our child's misbehaviour long after it is over.	1	2	3	4	5
29. I enjoy doing things with our child.	1	2	3	4	5
30. I make our child feel like he/she is the most important person in my life.	1	2	3	4	5
31. I let our child stay up late if he/she keeps asking.	1	2	3	4	5
32. I enjoy working with our child in the house or yard.	1	2	3	4	5
33. I seldom insist that our child do anything.	1	2	3	4	5
34. I say that some day our child will be sorry that he/she wasn't better as a child.	1	2	3	4	5
35. I comfort our child when he/she is afraid.	1	2	3	4	5

36. I enjoy staying at home with our child more than going out with friends.	1	2	3	4	5
37. I do not insist our child obey if he/she complains or protests.	1	2	3	4	5
38. I cheer our child up when he/she is sad.	1	2	3	4	5
39. I tell our child of all the things I have done for him/her.	1	2	3	4	5
40. I do not bother to enforce rules.	1	2	3	4	5
41. I think that any misbehaviour is very serious and will have future consequences.	1	2	3	4	5
42. I often speak of the good things he/she does.	1	2	3	4	5
43. I make my whole life centre about our children.	1	2	3	4	5
44. Our child can talk me out of an order if he/she complains.	1	2	3	4	5
45. I have a good time at home with our child.	1	2	3	4	5
46. I say if our child really cared for me, he/she would not do things that cause me to worry.	1	2	3	4	5
47. I let our child get away without doing work that he/she had been given to do.	1	2	3	4	5
48. I say that sooner or later we always pay for bad behaviour.	1	2	3	4	5
49. I'm proud of the things our child does.	1	2	3	4	5

50. I spend almost all of my free time with our children.	1	2	3	4	5
51. I can be talked into things easily.	1	2	3	4	5

52. I'm not interested in changing our child, but like our child as he/she is.	1	2	3	4	5
53. When our child doesn't do as I want, I say our child is not grateful for all that I have done for him/her.	1	2	3	4	5
54. I let our child get away with a lot of things.	1	2	3	4	5
55. I will talk to our child again and again about anything bad he/she does.	1	2	3	4	5

Appendix E

PARENTING STYLES AND DIMENSIONS QUESTIONNAIRE (PSDQ)

C. C. Robinson, B. Mandleco, S. F. Olsen, & C. H. Hart

Instructions: The following pages contain a list of behaviors that parents may exhibit when interacting with their children. The questions are designed to measure (1) *how often your spouse/partner* exhibits certain behaviors toward your child(ren) and (2) *how often you* exhibit certain behaviors toward your child(ren). Please respond to items independent of your spouse and do not discuss your answers until after questionnaires have been returned to the researchers.

Remember: Make two ratings for each item; (1) rate how often your spouse exhibits this behavior with your child and (2) how often you exhibit this behavior with your child.

Spouse exhibits behavior:

- 1 = Never
- 2 = Once in a while
- 3 = About half of the time
- 4 = Very often
- 5 = Always

I exhibit this behavior:

- 1 = Never
- 2 = Once in a while
- 3 = About half of the time
- 4 = Very often
- 5 = Always

[He] [I]

- ___ ___ 1. [He encourages] [I encourage] our child to talk about the child's troubles.
- ___ ___ 2. [He guides] [I guide] our child by punishment more than by reason.
- ___ ___ 3. [He knows] [I know] the name of our child's friends.
- ___ ___ 4. [He finds] [I find] it difficult to discipline our child.
- ___ ___ 5. [He gives praise] [I give praise] when our child is good.
- ___ ___ 6. [He spansks] [I spank] when our child is disobedient.
- ___ ___ 7. [He jokes and plays] [I joke and play] with our child.
- ___ ___ 8. [He withholds] [I withhold] scolding and/or criticism even when our child acts contrary to our wishes.
- ___ ___ 9. [He shows] [I show] sympathy when our child is hurt or frustrated.
- ___ ___ 10. [He punishes] [I punish] by taking privileges away from our child with little if any explanations.
- ___ ___ 11. [He spoils] [I spoil] our child.
- ___ ___ 12. [He gives] [I give] comfort and understanding when our child is upset.
- ___ ___ 13. [He yells or shouts] [I yell or shout] when our child misbehaves.
- ___ ___ 14. [He is] [I am] easygoing or relaxed with our child.
- ___ ___ 15. [He allows] [I allow] our child to annoy someone else.
- ___ ___ 16. [He tells] [I tell] child our expectations regarding behavior before the child engages in an activity.
- ___ ___ 17. [He scolds and criticizes] [I scold and criticize] to make our child improve.
- ___ ___ 18. [He shows] [I show] patience with child.

- ___ ___ 19. [He grabs] [I grab] our child when being disobedient.
- ___ ___ 20. [He states] [I state] punishments to our child and [does] [do] not actually do them.
- ___ ___ 21. [He is] [I am] responsive to our child's feelings or needs.
- ___ ___ 22. [He allows] [I allow] our child to give input into family rules.
- ___ ___ 23. [He argues] [I argue] with our child.
- ___ ___ 24. [He appears] [I appear] confident about parenting abilities.
- ___ ___ 25. [He gives] [I give] our child reasons why rules should be obeyed.
- ___ ___ 26. [He appears] [I appear] to be more concerned with own feelings than with our child's feelings.
- ___ ___ 27. [He tells] [I tell] our child that we appreciate what the child tries or accomplishes.
- ___ ___ 28. [He punishes] [I punish] by putting our child off somewhere alone with little if any explanations.
- ___ ___ 29. [He helps] [I help] our child to understand the impact of behavior by encouraging our child to talk about the consequences of own actions.
- ___ ___ 30. [He is] [I am] afraid that disciplining our child for misbehavior will cause the child to not like his/her parents.
- ___ ___ 31. [He takes] [I take] our child's desires into account before asking the child to do something.
- ___ ___ 32. [He explodes] [I explode] in anger toward our child.
- ___ ___ 33. [He is] [I am] aware of problems or concerns about our child in school.
- ___ ___ 34. [He threatens] [I threaten] our child with punishment more often than actually giving it.
- ___ ___ 35. [He expresses] [I express] affection by hugging, kissing, and holding our child.
- ___ ___ 36. [He ignores] [I ignore] our child's misbehaviors.
- ___ ___ 37. [He uses] [I use] physical punishment as a way of disciplining our child.
- ___ ___ 38. [He carries] [I carry] out discipline after our child misbehaves.
- ___ ___ 39. [He apologizes] [I apologize] to our child when making a mistake in parenting.
- ___ ___ 40. [He tells] [I tell] our child what to do.
- ___ ___ 41. [He gives] [I give] in to our child when the child causes a commotion about something.
- ___ ___ 42. [He talks it over and reasons] [I talk it over and reason] with our child when the child misbehaves.
- ___ ___ 43. [He slaps] [I slap] our child when the child misbehaves.
- ___ ___ 44. [He disagrees] [I disagree] with our child.
- ___ ___ 45. [He allows] [I allow] our child to interrupt others.
- ___ ___ 46. [He has] [I have] warm and intimate times together with our child.
- ___ ___ 47. When two children are fighting, [he disciplines] [I discipline] children first and ask[s] questions later.
- ___ ___ 48. [He encourages] [I encourage] our child to freely express him/herself even when disagreeing with parents.
- ___ ___ 49. [He bribes] [I bribe] our child with rewards to bring about compliance.
- ___ ___ 50. [He scolds or criticizes] [I scold or criticize] when our child's behavior doesn't meet our expectations.
- ___ ___ 51. [He shows] [I show] respect for our child's opinions by encouraging our child to express them.
- ___ ___ 52. [He sets] [I set] strict, well-established rules for our child.

- ___ ___ 53. [He explains] [I explain] to our child how we feel about the child's good and bad behavior.
- ___ ___ 54. [He uses] [I use] threats as punishment with little or no justification.
- ___ ___ 55. [He takes] [I take] into account our child's preferences in making plans for the family.
- ___ ___ 56. When our child asks why he or she has to conform, [he states] [I state]: because I said so, or I am your parent and I want you to.
- ___ ___ 57. [He appears] [I appear] unsure of how to solve our child's misbehavior.
- ___ ___ 58. [He explains] [I explain] the consequences of the child's behavior.
- ___ ___ 59. [He demands] [I demand] that our child do things.
- ___ ___ 60. [He channels] [I channel] our child's misbehavior into a more acceptable activity.
- ___ ___ 61. [He shoves] [I shove] our child when the child is disobedient.
- ___ ___ 62. [He emphasizes] [I emphasize] the reasons for rules.

Source: Adapted and reproduced with permission of authors and publishers from "Authoritative, Authoritarian, and Permissive Parenting Practices: Development of a New Measure, by C. C. Robinson, B. Mandleco, S. F. Olsen, & C. H. Hart, *Psychological Reports*, Vol. 77, pp. 819-830, © 1995 by Psychological Reports.

Scoring instructions: Following reverse scoring of three items (24, 38, 52), scores for the three primary and 11 secondary subscales are obtained by summing items within each dimension. Authoritative subscales with their factors and constituent items are warmth and involvement (Items 1, 3, 5, 9, 12, 21, 27, 33, 35, 39, 46), reasoning/induction (Items 16, 25, 29, 42, 53, 58, 62), democratic participation (Items 22, 31, 48, 55, 60), and good natured/easygoing (Items 7, 14, 18, 51). Item responses for each factor are summed for factor scores, and all 27 items are summed for an overall authoritative parenting score.

Authoritarian subscales with their factors and respective items are verbal hostility (Items 13, 23, 32, 44), corporal punishment (Items 2, 6, 19, 37, 43, 61), nonreasoning/punitive strategies (Items 10, 26, 28, 47, 54, 56), and directiveness (Items 17, 40, 50, 59). Response values for each factor are added to arrive at factor scores, and all 20 items are added to obtain an overall authoritarian parenting score.

Permissive parenting subscales and their factors and items are lack of follow-through (Items 11, 20, 34, 38, 41, 49), ignoring misbehavior (Items 8, 15, 36, 45), and self-confidence (Items 4, 30, 34, 52, 57). Item responses are added to calculate factor scores, and all 15 items are summed (after reverse scoring Items 24, 38, 52) to arrive at an overall permissive parenting score.

Note: Forms are available for both parents to rate themselves and their partner (mother's form is printed above), and for offspring (intergenerational form) to report how they were parented. An unpublished 50-item version based on recent cross-cultural research is also available from the instrument authors.

Appendix F

Family Eating and Activity Habits Questionnaire - Revised- (FEAQ)

Golan, M. & Weizman, A. (1998.) Reliability and validity of the Family Eating and Activity Habits Questionnaire.

(Please refer your answers to questions 1-4 to yourself, your spouse and your 6-to-12- year child)

1. How many hours per week on average do you average watch television and/or play computer games? classes? **2. How many times per week on do you attend leisure time**

Mother: ___ Father: ___ Child: _____ Mother: ___ Father: ___
 ___ Child: _____

3. How many hours per week on average do you engage in the following activities?

	Mother	Father	Child
Ride bicycles			
Take a walk			
Swim			
Do gymnastics or basketball or football			
Dance			
Play tennis			
Other			

4. When you are alone and not busy, do you get bored? (Place the number of your answer in the appropriate column)

	Mother	Father	Child
0- Never			
1-Almost never			
2-Sometimes			
3- Frequently			
4 -Always			

In modern society, people often skip meals, do with snacks instead of proper meals or eat irregularly or depending on their mood. The following questions are related to the types of foods you and your family eat, and your eating behavior? (Circle the appropriate items).

5. How many of the following snacks are usually found in your home)
home?

Chitos, Pretzels, Potato Chips, Ruffles, Popcorn, Nuts,
Candy, Wafers,
Sunflower seeds, Peanuts, Almonds, Pistachios, Other ____.
drinks, Others: ____

6. How many of the following types of sweets are usually found in your home?

Chocolate and chocolate bars,
Cookies, Gum, Sugary

7. How many types of cakes are usually found in your home? _____

8. How many types of ice-cream and popsicles are usually found in your home? __

9. During the weekend, do you add more of the foods listed in items 5-8?

0 - Don't add

1 - Add a few
place

2 - Add a lot

10. You usually keep the snacks and sweets in your home in

0 - A hiding place

1 - Known but not seen

2 - Reachable place

11. To what degree can your child eat snacks and/or sweets without your permission?

0- Never

1- Almost never

2- Sometimes

3- Frequently

4- Always

12. How frequently does your child buy his/her own sweets?

0- Never

1- Almost never

2- Sometimes

3- Frequently

4 - Always

13. When your child asks to eat, does he/she claim to be hungry?

0- Yes 1- No

mother/father

14. Usually when the child eats:

1- He/she asked for it

2- The food was offered by the

15. If it is meal time and your child is not hungry, how would you respond?

0- You suggest that the child will eat later

Father:

1- You suggest that the child sits at the table with
Not eat

the rest of the family but would not eat
less

16. When it is meal time and you are hungry what would you do?

Mother:

0- Not eat

1- Eat less

0-

0-

1- Eat

- 2- You suggest that the child sits at the table with the same
the rest of the family but would eat less never happens
- 2- Eat the same
- 2- Eat
- 3- You convince the child to eat with the family
- 3- It never happens
- 3- It
- 4- It is an irrelevant question, the child is always hungry

Frequently, we just grab something to eat, or eat under certain conditions or moods. (Please refer your answer to questions 17-20 to yourself, your spouse and your child)

17. How frequently do the following behaviours occur for each family member:

	Never 0	Sometimes 1	Frequently 2	Always 3
<u>Mother</u>				
17. Eat while standing				
18. Eat straight from the pot/ pan/bowl				
19. Eat while watching television, reading, working				
20. Eat when bored				
21. Eat when angry or in other negative mood states				
22. Eat in a disorderly way between meals				
23. Eat late in the evening or at night				
<u>Father</u>				
17. Eat while standing				
18. Eat straight from the pot/ pan/bowl				
19. Eat while watching television, reading, working				
20. Eat when bored				
21. Eat when angry or in other negative mood states				
22. Eat in a disorderly way between meals				
23. Eat late in the evening or at night				
<u>Child</u>				
17. Eat while standing				
18. Eat straight from the pot/ pan/bowl				
19. Eat while watching television, reading, working				
20. Eat when bored				
21. Eat when angry or in other negative mood states				
22. Eat in a disorderly way between meals				
23. Eat late in the evening or at night				

In many houses eating is not limited to the dining room or kitchen.

How often do you eat in the following rooms?

(if you do not have such a room in the house, please mark with -)

<u>Mother</u>	Never 0	Almost never 1	Sometimes 2	Frequently 3	Always 4
24. Living room/ TV room					
25. Bedroom					
26. Study					
<u>Father</u>					
24. Living room/ TV room					
25. Bedroom					
26. Study					
<u>Child</u>					
24. Living room/ TV room					
25. Bedroom					

27. Compared to other people your age, how would you rate your eating rate:

Mother: 1- Slow 2- Average 3- Fast

Father: 1- Slow 2- Average 3- Fast

Child: 1- Slow 2- Average 3- Fast

28. How often do you customarily ask or take a second helping?

Mother: 0- Never 1- Almost never 2- Some times 3- Frequently 4- Always

Father: 0- Never 1- Almost never 2- Some times 3- Frequently 4- Always

Child: 0- Never 1- Almost never 2- Some times 3- Frequently 4- Always

How often do you or your spouse eat with the child?

29. Breakfast : 0- always 1- Frequently 2- Some times 3- Almost never 4- Never

30. Lunch : 0- always 1- Frequently 2- Some times 3- Almost never 4- Never

31. Afternoon snack : 0- always 1- Frequently 2- Some times 3- Almost never 4- Never

32. Dinner : 0- always 1- Frequently 2- Some times 3- Almost never 4- Never

Scoring

	<u>Mother</u>	<u>Father</u>	<u>Child</u>
Questions	Leasure time activities:		
1			
* 2 -			
* 3 -			
4			
Exposure and availability of problematic foods			
5			
6			
7			
8			
9			
10			
11		-	-
12		-	-
Hunger cues			
13		-	-
14		-	-
15		-	-
16			-
Eating in problematic situations			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
Family Rites			
29			
30			
31			
32			
Total	<u>Sum</u>	<u>Sum</u>	<u>Sum</u>

* Negative value