

School of Psychology and Speech Pathology

**Assessing Contemporary Parenting Dimensions: Development and
Psychometric Investigation of the Parenting Behaviours and
Dimensions Questionnaire**

Carly Ae Yeong Reid

**This thesis is presented for the Degree of
Doctor of Philosophy
of
Curtin University**

July 2012

DECLARATION

I, Carly Reid, declare to the best of my knowledge and belief this thesis titled: “Assessing Contemporary Parenting Dimensions: Development and Psychometric Investigation of the Parenting Behaviours and Dimensions Questionnaire” contains no material previously published by any other person except where due acknowledgment has been made. This thesis contains no material which has been accepted for the award of any other degree or diploma in any university.

Signature:

A handwritten signature in black ink, appearing to read 'Carly Reid', with a horizontal line underneath.

Date:

22nd October 2012

ACKNOWLEDGEMENTS

Thank you to my amazing supervisor, Professor Jan Piek, for your endless patience, support, and understanding throughout the whole process. I am so grateful for your guidance and feedback on all aspects of this project, and for your words of encouragement that kept me motivated along the way.

To my equally amazing co-supervisor, Dr Lynne Roberts, thank you for your invaluable guidance, support, and timely feedback, and in particular, for your ability to make molehills out of my statistical mountains.

Thank you to my co-supervisor, Associate Professor Clare Roberts, and to Dr Robert Kane for your helpful advice during the project design and candidacy process. To Dr Melissa Davis, thank you for your thoughtful feedback on my final draft.

A huge thank you goes to all of the parents who participated in my research and encouraged their friends to do the same; the interest and enthusiasm that you showed towards the topic of parenting was truly inspiring. Especial thanks go to those parents who took the time to provide invaluable feedback on the initial item pool, and to the parents and children who participated in the Animal Fun research.

Daniela and Felicity, thank you for your support, perspective, and understanding, and for keeping me company day and night over this long journey. Also, thank you Dr Natalie Gasson for all of your support over the course of my studies, both personally and professionally, and thank you so much for reading my final draft. To Greer, Matt, Max, and all of my other colleagues, thank you for sharing the highs and lows of PhD life with me, I am grateful to you all.

To my friends and family, who are too numerous to list, thank you for believing in me and for your infinite love and support. Especial thanks go to Chloe, Craig, Marky, and Raoul for listening to my woes, making me laugh, feeding me, and reminding me that there is life outside of PhD. To Shane, thank you for your amazing love, support, and understanding, and for looking after me and keeping me relatively sane during the final stages of writing.

Finally, I would like to dedicate this thesis to my beautiful Mum and Nan, and in loving memory of my Dad and Pop, who have showed me what good parenting is every day of my life for which I will be forever grateful.

ABSTRACT

While a substantial amount of research has been conducted on parenting and its effects on child development, there is a significant lack of agreement over the key dimensions of parenting and the assessment of parenting behaviour. Most parenting dimensions that have been examined in previous studies can be subsumed under the themes of parenting warmth, behavioural control, and psychological control; however, there are many other dimensions discussed in the literature that may be important to the practices of contemporary parents. In addition, the assessment of parenting has been problematic due to theoretical disagreement, concerns over generalisability, and problems with the developmental methods and psychometric properties of current measures of parenting. Therefore, the aims of this research were to develop a comprehensive and psychometrically sound self-report measure of parenting for use with parents of preadolescent children, and to use this empirical scale development process to identify the core dimensions of contemporary parenting practices. The final aim of the study was to use the newly developed Parenting Behaviours and Dimensions Questionnaire (PBDQ) to address some of the questions in the literature relating to the generalisability and universality of parenting theory and assessment across various parenting subgroups. The research employed a mixed-method design, combining previous literature and assessment items with qualitative parent feedback and quantitative scale development, validation, and practical utility assessment procedures.

In Phase One of this research, the initial item pool ($N = 288$) was generated, which were based on items from six widely used parenting measures, as well as a list of items generated by the researcher on parental responsiveness, intrusiveness, and overprotection, based on previous literature. After items were reviewed for redundancies ($N = 210$), a sample of 16 parents of children aged 3 to 12 years provided written feedback on the item pool, and a further sample of 15 parents participated in one of three focus groups discussing the items as well as important parenting themes that were not covered in the item pool. Verbatim item feedback from both phases as well as content analysis of the focus group transcripts resulted in the elimination of 115 items, while 29 items were reworded and 21 items were

added, yielding a total of 116 items in the final item pool assessing a range of parenting behaviours.

In Phase Two, a community sample of 846 parents of children aged 3-12 years completed an online survey of the items in the final item pool. Exploratory factor analysis conducted on a randomly selected sample of 580 of these parents yielded a six factor solution, including dimensions of Emotional Warmth, Punitive Discipline, Responsiveness, Discipline Inconsistency, Democratic Discipline, and Anxious Intrusiveness. A confirmatory factor analysis conducted on the remaining 266 parents supported a higher order five factor solution, with the Anxious Intrusiveness factor excluded from the model. The final Parenting Behaviours and Dimensions Questionnaire included 27 items, and Cronbach's alphas were found to be acceptable to excellent.

A community sample of 105 parents completed an online test-retest study in Phase Three, and results supported the relative stability of the PBDQ over a two and four week period. This sample was combined with a further sample of 58 parents recruited for the Animal Fun Project at Curtin University (Piek et al., 2010). Validity analyses comparing the PBDQ to the Strengths and Difficulties Questionnaire (Goodman, 1997) subscale scores and the Social Skills Rating System (Gresham & Elliot, 1990) subscale scores were generally in the expected direction. In general, better childhood outcomes were associated with lower levels of parental punitive discipline, discipline inconsistency, and anxious intrusiveness, and higher levels of parent emotional warmth, responsiveness, and democratic discipline.

Phase Four utilised the data from Phase Two to assess the utility and generalisability of the PBDQ, and results suggested that there was very little variability in PBDQ scores across parent gender, child gender, and individualistic versus collectivist cultural groups, with some differences in PBDQ variability between primary and non-primary caregivers. In addition, the factorial validity for the PBDQ across parents of male and female children was confirmed, and there were no significant differences in PBDQ scores across parent gender x caregiver status, or child gender. Finally, significant variance in PBDQ scores was accounted for by important demographic variables in the regression analyses, but effect sizes were small. Taken

together, these results provide support for the utility of the PBDQ and the underlying factor structure, and the universality of the dimensions assessed across a range of demographic variables.

The overall findings of this project provide support for the psychometric properties, universality, and practical utility of the PBDQ, which was developed to address the theoretical, methodological, and psychometric limitations of previous measures. The five dimensions which are described in the PBDQ appear to combine a number of different parenting concepts that have been identified in the literature, providing some clarity to the definition of key parenting dimensions. This measure will allow for the comprehensive and consistent assessment of parenting, and the development of alternative assessment systems based on these core dimensions to assist in future research and clinical practice.

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LIST OF ABBREVIATIONS

ADHD	Attention Deficit Hyperactivity Disorder
APQ	Alabama Parenting Questionnaire
CBCL	Child Behavior Checklist
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
C-NAP	Cross-National Adolescence Project
CRPBI	Child Report of Parent Behavior Inventory
CRPR	Child Rearing Practices Report
EFA	Exploratory Factor Analysis
LM	Lagrange Multiplier test
<i>M</i>	Mean
MLM	Maximum Likelihood Method
MMPI-2	Minnesota Multiphasic Personality Inventory - Second Edition
NNFI	Non-Normed Fit Index
PAF	Principal Axis Factoring
PAQ	Parenting Authority Questionnaire
PAQ-R	Parenting Authority Questionnaire- Revised
PARQ	Parental Acceptance-Rejection Questionnaire
PASW	Predictive Analytics Software
PBDQ	Parenting Behaviours and Dimensions Questionnaire
PCDS	Psychological Control – Disrespect Scale
PCIT	Parent-Child Interactive Therapy
PCRQ	Parent-Child Relationship Questionnaire
PCRI	Parent Child Relationship Inventory
PCS	Psychological Control Scale-Observer Rating
PS	Parenting Scale

PSDQ	Parenting Styles and Dimensions Questionnaire
RMSEA	Root Mean Square Error of Approximation
<i>SD</i>	Standard Deviation
SDQ	Strengths and Difficulties Questionnaire
SDT	Self Determination Theory
SES	Socioeconomic Status
SSRS-P	Social Skills Rating System- Parent Version
WPI	Weinberger Parenting Inventory

CHAPTER 1

INTRODUCTION

It has long been recognised in the field of psychology that child development is affected by multiple interacting contextual factors at individual, familial, and societal levels (Bronfenbrenner, 1979). One factor within this context that has been consistently identified as a significant predictor of child outcomes is parenting. There is a large body of research suggesting that parenting impacts on a range of domains in childhood, including academic, psychological, behavioural, and social (Brotman et al., 2005; Domitrovich & Bierman, 2001; N. E. Hill & Taylor, 2004; Roksa & Potter, 2011; Stormshak, Bierman, McMahon, Lengua, & the Conduct Problems Prevention Research Group, 2000). In particular, various parenting dimensions, including psychological control, lack of parental warmth and responsiveness, and ineffective behavioural management, have been found to be strongly associated with internalising, externalising, and social problems in children in cross-sectional and longitudinal studies (Barber & Harmon, 2002; Crouter & Head, 2002; Cunningham & Boyle, 2002; Gadeyne, Ghesquiere, & Onghena, 2004; Gray & Steinberg, 1999; Keown & Woodward, 2002; Ladd & Pettit, 2002; Zhou et al., 2002).

Although parents generally show high levels of love and concern for their children, there is significant variation in the specific behaviours employed by individual parents toward each of their children (Karraker & Coleman, 2005). Parents subscribe to a variety of lay theories about parenting and child development which impact on their parenting practices (Furnham & Weir, 1996; Holden, 2010). These theories have been influenced by factors such as evolution, history, biology, ethology, family dynamics and organisation, support systems, socioeconomic status, culture, social and political institutions, and children themselves over time (Bornstein, 2006). However, contemporary parents and children are increasingly exposed to advertising, media, and new technologies, and parents may seek child rearing advice or information from a number of available sources, including websites, online forums, chat rooms, magazines, and television shows which offer a wide range of contradictory opinions about parenting. As a result, there is increasing ambiguity surrounding the practices that define “good” parenting, the acceptability of corporal punishment and other traditional disciplinary strategies, and expected

behavioural and developmental standards for children (Long & Hoghughi, 2004; Holden, 2010).

In addition, there are several specific social trends that have occurred in recent decades that have had a significant influence on contemporary parenting practices. Since the 1970s, the number of women in the workforce has increased without a corresponding decrease in the number of men working, laws about smacking children have changed in several countries, general material prosperity has increased, divorce rates have increased, and there have been significant changes in the structure and composition of the average family (Richardson & Prior, 2005).

Despite working full time, many women still tend to take on the greater share of responsibility for parenting and housekeeping, and are therefore constantly faced with the competing demands of work and home within an increasingly competitive economic environment (Hoghughi, 2004; Long & Hoghughi, 2004). Long and Hoghughi (2004) explained that the stress of competing demands may be worse in single parent families, as these parents are more likely to face financial strain due to a single income and may also suffer from a lack of emotional and practical support in parenting and other household issues. This stress may have a negative impact on the parent's ability to be flexible and responsive in their approach to child rearing, as these require time and psychological availability (Grolnick, 2003).

In addition, it appears that contemporary parents are spending more time working to provide material necessities for their children and less time interacting with children and addressing their emotional needs as compared to parents of previous generations (Long & Hoghughi, 2004). Rosen (2007) explained that the Baby Boomer generation had little money and few material possessions during their upbringing and as parents, they have indulged their own children with toys and other material goods to keep them occupied, perhaps due to guilt for not spending enough time with them, an excess of disposable income, or wanting their children to have more than they did when they were growing up.

Although children appear to be better off in many ways than children were 30 years ago, a number of adjustment and psychological problems, such as childhood depression and anxiety, are increasing in prevalence with the age of onset decreasing (Cassano & Fava, 2002). In addition, externalising disorders are among the most frequently occurring problems in Australian children (Sawyer et al., 2001), and Loeber, Burke, Lahey, Winters, and Zera (2000) reported that externalising

symptoms are the primary reason for referral to child and adolescent mental health services. Child internalising and externalising disorders are considerably disabling, and place a significant burden on individuals, families, and society as a whole with regards to both direct and indirect costs (Cassano & Fava, 2002; Dretzke et al., 2009). As parenting has been found to have a significant impact on the developmental trajectory of both internalising and externalising problems (Hoeve et al., 2008; Maccoby, 2000), it appears that there is a pressing need for the comprehensive and accurate definition and measurement of key parenting behaviours that both contribute to and protect against childhood maladjustment outcomes.

While a substantial amount of theoretical and empirical research over the past six decades has focused on the concept of parenting, there is a lack of agreement over the key elements and assessment of this construct, as well as significant variation in the terminology used to describe parenting. Parenting styles and dimensions are most commonly referred to in the literature, although some researchers have also employed the term ‘parenting practices’ to describe specific, goal-directed strategies that are employed in specific contexts or situations (Darling & Steinberg, 1993; Holden & Miller, 1999; Pomerantz & Eaton, 2001). However, other researchers have instead used the term ‘practices’ to generally refer to the practice or method of parenting (e.g., Assor & Roth, 2005; Grusec & Goodnow, 1994; Sanders, 2008; Sturge-Apple, Gondoli, Bonds, & Salem, 2003), and this latter definition is used in the current research alongside discussion of parenting styles and dimensions.

A large proportion of the parenting literature has been based on Baumrind’s (1966, 1967, 1971) parenting styles. However, much of this research uses a simplified two factor typology of emotional warmth and behavioural control to distinguish four parenting styles. This simplified typology does not take into account the complexity of Baumrind’s original descriptions, including elements such as democracy and autonomy granting. It has also been argued that important information may be lost in combining parenting dimensions into styles, and disaggregating these typologies will allow the individual key elements of parenting to be operationally defined and assessed (Barber, 1996; E. Skinner, Johnson, & Snyder, 2005).

Furthermore, there has been an increasing focus on the dimension of psychological control in research on adolescent outcomes, a factor not traditionally

associated with Baumrind's typology, and there is some evidence that it may be important to examine this dimension in the parenting of preadolescent children as well (Aunola & Nurmi, 2004, 2005; Caron, Weiss, Harris, & Catron, 2006; Kuppens, Grietens, Onghena, & Michiels, 2009; McLeod, Wood, & Weisz, 2007; McLeod, Weisz, & Wood, 2007). The small number of studies that have included the dimension of psychological control in the parenting of preadolescent children has indicated that it has specific and unique effects on a number of important childhood outcomes, including internalising and externalising symptoms (Aunola & Nurmi, 2005; Kuppens et al., 2009). However, it is unclear what parenting behaviours should be included under the umbrella of psychological control, and whether this construct should be conceptualised and measured as the opposite of autonomy support (Barber, Bean, & Erikson, 2002; Soenens, Vansteenkiste, & Sierens, 2009; Stolz, Barber, & Olsen, 2005).

The assessment of parenting has also been problematic, which is partially due to this lack of theoretical agreement among researchers and clinicians regarding which features of parenting are most important to assess, and partly due to methodological issues. Researchers have failed to agree upon which parenting assessment methodology is most appropriate and accurate, with differing strengths and limitations noted for observational, interview, and questionnaire methods. Poor agreement has often been found between parent self-report, child concurrent report, child retrospective report, and observational measures of parenting (Bögels & van Melick, 2004; Gaylord, Kitzmann, & Coleman, 2003; Tein, Roosa, & Michaels, 1994). Additionally, there are concerns relating to generalisability of assessments across parent gender, culture, and socioeconomic status, and both within and between children in the same family over the development trajectory (Furman & Lanthier, 2002; Holden & Miller, 1999; Kendler, Sham, & MacLean, 1997; L. M. Locke & Prinz, 2002; Stolz et al., 2005). Finally, problems have been identified in relation to the developmental methods and psychometric properties of current measures of parenting, which may compromise their ability to reliably and validly assess contemporary parenting dimensions (Collett, Gimpel, Greenson, & Gunderson, 2001; Dadds, Maujean, & Fraser, 2003; Reitman, Rhode, Hupp, & Altobello, 2002; Rhoades & O'Leary, 2007). It is clear from the literature that a comprehensive but economical, psychometrically sound, and high utility parenting

measure is needed in order to advance research into the optimisation of parenting practices and childhood adjustment outcomes.

1.1 Aim and Scope of Study

Parenting is a complex, multidimensional process that has been oversimplified in previous attempts to conceptualise and measure it. Therefore, the current research project aimed to develop an inclusive assessment of parenting through which the key elements of parenting could be identified and operationally defined, and the specific effects on childhood outcomes could be investigated. The comprehensive identification of important parenting elements will allow for clear comparison of parenting dimensions across parent, child, family, and cultural groups, and greater cohesion between the various theoretical conceptualisations of parenting. It will also provide an indication of the important parenting behaviours to assess in the development of future observational and interview assessment measures.

This research was based on a wide range of theoretical parenting conceptualisations, self-report assessments, and qualitative and quantitative input from a sample of parents. A mixed-method approach was employed in order to combine the expertise of parenting researchers with the endorsement of contemporary parents in selecting important and relevant items for inclusion in the final Parenting Behaviours and Dimensions Questionnaire (PBDQ). Following the development of the measure, preliminary investigation of the psychometric properties and utility of the PBDQ was conducted.

The research is presented in nine chapters. Chapter 2 consists of an overview of parenting theory, including a brief historical account of parenting theories and major parenting theorists. This chapter also highlights the definitional ambiguity associated with the major parenting dimensions that have been identified in previous research, as well as a discussion of individual parenting dimensions that do not appear to be comprehensively included in most current parenting conceptualisations and research. Chapter 3 examines the assessment of parenting, including the strengths and limitations of the three major assessment methods, concerns regarding the generalisability of parenting measures across parent, child, family, and cultural groups, and the limitations of the existing parenting self-report measures.

The rationale for this project is provided in Chapter 4. This chapter, combined with Chapters 2 and 3, aimed to clarify the need for a new, psychometrically sound, and comprehensive assessment of parenting that addresses

the theoretical and practical limitations associated with previous studies. A brief summary of the key arguments presented in Chapters 2 and 3 is provided, followed by an explanation of the problems associated with focusing on parenting styles and the subsequent decision to assess parenting dimensions. This chapter also includes a rationale for the assessment of the specific parenting dimensions of psychological control and autonomy support in preadolescent children. The aims and methodological considerations of the project are then described, followed by an outline of the phases of the research.

Chapters 5 to 8 present the four phases of the research. Chapter 5 includes the development and qualitative validation of the initial item pool for the PBDQ, including the collation of individual feedback and focus group data from a sample of contemporary parents. Chapter 6 reports on the findings of the exploratory and confirmatory factor analyses conducted on the initial item pool, the resulting questionnaire, and the key dimensions of parenting that were identified. In Chapter 7, the psychometric properties of the PBDQ are assessed, including test-retest reliability, internal consistency, and construct validity. The final phase of the research is presented in Chapter 8, which examines the results of a series of analyses assessing the research and practical utility of the measure, including the reliability and validity of the PBDQ across various parenting subgroups differing by key demographic variables, as well as demographic predictors of PBDQ subscale scores.

Finally, Chapter 9 includes an overall discussion of the findings of the research, and the strengths and limitations of the PBDQ measure and the chosen research methodology. The theoretical and clinical implications of the findings for parenting theory, practice, and research are also discussed, as well as overall conclusions and recommendations for future research.

CHAPTER 2

PARENTING THEORY- HISTORY AND CURRENT ISSUES

Parenting is a demanding and complex process involving the responsive provision of varied amounts of care, affection, stimulation, support, and control according to the needs of the child (Puckering, Rogers, Mills, Cox, & Mattsson-Graff, 1994). One of the biggest challenges facing parents is to achieve a balance between raising children with the knowledge and behaviours necessary to function effectively within their community, while also fostering the development and expression of the child's individuality (Joussemet, Landry, & Koestner, 2008; Mulvaney, McCartney, Bub, & Marshall, 2006). In doing this, parents must also strike a balance between empathising with and considering the child's emotional states, goals, desires, and ways of thinking, and also working toward long term goals that are in the child's best interests, but may not be appreciated by the child at the time (Maccoby, 1992).

Baumrind, Larzelere, and Owens (2010) highlighted the important role that parents play in their child's socialisation, suggesting that maintaining order within the family is perhaps less important than facilitating the child's development of self-determination, self-regulation, emotional health, and social competence. According to Maccoby (1992), these skills allow children to develop into competent adults who develop and maintain meaningful relationships, engage in prosocial behaviour and avoid deviant behaviour, and eventually become competent parents of their own children (Maccoby, 1992).

2.1 The Effects of Parenting on Childhood Outcomes

Research on the effects of parenting has focused on childhood psychological outcomes, problem behaviours, and social competence (Maccoby, 2000). According to Aunola and Nurmi (2005), the psychological outcomes and problem behaviours of interest in parenting research are generally categorised as either internalising or externalising problems. Internalising problems include depression, anxiety, withdrawal, inhibition, and fearfulness, while externalising problems include behaviours associated with anger, aggression, and frustration, also referred to as conduct problems (Eisenberg et al., 2001).

Childhood internalising and externalising disorders are debilitating problems that interrupt normal socioemotional functioning and developmental processes

(McLeod, Weisz et al., 2007). In addition, disorders that onset in childhood may continue on into adolescence and adulthood, increasing the child's risk for further problems such as drug use, delinquency, and criminality in the case of externalising problems (Broidy et al., 2003; Hinshaw, 2008; Ramey et al., 2000; Tremblay, Mass, Pagani, & Vitaro, 1996), and depression, anxiety, suicide, and other mental health problems following childhood internalising problems (Hinshaw, 2008; Reinherz, Giaconia, Hauf, Wasserman, & Paradis, 2000). Such consequences are frequently highlighted in the literature; however there is evidence that even subclinical internalising and externalising symptoms are related to significant functional impairment, and increase the risk for developing later disorders (Bongers, Koot, van der Ende, & Verhulst, 2004; Gillham, Shatte, & Freres, 2000; Kessler, Avenevoli, & Merikangas, 2001).

Several models have suggested that parenting plays a significant causal role in the onset and maintenance of childhood depression and anxiety, particularly the dimensions of parental rejection and psychological control (Barber, 1996; K. J. Conger, Conger, & Scaramella, 1997; Garber & Martin, 2002; Gerlsma, Emmelkamp, & Arrindel, 1990; Kaslow, Deering, & Racusin, 1994; McLeod, Weisz et al., 2007; Rapee, 1997). Parental rejection, which involves disapproval and lack of parental warmth and responsiveness (K. E. Clark & Ladd, 2000; Maccoby, 1992), is thought to promote a sense of helplessness in the child, and may facilitate the development of negative self-schemas that predispose depressive symptoms (Garber & Flynn, 2001; McLeod, Weisz et al., 2007). Gottman, Katz, and Hooven (1997) suggested that parental rejection may also increase a child's anxiety sensitivity, and undermine the development of important emotional regulation skills that could be used to manage these internalising symptoms. The exercise of intrusive, restrictive psychological control is thought to promote the development of a sense of helplessness through preventing the child from developing a sense of mastery and agency (Chorpita & Barlow, 1998; Garber & Flynn, 2001; McLeod, Wood et al., 2007; Rapee, 2001; Wood, 2006). As a result, children may not have confidence in their ability to cope and regulate their emotions on their own, which increases their sense of vulnerability to threat and their level of anxiety (Chorpita & Barlow, 1998; Wood, 2006).

Childhood externalising problems, such as physical aggression, are also frequently linked to parenting practices in the theoretical and empirical literature.

Like internalising problems, these too are associated with a number of concurrent and ongoing problems such as academic problems (Masten et al., 2005; Reinke, Herman, Petras, & Ialongo, 2008), social rejection (Bierman, 2004; Coie & Kupersmidt, 1983), internalising symptoms (Coie, Lochman, Terry, & Hyman, 1992), and drug use (Chilcoat & Breslau, 1999; Lynskey & Fergusson, 1995). Joussemet et al. (2008) found that power assertive, controlling parenting practices were associated with chronically high levels of physical aggression in children, which may be because these practices provoke reactions of anger and resentment in the child, and parents who use these techniques provide a model of aggressive behaviour (Becker, 1964; Bender et al., 2007). Several studies have also found that the dimension of parental responsiveness, which includes parental approval, affection, synchrony, sensitivity, and scaffolding, has a strong negative relationship with hyperactive, inattentive behaviour and conduct problems, as responsiveness fosters behavioural and emotional regulation skills that may protect against externalising symptoms (E. A. Carlson, Jacobvitz, & Sroufe, 1995; Johnston, Murray, Hinshaw, Pelham, & Hoza, 2002; Rothbaum & Weisz, 1994; Winsler, 1998). Other key parenting dimensions that have been associated with externalising behaviours include restrictiveness (Rothbaum & Weisz, 1994), neglect (Baumrind, 1991), overreactive, coercive, inconsistent, lax, or permissive discipline (Patterson, Reid, & Dishion, 1992; Prinzie et al., 2003), as well as physical punishment (Deater-Deckard, Dodge, Bates, & Pettit, 1996).

Baumrind et al. (2010) and Maccoby (1992) both suggested that the promotion of children's social competence is a major goal of parenting. According to Elliott, Malecki, and Demaray (2001), prosocial behaviour involves sharing, cooperating with others, initiating social interaction, and responding appropriately during conflict. By displaying socially competent behaviour, children can develop successful relationships with their peers and adults, which allow them to further develop and practise their social skills and gain valuable social feedback (Papalia, Olds, Feldman, & Kruk, 2004). A number of studies have shown that prosocial behaviour is associated with higher academic performance, better mental health, and greater social competence in adulthood (Campbell, Lamb, & Hwang, 2000; Freya, Nolena, Edstrom, & Hirschstein, 2005; Malecki & Elliott, 2002; Welsh, Parke, Widaman, & O'Neil, 2001). In contrast, children who have difficulty controlling their antisocial behaviour and negative emotionality are more likely to be rejected by their

peers, and experience loneliness and low-self esteem (Coie, 1990). This limits their opportunity for improving their social skills, and increases their risk for adjustment difficulties in both childhood and later life (Coie, 1990; Papalia et al., 2004).

Studies have demonstrated that higher levels of social competence are associated with higher levels of parent monitoring (Crouter & Head, 2002; Ladd & Pettit, 2002), warmth (Zhou et al., 2002), and responsiveness (Mallinckrodt, 2000), and lower levels of restrictive authoritarian control (Chen, Dong, & Zhou, 1997; McDowell & Parke, 2000). In addition, it appears that parenting may indirectly influence child social competence through the promotion of self-regulation, referring to the ability to monitor and modulate cognition, attention, emotion, and behaviour according to social expectations and in the absence of external monitors (Kopp, 1982).

Children with effective self-regulatory skills are more able to adapt their responses, apply problem solving strategies with flexibility, integrate information, plan their reactions, and perform competently in emotionally provocative situations, which are all important skills in producing socially competent behaviour (Fabes et al., 1999; Welsh & Pennington, 1988). Indeed, studies suggest that high levels of self-regulation are associated with socially appropriate behaviour in children (Eisenberg, Fabes, Guthrie, & Reiser, 2000), while poor self-regulation is associated with a number of adverse outcomes, including poor social competence (Kochanska, Murray, & Harlan, 2000), as well as internalising and externalising problems (Lengua, 2003). A meta-analysis conducted by Houck and Lecuyer-Maus (2004) reported that positive parental control strategies, such as directiveness, encouragement, and instructional behaviour (Crockenberg & Litman, 1990; Kochanska & Aksan, 1995; Putnam, Spritz, & Stifter, 2002), were linked to greater self-regulatory competence, while negative control strategies, such as power-assertion, harshness, criticism, intrusiveness, negativity, and overinvolvement (Crockenberg & Litman, 1990; Kochanska & Aksan, 1995), were associated with lower self-regulatory behaviours.

Based on this research, it appears that warm, accepting, responsive parenting combined with firm and democratic control is associated with positive childhood outcomes, while parental rejection, inconsistency, restrictiveness, and the use of psychologically controlling strategies are linked with internalising, externalising, and social difficulties (Houck & Lecuyer-Maus, 2004; Maccoby, 1992; McLeod, Weisz

et al., 2007; McLeod, Wood et al., 2007; Patterson et al., 1992). Taken together, the results of these studies emphasise the important role that parenting plays in child psychological, behavioural, and social adjustment outcomes.

2.1.1 Directionality

Although parenting has been linked to a number of childhood outcomes, there is also evidence to suggest that child characteristics may have an influence on parenting behaviours. For example, the child's developmental level, temperament, previous disciplinary experiences, and mood may all impact on their reactions to parental disciplinary practices, and parents may respond to their child's reactions by changing the disciplinary practices they employ towards that child (Grusec & Goodnow, 1994). Indeed, Barber, Stolz, Olsen, Collins, and Burchinal (2005) found that earlier child depression predicted higher levels of parental psychological control the following year, while child social initiative predicted later levels of parent behavioural control and support. Furthermore, child antisocial behaviour was found to predict lower levels of parental behavioural control and support, and higher levels of psychological control one year later (Barber et al., 2005). This latter finding is consistent with the findings of several other researchers (Combs-Ronto, Olson, Lunkenheimer, & Sameroff, 2009; G. S. Pettit, Laird, Dodge, Bates, & Criss, 2001; Scaramella, Conger, Spoth, & Simons, 2002; Verhoeven, Junger, van Aken, Deković, & van Aken, 2010), suggesting that the assumption of a purely unidirectional relationship between parenting and child outcomes is unjustified.

Indeed, according to Maccoby (1983, 1992), the focus of parenting research has shifted over time from individuals to the parent-child dyad, including shared understandings, mutual recognition of the other's intentions, goals, expectations, and emotional states, and the development of dynamic interactions, reciprocity, and connected streams of behaviour. Sameroff and Chandler (1975) proposed the transactional model of child development, which emphasises the role of continuous dynamic interactions of the child and their social and family context in influencing developmental outcomes. Several researchers have discussed such bidirectional and transactional cycles of parent-child behaviour, including Patterson's (1980, 1982) coercive cycle of child externalising behaviour, as well as the proposed reciprocal relationship between parental rejection and childhood depression (Dishion, Duncan, Eddy, Fagot, & Fetrow, 1994; Kaslow et al., 1994; McLeod, Weisz et al., 2007). These cycles propose that the parent and child dynamically respond to and reinforce

the other's behaviour, which results in escalation on both sides and ongoing perpetuation of unhelpful behaviours (Patterson, 1980, 1982; Scaramella & Leve, 2004; Sameroff & MacKenzie, 2003). Such theories highlight the importance of examining reciprocal and transactional influences on parenting and child outcomes.

However, although Hoffman (1975) acknowledged that parents and children are likely to influence each other's behaviour over time, he stated that it is important to recognise that parents are still in a position of power over the child. Parents have a significant influence on the child's environment and experiences, and people who the child is exposed to. They also determine the child's access to resources, and can even use their physical strength to restrict children's actions, for example preventing a child from running away (Maccoby, 1992).

Supporting this, G. S. Pettit, Bates, and Dodge (1997) and Kochanska (1997) conducted longitudinal studies and both found significant, albeit small to moderate, predictive relationships between parenting behaviours at baseline and childhood outcomes assessed one to seven years later. In addition, children from a study conducted by Sears, Maccoby, and Levin (1957) were followed up for 36 years, and researchers found that children of parents who demonstrated high levels of warmth and affection when the child was five years old had higher self-esteem at 12 years of age (Sears, 1970), as well as higher levels of cooperation at 23 years of age (Edwards, 1973), and the ability to sustain warm, lasting relationships, raise children, and be psychologically healthy at 41 years of age (Franz, McClelland, & Weinberger, 1991; Franz, McClelland, Weinberger, & Peterson, 1994), which reflects Maccoby's (1992) concept of a successful adult. In addition, a greater sense of personal agency at age 31 years was associated with high levels of parental autonomy support when the child was five years old, while a higher need for achievement at age 31 years was associated with parents who had high expectations of impulse control with their child at five years of age (D. C. McClelland & Pilon, 1983). Thus, although the importance of examining reciprocal influence between parent and child behaviour is acknowledged, these results suggest that the unidirectional relationship between parenting and childhood outcomes remains an important and informative area of research.

Parents are developmentally more competent and knowledgeable than their children, and therefore they are more likely to behave in a way that reflects long term expectations and goals for the child (Hoffman, 1975). Because of this, they may also

be more amenable to interventions for child behavioural problems as they can be made to understand how their behaviour is linked to their child's, and they have the power to alter both their own responses and the environments in which the behaviours occur. In fact, further evidence for the importance of the effects of parenting on childhood outcomes, rather than the reverse, comes from research demonstrating the effectiveness of parenting interventions on child behaviour problems (Cowan & Cowan, 2002). Several researchers, including Patterson (1980, 1982) and Webster-Stratton and colleagues (Webster-Stratton, 1984, 1988, 1998,; Webster-Stratton & Hammond, 1997; Webster-Stratton, Reid, & Hammond, 2004), have found that teaching firm, consistent and rule-oriented control to parents has resulted in lowered noncompliance and aggression, and an increase in prosocial behaviour in their children. In addition, more comprehensive programs, such as Triple P (Sanders, Cann, & Markie-Dadds, 2003) and Parent-Child Interactive Therapy (PCIT; Hembree-Kigin & McNeil, 1995), have also shown promising results with externalising problems as well as improvement in parent-child relations (Thomas & Zimmer-Gembeck, 2007). This suggests that parenting behaviours and environmental changes have an important influence on childhood outcomes.

Collins, Maccoby, Steinberg, Hetherington, and Bornstein (2000) concluded that behavioural genetics, correlational, epidemiological, and experimental studies all demonstrate that parenting behaviours have a significant effect on child development outcomes. Although it is important to take the ecological context and reciprocal influences into account when examining the relationships between parenting and child outcomes, it appears that the focus on parenting as a predictor is justified.

2.1.2 Relative Contribution of Parenting as a Predictor

Another issue related to the study of parenting as a predictor is the significance of its unique contribution to childhood outcomes. Studies examining these relationships typically find that a large proportion of variance in childhood outcomes remains to be explained once parenting has been accounted for, and effect sizes of these relationships are generally small to moderate (Bates, Pettit, Dodge, & Ridge, 1998; Morris et al., 2002). Meta-analytic studies have suggested that parenting may account for only 4% of the variance in child anxiety, 8% of the variance in child depression (McLeod, Weisz et al., 2007), and less than 6% of the variance in child externalising problems (McLeod, Wood et al., 2007; Rothbaum & Weisz, 1994). In their review, Maccoby and Martin (1983) found weak correlations

between parenting practices and child characteristics, and critics have suggested that the impact of parenting on child outcomes has been exaggerated in traditional parenting studies.

Scarr (1992) argued that individual differences in child characteristics and development are determined by genes, with the family environment only reflecting the genetically determined characteristics of the children and parents. According to this perspective, the average, non-abusive family home does not have a significant impact on developmental outcomes (Scarr, 1992), although it is unclear what the bounds of an “average family” and “normal child development” are (Baumrind, 1993). In support of Scarr’s argument, twin studies suggest that genetics may account for 30-80% of the variance in trait anxiety in children (Rice, Harold, & Thapar, 2002; Boomsma, Van Beijsterveldt, & Hudziak, 2005), as well as 36-60% of the variance in childhood depression (Boomsma, et al., 2005; Middeldorp, Cath, Van Dyck, & Boomsma, 2005). However, it is important to note that studies that have investigated complex relationships suggest that stressful life events, including negative parenting practices, may interact with a specific genotype to promote the likelihood of a depressive episode, highlighting the importance of considering both of these sources of variance in childhood outcomes (Caspi et al., 2003; McLeod, Weisz et al., 2007; Wilhelm et al., 2006).

Baumrind (1993) disagreed with Scarr’s (1992) argument, suggesting that environments are not equally facilitative of specific developmental outcomes, and the definition of normal development is not consistent across cultures. In fact, there is a large body of theoretical and empirical literature to support the relationship between particular parenting behaviours and specific childhood outcomes. For example, cognitive psychologists have demonstrated that children’s cognitive development is enhanced by responsive parental scaffolding techniques (McGillicuddy-DeLisi, DeLisi, Flaughner, & Sigel, 1987), while inductive reasoning and other-oriented discipline practices are associated with the development of empathy and self-attribution in children’s moral internalisation (Hoffman, 1983). In addition, authoritative, autonomy supportive parents support their child’s sense of competence and autonomy by providing just enough assistance to allow the child to be effective in achieving their desired outcomes, rather than expecting too much or too little of their child’s performance according to the child’s developmental stage and individual ability (Baumrind, 1993; Steinberg, Elmen, & Mounts, 1989).

Further support for the importance of parent socialisation practices comes from cultural comparisons. While individualistic cultures are more likely to value independence and self-reliance and promote these through autonomy supportive practices, collectivist cultures are more likely to encourage family loyalty, sense of mutual obligation, and communal interdependence (Baumrind, 1993; McNeely & Barber, 2010; Oyserman, Coon, & Kemmelmeier, 2002). For example, Chao (1994, 2001) argued that the training and teaching practices used by Chinese parents are often represented as punitive or controlling from a Western perspective; however, these practices serve supportive and regulative functions within the Chinese culture. This suggests that the promotion of appropriate child independence or interdependence is achieved through culturally guided parenting practices, reflecting differences in the definition of the average family and expectations of childhood development. It appears that, while genetics may play a significant role in important childhood outcomes, there is significant evidence for the importance of parenting practices in promoting optimal child developmental outcomes.

Maccoby (2000) pointed out that correlation coefficients below .30 between parenting and child outcomes may appear small, but effect sizes of this magnitude may be practically and clinically significant in identifying children at risk for poor psychosocial outcomes. It is also possible that underestimation of the strength of these relationships has occurred in the past as a result of methodological limitations, such as dichotomisation of continuous parenting variables, over-reliance on child report, and unreliable parenting measures, as well as the focus on broad parenting styles rather than specific dimensions (DeCoster, Iselin, & Gallucci, 2009; MacCallum, Zhang, Preacher, & Rucker, 2002; McLeod, Weisz et al., 2007; McLeod, Wood et al., 2007; Peters & Van Voorhis, 1940). Indeed, Grolnick (2003) stated that the ability to draw conclusions about the effects of specific parenting behaviours on child outcomes has been limited due to disparity in the definitions and methodologies employed by each researcher. However, improvements in assessment have led to greater effect sizes being detected in the relationship between parenting and child outcomes (R. D. Conger & Elder, 1994; Maccoby, 2000; Reiss et al. 1995).

The problems with parenting assessment at a methodological level are also reflective of the lack of consensus at a theoretical level. Although several theories of parenting have been proposed across the history of parenting research, no single,

comprehensive, definitive theory of parenting has yet emerged (T. G. O'Connor, 2002).

2.2 Historical Conceptualisations of Parenting

Symonds (1939) conducted a review of earlier parenting theories and proposed that the key dimensions were acceptance versus rejection, and dominance versus submission. Subsequently, further models were proposed by Roe (1957), Peck (1958), Schutz (1960), and Slater (1962), which employed different terminology but discussed similar concepts, with dominance typically referred to as parental control.

Baldwin and colleagues (Baldwin, 1946; Baldwin, Kalhorn, & Breese, 1945) identified three main clusters of parent variables, including acceptance, as identified by Symonds (1939), as well as two additional dimensions of indulgence and democracy. Indulgence referred to protectiveness, solicitousness, and intensity of interaction, while democracy was defined as the degree to which open verbal communication between the parent and child was used to establish mutually satisfying policies as well as justify disciplinary actions and negotiate parenting decisions (Baldwin, 1946, 1949; Baldwin, Kalhorn, & Breese, 1945).

Schaefer's (1959, 1965) research is credited with introducing the concept of psychological control, which has been the focus of much research on adolescent outcomes in recent years. The results of his studies suggested that maternal behaviour could be organised along the dimensions of love versus hostility, and autonomy versus psychological control. The love dimension was likened to Symonds' (1939) acceptance versus rejection, and included ratings of affection, emotional involvement, and positive evaluation of the child at one end, and hostility, ignoring, punitiveness, strictness, and perception of the child as a burden at the other end (Schaefer, 1959, 1965). Psychological control included maternal anxiety, intrusiveness, achievement demand, fostering dependency, excessive contact, and other covert and overprotective behaviours, which was contrasted with autonomy supportive parenting behaviour (Schaefer, 1959, 1965).

Becker (1964) identified three parenting dimensions, which he termed warmth versus hostility, restrictiveness versus permissiveness, and anxious involvement versus calm detachment. The first two appear to reflect dimensions of acceptance and control as discussed by earlier researchers (Baldwin, 1948; Schaefer, 1959, 1965; Symonds, 1939), while anxious involvement versus calm detachment appeared to be similar to psychological control (Schaefer, 1959, 1965) as well as

Baldwin et al.'s (1945) description of indulgent parenting. However, Becker (1964) also made an important differentiation between overprotective parents, who scored highly on dimensions of warmth, restrictiveness, and anxious involvement, and indulgent or permissive parents, who were also high on warmth and anxious involvement, but low on restrictiveness. According to Thomasgard and Metz (1993), examining parental anxiety in relation to controlling and indulgent behaviours significantly contributed to a conceptual model of parental overprotection, which may be considered a form of psychologically controlling behaviour.

Although there are significant variations in the terminology used, it appears that many of these earlier researchers agreed on some broad parenting variables such as warmth and acceptance, behavioural control, democracy, and psychological control. Two key socialisation theorists who combined and expanded these earlier concepts and studied them in detail are still widely cited in a number of studies today, namely Martin Hoffman (1963, 1970, 1982, 1994) and Diana Baumrind (1966, 1967, 1971, 1991). Although Hoffman and Baumrind described similar parenting constructs, their organisation of these constructs, developmental foci, and their subsequent research presented some important conceptual differences.

2.3 Hoffman's Research

Hoffman (1963, 1970, 1982, 1994) primarily focused on parenting dimensions associated with moral development, including power assertion, inductive or other-oriented discipline, and love withdrawal. Hoffman (1963) suggested that the combination of parental affection, which promotes identification with the parent, and the use of disciplinary practices that appeal to the child's personal and social motives, promote optimal internalised moral orientation in children. On the other hand, power assertion and love withdrawal were hypothesised to undermine this developmental process.

Power assertive practices include physical punishment, force, coercion, withdrawal of privileges, and threats (Hoffman, 1963, 1970, 1980). This dimension appears to be similar to Symonds's (1939) and Schaefer's (1959, 1965) discussion of parental hostility and rejection. Results of a study by Hoffman (1970) demonstrated that children of parents who used power assertive practices were less likely to express guilt and engage in reparation after misbehaviour. Power assertive practices are further suggested to evoke a strong negative emotional response in the child, resulting in anger, hostility, and defiant behaviour (Deater-Deckard & Dodge, 1997;

Hoffman, 1970, 1982). Such practices may also impinge on the child's need for autonomy, as they do not consider the child's perspective, and highlight the parental advantages of power and control over resources (Hoffman & Saltzstein, 1967). The child is thus likely to make external attributions for their behaviour, and therefore behavioural regulation may not persist in the absence of parental monitoring and exercise of power (Grusec, 1983, 2009; Lepper, 1983).

However, Hoffman (1983) suggested that the combination of a limited amount of power assertion with parental reasoning may be effective in promoting positive socialisation outcomes in children, as mild power assertion may be required for the child to attend to the parent's message. Based on her review of 12 parenting studies, Baumrind (1966) also concluded that mild, just punishment may provide a positive model of assertion, restore harmony between parent and child after the emotional release, and deter siblings through modelling unfavourable consequences. However, in contrast to Hoffman, Baumrind (1966) also lists the reduction of guilt reactions to deviations as a positive consequence of mild punishment, whereas Hoffman believed that guilt was necessary for optimal moral internalisation.

Hoffman (1970, 1975, 1994) suggested that the development of optimal internalised moral orientation is facilitated by parents who use inductive reasoning and other-oriented discipline. Inductive reasoning involves explanation of the reasons behind the parent's actions, which helps the child understand and take on the parent's cognitive processes and values (Hoffman, 1970). Other-oriented discipline refers to highlighting the effects of the child's actions on others, including themselves, which promotes a habitual empathic guilt reaction in the child after they commit a moral transgression (Hoffman, 1970, 1975). This is thought to facilitate the general development of empathy through expanding the child's schemas for identifying the psychological experience of others (Applegate, Burke, Burleson, Delia, & Kline, 1985). According to Hoffman (1994), the child actively processes this other-oriented information during each encounter, and over time, will integrate the moral disciplinary messages and experiences these as their own.

Hoffman and Saltzstein (1967) distinguished between the use of other-oriented discipline and love withdrawal, in that other-oriented discipline may communicate parental hurt, upset, or disappointment as a result of the child's actions, while love withdrawal communicates parental rejection and anger, involving such behaviours as turning away from the child, refusing to speak to them, communicating

dislike, and socially isolation of the child. Hoffman (1963) suggested that both of these strategies elicit internal forces toward compliance as they take advantage of the child's need for affection and self-esteem, as well as their consideration for others. However, unlike other-oriented discipline, love withdrawal and power assertion emphasise the consequences of the child's behaviour to the child and not to others, and are therefore unlikely to promote empathy and an internalised moral orientation (Hoffman & Saltzstein, 1967). Although withdrawal of love may be less effective in promoting internalisation than the use of reasoning, it is likely to be more effective than power assertion as it does not elicit opposition and hostility (Grusec & Goodnow, 1994; Hoffman, 1963, 1970, 1982; Hoffman & Saltzstein, 1967). However, it is important to note that love withdrawal has not been consistently related to moral development in empirical studies, and significant relationships have been found in both directions (Hoffman, 1970).

Grusec and Goodnow (1994) suggested that shaming and parental expressions of anger and disapproval appear to demonstrate power assertion rather than love withdrawal, although the conceptual distinction between hostile power assertion, love withdrawal, and rejection is unclear. Indeed, Hoffman's (1963, 1970, 1982, 1994) concepts of hostility, coercion, love withdrawal, and guilt induction are all commonly included under the umbrella of psychologically controlling practices, which are associated with a host of negative outcomes in children (Aunola & Nurmi, 2004; Barber & Harmon, 2002; Barber, Olsen, & Shagle, 1994; Baumrind et al., 2010; Gresham & Elliott, 1990; Hart, Nelson, Robinson, Olsen, & McNeilly-Choque, 1998; Hauser, 1991; Joussemet et al., 2008; Nelson & Crick, 2002). Hoffman and Saltzstein (1967) suggested that communication of disappointment is a positive parenting strategy, as it does not depreciate the child, and indicates that the parent believes the child to have the potential to meet their expectations. In addition, the child's empathic guilt reaction that accompanies other-oriented discipline is suggested to persist in the absence of parental monitoring while the accompanying moral reasoning is internalised by the child as their own (Hoffman, 1963, 1970, 1982, 1994). An alternative explanation is that parental communications of disappointment and attempts to elicit guilt may result in introjected, rather than internalised, self-regulation. Such behaviour appears to be self-regulated, but reflects internal pressure rather than true volitional functioning, and this has been associated with heightened anxiety and poor self-worth (Assor & Roth, 2005; Assor, Roth, &

Deci, 2004; Harter, 1993; Roth, Assor, Niemiec, Ryan, & Deci, 2009). Thus, guilt induction may in fact be psychologically controlling, and have a negative impact on areas of child functioning outside of moral development.

Hoffman's (1963, 1970, 1982, 1994) concepts of power assertion, inductive discipline, and love withdrawal appear to include many of the important parenting concepts discussed by earlier theorists, including acceptance versus rejection, psychological control, reasoning and democracy. He demonstrated that these practices have different effects on children's moral orientation; however, he also recognised that a combination of mild power assertion and reasoning may affect moral development differently to either dimension on its own. This highlights the importance of examining the effects of various combinations of dimensions, rather than examining each of them in isolation or combining them into broad parenting styles. Hoffman's work also provides support for the importance of examining moderate levels of parenting dimensions rather than the extremes, as these may reflect competent but not necessarily optimal parenting practices.

However, Hoffman's (1963, 1970, 1982, 1994) concepts of love withdrawal and power assertion may overlap, and all three concepts in his theory appear to include parenting behaviours related to psychological control. This suggests that further disaggregation of these concepts may be helpful in examining the effects of specific parenting behaviours on children's moral development. Hoffman's theory also appears to be theoretically rather than empirically derived, thus it is possible that the use of empirical procedures could provide some conceptual and organisational clarity to these important parenting concepts. In addition, because of the focus on moral development, it is possible that other parenting dimensions, such as behavioural control, may be important to include in broadening the focus of the effects of parenting outside the area of children's moral development.

2.4 Baumrind's Research

Baumrind's (1966, 1967, 1971; Baumrind & Black, 1967) conceptualisation of parenting styles marked a significant progression in the study of parenting, and was unique in the comprehensiveness of the methods used and the combination of parenting dimensions into broader parenting styles. In contrast to Hoffman (1963, 1970, 1982, 1994), Baumrind focused primarily on parental control, which she proposed was central in distinguishing parenting styles corresponding to specific identified child behaviour patterns. This conceptualisation of control included

attempts to modify the child's behaviour, maturity demands made by the parent, and willingness to address their child's misbehaviour (Baumrind, 1966, 1971, 1978).

2.4.1 Theoretical Parenting Styles

In her original paper on parenting styles, Baumrind (1966) cited Lewin, Lippitt, and White's (1939) leadership styles of authoritarianism, democracy, and laissez faire. She then proposed three similar hypothetical parent control prototypes, which she named authoritative, authoritarian, and permissive. Baumrind's descriptions of these prototypes varied very little throughout her studies, even after empirical testing.

Baumrind (1966) explained that authoritative parents use rational, issue-oriented strategies to direct their children. They encourage democracy, use reasoning and explanation, and value autonomy as well as conformity with discipline. Consistent with this, they employ firm but not restrictive control strategies and have clear expectations for future conduct. Authoritative parents were also hypothesised to recognise their child's individual needs and interests, and encourage the child to express themselves, but they do not make decisions based solely on group consensus or child desire (Baumrind, 1996).

Authoritarian parents were described by Baumrind (1966) as valuing obedience, conformity, work, and structure. They impose an absolute standard of conduct, and use punitive, forceful, autonomy restrictive strategies to discourage behaviours and beliefs that are not consistent with this standard. Authoritarian parents were said to assign household responsibilities, and discourage democracy and explanation (Baumrind, 1966). Baumrind (1978) added that authoritarian parents may be protective and concerned, or they may be neglectful.

Permissive parents were described as having few expectations of their child in terms of behaviour and responsibility, and were instead thought to be accepting and indulgent of their child's impulses, behaviours, and desires (Baumrind, 1966). They use non-punitive, and democratic practices, but some also use manipulation to achieve their goals. In Baumrind's (1971) study, permissive parents were observed to comply with their child's wishes up to a point, but would punish the child once their patience was worn out. It appeared that these parents were angry at not having control, but were reluctant to use it. Permissive parents do not see themselves as responsible for shaping the behaviours of their child, and instead encourage the child to regulate their own behaviour and use the parent as a resource when needed

(Baumrind, 1966, 1968). Baumrind (1971) explained that, like authoritarian parents, permissive parents may be very protective and also very loving, or they may be self-involved and deliberately avoid taking responsibility for their child.

2.4.2 Empirical Support for Proposed Styles

To provide empirical support for these hypothesised parenting styles, Baumrind (1967) observed 110 preschool children for three to five months at school and in the laboratory. Thirty two children, which comprised only 29.1% of the sample, were identified as showing one of three distinct behaviour patterns and were subsequently chosen to participate in the study. These behaviour patterns included:

1. Children who were assertive, self-controlled, self-reliant, and affiliative
2. Children who were withdrawn, distrustful, and unhappy
3. Children who withdrew from new experiences, and were low in self-control and self-reliance

Parenting practices were assessed in these groups through structured observation, interviews, and home visits. Baumrind found that the first pattern of child behaviour was associated with high levels of parental control, demandingness, communicativeness, and warmth, corresponding to the hypothesised authoritative construct, while the second child behaviour pattern was associated with detached and controlling parenting behaviour, which is consistent with the hypothesised authoritarian parenting style. The third pattern of child behaviour was associated with high parental warmth and low levels of parental control and demandingness, providing support for the hypothesised permissive parenting style (Baumrind, 1967).

Baumrind and Black (1967) recruited a further non-selective sample of 95 children in order to determine whether these relationships could be observed in a sample who were not selected because of specific behaviour patterns. There were some interesting variations in the results, as relationship significance between parenting practices and child outcomes generally depended on the gender of the parent and the child. For example, paternal punitive discipline was associated with negative outcomes of unlikeable behaviour in boys and independent, defiant, and domineering behaviour in girls; however, maternal punitiveness was associated with positive outcomes of friendly, outgoing, sociable behaviour in girls (Baumrind & Black, 1967). Parental consistent discipline and maturity demands, which are features of authoritative parenting, were associated with positive outcomes of child autonomy, imaginativeness, and confidence behaviour in boys; however they were

also associated with the negative outcome of higher levels of male rebellious behaviour (Baumrind & Black, 1967). This finding is interesting, as authoritative parenting has been consistently linked with optimal child outcomes, including those related to compliance and internalisation of parent values; however, it is possible that specific components of authoritative parenting may have differential effects on childhood outcomes, or alternatively, authoritative parenting may not be optimal for all childhood developmental outcomes. Interestingly, assertive and independent behaviour in girls was negatively associated with parental acceptance, which is also generally considered a positive parenting behaviour (Rohner, 1986, 1999).

Baumrind and Black (1967) concluded that parental punitive discipline, which is generally supposed to be harmful to children (Kandel & Wu, 1995), as well as firm discipline, and demands for socialisation and maturity, are associated with various competence outcomes in young children, as these practices are intellectually stimulating and elicit a mild tension response in the child which motivates prosocial and compliant behaviour. This finding suggests that specific parenting dimensions, such as punitive discipline which was hypothesised to be part of authoritarian parenting, may interact with other specific dimensions to influence childhood outcomes. It is therefore unclear why these parenting dimensions were combined into styles in Baumrind's (1971, 1978, 1982) research, as this may result in the loss of valuable information about specific parenting behaviours and childhood outcomes.

Baumrind (1971) observed yet another sample of 134 children in a study aiming to replicate the previous findings and further distinguish patterns of parental authority. Parenting patterns were defined by mother and father cluster scores on parenting scales rather than using scores from child behaviour measures. Parenting scales were constructed to assess one of 15 specific predetermined constructs which were hypothesised to cover the domain of relevant parenting practices.

The first two clusters for mothers and fathers, named Firm Enforcement and Encourages Independence and Individuality, accounted for approximately 65% of the variance in parenting practices and were found to be relatively orthogonal (Baumrind, 1971). Firm Enforcement included constructs of firm versus lax enforcement, and obedience as a salient positive value. In mothers, Encourages Independence and Individuality included constructs of encourages independence, encourages verbal exchange and use of reason, and promotes individuality versus social acceptability, while in fathers it included encourages verbal exchange and use

of reason, flexibility and clarity of parent's views, and confidence in self as a parent (Baumrind, 1971).

Cluster three was named Passive Acceptant, which reflected the degree of willingness to express anger or displeasure, and appeared to describe behaviours associated with permissive parenting. Cluster four was called Rejecting, and included punitive behaviour, such as that included in authoritarian parenting. Baumrind (1971) suggested that, taken together, these two clusters appear to be consistent with Schaefer's (1959, 1965) acceptance versus rejection dimension (Baumrind, 1971). Baumrind found that these clusters accounted for a relatively small amount of variance, which she attributed to the homogeneity of the sample in that parents showed a high degree of warmth towards their children. Interestingly, Authoritarianism, reflecting discouragement of independence and promotion of respect for authority, emerged as the sixth cluster for fathers only and accounted for a very small proportion of variance. This is surprising, given that authoritarian parenting style is one of the three core styles in Baumrind's (1966, 1967, 1971) conceptualisation; however, it is possible that the relative unimportance of this dimension in the study reflects the high degree of warmth found in this sample.

Baumrind's (1971) results suggested that parenting can be best characterised by clusters of Firm Enforcement, Encourages Independence and Individuality, and to a lesser extent, Acceptance versus Rejection. Baumrind then grouped these clusters into groups deemed to be of interest, as the pattern and magnitude of the behaviours were relatively consistent with the previously hypothesised theoretical patterns of authoritarian, authoritative, and permissive parenting. However, in this study, eight clusters were identified rather than just the three theoretical patterns described in previous studies due to significant differences between patterns in the broader parenting prototypes, difficulty finding parents who met the criteria for permissive parenting, as well as the identification of parenting patterns that were not in the original conceptualisation. The eight parenting patterns identified included Rejecting-Neglecting, Authoritarian-Rejecting-Neglecting, Authoritarian Non-Rejecting, Nonconforming, Permissive (Not Nonconforming), Nonconforming Permissive, Authoritative (Not Nonconforming), and Authoritative Nonconforming parents (Baumrind, 1971).

According to Baumrind (1971), there were consistent differences between children exposed to the two types of authoritarian parenting. In addition, relationship

significance between parenting practices and child outcomes often depended on the gender of child, which is consistent with the findings of Baumrind and Black (1967). For example, sons, but not daughters, of Rejecting-Neglecting parents tended to be less dominant than children of Authoritarian Non-Rejecting parents (Baumrind, 1971). Boys from Authoritative Not Nonconforming families were friendlier, more cooperative, less dominant, and higher in achievement orientation compared to boys from other families, while girls were also high in achievement orientation but they were more dominant than other girls (Baumrind, 1971). Boys with Authoritative Nonconforming parents were high in achievement orientation compared to other boys, while boys and girls from Authoritative Nonconforming families were highly independent, but were dominant and hostile, and many were resistive with adults (Baumrind, 1971). This suggests that the distinction between Authoritative Not Nonconforming and Authoritative Nonconforming is important, and that it may not be the ideal parenting style for all outcomes.

A new parenting pattern of Harmonious Parenting was also identified, which was not cited as part of Baumrind's (1971) conceptualisation, and was only mentioned in the discussion section of this paper. Some of these families met criteria for the Nonconforming pattern, while others did not meet criteria for any of the eight patterns. Harmonious parents provided an enriched environment for their children, and valued independence, harmony in the home, honesty, justice, and rationality rather than control. Eight families were identified as Harmonious, comprising almost 6% of the sample, and Baumrind suggested that future exploration into this concept would be useful; however this does not appear to have eventuated.

Baumrind (1971) was able to assign 76.7% of the families to one of the eight patterns, which did not include harmonious parents, while the remainder were reported to have scores which resembled one of the patterns but did not meet the thresholds. This exclusion of almost one quarter of the sample on the basis that they could not be assigned to one of the eight patterns highlights the importance of assessing the range of possible scores in a dimension, rather than categorising, in order to avoid the loss of information. Although the original 15 parenting constructs were hypothesised to cover the domain of relevant parenting practices, it is also possible that there were other important parenting practices that were not taken into account as it was unclear how these 15 constructs were chosen. Some families had unique score patterns; for example, one parent scored highly on positive practices of

Encourages Independence and Individuality as well as scoring highly on less optimal practices of Authoritarianism and Rejection, which suggests that these concepts need to be examined in more detail.

Baumrind (1971) made propositions based on the results of this and her previous studies that referred to specific parenting dimensions or the interaction between subsets of these dimensions, which further supports the examination of disaggregated parenting patterns. She proposed that social responsibility in children is facilitated by parental modeling and reinforcement of socially responsible behaviour; however, parental models are more effective when they are also involved, nonrejecting, and democratic, and use reasoning techniques (Baumrind, 1971). Baumrind also proposed that child independence is facilitated by environmental enrichment, and encouragement of individuality and self-expression, along with demands for compliance, moderate power-oriented disciplinary techniques, and firm but not restrictive control. Finally, passive-acceptant, overprotecting practices, as well as the use of reinforcement without reasoning, were proposed to undermine the development of independence in children (Baumrind, 1971).

2.4.3 Combined Parenting Patterns

Interestingly, Baumrind (1971) presented a further combination of parenting patterns in her discussion section, and described the effects of these patterns on child outcomes. The Rejecting and Non-Rejecting Authoritarian patterns were combined into an overall authoritarian pattern, while Authoritative (Not Nonconforming) and Authoritative Nonconforming formed an overall authoritative pattern. Nonconforming Permissive and Permissive (Not Nonconforming) made up the permissiveness pattern, and finally Nonconforming and Nonconforming-Permissive patterns were combined as Nonconforming parenting (Baumrind, 1971). It is unclear why these were combined, especially given Baumrind's analyses showing important differences in the parenting patterns on at least one variable, as well as some significant differences in child behaviour between patterns that were grouped in the same combined pattern. Nevertheless, the first three of these combined patterns are frequently cited and widely studied in the parenting literature.

Authoritative parenting is generally associated with optimal child adjustment in all areas, including independence and social responsibility (Baumrind, 1971). These children were observed to be explorative, achievement oriented, self-reliant, socially outgoing, and high in self-control (Baumrind, 1966, 1967, 1971, 1978;

Baumrind & Black, 1967). Further research has supported the benefits of authoritative parenting, demonstrating that this parenting style is associated with greater maturity, self-regulation (Baumrind, 1991), self-esteem (Klein, O'Bryant, & Hopkins, 1996), and fewer behavioural and mental health problems in childhood and adolescence than for children raised in other parenting environments (Barnes & Farrell, 1992; Steinberg, 1990, Lamborn, Mounts, Steinberg, & Dornbusch, 1991). Longitudinal research has also found that the positive effects of authoritative parenting are consistent over time (Steinberg, Lamborn, Darling, Mounts, & Dornbusch, 1994; Steinberg, Lamborn, Dornbusch, & Darling, 1992).

Authoritarian parenting is associated with children who are withdrawn and unhappy, with low achievement motivation, low independence, and moderate social responsibility (Baumrind, 1971, 1982). Children raised by authoritarian parents have also been found to have low social competence (Pearson & Rao, 2003), cognitive competence (Baumrind, 1982), and self-esteem (Coie & Dodge, 1998; Coopersmith, 1967; Schwartz, Dodge, Pettit, & Bates, 1997). However, 8 and 9 year old girls of authoritarian parents were also found to be socially assertive (Baumrind, 1982).

Despite the emphasis on encouraging independence, children exposed to permissive parenting display notably limited autonomy and self-reliance, and low achievement orientation (Baumrind, 1971; Baumrind & Black, 1967). These children were also observed to be the lowest on self-control, and had low cognitive and social competence, and low levels of social responsibility (Baumrind, 1971, 1982). Adolescents raised in this environment had higher incidence of drug and alcohol use and school misconduct than those brought up in other parenting environments, as well as greater somatic distress (Lamborn et al., 1991).

A fourth dimension called uninvolved or disengaged parenting was later added to Baumrind's (1966, 1967, 1971) typology, which described parents who were neglectful and parent-focused (Maccoby & Martin, 1983; R. Landry et al., 2008). This type of parenting has been associated with poor attachment in infancy, as well as impulsivity, aggression, low self-esteem, poor social skills, and low academic achievement in childhood and adolescence (Baumrind, 1991; Hetherington et al., 1992).

2.4.4 Additional Parenting Styles

Baumrind (1991) later revised her theory and proposed the addition of parenting styles that were thought to be particularly relevant to adolescents.

However, many of these additional styles appear to be distinguished by the level of parental psychological control, and there is a growing body of evidence to suggest that this type of parenting has a significant effect on preadolescent, as well as adolescent, outcomes (Aunola & Nurmi, 2004, 2005; Barber et al., 1994; Caron et al., 2006).

Baumrind (1991) used the sample of children that she had assessed on two previous occasions who were now approximately 15 years old. Four scales were used to distinguish between the revised parenting styles, including directive/conventional control, assertive control, supportive control, and intrusiveness (Baumrind, 1991). Parent scores were classed as high or low if they were more than half a standard deviation from the mean, while scores were deemed moderate if were less than half a standard deviation from the mean (Baumrind, 1991). This is the first of Baumrind's studies that did not employ a median split to categorise parents, and therefore recognised the importance of considering a range of parenting scores.

Authoritative parenting was defined the same as in previous studies, while directive parents were restrictive, demanding, low in responsiveness, and encouraged conformity. Baumrind (1991) further divided this group into authoritarian-directive parents, who were autocratic, moderately committed, and highly intrusive, and non-authoritarian directive parents who were low in intrusiveness, not autocratic, and highly committed. Permissive parenting was divided into democratic parents, who were highly committed, emotionally involved, moderately demanding, and not restrictive, and non-directive parents who were moderately committed to their children, non confrontational, very non-restrictive, and relatively high in responsiveness (Baumrind, 1991). The dimension of commitment to the parenting role is discussed in several other studies (Greenberger & Goldberg, 1989; Pulkkinen, 1982), and Maccoby (1992) even suggested that the degree of commitment may be more important than the specific style employed. A "good enough" group was also distinguished by Baumrind, characterised by moderate levels of demandingness and supportiveness, as it was suggested that moderate commitment may promote adequate competence and prevent problem behaviours. Finally, an unengaged group reflected disinterest and disengagement from the responsibilities of parenting, which was similar to the disengaged style proposed by Maccoby and Martin (1983).

Baumrind (1991) found that these revised parenting styles, reflecting different levels of restrictiveness, intrusiveness, and commitment, predicted

differential adolescent outcomes. Importantly, many of these outcomes, such as self-regulation, problem behaviour, achievement motivation, and social and cognitive competence, are also important in childhood (Joussemet et al., 2008; Kopp, 1982; Maccoby, 2000; Masten et al., 2005; McLeod, Weisz et al., 2007; McLeod, Wood et al., 2007; Reinke et al., 2008). The added dimensions largely appear to relate to the dimension of psychological control, and more recent studies suggest that these parenting practices may be important in predicting outcomes prior to the onset of adolescence (Aunola & Nurmi, 2004, 2005; Barber et al., 1994; Caron et al., 2006). Indeed, Baumrind (1966) cautioned against the use of manipulative, guilt inducing disciplinary techniques and love withdrawal in parenting preadolescent children; however, she did not specifically assess psychological control dimensions until her study on adolescents (Baumrind, 1991), and the applicability of this conceptualisation to preadolescent children has not been directly assessed.

2.4.5 Limitations of Baumrind's Theory

Baumrind's (1966, 1967, 1971) four parenting styles of authoritarian, authoritative, permissive, and disengaged are most often cited and measured in the literature on the parenting of preadolescent children. Although this typology is valuable in predicting a number of childhood outcomes, there may be other potentially important styles and dimensions of parenting that exist outside of this framework that are not taken into account. This includes the additional parenting styles identified by Baumrind (1991) in her work on adolescents, the Harmonious parenting style which does not appear to have been included or explored in later conceptualisations (Baumrind, 1971), and a number of additional parenting dimensions that have been investigated in the literature in relation to childhood outcomes.

C. C. Lewis (1981) also presented a critique of Baumrind's (1966, 1967, 1971) studies based on attribution theory, which suggests that while strong external control may encourage compliance, it is likely to have a negative effect on internalisation of social expectations in the absence of supervision. Instead, C. C. Lewis suggested that the strongest parenting predictors of competent children are respecting the child's decision, use of reasoning, encouraging verbal give and take, and satisfying the child, rather than parental control. In this reinterpretation, authoritative parenting is associated with positive outcomes because parents are responsive to the child, and adjust their demands and rules through bidirectional

communication. This appears to reflect dimensions of democracy, as discussed by Baldwin (1948), as well as the provision of parental autonomy support or responsiveness (Ainsworth, Bell, & Stayton, 1971; Barber et al., 2002; Becker, 1964; Maccoby & Martin, 1983; Stolz et al., 2005). Baumrind (1983) agreed with C. C. Lewis that functionally redundant control under certain conditions may undermine internalisation; however she argued that whether control is used in a way that facilitates autonomy or undermines it distinguishes authoritative from authoritarian parenting. According to Baumrind et al. (2010), authoritative parents use minimally sufficient power to promote compliance and pair it with inductive reasoning and warmth, while authoritarian parents use demeaning, coercive and punitive behaviours, which are functionally superfluous, to control their children.

Nevertheless, Darling and Steinberg (1993) suggested that C. C. Lewis' (1981) interpretation highlighted two important points: that research on the processes through which parenting affects childhood outcomes is speculative rather than empirically derived, and that the use of typologies makes it difficult to determine which aspects of parenting affect specific outcomes. They explained that although we know that authoritative parenting is associated with optimal child outcomes, we still do not really know exactly how or why. Although specific dimensions were included in the revisions of the typology (Baumrind, 1971, 1991), the use of aggregated parenting styles does not allow researchers to determine which particular aspects of parenting affect specific outcomes (Barber, 1996).

Baumrind's (1966, 1967, 1971) typological approach represented a significant deviation from the tradition of identifying dimensions through factor analysis and circumplex modelling (Darling & Steinberg, 1993). The typological approach proposes that parenting is best considered as a gestalt, and therefore the complex properties and interaction between the different aspects of parenting cannot be identified by examining the component practices in isolation (Magnusson, 2001; Mandara, 2003). Indeed, Baumrind (1991) suggested that making use of naturally occurring patterns of interaction amongst parenting variables, rather than examining linear relations, results in more meaningful information about the effects of parenting on childhood outcomes. According to Mize and Pettit (1997), these parenting patterns or styles comprise a set of typical behaviours and characteristics that represent parents' interaction with their children across a variety of situations.

However, parents may report practices from more than one typology, they may use different strategies in different circumstances, and they may also use different strategies with different children, which makes it difficult to organise parents into distinct, mutually exclusive style categories (Gamble, Ramakumar, & Diaz, 2007; Grusec & Goodnow, 1994). In addition, Pomerantz and Grolnick (2009) explain that typological combinations of parenting behaviours cannot provide information about which specific parenting dimensions are important, and what the exact nature of their role is in predicting child outcomes. Thus, it appears that it is necessary to disaggregate these parenting typologies into their component dimensions in order to recapture this valuable information (Barber, 1996; Barber et al., 2005). According to E. Skinner et al. (2005), once the disaggregated core parenting dimensions are identified and operationally defined, they can be examined independently or combined into clearly defined parenting styles according to the needs of the researcher, allowing comparison of parenting research across studies, and more consistent and comprehensive parenting assessment.

T. G. O'Connor (2002) explained that the most empirically robust parenting theories focus on particular dimensions of parenting, and the specified child outcomes related to these dimensions. According to E. Skinner et al. (2005), three main dimensions can be identified in parenting research over the past 50 years; however, they acknowledged that it is likely that they only reflect a small subset of parenting features that are important in predicting child outcomes. The three themes include parental warmth, which reflects affection, love, support, and acceptance; the provision of structure or behavioural control, involving clear and consistent expectations and limits, discipline, and degree of monitoring of children's behaviour; and psychological control, which reflects acting in ways that intrude upon a child's autonomy or intrinsic motivation, such as using coercion to control behaviour (T. G. O'Connor, 2002; E. Skinner et al., 2005). The unique and combined contributions of warmth, behavioural control, and psychological control in childhood outcomes have not been examined in most previous studies. This may be due to aggregation of dimensions, as well the failure to assess psychological control as separate from warmth and behavioural control, which appears to be a particular concern in studies focusing on preadolescent children (Stolz et al., 2005).

2.5 Specific Parenting Dimensions

The most well recognised, and most often cited and measured dimensions of parenting in the literature on preadolescent children are the orthogonal dimensions of warmth and control, which are thought to stem from Baumrind's (1966, 1967, 1971) theory. Indeed, many researchers have organised their parenting data into the same framework as Baumrind (Buri, 1991; Maccoby & Martin, 1983; Reitman et al., 2002; Robinson, Mandleco, Olsen, & Hart, 1995; Steinberg et al., 1992; Steinberg, Mounts, Lamborn, & Dornbusch, 1991). Maccoby and Martin (1983) originally attempted to capture Baumrind's parenting styles as a two dimensional theory of parenting, including dimensions of demandingness and responsiveness. Demandingness described the expectations that parents have for the child to become integrated into the family unit by demanding maturity and providing supervision, firm discipline, and confrontation of misbehaviour, while responsiveness was used to refer to the extent to which a parent deliberately fosters individuality and self-regulation in their child (Baumrind, 1996; Maccoby & Martin, 1983).

Although Baumrind used these terms to describe her parenting styles in more recent studies (Baumrind, 1991, 1996), many other researchers simplify the descriptions of responsiveness and demandingness to dimensions of parental warmth and control (Huntsinger & Jose, 2009; Kim & Rohner, 2002; L. M. Locke & Prinz, 2002; T. G. O'Connor, 2002; Paulson, 1994; Smith, 2010), referring only to affection and acceptance, and degree of monitoring and controlling children's behaviour (T. G. O'Connor, 2002). This definition of parenting along a limited number of dimensions as proposed by Maccoby and Martin (1983) reflects earlier parenting conceptualisations; however, it appears that the majority of warmth and control definitions exclude many features of Baumrind's (1966, 1967, 1971) parenting styles, such as democracy, coercion, and involvement, and do not accurately represent her explanations of responsiveness and demandingness. For example, factor analysis of the measure used by Lamborn et al. (1991) yielded factors of acceptance/involvement, strictness/supervision, and autonomy support. Although the latter factor was important in defining authoritative parenting and was consistent with the descriptions of responsiveness provided by Maccoby and Martin (1983) and Baumrind (1991), Lamborn et al. suggested that responsiveness was comparable to acceptance/involvement, while strictness/supervision was proposed to describe demandingness, and therefore autonomy support was excluded from their analyses.

The term responsiveness has also been discussed as a central component of attachment theory, which represents a separate but related area of research to parenting. However, it appears that the descriptions of responsiveness provided by attachment theory are consistent with descriptions of autonomy supportive parenting in childhood. As a result, responsiveness is also discussed in this section as a separate but closely related dimension of parenting.

2.5.1 Parental Warmth

Warmth generally refers to nurturing behaviours that promote positive parent-child relations and emotional development, such as the expression of affection, love, support, and regard (L. M. Locke & Prinz, 2002; E. Skinner et al., 2005). This type of parenting is thought to facilitate the development of a sense of competence, effectiveness, and trust in children, and thereby results in confidence and competence in social interactions as well as academic achievement (G. S. Pettit et al., 1997; Stolz et al., 2005). On the other hand, parenting that involves predominantly negative affect is associated with hostility, aggression, and defiant behaviour in children (Baumrind, 1997; Grusec & Lytton, 1988).

Although the most competent children in her studies had parents who were both warm and controlling, Baumrind (1978) questioned the importance of warmth in child behavioural outcomes, as her results suggested that warmth was not a significant unique predictor of child behaviour. McLeod, Wood et al. (2007) also found that parental warmth may not be as significant in predicting child wellbeing as is often assumed, with their results showing that it explained less than 1% of the variance in childhood anxiety. In addition, other researchers have found that passive acceptance, which appears to refer to parental warmth exhibited in a permissive context, may even be associated with negative childhood outcomes rather than positive wellbeing (Kagan & Moss, 1962).

In contrast, parental acceptance-rejection theory (Rohner, 1986, 1999; Rohner & Rohner, 1980) proposes that children have a need for parental acceptance, affection, support, nurturance, and love, and when this need is not met, children may experience internalising or externalising problems, as well as problems with emotional regulation, attachment, and self-esteem. The theory further explains that this need for acceptance and the associated outcomes are universal across culture, ethnicity, race, gender, and socioeconomic status. Khaleque and Rohner (2002) conducted a meta-analysis of studies that included the Parental Acceptance-Rejection

Questionnaire (PARQ; Rohner, 1990), and their results showed that the relationship between parental acceptance and positive childhood adjustment outcomes was significant in all 43 studies included in the meta-analysis, and this relationship emerged consistently across a number of diverse samples (Khaleque & Rohner, 2002). Several other studies have shown that parental warmth, responsiveness, and consistency, and authoritative parenting are associated with positive child adjustment outcomes, while rejecting and ignoring practices are associated with poor adjustment (Furman & Lanthier, 2002; Power, 2004). However, due to the definitional ambiguity of parental warmth, it is unclear whether descriptions of this construct are comparable across studies.

The concept of parental warmth in the broader parenting literature appears to combine emotional warmth and affection with a number of other related but conceptually distinct concepts, such as Baumrind's (1996) dimension of responsiveness, as well as parental involvement and the promotion of autonomy. Baumrind (1997) stated that responsiveness can be further disaggregated into components of emotional warmth and attachment, reciprocity, and person-centred communication, which are often included under the heading of parental warmth in the parenting literature.

Indeed, terms such as warmth, nurturance (Zervide & Knowles, 2007), connectedness (K. E. Clark & Ladd, 2000), involvement, acceptance, and supportiveness (Aunola & Nurmi, 2004), sensitivity (T. G. O'Connor, 2002), caring and love (E. Skinner et al., 2005), and dedication to the childrearing process (Grolnick & Ryan, 1989) have been used interchangeably, with subtle but important differences in their definition. G. S. Pettit et al. (1997) also included dimensions of child-centeredness (Pulkkinen, 1982), teaching (Holden, 1985), praise and other positive reinforcement (Patterson et al., 1992), inductive discipline (Hoffman, 1963, 1970, 1982, 1994), and the provision of an enriched environment (Ladd, Profilet, & Hart, 1992) under the umbrella of parental support or warmth. However, studies that have disaggregated these components have often found that they have differential effects on childhood outcomes and that there are low correlations between components, suggesting that these parenting components do not necessarily cluster together (Grolnick & Slowiaczek, 1994; Patterson et al., 1992; G. S. Pettit et al., 1997).

According to L. M. Locke and Prinz (2002), it is unclear whether warmth should be considered a unitary global construct or a set of related but distinct subconstructs. There is also contention regarding what the conceptual opposite of warmth is, and what effects the various components of warmth have on childhood outcomes. L. M. Locke and Prinz described factors relating to warmth as fitting into one of two categories. Emotional expressions are the physical and verbal communications of love and acceptance, while instrumental acts related to warmth and nurturance include behaviours such as spending time with the child, doing the child a favour, or providing them with assistance (L. M. Locke & Prinz, 2002). Similarly, E. Skinner et al. (2005) suggest that previous research has distinguished dimensions of warmth and rejection from parental involvement and neglect. Parental warmth includes such elements as approval, support, affection, praise and encouragement, while rejection or hostility refers to behaviours communicating dislike of their children, including aversion, harsh and explosive discipline, criticism, and disapproval (Adamsons & Buehler, 2007; Barber & Thomas, 1986). In contrast to hostile rejection, neglect refers to indifferent parenting, reflecting low commitment to and engagement with the child, while parental involvement refers to responsiveness (Cummings, Davies, & Campbell, 2000), and caring instrumental acts discussed by L. M. Locke and Prinz (2002).

In addition, when warmth is likened to responsiveness in Baumrind's (1967, 1971, 1991) conceptualisation, it also includes contingent and appropriate responding to the child's needs, which appears to be another concept altogether. Indeed, Keller, Lohaus, Voelker, Cappenberg, and Chasiotis (1999) found that maternal sensitivity and contingency were not significantly related in a sample of German mothers, supporting the idea that contingent responding does not necessarily occur with parental warmth and affection (MacDonald, 1992). Johnston et al. (2002) also identified two parenting dimensions using factor analysis in a sample of boys with ADHD and their mothers. Responsiveness referred to the parent's ability to recognise and match their behaviour to the needs, abilities, requests, and interests of the child, without being intrusive, insensitive, or inappropriately directive. These parents provided an appropriate amount of guidance, showed praise, approval, and affection regardless of outcome, explained rules, and encouraged child expression (Johnston et al., 2002). Involvement instead reflected the amount of time the parent spent interacting with and controlling their child, suggesting that contingency may be

an important factor distinguishing parents who are merely involved with their child from those who actively scaffold their child's behaviour towards independent and volitional functioning (Johnston et al., 2002).

In relation to this, Gamble et al. (2007) stated that, while parental warmth and support are generally linked to positive childhood outcomes, there are some studies which suggest that parental reassurance and comfort may in fact promote increased distress and sadness in some circumstances. It is possible that this type of comfort may reflect noncontingent, intrusive, or psychologically controlling parenting strategies, such as actively preventing the child from confronting feared situations or allowing the child to escape or avoid them (Chorpita & Barlow, 1998). Such behaviour may have a detrimental impact on the child's levels of self-efficacy and perceived control, and prevent them from learning effective coping and emotional regulation skills (Fox et al., 2005; Rapee, 2001). Gamble et al. suggested that a moderate level of parental support that is perhaps less intrusive may promote optimal socioemotional and self-regulation outcomes in children.

It therefore appears that the concept of warmth can be separated into at least three distinct dimensions. Emotional warmth encompasses the parent's level of acceptance and nurturance (Barber & Rollins, 1990), physical affection, how good natured and easy going the parent is (Robinson et al., 1995), their receptiveness (Baumrind, 1971), and their display of positive affect (S. H. Landry, Smith, & Swank, 2006). This is likened to emotional expressions as described by L. M. Locke and Prinz (2002). Involvement can be used to describe the amount of commitment, engagement, and positive attention that is directed to the parenting process, as indicated by time spent together, and participation in parenting activities (E. Skinner et al., 2005). These are instrumental acts that express commitment, and are the opposite of neglectful behaviour (L. M. Locke & Prinz, 2002; E. Skinner et al., 2005). Finally, the term autonomy support can be used to refer to the degree to which parents promote autonomy through the provision of responsive assistance, and encompasses anxious involvement versus calm detachment (Becker, 1964), democracy (Baldwin, 1948; Schaefer, 1959), and involvement as proposed in Baumrind's (1991) work with adolescents. This concept appears to be correlated with and potentially opposite to psychological control, and is sometimes also included in the demandingness or parental control dimension.

2.5.2 Parental Control

Maccoby (2007) suggested that an important question in modern parenting research is how parental control can be best exercised in order to facilitate competence and autonomous self-regulation in children. However, it is difficult to draw accurate conclusions about the effects of parental control on child developmental outcomes due to the multitude of terms and concepts used to describe this dimension (Grolnick & Pomerantz, 2009). When referring to control, researchers use terms such as structure, contingency (Seligman, 1975; Watson, 1979), firm versus lax control (Fauber, Forehand, Thomas, & Wierson, 1990), behavioural control (Barber, 1996; Steinberg et al., 1989), psychological control (Barber, 1996; Steinberg et al., 1989), restrictiveness, demandingness (Baumrind, 1991), assertive control, discipline (L. M. Locke & Prinz, 2002), forceful control (Kochanska, Aksan, Knaack, & Rhines, 2004), and coercive and inductive control (Rollins & Thomas, 1979). E. Skinner et al. (2005) pointed out that some of these may be umbrella terms combining two or more of the other specific terms listed, or they may in fact combine control with other dimensions of parenting, such as warmth.

Descriptions of control often fail to distinguish between the control used by authoritative parents, which is democratic, rational, and firm, and the control used by authoritarian parents, which is forceful, punitive, and restrictive (Baumrind, 1966, 1967, 1971; C. C. Lewis, 1981). Clearly, some controlling behaviours are more effective in supporting socially appropriate behaviour and discouraging misbehaviour, while other behaviours, such as coercion, are less effective in promoting these outcomes (L. M. Locke & Prinz, 2002). The provision of clear rules and expectations, reinforcement of desired behaviours, inductive reasoning, parental monitoring, contingent responding, and flexibility have been identified in the literature as effective strategies used to promote behavioural regulation and internalisation of social rules (Barber, 1996; Grolnick, 2003; Hart, Newell, & Olsen, 2003; C. Hill, Maskowitz, Danis, & Wakschlag, 2008; L. M. Locke & Prinz, 2002; G. S. Pettit, Keiley, Laird, Bates, & Dodge, 2007). On the other hand, inconsistency, coercion, socially reinforcing or failing to punish undesired behaviours, and punitive or harsh physical punishment in the absence of positive reinforcement for desired behaviours are associated with defiance and behavioural problems in children (Cunningham & Boyle, 2002; Kendziora & O'Leary, 1993; Patterson et al., 1992; Stormshak et al., 2000). However, empirical research has shown unique and

differential effects of some individual components of both effective and problematic control on various childhood outcomes, which suggests there may be important differences between these controlling parental behaviours (Barber et al., 1994).

Grolnick and Pomerantz (2009) discuss the multiple-forms approach to control, which acknowledges the difficult balance that parents must achieve between socialising their child to comply with social norms and expectations through behavioural control, and recognising and promoting the child's autonomy and their unique interests, sense of self, and abilities through the avoidance of psychologically controlling parenting techniques. They suggested that control should be distinguished from structure, which reflects the distinction made between psychological control and behavioural control as discussed by Barber and colleagues (Barber, 1996; Barber & Harmon, 2002; Stolz et al., 2005) as well as Steinberg (1990). According to Grolnick and Pomerantz, the term parental control should only be used to describe authoritarian and psychologically controlling strategies, such as the use of force, intrusiveness, curbing initiative, power assertion, and failing to take the child's perspective. The opposite of this they describe as autonomy support, which includes encouraging initiative, scaffolding, and taking the child's perspective. The term structure, on the other hand, is the opposite of chaos and can be used to refer to parental setting of rules and limits, and their consistent and appropriate reactions to the child's behaviour in order to provide an organised and predictable environment, commonly referred to behavioural control (Grolnick & Pomerantz, 2009; Verhoeven, Junger, van Aken, Dekovic, & van Aken, 2007). Parents can provide structure in an autonomy-supportive way by seeking the child's input and using inductive reasoning and explanations, while overprotective and rigid rules are enforced in a controlling way (Soenens & Vansteenkiste, 2010).

Although this conceptualisation of parental control provided some clarity to the concept, Grusec (2009) criticised it as being too simplistic and omitting some significant parenting practices that comprise each type of control. In addition, Grusec suggested that it also fails to account for parental control that is motivated by love and concern as seen in some cultures, such as the training and teaching practices used by Chinese parents (Chao, 1994). The dimensions of behavioural and psychological control appear to be multifaceted, and it is unclear if they each represent a homogenous dimension or whether they are global terms that group a number of distinct subdimensions. Measures such as the Child Report of Behavior Inventory

(Schaefer, 1965) combine the provision of structure with external pressure and coercion under the heading of behavioural control, thus it is unclear whether associations between behavioural control and childhood outcomes are due to structure, external pressure, or both (Soenens & Vansteenkiste, 2010).

2.5.2.1 Behavioural control. The term behavioural control has been used to refer to the provision of clear, consistent, and appropriate limits and expectations for the child's behaviour, and may also refer to the degree to which the social and physical environment provide support and guidance allowing the individual to achieve the desired socially appropriate behavioural outcomes (E. Skinner et al., 2005). However, it is unclear whether the opposite of behavioural control is lax control and permissiveness, or chaotic, noncontingent, coercive, and unpredictable controlling behaviour. In addition, it is possible that this dimension is actually a higher order factor used to describe a set of distinct parenting dimensions, rather than a core, homogenous dimension itself.

Several specific behavioural control techniques have been discussed in the literature, including verbal commands and reasoning, power assertion, expressions of disapproval, removal of privilege, ignoring misbehaviour, modelling appropriate behaviour, and inductive discipline (Hoffman, 1963, 1970, 1982, 1994; Socolar, 1997). One controversial practice that has received a lot of attention in both the psychological literature and wider society is the use of corporal punishment. According to Straus and Kantor (1994), corporal punishment refers to the use of physical force to inflict pain upon a child to control or correct the child's behaviour. Strauss and Kantor did not include abusive parenting behaviours in their definition of corporal punishment; however, this term has been used to refer to behaviours ranging from spanking, slapping, grabbing, and shoving the child to more extreme and explosive physical disciplinary actions, such as hitting child with an object, or hitting the child with a closed fist rather than an open hand (Grolnick, 2003).

Parents' use of corporal punishment has been associated with a multitude of negative child outcomes, including aggression and antisocial behaviour (Brezina, 1999; Flynn, 1999; Stormshak et al., 2000; Strassberg, Dodge, Pettit, & Bates, 1994; Straus & Donnelly, 2001; Straus, & Kantor, 1994; Straus, Sugarman, & Giles-Sims, 1997); animal cruelty (Flynn, 1999), and feelings of helplessness, humiliation, and anxiety (Biehler & Snowman, 1997; Cryan, 1995). This concept was also included as part of Hoffman's (1963, 1970, 1982, 1994) power-assertive parenting practices,

which were associated with poor moral internalisation as well as anger, hostility, and defiance. Although corporal punishment appears to be effective in promoting child obedience in the immediate situation, it is generally associated with higher levels of delinquency, aggression, and internalising problems in the longer term (Gershoff, 2002).

Monitoring appears to be another specific strategy that is included in the broader concept of behavioural control. This concept refers to surveillance of the child's behaviour, movements, and academic performance, as well as limiting the child's exposure to antisocial or developmentally inappropriate material (Dishion & McMahon, 1998; Kilgore, Snyder, & Lentz, 2000). As a child gets older and more independent, parental monitoring may become less direct and more distal, and focuses on the child's choices related to activities, social settings, and friends (Kuczynski, 2003). The term monitoring has also been used to refer to the parent's knowledge about the child's activities and peers; however, this knowledge may come from child disclosure rather than parental surveillance, which reflects concepts of mutual trust and parent-child communication (Crouter & Head, 2002; Stattin & Kerr, 2000). This appears to be consistent with the concept of parental involvement, as discussed earlier in relation to parental warmth, which describes the degree of interest in the child, and level of commitment and positive attention devoted to childrearing (Grolnick & Ryan, 1989; L. M. Locke & Prinz, 2002; E. Skinner et al., 2005).

Monitoring and the provision of an orderly, consistent regimen appear to be important parenting behaviours; however, they require a greater investment of time and energy than parents can sometimes afford (Baumrind, 1997). Children who are exposed to low levels of parental control and monitoring are more likely to be influenced by their peers, which may involve deviant and high risk behaviour (Stolz et al., 2005). Indeed, poor parental monitoring is associated with a number of negative outcomes in childhood and adolescence, including delinquency, externalising behaviour, and the use of alcohol and drugs (Chilcoat & Anthony, 1996; Dishion & McMahon, 1998; Griffin, Botvin, Scheier, Diaz, & Miller, 2000; Li, Stanton, & Feigelman, 2000; G. S. Pettit, Bates, Dodge, & Meece, 1999), as well as low peer acceptance (Sandstrom & Coie, 1999), low academic achievement (Rodgers & Rose, 2001), and early sexual initiation (French & Dishion, 2003). On the other hand, Patterson (1982, 1986) demonstrated that high levels of parental monitoring

are associated with a reduction in antisocial behaviour in boys, suggesting that this is an important component of parental behavioural control.

Instead of focusing on specific behavioural control techniques, a separate but related set of subdimensions have been examined which refer to the mode of administering discipline, including severity, quantity, frequency, immediacy, consistency, rationality, and parent demeanour, which determine the effectiveness of the specific discipline strategy used (Baumrind, 1997; Socolar, Savage, Devellis, & Evans, 2004). Grusec and Goodnow (1994) suggested that parents need to be responsive or contingent in their provision of discipline to be effective, taking into account the child's perception of the transgression and their reaction to it. Indeed, several researchers have suggested that varying parenting discipline strategies in response to the nature of the misbehaviour appears to be an effective strategy (Conroy, Hess, Azuma, & Kashiwagi, 1980; Grusec, Dix, & Mills, 1982; Grusec & Kuczynski, 1980; Zahn-Waxler, Iannotti, & Chapman, 1982), and Hoffman (1970) observed that flexibility in the choice of disciplinary practice was associated with the most effective parenting. In support of this, Trickett and Kuczynski (1986) found that abusive mothers were more likely to use power assertion inflexibly in response to all misbehaviours, while non-abusive mothers used a variety of strategies in response to the nature of the misbehaviour. According to Grusec and Goodnow (1994), children may be more likely to internalise the appropriate behaviour if they perceive that the disciplinary reaction is justified by the misbehaviour, which may be facilitated by the use of parental reasoning and discipline responsiveness.

Inconsistency is another important mode of discipline administration that may not be entirely captured by descriptions of lax control or permissiveness. According to Chamberlain and Patterson (1995), parental inconsistency includes erratic changes in expectations and consequences, giving in to the child after initially resisting, failure to follow through with demands and promises, and noncontingent responses to the child's behaviours. Inconsistency generally refers to the inconsistent practices of one parent over time, but it can also manifest as inconsistency between the practices and expectations of parents within the same family (Gardner, 1989). Parental inconsistency has long been associated with externalising problems in children, for example Patterson (1976) found that mothers of children with conduct disorders were less likely to follow through with commands than parents of children without conduct disorders, and they were also more likely to give in to the child's

demands after initially refusing, which reinforces the defiant behaviour. Such inconsistency provides a variable ratio schedule of reinforcement of the child's negative behaviour, which makes it more resistant to extinction (Patterson, 1976). Baumrind (1997) explained that parent reactions that are not contingent on the child's behaviour may result in the child learning that their environment is unresponsive to their actions, which has a negative impact on their sense of autonomy, agency, and competence. In this context, it appears that contingent responding as the opposite of inconsistency may also be related to autonomy supportive parenting practices, as well as the administration of behavioural control.

The term behavioural control has been used to describe a number of specific parental discipline strategies and modes of discipline administration. However, it appears that these concepts are similar in that they can all be used to describe parental practices that promote or discourage behavioural compliance and behavioural regulation in children. The use of firm, consistent, and non-punitive behavioural control has been associated with positive childhood and adolescent outcomes in a number of studies (Barber, 1996; Barber et al., 1994; Gray & Steinberg, 1999; G. S. Pettit et al., 2001; Steinberg, 2001; Steinberg et al., 1989), and therefore behavioural control is seen as a positive parenting practice. This distinguishes it from psychological control, which is coercive, punitive, and invalidating, and considered an unhelpful parenting practice (Barber, 1996). Although psychological controlling strategies are sometimes used to control and correct child behaviour, Soenens and Vansteenkiste (2010) noted that, unlike behavioural control, parents may use guilt inducing practices as a means to cope with their own insecurities or negative emotions, thus they may not always be intended as a socialisation practice to regulate the child's behaviour.

2.5.2.2 Psychological control versus autonomy support. Deci and Ryan's (1985, 2000) self determination theory (SDT) is particularly relevant in defining psychological control. This theory suggests that psychological control and autonomy support have opposite effects on childhood outcomes and indeed, several researchers have conceptualised and assessed psychological control and autonomy support as opposite ends of the same dimension (Barber et al., 2002; Silk, Morris & Kanaya, 2003). According to SDT, relatedness, competence, and autonomy are basic psychological needs that promote internalisation and intrinsic motivation. The need for autonomy refers to the need to experience one's behaviour as volitional and as a

consequence of genuine choice, while the need for competence refers to the need to feel both effective and capable in achieving one's desired outcomes (Soenens & Vansteenkiste, 2010). The need for relatedness on the other hand describes the need to feel cared for and included, and also the need to care for others (Soenens & Vansteenkiste, 2010). Through engaging their environment, making autonomous choices, and pursuing their own goals, children develop a sense of mastery or competence, experience a sense of belonging or relatedness, internalise the behaviours and values displayed within their social context, and develop the awareness that they are able to make authentic, autonomous choices (Deci & Ryan, 1985; Joussemet et al., 2008).

A sense of relatedness is facilitated by parental warmth and involvement, while the provision of structure is necessary for the child to experience competence and self-efficacy, and parental autonomy support allows children to make their own genuine choices, which fulfils their need for autonomy (Connell & Wellborn, 1991; Deci & Ryan, 1985; Grolnick & Pomerantz, 2009). In contrast, psychologically controlling parent behaviours are likely to result in the child failing to meet these psychological needs and internalise socially appropriate behaviours, instead learning that they have little control over their lives and in their interactions, thus experiencing a sense of learned helplessness (Joussemet et al., 2008; Pomerantz, Wang, & Ng, 2005; Seligman, 1972).

It is important to note that volitional functioning is not restricted to certain developmental stages (Grolnick, 2003; Ryan, Deci, Grolnick, & La Guardia, 2006; Soenens & Vansteenkiste, 2010), and it is essential for optimal psychological functioning across the lifespan, although the specifics of volitional functioning may change with age (Ryan et al., 2006). Soenens and Vansteenkiste stated that children are able to experience internal pressure to comply and modify their behaviour accordingly from a very young age. For example, Kamins and Dweck (1999) found that the provision of personally evaluative feedback based on task performance to five year old children resulted in reduced persistence in the face of failure and a negative perception of their abilities, suggesting that contingent self-worth can be experienced by children of this age. According to Kuppens et al. (2009), parenting research in middle childhood has mainly focused on support and behavioural control; however, SDT as well as several studies suggest that autonomy support and

psychological control are relevant constructs in this age group and are linked with a variety of child outcomes (Morris et al., 2002; Nelson & Crick, 2002).

SDT (Deci & Ryan, 1980, 1985, 1991, 2000) suggests that the internalisation of societal values and behaviours is a natural and spontaneous process, as children have a natural desire to explore and master their environment. As a child grows older, they progress from external regulation towards internally regulated behaviour through a combination of nonrestrictive exploration of their environment, and supportive socialisation interactions (Calkins, Smith, Gill, & Johnson, 1998; Houck & Lecuyer-Maus, 2004; Kochanska, Coy, & Murray, 2001; Rothbart & Bates, 1998). Parents who support this intrinsic developmental trajectory will optimise intrinsic motivation and internalisation in the child (Deci & Ryan, 2000; R. Landry et al., 2008). Early et al. (2002) explained that parental support of the child's desire to explore, as well as their responsive availability for support, facilitates the transfer of regulatory responsibility from the parent-child dyad to the child.

Indeed, parents who have faith in their child's ability to develop in an autonomous way as part of a natural process have been found to be more flexible in their expectations of their child, and are less likely to compare their children with others or engage in intrusive behaviour to assure the child's success (R. Landry et al., 2008). As a result, these parents behave in more autonomy supportive ways (R. Landry et al., 2008). Autonomy supportive parenting involves the use of strategies such as democratic reasoning, encouraging child expression, and allowing the child opportunities to use their initiative, engage in problem solving, and meet and exceed the parent's expectations (Barber et al., 2005; Grolnick, 2009; Grolnick & Ryan, 1989; Joussemet et al., 2008; E. Skinner et al., 2005). Parents who promote volitional functioning through autonomy support also empathise with their child's perspective and allow them to make meaningful choices according to the child's self-endorsed interests and values (Ryan et al., 2006; Soenens et al., 2009).

Several studies have demonstrated that parents who encourage persistence, base their amount of assistance on the child's performance level and ability, and support the child's autonomy have children who are more playful, persistent, and self-regulated in their approach to problem-solving tasks (Gauvain, Fagot, Leve, & Kavanagh, 2002; Grolnick, Frodi, & Bridges, 1984; Grolnick & Ryan, 1989; Neitzel & Stright, 2003; Pratt, Kerig, Cowan, & Cowan, 1988; Stright, Neitzel, Sears, & Hoke-Sinex, 2001). In addition, children's self-regulation, sense of control, and

perceived competence were found to mediate the relationship between autonomy supportive parenting practices and children's school performance in a study conducted by Grolnick, Ryan, and Deci (1991), which suggests that autonomy supportive parenting may facilitate the development of self-regulated motivational resources which can then be applied to different situations.

In line with SDT (Deci & Ryan 1980, 1985, 1991, 2000), it seems that optimal development throughout childhood is promoted by appropriate levels of autonomy support, combined with parental warmth, and structure. However, autonomy supportive parenting requires time, resources, and psychological availability (Grolnick, 2009). Parents with higher levels of stress and lower resource availability have been found to be more controlling, harsh, and punitive (R. D. Conger, Patterson, & Ge, 1995; Dodge, Pettit, & Bates, 1994; Grolnick, Weiss, McKenzie, & Wrightmen, 1996; Grolnick, Benjet, Kurowski, & Apostoleris, 1997), and provide low levels of verbal stimulation, warmth, sensitivity, and involvement (R. Landry et al., 2008). Parents from lower socioeconomic backgrounds are also likely to value compliance rather than autonomy support (McLoyd, 1990). Grolnick (2003) explained that parents are likely to feel pressured when their own needs for autonomy, competence, and relatedness have not been met, and this may also result in pressuring and controlling parenting behaviour. Indeed, poor quality and high conflict interparental relationships, which are likely to result in an unmet need for relatedness, are associated with a greater degree of psychologically controlling parenting (Krishnakumar, Buehler, & Barber, 2003).

Although SDT (Deci & Ryan, 1985, 2000) suggests that autonomy support and psychological control have opposite effects on children's development, there is evidence to suggest that these concepts may not be part of the same bipolar dimension. Schaefer (1965) was the first to suggest that the opposite of psychological control is psychological autonomy, and indeed several studies have described psychological control as the opposite or absence of psychological autonomy granting (Silk et al., 2003). However, according to Barber and colleagues (Barber et al., 2002; Stolz et al., 2005), psychological autonomy is often inappropriately assessed by reversing the scores on psychological control measures, implying that these are opposite ends of the same dimension. In fact, many researchers have only included items reflecting psychological control in their scales and reported that they have assessed autonomy support (Barber et al., 2002). This is problematic because the

absence of psychologically controlling techniques is not necessarily paired with parenting techniques that promote psychological autonomy (Barber et al., 2002; Stolz et al., 2005). For example, parents may use guilt induction or shaming disciplinary practices and also encourage independent thinking, which is associated with autonomy granting (Silk et al., 2003). Baumrind (2005) also supported this argument, explaining that non-authoritarian directive parents are non-psychologically controlling but do not actively support their child's autonomy.

Soenens et al. (2009) noted that most studies have looked at either psychological control or autonomy granting rather than both at the same time, and therefore the nature of the relationship between these dimensions is not well established. Silk et al. (2003) found that psychological control and autonomy granting were only weakly correlated and had differential relationships to internalising behaviour in adolescents. Barber et al. (2002) instead found that psychological control and autonomy granting were significantly but not perfectly correlated, with correlations ranging from .57 to .61. Soenens et al. (2009) also found that psychological control was high when promotion of volitional functioning was low and vice versa in all four parenting clusters in their analyses; however the magnitude of the correlation between them did not suggest that these concepts should be considered equivalent ($r = -.61$). Taken together, these results imply that the psychological control and promotion of autonomy or volitional functioning are unlikely to form a homogenous unitary construct. Therefore, it appears that the distinction between psychological control and autonomy granting is important, and that these concepts should be assessed separately.

Psychologically controlling parenting may result from parents not trusting that their child's development will proceed without their intervention, or from unrealistic expectations about their child's abilities and developmental progress (Joussemet et al., 2008). Parents who expect too much of their child's behaviour may view the child's poor performance as deliberate misbehaviour, resulting in disapproval, guilt induction, and in extreme cases, even emotional or physical abuse (Azar & Siegel, 1990).

Parents may also provide developmentally inappropriate, intrusive, and unsolicited assistance to the child in these circumstances, which serves to undermine the child's sense of autonomy and competence (Arrindell, Gerlsma, Vandereycken, Hageman, & Daeseleire, 1998; Bandura, 1997; Maccoby & Masters, 1970; McLeod,

Wood, & Avny, 2011). For example, Pomerantz and Eaton (2001) found that low academic achievement led to an increase in maternal worrying and controlling behaviours, resulting in further decline in the child's achievement and motivation. Furthermore, parents who assist their child in escaping from, avoiding, or coping with anxiety provoking stimuli through excessive physical or verbal comforting, may prevent the child from extinguishing their fear response and learning positive coping and emotional regulation skills (McLeod et al., 2011; Rapee, 2001). Grolnick, Gurland, DeCoursey, and Jacob (2002) also suggested that children who are exposed to outcome focused, intrusive parenting may only gain a surface understanding of a task, as this type of parenting may focus the child's attention on the outcomes rather than the process of learning and problem solving (Grolnick et al., 2002; Gurland & Grolnick, 2005).

Psychologically controlling parenting has been associated with a number of negative outcomes in children, including poor academic performance (Aunola & Nurmi, 2004; Barber & Harmon, 2002), poor self-regulation and low levels of intrinsic motivation (Joussemet et al., 2008), feelings of guilt (Becker, 1964), low ego strength (Hauser, 1991), low self-efficacy and individuation (Baumrind et al., 2010), and passive, overcontrolled, and inhibited behaviour (Barber et al., 1994; Baumrind & Black, 1967). In addition, studies have generally found that parental psychological control is associated with childhood internalising symptoms, including shyness, anxiety, and loneliness (Gresham & Elliott, 1990), dependency (Baumrind, 1978), low self-esteem (Hart, Olsen, Robinson, & Mandelco, 1997), withdrawal (Baumrind, 1967; Baumrind & Black, 1967), and depression (Barber et al., 1994). There is also evidence to suggest that psychological control is associated with childhood externalising problems, with Hart et al. (1998) and Joussemet et al. (2008) reporting significant correlations between maternal psychological control and physical aggression in children. However, Galambos, Barker, and Almeida (2003) found that only behavioural control was consistently predictive of both internalising and externalising problems in childhood, and G. S. Pettit and Laird (2002) and Caron et al. (2006) found that higher levels of psychological control were only associated with higher externalising problems when warmth was low, suggesting that further investigation into the nature of this relationship is needed.

Like warmth and control, there have also been problems with the definition of psychological control, primarily related to the homogeneity of the dimension and

which specific parenting behaviours can be described by this term. In line with SDT, psychological control can be broadly described as parenting that discourages autonomy and self-expression, derogates the child, inhibits exploration and opportunities to develop a sense of personal agency, and intrudes upon the process of self-definition and identity formation (Barber, 1996; Barber, Xia, Olsen, McNeely, & Bose, 2012; Hauser, 1991; Maccoby & Martin, 1983). However, psychological control has also been defined in relation to social domain theory, which states that the preservation and facilitation of a child's personal psychological space or domain, including the boundaries between the self and others, is essential to psychological development and the formation of a stable identity (Nucci, 1996; Nucci, Hasebe, & Lins-Dyer, 2005; Smetana, Crean, & Campione-Barr, 2005; Smetana & Daddis, 2002).

According to social domain theory, psychological control involves intrusion in the personal domain, as opposed to interference in conventional, prudential, or moral domains (Smetana & Daddis, 2002). Thus, psychological control is defined in respect to the domains in which parents attempt to interfere, rather than the manner in which their authority is asserted. Morris et al. (2002) suggested that there are three personal domains in which psychological control may be exercised, including behavioural, emotional, and cognitive. Behavioural control relates to restrictiveness in relation to the child's exploration, while emotional control involves efforts to manipulate the child's emotions, achieved through invalidation or punishment of emotional expressions, or manipulation of the parent's emotional responses to the child (Morris et al., 2002). Cognitive control instead refers to attempts to constrain individual expression and independent thinking. Interestingly, these domains appear to reflect concepts of overprotection, love withdrawal, and restrictive authoritarian control, which have been found to have different effects on childhood outcomes (Baumrind, 1991; Grusec & Goodnow, 1994; Soenens et al., 2009); however, the domain in which psychological control is exercised is not generally included in assessments of psychological control.

Soenens, Vansteenkiste, and Lutyen (2010) also distinguished between dependency-oriented and achievement-oriented types of psychological control. According to Hock, Eberly, Bartle-Haring, Ellwanger, and Widaman (2001), psychologically controlling parenting may occur due to difficulty tolerating the increase in separation and independence of their children as they age, with parents in

enmeshed families use intrusive, dependency-oriented psychological control to discourage individuation and maintain enmeshed physical and emotional relationships between family members (Barber & Buehler, 1996; Soenens et al., 2010). This type of parenting is likely to undermine a child's need for relatedness, as the parent manipulates the parent-child relationship in order to discourage individuation (Soenens & Vansteenkiste, 2010).

Parents may instead use psychological controlling practices due to high achievement orientation, self-criticism, and maladaptive perfectionism (Soenens et al., 2010). According to Grolnick and colleagues (Grolnick, 2009; Grolnick, Price, Beiswenger, & Sauck, 2007; Gurland & Grolnick, 2005), these parents may feel pressured to assure their child's success in order to protect the child and their own sense of self-worth, which manifests as excessively high demands for child performance, and criticism and rejection when these standards are not met (Kenney-Benson & Pomerantz, 2005; Elliot & Thrash, 2004; Flett, Hewitt, Oliver, & MacDonald, 2002; Soenens et al., 2010; Walling, Mills, & Freeman, 2007). Gurland and Grolnick (2005) found that mothers who were intrusive, controlling, and did not allow the child to master the environment on their own were more likely to have children with performance-oriented goals. Such restrictive behaviour serves to undermine the child's sense of autonomy and competence (Grolnick et al., 2007; Gurland & Grolnick, 2005).

Factor analysis of a measure designed to assess dependency-oriented and achievement-oriented psychological control supported the distinction between these constructs (Soenens et al., 2010). Both of these forms of psychological control were differentially related to parental support, and dependency-oriented control uniquely related to enmeshment and parental separation anxiety, while achievement-oriented control was associated with family perfectionism and child self-criticism. Interestingly, Soenens et al. also found that mothers' psychological control was generally related to dependency and separation concerns, while fathers' psychological control was generally achievement-oriented. It appears that the distinction between dependency-oriented and achievement-oriented control has important implications for child and family outcomes, thus it may be useful to examine these subdimensions separately in future research.

Barber (1996) developed the Psychological Control Scale (PCS), which identified six theoretically relevant behavioural components of psychological control

that added some further definitional clarity to this dimension. However, eight domains of psychological control were later included in the revised Psychological Control – Disrespect Scale (PCDS), including Invalidating, Guilt Induction, Excessive Expectations, Ridiculing, Embarrassing in Public, Comparing to Others, Ignoring, and Violation of Privacy (Barber et al., 2012). The PCDS was uniquely related to depression and antisocial behaviour, while the original PCS was no longer found to be significantly related to either outcome with the inclusion of the PCDS. The revised measure appears to provide a comprehensive account of the facets of psychological control, and is useful in identifying the range of behaviours within parenting that may be related to this important construct.

Barber et al. (2005) suggested that psychological control represents a broad, homogenous construct that includes behaviours that disrespect the individuality and integrity of children. Interestingly, there are several other constructs presented in the literature that appear to meet this definition but are not explicitly included in the theories and measures described earlier, including hostility, enmeshment, possessiveness, overprotection, indulgence, conditional regard, intrusiveness, and even inappropriate assertion of parental authority (Assor et al., 2004; Barber et al., 2005; Barber et al., 2012; McLeod et al., 2011; Parker, Tupling, & Brown, 1979; Power & Hill, 2008; Roth et al., 2009; Soenens et al., 2010; Walling et al., 2007; Wood, 2006). Indeed, Barber et al. (2012) described the dimension of psychological control as both complex and multi-faceted, and highlighted a need to refine the conceptualisation and assessment of this important construct.

2.5.2.2.1 Hostility. There is some suggestion that elements of psychological control are consistent with the dimension of parental rejection, including criticism, hostility, aggression, harshness, and neglect (Barber et al., 2012). As R. D. Conger (2009) stated, invalidating a child's perspectives and concerns appears to be a significant form of parental rejection. Walling et al. (2007) and Silk et al. (2003) suggested that hostility underlies psychological control, where psychological control is about the parent's need for interpersonal power. According to G. S. Pettit et al. (2001), hostility may manifest as overt, harsh parenting in early childhood when compliance issues are salient, resulting in child defiance and externalising behaviour, while it may be more psychologically controlling in adolescence when autonomy and identity development are key developmental tasks, resulting in internalising problems (Steinberg, 1990). In support of this, G. S. Pettit and Laird (2002) found

that parental hostility at age five years predicted levels of parental psychological control when the child was 12 years old.

Conversely, Morris et al. (2002) suggested that hostility and psychological control represent distinct constructs. They proposed that hostility involves overt physical and verbal aggression, while psychological control involves covert and intrusive expressions of aggression. Consistent with this proposal, Nelson, Hart, Yang, Olsen, and Jin (2006) found that overt physical coercion and psychological control were significantly but not perfectly correlated, suggesting that they represent distinct dimensions. Barber et al. (2005) noted that rejection conceptually overlaps with psychological control to some degree in terms of low levels of responsiveness, supportiveness, and expression of parental warmth; however, Baumrind (2005) concluded that more covert practices such as love withdrawal and guilt induction appear to be unique to psychological control.

2.5.2.2.2 Conditional regard. Barber et al. (2012) also linked psychological control to parental conditional regard, which involves parents providing attention, affection, and appreciation contingent on the child's compliance with specific parental expectations, and withdrawing this acceptance if the child does not comply (Assor et al., 2004). Contingent affection is not a new concept, and appears to be consistent with the concept of love withdrawal as discussed by Hoffman (1963, 1970, 1982, 1994), although Roth et al. (2009) pointed out that conditional regard involved the withdrawal of affection, called negative conditional regard, as well as the provision of regard when the child complies with the parent's wishes, called positive conditional regard. Roth et al. found that positive and negative conditional regard were both associated with emotional dysregulation, but negative conditional regard was also associated with outcomes of academic disengagement, and resentment towards parents. Children exposed to this type of parenting primarily appear to comply with parental rules in order to avoid guilt and shame and enhance self-esteem, resulting in introjected regulation rather than identification, as well as poor psychological functioning (Assor & Roth, 2005; Assor et al., 2004; Harter, 1993; Roth et al., 2009). It thus appears that contingent regard is consistent with the definition of psychological control relating to SDT (Deci & Ryan, 2000) and also appears to involve interference in the emotional domain as outlined by Morris et al. (2002); however, the positive and negative forms of conditional regard are often excluded from assessments of this construct.

2.5.2.2.3 Overprotection and indulgence. Indulgent, overprotective, permissive, passive-acceptant, and pampering parenting behaviours, as discussed by Baumrind (1971), Becker (1964), Capron (2004), Roe and Siegelman (1963), and Schaefer (1959, 1965), also appear to be consistent with the definition of parental psychological control. Overprotective parenting has been described in the literature as the provision of unnecessary, unsolicited, and developmentally inappropriate help and physical comfort (Arrindell et al., 1998; Maccoby & Masters, 1970); intrusive restrictiveness and encouragement of dependent behaviour (Parker et al., 1979; Thomasgard & Metz, 1999); overmanagement of behaviour (Coplan, Reichel, & Rowan, 2009); difficulty separating from the child (Thomasgard & Metz, 1999); exclusion of outside influences, overpossessiveness, and attempts to protect the child from experiencing disappointment and distress (L. Carlson, Grossbart, & Stuenkel, 1992; Crosby & Grossbart, 1984; K. H. Rubin, Burgess, & Hastings, 2002). Such parenting practices have been associated with internalising difficulties and inhibited behaviour in children (Park, Belsky, Putnam, & Crnic, 1997; K. H. Rubin & Burgess, 2002; K. H. Rubin, Hastings, Stewart, Henderson, & Chen, 2002; K. H. Rubin et al., 1997), as well as internalising disorders and relationship difficulties later in life (Thomasgard & Metz, 1999).

Morris et al. (2002) referred to overprotection in their description of parental psychological control over the child's behavioural domain, while Hauser and colleagues (Hauser, 1991; Hauser et al., 1984) included overgratification of the child's wishes alongside other psychologically controlling behaviours in their description of constraining parent-child interactions, which suggests that overprotection, indulgence, and psychological control may be conceptually linked. However, Thomasgard and Metz (1993) explained that parental indulgence and intrusive control result in different childhood outcomes. Levy (1943) suggested that indulgent parents lack control and are permissive in their discipline, while controlling parents are excessively restrictive, described as expecting compliance with parental standards regardless of the child's abilities or interests (Kagan & Moss, 1962). According to Thomasgard and Metz, indulgent parents have difficulty allowing independence and setting limits. As a child increasingly asserts their autonomy, anxiety and feelings of guilt and anger in the parent are exacerbated, which can result in shifts from indulgent behaviour to punitive, overcontrolling, and belittling parenting strategies. Overprotective parenting is instead described as high

levels of supervision, vigilance and control, difficulty separating from the child, and discouraging the child's independence (Thomasgard & Metz, 1993).

Power and Hill (2008) explained that maternal protectiveness can be beneficial in some circumstances, such as protecting the child from physical harm or exposure to situations that they would have difficulty coping with due to their developmental level. According to Power (2004), appropriate parental protection reflects a responsive scaffolding process, whereby parents regulate the child's exposure to aspects of stimuli that they feel the child will be able to successfully cope with and learn from at the time, thereby promoting the development of effective independent coping skills. Although Becker (1964) proposed that overprotective parents are high in both warmth and restrictiveness, it appears that this notion of contingency is crucial in distinguishing between warm-engaged parenting, and overprotective parenting behaviour that is also high in warmth. Consequently, warm-involved parenting can be described as contingently responsive provision of support, teaching, positive reinforcement, and affection; however, when these behaviours are provided in an intrusive way, and reflect or reinforce parent and child distress, they are considered to be overprotective (Arrindell et al., 1998).

Although K. H. Rubin et al. (2002) suggested that overprotectiveness is consistent with the definition of psychological control as practices that restrict a child's autonomy (Mills & Rubin, 1998), it is not typically included in the theoretical descriptions or assessment of the psychological control dimension. Indeed, Grusec (2009) suggested that Grolnick and Pomerantz's (2009) reconceptualisation of psychological control as separate from structure does not adequately capture the dimensions of overprotection, guilt induction, and other intrusive practices that appear to be important facets of the psychological control dimension.

Thus, it appears that parenting constructs such as hostility, conditional regard, intrusiveness, and overprotection are consistent with broad definitions of psychological control. However, due to the lack of clarity in the definition of psychological control in the literature and failure to examine these variables in combination, it is unclear whether some or all of the other concepts discussed above represent facets of a homogenous psychological control dimension or whether they should be considered as related but distinct parenting constructs that have unique and differential effects on childhood outcomes.

2.5.3 Responsiveness

The final dimension discussed in this review is responsiveness, which originated in attachment theory (Bowlby, 1969). Although infant attachment is a separate but related area to parenting research, responsiveness is thought to be essential in promoting the development of children's self-regulation skills and social competence which are often cited as the major socialisation goals of parenting (Baumrind et al., 2010; Maccoby, 1992). In addition, the term responsiveness has also been mentioned in definitions of parental warmth, behavioural control, psychological control, overprotection, and autonomy support. In fact, responsiveness in attachment may be described as an autonomy supportive behaviour, with Ainsworth et al. (1971) stating that highly responsive parents act in a way that recognises and respects that their babies have their own valid desires and activities as autonomous individuals.

Winnicott (1964) proposed that immediate alleviation of a child's distress and discomfort is not conducive to optimal development of independent regulation. Instead, he proposed the term 'good enough' parenting, to emphasise the necessity of allowing enough delay in meeting their child's needs to encourage independence, sense of self, and sense of mastery over the environment. Thus, parental responsiveness in attachment is demonstrated through sensitive but appropriate contingent responding to the infant's needs (Bornstein et al., 1992; Bornstein, Tamis-LeMonda, Hahn, & Haynes, 2008; S. H. Landry, Smith, Swank, Assel, & Vellet, 2001; Tamis-LeMonda & Bornstein, 2002). Early parental responsiveness is thought to be essential in the development of secure attachment, which promotes a strong sense of self-confidence and encourages the individual to engage in exploration of the world, and positive and effective interactions with others (Mallinckrodt, 2000).

S. H. Landry et al. (2001) found that responsive parenting in both infancy and early childhood was associated with optimal cognitive and social outcomes, while responsive parenting in infancy only was associated with less optimal development. However, responsive parenting beyond infancy is challenging, as it requires parents to understand and respond to children's changing developmental needs (R. Landry et al., 2008). Nevertheless, T. G. O'Connor (2002) suggested that it is important to define and measure the developmental equivalents of responsiveness, as outlined in Attachment theory, in middle childhood.

Scaffolding is an important technique that appears to be related to responsiveness in infancy as well as earlier discussions of autonomy support, involving the provision of information, direction, and assistance that is appropriate to the child's attention, memory, and language abilities (S. H. Landry, Miller-Loncar, Smith, & Swank, 2002; S. H. Landry et al., 2001; Mulvaney et al., 2006). Indeed, securely attached children are associated with parents who use scaffolding techniques (Frankel & Bates, 1990; Meins, 1997). Vygotsky (1962) suggested that optimal support and instruction reflects the child's zone of proximal development, which is the difference between the child's current level of competence and their level of potential competence as determined by observing problem solving with the support of a more knowledgeable person. This suggests that optimal instruction should be slightly more advanced than the child's current level of understanding (Mulvaney et al., 2006). According to Newman and Newman (2009), collaborations structured within the zone of proximal development result in the internalisation of knowledge and procedures, and influence the structure of the child's thinking. This appears to be consistent with attachment theory as well as parental autonomy support in relation to SDT (Deci & Ryan, 1985, 2000), and provides support for the assessment of this construct in preadolescent children.

In fact, there is substantial empirical evidence supporting the importance of scaffolding, responsiveness, or autonomy supportive parenting across the years from toddlerhood until 12 years of age. In their study on maternal autonomy support with children aged 20 months, Frodi, Grolnick, and Bridges (1985) found that the children of mothers who displayed more autonomy supportive behaviour demonstrated greater task-oriented persistence and competence during solo play than children with more controlling mothers. In toddlers, Kochanska and Aksan (1995) found that gentle guidance, similar to responsiveness, was associated with higher levels of committed compliance, which is considered an early form of self-regulation (Kochanska et al., 2001). In their study on school aged children, Deci, Driver, Hotchkiss, Robbins, and Wilson (1993) found that maternal autonomy support and scaffolding was associated with higher levels of intrinsic motivation during free-choice play in children aged 6 to 7 years, while Joussemet, Koestner, Lokes, and Landry (2005) found that children of autonomy supportive parents also experienced greater social and academic adjustment. Grolnick and Ryan (1989) reported similar results with older children aged 8-12 years, with autonomy support linked to greater

academic performance, less externalising behaviour, and greater levels of autonomous self-regulation in children.

Mulvaney et al. (2006) explained that, rather than scaffolding, parents can be too intrusive in the assistance that they provide to their child, resulting in poor task internalisation and frustration. Parents may also provide too little assistance to the child, which promotes task anxiety and difficulty coping (Mulvaney et al., 2006). There are studies to suggest that such parenting has negative effects on child, as well as adolescent, outcomes, and appears to be related to psychological control as previously discussed (Soenens & Vansteenkiste, 2010). Aunola and Nurmi (2005) found that the assessment of psychological control was an important addition to their study, as it was found to be a stronger predictor of child adjustment in combination with warmth and behavioural control than the combined effect of warmth and behavioural control alone (Aunola & Nurmi, 2004, 2005). Aunola and Nurmi (2004) also found interaction and specific effects with childhood outcomes, with results suggesting that a high level of psychological control combined with high affection predicted slower math progression in 5-9 year old children.

Johnston et al. (2002) explained that self-report measures of scaffolding and responsiveness typically fail to account for the needs and abilities of the child which is essential in distinguishing inadequate or inappropriate support from sensitive and appropriate scaffolding behaviour. Instead, parents are often asked to rate how often they provide directions or assistance, which reflects parenting behaviours rather than the contingency of administering the behaviour observed in responsive scaffolding practices. Thus it appears that there is overwhelming support for the importance of responsive, developmentally appropriate autonomy support in promoting childhood self-regulation outcomes. However, contingency, responsiveness, and sensitivity have been discussed in relation to multiple parenting dimensions, including warmth, behavioural control, and psychological control (Arrindell et al., 1998; Baumrind, 1997; Grusec & Goodnow, 1994; MacDonald, 1992), and current measures of scaffolding and autonomy support may not accurately assess the appropriateness of support provided. Future research in parenting is therefore needed to address these theoretical and assessment problems in order to develop a comprehensive conceptualisation and assessment of the core parenting dimensions.

2.6 Summary

In summary, it appears that there is a significant body of evidence that supports the predictive relationship between parenting behaviours and important childhood outcomes (Hembree-Kigin & McNeil, 1995; Patterson, 1980, 1982; Sanders et al., 2003; Thomas & Zemmer-Gembeck, 2007). Specifically, it appears that warm, responsive, involved, and autonomy supportive parenting combined with firm and democratic control is associated with social competence and other positive childhood outcomes, while parental rejection, inconsistency, restrictiveness, and the use of psychologically controlling strategies are linked with internalising, externalising, and social difficulties (Houck & Lecuyer-Maus, 2004; Maccoby, 1992; McLeod, Weisz et al., 2007; McLeod, Wood et al., 2007; Patterson et al., 1992).

However, there are notable inconsistencies in the literature regarding the terminology, definition, and measurement of parenting styles and dimensions. These inconsistencies are made more confusing as researchers often use the same term to refer to different concepts, and use different terms to refer to the same concept. The meaning of parenting terms are often unclear from the label, thus the usage, intent, and measurement of parenting concepts and styles must be evaluated for each study (Grolnick, 2003). Because of this, it has not been possible to systematically compare and contrast parenting theories and research, and determine what the most important features of parenting are (Budd & Holdsworth, 1996; Grolnick & Ryan, 1989; L. M. Locke & Prinz, 2002; T. G. O'Connor, 2002).

Baumrind's (1966, 1967, 1971) typological conceptualisation of authoritative, authoritarian, permissive, and neglectful styles is the most cited and measured conceptualisation in the parenting literature, and marked a significant progression in the study of parenting. Baumrind's seminal research involved a series of studies combining observation, parent ratings, structured interviews, and empirical procedures, and was praised for its typological clarity, empirical efficacy, and multidimensional approach (Buri, 1991). However, in one of these studies, Baumrind (1971) identified an additional eight subpatterns of parenting within the three original parenting styles, and another seven patterns were identified based on dimensions of directiveness, intrusiveness, democracy, and commitment in a later study conducted on parents of adolescents (Baumrind, 1991). Although these subpatterns were found to have differential effects on child and adolescent outcomes, they are generally ignored in the literature in favour of Baumrind's three original styles, with the

addition of a fourth disengaged parenting style (Maccoby & Martin, 1983).

Although typological research has made a significant contribution to the study of parenting behaviour, E. Skinner et al. (2005) suggested that disaggregating styles into specific parenting dimensions will allow researchers to examine their unique, relative, and combined contributions to childhood outcomes. Parenting dimensions studied over the past six decades can be generally grouped under the themes of warmth, behavioural control, and psychological control versus autonomy support (E. Skinner et al., 2005). However, a number of other parenting constructs have been proposed in the literature, including democracy (Baldwin, 1946), involvement (L. M. Locke & Prinz, 2002), other-oriented discipline (Hoffman, 1963, 1970, 1982, 1994), monitoring (Dishion & McMahon, 1998), corporal punishment (Gershoff, 2002), contingent discipline (Grusec & Goodnow, 1994), and inconsistency (Chamberlain & Patterson, 1995). In addition, constructs such as anxious intrusiveness (Becker, 1964), power assertion and love withdrawal (Hoffman, 1963, 1970, 1982, 1994), behavioural, emotional, and cognitive psychological control (Morris et al., 2002), conditional regard (Assor et al., 2004), hostility (Silk et al., 2003), dependency-oriented and achievement-oriented psychological control (Soenens et al., 2010), overprotection and overindulgence (Thomasgard & Metz, 1993), scaffolding (S. H. Landry et al., 2002; Vygotsky, 1962), responsiveness (Ainsworth et al., 1971), and invalidation, guilt induction, excessive expectations, ridiculing, embarrassing in public, comparing to others, ignoring, and violation of privacy (Barber et al., 2012) have all been described as psychologically controlling or autonomy supportive parenting practices. However, it is unclear whether these dimensions can be subsumed under the themes of warmth, behavioural control, and psychological control, or whether they comprise distinct parenting dimensions that have unique effects on childhood outcomes.

T. G. O'Connor (2002) and E. Skinner et al. (2005) agreed that the parenting dimensions identified in any current model may not adequately describe the phenomenology of parenting, and that there may be other dimensions that warrant further attention. It is hoped that by expanding the current conceptualisations of parenting, the core parenting factors that are associated with optimal childhood outcomes can be identified. This will allow for systematic comparison of parenting research and theory, improved parenting interventions, and the development of more comprehensive and clinically useful parenting assessments.

CHAPTER 3

PARENTING ASSESSMENT

The accurate and comprehensive assessment of parenting appears to be a challenging task, as the gold standard instrument, methodological approach, and criteria to be used to assess parenting quality and competence have not yet been identified. The lack of methodologically sound assessments available to assess parenting practices and the inconsistency in methodology used between researchers has greatly impeded progress in determining the precise relationship between parenting behaviours and various childhood outcomes (Essau, Sasagawa, & Frick, 2006; Shelton, Frick, & Wootton, 1996).

As outlined in the previous chapter, there is little consensus regarding which parenting dimensions are important to assess, resulting in a large number of parenting measures that have been designed to tap into a number of different dimensions, styles, attitudes, behaviours, and beliefs. Additionally, there are concerns relating to the generalisability of assessments, with differences found between parents according to a number of demographic and contextual factors. There is also the problem of determining which methodology is most accurate and appropriate in assessing parenting, with limited agreement often found between parent self-report, child-report, and observational measures, and issues relating to cost-effectiveness and measure standardisation (Bögels & van Melick, 2004; Lovejoy, Weis, O'Hare, & Rubin, 1999; Rhoades & O'Leary, 2007). Finally, there are concerns with the development methods and psychometric properties of some of the current parenting measures that could affect their ability to accurately assess contemporary parenting dimensions. Several researchers have highlighted the need for a comprehensive, cost-effective, psychometrically sound, and high utility measure of parenting in order to enhance theoretical and empirical progression in this area (Arnold, O'Leary, Wolff, & Acker, 1993; Budd & Holdsworth, 1996; L. M. Locke & Prinz, 2002).

3.1 Generalisability of Assessments

There are a number of issues relating to the generalisability of parenting assessments that have been identified in the literature. Generalisability, or external validity, is the extent to which the findings of a particular study can be applied to individuals and settings beyond the sample studied (Mertens, 2010). Holden and

Miller (1999) raised several important questions in relation to the consistency of parenting behaviour assessed across a number of variables, including parental treatment of children within the same family, ranking of parents in relation to others over time, and the effects of situational variables that could impact assessment, such as time of day, presence of others, and location and nature of parent-child interaction. They conducted a meta-analysis of 87 empirical studies, and reported that, although there is evidence for changes and variations in specific parenting behaviours, there is also some evidence for the stability of parenting characteristics across time, across children within the same family and, to a lesser extent, across settings, with the greatest difference found across different situations (Holden & Miller, 1999).

According to Holden and Miller (1999), variables related to parenting can be conceptually nested within each other in a hierarchical manner. Observed parenting behaviours are placed at the lowest level, as these are likely to reflect contextual influences along with more enduring patterns of parenting (Holden & Miller, 1999). There are transient variables that may influence parenting at this level, such as shifts in goals, characteristics of the immediate situation, competing demands, and parent mood and fatigue (Dix, 1991; Holden & Miller, 1999). The next level up is parent behavioural intentions, which reflect some consideration of situational factors but tend to be more consistent and stable than observed behaviour. Parenting attitudes are placed at the next highest level, and these are considered to be generally stable across context and situations, but may change over time in consideration of factors such as the child's developmental level or gender (Holden & Miller, 1999). It is also possible for parenting behaviours to change in response to increased parenting knowledge and experience with children and child rearing (Clarke-Stewart, 1978; Holden & Miller, 1999; Zussman, 1980). The most general level of parenting includes traits, styles, and global parenting principles and values that are consistent regardless of changes in intention, specific attitudes, situations, and particular child (Holden & Miller, 1999). Given this conceptualisation, it appears to be important to consider the nature of the parenting variables being assessed when assessing the likelihood of their generalisability across time and situations.

Findings from a number of studies indicate that parenting may also differ as a function of specific demographic variables, including parent age, gender, education level (Kendler et al., 1997), culture (Parker & Lipscombe, 1979), socioeconomic status (Goldin, 1969; Sears et al. 1957), religious background (Luft & Sorell, 1987),

and number of children (Kendler et al., 1997; Kotchick & Forehand, 2002), as well as family factors, such as divorce, remarriage, birth of a sibling, or family member's health problems (Holden & Miller, 1999). Child factors such as birth order (Volling & Elins, 1998), temperament (Gordon, 1983), age or developmental level, and gender (Holden & Miller, 1999) have also been found to influence parenting practices, along with the personality and psychopathology of both the child and the parent (Parker & Lipscombe, 1981; Sears et al. 1957). Although there is evidence for the effects of such demographic variables on parenting dimensions, some studies have reported significant similarities rather than differences in parenting practices between these groups (Abramovich, Pepler, & Corter, 1982; Davidov & Grusec, 2006), suggesting that further investigation into the nature of these effects is needed.

John and Soto (2007) argued that assessing the generalisability of measures across contexts, groups, languages, and cultures is essential in order to determine the limits to which a measure can be meaningfully interpreted and utilised across different samples. This is particularly important in parenting research, as the majority of measures have been developed and normed on Caucasian, middle class mothers, with limited data on the applicability of these measures to parenting groups differing on factors such as education level, age, gender, ethnic or cultural background, and socioeconomic status.

3.1.1 Parent Gender Role

Historically, research on parenting has tended to focus on the mother's parenting while paying little, if any, attention to the parenting practices of the father (Adamsons & Buehler, 2007). As a result, normative data on parenting and parenting assessments are often based on mothers' parenting practices only, and it is unclear whether these theories and measures are also valid in capturing fathers' parenting behaviours (Day & Mackey, 1989). Martin, Ryan and Brooks-Gunn (2007) stated that assortive mating and mutual influence point to the likelihood of similarity between couples in their parenting style, and indeed several studies support a strong degree of consistency between mothers' and fathers' parenting practices (Davidov & Grusec, 2006; Forehand & Nousiained, 1993; Hilton & Devall, 1998; Verhoeven et al., 2007). In addition, similar effects of both mothers' and fathers' parenting practices have been found on child outcomes such as problem alcohol use, social anxiety and depression (Barnes, Farrell, & Cairns, 1986; Papini, Roggman, & Anderson, 1991), and problem behaviour (Adamsons & Buehler, 2007). However,

there are also several other studies, including those of Adamsons and Buehler (2007) and Rhoades and O'Leary (2007), that found only low to moderate agreement between parenting styles of mothers and fathers within families.

Several researchers have supported the idea that mothers and fathers play different but complementary roles in parenting, and provide different learning experiences for their children (Forehand & Nouseined, 1993). Paquette (2004) and Verhoeven et al. (2007) explained that children are more likely to turn to their mothers for comfort and their fathers for more playful interactions. Interestingly, Popenoe (1996) argued that males and females are biologically intended to fulfil different parenting roles, with fathers better suited to discipline than mothers. Males generally score highly on measures of instrumentality, or the pursuit of independence, achievement, mastery, and self-assertiveness, and therefore may parent in a more direct and power-assertive way than females (Eagly, 1987; Zervides & Knowles, 2007). Females instead tend to be more expressive, emotionally open, and sensitive to the needs of others than males, and therefore are likely to use a more democratic and responsive parenting approach than fathers (Zervides & Knowles, 2007). However, Aunola, Nurmi, Onatsu-Arviolommi, and Pulkkinen (1999) explained that mothers may be more attuned to their child's needs as a result of spending more time with the child, rather than reflecting a gendered biological predisposition. Nevertheless, some research has provided support for these suggested relationships, demonstrating that fathers tend to be more authoritarian in their parenting style, whereas mothers are more likely to be authoritative and use more explanation than fathers (Adamsons & Buehler, 2007; Conrade & Ho, 2001; Holmbeck, Paikoff, & Brooks-Gunn, 1995; Lytton, 1980; Russell, Hart, Robinson, & Olsen, 2003). However, Downey, Ainsworth-Darnell, and Dufur (1998) found that children reared by fathers only were less well behaved than those raised in mother-only homes, which may indicate a lower level of paternal as opposed to maternal discipline, and contradicts Popenoe's proposal of a biologically determined paternal disciplinary role.

Stolz et al. (2005) explained that mother and father differences in parenting can be assessed indirectly through comparing the influence of each parent's behaviour on child outcomes. However, assessments of mother and father parenting behaviours are often correlated to a moderate to high degree, and therefore the examination of mothers and fathers separately may result in spurious results (Stolz et

al., 2005). They suggested that the unique contributions of the individual parents are generally substantially smaller than the shared contribution of both parents together to childhood outcomes. Indeed, Amato (1994) found that the shared variance between mothers' and fathers' parenting was the biggest predictor of adolescent happiness, life-satisfaction, and distress, while only self-esteem was primarily predicted by maternal parenting. Stolz et al. (2005) considered mothers' and fathers' parenting separately, as well as including the overlapping predictive ability to determine their relative importance. They found that, although fathers are often assumed to be the disciplinarians, it was maternal behavioural control, and in particular mothers' knowledge of the child's activities and friends, that was consistently related to antisocial behaviour. They also suggested that the importance of paternal support in predicting child outcomes was the most robust finding of their study, indicating that although mothers and fathers may engage in similar parenting behaviours, the effects of these behaviours on specific childhood outcomes may differ. These findings provide support for the separate assessment of both mothers' and fathers' parenting practices, as well as a combined score, as they may have different and unique impacts on specific childhood outcomes (Crockenberg, Jackson, & Langrock, 1996; Hart, DeWolf, Wozniak, & Burts, 1992; Tamis-LeMonda, Shannon, Cabrera, & Lamb, 2004).

However, Amato (1998) reviewed 18 studies that included assessment of both mothers' and fathers' parenting. Eleven of these studies found unique contributions to child adjustment outcomes, while the remaining seven studies found a unique contribution of mothers only, although other studies have also found unique contributions exclusively for fathers (Barnett, Marshall, & Pleck, 1992; Coombs & Landsverk, 1988). It is possible that the contribution of each parent was dependent on the child outcome studied or the model of parenting assessed, thus it appears that further research into this area is necessary to clarify these issues.

When examining the contribution of mothers' and fathers' parenting to childhood outcomes, it is also important to consider the concept of co-parenting. This refers to the interdependent parenting process between mothers and fathers, including level of agreement between parents regarding important parenting issues, and the division of parenting tasks and responsibilities (Feinberg, 2003). Indeed, it has been suggested that the interaction between mothers' and fathers' parenting may contribute more to childhood adjustment outcomes than the individual contributions made by

each parent, either through harmonious parenting or undermining behaviours (Crockenberg et al., 1996; Lindsey & Mize, 2001; Winsler, Madigan, & Aquilino, 2005). Martin et al. (2007) explained that parents may also adopt particular strategies in order to compensate for limitations in their partner's parenting practices. If the core dimensions of parenting can be identified and assessed in both parents, the unique and interactive effects that these have on childhood outcomes can be comprehensively explored in future studies.

Although the importance of assessing the degree of equivalence between parenting practices has been highlighted in the literature, most studies have focused on cross-cultural or cross-ethnic consistency (Bradford et al., 2003; Krishnakumar, Buehler, & Barber, 2004; Vazsonyi, Hibbert, & Snider, 2003) rather than gender equivalence. It is important to determine whether similarities and differences in parenting style are related to gender and specific to the parenting of mothers and fathers, or whether it is also similar in other types of co-parenting, including same gender parent couples, step-parents, or shared parenting responsibilities between other relatives. Kurdek and Fine (1994) explained that most parenting studies generate a common parental influence score reflecting the average influence of parenting figures in the home, regardless of differences in family structures such as step-parents and single parents. However, several trends within the family context have taken place over recent decades, including an increase in families with step-parents or same-gender parents, increased parenting involvement of fathers in intact families, and decreased parenting involvement of fathers that do not live in the home with the child (Cabrera, Tamis-LeMonda, Bradley, Hofferth, & Lamb, 2000; Winsler et al., 2005). Parents in Australia are also increasingly working longer hours, and engaging in shift work and fly-in/fly-out employment (Storey, 2001; Wilkins, Warren, Hahn, & Brendan, 2010), which is likely to influence family functioning and parenting behaviour. It appears that the comprehensive identification of core parenting dimensions relating to contemporary mothers, fathers, and other co-parents is necessary in order to clarify the similarities and differences between parenting practices within a co-parent relationship, and the unique and interactive effects that these have on important childhood outcomes.

3.1.2 Child Gender

Research also suggests that both parents, but particularly fathers, may have different behavioural expectations of their male and female children and treat them

differently, with daughters given more responsibilities and expected to be more obedient (Whiting & Edwards, 1988), while sons are given more punishment (Lytton & Romney, 1991; Puustinen, Lyyra, Mestapelto, & Pulkkinen, 2008). Maccoby and Jacklin (1974) reviewed the research on child gender differences in parenting and reported that, although the reinforcement contingencies for boys and girls are generally similar, parents appear to reinforce child gender-specific choices. However, Lytton and Romney (1991) conducted a meta-analysis of 172 studies on parenting and child gender, and concluded that effect sizes for most child outcomes were very small and non-significant, with relationships found in both directions. The encouragement of sex-typed activities, perception of gender stereotyped characteristics, and disciplinary strictness decrease with child age, which could have impacted on these results (Lytton & Romney, 1991).

Interestingly, the effects of parenting may vary according to child gender. Bronfenbrenner (1961) stated that absence of adequate parental affection and discipline was likely to have a negative effect on boys, while too much warmth and discipline was said to have a negative effect on girls. Baumrind (1971, 1989) found that the negative effects of authoritarian parenting were more pronounced in boys compared to girls, and this type of parenting affected different outcomes, with the largest negative effect on social responsibility in boys and independence in girls. G. S. Pettit et al. (1997) also found evidence of differential effects, with parental warmth predicting higher academic performance in girls than boys.

The effects of parenting practices may also differ according to the gender of both the parent and child. Puustinen et al. (2008) found that maternal and paternal nurturance, combined with paternal emotional warmth, was associated with more confident and independent problem solving behaviour as well as positive help seeking behaviour in female children; however, paternal warmth was associated with more avoidance, problematic help-seeking behaviour, and less confidence in boys (Puustinen et al., 2008). The authors noted that fathers may have expressed emotional warmth differently to their sons and daughters or alternatively, girls and boys may have experienced their fathers' expression of emotional warmth differently. A longitudinal study conducted by Stolz et al. (2005) found that depression in male children was better predicted by mothers' use of psychological and behavioural control, while depression in female children was better predicted by paternal parenting practices. These results suggest that both parent and child gender

and the interaction between them need to be considered in research on the effects of parenting on child outcomes.

3.1.3 Stability Across Child Age and Development, and Over Time

The question of whether parenting changes across a child's developmental trajectory poses yet another potential threat to the generalisability of parenting assessments. According to Holden and Miller (1999), many parenting studies assume that current assessments of parenting also reflect past and future parenting experience. In particular, studies have looked at the stability of parenting behaviours across weeks, months, and even years. The trait approach assumes that recurrent patterns of parenting behaviour are the key to capturing the essence of a parent's child rearing practices (Holden & Miller, 1999). In contrast, the child-effect approach assumes that parenting is changeable and influenced by factors including the child's developmental level and gender (Holden & Miller, 1999). According to Smetana (1997), the focus of parenting shifts from safety issues to moral and social-conventional transgressions over the course of the child's development. Additionally, parenting practices are also potentially affected by factors outside the child, such as changes in parenting beliefs, knowledge, and expectations of child rearing (Holden, 1995).

However, Verhoeven et al. (2007) suggested that individual parenting behaviours, such as expressing affection, are more dependent on the child's developmental level whereas the underlying parenting dimensions, such as emotional warmth, that aggregate these behaviours are believed to be more stable over time and can be assessed as such. Furthermore, Bem and Funder (1978) discussed the notion of functional equivalence, where the expression of behaviours within the parent-child relationship may change, but the underlying functional properties remain constant. Holden and Miller (1999) suggested that the degree to which parenting dimensions are centred in the parent, child, or the parent-child relationship may provide some clues as to the likelihood of change over the course of the child's development. Dimensions such as parental monitoring appear to reflect individual differences in parents, such as commitment and conscientiousness, rather than the child's behaviours or developmental level and are therefore more generalisable over time (Holden & Miller, 1999).

Stolz et al. (2005) pointed out that psychoanalytic, sociobiological, and cognitive-developmental theories support the idea that parenting changes over the

course of child development, and in particular during adolescence. Brody and Shaffer (1982) reviewed a number of studies focusing on parental discipline, and concluded that the effects of power assertion do not seem to change with child age; however, the positive effect of inductive reasoning on moral development appears to be apparent only in children over the age of seven years. This suggests that it is important to take the child's developing socio-cognitive processing into account and modify the type of reasoning offered accordingly to maximise the effectiveness of this strategy (Grusec & Goodnow, 1994). According to Grusec and Goodnow (1994), with increasing age, children should be progressively more able to recognise and respond to the intentions behind their parent's behaviour as well as nonverbal signals that reflect the impact of the child's behaviour on others, and also recognise that deviations from their parent's typical behaviour are exceptional and do not reflect significant changes in normal expectations and structure.

In addition, L. M. Locke and Prinz (2002) suggested that discipline and nurturance change across development, as some strategies may not be appropriate for use with older children but are effectively used with younger children. For example, Maccoby (1980) suggested that in adolescence, parents may be less involved in their child's life and show less physical affection, and the effects of control may diminish. T. G. O'Connor (2002) explained that parental monitoring may also be less important in late childhood and throughout adolescence. Indeed, L. M. Locke and Prinz (2002) proposed that different amounts and types of care, empathy, and involvement are needed in parenting toddlers, school children, and adolescents, which may compromise the validity of parenting assessments that span two or more of these developmental phases. G. C. Roberts, Block and Block (1984) reported stability in parenting behaviours for children aged between 3 and 12 years, with many measures showing consistency for up to four years during this developmental period, although it does appear that significant changes in parenting occur as children progress through adolescence (Baumrind et al., 2010). Forehand and Nousiained (1993) also agreed that the parenting of children and adolescents should be assessed separately, as significant changes occur in parenting in response to physical, behavioural and social changes in adolescence. It therefore appears that parenting is best divided into at least three phases, including toddlerhood, children aged three to twelve years, and adolescence, and future assessments should therefore focus on the

parenting dimensions associated with only one of these phases rather than combining them.

3.1.4 Parenting within Families

Parents may also use different strategies with different children in the same family which is important to consider in the assessment of parenting within multiple child families. Brody and Stoneman (1994) suggested that cross-sectional studies often show that parents treat their children differently from one another; however, a longitudinal study conducted by Dunn and colleagues' (Dunn & Plomin, 1986; Dunn, Plomin, & Daniels, 1986; Dunn, Plomin, & Nettles, 1985) demonstrated that parenting behaviour assessed when each child was of a particular age was fairly consistent toward each child. Lawson and Mace (2009, 2010) reported that the number of children within a family has a significant negative influence on the amount of time that mothers and fathers devote to parenting each child, suggesting that later born children may be disadvantaged as they receive less parental attention and investment (Lawson & Mace, 2010). However, in contrast, some studies have reported that parents are more likely to favour their youngest child (Furman & Buhrmester, 1985), while Volling and Elins (1998) found that parents are likely to discipline their older child significantly more often than their younger child, and several other studies have found no significant relationship between parenting practices and birth order (Abramovich et al., 1982; Lasko, 1954).

The child-effects approach suggests that parenting is affected by factors such as child age, gender, behaviour, appearance, temperament, and activity level (Anderson, Lytton, & Romney, 1986; Bell & Chapman, 1986; Fagot & Kavanaugh, 1993; Maccoby, 1984), as discussed in Chapter 2. According to this approach, parenting reflects relational rather than individual differences and thus children in the same family will likely be treated differently (Holden & Miller, 1999). Boyle et al. (2004) found that differential parenting between siblings explained up to 10% of the variance in child adjustment outcomes, and this effect was stronger and more consistent for hostile or ineffective parenting behaviour as compared to warm and responsive parenting practices. According to Furman and Lanthier (2002), it is theoretically probable that parents adopt different strategies with each child in response to different child characteristics such as gender and temperament, and therefore it appears to be sensible practice to ask parents to focus on one of their

children in completing parenting assessments, or complete the assessment separately for each child.

3.1.5 Parent Age and Education Level

There is also evidence that parent age and education level may have an impact on parenting behaviours. Several studies have found that lower maternal age is associated with child adjustment problems (T. G. O'Connor, Heron, Golding, Beveridge, & Glover, 2002; Tremblay et al., 2004); for example, Joussemet et al. (2008) found that children of mothers who had their first child earlier in life were more likely to follow a moderate to high aggression developmental trajectory compared to children of older mothers. However, Joussemet et al. explained that this may be due to negative circumstances and behaviours associated with the age of the mother, including lower level of education, lack of financial resources, poor health habits, lack of social support, and self-regulation problems (Joussemet et al., 2008). Joussemet et al. (2008) also suggested that younger parents may have inadequate parenting knowledge, which could manifest as ineffective parenting behaviours and ignorance of more effective child rearing techniques. Indeed, studies have found that lower levels of parent education are associated with a more authoritarian parenting style, which is associated with aggression and defiance in children (Aunola et al., 1999, Dodge et al., 1994). Baumrind and Black (1967) also found that parents with higher levels of education were more consistent in their disciplinary practices than less educated parents, and Grolnick et al. (1996) suggested that parental involvement and structure requires time and resources, which are likely to be more readily available in families with higher education levels and socioeconomic circumstances. Such deficiency in time, resources, and parenting knowledge could also result in differences in the interpretation of parenting items, more variation in the parenting behaviours shown, and differences in the factor structure of parenting measures according to parent age and education level. Taken together, these results suggest that parent age and education level are important factors to consider in assessing the generalisability of theories about parenting and their effects on child outcomes.

3.1.6 Culture

The final issue related to the generalisability of parenting theories and assessments is related to culture and ethnicity. Parenting behaviours, beliefs, norms, and socialisation goals are developed within and reflective of the family's cultural context, and therefore research has focused on the differences in parenting practices

between parents from varying ethnic and cultural backgrounds (Kagitcibasi, 2005). Some researchers have attempted to identify universal principles of child development as well as core parenting constructs that are relevant in all cultures due to evidence for biological, social, and ecological similarities between people, regardless of cultural differences (Lonner, 1980; Offer, Ostrov, Howard, & Atkinson, 1988). Such parenting constructs include sensitivity, attachment, and behavioural control practices in line with cultural standards (Bernstein, Harris, Long, Iida & Hans, 2005; Offer et al., 1988). Indeed, studies of particular countries, such as Australia (Russell et al., 2003), China (Chen, Lui, & Li, 2000), and Russia (Hart, et al., 1998), as well as studies that have examined multiple cultures together (McNeely & Barber, 2010; Stolz et al. 2005), have all supported the salience of dimensions of parental support and some forms of parental control in predicting child outcomes. In addition, the construct of psychological control has also been validated across samples from various countries and cultures (Barber et al., 2005; Barber et al., 2012; Hasebe, Nucci, & Nucci, 2004; Wang, Pomerantz, & Chen, 2007), with Barber et al. (2005) finding consistently negative effects of psychological control on childhood outcomes across the six different cultures sampled. Stolz et al. (2005) argued that it is important to assess the applicability of models of parenting primarily developed in White, North American, middle-class samples to multiple samples of parents differing in socio-economic, cultural, political, and religious background. If key universal parenting factors are identified and assessed through this process, they can be used to systematically compare parenting behaviours and their effects across cultures.

Results of a study conducted by Bernstein et al. (2005) provided some support for the universalist perspective, as similar patterns of correlations between effective parental discipline and child compliance, and maternal sensitivity and positive child involvement were found across Chinese, Native American, Latin-American, African-American, and Anglo-American groups. In addition, N. E. Hill, Bush, and Roosa (2003) found that parental hostile control was related to conduct problems and depression in children from both low-income Mexican American and European American families. A meta-analysis conducted by Khaleque and Rohner (2002) also provided compelling support for the universalist perspective. Consistent with parental acceptance-rejection theory, which proposes that the child psychological adjustment is predicted by parental acceptance-rejection regardless of

culture, ethnicity, gender, location, and socioeconomic status, Khaleque and Rohner found that the degree of child hostility, aggression, dependence or defensive independence, self-esteem and self-adequacy, emotional unresponsiveness, emotional instability, and negative worldview varied with the level of parental acceptance-rejection across gender, ethnicity, culture, language, and geography in the 43 studies reviewed. However, the authors explained that cultural and other factors may still play a role in the relationship between parenting and adjustment outcomes, as a significant proportion of the variance in this relationship remained unaccounted for. Additionally, Khaleque and Rohner only examined one parenting dimension, which does not exclude the possibility that other dimensions may be culturally specific.

Indeed, there also appears to be significant theoretical and empirical support for the cultural specificity of parenting behaviour. Research suggests that collectivist cultures aim to raise their children to be hard working, cooperative, obedient, respectful, and honest, and these parents value mutual obligations and regulation (Markus & Kitayama, 1991; McNeely & Barber, 2010; Oyserman et al., 2002). In contrast, individualist cultures are thought to highly value independence, self-sufficiency, and assertiveness (Berstein, Harris, Long, Iida, & Hans, 2005), and tend to promote democratic and reciprocal parent-child communication, and provide challenges for their child that require increasing task responsibility in order to promote these outcomes (Baumrind, 1993; McNeely & Barber, 2010). However, Chandler, Lalonde, Sokol, and Hallet (2003) and Neff (2003) argued that cultures are not sufficiently distinguished by the dimension of individualism-collectivism, as all cultures embody varying levels of both values. Indeed, some studies have found that the dimension of individualism and collectivism fails to adequately explain cultural variations in parenting practices (Harkness, Super, & van Tijen, 2000; Hofstede, 1991; J. G. Miller, 2002).

In terms of specific cultures, research suggests that East Asian families generally place greater emphasis on restrictiveness, obedience, deference to elders, and academic success than European American families, and often demonstrate responsiveness through strong commitment to parenting and education rather than through the display of affection (Chao, 1994; Rohner & Pettengill, 1985; Zervides & Knowles, 2007). However, educational support and spending time together both appeared to be indicative of parental involvement and investment of resources, thus it

is possible that some parenting behaviours that are thought to be culturally specific may in fact represent the same underlying dimension (McNeely & Barber, 2010). Psychologically controlling strategies are common in South Asian families; however they are typically associated with positive childhood outcomes in this context (Ho, Bluestein, & Jenkins, 2008; Jambunathan, Burts, & Pierce, 2000). Rohner and Pettengill (1985) found that Korean adolescents were more likely to associate controlling and intrusive parenting with high warmth and low neglect, while many North American adolescents associate these behaviours with hostility and rejection. Stolz et al. (2005) suggested that parental psychological control and intrusiveness autonomy may only have a negative impact on child adjustment where individual development is highly valued.

Although some research suggests that authoritative parenting appears to be associated with optimal childhood outcomes regardless of culture, ethnicity or socioeconomic status (Ho et al., 2008; Rowe, Vazsonyi, & Flannery, 1994), authoritarian parenting is more common among African American, Asian, Caribbean, and Latin American families, and may not have the same negative effects on children in these families than it does in Western cultures (Baumrind, 1972; Ho et al., 2008; Whaley, 2000). Harsh parental control may be favourable in protecting children in ethnic minority groups from disadvantages and physical dangers associated with low socioeconomic, urban environments (Baumrind, 1991; Brody & Flor, 1998; Steinberg et al., 1994). Alternatively, the meaning of parenting dimensions may be interpreted differently by children from different socioeconomic, cultural, or ethnic groups, such that what is considered concern in one culture may be considered harsh intrusiveness in another (Darling & Steinberg, 1993; Steinberg et al., 1994).

Parenting measures may show differences in their structure and psychometric properties between different cultures as a result of differences in the meaning of parenting dimensions. For example, McWayne, Owsianik, Green, and Fantuzzo (2008) found slight differences in the factors emerging from factor analysis of the Parent Behavior Questionnaire (Hart et al., 1998) when administered to a sample of African American parents, and these factors were not significantly associated with the same child outcomes as in Western culture. Robinson et al. (1996) also found different subfactors emerging from the Parenting Styles and Dimensions Questionnaire between Chinese, Russian, North American, and Australian samples.

In addition, most parents in a Latino sample used by Domenech Rodriguez, Donovan, and Crowley (2009) were low in autonomy granting but high in warmth and demandingness, reflecting a protective but not overprotective style of parenting that does not appear to be recognised in Western culture. Stolz et al. (2005) found high internal consistencies for supportive parenting across a range of cultural samples, although reliabilities for behavioural and psychological control were more variable, suggesting that items included in these constructs may be less homogenous in certain groups. Together, these results suggest that traditional parenting dimensions and styles may not be reliable and valid across all cultural groups.

There are some studies that have found mixed evidence for the universalist perspective of parenting, with both cultural similarities and differences found within the same study. Pearson and Rao (2003) found similar parenting goals between Hong Kong-Chinese and English mothers of preschool children, but there were some distinctions found in the meaning and interpretation of key parenting dimensions between the two cultures. Stolz et al. (2005) conducted a survey of adolescents in 12 nations or ethnic groups as part of the Cross-National Adolescence Project (C-NAP). The overall results suggested that the effects of parenting appear to be relatively common between adolescents of all categories and cultures included in the study. Parental support and adolescent antisocial behaviour were significantly linked in the majority of samples, and perceptions of intrusive parental behaviour had the same negative effects on adolescents from collectivist cultures as those seen with adolescents from more individualistic cultures (Stolz et al., 2005). However, several differences were also found between cultural groups. For example, psychological control was positively correlated with social initiative in only two of the 12 samples, and a significant positive association between behavioural control and depression was found in only one sample, suggesting that there were cultural variations in the relationship between parenting and adolescent outcomes.

In addition, McNeely and Barber (2010) asked 400 adolescents from the C-NAP samples what behaviours they felt communicated parental love and support. Most responses were consistent with the traditional conceptualisations of support, although the provision of resources, such as gifts or money, was also frequently nominated as evidence of parental love (Stolz et al., 2005). Although support and granting of independence were interpreted as signs of love by a greater proportion of Western adolescents as expected, this was also the case in some non-Western

cultures as well. Adolescents from collectivist cultures generally indicated that guidance, respect, and trust indicated parental love; however, not all collectivist cultures showed this same tendency (McNeely & Barber, 2010). Teaching or moral guidance was also identified as a sign of parental love by some adolescents in this study, but this was rarely nominated in Western sites (McNeely & Barber, 2010). The authors suggested that much of the substantial variation found between cultures may reflect culturally specific parenting dimensions.

It appears that findings related to the universality of parenting is conflicting, and thus it is unclear whether universal similarities exist, or whether the meaning and experience of parenting behaviours can only be understood in the context of a specific culture. However, some researchers suggest that these the two approaches are in fact complementary (Kagitcibasi, 2005; McNeely & Barber, 2010; Peterson, Steinmetz, & Wilson, 2005; Sinha, 1997). Parental ethnotheories, which are implicit assumptions regarding the accepted and normal way to raise children, are shaped by the larger culture and range from universal themes that are shared by parents across cultural groups to those that are specific to cultural areas, groups, or subgroups (Harkness & Super, 2006). Emics are concepts that are only applicable in a specific cultural context and are not relevant to any other culture (Yau-Fai Ho, 1994), while etics are universal concepts that transcend cultures (Yau-Fai Ho, 1994). Barber, Chadwick, and Oerter (1992) reported that a measure of broad parental support was equally strongly predictive of self-esteem in U.S. and German adolescents; however, parental physical affection, which is a component of parental support, was predictive of self-esteem in US but not German adolescents. It thus appears that it is possible to identify broader, universal parenting dimensions, but there may be culture-specific differences in their manifestation. Indeed, S. M. Stewart and Bond (2002) suggested that universal parenting dimensions are better indicators of parenting behaviours in ethnic cultural groups where there may be differences in the meaning of the behaviour. However, it is important to note that emic parenting concepts that are identified in large, Western cultures such as the US and areas of Europe are sometimes misapplied as universal concepts as a result of ethnocentrism. As a result, some parenting behaviours that are not emic to Euro-Western culture are misrepresented as harmful or abnormal, or simply ignored (Chao, 1994). Therefore, it is important to consider the cultural context and potential limitations of

universality when applying parenting conceptualisations and assessments across different cultural groups.

Bernstein et al. (2005) explained that it is not sound practice to assume equivalence across cultures when research paradigms and assessments are only developed within one cultural context. However, there is evidence to suggest that there may be universal parenting dimensions that exist between cultures, although the cultural significance and the effects of these on child outcomes may vary. Clearly, it is imperative that future research on parenting takes cultural background into consideration, and further research is needed to clarify whether a universal approach to parenting can be accurately applied across cultures. If valid universal dimensions of parenting are identified, they can be meaningfully assessed across cultures and important differences in cultural significance of parenting practices and their effects on child outcomes in different cultures can be further examined.

3.1.7 Summary of Generalisability

The generalisability of parenting assessments has been a significant issue in parenting research and clinical practice for many decades, and more recent research has investigated the reliability and validity of parenting measures across gender, culture, childhood, and siblings. Although there is some evidence to suggest that there may be some universal parenting dimensions that could apply across all of these domains, these have not yet been identified and systematically assessed. This issue appears to be particularly relevant in the assessment of contemporary parenting practices, as the heterogeneity of societies continues to increase and social trends have had a significant impact on family composition, values, and practices. If a comprehensive, high utility measure of parenting is developed across these diverse groups, it is hoped that more reliable and valid assessment of parenting and its impacts on childhood outcomes can be conducted in future studies. However, another area of contention within the area of parenting assessment that needs to be addressed is determining the most accurate, but also practical, method of assessment.

3.2 Assessment Methodology

Parenting researchers generally agree that the most comprehensive and valid assessment of parenting includes the use of multiple data collection methods with multiple sources of information (Harvey, Danforth, Ulaszek, & Eberhardt, 2001; Lovejoy et al., 1999; Bornstein & Toole, 2010). However, this may be impracticable for many researchers and clinicians in terms of expense, complexity, and time

required. Lovejoy et al. also pointed out that there have been discrepancies between the behaviours measured in observational and self-report assessments, which limits comparability of the measures, and it is unclear if inconsistencies found between data collected using each method is due to method effects, situational effects, or inconsistencies in parenting concepts assessed. Therefore, a key area for future development is the consistent assessment of core parenting strategies across all methods, which must begin with the identification of core parenting dimensions.

3.2.1 Observations

A common method of assessing parenting of preschool and young school-aged children has been direct observation of parent-child interactions (Essau et al., 2006). Indeed, Clerkin, Marks, Policaro, and Halperin (2007) explained that playroom and home observations of free-play and structured interactions have been used to identify much of what is currently known about parenting in relation to children with externalising problems. The rationale for the use of home observation techniques is that interaction styles learned at home are likely to be generalised to other settings, such as peer and classroom interactions, which may impact important social and academic outcomes associated with these settings (G. S. Pettit, Bates, & Dodge, 1993, 1997). Although several studies have indicated that child outcomes are better and more consistently predicted by observations rather than self-reported parenting (Collins et al., 2000; Zaslow et al., 2006), findings from a study conducted by C. Hill et al. (2008) suggested that the extent to which observational methods provide information beyond that collected by self-report methods may vary depending on the context. They found that children's disruptive behaviour was uniquely predicted by observed parenting behaviour only within the parent-child context, and suggested that observational assessment may not provide additional information beyond that provided by parent self-report when assessing externalising behaviour in other settings, such as school (C. Hill et al., 2008).

There also appears to be several limitations to the observational approach which must be considered. Firstly, high quality observation of parent-child interaction is complex, time-consuming, and resource intensive (Rhoades & O'Leary, 2007). Researchers must operationally define all key variables of interest and train coders, ideally blind to the purpose of the study, to reliably code these variables before data collection can commence, a process which can take many weeks to achieve (Clerkin et al., 2007). However, if observers are conducting observational as

well as interview assessments of the families, they cannot be blinded and may be biased as a result of their previous experience with the family (Zaslow et al., 2006). In collecting the data, C. Hill et al. (2008) proposed that the most useful observational techniques involve the combined use of frequency ratios and sequential time-ordered coding of behaviour rather than simply coding behaviour frequency in order to capture the transactional and dynamic interaction between the parent and child; however, these methods and the subsequent analyses are significantly more labour-intensive and complicated than frequency observation and other parenting assessment methods. Often, several situations are observed, such as free-play and structured play, and repeated observational sessions may take place over an extended period of time, further contributing to the significant time and resources required to conduct observational assessment. These issues are likely to present a significant barrier to researchers with large sample sizes, as well as clinicians with limited resources (Dadds et al., 2003).

Another significant limitation of observational research is the potential for reactivity, which compromises the ecological validity of the data collected (Essau et al., 2006; Shelton et al., 1996). Reactivity refers to the potentially atypical responses that one might exhibit as a result of being observed (P. J. Frick, Barry, & Kamphaus, 2009). Parents and children may be reactive due to social desirability, where socially appropriate behaviours are more frequently displayed (A. Rubin & Babbie, 2011), whereas less desirable behaviours, such as punishing behaviour on the part of the parent or externalising behaviour on the part of the child, may be suppressed while observations are taking place. P. J. Frick et al. (2009) explained that reactivity is likely to affect the results of any observational research to some extent, even when measures are taken to minimise participant reactivity during observations, thus it may significantly limit the validity of observational assessment methods.

A further potential problem associated with observational methods is the situation which is used to observe the parent-child interaction. The reliability of home observations has been questioned due to the limited control that the researcher has over the physical environmental factors that may influence the results (M. W. Roberts, 2001). However, observation of controlled playroom interactions, which increase the researcher's control over environmental factors, may present a threat to ecological validity due to the difficulty of setting up a situation in which the behaviours of interest may be observed (Clerkin et al., 2007). In addition, there may

be ethical constraints relating to constructing and observing situations eliciting certain behaviours of interest, such as corporal punishment (Essau et al., 2006), and therefore other methods of assessment such as parent or child report may be needed to assess these constructs.

More than 80% of the studies included in Holden and Miller's (1999) meta-analysis discussed earlier in this chapter used observational methods; however, it is unlikely that one observation is sufficient in assessing typical or stable parenting behaviour and therefore these studies may have underestimated the similarity of parenting practices. In addition, each of the studies that conducted observations in the laboratory employed different tasks, and these were different again to tasks used in observational studies conducted in the home (Holden & Miller, 1999). Certain behaviours may not be observable within the period of observation or the context of the parent-child interaction, including strategies relating to parent monitoring of the child's daily behaviours, and behaviours demonstrating commitment and involvement such as taking the child to special activities, making time for the child, and attending meetings at the child's school. Observers can generally only code a limited range of behaviours, and parenting behaviours that occur less frequently, or covert behaviours such as lying, may not be observed or included in the coding system (Rhoades & O'Leary, 2007). Zaslow et al. (2006) also explained that factors such as the effectiveness of parental teaching strategies and the provision of support may not be accurately observed in structured observational tasks, and behaviours in structured tasks may not be consistent with those observable in daily interactions. Behaviours related to parental psychological control, such as love withdrawal and guilt induction, appear to reflect a parent's internal intent to manipulate the child's emotions which again may not be well captured by observational methods.

Cone (1998) discussed a number of other issues that may compromise the accuracy of observational research. These include observer bias, or errors occurring as a result of the observer's prejudices, expectancies, and information-processing abilities; observer drift, which is measurement decay due to factors such as inattention, fatigue, and recording-interpretation biases; coding complexity; degree of similarity between training scenarios and research observation scenarios; and accuracy checking procedures, which may also affect the accuracy of observational data collection. Because of these issues, Shelton et al. (1996) suggested that

behavioural observations may be problematic in the reliable and valid assessment of parenting, and other methods of assessment have therefore been developed.

3.2.2 Interviews

Interview formats have been used by a number of researchers to assess parenting behaviour (e.g., Grolnick & Ryan, 1989; McBride, Schoppe, & Rane, 2002; Shelton et al., 1996; Wootton, Frick, Shelton, & Silverthorn, 1997). Interviews may be structured, semi-structured, or non-structured, and can also vary in terms of the interview purpose and context, style and theoretical perspective of the interview, and number of people being interviewed in the session (Fernandez-Ballesteros, 2004). Verbal responses as well as behavioural reactions can be assessed if the interview is conducted in person, thus combining observational and self-report methodologies (C. Carlson, 2001).

Structured interviews allow researchers to obtain more in-depth and comprehensive subjective evaluations and can be used to collect past and present, internal and external, as well as descriptive, explanatory, and classificatory information (C. Carlson, 2001; Fernandez-Ballesteros, 2004). However, these methods may be subject to bias and error from multiple sources, including the interviewer, interviewee, and situation. In addition, they rely on accurate verbal self-report, and are also time consuming and expensive to administer (Arnold et al., 1993; Fernandez-Ballesteros, 2004). Edelbrock and Costello (1990) also criticised these methods as unreliable, due to significant variations in content, style, detail, and coverage between interview methods.

3.2.3 Self-Report Questionnaires

Dadds et al. (2003) explained that self-report questionnaires are the best available alternative to observational methods. These assessments have the benefits of being cost-effective in terms of both time and resources, requiring minimal time for training and data collection, and importantly, empirical derivation and standardisation of self-report questionnaires is possible (Buri, 1991). Irvine, Biglan, Smolkowski, and Ary (1999) explained that self-report measures are an economical way to assess key parenting behaviours for treatment and treatment evaluation, and they are also advantageous in that they allow for the assessment of behaviour in situations that are difficult to observe, and can provide a summary of behaviour across multiple contexts and over long periods of time (Lovejoy et al., 1999; Zaslow et al., 2006). Self-report measures generally have high reliability coefficients

(Harvey et al., 2001), and a substantial amount of research has found significant relationships between self-reported parenting behaviours and expected child development outcomes (e.g., Aunola & Nurmi, 2004; Barber et al., 1994; Gamble et al., 2007; Power & Hill, 2008; Zhou, Eisenberg, Wang, & Reiser, 2004), which indicates that such assessments have predictive validity. However, like observation and interview methods, there are limitations to parenting self-report measures and specific problems with pre-existing self-report measures that warrant further discussion.

One difficulty related to the use of self-report parenting measures is achieving a balance between the desire for comprehensive assessment and the burden of time and difficulty for the participant to complete the measure (Clerkin et al., 2007). Stormshak et al. (2000) explained that a number of self-report measures are often used in combination to comprehensively assess the parenting dimensions of interest, as there is no one measure that includes all of these together. While global measures of parenting assessing general attitudes and beliefs have been developed, some researchers argue that these may not provide enough information regarding specific parenting behaviours (Arnold et al., 1993; Hawes & Dadds, 2006). Furthermore, some existing parenting measures include an inadequate number of items to fully represent the construct, which may compromise the measure's content and construct validity. This suggests that there is a need to develop a brief but adequate, reliable parenting measure which can provide specific behavioural information across the global domains of parenting.

According to C. Hill et al. (2008), self-report measures may also be limited in that they assess the combination of parenting behaviours across time, contexts, and child behaviours, which may not represent the dynamic transactions between parent and child. Specifically, Rhoades and O'Leary (2007) explain that many measures ask parents about how they believe they should parent their child, rather than reporting their actual day-to-day parenting behaviour. This is problematic as Bornstein and Toole (2010) reported that parents appear to be more reliable in reporting on their actual parenting behaviour rather than their feelings about parenting. Thus, self-report measures can still provide useful information regarding the use of more concrete parenting behaviours if items can be designed to ask parents how they respond to specific child behaviours rather than asking about parenting beliefs or behavioural intentions. Indeed, many current self-report measures address selected

features of parenting in relation to specific child behaviours and specific outcomes, such as ineffective discipline behaviours (Irvine et al., 1999).

Some parenting assessments rely on the concurrent or retrospective report of parenting by the child, while others are designed for parent to self-report their parenting practices. One limitation of child-report measures is that they may not be appropriate for use with young children due to concerns about their accuracy in reporting their parent's parenting behaviour (Robinson et al., 1995). Furthermore, there may be ethical issues regarding child reporting of sensitive parenting behaviours, such as psychological control and corporal punishment, which could be potentially distressing for the child to discuss. Bornstein and Zlotnik (2008) suggested that parent and child reports of parenting tend to differ from each other and also from observational data, which calls into question the reliability of one or all of these methods. Parent self-reports may be susceptible to social desirability biases, although this appears to be problematic across all methods of overt assessment (Bornstein & Zlotnik, 2008). Parents may also portray themselves inaccurately in other ways, and emphasise more recent or salient events, or lack insight into their behaviours (Zaslow et al., 2006).

Zaslow et al. (2006) and Fiske (1987) explained that method effects, such as the informant used and the assessment methodology chosen to assess parenting, can be sources of construct invalidity due to systematic biases and failure to report on the full range of parenting behaviour. Parenting questionnaires reflect the perceptions of a specific informant, thus many researchers have emphasised the importance of using multiple informants in the assessment process (Janssens, De Bruyn, Manders, & Scholte, 2005; Kuppens et al., 2009). Morris et al. (2002) and Bögels and Van Melick (2004) suggested that the child's perception of parenting behaviour may in fact have a stronger impact on developmental outcomes than parents' self-report parenting behaviour, supporting the inclusion of child-report measures in the assessment of parenting. Morris et al. employed a puppet interview technique, and demonstrated that young children are able to provide reliable and valid reports of parenting behaviour, while questionnaire studies have found promising evidence for the reliability and validity of child reported parental support, behavioural control, and psychological control with children aged seven years and above (Bögels & Van Melick, 2004).

Kuppens et al. (2009) conducted a study to evaluate and compare mother, father, and child reports of parenting behaviour in families with children aged between eight and ten years. Like Morris et al. (2002), they found that child reports of parenting were reliable and valid, although they contributed less to parenting factors and contained more error than mother and father reports (Kuppens et al., 2009). Mother and father ratings of parenting dimensions yielded significant moderate to high factor loadings, while loadings for child report data were lower but still significant (Kuppens et al., 2009). Interestingly, studies that have employed multitrait multimethod designs have demonstrated convergence between parent and child reports when informant-specific error is taken into account (Cook & Goldstein, 1993; Kuppens et al., 2009; Villar, Luengo, Gómez-Fraguela, & Romero, 2006). These results taken together suggest that the use of both parent and child self-report questionnaires may be useful in assessing parenting in middle childhood. Kuppens et al. (2009) concluded that a multiple informant approach appears to provide the most comprehensive account of parenting behaviour in middle childhood.

Sessa, Avenevoli, Steinberg, and Morris (2001) noted that discrepancies between observational, parent-report, and child-report methods may reflect important differences in the perceptions of family members and observers, as the individual's subjective experiences and subsequent internalisation of the perceived contextual factors are important in predicting behaviour. They concluded that observational data can be used to effectively assess more objective phenomena in the parent-child relationship while child-report and self-report data captures the equally important subjective experience of events, including interpretations, perceptions of behaviour, and behavioural intentions (Sessa et al., 2001). Sood and Oswald (2005) therefore recommended that self-report and observational assessments of parent behaviour be used together in order to provide a more comprehensive understanding of parenting.

Indeed, a study conducted by Zaslow et al. (2006) found that observational, self-report, and home environment report parenting assessments conducted when the child was in preschool predicted four psychosocial and academic outcomes in middle childhood; however, the proportion of variance explained for each outcome increased by at least twofold when data from all three assessment methods were included. Zaslow et al. also found evidence to suggest that structured observational assessment had significantly better predictive ability compared to other parenting assessment methods. However, due to the larger burden of administration, sample size may be

necessarily compromised in research studies, thus it is important to consider the aims of the study in choosing an assessment methodology. In addition, less burdensome methods were still predictive of child outcomes, and may be useful where sample size is a high priority (Zaslow et al., 2006).

It appears that, while multi-method multi-informant parenting assessment is ideal, parent self-report measures provide a cost-effective, efficient, and valid alternative, particularly for research purposes. There is a vast number of parenting self-report assessments in existence, each of which have strengths and limitations; however there does not appear to be any measure in existence that combines all of the parenting concepts measured into a single, comprehensive, psychometrically sound, and high utility measure of parenting.

3.3 Existing Parent Self-Report Measures

As outlined in the previous chapter, there is a large amount of literature devoted to parenting theory, including attempts to assess the parenting styles and dimensions that are key in predicting child outcomes; however, there is relatively limited research assessing the psychometric properties of existing parenting assessments (Foster & Cone, 1995; Reitman et al., 2002). Reitman et al. (2001) suggested that the development of psychometrically sound parenting measures is necessary for progression in both research and clinical applications of parenting research. The psychometric properties, namely reliability and validity, indicate the adequacy of a specific assessment method for a particular purpose (Budd & Holdsworth, 1996). These include test-retest reliability, reflecting the stability of measures over time; interrater reliability, reflecting the level of agreement between independent assessors; content validity, referring to the degree to which assessment items cover relevant domains; construct validity, or the degree to which assessment items reflect key concepts; criterion validity, referring to the degree of correlation between the measure being assessed and other assessments of the same or related phenomena, and predictive validity, the degree to which the measure can predict future behaviours or events (Budd & Holdsworth, 1996). According to Budd and Holdsworth, there is some question as to whether existing psychological measures adequately assess parenting capacity. Researchers in the past have tended to produce new, idiosyncratic measures of parenting rather than validating existing assessments (Holden & Edwards, 1989), resulting in a plethora of questionnaires, interviews, and

observational instruments assessing a wide variety of parenting dimensions and styles.

Warmth and behavioural control have been identified as the two major themes in the preadolescent parenting literature, with strong evidence supporting the inclusion of psychological controlling, coercive, autocratic discipline as a third dimension of interest (T. G. O'Connor, 2002). Unfortunately, there is little consensus regarding how to measure these core dimensions, and there does not appear to be any current parent self-report assessment that comprehensively assesses all three of these dimensions and relevant subdimensions in parents of preadolescent children. Many measures focus on a specific area of parenting, such as ineffective behavioural control strategies, aspects of the parent-child relationship, or parenting beliefs; however, all of these appear to exclude at least one theoretically important parenting concept. Other measures designed to tap into Baumrind's (1966, 1967, 1971) parenting styles preclude the identification of specific parenting dimensions that are associated with key childhood outcomes, and there may be factors that are relevant to contemporary parenting that are not included in Baumrind's typology which was developed over forty years ago. Finally, the utility and generalisability of some existing measures has also been called into question due to the use of rational or theoretical approaches in their development, rather than empirical procedures (Kochanska, Kuczynski, & Radke-Yarrow, 1989; Reitman, et al., 2002). The development and psychometric properties of some of the more widely used self-report measures assessing parenting of preadolescent children are discussed in more detail below.

3.3.1 Parenting Scale

Exposure to dysfunctional parental discipline is perhaps the most well-established risk factor for externalising problems in children (Dadds et al., 2003), with effective treatment often targeting ineffective parenting strategies (Sanders, 1999). Indeed, harsh and inconsistent parenting has been found to account for between 30 and 52% of the variance in the development of antisocial behaviour (Capaldi & Patterson, 1994; Patterson et al., 1992). Furthermore, a meta-analysis of more than 300 studies indicated that the strongest and most consistent predictors of disruptive child behaviour were related to parental monitoring, supervision, and involvement (Loeber & Stoutharner-Loeber, 1986). Because of this relationship, two

of the most widely used parenting measures focus specifically on parenting dimensions associated with child behavioural problems.

Arnold et al. (1993) developed a measure called the Parenting Scale (PS), which aimed to assess the ineffective parental discipline strategies associated with externalising problems in young children. Ineffective parenting strategies are paired with their more effective counterpart to form the anchors of each item (Arnold et al., 1993). Arnold et al. used feedback from samples of 50 to 100 mothers of 1.5 to 4 year old children to revise the items across four stages. Items were revised when participants indicated that they were unclear, or when items did not correlate with either total PS score or child externalising behaviours (Arnold et al., 1993).

The final version of the PS consisted of 30 items, and exploratory factor analysis yielded three factors, labelled Laxness (11 items), Overreactivity (10 items), and Verbosity (7 items; Arnold et al., 1993). Laxness refers to inconsistent and permissive parenting behaviours, such as giving in and providing reinforcement for misbehaviour, which is similar to the permissive parenting style. Overreactivity includes behaviours such as displaying irritability and anger, which was likened to authoritarian parenting, while verbosity comprises items reflecting ineffective reliance on talking and lengthy verbal discipline, rather than taking direct action (Arnold et al., 1993). One of the items on the Laxness factor and one of the items on the Overreactivity factor are also included in the computation of the Verbosity factor due to high cross-loading. Four items that were deemed theoretically relevant, and correlated with total PS score but not with any particular factor, were also retained for computation of the total score.

Test-retest correlations over a two week period were .83, .82, and .79 for the Laxness, Overreactivity, and Verbosity factors respectively, and .84 for the Total score (Arnold et al., 1993). Laxness, Overreactivity, and PS total score showed good internal consistency, with Cronbach's alpha reported as .83, .82, and .84 respectively, while the Verbosity factor had a minimally acceptable level of internal consistency (above .6 for subscales with less than 10 items; Loewenthal, 2001) with a reported Cronbach's alpha of .63. However, this factor was uninterpretable in subsequent principal components analyses conducted by Arnold et al. (1993) on a clinic sample of 65 parents, and a sample of mothers of female children. Studies that have since explored the factor structure of the PS have failed to replicate this factor, and the internal consistency of this factor is consistently found to be below the minimally

acceptable level, with Cronbach's alpha ranging from .23 to .52 (Collett et al., 2001; Irvine et al., 1999; Reitman et al., 2001).

In further psychometric evaluation of the PS, each of the three factor scores were significantly correlated with the mother's report of child misbehaviour on the Child Behavior Checklist (CBCL; Achenbach, 1991) in a sample of 65 clinic mothers and 103 non-clinic mothers, providing evidence for concurrent convergent validity (Arnold et al., 1993). Additionally, greater marital discord, as measured by the short form of the Locke-Wallace Marital Adjustment Test (H. J. Locke & Wallace, 1959), was associated with higher PS factor scores, and mothers' Beck Depression Inventory scores were significantly associated with Overreactivity. The PS also distinguished between the clinic and non-clinic mothers on all scores except Verbosity (Arnold et al., 1993). Observer ratings of laxness, overreactivity, verbosity, and general dysfunctional discipline during a mother-child interaction were significantly correlated with the corresponding PS factor scores, providing support for external validity, and only the Verbosity score failed to correlate highly with observed levels of child misbehaviour. Arnold et al. suggested that social desirability was not problematic for the PS, as mothers frequently indicated that they were unsure about which statement represented functional discipline and which represented dysfunctional discipline in some items. In addition, mothers often commented about their use of dysfunctional strategies despite being aware that they should not use them, and the full range of responses was endorsed for every PS item (Arnold et al., 1993).

Many researchers have proposed that the item content of the PS may be appropriate for use with older children (Irvine et al., 1999; Prinzie, Onghena, & Hellinckx, 2007); however, Rhoades and O'Leary (2007) suggest that the Verbosity factor may only be relevant for samples of children aged three years or less, such as those used in Arnold et al.'s (1993) study. Reitman et al. (2001) explained that it may be more difficult to differentiate verbosity and age-appropriate explanation of discipline strategies with older children. Indeed, several studies that have examined the factor structure and other psychometric properties of the PS have consistently uncovered only two factors, resembling the original Overreactivity and Laxness factors (Collett et al., 2001; Harvey et al., 2001; Irvine et al., 1999; Reitman et al., 2001; Steele, Nesbitt-Daly, Daniel, & Forehand, 2005). There is evidence to suggest that the two factor structure of the PS is also replicable in more diverse samples of

parents. Irvine et al. (1999) found two factors resembling Laxness and Overreactivity in a sample of mothers and fathers of middle school children with a mean age of 12.2, which was replicated by Collett et al. (2001) in their sample of 785 predominantly highly educated Caucasian parents of children aged 2-12 years. Collett et al. also found that internal consistency and overall scores were relatively similar between children of different ages, which suggests that the PS can reliably assess dysfunctional discipline strategies of parents of both preschool and elementary school children. However, Rhoades and O'Leary (2007) pointed out that the number and content of items retained for the Lax and Overreactive factors differs across studies and the Verbosity factor has never been replicated, thus it is not clear how to best score the PS. It appears that further investigation of the PS is needed to determine how many factors can be derived from the items, what these factors include, and how to score the PS.

Prinz et al. (2007) provided further support for the reliability of the two PS factor scores, reporting test-retest reliabilities of .68 for mothers' Overreactivity, .63 for fathers' Overreactivity, and .65 for mothers' and fathers' Laxness over a three year period, suggesting acceptable to good temporal stability for parents of children aged 7 to 10 years. The PS factor scores were significantly correlated with the Authoritarian and Permissive subscales of the PAQ-R (Reitman et al., 2002), and the Parental Involvement and Limit Setting subscales of the PCRI (Reitman et al., 2001), supporting the construct validity of the PS. Rhoades and O'Leary (2007) found significant differences between responses to the PS according to instructions to either complete it according to what parents think they should do, or what they actually do, with only actual responses meaningfully predicting child behavioural problems. This suggests that the PS is likely to measure actual parenting behaviour as intended, rather than the parent's behavioural intentions. Finally, Reitman et al. (2001) demonstrated that the PS subscales and total score did not correlate significantly with a measure of social desirability, and evidence of concurrent divergent validity was found in non-significant relationships with child anxiety/shyness and parent's highest level of education completed.

The PS appears to be a reliable and valid measure of dysfunctional parental discipline that can be used for parents of children aged between three and 12 years. However, the original factor structure has not been replicated, and most studies suggest a two factor solution of Laxness and Overreactivity, although the exact item

composition of these factors is not consistent. Additionally, several studies suggest that other dimensions of parenting, such as warmth, that are not included in the PS may moderate the relationship between dysfunctional discipline strategies and externalising outcomes in children and may even have unique effects on these outcomes (Eisenberg et al., 2005; McCarty, Zimmerman, Digiuseppe, & Christakis, 2005; Rothbaum & Weisz, 1994; Vandewater & Lansford, 1998). This suggests that the relationship between parenting and externalising problems cannot be comprehensively explored using the PS alone. Furthermore, the PS is not considered a global measure of parenting; rather it appears to be inadequate in assessing positive and diverse parenting behaviours, and common parenting patterns. Thus investigation of the relationship between key parenting dimensions and a diverse range of childhood outcomes cannot be achieved without including further parenting measures.

3.3.2 Alabama Parenting Questionnaire

The Alabama Parenting Questionnaire (APQ; Shelton et al., 1996) is another widely used measure that focuses on parenting practices related to externalising problems in school-aged children; however, it assesses a greater number of parenting dimensions than the PS. It has parallel forms for parent report and child report, as well as parent and child telephone interviews. The initial APQ item pool consisted of items selected from previous research to assess predetermined factors of Parental Involvement, Poor Monitoring/Supervision, Inconsistent Discipline, and the use of Positive Parenting and Corporal Punishment, which were found to be associated with externalising problems in the literature (Shelton et al., 1996). Items were mainly sourced from research reviewed by Loeber and Stouthamer-Loeber (1986) and unpublished interviews developed by Loeber, Stouthamer-Loeber, Vim Kammen, and Farrington (1987, as cited in Shelton et al., 1996), as well as measures reported by Capaldi and Patterson (1989), and the Child Report of Parent Behavior Inventory (CRPBI; Schaefer, 1965). The CRPBI assesses parent acceptance versus rejection, psychological control versus autonomy, and firm control versus lax control (Krishnakumar et al., 2003); however, it does not include items that assess harsh punishment and the degree to which parents monitor and supervise their child, which research suggests are important factors contributing to the development of externalising problems in children (Dadds et al., 2003; Essau et al., 2006). Items for the APQ were categorised into the predetermined five factors based on face validity

rather than using empirical means, due to the inadequate sample size for factor analysis (Clerkin et al., 2007; Shelton et al., 1996). Seven items that assessed discipline strategies other than corporal punishment were included as an Other Disciplinary Practices scale in order to minimise negative bias toward corporal punishment items (Shelton et al., 1996). After redundant items were deleted, the remaining items were revised to improve clarity based on feedback from children aged 6 to 13 years as well as their parents, with 42 items included in the final measure.

Comparison of the APQ assessment formats was conducted using a sample of 160 children aged 6 to 13 years and their primary caregiver. Within this sample, most of the parents who completed the APQ questionnaires and interviews were mothers from Caucasian clinic-referred families with male children from lower to lower-middle socioeconomic backgrounds (Shelton et al., 1996). Correlations between the APQ parent self-report questionnaire and APQ parent interview ranged from .30 to .55 ($M = .37$), suggesting moderate agreement between the two formats; however, correlations between the APQ parent self-report questionnaire and the APQ child-report questionnaire were small, ranging from .08 to .28 ($M = .19$). Shelton et al. suggested that the APQ child-report questionnaire and interview formats may be less valid than the parent report measures in assessing parenting.

Parental Involvement and Positive Parenting in the APQ parent self-report questionnaire were found to have good internal consistency, with Cronbach's alpha scores of .80 for both. However, Shelton et al. noted that these subscales may have been measuring the same construct, as they were found to be highly correlated ($r = .85$). The remaining subscale scores were found to have minimally acceptable or below acceptable internal consistency scores (Loewenthal, 2001), with Cronbach's alphas reported as .67 for Inconsistent Discipline, .67 for Poor Monitoring/Supervision, and .46 for Corporal Punishment (Shelton et al., 1996). Test-retest reliability of the APQ parent self-report was not assessed by Shelton et al. (1996).

Correlations between all of the subscales in the APQ parent self-report questionnaire and the K-scale of the Minnesota Multiphasic Personality Inventory-Second Edition (MMPI-2; Hathaway & McKinley, 1989) were non-significant, suggesting that a socially desirable response set was not significantly affecting the APQ scores. Shelton et al. also claimed that the Inconsistent Discipline, Poor

Monitoring/Supervision, and Corporal Punishment scales demonstrated good divergent validity as evidenced by intercorrelations ranging from .08 to .27 on the parent-report questionnaire; however, several studies identify that dysfunctional strategies are likely to occur in combination to predict childhood externalising outcomes (Forehand, Wells, & Sturgis, 1978; Hollenstein, Granic, Stoolmiller, & Snyder, 2004; Patterson, 1976), and therefore it is expected that these subscales would be somewhat correlated. Indeed, a correlation of $r = .27$ is approaching a medium effect size according to Cohen's (1988) conventions, and other studies have reported significant small to moderate correlations between these APQ subscales which support this theoretical relationship (Dadds et al., 2003; Hawes, Dadds, Frost, & Hasking, 2011) and questions the validity of Shelton et al.'s conclusion.

Dadds et al. (2003) examined the psychometric properties of the original APQ parent self-report questionnaire in an Australian sample of parents of children aged 4 to 9 years. Similar to the results found by Shelton et al. (1996), internal consistency was acceptable for the Parental Involvement, Positive Parenting, and Inconsistency subscales; however, Poor Parental Monitoring/Supervision and Corporal Punishment had Cronbach's alphas below the minimally acceptable level (Loewenthal, 2001), reported as .59 and .55 respectively. Inconsistent Discipline, Poor Monitoring/Supervision, and Corporal Punishment subscales were significantly positively correlated with each other, and negatively correlated with Parental Involvement and Positive Parenting, providing evidence of divergent validity (Dadds et al., 2003). As expected, none of the APQ subscales correlated significantly with the Behavioral Inhibition Scale (P. J. Frick, 2001), providing further evidence of divergent validity. Test-retest reliability was high for all subscales over a two week period, with correlations ranging from .84 to .90. Additionally, Dadds et al. demonstrated external validity of the APQ subscales, with significant correlations in the expected direction between all APQ subscales and the Conduct Problems subscale of the Strengths and Difficulties Questionnaire (Goodman, 1997).

Studies examining the factor structure of the APQ parent self-report questionnaire have consistently uncovered a three rather than a five factor solution. Wells et al. (2000) and Elgar, Waschbusch, Dadds, and Sigvaldason (2007) found three factors of Positive Involvement, Deficient Monitoring, which was similar to Poor Monitoring/Supervision (Shelton et al., 1996), and Negative/ Ineffective Discipline, which appeared to combine items from the original Corporal Punishment

and Inconsistent Discipline factors. Clerkin et al. (2007) also uncovered three factors, but their third factor was found to reflect harsh, punitive parenting, similar to the Corporal Punishment factor identified by Shelton et al. However, in a sample of parents of children with behavioural disorders, Hawes and Dadds (2006) found that four of the five APD factors correlated as expected with observations of parent-child interactions using the Behavioral Observation Coding System: Family Observation Schedule - Fifth edition (Dadds & McHugh, 1992). Hawes and Dadds found that the original APQ subscales were more consistently sensitive to parenting changes and showed larger effect as compared to the modified three-factor subscales, supporting the clinical utility of the original APQ structure.

While Shelton et al. (1996), Dadds et al. (2003), and Hawes and Dadds (2006) provided some promising support for the validity and clinical utility of the APQ parent self-report questionnaire, it is limited in that the internal consistency of some of the original factors appear to be below the minimally acceptable threshold, and factorial validation has consistently failed to support the original five factor structure. Furthermore, although a three factor solution has emerged in several studies, the content of these factors is not consistent, and thus further analysis of the APQ parent self-report questionnaire factor structure is needed. Finally, while the APQ appears to be more comprehensive than the PS (Arnold et al., 1993) in assessing parenting dimensions related to externalising problems, it still does not appear to fully explore all of the parenting dimensions identified in the literature that are related to a broad range of childhood outcomes, including constructs such as democracy, autonomy support, and psychological control.

3.3.3 Parental Authority Questionnaire-Revised

As discussed previously, Baumrind's (1966, 1967, 1971) typology has received a lot of attention and support in the literature due to its typological clarity, empirical efficacy, and multidimensional approach (Buri, 1991). Baumrind originally conducted her assessments using a combination of extensive observations and interview assessments; however, these methods are costly in terms of time and resources. Buri (1991) instead developed a retrospective adolescent-report measure of parenting based on Baumrind's parenting typology, which he named the Parental Authority Questionnaire (PAQ). Ten items were chosen to represent each of Baumrind's original parenting styles of authoritative, authoritarian, and permissive parenting. Respondents answer each question twice; rating how much they agree

with the item in relation to their mother, and then in relation to their father. Six PAQ scores can be computed, including mother's authoritativeness, authoritarianism, and permissiveness, as well as father's authoritativeness, authoritarianism, and permissiveness, with higher scores indicating a higher degree of consistency with the particular parenting style (Reitman et al., 2002).

It is important to note that Baumrind's (1966, 1967, 1971) original parenting styles were derived by cluster analysis, which is used to classify a set of observations into mutually exclusive, heterogeneous categories (Blaikie, 2003). Indeed, researchers such as Schroeder, Bulanda, Giordano, and Cernkovich (2010) describe Baumrind's typology as four mutually exclusive parenting styles, based on levels of responsiveness and demandingness. Although the PAQ addresses the difficulty in categorising parents into distinct styles due to parents reporting behaviours from more than one typology (Gamble et al., 2007; Grusec & Goodnow, 1994), it may be less meaningful where parents have similarly high scores in more than one style.

Buri (1991) found that correlations between the subscales showed that permissiveness was generally negatively correlated with authoritarianism for both mothers and fathers, while permissiveness and authoritativeness were not significantly related. Although the highest levels of nurturance were associated with authoritative parenting as expected, permissiveness, which theoretically reflects high responsiveness or nurturance and low demandingness, was not significantly related to nurturance, which is contradictory to other research assessing Baumrind's (1966, 1967, 1971) typology and may suggest problems with the validity of the measure. Buri (1991) reported good reliability scores for the PAQ, with Cronbach's alphas ranging from .74 to .87, and test-retest reliabilities ranging from .74 to .92 for the six scores over a two week period, as well as non-significant correlations between the PAQ subscales and a measure of social desirability.

The PAQ was subsequently revised by Reitman et al. (2002) in order to produce a concurrent parent self-report version of the questionnaire for use with parents of children aged 3 to 8 years. The PAQ was selected for revision due to its brevity, and clear and close association with Baumrind's (1966, 1967, 1971) typology. Reitman et al. evaluated the three factor structure using eigenvalues and scree plot analysis from a principal components analysis with Varimax rotation, although it is unclear why a confirmatory factor analysis was not conducted due to the strong theoretical evidence for a three factor solution. Additionally, Varimax

rotation is orthogonal, which does not allow for factors to correlate even though authoritarian and permissive styles were found to correlate significantly in Buri's (1991) original analysis.

All items loaded greater than .30 on at least one subscale; however, 10% of the items did not load as expected in a sample of primarily Caucasian parents from high socioeconomic backgrounds, while 30-40% of items did not load as expected for the primarily African American samples with lower socioeconomic backgrounds (Reitman et al., 2002). This suggests that the PAQ-R may be less valid in assessing parenting behaviour outside of a high SES, Caucasian context. Additionally, the internal consistency alpha for authoritative parenting was minimally acceptable to below acceptable in the lower SES African American samples, ranging from .56 to .66, but acceptable alphas were found for authoritarianism and permissiveness across all samples (Reitman et al., 2002). Authoritative parenting also yielded unacceptable test-retest reliability (below .70; Salkind, 2006) over a one month period across all samples, ranging from .54 to .61.

Reitman et al. (2002) found evidence of modest convergent validity for the PAQ-R subscales, with Authoritativeness correlated with the Communication subscale of the Parent Child Relationship Inventory (PCRI; Gerard, 1994), and Permissiveness associated with Laxness on the PS (Arnold et al., 1993). However, some unexpected results were also found, as authoritativeness and authoritarianism were not associated with greater limit setting, permissiveness was correlated with overreactivity, and authoritarianism was associated with effective parent-child communication (Reitman et al., 2002), which questions the validity of the PAQ-R in assessing Baumrind's (1966, 1967, 1971) original parenting styles. Since authoritative parenting was found to be the most common parenting style in several studies (Baumrind, 1971), the low test-retest reliability across all samples and the nonsignificant correlation between this style and parental limit setting are of particular concern. Although the PAQ and PAQ-R appear to be theoretically associated with Baumrind's parenting styles, issues with the reliability and validity of this measure, absence of confirmatory factor analytic data to support the theoretically derived styles, as well as the scoring system of three scores per parent, may limit the theoretical and practical utility of this measure.

3.3.4 Parenting Styles and Dimensions Questionnaire

Robinson et al. (1995) also based their measure on Baumrind's (1966, 1967, 1971) parenting typology; however, unlike the PAQ and PAQ-R, they used theoretically driven empirical means to derive the three parenting styles. While Robinson et al. acknowledged that Baumrind proposed several other types of parenting in her 1991 study with adolescents, they chose to focus on the original three parenting dimensions, presumably due to their purpose of assessing parenting of preadolescent children although no justification is provided. The Parenting Styles and Dimensions Questionnaire (PSDQ; Robinson et al., 1995), originally named the Parenting Practices Questionnaire, is a widely used self and spouse report measure of parenting practices that consists of 62 items. The PSDQ yields a separate score for each parenting style, with higher numbers indicating greater frequency of parenting behaviours associated with that particular style. It was designed to provide an empirically derived measure assessing the global parenting styles associated with Baumrind's typology, as well as the specific parenting behaviours within each style (Robinson et al., 1995). This measure expanded on a widely used 91 item Q sort measure called the Child Rearing Practices Report (CRPR; Block, 1965). According to Robinson et al., some factors within the CRPR have only low to moderate reliabilities, items include both parenting behaviours and parenting beliefs, and it does not accurately measure Baumrind's three parenting styles, with limited items assessing democracy, child-centeredness, and inductive reasoning. To address these limitations, 80 items from the CRPR were combined with 53 new items based on conceptualisations of Baumrind's three parenting styles from current parenting literature. Robinson et al. specifically noted that items reflecting Baumrind's other parenting types were not included in the item pool.

A series of Principal Axis Factoring analyses with Varimax rotation was conducted on responses to the 133 items completed by 534 fathers and 717 mothers largely from intact families with middle class Caucasian background in Utah (Robinson et al., 1995). The use of Varimax rotation again assumes that the parenting styles were not expected to be correlated. Robinson et al. did not specify the criteria used to determine how many factors to retain, such as scree plots or eigenvalues, only that "we planned to extract from the 133-item questionnaire three factors deemed to theoretically correspond with Baumrind's authoritative, authoritarian, and permissive typologies" (Robinson et al., 1995, p. 822), thus it is

assumed that a theoretically driven three factor solution was forced. The 62 items (27 authoritative, 20 authoritarian, and 15 permissive) that were retained loaded above .3 for mothers and fathers, and had a correlation of .25 or above with the total factor score (Robinson et al., 1995). Sixty nine percent of these items were new, with only 19 items retained from the CRPR. Cronbach's alphas averaged between mother and father were acceptable to excellent, reported as .91 for authoritative, .86 for authoritarian, and .75 for permissiveness (Robinson et al., 1995).

Each of the three factors was then subjected to additional principal axis factoring analysis with Oblimin rotation to determine the dimensions within each style that may reflect specific parenting behaviours (Robinson et al., 1995). No justification for the rotation method was provided; however, it is assumed that Oblimin rotation was chosen because each set of items loaded onto the same primary factor, and therefore the items were likely to be significantly correlated. Four sub-factors were identified within authoritative parenting, including warmth and involvement (7 items), reasoning/induction (7 items), democratic participation (5 items), and good natured/easygoing (4 items; Robinson et al., 1995). Authoritarian parenting was also made up of four subfactors named verbal hostility (4 items), corporal punishment (6 items), non-reasoning/punitive strategies (6 items), and directiveness (4 items). Finally, permissiveness yielded three factors including lack of follow through (6 items), ignoring misbehaviour (4 items), and self-confidence (5 items; Robinson et al., 1995). Interestingly, Robinson et al. pointed out that Block's (1965) CRPR measure is limited in that it includes items that tap into parental beliefs as well as items relating to parent behaviour without distinguishing between them, however self-confidence in the PSDQ is made up of items such as "finds it difficult to discipline child" and "is afraid that disciplining child for misbehaviour will cause the child to not like his/her parents" rated on a Likert scale from never (1) to always (5), which appear to reflect beliefs rather than behaviours.

Robinson et al. (1996) examined the factor structure, internal consistency, and construct validity of the PBDQ in samples from the US, Australia, China, and Russia. The three factor solution of authoritative, authoritarian, and permissive parenting styles was supported in all samples, and similar subdimensions were found for authoritative parenting; however, there were significant cross-cultural differences in authoritarian and permissive parenting practices. Cronbach's alpha for the three factors was at least minimally acceptable for all subscales except for the permissive

parenting factor in the Australian and Russian samples, with Cronbach's alphas reported as .59 and .58 respectively. Unacceptable Cronbach's alpha values were found for at least one subfactor in all samples except for China, ranging from .48 to .81 in the US sample, .45 to .82 in the Australian sample, .68 to .83 in the Chinese sample, and .57 to .78 in the Russian sample. The PBDQ subfactor scores generally correlated as expected with scores on the Social Skills Rating System (SSRS; Gresham & Elliot, 1990) and Preschool Behavior Questionnaire (Behar & Stringfield, 1974) in the US and Australian samples; however, there were few significant correlations found for mothers in the Russian and Chinese samples, with fathers' authoritarian practices found to be most significant in these groups.

Although Robinson et al. (1995) attempted to develop the PSDQ using empirical means; the first step of their analysis appears to be more theoretically driven in forcing a three factor solution rather than conducting a higher order exploratory factor analysis to empirically determine the structure of the underlying factors and confirm the existence of higher order factors corresponding to Baumrind's (1966, 1967, 1971) typology. Furthermore, Robinson et al. did not specify the correlations between parenting styles nor the elimination of cross-loading items, and therefore it is possible that there are first order factors that are common across two or more parenting styles. If we look at Baumrind's typology from the perspective of responsiveness and demandingness, there should be commonalities between authoritarian and authoritative factors in terms of demandingness and responsiveness dimensions relevant to both authoritative and permissive parenting styles. However, this is not reflected in Robinson et al.'s analyses. Finally, as mentioned previously, it is possible that there are other relevant dimensions of parenting that exist outside of Baumrind's original framework which were not taken into account in the development of this measure due to the strong theoretical focus on Baumrind's typology.

3.3.5 Other Parenting Measures

Two questionnaires that warrant discussion, but are less widely used than the previously discussed measures, are the Parent-Child Relationship Questionnaire (PCRQ; Furman & Adler, 1983, as cited in Furman & Giberson, 1995) and the Weinberger Parenting Inventory (Weinberger, Feldman, & Ford, 1989, as cited in Wentzel, Feldman, & Weinberger, 1991). The PCRQ is a lesser known but comprehensive questionnaire that was designed to assess parent perceptions of the

qualities of the parent-child relationship across five major dimensions, including Warmth, Personal Relationship, Disciplinary Warmth, Power Assertion, and Possessiveness (Furman & Giberson, 1995). Each factor is divided into a number of subscales, and factor scores are calculated by averaging the subscale scores within each factor. Warmth includes three subscales representing affection, child's admiration of parent, and admiration of the child by the parent, while Personal Relationship encompasses five subscales including prosocial behaviour, similarity, intimacy, nurturance, and companionship items (Furman & Giberson, 1995). The three Disciplinary Warmth subscales relate to praise, democracy, and rationale, while Power Assertion includes six subscales assessing quarrelling, dominance, physical punishment, verbal punishment, deprivation of privileges, and guilt induction (Furman & Giberson, 1995). Finally, Possessiveness includes two subscales of possessive and protective behaviours. Respondents are asked rate each of the 57 items on a 5 point Likert type scale from 'hardly at all' to 'extremely much'. This measure has been used with parents of children from preschool age through to grade six. Internal consistency for the factors are reported to range from .68 to .88 (Touliatos, Perlmutter, & Straus, 2001). Furman and Giberson (1995) found that all of the PCRQ dimensions except Possessiveness were significantly correlated with perceptions of the same qualities in sibling relationships.

In a study conducted by Kashdan et al. (2004), principal components analysis with Varimax rotation was conducted on the combination of items from the PCRQ, Family Environment Scale (Moos, 1974), and Social Adjustment Scale–Self Report (Weissman & Bothwell, 1976), with eigenvalues supporting a three factor solution. Two of these factors included only items from the PCRQ, with Warmth, Disciplinary Warmth, and Personal relationship subscales loading onto a factor labelled 'Parental Warmth and Positive Involvement', and Power Assertion and Possessiveness loaded onto the second factor, labelled 'Parental Intrusiveness and Negative Discipline'. This suggests that the PCRQ measure may consist of only two higher order factors, rather than three (Kashdan et al., 2004). Both factors had good internal consistency for both mothers and fathers, with Cronbach's alphas ranging from .81 to .92. However, this analysis was conducted on a sample of 252 parents which falls well short of the recommended minimum of 5 cases per item for exploratory factor analysis (MacCallum, Widaman, Zhang, & Hong, 1999), limiting the generalisability of these results. Johnston et al. (2002) also provided some psychometric support for

the PCRQ, with observations of parental responsiveness significantly negatively correlated with the Power Assertion scale of the PCRQ in a sample of 136 parents of boys aged 7 to 10 years diagnosed with ADHD.

The advantage of the PCRQ (Furman & Adler, 1983, as cited in Furman & Giberson, 1995) is that it appears to assess a comprehensive range of primary and secondary parenting dimensions that are identified in the literature, including democracy, psychologically controlling strategies, and possessive and protective behaviours that are often excluded from measures assessing parenting of preadolescent children. However, there is no published research concerning the methods used to develop the measure, and limited psychometric information is available, suggesting that further investigation of this measure is needed.

Like the PCRQ, there is limited information on the development and psychometric assessment of the Weinberger Parenting Inventory- Parent Version (WPI; Weinberger et al., 1989, as cited in Wentzel et al., 1991). This measure was designed to assess parents' perceptions of their attitudes and behaviours toward their child or step-child. It consists of 49 items separated into two sections, and has been used with parents of both children and adolescents (Wentzel et al., 1991). In section one, respondents are asked to rate how true each item is for the interactions between themselves and a specific child on a 5 point scale including false, somewhat false, not sure, somewhat true, and true, while section two asks respondents to rate how frequently they engage in the particular behaviour outlined in the item on a 5 point Likert type scale, ranging from almost never to almost always (Wentzel et al., 1991). Importantly, this measure includes the generally omitted parenting dimensions of psychological intrusiveness, which appears to relate to psychologically controlling behaviours, and child-centeredness, which relates to involvement, commitment, and valuing the child, and was emphasised by Pulkkinen (1982) as an important dimension of parenting. The other two dimensions assessed include permissive discipline, and a combined factor of harsh discipline and inconsistency (Wentzel et al., 1991).

A three dimension version of the WPI has been used in several subsequent studies by Weinberger and colleagues (Feldman, Wentzel, Weinberger, & Munson, 1990; Wentzel et al., 1991). This includes dimensions of child-centeredness as described above, as well as power assertive discipline, which reflected punitive and authoritarian parenting practices and appeared to combine the original dimensions of

intrusiveness and harsh discipline, and a final dimension reflecting inconsistent, permissive parenting. Weinberger and colleagues have reported Cronbach's alphas ranged from .74 to .91 for the original and revised subscales of varying lengths, with power assertion generally found to be the most internally consistent subscale of the WPI. However, Kriebel and Wentzel (2011) reported lower internal consistency of the WPI subscales in their study, with Cronbach's alphas ranging from marginally acceptable at .63 to acceptable at .71 (Loewenthal, 2001). Wentzel et al. (1991) reported a two week test-retest reliability of .86 for the inconsistent, harsh parenting subscale.

According to Feldman et al. (1990), evidence for concurrent validity of the WPI subscales has been established using a large sample of preadolescent children comparing it with Schludermann and Schludermann's (1970) revision of the Child Report of Parent Behavior Inventory (CRPBI; Schaefer, 1965) and with spouse's reports. Child-centeredness was highly correlated with acceptance-rejection on the CRPBI, while inconsistency was moderately correlated with inconsistency on the CRPBI; however, the CRPBI subscale was found to have poor internal consistency at .44, so this comparison needs to be interpreted with caution. Power assertion was moderately correlated with the related CRPBI variables of psychological control, and firm control (Feldman et al., 1990). Feldman et al. also conducted several principal components analyses on WPI subscale scores for mothers, fathers, and the average of both parents at two time periods. In each of the analyses, all of the scores loaded significantly on only one primary factor, suggesting that the WPI subscales may be highly correlated. Feldman and Weinberger (1994) demonstrated the utility of the WPI, reporting that both mothers' and fathers' use of consistent, child-centered, and nonaversive parenting when their sons were in sixth grade was strongly associated with the boys' relative levels of self-restraint, which in turn predicted levels of delinquent behaviour.

Although the WPI appears to be advantageous as it includes the much neglected dimensions relating to psychological control, it does not appear to include all of the theoretically relevant parenting dimensions identified in the literature, such as democracy, responsiveness, and autonomy supportive parenting. In addition, there does not appear to be any independent research evaluating the psychometric properties of this instrument, and therefore further research is needed to establish the psychometric properties and investigate the utility of this measure.

3.4 Summary

In summary, the results of a number of studies suggest that parenting behaviour may differ as a function of parent gender (Stolz et al., 2005), parent age and education level (Joussemet et al., 2008; Kendler et al., 1997), cultural background (Chao, 1994; McNeely & Barber, 2010), child birth order and number of siblings (Lawson & Mace, 2009, 2010), child gender (Bronfenbrenner, 1961; Lytton & Romney, 1991), and child age (G. C. Roberts et al., 1984). In contrast, other studies have reported marked similarities in parenting practices between these groups (Abramovich et al., 1982; Davidov & Grusec, 2006), and have provided some support for the existence of core, universal parenting dimensions that can be applied across cultures (Bernstein et al., 2005), suggesting that further investigation into the nature of these effects is needed. However, there is strong theoretical and empirical evidence to suggest that parenting behaviours that are stable over childhood may change significantly in adolescence (Baumrind et al., 2010), and that parents adopt different strategies with each child in response to different child characteristics (Furman & Lanthier, 2002). As a result, it appears that measures should be age limited to assess parenting of either preadolescent or adolescent children, and should also ask parents to focus on only one of their children in completing the assessments to account for potential between-child differences in parenting.

Parent self-report measures appear to provide a cost-effective, efficient, and valid alternative to resource intensive multi-method multi-informant parenting assessment (Dadds et al., 2003; Harvey et al., 2001; Irvine et al., 1999; Lovejoy et al., 1999). Self-report measures are also advantageous in that they assess a summary of parenting behaviour over time and across multiple contexts, including those which may be difficult to observe (Lovejoy et al., 1999; Zaslow et al., 2006), and empirical derivation and standardisation of self-report questionnaires is possible (Buri, 1991).

Although there is no shortage of parenting self-report assessments available, there appears to be a lack of consistency in the range and content of parenting dimensions assessed. In addition, many of the most widely used pre-existing self-report measures do not assess all of the theoretically relevant dimensions of parenting, and many face problems with inadequate theoretical or psychometric support. Some measures, such as the PS (Arnold et al. 1993) and the APQ (Shelton et al., 1996), were designed to assess specific aspects of parenting rather than common parenting dimensions, rendering them inadequate in assessing positive and diverse

parenting behaviours. Additionally, both of these measures have been found to have poor factorial validity and unacceptable internal consistency values for at least one subscale (Rhoades & O'Leary, 2007; Shelton et al., 1996).

Other measures, such as the PSDQ (Robinson et al. 1995) and the PAQ-R (Reitman et al., 2002), were designed to tap into Baumrind's (1966, 1967, 1971) original three parenting styles derived from cluster analysis; however this theory was developed more than forty years ago and thus may not reflect important changes that have affected contemporary parenting practices. It is possible that previously unidentified parenting dimensions may be better able to predict child adjustment outcomes, which highlights the importance of using rigorous empirical methodology to uncover the true underlying factor structure of a measure in order to identify and assess the salient practices of contemporary parents. Additionally, Robinson et al.'s (1995) measure development procedures did not allow the empirical determination of core, higher order parenting factors. The PAQ-R has excellent face validity; however it has also been rendered as problematic due to issues with the reliability and validity, the absence of confirmatory factor analytic data to support the theoretically derived styles, as well as a theoretically unsound scoring system. Finally, other questionnaires such as the PCRI and the WPI assess the much neglected constructs of psychological control and intrusiveness; however, there is limited psychometric information available on these measures, and no independent evaluations of these measures have been published.

Therefore, it appears that none of the self-report parenting measures discussed in this review includes all of the important parenting dimensions identified in the literature. Additionally, many of these measures were developed using problematic or unjustified procedures, and several of these measures also demonstrated poor psychometric properties of at least one of their subscales. Thus, there appears to be a need for a comprehensive, psychometrically sound, and high utility self-report measure of parenting that addresses the limitations of these previous measures, and can be used for parents of preadolescent children (L. M. Locke & Prinz, 2002).

CHAPTER 4

RATIONALE AND AIMS

As discussed in Chapters 2 and 3, there is significant inconsistency in the parenting literature regarding the definition and assessment of key contemporary parenting dimensions, as well as a number of limitations associated with existing parenting self-report measures. As a result, there appears to be a need for a new, theoretically comprehensive, and empirically validated self-report measure of contemporary parenting dimensions for use with parents of children aged 3 to 12 years. This chapter provides a rationale for developing a measure of parenting dimensions rather than styles, as well as the importance of assessing psychologically controlling and autonomy supportive practices in parents of preadolescent children. The aims of the research project are outlined, followed by a discussion of the strengths of the multi-method approach to questionnaire development that was employed in this research, including the consultation of parents as experts and the use of online data collection methods.

4.1 Rationale for Examining Parenting Dimensions

While a substantial amount of research has been dedicated to parenting styles, including the well-known and widely used parenting typology proposed by Baumrind (1966, 1967, 1971), researchers have suggested that potentially valuable information may be lost in aggregating individual parenting dimensions into styles. There is some evidence that parenting constructs may be multidimensional rather than bipolar, and it is also possible that the traditional organisation of parenting styles according to dichotomous scores on a set of dimensions may fail to assess the effects of moderate or “good enough” parenting on childhood outcomes (Maxwell & Delaney, 1993). Thus, information and complexity may be lost in traditional typological conceptualisations, including the identification of specific effects, nonlinear effects, and the interactive effects between select combinations of dimensions (Barber, 1996; Darling & Steinberg, 1993; E. Skinner et al., 2005).

4.1.1 Problems with False Dichotomisation

Maxwell and Delaney (1993) explain that the typological approach to parenting may be problematic, as a median split or other cut-off point is used to simplify the continuous variable into dichotomous categories (such as splitting parents into high and low warmth categories), which are then used to characterise

each style. Such artificial dichotomisation reduces variability in the measures, which may result in failure to detect nonlinear effects, decreased measurement reliability and effect size estimates, and reduced power in examining bivariate relationships (Fitzsimons, 2008; MacCallum et al., 2002). In addition, the use of falsely dichotomised variables can produce spurious significant results, and if the dichotomy cut-off is specific to the particular data set, dichotomisation may compromise the comparability of measures and results across studies (Allison, Gorman, & Primavera, 1993; MacCallum et al., 2002). MacCallum et al. explained that dichotomisation also fails to account for important individual differences that may exist within the dichotomous groups, as scores range from those close to the cut-off point to those at the extreme ends of the scale; however, all of these scores are treated as being equal to the group mean. DeCoster et al. (2009) found that continuously measured variables worked well across all distributions, while dichotomised variables only performed as well as or better than continuous variables under a very limited range of circumstances. They concluded that changing the tradition of dichotomising variables to using the original continuous data would be beneficial to psychological literature as a whole (DeCoster et al., 2009).

Stolz et al. (2005) suggested that parenting may have threshold effects, where parenting behaviour must reach a specific level before its effects are detectable. Indeed, there is significant evidence to suggest that some parenting dimensions have nonlinear relationships with childhood outcomes; for example, moderate levels of control have been associated with optimal child adjustment outcomes (Mason, Cauce, Gonzales, & Hiraga, 1996; B. C. Miller, McCoy, Olsen, & Wallace, 1986). However, false dichotomisation of continuous variables may result in the failure to detect such relationships (MacCallum et al., 2002; Maxwell & Delaney, 1993). In addition, dichotomised parenting variables are unable to assess “good enough” levels of parenting behaviour, or determine the standard for minimal parenting competency (Azar & Benjet, 1994; Budd & Holdsworth, 1996; Deater-Deckard, Ivy, & Petrill, 2006).

Baumrind (1991) hypothesised that acceptance and control may have limited additional effects on adjustment after reaching a certain level. Indeed, Hasan and Power (2002) found that moderate levels of parental control combined with high levels of autonomy support were associated with higher levels of optimism in the child (Hasan & Power, 2002), while Kurdek and Fine (1994) found that moderate

and high levels of parental control were associated with equally high levels of child self-regulation. This suggests that the additional time, commitment, and other resources required to provide a high level of monitoring may not be necessary in promoting optimal self-regulation outcomes. Several other studies have supported the conclusion that moderate, rather than high, levels of behavioural control promote optimal child developmental outcomes (Masonet al., 1996; B. C. Miller et al., 1986). Interestingly, it appears that the optimal level of each parenting dimension may depend on the outcome studied. For example, higher levels of parental monitoring and supervision are associated with significant delays in the onset of drug use (Chilcoat & Anthony, 1996), whereas Kurdek, Fine, and Sinclair (1995) concluded that high levels of involvement and autonomy granting combined with only moderate levels of supervision promotes the best academic outcomes. If these dimensions discussed above were dichotomised into high and low categories in a typological configuration, it is likely that the true nature of these relationships would not be statistically detected.

Another significant issue in relation to the dichotomising of parenting dimensions is the need for an agreed standard of minimal parenting competency, and the threshold for clinical concern (Azar & Benjet, 1994; Budd & Holdsworth, 1996; Deater-Deckard et al., 2006). Current parenting assessments are often designed to assess a set of bipolar dimensions, with optimal parenting at one end, and negative parenting practices at the other. Sanders (1999) and L. M. Locke and Prinz (2002) proposed that research needs to look at the range of scores across each dimension, as the positive end can inform us about conditions for promoting optimal child developmental outcomes, whereas the more negative end is useful in determining the minimum criteria for competent parenting and the application to clinical populations. In addition, researchers have begun to investigate how low to moderate levels of parental control can be exercised in order to promote a minimal standard of healthy development (Barber & Olsen, 1997). Winnicott's (1965) concept of "good enough" parenting has been used to refer to the fact that "perfect" parenting cannot facilitate optimal development, and parents who make mistakes and atone for them in line with the child's increasing ability to deal with these mistakes will enable the child to adapt to changes successfully, and develop stable schemas of other people (Chadwick, 2010). Thus, although it is clear from the research that harsh, punitive, and coercive discipline techniques and neglect are predictive of poor childhood

outcomes, and authoritative parenting practices such as democracy, inductive reasoning, and firm control are associated with positive outcomes, it is unclear what the minimal level of these variables is required to promote positive benefits, and the maximum level at which harms can be avoided, which define the lower limits of competence.

Importantly, Gardner, Ward, Burton, and Wilson (2003) suggest that negative parenting practices do not generally characterise the majority of parent-child interactions in normal families, and therefore it is important to determine the threshold at which these have a negative effect in combination with the positive practices that occur. Martinez and Forgatch (2001) found that positive parenting was significantly more predictive of child behaviour problems than negative parenting practices, thus the combination of parenting practices that promote minimal adaptive outcomes in childhood may depend on the complex and interactive relationships between the combination of positive and negative parenting practices employed.

4.1.2 Specificity and Interactive Effects

The question of whether the interactions between parenting dimensions, as well as their individual contributions, are significant in predicting important child outcomes is paramount to the styles versus dimensions argument. In their review, Maccoby and Martin (1983) concluded that there is consistent evidence that the warm, inductive, consistent and nonpunitive parenting is associated with optimal child outcomes, and most of the major socialisation theories have proposed a combined and interactive relationship between dimensions of parental warmth and control. However, although many studies have focused on the effects of parenting styles on childhood outcomes, findings from these studies cannot be used to confirm the interactive effects of the component parenting practices. Typically, these studies only assume that interactions exist, but fail to test whether this assumption is actually true (Kurdek & Fine, 1994). Kurdek and Fine argued that it is important to determine the nature of the relationship between responsiveness, demandingness, and child outcomes, as these parenting variables could have positive but independent effects on child outcomes, or the interaction between them may be more important. There have been relatively few studies on whether or not there is specificity of association or interaction between parenting dimensions and child outcomes, and research tends to focus on only a limited number of dimensions at a time.

Caron et al. (2006) discussed three possible ways of defining specificity in parenting research. Firstly, specificity may refer to the unique or direct effect of parenting variables on outcome, or the significance of a variable's effect after controlling for indirect effects of other variables (Caron et al., 2006). Secondly, specificity can refer to the different effects that a variable has on different outcomes. Finally, interaction effects can also be considered a form of specificity, which has implications for the argument about whether styles or dimensions are more appropriate to measure (Caron et al., 2006). According to Caron et al., previous studies have argued that the research that has found interactive effects between parenting dimensions supports the validity of measuring parenting styles only. However, it appears that we need to determine whether the interaction effects depend on all components of the parenting style, whether there are different effects of combining certain dimensions while excluding others, and whether there is specificity of association between individual parenting dimensions and child outcomes. If either of the latter conditions prove to be true, then the identification and assessment of specific dimensions rather than just identifying parenting styles may be important.

Few studies have attempted to systematically determine the effects of parenting dimensions as separate from the effects of their interactions (Aunola & Nurmi, 2005). In addition, most studies have only examined one or two parenting dimensions at a time, particularly in preadolescent samples, which may have contributed to failure to find specificity (Darling & Steinberg, 1993). Parents often use a number of strategies and behaviours which are highly correlated. These strategies or dimensions may in fact have a unique effect on the outcome variable; however, if the models fail to control for indirect effects due to high correlation between dimensions, these specific effects may not be detected (Caron et al., 2006). It is also worth noting that, despite the widespread use and acceptance of typological approaches, very few studies have specifically examined the interactive effects of parenting dimensions on childhood outcomes, and studies that have examined interactive effects of parenting on adolescent outcomes have produced mixed findings. As a result, it is unclear whether parenting dimensions do in fact have interactive effects on adolescent outcomes, and whether these findings can be generalised to outcomes in childhood.

Barber et al. (1994) and Barber (1996) found only unique effects of parenting dimensions on adolescent outcomes, while Kurdek and Fine (1994) found that parental control did not significantly interact with acceptance to influence adolescent adjustment, which contradicts the assumption of interactivity between these two dimensions that underlies most typological approaches. However, in contrast, several other studies have found that parental warmth moderates the negative effects of physical discipline and restrictive control on externalising problems (McLoyd & Smith, 2002; Simons, Wu, Lin, Gordon, & Conger, 2000; Deater-Deckard et al., 2006). Interestingly, it appears that parent behaviours may be interpreted differently depending on the presence or absence of other behaviours. Stolz et al. (2005) found that optimal adolescent outcomes were associated with high levels of parental support and behavioural control, and they suggested that this combination may influence the interpretation of behavioural control as positive and indicative of interest and concern. In contrast, behavioural control in combination with psychological control may instead be interpreted as intrusive. Stolz et al. also found that parental support moderated the relationships between psychological control and antisocial behaviour, and psychological control and depression. Specifically, when parental support was high, stronger positive relationships were found. This highlights the importance of examining different combinations of parenting behaviours in predicting child outcomes.

Gray and Steinberg (1999) found evidence of both unique and interactive effects in their study on parenting and adolescent outcomes. Psychological control had a unique effect on psychosocial development and internal distress, whereas behavioural monitoring was associated with level of behavioural problems (Gray & Steinberg, 1999). In addition, high perceived parental involvement was found to compensate for low levels of perceived autonomy granting and vice versa in examining adolescent internalising outcomes, although psychosocial well-being was highest with high levels of support and low psychological control (Gray & Steinberg, 1999). Based on the results of these studies, it appears that parenting variables need to be examined both independently and in various combinations with one another in order to detect important and varied effects on adolescent outcomes. However, due to limited research on interactive effects of parenting on childhood outcomes, it is unclear whether similar effects can be detected in preadolescent populations.

In one of the few parenting interaction studies focusing on childhood rather than adolescent outcomes, Caron et al. (2006) found that higher levels of psychological control were associated with more externalising problems in year four children only when warmth was low, and psychological control was more strongly associated with externalising and internalising problems when combined with high levels of behavioural control. They suggested that this combination may reflect overcontrolling and intrusive parenting, also called overmanagement (G. S. Pettit et al., 2001), which could decrease self-efficacy, promote low self-esteem, or increase frustration levels. Caron et al. also found some evidence for specificity, with results indicating a unique effect of behavioural control on both externalising problems and internalising problems. Aunola and Nurmi (2004) also found interaction and specific effects with childhood outcomes, with results suggesting that a high level of psychological control combined with high affection predicted slower math progression over a three year period in 5 to 9 year old children. In another study, this combination of high warmth and high psychological control was also associated with increased internal and external problem behaviours during the transition from kindergarten to primary school (Aunola & Nurmi, 2005). They suggest that this type of parenting may be confusing, guilt-inducing, and psychologically controlling, which may lead to enmeshment and increase the child's dependence. However, there were no interactions between parental affection and behavioural control in predicting problem behaviours, which is contradictory to the traditional typological theory of parenting styles (Aunola & Nurmi, 2005).

It appears that there is some support for similar interactive effects of parenting dimensions between childhood and adolescent outcomes, but as there are limited studies conducted with preadolescent samples, further research is needed to replicate these effects. The results of these studies by Caron et al. (2006) and Aunola and Nurmi (2004, 2005) also highlight the importance of assessing psychological control, along with warmth and behavioural control, in parents of preadolescent children in order to detect these meaningful interactive effects.

4.1.3 Multidimensionality

A final issue related to the assessment of parenting dimensions rather than styles is that of multidimensionality. E. Skinner et al. (2005) proposed that current parenting dimensional conceptualisations often combine conceptually distinct parenting dimensions that have differential effects on childhood outcomes, and these

are then further combined into parenting styles. Typological approaches assume that dimensions are bipolar, based on research showing that high scores have a functionally opposite influence on childhood outcomes to low scores on any one dimension (E. Skinner et al., 2005).

However, E. Skinner et al. (2005) identified six core features of parenting, including warmth, rejection, structure, chaos, autonomy support, and coercion. Structural analysis suggested that these six dimensions represented the dimensionality of parenting better than pairing each dimension with its conceptual opposite to form three dimensions, providing support for the multidimensionality of parenting constructs. In addition, the dimensions of warmth and control may also be multidimensional, including concepts such as nurturance, the expression of affection, love, support, and regard (L. M. Locke & Prinz, 2002; E. Skinner et al., 2005), connectedness (K. E. Clark & Ladd, 2000), acceptance, and supportiveness (Aunola & Nurmi, 2004), sensitivity (T. G. O'Connor, 2002), involvement (Aunola & Nurmi, 2004; Johnston et al., 2002), caring and love (E. Skinner et al., 2005), commitment (Grolnick & Ryan, 1989), structure, firm control, contingency (Seligman, 1975; Watson, 1979), restrictiveness, demandingness (Baumrind, 1991), assertive control, discipline (L. M. Locke & Prinz, 2002), and inductive control (Rollins & Thomas, 1979). If multidimensional parenting dimensions can be disaggregated into their component dimensions, it allows the detection of the important interactive and nonlinear relationships between parenting and childhood outcomes.

In contrast, Stolz et al. (2005) suggested that parenting research should shift its focus away from complex conceptualisations of parenting toward the assessment of three key variables of support, psychological control, and behavioural control. They proposed a model of parenting and adolescent outcomes which was assessed for longitudinal functioning, higher order effects, consistency of effects across several waves of data, and by parent gender, adolescent gender, adolescent age, and ethnic group using several different analytic techniques. The three pathways of parental support with social initiative, psychological control with depression, and behavioural control with antisocial behaviour were supported across several subgroups in the US, as well as across time and culture (Stolz et al., 2005). Support was also found for two secondary pathways, between parental support and adolescent depression, and psychological control and antisocial behaviour. Antisocial behaviour, depression, and social initiative were all significantly related to parental support,

even after controlling for psychological control, and behavioural control (Stolz et al., 2005). Stolz et al. suggested that concentrating on these three dimensions may allow for widespread optimisation of parenting practices, as the model is focused, parsimonious, and simple, and provides a useful assessment standard for those with limited time or financial resources to conduct more complex assessments.

However, there is significant theoretical and empirical evidence to suggest that, if nothing else, psychological control should be distinguished and assessed separately from autonomy support, as the absence of psychologically controlling practices does not necessarily mean that parents are actively promoting psychological autonomy (Barber et al., 2002; Stolz et al., 2005), and correlations between the two constructs have been found to be weak to moderate (Barber et al., 2002; Silk et al., 2003). Although psychological control and autonomy support were discussed by early parenting researchers such as Schaefer (1965), these constructs have been completely omitted or alluded to with little elaboration in several key parenting conceptualisations that have been proposed since (Barber, 1996). More recent research has examined the role of psychological control or autonomy as separate from behavioural control and warmth in adolescent literature (Barber, 1996; Steinberg, 1990; Steinberg et al., 1992; Steinberg et al., 1991); however, they are rarely included in parenting studies focusing on preadolescent children.

4.2 Psychological Control and Autonomy Support in Preadolescent Children

In studies focusing on preadolescent outcomes, psychological control is generally not measured, although features of this dimension are sometimes included in the warmth dimension, involving elements such as negative affect or intrusiveness, or the behavioural control dimension, including punitive, restrictive, or authoritarian parenting strategies (Aunola & Nurmi, 2005). Several researchers have instead measured psychological control in relation to the parenting of adolescents due to the importance of individuation in this developmental stage (Barber, 1996; Barber et al., 1994; G. S. Pettit et al., 2001; Steinberg, 1990, 2005). However, Morris et al. (2001) suggest that developmentally sensitive child report measures of psychological control can be reliable in children as young as six years.

Psychological control and autonomy supportive practices are thought to be influential during adolescence as it is a time of normative transition, characterised by individuation and the corresponding parenting challenges (T. G. O'Connor, 2002). Barber et al. (1994) proposed that psychologically controlling parents negatively

affect their adolescent's individuation process; however, there is significant evidence to suggest that the promotion of autonomy is important throughout childhood as well as in adolescence. According to SDT, volitional functioning is important for psychosocial functioning across the lifespan, not just in specific developmental stages (Grolnick, 2003; Ryan et al., 2006; Soenens & Vansteenkiste, 2010). Indeed, Aunola and Nurmi (2004, 2005) proposed that the use of contingent affection in psychological control may be more harmful in middle childhood because the relationship between children and their parents is still very close and influential, whereas adolescents have begun to separate from parents and may therefore be less affected by suboptimal parenting behaviour.

According to G. C. Roberts et al. (1984), parenting changes over the course of child development toward allowing greater autonomy and freedom with less parent involvement, supervision, and control. Indeed, Barber (1996) explained that a parent who restricts a child's motor movements, or a toddler's exploration, or intrudes on a child's attempts at problem solving may be equivalent to parents who use psychologically controlling strategies in adolescence. Mahler, Pine, and Bergman (1975) also suggested that separation-individuation requires parents to engage in a parallel process over the course of development, not just in adolescence, to increasingly limit their involvement and control in accordance with the child's capacity for independent functioning. Issues of autonomy and self-determination in childhood were also highlighted in a study conducted by Baumrind et al. (2010). They suggest that during preschool years, toddlers strive to develop an independent self and prevent parents from restricting their perceived behavioural freedom, which echoes Erikson's (1963) theory of psychosocial development.

In his theory, Erikson (1963) outlined two stages in early childhood that highlight the importance of parental autonomy granting. The second stage of the theory, named autonomy versus shame and doubt, is proposed to extend from the age of one to three years. This stage involves the child asserting their independence within their environment (Erikson, 1963). Successful resolution of this stage provides the basis for the third stage, named initiative versus guilt, in which children continue to use their new found autonomy to further explore their environment, make choices, and plan activities (Erikson, 1963). According to Erikson, parents have an important role to play in both of these stages in recognising their child's need for autonomy and being responsive and supportive, rather than restricting their choices,

actions and attempts at using initiative. With appropriate parental support, children are able to successfully complete their chosen tasks, which results in a sense of autonomy and confidence in their ability and initiative. Erikson suggested that children who feel criticised and restricted by their parents during these stages will develop feelings of shame and guilt, and may doubt their ability to behave and make choices in a competent manner. Without successful resolution of these stages, children may be impeded in their future school achievement and sense of industry, formation of independent identity, generativity in their work life, and sense of ego integrity in reflecting on life accomplishments. Baumrind et al. (2010) suggest that these stages outlined in Erikson's theory are similar to adolescent's individuation processes, and parenting in both of these developmental periods can have a significant effect on long term outcomes.

Interestingly, some studies that have looked at psychological control in children have found unique and interacting effects with warmth and behavioural control on psychological (Caron et al., 2006), and academic outcomes (Aunola & Nurmi, 2004) which differ from those found in the adolescent literature. For example, Aunola and Nurmi (2005) found that the combination of high warmth and high psychological control was associated with increased both internalising and externalising problem behaviours during the transition from kindergarten to primary school. Hart et al. (1998) also found that maternal report of psychological control was associated with teacher reported aggression in five year old children, while Kuppens et al. (2009) found that psychological control was associated more with conduct problems than emotional symptoms in 8-10 year old children. These findings contradict the typical link found in the adolescent literature between psychological control and internalising problems (G. S. Pettit et al., 2001). Kuppens et al. believe that externalising problems in this preadolescent age group may result from early attempts to gain independence from psychologically controlling parents, while internalising symptoms may emerge later. However, Barber et al. (1994) found that psychological control differentiated between internalising and externalising problems in adolescents in eighth and tenth grade, but failed to do so in their sample of fifth grade children. They concluded that the intrusive and inhibiting effects of psychological control may not be apparent at this earlier age; however, this study only measured aspects of control, and therefore may not have accounted for interacting effects with other important parenting dimensions such as warmth.

Nevertheless, this research suggests that while the links between psychological control and childhood outcomes are less clear and less well established than those in the adolescent literature, there is a sound theoretical basis and promising preliminary empirical evidence for the inclusion of this concept in research on preadolescent outcomes.

Another reason to examine this factor in assessing contemporary parenting practices is that some parenting behaviours which are consistent with definitions of psychological control, such as overindulgence and overprotection, appear to be increasing in contemporary society. Even as far back as 1978, Baumrind proposed that future parenting research needed to determine the effects of significant changes that were occurring within families and society, such as the increase of women in the workforce, greater numbers of single parent families, and the changing perception and value of having children. Grolnick (2003) suggested that parental stress and pressure results in increased use of restrictive and controlling behaviours, as autonomy supportive parenting requires time and psychological availability. Additionally, Ungar (2009) hypothesised that parents may also be more controlling due to the increasing expectations of children to succeed in Western society. As a result of this, parents may provide inappropriate and intrusive assistance in order to assure the success of their child.

In addition, a multitude of media articles about ‘helicopter parenting’, anecdotal evidence in pop-culture, and a vast number of parenting self-help books, many of which are written by psychologists, report that intrusive, overinvolved, and overindulgent parenting is on the rise in Western society, and may stem from feelings of parental guilt (Hausner, 2005; Kersey, 1986; White, 2004). As discussed in Chapter 1, the average contemporary parent appears to devote less time to interacting with their children than parents of previous generations, which can be largely explained by an increasingly competitive economic environment and the significant increase in the number of women in the full time workforce (Long & Hoghughi, 2004).

Furthermore, Ungar (2009) explained that, despite data demonstrating that children are generally safer today than at any other time in history (Chesney-Lind & Belknap, 2004), overprotective and autonomy restrictive parenting is occurring in middle-class families due to incorrect information about risk, vulnerability, and the child’s developmental needs, and sensationalised media reports of child danger that

are appraised by parents as a personal threat. Overprotective parents may give their children misleading positive feedback about their abilities and performance to protect their self-esteem; however, this could result in the child overestimating their performance in relation to the performance of others as well as the amount of effort that they put in, and less likelihood that they will put in the required effort in future (Baumrind, 1997). As a result, overprotective parents undermine their child's sense of autonomy, and therefore these children may fail to develop the necessary skills to cope with the stressful transition to adolescence and adulthood, and engage in autonomous, independent functioning (Ungar, 2009).

4.3 Summary of Rationale

Research suggests that there are a multitude of consequences associated with individual differences in parenting practices (Barber & Harmon, 2002; Baumrind, 1991; Grolnick & Farkas, 2002; Hart et al., 2003; R. B. Johnson & Turner, 2003; Kurdek et al., 1995; McLeod, Weisz et al., 2007; McLeod, Wood et al., 2007). As a result, it is imperative that the specific key parenting features that promote optimal childhood outcomes are identified.

However, systematic comparison of parenting theories and research over the past six decades has been prevented by significant disparities in the terminology, definition, and measurement of parenting styles and dimensions within the literature. A plethora of terms have been used across parenting research which effectively relate to the same concept, while the same term is often used to refer to a number of different concepts. Additionally, it is unclear whether some of the parenting factors identified can be combined with other theoretically related constructs to form broad parenting factors, or whether these factors are related but distinct and should be measured separately. As a result, it is difficult to determine the number and definition of core parenting features that are associated with significant childhood outcomes, which considerably limits progression in this area of research (Budd & Holdsworth, 1996; L. M. Locke & Prinz, 2002).

Although many parenting theories have been based on Baumrind's (1966, 1967, 1971) conceptualisation, it appears that typological approaches may fail to recognise complex relationships between parenting and childhood outcomes, inspiring research aiming to identify the specific parenting dimensions that form parenting styles. If parenting styles can be disaggregated into specific key dimensions, researchers will be able to examine the independent, cumulative, and

interactive effects of these dimensions on childhood outcomes, and the dimensions will provide the foundations for comprehensive and comparable parenting assessment in future research and clinical practice (E. Skinner et al., 2005). There is some evidence to support the existence of core parenting dimensions that can be applied across genders, childhood developmental trajectories, siblings, and even across cultural groups, but these have not yet been conclusively identified and systematically assessed.

T. G. O'Connor (2002) and E. Skinner et al. (2005) acknowledged that the commonly identified dimensions of warmth, behavioural control, and psychological control may not adequately describe the phenomenology of parenting, and therefore there may be other parenting dimensions that are important in predicting childhood outcomes. A large number of potential additional dimensions identified in the literature appear to be theoretically related to the dimension of psychological control versus autonomy support; however, there is evidence to suggest that some of these may represent distinct dimensions that have unique effects on child outcomes. Psychological control versus autonomy support has received an increasing amount of attention in the adolescent literature over recent years, although most studies on the parenting of preadolescent children include only dimensions of warmth and control. However, there is preliminary empirical support for the importance of autonomy support and the detrimental effect of psychologically controlling parenting during this period.

There are also several problems that have been identified in relation to the assessment of parenting. These include disagreement among researchers and clinicians regarding which features of parenting are most important to assess and how to assess them, as well as problems with the developmental procedures, reliability, and validity of existing instruments. According to Budd and Holdsworth (1996) and Buri (1991), research based questionnaire assessments that are developed using empirical derivation procedures can be used to identify relevant and key parenting behaviours, and these can be used as a basis for developing further assessments using differing methodologies. For example, child-report, observational, and multi-informant rating systems may be developed in the future if the core dimensions of parenting can be clearly defined and empirically validated, which will improve the accuracy and consistency of parenting assessment. The development of multiple systems will also address problems such as shared method variance, as

response biases and response sets are unlikely to be shared between raters, resulting in a more conservative estimate of the correlations between parenting and childhood outcomes (McLeod, Weisz et al., 2007).

A substantial number of self-report parenting measures have already been developed, which tap into a variety of different dimensions, styles, attitudes, behaviours, and beliefs, reflective of the conceptual lack of agreement in the theoretical parenting literature. However, there does not appear to be any measure in existence that includes all of the important parenting concepts into a single, psychometrically sound, and high utility self-report assessment of parenting in preadolescent children. Many existing parenting measures have been derived through theoretical rather than empirical procedures and demonstrate problematic or limited establishment of psychometric properties, and none of these appear to include all of the theoretically important dimensions of parenting. Therefore, there is a need for a new self-report parenting measure that addresses the theoretical, methodological, and psychometric limitations of previous measures.

4.4 Research Aims and Methodology

4.4.1 Aims

The first aim of this research was to develop a psychometrically sound, comprehensive self-report measure with practical utility for use with parents of preadolescent children using a mixed-method research design (Creswell & Plano Clark, 2007). A further aim of this process was to identify the core dimensions of contemporary parenting, as it is possible to derive theoretically guided key parenting dimensions from self-report measures using rigorous empirical procedures (Buri, 1991), which would be considerably more costly and difficult if complex observational methods or qualitative interview assessments were used. The identification of these core parenting concepts would then allow the development of more comprehensive and consistent observational and interview assessments in the future.

The final aim of this project was to use the newly developed measure to address some important questions in the parenting literature related to the universality of parenting dimensions and assessments. Specific research questions included:

1. Are the parenting dimensions identified in the current project reliable across parent gender, parent caregiver status, child gender, and parent cultural groups?
2. Do the parenting dimensions identified in the current project have factorial validity across child gender groups?
3. Do the mean parenting dimension scores significantly differ across parenting subgroups defined by parent gender, parent caregiver status, and child gender?
4. Do child gender, parent education level, number of children, child birth order, and parent culture account for significant variance in parenting dimension scores?

4.4.2 Scale Development Methodological Considerations

DeVellis (2003) suggested that scale development begins with a review of the substantive theories of interest in order to establish a theoretical foundation for the scale, rather than using the scale development process to identify core dimensions. DeVellis further recommended that items for inclusion in the initial item pool be developed to reflect this theoretical basis as well as the purpose of the scale. However, as discussed in Chapters 2 and 3, there is a huge diversity of parenting dimensions that have been hypothesised and included in assessments developed by the experts in the parenting field over the past sixty years. This has meant that there is no unanimous agreement over a single, comprehensive theory of parenting or set of definitive, core dimensions on which this measure could be based (T. G. O'Connor, 2002). Thus, although a comprehensive review of the parenting literature was conducted, including the theoretical conceptualisations of parenting and the development and psychometric evaluation of current parenting instruments, items that were generated for the item pool were based on existing parenting measures that were selected due to their utility, availability, theoretical and psychometric support, and assessment of a range of parenting factors considered to be important by experts in the parenting field.

It was decided that this measure would focus on the frequency of parenting behaviours rather than assessing attitudes or beliefs, as behavioural frequency appears to be more reliably reported by parents in previous research (Bornstein & Toole, 2010). Additionally, previous measures of parenting have been criticised due to their inability to provide specific behavioural information related to parenting

practices. A five point Likert type scale response format was initially chosen, including response options of ‘never’, ‘sometimes’, ‘about half the time’, ‘often’ and ‘always’. These response options were selected in recognition of the fact that parents may engage in all of these behaviours at times, but an overall frequency rating summarises their behaviour across multiple contexts and over long periods of time, and stable parenting patterns are more predictive of child outcomes than individual incidences (Holden & Miller, 1999; Lovejoy et al., 1999; Zaslow et al., 2006). In addition, according to Cox (1980) and L. A. Clark and Watson (1995), scales with three or fewer response options may be too restrictive and fail to convey a significant range of information, while the marginal returns from using scales with more than nine response options may be minimal and overwhelming for participants. Cox suggested that seven plus or minus two responses appears to be optimal, with five items considered adequate for subject-centred scales, such as a Likert-type scale format.

A child age range of 3 to 12 years was chosen for the measure, as G. C. Roberts et al. (1984) reported relative stability in parenting practices used with children in this age range. In addition, parents were asked to choose one of their children to focus on when completing the parenting items, as children within families may have different characteristics such as gender and temperament that could impact on parents’ practices (Furman & Lanthier, 2002).

According to DeVellis (2003), expert review of the item pool is an important step in scale development, as experts can confirm or invalidate the relevance of your items in defining the phenomenon that you are attempting to assess. Expert review can also provide feedback on the clarity of the items, redundancies, item length, reading difficulty, and the use of multiple negatives, double-barrelled questions, and other ambiguous terminology, as well as highlight any relevant theoretical areas that you may have failed to include (DeVellis, 2003). Experts are generally considered to be people who have worked extensively with the chosen construct (DeVellis, 2003). This process is conducted to ensure that the items are not a manifestation of a particular researcher’s point of view. However, 192 of the 210 items in the initial item pool were based on existing questionnaire items proposed by a number of experts within the parenting field, rather than being written by the researcher. This suggests that these were already considered theoretically relevant to the assessment of parenting behaviour by parenting experts, and they represented a range of expert

opinions. As a result, the experts consulted in the current project were a sample of parents. Parents were consulted to ensure that the items that were originally developed by the experts in the field were also considered clear, valid, and practically relevant in assessing the parenting practices of contemporary parents.

Once items have been reviewed by experts, the item performance should then be assessed in order to select the most appropriate items for inclusion in the final scale (DeVellis, 2003). This is usually achieved through administering items to a development sample and conducting factor analysis, and then assessing the psychometric properties of the resulting solution. Steps can then be taken to optimise the length of the final scale by dropping unreliable items (DeVellis, 2003).

In the current study, an Internet survey was employed rather than paper-and-pencil questionnaires in order to obtain quantitative parent ratings of the items in the final item pool. However, several questions have been raised in relation to the representativeness of Internet samples, the reliability of data obtained, and the equivalence of Internet and non-Internet survey (Gosling, Vazire, Srivastava, & John, 2004). Although accessibility to the Internet in Australia is increasing, there are still some differences in Internet use according to age, education, socioeconomic status, indigenous status, and geographical location (Kraut et al. 2004; Rhodes, Bowie, & Hergenrather, 2003; Willis & Tranter, 2006). Additionally, Kraut et al. point out that people may engage in behaviours that undermine the integrity of the research, and Internet samples may invest less time and energy in the task as compared to those participating in non-Internet based research. However, traditional methods are also subject to methodological limitations. These include overreliance on student samples, the overrepresentation of able-bodied, extraverted, and conscientious participants in such student samples as well as in volunteer community samples, overrepresentation of highly educated participants from high socioeconomic backgrounds, and lack of anonymity (Gosling et al., 2004).

In fact, Gosling et al. (2004) found that Internet samples are generally more diverse than traditional non-Internet samples with respect to gender, socioeconomic status, geographic location, and age, and are equally as representative as traditional samples with respect to race. In addition, Internet surveys are associated with a range of practical advantages, including obtaining a large sample at a low cost, time efficiency, greater convenience in participation, and reduced data entry errors, as well as increased anonymity, which is particularly important for parenting surveys

that ask about sensitive or socially undesirable parenting issues and practices (Birnbaum, 2004; Carlbring et al., 2005; I. Lewis, Watson, & White, 2009; Rhodes et al., 2003). Indeed, Internet based surveys are associated with a decrease in socially desirable response sets, decreased survey satisficing (taking shortcuts in the response process to meet the acceptability threshold; Lindhjem & Navrud, 2011), and greater self-disclosure as compared to non-Internet based surveys and interviews (Chang & Krosnick, 2009; Gosling et al., 2004; Richman, Kiesler, Weisband, & Drasgow, 1999).

In relation to reliability, research suggests that clearer, more complete responses are obtained from participants in self-selected samples as compared to those who do not self-select to participate, as is sometimes the case in psychology student samples (F. Pettit, 2002). In addition, analyses conducted by Gosling et al. (2004) suggested that the nature and quality of the results obtained was unaffected by presentation format. The Internet survey data also did not appear to be affected by repeated or false responses, and the data obtained were of equal or better quality than those obtained through more traditional methods (Gosling et al., 2004). Several other studies have also found no significant differences between results obtained using a variety of Internet and paper-and-pencil measures (Bressani & Downs, 2002; Buchanan & Smith, 1999; Cronk & West, 2002; Epstein, Klinkenberg, Wiley & McKinley, 2001; McGraw, Tew, & Williams, 2000; Ritter, Lorig, Laurent, & Matthews, 2004; Robins, Trzesniewski, Tracy, Gosling, & Potter, 2002; Salgado & Moscoso, 2003). I. Lewis et al. (2009) concluded that Internet surveys appear to be a valid means of conducting psychological research, especially considering the decline in response rates to all sampling methodologies in recent times (Birnbaum, 2004).

Finally, DeVellis (2003) explained that a shorter scale places less of a burden on respondents, and therefore achieving brevity was of concern in the current study. Self-report questionnaires are particularly advantageous over other methodologies when they provide comprehensive assessment without involving significant time and difficulty for the participant to complete the measure (Clerkin et al., 2007).

4.5 Overall Plan of Research

This study was approved by the Curtin University Human Research Ethics Committee and complies with the provisions of the National Health and Medical Research Council's (2007) "National Statement on Ethical Conduct in Human Research".

The research was divided into four phases. In accordance with the recommendations provided above, Phase One began with a review of the relevant parenting literature and items from existing parent-self report measures were then combined. A list of items that were based on the theoretical parenting dimensions of responsiveness, intrusiveness, and overprotection was also written and added to the list of combined measures. Item content was reviewed for redundancies by the research team, and a pool of new items were written based on the original content, but adhering to the intended Likert scale response format. A sample of parents ($N = 16$) then provided individual written feedback on the item pool, and a further sample ($N = 15$) participated in one of three focus groups to discuss the clarity and relevance of the items, and suggest any further items that they thought were relevant to contemporary parenting practices. This feedback was combined and considered according to the level of agreement with other parents' comments and support from the theoretical literature, with items deleted or reworded accordingly.

In Phase Two, the reduced item pool was administered to a large development sample ($N = 846$) of parents of children aged three to 12 years using an Internet survey. Item performance was assessed using exploratory and confirmatory factor analysis conducted on separate samples derived from the overall development sample in order to fulfil the aim of producing an empirically derived questionnaire. To achieve scale brevity, items were eliminated in a way that maximised factor loadings, Cronbach's alpha, and theoretical fit, and minimised item cross-loading.

Phase Three involved psychometric evaluation of the newly developed measure. Specifically, analyses were conducted in order to assess the test-retest reliability, internal consistency, and construct validity using a new sample of 153 parents.

Finally, Phase Four utilised the parenting data collected in Phase Two in order to address questions of generalisability of parenting measures and the universality of specific dimensions. Analyses assessing the reliability and validity of the new measure across parenting subgroups defined by demographic variables were conducted, and the variance in parenting scores accounted for by parent and child demographic variables was then assessed.

4.6 Research Significance

By expanding the current conceptualisations of parenting, the core parenting factors that are associated with optimal childhood outcomes can be identified. This

will allow systematic comparison of parenting research and theory, improved parenting interventions, and the development of more comprehensive and clinically useful parenting assessments in future. In turn, this will provide specific targets for parenting interventions designed to address problematic child behaviours, and provide clear guidelines relating to the promotion of optimal childhood outcomes.

CHAPTER 5

PHASE ONE- QUESTIONNAIRE DEVELOPMENT

5.1 Overview

Questionnaire development began with a review of the current literature and commonly used parenting measures in order to compile a list of the most important and salient parenting dimensions and measures identified by experts in this area. Six parent self-report measures were selected for the current study. Inclusion criteria for measure selection were: parent-self report, validated for use in preadolescent children, freely available, and published between 1980 and 2005 due to a focus on contemporary parenting practices. In addition, at least one parent self-report measure of behaviours described by Baumrind's (1966, 1967, 1971) parenting styles was to be included in this study. Although this may not have been reflective of contemporary parenting practices, the decision was made in recognition of the significant contribution that Baumrind's research has made to parenting research. A list of items related to dimensions of autonomy support, intrusiveness, and overprotection was also generated by the supervision team due to the underrepresentation of these dimensions in the included questionnaires.

Items were initially reviewed for redundancies by the supervision team, consisting of the author, a professor of developmental psychology, and an associate professor and clinical psychologist with extensive experience in parent research, training, and assessment, and child behaviour therapy. The items were then reworded to adhere to the intended response format. A sample of parents provided written feedback on the items, which was combined with feedback from a further sample of parents collected across three focus groups. Items were reworded or deleted based on agreement between parents, agreement by the supervision team, as well as theoretical support. Some items were also added according to suggestions made by parents that were consistent with parenting literature and agreed upon by the supervision team, resulting in a final list of 116 items. These steps are outlined in more detail below.

5.2 Developing the Item Pool

5.2.1 Method

5.2.1.1 Materials.

5.2.1.1.1 Parenting Scale (Arnold et al., 1993). The Parenting Scale is a 30-item measure designed to assess the ineffective discipline strategies used by parents

of young children. Ineffective parenting strategies are paired with their more effective counterpart to form the anchors of each item (Arnold et al., 1993). Respondents circle the number on a 7-point scale between the two anchors which best reflects their style of parenting during the past two months. Arnold et al. explained that the scale identifies three dysfunctional discipline styles, including Laxness (11 items; sample item “I am the kind of parent who: sets limits on what my child is allowed to do... I let my child do whatever he or she wants”), Overreactivity (10 items; sample item “When I’m upset or under stress: I am picky and on my child's back... I am no more picky than usual”), and Verbosity (7 items; sample item “Before I do something about a problem: I give my child several reminders...I use only one reminder or warning”). One Laxness item and one Overreactivity item were found to have high cross-loadings with the Verbosity factor, and are therefore included in the calculation of the Verbosity score, and four additional items are also included in the Total PS score that were deemed theoretically relevant but were not correlated with any particular factor. These items assess response time to child's misbehaviour, ability to ignore child's pestering, awareness of child's activities when out of parent's sight, and apologising to child when handling a problem (Arnold et al., 1993). Total PS score is calculated by adding the scores from all 30 items. Scores range from 11 to 77 for Laxness, 10 to 70 for Overreactivity, 7 to 49 for Verbosity, and 30 to 120 for Total Score, with higher scores indicating a greater degree of ineffective parenting discipline.

Arnold et al. (1993) provided evidence for concurrent and external validity of the PS, as discussed in Chapter 3. Test-retest correlations over a two week period were .83 for Laxness, .82 for Overreactivity, .79 for Verbosity, and .84 for the Total score (Arnold et al., 1993). Arnold et al. also reported alpha coefficients of 0.83 for Laxness, 0.82 for Overreactivity, 0.63 for Verbosity, and 0.84 for Total Score. Reitman et al. (2001) demonstrated that the PS subscales and total score did not correlate significantly with a measure of social desirability. However, the Verbosity factor was uninterpretable in a principal components analysis conducted by Arnold et al. (1993), and it has not been replicated in independent studies. Furthermore, the internal consistency of this factor has frequently been below the minimally acceptable level, with Cronbach's alpha ranging from .23 to .52 (Collett et al., 2001; Irvine et al., 1999; Reitman et al., 2001).

5.2.1.1.2 Parenting Styles and Dimensions Questionnaire (Robinson et al., 1995). The PSDQ is a 62-item questionnaire designed to measure Baumrind's (1966, 1967, 1971) parenting styles and their component behaviours, and is suitable for use with parents of pre-school and school-age children. Respondents are asked to indicate how often they perceive themselves exhibiting parenting behaviours reflected in each item on a 5-point Likert-type scale, ranging from 1 (*never*) to 5 (*always*). Three primary subscale scores can be calculated; Authoritative (27 items; score range 27 to 135), Authoritarian (20 items; score range 20 to 100) and Permissive (15 items; score range 15 to 75) parenting styles (Robinson et al., 1995). These are further divided into 11 subfactors (see Table 5.1).

Table 5.1

Subfactors of the PBDQ

PBDQ Subfactor	Number of Items	Sample Item
Authoritative Parenting		
Warmth and Involvement	11	I encourage our child to talk about the child's troubles
Reasoning/ Induction	7	I tell child our expectations regarding behaviour before the child engages in an activity
Democratic Participation	5	I allow our child to give input into family rules
Good Natured/Easygoing	4	I joke and play with our child
Authoritarian Parenting		
Verbal Hostility	4	I yell or shout when our child misbehaves
Corporal Punishment	6	I guide our child by punishment more than by reason
Non-Reasoning/Punitive Strategies	6	I punish by taking privileges away from our child with little if any explanations
Directiveness	4	I scold and criticise to make our child improve
Permissive Parenting		
Lack of Follow Through	6	I spoil our child
Ignoring Misbehaviour	4	I withhold scolding and/or criticism even when our child acts contrary to our wishes
Self-Confidence	5	I find it difficult to discipline our child

A series of factor analyses with oblimin rotation and a forced three item solution was conducted to obtain the three primary factors (Robinson et al., 1995). Further factor analyses were conducted on each primary factor using oblique rotation in order to obtain the secondary factors. Cronbach's alphas averaged between mother and father were found to be acceptable to excellent, reported as .91 for authoritative, .86 for authoritarian, and .75 for permissiveness (Robinson et al., 1995).

Robinson et al. (1996) provided support for the construct validity of the measure, as discussed in Chapter 3. In addition, the three factor solution was

supported in samples from the US, Australia, China, and Russia and Cronbach's alpha was at least minimally acceptable for all subscales except for permissive parenting (Robinson et al., 1996). Unacceptable Cronbach's alpha values were also found for at least one subfactor in all samples except for China.

5.2.1.1.3 Parental Authority Questionnaire Revised (Reitman et al., 2002).

The PAQ-R is a 30-item parent self-report questionnaire suitable for use with parents of 3-8 year old children. It was based on Buri's (1991) Parent Authority Questionnaire, and was designed to assess Baumrind's (1966, 1967, 1971) original three parenting styles. The PAQ-R consists of three 10-item scales representing Authoritative parenting (sample item "I always encourage discussion when my children feel family rules and restrictions are unfair"), Authoritarian parenting (sample item "When I ask my children to do something, I expect it to be done immediately without questions", and Permissive parenting (sample item "My children do not need to obey rules simply because people in authority have told them to"). Items are rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), with subscale scores range from 10 to 50 (Reitman et al., 2002). Greater appraised levels of the parental authority prototype yield higher scores. Respondents answer each question twice; rating how much they agreed with the item in relation to their mother, and again in relation to their father.

Coefficient alphas ranged from .72 to .76 for Authoritarian, .73 to .74 for Permissiveness, and .56 to .77 for Authoritative parenting, and test-retest reliability over a one month interval ranged from .54 to .61 for Authoritative, .87 to .88 for Authoritarian, and .67 to .74 for Permissive subscales across three separate samples (Reitman et al., 2002). Reitman et al. also found evidence of modest convergent validity for the PAQ-R subscales, as reported in Chapter 3.

5.2.1.1.4 Alabama Parenting Questionnaire- Parent Report (Shelton et al., 1996).

The APQ is a 42-item measure of parenting characteristics associated with disruptive behaviour in preschool children. Parents are asked to indicate how often they engage in specified parenting behaviours on a five point Likert-type scale ranging from 1 (*never*) to 5 (*always*). The APQ comprises six subscales, including Parental Involvement (10 items; sample item "You drive your child to a special activity"), Poor Monitoring/Supervision (10 items; sample item "Your child goes out without a set time to be home), Inconsistent Discipline (6 items; sample item "The punishment you decide on depends on your mood), the Use of Positive Parenting (6

items; sample item “You praise your child if he/she behaves well”), Corporal Punishment (3 items; sample item “You slap your child when he/she has done something wrong”), and Other Disciplinary Practices (7 items; sample item “You send your child to his/her room as a punishment”; Shelton et al., 1996). Scores range from 10 to 50 for Parental Involvement and Poor Monitoring/Supervision scales, 6 to 30 for Inconsistent Discipline and Use of Positive Parenting scales, and 3 to 15 for the Corporal Punishment scale, with higher scores indicative of higher frequency of that behaviour. Other Disciplinary Practices items are only included to minimise negative bias toward corporal punishment items (Shelton et al., 1996). Shelton et al. noted Parental Involvement and Positive Parenting may measure the same construct as they have been found to be highly correlated ($r = .85$).

The APQ was able to distinguish between clinic and control families, and none of the subscale scores correlated with a measure of social desirability (Shelton et al., 1996). Cronbach’s alphas were .80 for Parental Involvement, .80 for Use of Positive Parenting, .67 for Poor Monitoring/Supervision, .67 for Inconsistent Discipline, and .46 for Corporal Punishment (Shelton et al., 1996). Dadds et al. (2003) reported good test-retest reliability of the APQ over a two week period, with correlations ranging from .84 to .90; however, they reported unacceptably low Cronbach’s alphas for Poor Parental Monitoring/Supervision, and Corporal Punishment. Dadds et al. and Hawes and Dadds (2006) also provided evidence for the external and divergent validity of the APQ subscales, as discussed in Chapter 3. However, studies examining the factor structure of the APQ parent self-report questionnaire have consistently uncovered a three rather than a five factor solution (Clerkin et al., 2007; Elgar et al., 2007; Wells et al., 2000).

5.2.1.1.5 Parent-Child Relationship Questionnaire-Parent Version (*Furman & Adler, 1983, as cited in Furman & Giberson, 1995*). The PCRQ is a 57-item measure designed to measure parent perceptions of the qualities of the parent-child relationship. Parents are asked to rate the extent to which each statement characterises their relationship with their child on a 5-point scale ranging from 1 (*hardly at all*) to 5 (*extremely much*). Factors include Warmth/Affection (9 items), Personal Relationship (15 items), Disciplinary Warmth (9 items), Power Assertion (18 items), and Possessiveness (6 items). These are further divided up into a total of 19 subscales with three items in each (see Table 5.2). Factor scores are calculated by averaging the subscale scores within each factor, thus all factor scores and all

subscale scores range from 3 to 15.

Table 5.2

Subfactors of the PCRQ

PCRQ Subfactor	Sample Item
Warmth/ Affection	
Affection	How much do you and this child care about each other?
Admiration of Parent	How much do you admire and respect this child?
Admiration by Parent	How much does this child admire and respect you?
Personal Relationship	
Prosocial Behaviour	How much do you and this child do nice things for each other?
Similarity	How much do you and this child like the same things?
Intimacy	How much do you and this child tell each other everything?
Nurturance	How much do you show this child how to do things that he/she doesn't know how to do?
Companionship	How much do you and this child go places and do things together?
Disciplinary Warmth	
Praise	How much do you tell this child that he or she did a good job?
Shared Decision Making	How much do you ask this child for his or her opinion on things?
Rationale	How much do you give this child reasons for rules you make for him or her to follow?
Power Assertion	
Quarrelling	How much do you and this child disagree and quarrel with each other?
Dominance	How much do you order this child around?
Physical Punishment	How much do you spank this child when he or she misbehaves?
Verbal Punishment	How much do you yell at this child for being bad?
Deprivation of Privileges	How much do you forbid this child to do something he or she really likes to do when he or she has been bad?
Guilt Induction	How much do you make this child feel ashamed or guilty for not doing what he or she is supposed to do?
Possessiveness	
Possessiveness	How much do you want this child to do things with you rather than with other people?
Protectiveness	How much do you not let this child go places because you are afraid something will happen to him or her?

Internal consistency for the factors has been found to range from .68 to .88 (Chronis, Gamble, Roberts, & Pelham Jr, 2006; Touliatos et al., 2001). Furman and Giberson (1995) and Johnston et al. (2002) both provided support for the construct validity of the scale, as discussed in Chapter 3; however, no other psychometric information appears to be available for this measure.

5.2.1.1.6 Weinberger Parenting Inventory- Parent Version (Weinberger et al., 1989, as cited in Wentzel et al., 1991). The WPI is a 49-item measure assessing parent's self-perceptions of their attitudes and behaviours toward their children.

Items one to 19 are statements that ask respondents how true they are on a 5-point scale ranging from 1 (*false*) to 5 (*true*). Items 20 to 49 ask parent to rate how frequently they engage in the behaviour described in the item on a 5-point scale ranging from 1 (*almost never*) to 5 (*almost always*).

The six subscales include Child-Centeredness (9 items; sample item “I often tell my child how proud I am of him/her”), Psychological Intrusiveness (13 items; sample item “It is hard for me to let my child “grow up” and do things other kids his/her age are doing”), Permissiveness (6 items; sample item “People tell me that I let my child get away with too much”), Harsh Discipline (8 items; sample item “I believe a child must be spanked sometimes to learn respect for their elders”), Inconsistency (6 items; sample item “The punishments I decide on are often influenced by what mood I’m in”), and a combination of Harsh/Inconsistent items (12 items; Wentzel et al., 1991). Scores range from 9 to 45 for Child-Centeredness, 13 to 65 for Psychological Intrusiveness, 6 to 30 for Permissiveness and Inconsistency scales, 8 to 40 for Harsh Discipline, and 12 to 60 for the Harsh/Inconsistency scale (Wentzel et al., 1991).

Limited psychometric information is available for this measure. Weinberger and colleagues (Feldman et al., 1990; Wentzel et al., 1991) have reported Cronbach’s alphas have ranged from .74 to .91 for original and revised subscales of varying lengths, although Kriebel and Wentzel (2011) reported Cronbach’s alphas ranging from .63 to .71. Wentzel et al. (1991) reported a two week test-retest reliability of .86 for the inconsistent, harsh parenting subscale. According to Feldman et al. (1990), evidence for concurrent validity of the WPI subscales was established using a large sample of preadolescent children, as reported in Chapter 3.

5.2.1.2 Procedure. Questions from PSDQ (Robinson et al., 1995), PAQ-R (Reitman et al., 2002), APQ (Shelton et al., 1996), PCRQ (Furman & Adler, 1983, as cited in Furman & Giberson, 1995), and the WPI (Weinberger et al., 1989, as cited in Wentzel et al., 1991) were combined by the researcher, and questions that were similar in content were listed together to allow for ease of comparison. In addition, a list of 18 additional items was generated by the supervision team based on the autonomy support, overprotection, and intrusiveness parenting literature (see Appendix A), and these were added to the list of combined questionnaire items. Item content was reviewed for redundancies by the supervision team, and items that were unanimously deemed redundant were eliminated. The remaining items were

rewritten based on the content of the original items, but they adhered to the intended Likert-type scale response format, asking parents to rate the frequency of their behaviours using the response options of 1 (*never*), 2 (*sometimes*), 3 (*about half the time*), 4 (*often*), and 5 (*always*).

5.2.2 Results

The six questionnaires combined with the list of autonomy support, overprotection, and intrusiveness items yielded a total of 288 items, from which 90 redundant items were deleted. Eliminated redundant items are included in Appendix B. Ten of the items were double-barrelled, and were subsequently reworded into two separate items, while one item was reworded into three separate items. The reduced item pool for the proposed Parenting Behaviours and Dimensions Questionnaire (PBDQ) therefore consisted of 210 items (see Appendix C).

5.3 Individual Parent Item Feedback

5.3.1 Method

5.3.1.1 Participants. Sixteen parents recruited from advertisements throughout the researcher's university, community newspapers, and snowballing participated in this study. All participants were mothers, with ages ranging from 31 to 51 years ($M = 41.71$, $SD = 7.48$), although age information was missing for nine participants. Number of children ranged from one to four, with children's ages ranging from 3 to 17 years of age; however all parents had at least one child aged between 3 and 12 years. Further demographic information is presented in Table 5.3.

Table 5.3

Demographic Information of Parents Providing Individual Item Feedback

	Total Sample N = 16	
	N	%
Questionnaire Completed By		
Mother	15	93.75
Missing	1	6.25
Parent Marital Status		
Single	4	25.00
Married	8	50.00
Divorced	2	12.50
Same Sex Defacto Relationship	1	6.25
Missing	1	6.25
Parent Highest Level of Education Completed		
High School 8-10 years	1	6.25
Apprentice/Technical/Diploma	1	6.25
Some University	1	6.25
University Degree	7	43.75
University Postgraduate	5	31.25
Missing	1	6.25
Living Arrangements		
Mother & Father together	9	56.25
Parent & Stepparent	2	12.50
Mother only	2	12.50
Mother & Father separately – shared custody	2	12.50
Other	1	6.25
Number of Children		
1	8	50.00
2	5	31.25
3 or more	1	6.25
Missing	2	12.50

5.3.1.2 Materials.

5.3.1.2.1 PBDQ item pool. The pool of 210 items described previously was used in this study. Items asked parents to rate how often they engage in the behaviour described in each item. Items were presented with a 5-point Likert-type scale response format, ranging from 1(*never*) to 5(*always*). Questions remained organised into the broad categories from the item pool development process, and these were divided into two lists of approximately equal length.

5.3.1.2.2 Demographics questionnaire. A demographics questionnaire was provided to each participant, which assessed parent marital status, child age, child's

living arrangements, and socioeconomic status as determined by parent education level and current occupation (see Appendix D).

5.3.1.3 Procedure. Parents were provided with an information and consent form (see Appendix E), which they were invited to send back in a separate envelope to ensure confidentiality. Parents were asked to complete the demographics questionnaire, and were then provided with the following instructions regarding the lists of parenting questions:

“The list of parenting questions ask about how often parents exhibit behaviours, with the possible response choices being ‘never’, ‘rarely’, ‘about half the time’, ‘often’, and ‘always’. Please note that I am not asking you to answer the questions. Instead, please read the questions as if you were to answer them about your child, and make suggestions, cross out, or write comments on the questionnaire about the questions that don’t make sense to you, are ambiguous, unclear, or difficult to answer, are badly worded, are repetitive (ask the same thing), are irrelevant or inappropriate to your child, and any other comments.”

The order that the lists were presented in was alternated, with the option to provide feedback on only one list if preferred. Parents were then asked to return the questionnaires to the researcher in a reply paid envelope. Returned parenting and demographic questionnaires were assigned an identity number and written comments were collated.

5.3.2 Results

Participants provided written feedback on 194 items, with 16 items receiving no comments from parents, suggesting that they were unanimously deemed clear and appropriate. Written comments for each question were collated and organised by item number, and suggestions for additional items were listed separately. This feedback was considered alongside feedback from the focus groups.

5.4 Focus Group Item Feedback

5.4.1 Method

5.4.1.1 Participants. The sample for the focus groups included 15 parents of children aged 3 to 12 years of age recruited from community advertisements in Western Australia. This included advertisements in community newspapers, Curtin University staff newsletters, Curtin radio, snowballing, and poster advertisements at Curtin University and in shopping centres. Seventy five percent of participants who

initially responded to the advertisements participated in the focus groups. Three focus groups were conducted, with six participants in focus group one, five participants in focus group two, and four participants in focus group three. Participants were all female, with ages ranging from 32 to 51 ($M = 39.64$, $SD = 5.57$). Number of children ranged from one to five, with children's ages ranging from 2 to 18 years of age; however all parents had at least one child aged between 3 and 12 years. See Table 5.4 for further sample demographic information.

Table 5.4

Demographic Information of Focus Group Participants

	Focus Group 1 <i>N</i> = 6		Focus Group 2 <i>N</i> = 5		Focus Group 3 <i>N</i> = 4	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Parent Marital Status						
Single	0	0.00	0	0.00	1	25.00
Married/Defacto	4	66.67	5	100.00	3	75.00
Separated/Divorced	1	16.67	0	0.00	0	0.00
Missing	1	16.67	0	0.00	0	0.00
Parent Education						
High School 11-12 years	0	0.00	0	0.00	2	50.00
Apprentice/Technical/ Diploma	2	33.33	2	40.00	0	0.00
Some University	1	16.67	0	0.00	0	0.00
University Degree	2	33.33	2	40.00	2	50.00
University Postgraduate	0	0.00	1	20.00	0	0.00
Missing	1	16.67	0	0.00	0	0.00
Living Arrangements						
Mother & Father together	3	50.00	4	80.00	3	75.00
Mother only	1	16.67	0	0.00	1	25.00
Other Relative	0	0.00	1	20.00	0	0.00
Fly In Fly Out	1	16.67	0	0.00	0	0.00
Missing	1	16.67	0	0.00	0	0.00
Number of Children						
1	0	0.00	1	20.00	1	25.00
2	3	50.00	3	60.00	2	50.00
3 or more	2	33.33	1	20.00	1	25.00
Missing	1	16.67	0	0.00	0	0.00

5.4.1.2 Materials. The PBDQ item pool of 210 items and demographics questionnaire described previously were also used with the focus groups.

5.4.1.3 Procedure. Through advertising in the local community, parents were invited to volunteer to take part in a focus group to discuss opinions on questions about parenting. Parents were provided with morning tea, and were entered into a

draw to win one \$50 voucher per focus group. The prize draws were conducted once all three focus groups were completed, and winners were contacted via email and vouchers mailed out. Focus group times and dates were organised according to the preferences of the participants, and all three were conducted within a one month period. The information sheet (see Appendix F) and parenting questions were provided to parents prior to the focus group.

Parents were asked to complete the consent form at the commencement of the focus group. They were then given a brief outline of the importance of parenting, and the purpose of the current research. Participants were then asked some general questions about their perspectives on parenting, including what defined them as a parent, what were the most important things about the way that they parented, what they thought made a good parent, and what things they wanted to avoid as a parent. Participants were then asked to read through the parenting questions, and discuss whether the questions were relevant, made sense, were clearly worded, or repetitive, and finally, if there were any questions that they felt were missing from the list. Focus groups ended once parents had finished discussing the parenting questions. Focus groups ran for an average of 156 minutes.

5.4.2 Results

According to Wilkinson (2008), there is no preferred method of analysing data from focus groups. Audio recordings from the three focus groups were transcribed. Specific item feedback was extracted from each transcript, and verbatim comments were organised by item number. This was then combined with the individual parent comments.

Content analysis (Wilkinson, 2008) was then conducted on each transcript, which involves coding the qualitative data into closed categories derived from the data. Qualitative content was only analysed in terms of its manifest meaning, rather than latent or inferred underlying meaning (Wilkinson, 2008), as the purpose of these focus groups was to ascertain the important additional behaviours associated with contemporary parenting that needed to be assessed. According to Wilkinson (2008), the end point of focus group content analysis may simply be to evidence each category using an illustrative quote from the data. The categories or themes chosen for the current analysis were thought to be reflective of important specific parenting behaviours that had not been assessed by the items in the item pool, rather than broader parenting constructs that were not represented by other existing items. Once

the first transcript had been analysed, subsequent transcripts were examined for similar as well as new themes. Twenty one themes and accompanying quotes were combined with suggestions for additional items provided by the participants who gave individual feedback. These are summarised in Table 5.5. Themes included discipline consistency, appropriate choice of punishment, focusing on effort rather than achievement, use of monetary rewards, protecting a child's emotions or self-esteem, realistic behavioural feedback, other-oriented discipline, inductive discipline, scaffolding in consideration of the child's age and ability, encouraging problem solving, unconditional love, encouraging emotional expression, involvement and interest, recognition of unique interests and abilities, encouraging child to choose own interests and activities, modeling of appropriate behaviour, encouraging good behaviour, acknowledging the child's emotions, self-reflection, parental self-care, and willingness to change ineffective parenting. As a result, 21 items were added, which were consistent with suggestions made by parents who provided individual feedback. Original participant quotes were used to aid in the wording of the additional items.

Comments for each item were considered by the researcher and the supervision team based on the number of comments made by participants, similarity of concerns raised, and agreement amongst the supervision team concerning the validity of the feedback raised in relation to the parenting literature. Items that were redundant, difficult to answer, or inappropriate were deleted, and items that were badly worded, double-barreled, or unclear were reworded where appropriate. Items that were not unanimously voted by the supervision team to be deleted were retained. Sixty six items were retained unchanged, 115 items were eliminated, and 30 items were reworded. The final list of questions contained 116 items (see Appendix G). Reworded items are summarised in Table 5.6.

A '*rarely*' option was also added to the Likert scale, as suggested by individual and focus group participants. Final response options therefore included 1 (*never*), 2 (*rarely*), 3 (*sometimes*), 4 (*about half the time*), 5 (*often*), and 6 (*always*).

Table 5.5

Added Items Reflecting Focus Group Themes and Individual Parent Feedback

Added Item	Parent Comments
I am consistent in the way I punish my child	<p><i>“I discipline my child in a consistent and predictable way”</i></p> <p><i>“The specifics may not be good - ‘I consistently follow through with punishment’ rather than ‘this is what punishment I give’”</i></p>
I make punishments that are appropriate to my child’s misbehaviour	<p><i>“Punishment appropriate to situation and goal you’re trying to achieve- natural consequences. ‘I have a set punishment that I use’ or ‘I make punishments that are appropriate to the child’s behaviour and the goals of the punishment’”</i></p>
I praise my child’s efforts, regardless of the outcome	<p><i>“Wow, that’s really great darling’ because you can see that they have put a lot of effort into it and you don’t want to dismiss that effort that they have put in. You don’t want to upset them. You don’t want to hurt their feelings”</i></p> <p><i>“Better not always saying how wonderful a child is doing. You think you are building up their self-esteem, but you are not actually building their resilience. You want them to know that you accept them no matter what.”</i></p>
I recognise my child’s strengths and talents	<p><i>“Promote personal strengths and talents, and highlighting them, awareness of and help with weaknesses without criticising. It is learning to recognise the gifts in others and celebrate the joy in that as well for each other.”</i></p>
I encourage my child to do the right thing	<p><i>“Need some positive statements ‘I encourage my child to do the right thing’. Feels quite negative throughout.”</i></p>
I try to set a good example for my child	<p><i>“Setting a good example, modelling values, behaviour and attitudes”</i></p> <p><i>“Encouraging them to be the best they can be through modeling”</i></p>
I use money to reward my child’s good behaviour	<p><i>“Need questions on the use of monetary reward”</i></p>
I provide realistic feedback to my child about their behaviour	<p><i>“I think it is better if parents are more realistic because that is how it is run in our household. We sort of promote the strengths and try and help out with the weaknesses, but at the same time acknowledge that there are weaknesses there.”</i></p>
I encourage my child to consider another person’s point of view	<p><i>“I have actually found that also teaching kids to empathise is really helpful. I know that very young children can’t empathise, but as they get older they can learn to empathise. So I’ve actually found that doing that, getting them to take the other person’s perspective has been very useful as well. That’s what I try to do with the kids.”</i></p>
I encourage my child to consider the consequences of their choices before making them	<p><i>“Set boundaries in place and keeping those boundaries there, so that they know they have that safe centre to return to and there are consequences if they go beyond those boundaries.”</i></p>

	<i>"About learning that they can make choices, but there are consequences, and discussing those consequences before they make those choices so that they are aware of them. Not forcing them in one direction but having guidelines for them to decide and make good decisions"</i>
I try to acknowledge how my child is feeling	<i>"Important to acknowledge their feelings"</i>
I encourage my child to problem solve	<i>"Questions on developing their skills and problem solving"</i>
	<i>"Allowing them to feel what it was like to be so overwhelmed and so stressed that she had to do something. Only stepping in once she had had a chance to problem solve it for herself."</i>
I adjust my level of assistance in tasks based on my child's age and ability	<i>"How each child is treated depends on their gender, age and ability"</i>
	<i>"Questions on adjusting level of involvement based on the child's age and ability"</i>
I encourage my child to choose his/her own interests and activities	<i>"Allowing the children to set their own goals and agenda and interests to an extent"</i>
	<i>"And there is a difference between trying to help promote your child doing other activities and knowing they can do it and they would do it if they needed to, and taking over and doing too much."</i>
I try to shield my child from experiencing negative emotion	<i>"Questions on parents who don't allow their children to go through negative emotions because they are scared of how their child is going to feel and that they are not going to be able to cope"</i>
	<i>"Give them skills to be able to cope with things that are difficult. Teach them that bad things will happen and you can ask for help. They feel confident in their ability to be able to deal with negative experiences."</i>
I show an interest in my child's life	<i>"Taking an interest in the teacher, friends, activities, not necessarily what you actually do"</i>
I show my child that I love them unconditionally	<i>"Love them unconditionally and show consistently"</i>
I encourage my child to express his/her affection for people	<i>"I encourage my child to express their affection for people, I encourage expression of affections in my family"</i>
I evaluate how effective my parenting strategies are	<i>"Prepared to look at what they are doing as parents and change it if it is not working."</i>
I am willing to change the way I parent if it is not very effective	
I make time to do nice things for myself	<i>"Include a question like 'I make time for myself apart from my children' or 'I define myself as something other than a parent', 'I do things for me that make me happy'"</i>

Table 5.6

Reworded Items According to Parent Feedback

Original Item	Reworded Item
I spank, slap, or hit my child when he/she misbehaves	I smack my child when he/she misbehaves
I make my child feel ashamed or guilty when he/she misbehaves	I make my child feel ashamed when he/she misbehaves
I yell or scream at my child when he/she misbehaves	I shout at my child when he/she misbehaves
I scold or criticise when my child's behaviour doesn't meet my expectations	I scold when my child's behaviour doesn't meet my expectations
I discipline first and ask questions later	I punish first and ask questions later
I let my child talk him/herself out of being punished	I allow my child to express his/her side of the story before I punish him/her
I don't punish my child if he/she misbehaves then acts sorry	I don't punish my child if he/she acts sorry
I feel that getting my child to obey me is more trouble than it's worth	It is more trouble than it's worth to get my child to obey me
I hold a grudge against my child when he/she does something to upset me	I remain upset with my child when he/she has misbehaved
I let my child know what behaviour is expected, and punish them if they don't comply	I let my child know what behaviour is expected
I channel our child's misbehaviour into a more acceptable activity	I channel my child's misbehaviour into a more acceptable activity
I nag my child to do things	I have to nag my child to do things
I allow my child to interrupt others	I allow my child to interrupt other adults
I find it amusing when my child does something to upset his/her teacher or another adult	I find it amusing when my child does something to upset another adult
I allow my child to get into a little trouble	I allow my child to get into mischief
I reward my child for obeying my or behaving well	I reward my child for behaving well
I get so busy that I forget to check where my child is and what he/she is doing	I forget to check where my child is and what he/she is doing
I explain to my child how I feel about his/her good behaviour	I explain to my child how I feel about his/her behaviour
I explain to my child how I feel about his/her bad behaviour	
I listen to my child's ideas about issues that concern him/her before making a decision	I listen to my child's opinion on matters that concern him/her
I make decisions based on what my children want	I base my decisions on what my child wants
I set strict, well-established rules for my child	I set strict rules for my child
I am responsive to my child's feelings or needs	I respond to my child's feelings or needs
I try to meet my child's needs and desires immediately	I try to meet my child's desires immediately
I am there for my child when he/she seeks me out	I make time for my child when he/she needs me
I drive my child to a special activity	I take my child to special activities
I encourage my child to talk about their problems	I encourage my child to talk about his/her problems
I am aware of problems or concerns about my child at school	I am aware of problems or concerns about my child
I have difficulty letting my child do things that children his/her age are doing	I have difficulty letting my child do things that most children his/her age are doing
I am more concerned with my own feelings than my child's feelings	I am more concerned with my child's feelings than my own

5.5 Discussion

The aims of this research were to develop an initial item pool for the proposed PBDQ that reflected the expertise of parenting researchers, and employ a sample of contemporary parents to conduct an expert review of the items. Based on participant feedback, 66 items from the initial item pool were retained unchanged, 115 items were eliminated, 30 items were reworded, and 21 items were added, yielding a total of 116 items in the final item pool. The response scale for the proposed PBDQ was changed from a five point Likert-type scale to a six point Likert-type scale due to the participants' suggesting that a 'rarely' response option be included.

A diverse range of parenting issues and behaviours were considered relevant and important by parents in the current study. Not all of these issues have been identified by previous measures, but many of these appear to be consistent with concepts discussed by previous researchers. For example, additional items were related to discipline consistency (Patterson et al., 1992), flexible and appropriate choice of punishment (Grusec et al., 1982; Grusec & Goodnow, 1994), use of monetary rewards (McNeely & Barber, 2010; Stolz et al., 2005), protecting a child's emotions or self-esteem and the provision of realistic feedback (Baumrind, 1997), other-oriented and inductive discipline in considering consequences to self and others (Hoffman, 1963, 1970, 1982, 1994), scaffolding in relation to problem solving and consideration of the child's age and ability (Vygotsky, 1962), unconditional love versus conditional regard (Assor et al., 2004), involvement and interest (Grolnick & Ryan, 1989), and recognition of the child's unique interests and abilities (Grolnick & Pomerantz, 2009).

Other added items did not appear to be related to the literature reviewed in this project, but are discussed in other areas of psychological literature. For example, the modeling of behaviour, values, and attitudes relates back to constructivist theories (Bandura, 1965), while encouraging or rewarding good behaviour is discussed in operant conditioning (B. F. Skinner, 1953), and praising effort rather than focusing on achievement has been researched in relation to motivational styles (Dweck, 1986, 2008). In addition, acknowledging the child's emotions and encouraging emotional expression have been extensively discussed in relation to emotional regulation by Eisenberg and colleagues (Eisenberg, 2000; Eisenberg, Cumberland, & Spinrad, 1998; Eisenberg & Spinrad, 2004), while self-reflection

(Hixon & Swann, 1993) and self-care (Figley, 2002; Hannigan, Edwards, & Burnard, 2004) have long been discussed in relation to responsible practice and stress management in several areas of psychology, including learning (Sedikides, 1993), behaviour change (Grant, Franklin, & Langford, 2002), health psychology (Auerbach, 1989; Goode, Haley, Roth, & Ford, 1998), clinical practice (Shapiro, Brown, & Biegel, 2007), and organisational psychology (Leighton & Roye, 1984).

The use of both written parent comments and focus group data combined the advantages of both methodologies. Giving parents the opportunity to provide written feedback shared the same benefits as self-administered questionnaires and Internet surveys. Parents were able to complete the questionnaire at a time and place which was convenient to them, and the feedback was individual and therefore less likely to be influenced or coerced by others (Rhodes et al., 2003). In addition, the methodology was less intrusive and more private than interviews or focus groups (Durant & Carey, 2000), which may have been beneficial in discussing sensitive parenting issues such as the use of corporal punishment. On the other hand, Kitzinger (1995) suggested that the group discussion of focus groups is particularly advantageous when the researcher intends to encourage participants to explore and discuss issues that are important to them using their own vocabulary, which was the case in the current study. Focus groups may also help people to clarify their perspectives in ways that may be less accessible in other methodologies, such as individual interviews or written questionnaires (Kitzinger, 1995). For example, focus group discussions promote deeper exploration of issues rather than mere surface explanations (D. W. Stewart, Shamdasani, & Rook, 2007). Krueger and Casey (2000) explained that focus group participants may also take their cues from other participants' comments, and therefore greater exploration of a range of perceptions can be achieved due to a process of ongoing and dynamic activation of the participants' relevant memories or thoughts.

The methodology employed also presented several other advantages, including the combination of a number of different sources of expertise. This was particularly important as the content of the questionnaire was not mapped onto domains of interest as a result of the large number of parenting conceptualisations in the literature and the lack of agreement over the core dimensions to assess (T. G. O'Connor, 2002). Although a comprehensive review of the literature was conducted, including the theoretical conceptualisations of parenting and the development and

psychometric evaluation of current parenting instruments, items were instead based on existing parenting measures and represented a range of parenting domains. The six questionnaires included in this study reflected a number of different perspectives and sources of information, not only the views of the authors of the measures, but also the theories and empirical findings that were reviewed and utilised in determining the focus, item content, and theoretical basis of their questionnaires, including Baumrind's (1966, 1967, 1971) seminal parenting style typology. In addition, contemporary parents provided qualitative feedback on the items and the important practices of contemporary parents. Community psychology research has long recognised that participants are the real experts regarding their own situations and issues (Angelique & Culley, 2007). This research also adopted the community psychology principle of encouraging participation, involving exploration of the perspectives of individuals within the population of interest, rather than assuming that we as experts know what they think and what their issues are (Orford, 2008). Therefore, the findings of this research reflected theoretical and empirical parenting literature, as well as the expertise and practical experience of a sample of contemporary parents.

Finally, the items developed for this measure were designed to assess the frequency of parenting behaviours rather than assessing attitudes or beliefs, as previous measures of parenting have been criticised due to their inability to provide specific behavioural information, and behavioural frequency appears to be more reliably reported by parents in previous research (Bornstein & Toole, 2010). Furthermore, the final six-point Likert-type scale response format was selected in order to collect a summary of parent behaviour across multiple contexts and over long periods of time (Holden & Miller, 1999; Lovejoy et al., 1999; Zaslow et al., 2006). The decision to employ six response options aligns with the recommendations of Cox (1980) and L. A. Clark and Watson (1995), striking a balance between response options being restricted and uninformative, and being overwhelming and superfluous.

Therefore, the current research combined the advantages of several methodologies, including literature review, consultation of previous assessments, individual parent feedback, and focus groups, in order to produce a reduced item pool of 116 items for the empirical development of the proposed PBDQ.

CHAPTER 6

PHASE TWO- DETERMINING FACTOR STRUCTURE

6.1 Overview

DeVellis (2003) suggested that once the purpose of the scale is determined and a pool of items generated, the next step is to assess the performance of the individual items, and select a set of the most robust items for inclusion in the final scale. Exploratory factor analysis (EFA) is one of the most widely used methods of item selection, and has been used in the construction of many quantitative measures (Floyd & Widaman, 1995). According to DeVellis (2003), EFA is the most effective means of determining the combination of items that comprise each unidimensional latent factor underlying the overall item set. A simple factor structure is often preferred, in which items load significantly on only one factor and do not cross-load onto other factors (Costello & Osborne, 2005). Although confirmatory factor analysis (CFA) also aims to uncover the structure of correlations among items by determining the latent factor structure, EFA is preferred when a researcher has a large pool of items and an inadequate theoretical or empirical basis to accurately specify a small set of a priori models, as is the case in the current study (Fabrigar, Wegener, MacCallum, & Strahan, 1999).

Fabrigar et al. (1999) suggested that it is often useful to use both EFA and CFA in conjunction with one another, using the EFA to provide a basis for CFA in a subsequent analysis. In addition, Wegener and Fabrigar (2008) recommend that CFA be conducted following the initial item selection process in order to provide more precise evaluation of the underlying structure of the measure. Finally, as almost all individual item problems will tend to reduce a scale's reliability coefficient alpha, DeVellis (2003) also recommends that the item selection process should involve the calculation of Cronbach's alpha.

In line with these recommendations, the first aim of the current phase was to examine the factor structure of the list of parenting items for the proposed PBDQ using EFA on data collected from a large community sample of parents, and reduce these data to yield a new brief measure of parenting. According to DeVellis (2003), shorter scales place less of a burden on respondents; however, he noted the importance of retaining acceptable reliability when reducing the scale length. As a result, items were eliminated based on minimum loading criteria, significant cross-

loading, theoretical fit, and Cronbach's alpha analysis. The second aim of this phase was to assess the factorial validity of the newly developed measure using CFA, in order to establish preliminary support for the psychometric properties of the scale.

Internet data collection was used as a cost-effective means of obtaining a large and diverse sample of participants (Birnbaum, 2004; Carlbring et al., 2005; Gosling et al., 2004; I. Lewis et al., 2009; Rhodes et al., 2003). According to Gosling et al., the nature and quality of the results are unaffected by Internet versus paper-and-pencil presentation format. However, J. A. Johnson (2001) proposed that Internet responses should be screened for indicators of participant nonresponsiveness, such as long strings of identical responses and patterned response sets, and John and Benet-Martinez (2000) also recommended that scale reliabilities also be assessed in order to detect possible unreliable responses. Both of these precautions were adopted.

6.2 Method

6.2.1 Participants

Participants comprised 846 parents of at least one child aged 3 to 12 years, recruited by advertising through Curtin radio, community newspapers, online parenting and research forums, and snowball sampling. Participants included 763 females and 77 males (gender data missing for six participants) and were aged between 19 and 57 ($M = 35.85$, $SD = 6.76$). Participants were asked to select one of their children to answer the questionnaire items about, as there may be differences in the practices used by the same parent with different children in their family (Boyle et al., 2004; Furman & Lanthier, 2002; Holden & Miller, 1999). This was based on the parent's decision, and no guidance was given about which child to select.

Demographic characteristics of the total and divided EFA and CFA samples are presented in Tables 6.1 to 6.3. The majority of the parents who completed the questionnaire lived in Australia (77.42% of total sample), indicated that their ethnic identity was Australian (65.84%), and were female (90.19%), mothers (89.48%), and primary caregivers (86.05%). In addition, the majority of participants were highly educated, with 76.35% having commenced or completed a university qualification. Almost 40% of participants indicated that they had suffered from psychological problems at some point in their life (see Table 6.1).

Table 6.2 presents demographic information for the partner. Almost 82% of participants had partners who lived in the home, and 69.57% of all partners were

married. More than half of the partners (54.14%) had commenced or completed some university or obtained a university qualification. Participants indicated that 51.89% of their partners considered their ethnic identity to be Australian, and 18.44% had suffered from psychological problems at some point in their life.

Finally, child demographic information is presented in Table 6.3. A large majority of the sample (90.19%) came from families with three children or less, and almost 70% of these families were comprised of the child's mother and father living together. The age of the child chosen by the parent ranged from 3 to 12 years ($M = 6.85$, $SD = 2.84$), and most of these were first born children (66.19%). Slightly more male children were chosen than female children, and parents indicated that 7.68% of children had suffered from psychological problems at some point in their life.

Table 6.1

Demographic Information of Parents by Sample

	Total Sample N = 846		EFA Sample N = 580		CFA Sample N = 266	
	N	%	N	%	N	%
Questionnaire Completed By						
Mother	757	89.48	514	88.62	243	91.35
Father	65	7.68	46	7.93	19	7.14
Step-Parent	14	1.65	11	1.90	3	1.13
Other	4	0.47	3	0.52	1	0.38
Missing	6	0.71	6	1.03	0	0.00
Location						
Australia	655	77.42	474	81.72	181	68.05
USA	122	14.42	65	11.21	57	21.43
United Kingdom	5	0.59	4	0.69	1	0.38
Other	20	2.36	15	2.59	5	1.88
Missing	44	5.20	22	3.79	22	8.27
Primary Caregiver						
Yes	728	86.05	496	85.52	232	87.22
Shared equally	34	4.02	26	4.48	8	3.01
No	44	5.20	31	5.35	13	4.89
Missing	40	4.73	27	4.66	13	4.89
Parent Gender						
Female	763	90.19	524	90.34	239	89.85
Male	77	9.10	53	9.14	24	9.02
Missing	6	0.71	3	0.52	3	1.13

Table 6.1 (continued)

	Total Sample		EFA Sample		CFA Sample	
	N = 846		N = 580		N = 266	
	%	N	N	%	N	%
Parent Age						
25 years or under	66	7.80	38	6.55	28	10.53
26 – 30 years	112	13.24	77	13.28	35	13.16
31 – 35 years	213	25.18	137	23.62	76	28.57
36 – 40 years	252	29.79	185	31.90	67	25.19
41 – 45 years	136	16.08	94	16.21	42	15.79
Over 46 years	63	7.45	46	7.93	17	6.39
Missing	4	0.47	3	.52	1	.38
Parent Marital Status						
Single	71	8.39	42	7.24	29	10.90
Engaged	3	0.35	2	0.35	1	0.38
Defacto	81	9.57	65	11.21	16	6.02
Married	597	70.57	418	72.07	179	67.29
Separated/Divorced	84	9.93	48	8.28	36	13.53
Widowed	6	0.71	3	0.52	3	1.13
Missing	4	0.47	2	0.35	2	0.75
Parent Highest Level of Education						
High School 8-10 years	23	2.72	16	2.76	7	2.63
High School 11-12 years	78	9.22	53	9.14	25	9.40
Apprentice/Technical/ Diploma	94	11.11	71	12.24	23	8.65
Some University	217	25.65	138	23.79	79	29.70
University Degree	198	23.40	140	24.14	58	21.81
University Postgraduate	231	27.30	157	27.07	74	27.82
Missing	5	0.59	5	0.86	0	0.00
Parent Ethnic Identity						
Australian	557	65.84	403	69.48	154	57.90
Australian Aboriginal	2	0.24	1	0.17	1	0.38
American	60	7.09	31	5.35	29	10.90
English	43	5.08	28	4.83	15	5.64
New Zealand	16	1.89	15	2.59	1	0.38
Latin American/Hispanic	11	1.30	3	0.52	8	3.01
South African	8	0.95	5	0.86	3	1.13
African American	6	0.71	3	0.52	3	1.13
Irish	7	0.83	5	0.86	2	0.75
Indonesian	6	0.71	4	0.69	2	0.75
Other	55	6.50	37	6.38	18	6.77
Missing	75	8.87	45	7.76	30	11.28

Table 6.2

Demographic Information of Partners by Sample

	Total Sample		EFA Sample		CFA Sample	
	N	%	N	%	N	%
Partner						
Yes, currently lives in the home	693	81.91	488	84.14	205	77.07
No, but spends a significant amount of time in the home	11	1.30	7	1.21	4	1.50
No, does not live in the home	59	6.97	33	5.69	26	9.77
Not applicable	79	9.34	48	8.28	31	11.65
Missing	4	0.47	4	0.69	0	0.00
Partner Marital Status						
Single	23	2.72	12	2.07	11	4.14
Engaged	3	0.35	2	0.35	1	0.38
Defacto	74	8.75	58	10.00	16	6.02
Married	590	69.74	412	71.03	178	66.92
Separated/Divorced	14	1.65	10	1.72	4	1.50
Not Applicable	79	9.34	48	8.28	31	11.65
Missing	63	7.45	38	6.55	25	9.40
Partner Highest Level of Education						
High School 8-10 years	42	4.97	28	4.83	14	5.26
High School 11-12 years	99	11.70	67	11.55	32	12.03
Apprentice/Technical/Diploma	181	21.39	134	23.10	47	17.67
Some University	88	10.40	57	9.83	31	11.65
University Degree	188	22.22	135	23.28	53	19.93
University Postgraduate	103	12.18	71	12.24	32	12.03
Not Applicable	79	9.34	48	8.28	31	11.65
Missing	66	7.80	40	6.90	26	9.77
Partner Ethnic Identity						
Australian	439	51.89	327	56.38	112	42.11
Australian Aboriginal	1	0.12	1	0.17	0	0.00
American	49	5.79	26	4.48	23	8.65
English	46	5.44	25	4.31	21	7.90
New Zealand	15	1.77	12	2.07	3	1.13
Latin American/Hispanic	7	0.83	3	0.52	4	1.50
South African	9	1.06	7	1.21	2	0.75
Irish	7	0.83	4	0.69	3	1.13
Indonesian	6	0.71	4	0.69	2	0.75
Italian	6	0.71	3	0.52	3	1.13
Other	68	8.04	52	8.97	16	6.02
Not Applicable	79	9.34	48	8.28	31	11.65
Missing	114	13.48	68	11.72	46	17.29
Partner Physical and Psychological						
Serious Physical Health	37	4.37	30	5.17	7	2.63
Physical or Sensory Disability	32	3.78	27	4.66	5	1.88
Psychological Problems	156	18.44	109	18.79	47	17.67
Not Applicable	79	9.34	48	8.28	31	11.65

Table 6.3
Demographic Information of Children by Sample

	Total Sample		EFA Sample		CFA Sample	
	N	%	N	%	N	%
Number of Children						
1	188	22.22	122	21.03	66	24.81
2	395	46.69	266	45.86	129	48.50
3	180	21.28	129	22.24	51	19.17
4	49	5.79	37	6.38	12	4.51
5	17	2.01	14	2.41	3	1.13
6 or more	9	1.06	7	1.21	2	0.75
Missing	8	0.95	5	0.86	3	1.13
Birth Number of Child Chosen						
1	560	66.19	379	65.35	181	68.05
2	165	19.50	112	19.31	53	19.93
3	80	9.46	54	9.31	26	9.77
4	25	2.96	19	3.28	6	2.26
5	8	0.95	8	1.38	0	0.00
6 or higher	2	0.24	2	0.34	0	0.00
Missing	6	0.71	6	1.03	0	0.00
Gender of Child Chosen for						
Female	405	47.87	295	50.86	110	41.35
Male	430	50.83	278	47.93	152	57.14
Missing	11	1.30	7	1.21	4	1.50
Child Physical and Psychological						
Serious Physical Health Problems	132	15.60	87	15.00	45	16.92
Physical or Sensory Disability	39	4.61	28	4.83	11	4.14
Psychological Problems	65	7.68	37	6.38	28	10.53
Learning Problems	63	7.45	42	7.24	21	7.89
Living Arrangement						
Mother and father together-	592	69.98	415	71.55	177	66.54
Mother and father together-	31	3.66	21	3.62	10	3.76
Parent and step-parent together	56	6.62	41	7.07	15	5.64
Mother only	93	10.99	57	9.83	36	13.53
Father only	3	0.35	3	0.52	0	0.00
Mother and Father separately –	52	6.15	30	5.17	22	8.27
Other	11	1.30	7	1.21	4	1.50
Missing	8	0.95	6	1.03	2	0.75

6.2.2 Materials

6.2.2.1 Demographics questionnaire. A questionnaire assessing a number of parent, child, and family related demographic variables was used in this study (see Appendix H).

6.2.2.2 PBDQ item pool. The reduced list of 116 parenting items developed in Phase One was used for this study. These items asked participants to report how

often they engaged in the behaviours specified in the items, rated on a 6 point Likert-type scale, ranging from 0 (*never*) to 6 (*always*). An example item is “I give my child reasons about why he/she isn’t allowed to do something.”

6.2.3 Procedure

Demographic questions and the PBDQ item pool were formatted into an online survey using the limesurvey.com platform. Demographic questions were asked at the beginning of the online survey for two reasons. Firstly, while opinion is divided on where demographic questions should be located, a study conducted by A. Frick, Bächtiger, and Reips (2001) found that online survey dropout was reduced when personal information was asked for at the beginning of the study rather than after the study variables. A. Frick et al. (2001) also found that participants who were asked questions concerning personal information at the beginning of the survey gave more complete responses overall, which provides further support for the ordering of questions in the current study. The second reason for presenting demographic questions at the beginning of the survey was to screen out parents with children aged less than 3 years or more than 12 years. However, due to a technical error, the data screening could not be completed using the limesurvey.com software. Cases meeting the child age exclusion criteria were instead screened manually prior to the analysis.

Items from the PBDQ item pool were presented immediately following the demographic questions. The child age and parenting questionnaire items were set to forced response so that all of these items had to be answered. Stieger, Reips, and Voracek (2007) suggested that using forced-response mode in online surveys maximises early dropout of impatient, unmotivated, or resistant participants who are likely to have a negative impact on the data, resulting in higher quality data overall. This is referred to as the high-hurdle technique (Reips, 2002). Stieger et al. concluded that this technique is only recommended (a) if it is important to have complete response sets for data analysis, such as in scale construction, (b) when an increased dropout rate does not present a problem, and (c) when the distribution of participant gender is not of principal concern, due to a significant gender effect on dropout rate. These conditions were met in the current study.

The link provided in advertising the survey directed participants to an information sheet hosted on the Curtin University website (see Appendix I) outlining the purpose of the study, the rights of the participants, and the procedure. Participants were informed that submitting the questionnaire indicated that they gave consent to

participate in the study. Participants were instructed to complete the demographics questionnaire, followed by the parenting questionnaire items. Once the parenting questionnaire items were completed, participants were directed to a debriefing page hosted on the Curtin University website, which gave them the option to submit their email address to enter a draw to win a \$100AUD voucher. Sandwiching the externally created and hosted survey between the information sheet and debriefing page hosted on the branded university server is considered best practice according to Allen and Roberts (2010), as this placement facilitates a stronger association between the research and the university, and allows for the collection of identifying information for a prize draw to be collected on a separate server, thus protecting the confidentiality of the participant's responses.

A winner was randomly selected once data collection was closed, and the prize was distributed. As survey data collection and email addresses were collected on different servers, it was not possible to link email addresses to survey responses. Two meta-analyses conducted by Goritz (2006) found that providing material incentives increased the odds of participation in Internet based surveys by 19%, and increased retention rates by an average of 4.2% compared to surveys that did not provide incentives. A. Frick et al. (2001) found that this effect is maintained even if a lottery payment is offered rather than a promised incentive and furthermore, there was no significant difference in the responses of participants who were offered an incentive compared with those who were not.

Data for the EFA were collected over a six month period. Cases were downloaded from limesurvey.com into an Excel file ($N = 815$), which were then imported into a Predictive Analytics Software (PASW) database. Once the data were screened (with $N = 778$ cases remaining), 580 cases were randomly selected for the EFA using PASW. Data were downloaded from limesurvey.com again five months later into an Excel file ($N = 888$) and imported into a PASW database. Once these data were screened, the additional 68 cases collected were combined with the 198 remaining cases from the previous PASW database for the CFA ($N = 266$).

6.3 Results

6.3.1 Data Screening

Data screening and analyses were conducted using PASW version 18.0 and EQS version 6.1. Prior to analysis, the data were screened for non-valid responses, including the age of the child being less than three years or greater than 12 years, and

repeated response patterns, such as entering one response across the whole survey or entering repeated patterns such as 1, 2, 3, 4, 5, 6 that were deemed unlikely to indicate genuine responding, as recommended by J. A. Johnson (2001). In the earlier database, 25 cases were excluded for child age greater than 12 or less than three years, and 12 responses were excluded for invalid response patterns. In the later database, five additional cases were excluded for child age greater than 12 or less than three years, with no responses excluded for invalid response patterns. There were no missing responses, as responses to the parent questionnaire items were specified as compulsory for submission in the online survey.

6.3.2 Exploratory Factor Analysis

6.3.2.1 Assumption testing. There are several assumptions underlying factor analysis, including factorability, linearity, normality, homoscedasticity, and univariate and multivariate outliers. However, according to Hair, Black, Babin, and Anderson (2010), most of these assumptions are conceptual rather than statistical. They explain that deviations from normality, homoscedasticity, and linearity are only significant to the extent that they may diminish the observed correlations, suggesting that stronger correlations may be found if data meet these assumptions. Hair et al. particularly noted that violations of normality may have limited significance for EFA, and suggested that in sample sizes greater than 200, the effects of normality violations may be negligible. In addition, Muthen and Kaplan (1985) suggest that some univariate skew and kurtosis is acceptable for the majority of variables in EFA, and greater magnitudes of these statistics are acceptable if there are many low correlations among variables. Based on this, Ferguson and Cox (1993) suggest that if more than 60% of the correlations are below 0.2, as is the case in the current study, then all variables can be retained in the analyses, regardless of the number of items that have unacceptable skew and kurtosis. Gorsuch (1983) suggests that in practice, EFA is relatively robust to violations of normality. Thus, Hair et al. recommend that the factorability and sample size assumptions appear to be most salient for EFA.

The factorability of the 116 parenting items was assessed using four standard methods. The Kaiser-Meyer-Olkin measure of sampling adequacy was .902, which is deemed superb (Kaiser, 1974). All values in the diagonal of the anti-image matrix were above .5 and examination of the correlation matrix suggested reasonable factorability, with several correlations above .32 (Tabachnick & Fidell, 2001). Bartlett's test of sphericity was significant ($\chi^2(6670) = 28317.07, p = .000$),

indicating that the correlation matrix was significantly different from the identity matrix (Bartlett, 1950). All four indices indicated the suitability of the data for factor analysis. Sample size met the minimum ratio of five cases per variable as suggested by MacCallum et al. (1999).

6.3.2.2 Principal axis factoring analysis. The method of EFA selected for the current study was Principal Axis Factoring (PAF) with Promax rotation ($Kappa = 4$). PAF was chosen over Principal Components Analysis as the study aimed to identify the latent variables that caused the manifest variables to covary (Costello & Osborne, 2005). Although Principal Components Analysis is often used as the default option for EFA, Costello and Osborne argue that it yields poorer results as it does not discriminate between shared and unique variance. In contrast, PAF partitions the shared variance from the unique variance and error variance of each variable to identify the underlying factor structure, and includes only the shared variance in the solution (Costello & Osborne, 2005). Oblique rotation was chosen over orthogonal rotation, as the literature suggests that some factors, such as warmth and autonomy support, may be correlated (Baumrind, 1967, 1971; Robinson et al., 1995). In addition, it is unclear whether parenting behaviours such as overprotection, hostility, autonomy support, and psychological control comprise one homogenous dimension or a set of related but separate dimensions (Barber & Harmon, 2002; Barber et al., 2005; Barber et al., 2012; Power & Hill, 2008; Roth et al., 2009; Silk et al., 2003; Soenens et al., 2009). Costello and Osborne argue that in such circumstances, oblique rotation should render a more accurate and reproducible solution, and that if factors are truly uncorrelated then oblique and orthogonal rotation should produce similar solutions regardless. The PASW Promax rotation default $Kappa$ value of 4 was used, as there was no justification for altering this value (Fabrigar et al., 1999).

Parallel analysis was conducted at the beginning of the analysis and after the elimination of each item to determine the number of factors to retain. According to Hayton, Allen, and Scarpello (2004), parallel analysis aims to overcome the overestimation of matrix rank due to sampling error, which is the main limitation of the Kaiser criterion (Eigenvalues greater than one). Several studies have confirmed the accuracy of parallel analysis in determining the number of factors to retain as compared to the Maximum Likelihood Method (Humphreys & Montanelli, 1975), Velicer's Minimum Average Partial test (Velicer, Eaton, & Fava, 1999), and the

Kaiser criterion (Silverstein, 1987). Parallel analysis was conducted using a raw data PASW syntax file created by B. O'Connor (2000), and the fixed number of factors to extract in the PAF analysis was specified according to the results.

Initial parallel analysis indicated that ten factors should be retained, which was specified as the value of the fixed number of factors to extract in the initial PAF analysis. The original pattern factor loading matrix is presented in Appendix J. The minimum criteria for item retention was a primary factor loading greater than or equal to 0.32, and cross-loadings on a secondary or tertiary factor less than 0.32 as recommended by Tabachnick and Fidell (2001). Items were eliminated individually, beginning with those items with the lowest primary factor loadings. A total of 41 items were eliminated as they failed to meet the minimum primary factor loading criteria. Items that did not load significantly on any factor are displayed in Table 6.4.

Table 6.4

Parenting Items with Non-Significant Primary Factor Loadings

Parenting Item	Primary Factor Loading
Question 42. I follow through when I agree to do something with my child	-.171
Question 93 I channel my child's misbehaviour into a more acceptable activity	-.186
Question 75 If saying no doesn't work straight away, I keep trying to convince my child to comply	.207
Question 34 I have a good idea of what my child is doing when he/she is out of my sight	.209
Question 80 I find it amusing when my child does something to upset another adult	-.225
Question 55 I apologise to my child when I have made a mistake	.231
Question 112 I make time to do nice things for myself	.242
Question 103 I provide realistic feedback to my child about his/her behaviour	.248
Question 22 I listen to my child's opinion on matters that concern him/her	.252
Question 19 I am consistent in the way I punish my child	.242
Question 106 I make punishments that are appropriate to my child's misbehaviour	.253
Question 95 I am willing to change the way I parent if it is not very effective	.257
Question 60 I try to acknowledge how my child is feeling	.256
Question 113 I have difficulty letting my child do things that most children his/her age are doing	.270
Question 67 I help my child when he/she is struggling with something	.265
Question 99 I am aware of problems or concerns about my child	-.265
Question 2 I encourage my child to do the right thing	-.264
Question 11 I try to set a good example for my child	-.263
Question 44 I take action immediately when my child misbehaves	.267
Question 86 I praise my child's efforts, regardless of the outcome	.277
Question 100 I share secrets and private feelings with my child	.290
Question 96 I forget to check where my child is and what he/she is doing	.220
Question 33 I try to change how my child thinks or feels about things	.284
Question 77 I encourage my child to consider another person's point of view	.293
Question 30 I forbid my child to question my decisions	-.296
Question 79 I let my child have things that I'm not sure are good for him/her to have	.297
Question 5 I let my child know when he/she is doing a good job	.304
Question 51 I am confident about my parenting abilities	-.295
Question 72 I teach my child things that he/she doesn't know	.310
Question 59 I use money to reward my child's good behavior	.156
Question 94 I encourage my child to express his/her affection for people	.277
Question 50 I attend parent meetings, parent/teacher conferences, or other meetings at my child's school	.318
Question 16 I reward my child for behaving well	.272
Question 58 I leave without telling my child where I am going	-.292
Question 69 I volunteer to help with special activities that my child is involved in	.318
Question 36 I base my decision on what my child wants	.299
Question 28 I praise my child when he/she behaves well	.316
Question 1 I make spending time with my child a high priority	.308
Question 29 I prevent my child from doing things out of fear he/she might get hurt	.318
Question 49 I take over when my child is doing something the wrong way	.311
Question 68 I take over when my child is struggling with something	-.298

Items cross-loading on a secondary or tertiary factor greater than 0.32 were then eliminated, as recommended by Tabachnick and Fidell (2001), beginning with those items with the highest cross loadings. Following the removal of each item, all remaining items were re-evaluated against the minimum primary loading criteria before being re-examined for significant cross-loadings. The elimination of significant cross-loadings resulted in the removal of a further 15 items, summarised in Table 6.5.

Table 6.5

Parenting Items with Significant Cross-Loadings

Parenting Item	Secondary Factor Loading
Question 57 I hug, kiss, and hold my child to express affection	.351
Question 85 I send my child off to somewhere alone as punishment	-.331
Question 114 I discuss the reasons why my child is being punished with him/her	.333
Question 24 I allow my child input into family rules	-.323
Question 66 I allow my child to help plan family activities	.323
Question 4 I have to nag my child to do things	.418
Question 41 I take privileges away from my child as punishment	.334
Question 70 I evaluate how effective my parenting strategies are	.351
Question 23 I take my child to special activities	.358
Question 73 I allow my child to get into mischief	.396
Question 25 I find it difficult to discipline my child	.345
Question 83 I find being a parent satisfying	.329
Question 1 I make spending time with my child a high priority	.329
Question 9 I let my child get away with too much	.322
Question 3 I set firm guidelines for my child's behavior	.327
Question 31 I allow my child to decide things for him/herself without much input from me	.326

6.3.2.3 Item reduction. A six factor solution was achieved, with all items meeting the minimum criteria for significant primary factor loading and non-significant cross-loadings. Further items were then removed with the aim of producing a brief measure that minimised burden on respondents while retaining acceptable reliability (DeVellis, 2003). Items that increased Cronbach's alpha upon removal were eliminated first, followed by items that either did not affect the Cronbach's alpha coefficient or reduced it by the smallest amount upon their removal as compared to removal of the other remaining items. This was specified in the 'scale if item deleted' table in the PASW output. Finally, items were selected for removal

based on theoretical fit, provided that Cronbach's alpha remained above the acceptable level 0.7 (George & Mallery, 2003). DeVellis (2003) suggested that a margin of safety should be adopted during the questionnaire item reduction process, and therefore a cut-off of .70 was chosen over the minimally acceptable level of .60 for subscales with less than 10 items (Loewenthal, 2001).

One item was also removed for utility purposes, as it was the only remaining reverse-scored item in the questionnaire. The 23 eliminated items are summarised in Table 6.6. Following the removal of each item, all remaining items were re-evaluated against the minimum primary loading and cross-loading criteria before being assessed for Cronbach's alpha contribution and theoretical fit.

Table 6.6

Items Removed for Brevity Purposes

Parenting Item	Reason for Removal
Parenting Question 8 I am easygoing and relaxed with my child (reverse scored)	Increased Cronbach's alpha by .04
Parenting Question 37 I show patience toward my child (reverse scored)	Increased Cronbach's alpha by .03
Parenting Question 6 I bribe my child with rewards to get him/her to obey me	Increased Cronbach's alpha by .01
Parenting Question 84 I allow my child to express his/her side of the story before I punish him/her Reverse Scored	Did not affect Cronbach's alpha value
Parenting Question 65 I smack my child when he/she misbehaves	Reduced Cronbach's alpha by .01
Parenting Question 10 I pick on my child when he/she doesn't deserve it	Did not affect Cronbach's alpha value
Parenting Question 74 I punish first and ask questions later	Reduced Cronbach's alpha by .01
Parenting Question 101 I remain upset with my child when he/she has misbehaved	Did not affect Cronbach's alpha value
Parenting Question 27 I remind my child that other children behave better than him/her	Reduced Cronbach's alpha by .01
Parenting Question 18 I make my child feel ashamed when he/she misbehaves	Reduced Cronbach's alpha by .01
Parenting Question 15 I shout at my child when he/she misbehaves	Theoretical fit- item asks about specific punishment, other items do not Cronbach's alpha 0.82 when item removed
Parenting Question 13 I get into an argument with my child when he/she misbehaves	Theoretical fit- item not consistent with punitive discipline inconsistency/losing control Cronbach's alpha 0.79 when item removed
Parenting Question 109 I care about my child	Did not affect Cronbach's alpha value
Parenting Question 71 I hug or kiss my child when he/she has done something well	Did not affect Cronbach's alpha value
Parenting Question 118 I play around and have fun with my child	Reduced Cronbach's alpha by .01
Parenting Question 47 I have friendly talks with my child	Did not affect Cronbach's alpha value
Parenting Question 110 I encourage my child to talk about his/her problems	Theoretical fit- not specific to parent-child relationship Cronbach's alpha .85 when item removed
Parenting Question 82 I provide comfort and understanding when my child is upset	Theoretical fit- item is situation specific where other items are general Cronbach's alpha 0.83 when item removed
Parenting Question 35 I expect my child to do things immediately without questions (reverse scored)	Did not affect Cronbach's alpha value
Parenting Question 64 I set strict rules for my child reverse score	Did not affect Cronbach's alpha value
Parenting Question 107 I find it more trouble than it's worth to get my child to obey me	Theoretical fit- not specific to behaviour; appears to be about parent's opinion Cronbach's alpha 0.73 when item removed
Parenting Question 40 When I ask my child to do something, I make sure that he/she does it reverse score	Utility- only reverse scored item in questionnaire Cronbach's alpha 0.71 when item removed
Parenting Question 88 I tell my child exactly what I want him/her to do and how I expect it done	Increased Cronbach's alpha by .04

6.3.2.4 Final solution. The final EFA six factor solution consisted of 36 items. The pattern factor loading matrix for this solution is presented in Table 6.7. Factor loadings ranged from .39 to .80, with the majority above .50. Factors were labeled based on previous literature (Baumrind, 1971; Baldwin, 1948; Becker, 1964; Schaefer, 1959; Shelton et al., 1996; Wentzel et al., 1991), and included Emotional Warmth, Punitive Discipline, Autonomy Support, Permissive Discipline, Anxious Intrusiveness, and Democratic Discipline. Due to the use of oblique rotation, the percentage of variance accounted for by each factor cannot be reported as the variance computed by PASW includes unique as well as shared variance (Hancock & Mueller, 2010).

Emotional Warmth items were related to the parent's level of acceptance, display of positive affect, and receptiveness, including items such as "I provide comfort and understanding when my child is upset" and "I show my child that I love them unconditionally". Punitive Discipline referred to the use of harsh, psychological, and mood-dependent discipline strategies, such as "The punishments that I decide on are influenced by my mood", and "I threaten my child with punishments that I would never actually use". Autonomy Support involved items related to scaffolding and responsiveness, such as "I encourage my child to try things for him/herself before asking for help", and "I adjust my level of assistance based on my child's age and ability". Permissive Discipline items described inconsistent and lax discipline, such as "I do things for my child when he/she refuses to do them" and "I give in to my child when he/she gets upset". Anxious Intrusiveness included items describing parental overprotection, enmeshment, intrusiveness, and indulgence, such as "I worry about my child when he/she is not at home", and "I try to meet my child's desires immediately". Finally, Democratic Discipline described the explanation of rules and expectations, including items such as "I talk to my child about the consequences of his/her actions", and "I give my child reasons why he/she isn't allowed to do something". Factor descriptives for the final solution are displayed in Table 6.8. All factors had acceptable to good internal consistency according to the thresholds discussed by George and Mallery (2003).

Table 6.7

Final Pattern Factor Loading Matrix

Item	Factor Loading					
	EW	PD	AI	AS	PerD	DD
I tell my child how proud I am of him/her	.73					
I respond to my child's feelings or needs	.68					
I show an interest in my child's life	.65					
I show my child that I love them unconditionally	.63					
I recognise my child's strengths and talents	.56					
I make time for my child when he/she needs me	.50					
The punishments that I decide on are influenced by my mood		.75				
I lose my patience when my child does something to upset me		.75				
I punish my child more severely than I mean to		.70				
I am easy on my child one minute, and hard on him/her the next		.68				
I threaten my child with punishments that I would never actually use		.48				
I worry about my child when he/she is not at home			.61			
I am more concerned with my child's feelings than my own			.55			
I share more of my life with my child than with anyone else			.54			
I try to anticipate what my child's desires are and provide them before he/she has to ask			.52			
I rely on my child to cheer me up when I'm feeling down			.50			
I try to shield my child from experiencing negative emotion			.46			
I try to meet my child's desires immediately			.46			
I encourage my child to try things for him/herself before asking for help				.74		
I encourage my child to problem solve				.62		
I let my child try to figure things out for him/herself before giving my input				.61		
I adjust my level of assistance in tasks based on my child's age and ability				.44		
I encourage my child to choose his/her own interests and activities				.43		
I give my child responsibilities appropriate to his/her age				.42		
I don't punish my child when he/she has misbehaved					.59	
I allow my child to interrupt other adults					.54	
I do things for my child when he/she refuses to do them					.54	
I ignore my child's misbehaviours					.49	
I don't punish my child if he/she acts sorry					.45	
I give in to my child when he/she gets upset					.42	
I do things for my child that he/she is capable of doing for him/herself					.39	
I talk to my child about the consequences of his/her actions						.80
I explain to my child how I feel about his/her behaviour						.68
I let my child know what behaviour is expected						.51
I give my child reasons about why he/she isn't allowed to do something						.51
I encourage my child to consider the consequences of their choices before making them						.43

Note. EW = Emotional Warmth, PD = Punitive Discipline, AI = Anxious Intrusiveness, AS = Autonomy Support, PerD = Permissive Discipline, DD = Democratic Discipline.

Table 6.8

Factor Descriptives for Final EFA Solution

Factor	N items	Eigenvalue	Cronbach's α
Emotional Warmth	6	6.84	.83
Punitive Discipline	5	3.71	.79
Anxious Intrusiveness	7	2.09	.71
Autonomy Support	6	1.90	.73
Permissive Discipline	7	1.52	.71
Democratic Discipline	5	1.31	.72

6.3.2.5 Factor scoring. Mean scores were created for each of the six factors using the average score of the items which had their primary loadings on each factor, with higher scores indicating greater use of the parenting behaviours described by the dimension. A mean score was chosen due to the unequal number of items in each factor, allowing for greater ease of comparability between subscales. Correlations between factor scores are displayed in Table 6.9. As expected, some significant medium to large correlations (above .3 and .5 respectively; Cohen, 1988) were found between composite scores, specifically between Emotional Warmth and Punitive Discipline, Autonomy Support, and Democratic Discipline; Punitive Discipline with Permissive Discipline and Democratic Discipline; and Autonomy Support with Democratic Discipline. This provides justification for the use of oblique rather than orthogonal rotation in the EFA as Costello and Osborne (2005) suggested that when some factors are likely to be correlated, oblique rotation should produce a more accurate solution.

Table 6.9

Correlation Between Factors in EFA Database (N = 580)

	Emotional Warmth	Punitive Discipline	Anxious Intrusiveness	Autonomy Support	Permissive Discipline	Democratic Discipline
Emotional Warmth	1.00	-.35**	.25**	.45**	-.22**	.51**
Punitive Discipline		1.00	.13**	-.29**	.35**	-.30**
Anxious Intrusiveness			1.00	-.03	.22**	.02
Autonomy Support				1.00	-.28**	.48**
Permissive Discipline					1.00	-.29**
Democratic Discipline						1.00

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

Sample descriptive statistics for the six factors are displayed in Table 6.10. The Kolmogorov–Smirnov statistic suggested that all composite scores violated normality ($p < .001$). This statistic was used over the Shapiro-Wilk statistic as it is less conservative and therefore recommended for use with larger sample sizes (Hays, 1994). Skewness and kurtosis values were converted into z -scores and almost all of these exceeded an absolute value of 3.29, which indicates significant skew and kurtosis at $p < .001$ (Field & Miles, 2010). However, Field and Miles explained that skewness and kurtosis significance testing is of limited value with sample sizes greater than 200 due to small standard errors, and therefore inspection of the shape of the distribution should be used instead. Visual inspection of the histograms and Q-Q plots suggested that all factors excepting Emotional Warmth and Punitive Discipline approximate normality. The Emotional Warmth factor appeared to be significantly negatively skewed and leptokurtic, while the Punitive Discipline distribution appeared to be moderately positively skewed. This is consistent with previous research, which shows that parents in community samples generally score highly in dimensions of warmth and acceptance, and low in harsh, punitive discipline (Driscoll, Russell, & Crockett, 2008; Gaylord-Harden, Campbell, & Kesselring, 2010; Kapinus & Gorman, 2004; Lieb et al., 2000; Lorber, O’Leary, & Slep, 2011; Mahoney, Donnelly, Lewis, & Maynard, 2000; Mallinckrodt, 1992; Spokas & Heimberg, 2009). These results suggest that analyses involving Emotional Warmth and Punitive Discipline subscale scores may be affected by violations of normality.

Table 6.10

Sample Descriptive Statistics for Final EFA Solution

Factor	Score Range	M	SD	K-S p	Skewness		Kurtosis	
					Raw score	z -score	Raw score	z -score
Emotional Warmth	2.67 – 6.00	5.52	.46	.00	-1.60	-15.79	4.91	24.18
Punitive Discipline	1.00 – 5.20	2.25	.71	.00	.80	7.90	.74	3.66
Anxious Intrusiveness	1.43 – 5.71	3.27	.79	.00	.39	3.89	-.17	-.84
Autonomy Support	3.00 – 6.00	5.07	.53	.00	-.59	-5.82	.82	4.04
Permissive Discipline	1.00 – 4.29	2.44	.58	.00	.20	1.97	.03	.16
Democratic Discipline	3.20 – 6.00	5.19	.57	.00	-.66	-6.56	.31	1.53

Note. KS = Kolmogorov–Smirnov

6.3.3 Confirmatory Factor Analysis

CFA was conducted on a separate, independent sample of participants. A correlated six factor solution was compared against an uncorrelated model, with the correlated model expected to show superior fit. However, although the correlated model remains important in describing the core dimensions of parenting, it is possible that some researchers and clinicians may be interested in obtaining a score that reflects an overall assessment of parenting. As a result, a higher order factor model was also included, as this model would have greater practical utility than the correlated model. Thompson (2004) also stated that higher order factors should be extracted whenever first order factors are significantly correlated. Therefore, as correlations between the PBDQ factor scores were found to be small to moderate in size, the higher order factor model was tested to see if it was feasible to obtain an overall PBDQ score.

6.3.3.1 Assumption testing. The assumptions of CFA are adequate sample size, multivariate normality, linearity, and approximately interval level scales (such as the Likert scale with multiple response options used in the current study; Bandalos & Gagne, 2012; Brown, 2006; Hair et al., 2010). The sample size of 266 met the minimum ratio of five cases per variable as recommended by MacCallum et al. (1999). The Kolmogorov–Smirnov statistic was significant for all items ($p < .001$), indicating that the data was non-normal, while inspection of the normal Q-Q plots, histograms, and skew and kurtosis statistics suggested that some items approximate univariate normality ($N = 17$), while the remaining items ($N = 19$) appeared to violate this assumption. Examination of histograms and box plots revealed a large number of univariate outliers on 29 out of the 36 items, which were all considered to be genuine extreme values. Hair et al. (2010) suggests that in sample sizes greater than 200, the effects of normality violations may be negligible, although the Maximum Likelihood Method (MLM) of model estimation used by EQS is based on the assumption of normality. As a result, model estimation was evaluated against robust fit statistics, which corrects for non-normality of data. Due to the large number of items, individual scatterplots for all pairs were not examined for linearity; however, high correlations between some items suggested that this assumption was met.

6.3.3.2 Assessment of model fit. CFA was conducted using EQS version 6.1. Several robust model fit indices were used to evaluate the model in the current study. Although the chi square statistic is the most basic assessment of goodness of fit, it is

not generally recommended for use due to high sensitivity to sample size (Hu & Bentler, 1999). Instead, model fit indices were considered acceptable if the Comparative Fit Index (CFI) and the Non-Normed Fit Index (NNFI) reached .85 (Bentler, 1990; Hu & Bentler, 1999), the Root Mean Square Error of Approximation (RMSEA) value was below .08 (Hu & Bentler, 1999), and the Satorra-Bentler chi-square divided by degrees of freedom was less than two (Ullman, 2001). The six factor correlated model demonstrated acceptable fit, with all fit indices exceeding the minimum values specified above. Fit statistics are summarised in Table 6.11.

The Lagrange Multiplier (LM) test in EQS indicates when there are unique, significantly nonzero relationships between variables and factors that are not specified in the current model (Ullman & Bentler, 2009). Three items were removed based on LM statistics as they were suggested to have significant cross-loadings with other factors. These items included question 62 “I rely on my child to cheer me up when I’m feeling down”, question 63 “I encourage my child to problem solve”, and question 98 “I ignore my child’s misbehaviours”. Item removal ceased when there was no significant increase in model fit statistics with the removal of further items. The final correlated model demonstrated improved fit statistics, and is illustrated in Figure 6.1. Specific items included in this model are listed in Appendix K. This was compared with the uncorrelated factor model, which demonstrated poor model fit (see Appendix L for uncorrelated model diagram). The fit statistics for the 33 item correlated and uncorrelated models are summarised in Table 6.11.

A higher order model was also evaluated, as this would be useful in providing an overall parenting score which would increase the practical utility of the measure. Items in the Punitive Discipline, Anxious Intrusiveness, and Permissive Discipline subscales were reverse scored, based on the composite score factor correlations and theoretical direction of the relationship between factors. This model is illustrated in Figure 6.2. Although this model demonstrated acceptable fit statistics, examination of the factor loadings suggested that the Anxious Intrusiveness factor did not significantly load onto the higher order factor, and did not correlate with the Autonomy Support or Democratic Discipline Factors. As a result, a final higher order model was tested with the Anxious Intrusiveness factor removed, as illustrated in Figure 6.3. The final 27 item higher order model demonstrated acceptable fit statistics, meeting the minimum value for all robust fit estimates as summarised in Table 6.11. Specific items included in this model are listed in Appendix M. The

standardised residuals of first order factors in the second order model ranged from .40 to .86, suggesting that the first order factors retain practical significance after accounting for their shared variance. In addition, the chi square difference test indicated that there was no significant difference in the fit of the final correlated model and the final higher order model, $\chi^2(136, N = 266) = 129.68, p > .001$.

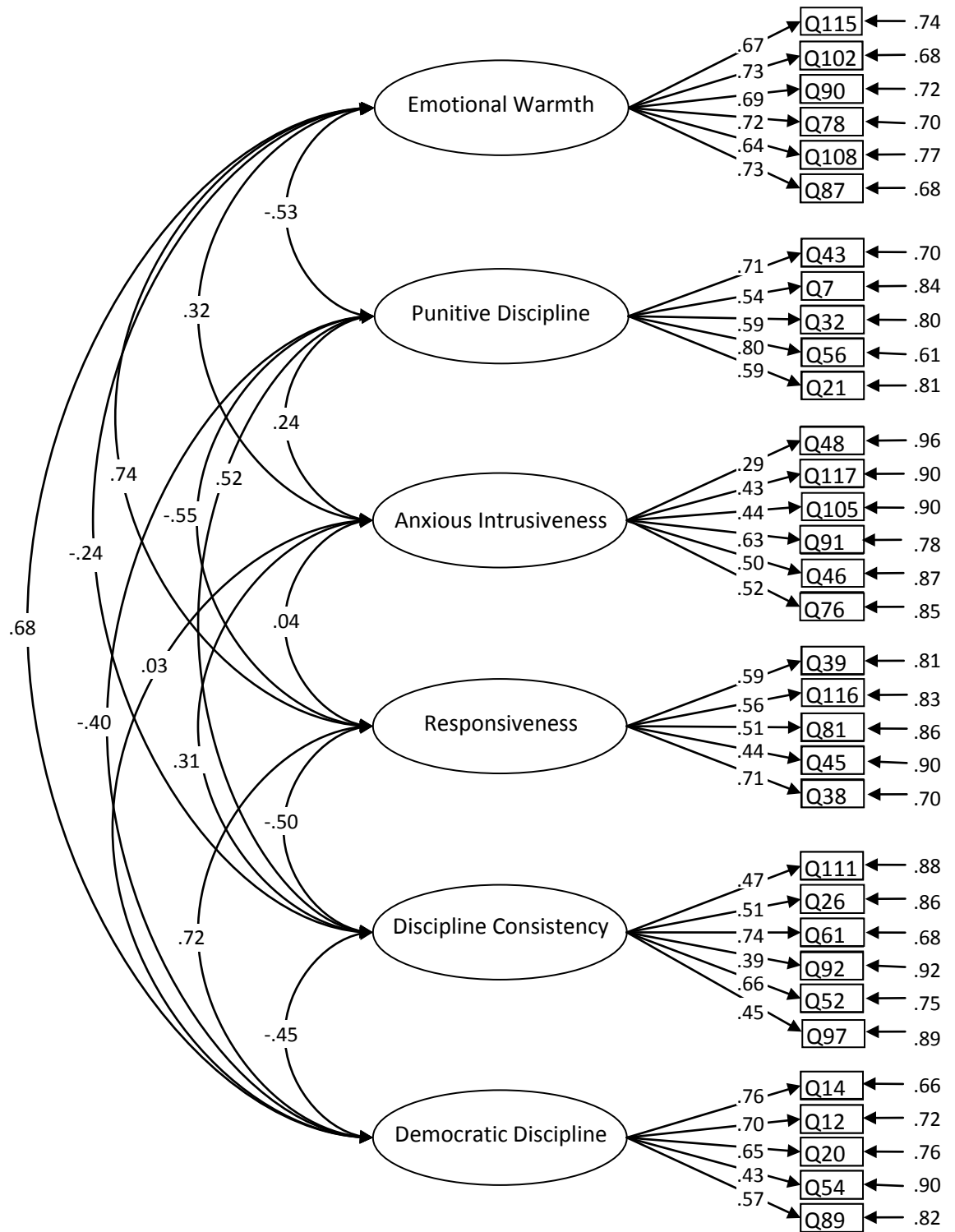


Figure 6.1. Correlated model tested in confirmatory factor analysis with standardised values.

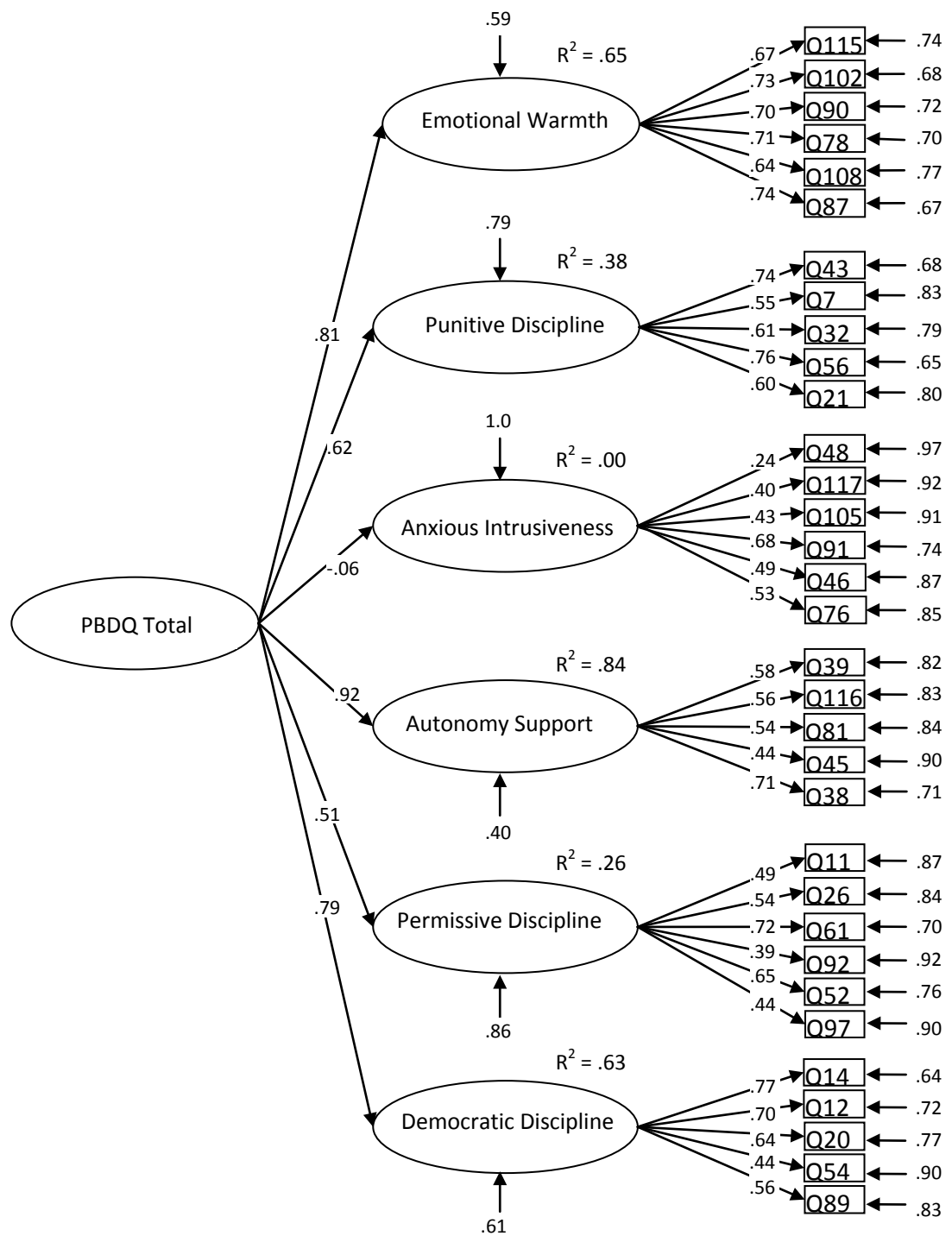


Figure 6.2. Higher order model tested in confirmatory factor analysis with standardised values.

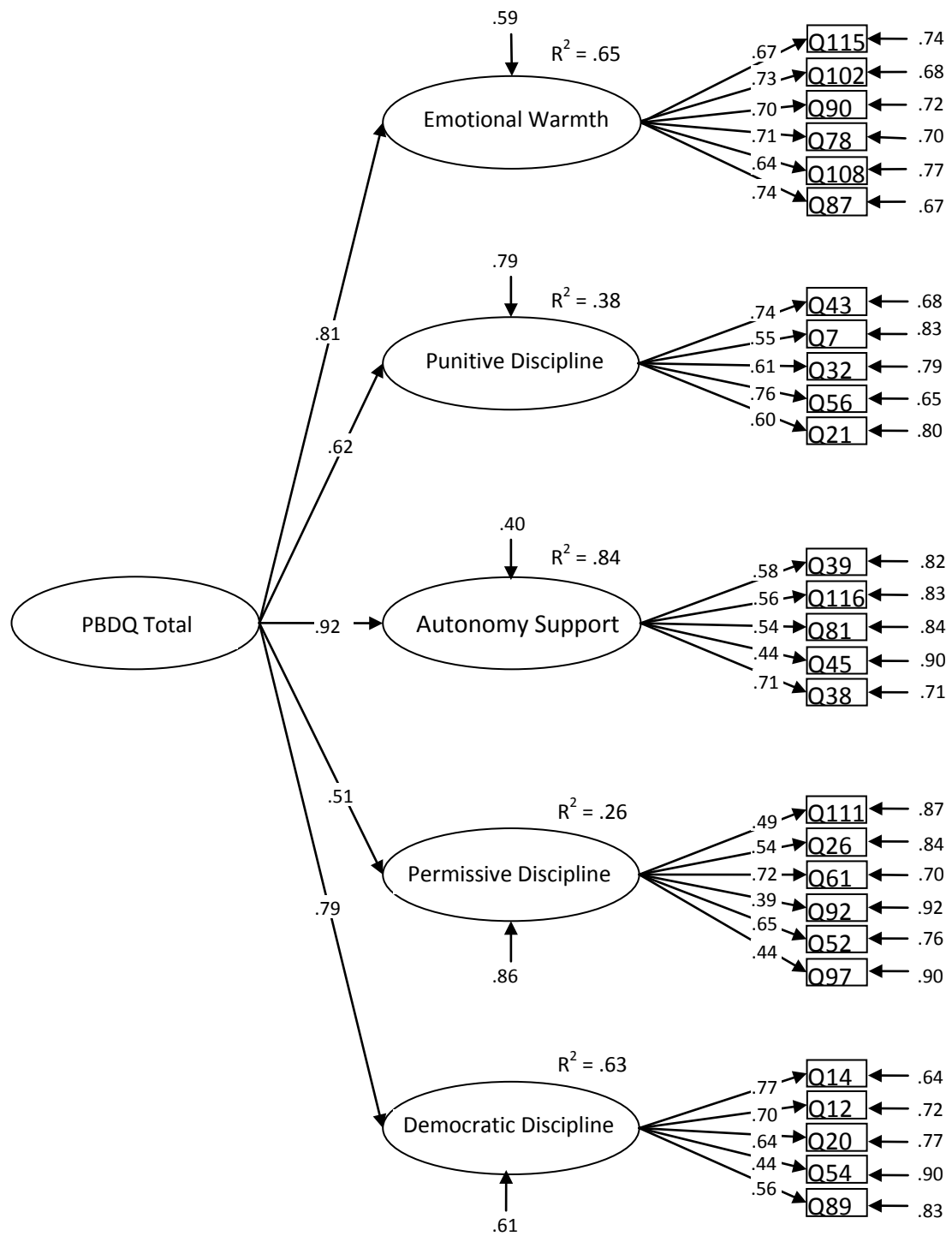


Figure 6.3. Final higher order model tested in confirmatory factor analysis with standardised values (Anxious Intrusiveness removed).

Table 6.11

Comparison of Uncorrelated, Correlated, and Higher Order CFA Models Using Robust Fit Statistics

Model	S-B χ^2	df	S-B χ^2 /df	CFI	NNFI	RMSEA	RMSEA upper limit	RMSEA lower limit
<i>Cut-off Criteria</i>			< 2	= / > .85	= / > .85	= / < .06	< 0.08	close to 0
Original Correlated Model	952.19	579	1.65	.86	.85	.05	.06	.04
Correlated Model with 3 Items Removed	675.80	449	1.51	.90	.89	.04	.05	.04
Uncorrelated Model	1157.34	495	2.34	.73	.71	.07	.08	.07
Higher Order Model	816.35	482	1.69	.86	.85	.05	.06	.05
Higher Order Model with AI Removed	546.12	313	1.74	.89	.88	.05	.06	.05

Note. S-B χ^2 = Satorra-Bentler Chi-square statistic, df = degrees of freedom, S-B χ^2 / df = Satorra-Bentler chi-square divided by degrees of freedom, CFI = Comparative Fit Index, RMSEA = Root Mean Square Error of Approximation, AI = Anxious Intrusiveness

6.3.3.3 Internal consistency. Cronbach's alpha was assessed for the final five factor CFA solution, with all subscales demonstrating minimally acceptable to good reliability (George & Mallery, 2003; Loewenthal, 2001). Sample descriptive statistics for the final CFA solution are presented in Table 6.12.

Table 6.12

Sample Descriptive Statistics for Final CFA Solution

Factor	N items	Cronbach's α	Score Range	Mean	SD
Emotional Warmth	6	.85	3.00 – 6.00	5.55	.47
Punitive Discipline [^]	5	.79	2.20 – 6.00	4.77	.70
Autonomy Support	6	.69	2.60 – 6.00	5.05	.55
Permissive Discipline [^]	7	.70	2.67 – 5.83	4.49	.63
Democratic Discipline	5	.75	3.00 – 6.00	5.22	.55
Total Score	27	.88	29.43 – 25.08	25.08	2.08

Note. [^] Reverse scored

6.4 Discussion

This phase of the research aimed to use empirical procedures to produce a brief but comprehensive assessment of key contemporary parenting dimensions. EFA was conducted on data from a large community sample of parents of children aged 3

to 12 years who responded to an online survey, which resulted in a six factor solution. Based on previous literature (Baumrind, 1966, 1967, 1971; Becker, 1964; Schaefer, 1959; Shelton et al., 1996; Wentzel et al., 1991), factors were labelled Emotional Warmth, Punitive Discipline, Anxious Intrusiveness, Autonomy Support, Permissive Discipline, and Democratic Discipline. The number of items was then reduced, based on Cronbach's alpha values and theoretical fit, in order to achieve a brief final parenting measure that retained acceptable reliability (DeVellis, 2003).

CFA using several robust model fit indices supported the correlated factor structure reported in the EFA. Three cross-loading items were removed, resulting in a total of 33 items. However, assessment of a higher order model suggested that the Anxious Intrusiveness factor did not correlate highly with the other factors, nor did it load significantly on the Total PBDQ score, despite acceptable model fit statistics overall. As a result, a higher order model with the Anxious Intrusiveness factor removed was assessed, resulting in improved fit statistics for the final 27 item model. The higher order model provides an overall assessment of parenting, with higher levels of Emotional Warmth, Autonomy Support, and Democratic Discipline scores, and lower levels of Punitive Discipline and Permissive Discipline achieving higher scores, although the standardised residuals of first order factors indicated that the individual dimensions still retained practical significance after accounting for their shared variance. Although the chi square difference test indicated that there were no significant difference in the fit of the two models, the higher order model is preferred for the final PBDQ measure because of its practical utility, allowing examination of individual dimensions as well as overall assessment of parenting behaviour. However, it is important to note that the six factor correlated model including Anxious Intrusiveness is the preferred model for future research on the specific core dimensions that comprise parenting, with further investigation of the Anxious Intrusiveness factor needed in future research.

A mean rather than a total score was used to score the factors due to the unequal number of items in each scale. Cronbach's alpha suggested that all factors had at least minimally acceptable internal consistency in both the EFA and CFA samples, based on the criteria provided by George and Mallery (2003) and Loewenthal (2001). The final PBDQ subscales will now be discussed in more detail.

6.4.1 Emotional Warmth

Emotional Warmth emerged as the first factor in the EFA. Three of the items that loaded on this factor were suggested by contemporary parents in Phase One, comprising half of the items in this subscale. Other items included one item from the list of theoretical responsiveness, overprotection, and autonomy support items generated by the supervision team, one item which was based on an item from the Child-Centeredness subscale of the WPI (Weinberger et al., 1989, as cited in Wentzel et al., 1991), and one item based on an item from the Warmth and Involvement factor of the Authoritative Parenting subscale of the PSDQ (Robinson et al., 1995). Overall, this factor reflects the degree of affection and emotional support that parents show toward their child, with higher scores indicating high levels of acceptance, display of positive affect, and receptiveness shown to the child, which is consistent with descriptions of warmth provided by Barber and Rollins (1990), Baumrind (1971), L. M. Locke and Prinz (2002), and S. H. Landry et al. (2006). The Emotional Warmth factor was negatively skewed and leptokurtic, demonstrating a ceiling effect, which is consistent with Baumrind's (1971) finding that the majority of parents in her sample were warm and authoritative, and several other studies have also found that parents tend to be high in warmth and acceptance (Driscoll et al., 2008; Gaylord-Harden et al., 2010; Kapinus & Gorman, 2004; S. H. Landry et al., 2006; Spokas & Heimberg, 2009).

The Emotional Warmth factor also appears to be consistent with the dimension of warmth, love, or acceptance versus rejection as described by many early researchers, including Symonds (1939), Roe (1957), Schutz (1960), Baldwin et al. (1945), and Schaefer (1959, 1965). However, parental rejection involves behaviours communicating dislike, including harsh discipline, criticism, and disapproval (Adamsons & Buehler, 2007; Barber & Thomas, 1986). Similar to the psychological control versus autonomy support argument, it seems that low scores on Emotional Warmth do not necessarily equate to the exhibition of actively rejecting parenting behaviour, and thus this subscale cannot be used to assess the dimension of rejection. Indeed, it appears that parental rejection is reflected in the Punitive Discipline factor, which is consistent with E. Skinner et al.'s (2005) finding that warmth and rejection emerged as separate dimensions in their analyses. Several previous studies have included parent emotional warmth in the conceptualisation and assessment of parenting, and it is thought to facilitate the

development of a sense of competence, agency, and trust in the child, providing the foundation for confidence and competence in social interactions as well as high academic achievement (G. S. Pettit et al., 1997; Stolz et al., 2005). According to parental acceptance-rejection theory (Rohner, 1986, 1999; Rohner & Rohner, 1980), when a child's need for parental acceptance, affection, support, nurturance, and love is not met, a number of adverse outcomes may arise, including elevated levels of hostility, dependence or detachment, and anxiety, poor self-esteem and self-adequacy, emotional unresponsiveness and dysregulation, and a negative worldview.

6.4.2 Punitive Discipline

Previous research suggests that punitive, power assertive, or physical punishment methods are associated with poor outcomes in children (Baumrind & Black, 1967; Kandel & Wu, 1995) and in the current study, Punitive Discipline emerged as the second strongest factor. All Punitive Discipline items were based on items included in the WPI (Weinberger et al., 1989, as cited in Wentzel et al., 1991), although the items that they were based on did not form part of the same WPI subscale. Two of these items were based on items from the WPI Harsh Discipline subscale, although one of these items was similar in content to an Overreactivity item from the PS (Arnold et al., 1993). In addition, one item reflected a Permissiveness item on the WPI, while the final two items were based on Inconsistency items from the WPI, with one of these also consistent with an item from the Inconsistent subscale of the APQ (Shelton et al., 1996). Higher scores on this subscale reflect higher levels of harsh, psychological, and mood-dependent discipline strategies, such as 'The punishments that I decide on are influenced by my mood', and 'I threaten my child with punishments that I would never actually use'. Some items in this subscale appeared to be theoretically related to permissive, inconsistent discipline; however, these items were reflective of increased severity of punishment due to parental mood rather than failure to punish misbehaviour as in the Permissive Discipline subscale. The Punitive Discipline factor was also moderately positively skewed, which is consistent with previous research demonstrating that parents are generally low in punitive, power assertive behaviour (Mahoney et al., 2000; Mallinckrodt, 1992).

This Punitive Discipline factor appears to be consistent with authoritarian parental control which is forceful, punitive, and restrictive, as opposed to authoritative control, which is democratic, clearly explained, rational, and firm (Baumrind, 1966, 1967, 1971). This factor also appears to reflect power assertive

practices as described by Hoffman (1963, 1970, 1982, 1994), as well as Symonds's (1939) and Schaefer's (1959, 1965) discussion of parental hostility and rejection. Interestingly, such restrictive, intrusive and autocratic assertion of parental authority is sometimes described as a psychologically controlling parenting strategy (E. Skinner et al., 2005). Indeed, several researchers have suggested that parental rejection or hostility, reflected in this Punitive Discipline subscale, may be part of the psychological control dimension, including criticism, hostility, aggression, harshness, ignoring, and neglect (Barber et al., 2012; Silk et al., 2003; Walling et al., 2007). However, other researchers have suggested that hostility and psychological control are distinct constructs, with hostile parenting behaviour reflecting overt aggression, rejection and attempts at behavioural control rather than covert and intrusive psychological controlling practices (Morris et al., 2002; Nelson et al., 2006). G. S. Pettit et al. (2001) suggested that hostility may manifest as overt, harsh parenting in early childhood, while it may be more psychologically controlling in adolescence when autonomy and identity development are key developmental tasks (Steinberg, 1990). The current results suggest that Punitive Discipline is distinct from Autonomy Support, as well as overprotective and intrusive parenting described by Anxious Intrusiveness, which have previously been included under the umbrella of psychological control; however, the question of whether hostile, punitive discipline is synonymous with or distinct from psychological control cannot be answered here.

The current findings support Grolnick and Pomerantz's (2009) proposal that authoritarian and psychologically controlling strategies, such as the use of force, intrusiveness, curbing initiative, power assertion, and failing to take the child's perspective are separate from structure, referring to setting rules and limits, and provision of an organised and predictable environment (Grolnick & Pomerantz, 2009; Verhoeven et al., 2007), as items describing the latter content did not load on this factor. This also reflects the distinction between behavioural control and autonomy support discussed by Barber (1996).

6.4.3 Anxious Intrusiveness

The Anxious Intrusiveness factor was given the same name as the factor in Becker's (1964) research, which he described as tendencies toward infantilising and overprotection, and oversolicitousness for the child's safety and happiness. These behaviours were thought to discourage the development of autonomy and independence in children (Becker, 1964). Two items from this list were taken from

the list of theoretical responsiveness, overprotection, and autonomy support items generated by the supervision team, and one item was suggested by parents who participated in the focus groups in Phase One. Other Anxious Intrusiveness items were based on items from existing measure, including one item from the Protectiveness subscale of the Possessiveness factor in the PCRQ (Furman & Adler, 1983, as cited in Furman & Giberson, 1995), one from the Non-Reasoning/Punitive Strategies subscale of Authoritarian parenting in the PSDQ (Robinson et al., 1995), and one item from the Psychological Intrusiveness subscale of the WPI (Weinberger et al., 1989, as cited in Wentzel et al., 1991). Higher scores on this subscale indicate higher levels of parental enmeshment, intrusive assistance, and indulgence, such as 'I worry about my child when he/she is not at home', and 'I try to meet my child's desires immediately'.

McLeod et al. (2011) suggested that intrusive parental behaviours reflect unrealistic expectations of the child's developmental level and their capabilities, and may involve infantilising behaviour and the provision of excessive and unnecessary assistance, which are reflected in the Anxious Intrusiveness items. Many of these items also appear to relate to parental overprotection (Arrindell et al., 1998; Parker et al., 1979; Thomasgard & Metz, 1999), which includes overpossessiveness, domineering behaviour, overgratification of the child's wishes, and intrusive attempts to protect the child from experiencing disappointment and distress (Capron, 2004; L. Carlson et al., 1992; Crosby & Grossbart, 1984; Hauser, 1991; Hauser et al., 1984; K. H. Rubin et al., 2002). This reflects noncontingent, protective, and indulgent parenting strategies which are thought to impact on the child's sense of mastery, agency, self-efficacy and perceived control, and prevent them from learning effective coping and emotional regulation skills (Chorpita & Barlow, 1998; Fox et al., 2005; McLeod, Wood et al., 2007; Rapee, 2001; Wood, 2006). In this sense, Anxious Intrusiveness appears to be related to psychological control as defined by SDT (Deci & Ryan, 1985, 2000), and particularly dependency-oriented psychological control, which refers to behaviours that encourage enmeshment and discourage individuation (Barber & Buehler, 1996; Soenens et al., 2010). This is often considered the opposite of responsive autonomy support, as described by Johnston et al. (2002), S. H. Landry et al. (2002), and Mulvaney et al. (2006). However, a very low correlation was found between Anxious Intrusiveness and Autonomy Support ($r = -.03$) in the current study.

Interestingly, the Anxious Intrusiveness factor was significantly positively correlated with Emotional Warmth ($r = .25$), Punitive Discipline ($r = .13$), and Permissive Discipline ($r = .22$). This reflects Thomasgard and Metz's (1993) description of indulgent parents, who are generally permissive and warm, but experience anxiety and feelings of guilt and anger when the child asserts their autonomy, resulting in shifts from indulgent behaviour to punitive, overcontrolling, and belittling parenting strategies. However, the Anxious Intrusiveness factor did not correlate significantly with any other PBDQ dimensions or the total score, suggesting that it represents a separate concept. It is possible that the Anxious Intrusiveness items reflect parental anxiety and internal processes that drive overprotective parenting, rather than actual parenting behaviours themselves, such as 'I worry about my child when he/she is not at home' and 'I am more concerned with my child's feelings than my own'. Parents who are anxious tend to be hypervigilant to threat in their child's environment, and restrict their child's movements in order to protect their children from these perceived harms (Capron, 2004; Coplan et al., 2009; Kendler et al., 1997). It is also possible that this anxiety is specific to Anxious Intrusive parenting, and does not impact on autonomy supportive and democratic behaviours. Alternatively, the Anxious Intrusiveness items may have a non-linear relationship with Autonomy Support and Democratic Discipline, which is not recognised by the bivariate correlation coefficient due to an assumption of linearity. Finally, this factor may comprise a separate parenting construct that is independent of parental autonomy support and democratic discipline. It appears that further investigation of the Anxious Intrusiveness factor is needed to determine the nature of the items, and the relationship between this factor and the Autonomy Support and Democratic Discipline PBDQ scores.

6.4.4 Autonomy Support

The fourth factor to emerge in the EFA was Autonomy Support, referring to scaffolding and responsive parenting behaviour. Two of these items were suggested by parents who participated in the Phase One focus groups, while the remaining three items originated from the list of theoretical autonomy support, responsiveness, intrusiveness, and overprotection items generated by the researcher. It therefore appears that this dimension has not been adequately assessed in the existing parenting measures, and indeed Kuppens et al. (2009) and Aunola and Nurmi (2004, 2005) reported that dimensions of autonomy support and psychological control have

generally been ignored in research on parenting preadolescent children. Autonomy support, or responsiveness, has been mentioned in definitions of warmth, behavioural control, and psychological control, but it appears to relate to the administration of these parenting behaviours rather than being similar in definition. According to Johnston et al. (2002), self-report measures of autonomy support generally ask parents to rate how often they provide directions or assistance, which does not include consideration of the needs and abilities of the child. However, the child's age, needs, and abilities are explicitly referred to in two of the Autonomy Support items, which is a significant strength of this PBDQ subscale.

Barber and colleagues (Barber et al., 2002; Stolz et al., 2005) explained that psychological autonomy is often inappropriately assessed by reversing the scores on psychological control measures. Similarly, in the current measure, it appears that low scores on Autonomy Support are not equivalent to guilt induction, love withdrawal, ridiculing, or many of the other behaviours that are traditionally included under the umbrella of psychological control (Barber, 1996; Barber et al., 2012). However, low scores may reflect developmentally inappropriate, intrusive, and unsolicited assistance (Arrindell et al., 1998; Maccoby & Masters, 1970) and restrictive control or forcing the parent's own agenda (Baumrind, 1971; Grolnick, 2003; Grolnick & Pomerantz, 2009; Soenens & Vansteenkiste, 2010), which are the opposite of 'I let my child try to figure things out for him/herself before giving my input' and 'I encourage my child to choose his/her own interests and activities' respectively. Such behaviour may occur as a result of parental anxiety or unrealistic expectations of their child's abilities (Mulvaney et al., 2006).

The term responsiveness was used in Maccoby and Martin's (1983) reconceptualisation of Baumrind's (1966, 1967, 1971) typology, and referred to the degree to which parents deliberately foster individuality and self-regulation in their child (Baumrind, 1996), which is consistent with the dimension of Autonomy Support in the current study. This is achieved through sensitive, appropriate, and contingent responding which takes the child's needs, abilities, emotions, requests, and interests into account (Bornstein et al., 1992; Bornstein et al., 2008; Johnston et al., 2002; Karreman, van Tuijl, van Aken, & Deković, 2006; S. H. Landry et al., 2001; Tamis-LeMonda & Bornstein, 2002). Responsive, autonomy supportive parenting is described in SDT (Deci & Ryan, 1985, 2000), and is also a major component of attachment theory (Ainsworth et al., 1971). Autonomy Support items

also reflect the concept of scaffolding, as discussed by Vygotsky (1962) and S. H. Landry et al. (2002), referring to the provision of information, direction, and assistance that is supportive and appropriate to the child's attention, memory, and language abilities (S. H. Landry et al., 2002; Mulvaney et al., 2006). All of these concepts have been linked with the development of self-regulation skills and the transfer of regulatory responsibility from the parent-child dyad to the child (Early et al., 2002; Kochanska et al., 2000).

Sturge-Apple et al. (2003) suggested that autonomy supportive parenting beyond infancy should involve democracy as well as autonomy support. In addition, Karreman et al. (2006) defined responsiveness as involving warmth and affection as well as synchronous parenting behaviour, and Johnston et al. (2002) found that responsive parents exhibited positive affect, approval, and affection regardless of outcome. Supporting this, correlations between Autonomy Support and Emotional Warmth ($r = .45$), and Autonomy Support and Democratic Discipline ($r = .48$) in the current study were all positive and approached large effect sizes according to Cohen's (1988) conventions, suggesting that high parental Autonomy Support is also associated with higher Democracy and Emotional Warmth, but these represent distinct constructs.

6.4.5 Permissive Discipline

Permissive or inconsistent discipline has long been associated with externalising problems in children (Patterson, 1976), as well as the development of an external locus of control (Baumrind, 1997; Deci & Ryan, 1987; Seligman, 1975). Permissive Discipline was the fifth factor to emerge in the EFA, and reflected parental inconsistency and permissiveness in setting and enforcing of rules and expectations. One of the Permissive Discipline items came from the list of theoretical autonomy support, intrusiveness, and overprotection items generated by the supervision team, while the remaining items were based on items from existing questionnaires, including three items from the Laxness subscale of the PS (Arnold et al., 1993), one item from the Inconsistent Discipline subscale of the APQ (Shelton et al., 1996), and one item from the Ignoring Misbehaviour subscale of the Permissiveness factor of the PSDQ (Robinson et al., 1995). Higher scores on this item reflect a greater frequency of permissive parenting behaviours.

Permissive Discipline items appear to describe laissez-faire parents, who allow their children a great degree of behavioural freedom even if their actions affect

others in a negative way (Capron, 2004), for example “I allow my child to interrupt other adults”. This factor also includes failure to follow through with demands and promises, erratic changes in expectations and behavioural consequences, indiscriminate responses to the child’s behaviours, and giving in to the child after initially resisting as described by Chamberlain and Patterson (1995). Permissive Discipline appears to be consistent with chaos, which is the opposite of firm behavioural control or structure (Baumrind, 1966, 1967, 1971, 1996; Grolnick & Pomerantz, 2009; Maccoby & Martin, 1983). Grolnick and Pomerantz described structure as the setting of limits and rules, as well as consistency in parents’ reactions to the behaviours of their child. Indeed, most descriptions of behavioural control or demandingness specify that parents are firm and consistent in their expectations, rules, and confrontation of misbehaviour (T. G. O’Connor, 2002; E. Skinner et al., 2005).

Some items in the Permissive Discipline factor appear to be related to a form of psychological control, as these behaviours are not responsive to the developmental needs of the child. As Winnicott (1964) suggested, the immediate alleviation of a child’s distress is not conducive to optimal development of independent regulation. Baumrind (1997) explained that noncontingent parenting behaviour may undermine the child’s sense of agency, autonomy, and competence, and result in the child developing an unpredictability schema about their environment. The items “I do things for my child that he/she is capable of doing for him/herself” and “I do things for my child when he/she refuses to do them” may reflect intrusive or developmentally inappropriate support that discourages autonomous functioning (Arrindell et al., 1998; Maccoby & Masters, 1970), which is consistent with Baumrind’s (1971) description of restrictive control. Achievement-oriented psychological control also involves intrusive assistance which is used to assure the parent of their child’s success, protecting both the child and parent’s own sense of self-worth (Barber & Buehler, 1996; Soenens et al., 2010). Consistent with this, it appears that Permissive Discipline is negatively associated with Autonomy Support ($r = -.28$), which reflects contingent, responsive parenting behaviour.

6.4.6 Democratic Discipline

The final factor to emerge from the EFA was labelled Democratic Discipline, which reflected the parents’ use of reasoning and explanation. One of these items was suggested by parents who participated in the Phase One focus groups, while

another item was based on an item from the Authoritarian subscale of the PAQ-R (Reitman et al., 2002); however, the new item did not include the double-barrelled component of the PAQ-R item relating to punishment. The remaining items were also based on items from previous questionnaires, including one item from the Rationale scale of the Disciplinary Warmth factor in the PCRQ (Furman & Adler, 1983, as cited in Furman & Giberson, 1995), and two items from the Reasoning/Induction subscale of the Authoritative parenting factor in the PSDQ (Robinson et al., 1995).

Democracy was described by Baldwin (1946, 1949; Baldwin et al., 1945) as the use of reasoning, explanation, and bidirectional communication between the parent and child to establish mutually satisfying policies, justify disciplinary actions, and negotiate other parenting decisions. This is evident in items such as “I give my child reasons about why he/she isn’t allowed to do something” and “I explain to my child how I feel about his/her behaviour”. Such Democratic Discipline was associated with authoritative parenting in Baumrind’s (1966, 1967, 1971) research, and was the main distinguishing factor between firm control and restrictive, superfluous control which was used by authoritarian parents (C. C. Lewis, 1981). In her study on parents of adolescents, Baumrind (1991) explicitly distinguished a group of democratic parents in her study who were committed, emotionally involved, moderately demanding, and not restrictive (Baumrind, 1991). Democratic Discipline also appears to reflect inductive reasoning, where the parent explains the reasons behind their actions to the child, including the reasons behind their punishing behaviours (Hoffman, 1970, 1975). This assists the child in understanding and internalising the parent’s values and thought processes, which increases the effectiveness of the parent’s disciplinary actions (Grusec & Goodnow, 1994). Other-oriented discipline, or highlighting the effects of the child’s actions on others (Hoffman, 1970, 1975), is also reflected in Democratic Discipline items, such as “I talk to my child about the consequences of his/her actions”.

According to Soenens and Vansteenkiste (2010), parents who use explanations and inductive reasoning, and encourage bidirectional communication provide structure in an autonomy supportive way, while overprotective, rigid, and restrictive rules reflect psychologically controlling behaviour. Schaefer (1959, 1965) defined democratic parents as those who were high in loving acceptance and autonomy, and C. C. Lewis (1981) suggested that parents who adjust their rules and

demands through open parent-child communication are responsive to the needs of the child. Reflecting this, Democratic Discipline was highly positively correlated with Emotional Warmth ($r = .51$) and Autonomy Support ($r = .48$), and negatively correlated with the noncontingent disciplinary factors of Punitive Discipline ($r = -.30$) and Permissive Discipline ($r = -.29$). According to Collins et al. (2000), children's desire for both democracy and autonomy increases over the course of development, supporting a significant positive correlation between these factors.

6.4.7 Conclusions

It appears that Emotional Warmth, Autonomy Support, and Democratic Discipline are associated with autonomy supportive parenting behaviour which is administered in a responsive and contingent manner, while Punitive Discipline, Permissive Discipline, and Anxious Intrusiveness all describe non-contingent and unresponsive parenting behaviours that can be described as psychologically controlling. Autonomy support and psychological control may therefore refer to specific behaviours, such as scaffolding (S. H. Landry et al., 2002) and love withdrawal (Barber, 1996). However, these terms may also refer to the manner in which the behaviour is administered, whether it is in a way that considers the developmental needs of the child, as well as their abilities, desires, and interests, or whether it reflects the parent's own agenda and ignores or invalidates the child's needs and requests. These results provide strong support for the importance of assessing autonomy supportive and psychologically controlling practices in parents of preadolescent children.

The dimensions of warmth, behavioural control, and psychological control that have been used to describe parenting over the past sixty years (T. G. O'Connor, 2002; E. Skinner et al., 2005) appear to be insufficient in describing the core dimensions considered important to the parenting practices of contemporary parents. The six dimensions that emerged in the EFA combine many different parenting concepts that have been discussed in the literature over time, and it is intended that the subscale items and descriptions be used to provide some clarity to the literature regarding the similarities and differences between a number of parenting concepts that vary in terminology, definition, theoretical basis, and assessment.

A major strength of the PBDQ is the rigorous methodology that was used in developing the scale, combining previous parenting literature and existing parenting assessments with qualitative parent feedback and empirical assessment of the item

and overall model performance. Mixed-method designs provide the study with the combined advantages of qualitative and quantitative research, and allow the researcher to integrate and draw conclusions using the different perspectives that are gained through these methodologies (Tashakkori & Creswell, 2007). In addition, although participants in this sample were primarily from Australia and largely well educated, there was significant diversity in many of the demographic variables of the PBDQ development sample, which supports the generalisability of this measure across a range of parenting subgroups. The final PBDQ also has the advantage of being relatively brief, which minimises the burden of participant responses and increases the utility of the measure for research purposes (DeVellis, 2003).

One limitation of the current study was the failure to use random sampling in asking parents to choose a child to answer the parenting items about. This may represent a source of bias in the responses; for example, parents may have chosen the child who they employed the most socially desirable parenting behaviours with. Another limitation was the poor fit and subsequent exclusion of the Anxious Intrusiveness Factor from the PBDQ. However, although the Anxious Intrusiveness factor did not appear to be related to the overall PBDQ score, it was consistent with descriptions of overprotective, indulgent, and intrusive parenting, and correlated significantly and in the expected direction with Emotional Warmth, Punitive Discipline, and Permissive Discipline, and therefore further investigation of this dimension is needed.

In addition, it is important to note that, despite aiming to measure specific parenting behaviours, some of the items in the PBDQ may measure the general emotional climate of the parent-child interaction rather than specific behaviours as a result of these previous differences in the definition and operationalisation of different parenting concepts between researchers. Furthermore, although diverse range of parenting issues and behaviours were considered relevant and important by parents in Phase One of this research, many of these items failed to meet the minimum loading criteria on any factor in the EFA. It is possible that the decision to interpret the suggestions made by parents as indicative of specific parenting behaviours rather than broader parenting constructs may have contributed to this outcome. Indeed, further factors may have emerged in the EFA if more items had been developed to reflect these broader themes, which could be an area of future development of the PBDQ model.

It appears that the newly developed PBDQ is a brief but comprehensive measure of parenting that reflects a number of important theoretical parenting concepts and was developed using rigorous scale development procedures. The results of this study provide preliminary support for the factorial validity and internal consistency of the PBDQ; however, further research is needed to establish the additional psychometric properties of this measure.

CHAPTER 7

PHASE THREE: PSYCHOMETRIC PROPERTIES

7.1 Overview

The PBDQ is a 27-item scale that was developed to satisfy the need for a comprehensive and empirically derived self-report assessment of key contemporary parenting dimensions for parents of children aged 3 to 12 years. EFA conducted on a community sample of parents yielded a six factor solution, including Emotional Warmth, Punitive Discipline, Autonomy Support, Permissive Discipline, Democratic Discipline, and Anxious Intrusiveness, while a CFA conducted on a separate sample supported a higher order five factor solution with the Anxious Intrusiveness factor excluded from the model.

The aim of Phase Three of this research was to assess the basic psychometric properties of the five factor PBDQ in a community sample of parents of children aged three to 12 years, including assessments of internal consistency, test-retest reliability, and construct validity. As the PBDQ was designed to be a more comprehensive and dimensional assessment of parenting than the existing parenting measures, and several widely used parenting measures were used to develop the questionnaire, this study did not include the assessment of criterion validity. In addition, studies on the Parenting Scale (Arnold et al., 1993; Reitman et al., 2001) and the APQ (Shelton et al., 1996), which both assess sensitive issues of parental mistakes and unhelpful disciplinary practices, have also demonstrated that social desirability did not significantly affect parent responses to their measures. Therefore, to minimise participant burden of responding, the PBDQ was not administered with a social desirability scale in the current study. However, it is recommended that criterion validity and the effects of social desirability on PBDQ scores be investigated in future research.

7.2 Test-Retest Reliability

Test-retest reliability refers to the assessment of the temporal stability of a measure, or the degree of constancy between scores from one occasion to another (DeVellis, 2003). This is calculated by computing a correlation coefficient between test scores administered to the same sample on two separate occasions, with coefficient values closer to one indicating higher test-retest reliability (Rust & Golombok, 1989). It was expected that test-retest correlations for the PBDQ

subscales would be above .70, with the majority above .80, as this is consistent with the test-retest correlations for other self-report parenting measures (Arnold et al., 1993; Dadds et al., 2003; Wentzel et al., 1991).

7.2.1 Method

7.2.1.1 Participants. Participants for the test-retest reliability analysis came from a sample of 107 parents recruited from advertising through online parenting forums, online research forums, and snowball sampling. Two participants were excluded based on their child's age being less than three years, or more than 12 years. The final sample for the initial data collection at Time 1 included 105 parents of children three to 12 years of age ($M = 6.51$, $SD = 2.69$). Participants included 93 females and 11 males (gender data missing for one participant), and were aged between 22 and 55 years, with a mean age of 37.38 years ($SD = 6.27$).

Of the 105 participants recruited, 62 completed the test-retest within the specified time frame, which is a 40.95% attrition rate since Time 1. Participants were randomly allocated to a two week or four week re-test condition, as determined by flipping a coin. Participants who submitted their responses more than one day after the indicated re-test due date were excluded from the analysis. An a priori power analysis using the tables provided in Cohen (1988) indicated that at least 23 participants were required per test-retest condition to obtain a large effect size ($r = .5$), at an alpha level of .05 with statistical power of .8. The Time 2 (two week test-retest) condition sample consisted of 30 parents including 26 females and four males aged between 26 and 50 years ($M = 37.67$, $SD = 5.64$). Child age ranged from three to 12 years ($M = 5.98$, $SD = 2.53$). The Time 3 (four week test-retest) condition sample consisted of 32 parents including 27 females and five males, aged between 28 and 46 years ($M = 38.81$, $SD = 3.92$). Child age ranged from three to 12 years ($M = 6.97$, $SD = 2.97$). Further demographic information for each sample is described in Table 7.1.

Table 7.1

Demographic Information for Test-Retest Sample Participants

	2 Week Test-Retest		4 Week Test-Retest	
	N = 30		N = 32	
	<i>n</i>	%	<i>n</i>	%
Questionnaire completed by				
Mother	25	83.33	28	87.50
Father	4	13.33	4	12.50
Other	1	3.33	0	0.00
Primary Caregiver				
Yes	15	50.00	21	65.63
Shared Equally	13	43.33	10	31.25
No	1	3.33	1	3.13
Missing	1	3.33	0	0.00
Parent Age				
26 – 30 years	4	13.33	1	3.13
31 – 35 years	6	20.00	5	15.63
36 – 40 years	15	50.00	14	43.75
41 – 45 years	1	3.33	11	34.38
Over 46 years	4	13.33	1	3.13
Parent Education				
High School	1	3.3	4	12.50
Apprentice/Technical/Diploma	4	13.33	4	12.50
Some University	3	10.00	5	15.63
University Degree	9	30.00	9	28.13
University Postgraduate	12	40.00	10	31.25
Missing	1	3.33	0	0.00
Parent Ethnic Identity				
Australian	25	83.33	27	84.38
Other	4	13.33	5	15.63
Missing	1	3.33	0	0.00
Number of Children				
1	7	23.33	11	34.38
2	13	43.33	12	37.50
3 or more	9	30.00	9	28.13
Missing	1	3.33	0	0.00
Child Gender				
Female	14	46.67	19	59.38
Male	16	53.33	13	40.63

7.2.1.2 Materials.

7.2.1.2.1 Parenting Behaviours and Dimensions Questionnaire. The PBDQ developed as part of this project was used to assess parenting. Each parent was asked to complete the measure twice.

7.2.1.2.2 Demographics questionnaire. The demographics questionnaire assessing a number of parent, child, and family related variables that was described in the previous phase of this research was also used in the current study (see Appendix H).

7.2.1.3 Procedure. The demographics questionnaire and PBDQ items were formatted into an online survey using the limesurvey.com platform. Demographic questions were asked at the beginning of the online survey to ensure a wide range of individual parenting variables were sampled, and to exclude parents with children aged less than three years or more than 12 years. The child age and PBDQ items were set to forced response so that all parenting items had to be answered, as justified in the previous research phase, but the remainder of the demographic information was voluntary. The link provided in advertising the survey directed participants to an information sheet (see Appendix N) hosted on the Curtin University website outlining the purpose of the study, the rights of the participants, and the procedure. Participants were informed that submitting their responses indicated that they gave consent to participate in the study.

At the beginning of the survey, participants were asked to enter a code based on the first two letters of their mother's maiden name, first three digit street address number, the first three letters of their month of birth, and the last two digits of their home phone number to enable matching of the test-retest data. Participants were instructed to complete the demographics questionnaire, followed by the PBDQ. Once the Time 1 questionnaires were completed, participants were directed to a debriefing page which instructed them to send an email to the researcher with the date of completion in the subject line. Participants were then allocated to the Time 2 or Time 3 condition, which was randomly determined by flipping a coin, and were sent an email informing them that they would be contacted in two or four weeks with a link to the second questionnaire completion (see Appendix O).

Participants were sent an email with the link to the second questionnaire completion (see Appendix P) on the day prior to the re-test due date, asking them to complete the questionnaire on or within one day of the indicated due date. Upon clicking the link, participants were again directed to an information page and asked to indicate their consent by submitting their responses to the survey. At the beginning of the re-test, participants were asked to enter the same code information as they did at Time 1 to allow responses to be matched by the researcher, and they were then

directed to complete the PBDQ for the second time. The completion date was recorded by the limesurvey.com software. The amount of time between the Time 1 and Time 2 completions ranged from 13 to 15 days, while the amount of time between the Time 1 and Time 3 completions ranged from 27 to 29 days. Participants who completed the online survey on both occasions were directed to a debriefing page, which gave them the option to submit their email address to enter a draw to win a \$50AUD voucher. It was not possible to link email addresses to survey responses as they were collected on different servers, ensuring participant confidentiality. Test-retest responses were collected over a five month period. After the survey was closed, the prize draw was conducted and the voucher sent to the winner. Data from Time 1, Time 2, and Time 3 were downloaded from limesurvey.com into separate Microsoft Excel files, which were then imported into PASW 18.0.

7.2.2 Results

7.2.2.1 Data screening. Prior to analysis, the data was screened for invalid responses and cases meeting the exclusion criteria, including age of child less than 3 years or greater than 12 years, response sets that were deemed unlikely to indicate genuine responding as recommended by J. A. Johnson (2001), and re-test completion date being more than one day after the due date. Two responses were excluded for child age greater than 12 or less than three years, one response was excluded for completing the re-test more than one day after the specified due date, and no responses were excluded for invalid response patterns. There were no missing responses on the SDQ and PBDQ, as responses to the parent questionnaire items were set to forced choice.

7.2.2.2 Attrition. A two-sample Kolmogorov-Smirnov test was conducted to test the difference between the PBDQ scores and major demographic variables of those who completed the re-test questionnaire within the designated time frame and those who did not. The non-parametric two-sample Kolmogorov-Smirnov test was conducted rather than a *t*-test, as all variables except for the Total PBDQ score violated the assumption of normality according to the Kolmogorov-Smirnov normality statistic, and birth order, parent age, and parent education also violated the assumption of homogeneity of variance. The *t*-test is only robust to violations of normality and homogeneity of variance when the two group sizes are equal and relatively large (Maxwell & Delaney, 2004), and group sizes in the current study

were moderate and unequal, with 43 participants dropped through attrition and 62 cases that remained in the analysis. According to Sheskin (2004), the Kolmogorov-Smirnov test is typically selected when normality and homogeneity of variance assumptions of the t -test have been violated. While the Mann-Whitney U test is also a non-parametric test, Maxwell and Delaney (1990) suggested that homogeneity of variance in the underlying population distributions is an assumption of this test, although this is often not acknowledged, and it is generally recommended for larger sample sizes.

Results of the two-sample Kolmogorov-Smirnov test indicated that there were no significant differences between the two samples on variables of number of children, child birth order, parent age, child age, parent highest level of education, and PBDQ subscales and total score.

7.2.2.3 Test-retest reliability correlations. Two separate bivariate correlation analyses were employed to examine the relationship between answers to the PBDQ items at Time 1 and Time 2 (two week test-retest), and Time 1 and Time 3 (four week test-retest).

7.2.2.3.1 Two week test-retest correlations. The assumption of normality was violated according to the Kolmogorov-Smirnov normality test for Time 1 Emotional Warmth and Autonomy Support, and Time 2 Total PBDQ score. Skewness and kurtosis statistics were converted to z -scores as recommended by Field and Miles (2010), which showed that the Time 1 Emotional Warmth z -score exceeded an absolute value of 2.58, indicating significant skewness at $p < .01$ (see Table 7.2). In addition, Time 1 Emotional Warmth and Punitive Discipline kurtosis z -scores exceeded an absolute value of 2.58, indicating significant kurtosis at $p < .01$ (Field & Miles, 2010). However, visual inspection of the normal Q-Q plots, scatterplots, normal probability plot of standardised residuals, and the scatterplot of standardised residuals against standardised predicted values suggested that the data approximated a normal distribution for all variables with the exception of Emotional Warmth, and the assumptions of linearity and homogeneity of variance were met. Therefore, the nonparametric Spearman's Rho statistic was used to calculate test-retest reliability for Emotional Warmth, while the Pearson's r statistic was used to assess the test-retest reliability of the remaining PBDQ scores.

All correlations for the two-week test-retest were positive and significant, ranging from .78 to .93. Salkind (2006) suggested that test-retest correlations above

.7 are considered acceptable, while above .80 is preferred. The Total PBDQ score and all of the PBDQ subscales except for Emotional Warmth exceeded this preferred threshold. Results are summarised in Table 7.2.

Table 7.2

Descriptive Statistics and Two Week Test-Retest Reliability Correlation Coefficients for the PBDQ Subscales and Total Score (N = 30)

	M	SD	K-S <i>p</i>	Skewness		Kurtosis		Test-Retest Correlation
				Raw Score	<i>z</i> -score	Raw Score	<i>z</i> -score	
Emotional Warmth								
Time 1	5.33	.54	.04	-1.41	-3.29	2.95	3.54	
Time 2	5.39	.48	.09	-.95	-2.22	1.01	1.21	.77** [^]
Punitive Discipline								
Time 1	4.60	.67	.20	-1.07	-2.50	2.70	3.24	
Time 2	4.61	.66	.20	-.63	-1.48	1.88	2.25	.93**
Autonomy Support								
Time 1	5.01	.55	.00	-.21	-.50	.24	.28	
Time 2	5.03	.50	.11	-.50	-1.18	.00	.00	.80**
Permissive Discipline								
Time 1	4.46	.67	.19	-.87	-2.04	1.00	1.20	
Time 2	4.55	.61	.17	-.74	-1.74	-.01	-.01	.91**
Democratic Discipline								
Time 1	5.29	.56	.20	-.87	-2.04	.79	.95	
Time 2	5.23	.57	.20	-.74	-1.72	.77	.92	.80**
Total PBDQ score								
Time 1	24.68	2.09	.20	-.70	-1.64	.23	.28	
Time 2	24.81	2.11	.01	-.63	-1.46	-.33	-.40	.92**

Note. [^] Spearman's Rho statistic. Other correlation coefficients are Pearson's *r* statistics.
* *p* < .05. ** *p* < .01.

7.2.2.3.2 Four week test-retest correlations. The assumption of normality was violated according to the Kolmogorov-Smirnov normality test for Time 1 Emotional Warmth, Punitive Discipline, Democratic Discipline, and Total PBDQ score, as well as Time 3 Permissive Discipline and Democratic Discipline. The Time 1 Punitive Discipline skewness *z*-score exceeded an absolute value of 2.58, indicating significant skewness at *p* < .01 (see Table 7.3; Field & Miles, 2010). Visual inspection of the normal Q-Q plots, scatterplots, normal probability plot of standardised residuals, and the scatterplot of standardised residuals against standardised predicted values suggested that the data approximated a normal

distribution for all variables, with the exception of Punitive Discipline, and the assumptions of linearity and homogeneity of variance were met. Therefore, the nonparametric Spearman's Rho statistic was used to calculate test-retest reliability for Punitive Discipline, while the Pearson's r statistic was used to assess the test-retest reliability of the remaining PBDQ scores.

Test-retest correlations for the four-week test-retest were positive and significant, and above the .70 acceptability criteria proposed by Salkind (2006). The Total PBDQ score and three of the five PBDQ subscale scores exceeded the preferred threshold of .8, indicating that the PDSQ appears to be relatively stable across a four week period. Results are summarised in Table 7.3.

Table 7.3

Descriptive Statistics and Four Week Test-Retest Reliability Correlation Coefficients for PBDQ Subscales and Total Score (N = 32)

	M	SD	K-S p	Skewness		Kurtosis		Test-Retest
				Raw Score	z-score	Raw Score	z-score	Correlation
Emotional Warmth								
Time 1	5.44	.42	.00	-.768	-1.86	-.27	-.34	
Time 3	5.39	.45	.13	-.55	-1.14	-.36	-.44	.79**
Punitive Discipline								
Time 1	4.68	.80	.01	-1.14	-2.75	1.78	2.20	
Time 3	4.73	.70	.05	-.95	-2.30	1.80	2.23	.86**^
Autonomy Support								
Time 1	4.94	.54	.05	.06	.14	-.77	-.95	
Time 3	4.91	.51	.20	-.26	-.63	.33	.41	.85**
Permissive Discipline								
Time 1	4.42	.63	.20	-.49	-1.18	.41	.50	
Time 3	4.49	.69	.04	-.70	-1.69	-.34	-.42	.84**
Democratic Discipline								
Time 1	5.31	.58	.00	-.52	-1.25	-1.03	-1.28	
Time 3	5.21	.54	.00	-.18	-.44	-1.28	-1.58	.74**
Total Score								
Time 1	24.80	2.06	.01	-.13	-.30	-1.31	-1.62	
Time 3	24.73	1.94	.20	-.06	-.14	-1.07	-1.32	.90**

Note. N = 30. ^ Spearman's Rho.

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

7.2.3 Discussion

Test-retest reliability was assessed in two samples over a two week and a four week period, which were the time periods employed by several other parenting reliability studies (Arnold et al., 1993; Buri, 1991; Dadds et al., 2003; Reitman et al., 2002; Robinson et al., 1995). Results suggested that all subscales of the PBDQ had acceptable or higher test-retest reliability correlations according to the cut-off discussed by Salkind (2006), with correlations over the two week period slightly higher than the four week period. This is to be expected, as Cromwell (2005) conducted a meta-analysis of 172 studies and found a negative linear relationship between intertest interval and test-retest reliability when the intertest interval was 90 days or less. Test-retest reliability was highest for Total PBDQ score in both conditions, with a mean correlation coefficient of $r=.91$.

Overall, these results suggest that the PBDQ demonstrates good stability over time. The magnitude of the PBDQ test-retest correlations were comparable to those reported for the PS (Arnold et al., 1993), APQ (Shelton et al., 1996), WPI (Weinberger et al., 1989, as cited in Wentzel et al., 1991) and the PAQ-R (Reitman et al., 2002). No test-retest reliability data was available for the PSDQ (Robinson et al., 1995), and PCRQ (Furman & Adler, 1983, as cited in Furman & Giberson, 1995).

7.3 Internal Consistency and Construct Validity

According to Groth-Marnat (2009), construct validity is the extent to which a measure assesses a theoretical construct. This is established by testing the existence of hypothesised relationships between the measure and other theoretically relevant variables, which is referred to as convergent construct validity (Foster & Cone, 1995; Groth-Marnat, 2009). Additionally, if the measure and related variables are assessed at the same time, they can also provide evidence of concurrent construct validity (Foster & Cone, 1995).

Several parenting questionnaires that were used in the development of the PBDQ, including the PS (Arnold et al., 1993), APQ (Shelton et al., 1996), and the PAQ-R (Reitman et al., 2002), have established concurrent convergent validity through correlation with child conduct and behavioural problems. Negative emotionality was also considered to be an important variable in validating the PSDQ (Robinson et al., 1995). There is also significant empirical support for the relationship between parenting dimensions (warmth, behavioural control, and

psychological control) and child internalising problems (Barber & Harmon, 2002; Siqueland, Kendall, & Steinberg, 1996), externalising problems (Caron et al., 2006; Eisenberg et al., 1996; Eisenberg & Fabes, 1994), and social skills (Crouter & Head, 2002; Ladd & Pettit, 2002; Zhou et al., 2002). Thus the PBDQ was validated against the Conduct Problems, Emotional Symptoms, and Prosocial Behaviour scores on the Strengths and Difficulties Questionnaire (Goodman, 1997), as well as parent ratings on the Social Skills Rating System (Gresham & Elliot, 1990). It was expected that higher levels of Emotional Warmth, Autonomy Support, Democratic Discipline, and Total Parenting Score would be associated with higher levels of child social skill, and lower levels of internalising and externalising symptoms, and overall problem behaviours. Conversely, significant negative correlations were expected between the reverse scored Punitive Discipline and Permissive Discipline subscales and externalising, internalising, and overall problem behaviours. Higher levels of Punitive Discipline and Discipline Consistency were also expected to be associated with lower levels of social skills in children.

7.3.1 Method

7.3.1.1 Participants. The sample for this study consisted of the 105 participants described in the test-retest study, plus a sample of 58 children and their parents from pre-primary schools in low socioeconomic status areas recruited for the Animal Fun Project at Curtin University (Piek et al., 2010). Paper-and-pencil measures, rather than Internet surveys, were completed by parents in the Animal Fun project. Although several researchers have found that the nature and quality of the results obtained by most measures is unaffected by Internet or paper-and-pencil presentation format (Bressani & Downs, 2002; Gosling et al., 2004; McGraw et al., 2000), equivalence analyses were conducted to ensure that the data was not significantly different on key variables.

In the Animal Fun sample, parent ages ranged from 23 to 47 years ($M = 33.02$, $SD = 6.44$), and child ages ranged from 4 years to 6 years ($M = 4.91$, $SD = .35$). An a priori power analysis using the tables provided in Cohen (1988) indicated that at least 150 participants were required for a bivariate correlation to obtain an effect size of $r = .2$ at an alpha level of .05 with statistical power of 0.8. The original intention was to combine the two samples, resulting in a total sample size of 163 parents. However, due to significant differences between the samples on a number of demographic variables and the SDQ Conduct Problems score, the construct validity

analyses were conducted separately for each sample. Sample demographics are presented in Table 7.4.

Table 7.4

Test-Retest Sample and Animal Fun Sample Demographics

	Test-Retest Sample N = 105		Animal Fun Sample N = 58	
	<i>n</i>	%	<i>n</i>	%
Questionnaire completed by				
Mother	93	88.57	51	87.93
Father	9	8.57	0	0.00
Other	3	2.86	7	12.07
Parent Age				
25 years or under	4	3.81	7	12.07
26 – 30 years	13	12.38	13	22.41
31 – 35 years	15	14.29	7	12.07
36 – 40 years	43	40.95	14	46.55
Over 41 years	29	27.62	6	10.34
Missing	1	0.95	12	20.69
Parent Education				
High School	26	24.76	36	62.07
Apprentice/Technical/Diplom	11	10.48	7	12.07
University Degree	27	25.71	5	8.62
University Postgraduate	38	36.19	2	12.07
Missing	3	2.86	8	13.79
Parent Ethnic Identity				
Australian	82	78.10	-	-
Other	16	15.24	-	-
Missing	7	6.67	-	-
Number of Children				
1	24	22.86	4	6.90
2	44	41.90	22	37.93
3 or more	35	33.33	24	41.38
Missing	2	1.90	8	13.79
Birth number				
1	70	66.67	20	34.48
2	23	21.90	17	29.31
3 or higher	10	9.52	13	22.41
Missing	2	1.90	8	3.62
Child Gender				
Female	55	52.38	24	41.38
Male	50	47.62	33	56.90
Missing	0	0.00	1	1.72

Note. – Data not available for this study.

7.3.1.2 Materials.

7.3.1.2.1 Animal Fun demographics questionnaire. A demographics questionnaire assessing a number of parent, child, and family related variables was used in the Animal Fun study (see Appendix Q).

7.3.1.2.2 The Strengths and Difficulties Questionnaire- Parent Version (SDQ; Goodman, 1997). The SDQ is a freely available brief behavioural screening questionnaire that assesses psychological adjustment of children and youths through parent report (Goodman, 2001). It contains 25 items divided into five clinical scales, including Emotional Symptoms, Conduct Problems, Hyperactivity/Inattention, Peer Problems, and Prosocial Behaviour. Parents rate each item on a three point Likert scale 0 (*Not True*), 1 (*Somewhat True*), or 2 (*Certainly True*) to indicate how much the attribute applies to their child. Some items are reverse scored. The current study only included the Emotional Symptoms, Conduct Problems, and Prosocial Behaviours scores, as these variables were found to be related to parenting behaviour in previous studies (Barber, 1996; Bowlby, 1980; K. J. Conger et al., 1997; Garber & Martin, 2002; Johnston et al., 2002; McLeod, Weisz et al., 2007; McLeod, Wood et al., 2007; Rapee, 1997; Rothbaum & Weisz, 1994; Wakschlag & Hans, 1999; Winsler, 1998), although Prosocial Behaviours was not assessed in the Test-Retest sample. Emotional Symptom items relate to depressive, phobic, or anxiety symptoms; for example, “Many worries, often seems worried” (Goodman, 1997, 2001). Conduct Problems items relate to symptoms of oppositional defiant disorder, conduct disorder, or other disruptive behavioural disorders; for example, “Often has temper tantrums or hot tempers” (Goodman, 1997, 2001). Prosocial Behaviour items assess prosocial characteristics, such as “Considerate of other people’s feelings” (Goodman, 1997, 2001). Scores for each subscale range from zero to 10.

Support for the five factor structure of the SDQ has been found in samples in the UK (Goodman, 2001), Holland (Muris, Meesters, & van den Berg, 2003), and Sweden (Smedje, Broman, Hetta, Knorrning, 1999). The SDQ has also been found to correlate highly with the Rutter Questionnaires (Rutter, 1967) and the Child Behavior Checklist (Achenbach, 1991), and has comparable predictive validity (Goodman, 1997; Goodman & Scott, 1999; Klasen et al., 2000; Koskelainen, Sourander, & Kaljonen, 2000). Test-retest reliability correlations over a three to four week period were reported as .70 for Emotional Symptoms, .74 for Conduct Problems, and .81 for Prosocial Behaviour (Goodman, 2001). In a community

sample of 9998 parents of children aged 5-15, Goodman (2001) reported minimally acceptable Cronbach's alpha values of .67 for Emotional Symptoms, .63 for Conduct Problems, and .65 for Prosocial Behaviours. In the current study, Cronbach's alphas for the SDQ subscales were .65 for Emotional Symptoms and .63 for Conduct Problems in the Test-Retest sample, and .52 for Emotional Symptoms, .66 for Conduct Problems, and .75 for Prosocial Behaviours in the Animal Fun sample.

7.3.1.2.2 Social Skills Rating System- Parent Version Elementary Form (SSRS; Gresham & Elliot, 1990). The SSRS-P was designed to assess social skills and problem behaviours in children (Gresham & Elliot, 1990). The SSRS-P is a 55-item questionnaire consisting of two scales. The Social Skills scale consists of four subscales of 10 items each, measuring Self-Control (e.g., "Speaks in an appropriate tone of voice at home"), Assertion (e.g., "Joins group activities without being told to"), Cooperation (e.g., "Uses free time at home in an acceptable way"), and Responsibility (e.g., "Politely refuses unreasonable requests from others"). The Problems Behaviours scale consists of three subscales of six items each, and measures Internalising (e.g., "Acts sad or depressed"), Externalising (e.g., "Fights with others"), and Hyperactive behaviours. The Hyperactive behaviours scale was not included in the current analysis due to previous research suggesting a strong genetic component (>80%) for hyperactivity, and limited evidence for the influence of parenting practices after the age of two years on child hyperactivity symptoms (Morrell & Murray, 2003; Todd, 2000). Parents rate the frequency and importance of the child's social skills and problem behaviours along a three point scale, including response options of 0 (*never*), 1 (*sometimes*), and 2 (*very often*; Gresham & Elliott, 1990). Each Social Skills subscale score ranges from zero to 20 and the Social Skills Total Score ranges from zero to 80. Internalising and Externalising Problem scores range from zero to 12.

Studies examining convergent validity have found moderate to high correlations between the SSRS-P and Bruininks, Woodcock, Hill, and Weatherman's (1985) Woodcock-Johnson Scales of Independent Behavior (Merrell & Poppinga, 1994); Achenbach's (1978) Child Behaviour Checklist-Parent Report Form (Gresham & Elliott, 1990); and Reynolds and Kamphaus' (2004) Behavior Assessment System for Children (Flanagan, Alfonso, Primavera, Povall, & Higgins, 1996). Test-retest reliability for the SSRS-P has been reported as .87 for Total Social Skills and .65 for Total Problem Behaviours over a four week period (Gresham &

Elliott, 1990). Gresham and Elliott reported Cronbach's alphas of .77 for Cooperation, .74 for Assertion, .65 for Responsibility, .80 for Self-Control, and .87 for Total Social Skills, as well as .75 for Externalising Problems, and .71 for Internalising Problems scores. In the current study, Cronbach's alphas were found to be .80 for Cooperation, .72 for Assertion, .62 for Responsibility, .83 for Self-Control, and .90 for Total Social Skills, and .84 for Externalising Problems, and .58 for Internalising Problems scores.

7.3.1.3 Procedure.

7.3.1.3.1 Test-retest sample. SDQ items were included in the Time 1 assessment in the test-retest study. Like child age and PBDQ items, SDQ items were also set to forced response. Participants completed the demographics questionnaire, followed by the SDQ subscale questions alternating between the Conduct Problems and the Emotional Symptoms subscales, and finally the PBDQ. Further information on the data collection procedure is described in section 7.1.1.3.

7.3.1.3.2 Animal Fun sample. Two schools matched on class size and socioeconomic index were approached to participate as an intervention or control school in a trial of the Animal Fun program, involving the collecting of data from children, parents and teachers on three occasions. Once consent was obtained from the school, parents of all preschool children were sent an information sheet and consent form outlining the purpose of the research and the procedure, as well as a child information and consent form (see Appendix R). Parents who consented to participate were asked to complete a demographics form, and the SSRS-P, SDQ, and PBDQ. Data from the Animal Fun sample were imported into the test-retest PASW data file for internal consistency and construct validity analyses.

7.3.2 Results

7.3.2.1 Data screening. Prior to analysis, the data were screened for invalid responses and missing data, including response sets that were deemed unlikely to indicate genuine responding. No missing values were identified in the PBDQ responses, and no responses were excluded for invalid response patterns.

A non-parametric two-sample Kolmogorov-Smirnov test was conducted to test the difference between the Test-Retest and Animal Fun samples on key variables. The non-parametric two-sample Kolmogorov-Smirnov test was conducted rather than a *t*-test or Mann-Whitney U test, as all variables except for the Total PBDQ score violated the assumption of normality according to the Kolmogorov-

Smirnov statistic, and birth order, child age, SDQ Conduct Problems, and PBDQ Emotional Warmth violated the assumption of homogeneity of variance.

Results of the two-sample Kolmogorov-Smirnov test indicated that there were significant differences between the two samples on variables of child birth order, parent age, child age, parent highest level of education, and SDQ Conduct Problems score; however no significant differences were detected between the two samples on any of the PBDQ subscale scores. As a result, internal consistency analyses were run on the combined sample, while the construct validity analyses were run on each dataset separately.

7.3.2.2 Internal consistency. Internal consistency for each of the scales was examined using Cronbach's alpha. The alphas ranged from acceptable to excellent, according to the thresholds discussed by George and Mallery (2003); .78 for Emotional Warmth, .79 for Punitive Discipline, .70 for Autonomy Support, .73 for Permissive Discipline, .84 for Democratic Discipline, and .88 for Total Score.

7.3.2.3 Convergent validity. Convergent validity was assessed using a series of bivariate correlations between the PBDQ scores, SSRS-P, and SDQ.

7.3.2.3.1 Test-Retest sample. In the Test-Retest sample, the assumption of normality was violated according to the Kolmogorov-Smirnov normality test for the SDQ Emotional Symptoms and Conduct Problems scores and all of the PBDQ scores with the exception of the Total PBDQ score. Skewness and kurtosis statistics were converted to z -scores as recommended by Field and Miles (2010), which showed that the PBDQ Emotional Warmth, Punitive Discipline, and Democratic Discipline skewness z -scores as well as the SDQ Emotional Symptoms and Conduct Problems skewness z -scores exceeded an absolute value of 2.58, which indicates significant skewness at $p < .01$ (see Table 7.5). In addition, PBDQ Emotional Warmth and Punitive Discipline, and SDQ Conduct Problems kurtosis z -scores exceeded an absolute value of 2.58, indicating significant kurtosis at $p < .01$ (Field & Miles, 2010). Visual inspection of the normal Q-Q plots, scatterplots, normal probability plot of standardised residuals, and the scatterplot of standardised residuals against standardised predicted values suggested that SDQ Emotional Symptoms and Conduct Problems, and PBDQ Emotional Warmth, Punitive Discipline, and Democratic Discipline did not approximate a normal distribution; however, the assumptions of linearity and homogeneity of variance were met. As a result of the SDQ subscales

violating the assumption of normality, the nonparametric Spearman's Rho statistic was used to assess the construct validity for all PBDQ scores.

Table 7.6 presents correlations between the PBDQ and the SDQ Emotional Symptoms and Conduct Problems scores in the Test-Retest Sample. Correlations are provided for the individual subscales, as well as the total parenting score. None of the PBDQ subscales were significantly correlated with SDQ Emotional Symptoms, while Emotional Warmth, Punitive Discipline (reverse scored), Autonomy Support, Democratic Discipline, and Total PBDQ were all negatively correlated with SDQ Conduct Problems.

7.3.2.3.2 Animal Fun sample. In the Animal Fun Sample, the assumption of normality was violated according to the Kolmogorov-Smirnov normality test for SDQ-P Emotional Symptoms, Conduct Problems, and Prosocial Behaviour, the SSRS-P Internalising Problems score, and the PBDQ Emotional Warmth, Autonomy Support, and Democratic Discipline scores. Skewness and kurtosis statistics were converted to z-scores as recommended by Field and Miles (2010), which showed that the PBDQ Emotional Warmth skewness z- score exceeded an absolute value of 2.58, which indicates significant skewness at $p < .01$ (see Table 7.5). However, visual inspection of the normal Q-Q plots, scatterplots, normal probability plot of standardised residuals, and the scatterplot of standardised residuals against standardised predicted values suggested that all SDQ-P, PBDQ, and SSRS-P scores approximated a normal distribution, and the assumptions of linearity and homogeneity of variance were met. Descriptive statistics for the remaining SDQ scores and the SSRS-P scores are presented in Table 7.7.

Table 7.6 presents correlations between the PBDQ and the SDQ scores in the Animal Fun Sample, while Table 7.8 presents correlations between the PBDQ and the SSRS-P scores. Correlations are provided for the individual PBDQ subscales, as well as the Total PBDQ score. None of the PBDQ scores were significantly correlated with SDQ Conduct Problems score.

The correlations suggest that PBDQ subscale and total scores (with Punitive Discipline and Permissive Discipline reverse scored) were generally positively correlated with SDQ Prosocial Behaviour and the SSRS-P Social Skills subscale scores, and negatively correlated with the SDQ Emotional Symptoms and Conduct Problems scores, as well as the Externalising Problems and Internalising Problems

scores on the SSRS-P. A small unexpected correlation was found with Democratic Discipline and SSRS-P Externalising Problems, which is discussed below.

Table 7.5

Descriptive Statistics for PBDQ Subscales and Total Score and SDQ-P Subscale Scores in Test-Retest and Animal Fun Samples

	<i>M</i>	<i>SD</i>	K-S <i>p</i>	Skewness		Kurtosis	
				Raw Score	<i>z</i> -score	Raw Score	<i>z</i> -score
PBDQ							
Emotional Warmth							
Test-Retest	5.31	.55	.00	-1.06	-4.48	1.26	2.69
Animal Fun	5.44	.48	.00	-1.02	-2.61	.51	.66
Punitive Discipline							
Test-Retest	4.63	.68	.00	-.80	-3.38	1.35	2.89
Animal Fun	4.74	.79	.20	-.23	-.58	-.50	-.64
Autonomy Support							
Test-Retest	4.92	.59	.00	-.45	-1.89	-.03	-.05
Animal Fun	4.86	.71	.00	-.49	-1.26	-.76	-.99
Permissive Discipline							
Test-Retest	4.39	.61	.04	-.42	-1.76	.09	.19
Animal Fun	4.31	.77	.20	-.48	-1.22	-.08	-.10
Democratic Discipline							
Test-Retest	5.22	.64	.00	-.98	-4.15	.62	1.32
Animal Fun	5.24	.66	.03	-.92	-2.33	.40	.52
Total Score							
Test-Retest	24.47	2.24	.14	-.49	-2.07	.15	-.31
Animal Fun	24.59	2.35	.20	-.03	-.40	-.49	-.63
SDQ-P							
Emotional Symptoms							
Test-Retest	1.62	1.78	.00	1.31	5.54	1.00	2.13
Animal Fun	1.86	1.62	.01	.28	.71	-1.19	-1.55
Conduct Problems							
Test-Retest	1.76	1.67	.00	1.44	6.10	4.53	9.70
Animal Fun	3.00	1.17	.00	.57	1.44	-.90	-1.17
Prosocial Behaviours							
Animal Fun	7.92	1.90	.00	-.48	-1.22	-1.04	-1.35

Table 7.6

Correlation Coefficients for PBDQ Subscales and Total Score with SDQ Scores

	Test-Retest Sample		Animal Fun Sample		
	(Spearman's Rho)		(Pearson's r)		
	N = 105		N = 43		
	ES	CP	ES	CP	ProS
Emotional Warmth	-.03	-.34**	-.15	-.28	.48**
Punitive Discipline [^]	-.19	-.36**	-.10	-.16	.39**
Autonomy Support	.00	-.29**	-.04	-.16	.49**
Permissive Discipline [^]	-.01	-.13	-.36*	-.21	.18
Democratic Discipline	.08	-.24**	-.25	-.11	.50**
Total Score	-.07	-.38**	-.26	-.26	.57**

Note. [^] Reverse scored.
* $p < .05$. ** $p < .01$

Table 7.7

Descriptive Statistics for SSRS-P subscale scores in Animal Fun Sample

	<i>M</i>	<i>SD</i>	K-S <i>p</i>	Skewness		Kurtosis	
				Raw Score	<i>z</i> -score	Raw Score	<i>z</i> -score
SSRS-P							
Cooperation	13.58	3.37	.20	-.14	-.34	-.75	-.98
Assertion	15.25	3.03	.20	-.61	-1.54	1.16	1.51
Responsibility	11.22	3.31	.20	-.55	-1.41	.39	.51
Self-Control	12.69	3.29	.07	.56	1.44	.05	.07
Social Skills Total	52.75	10.35	.18	-.16	-.39	-1.03	-1.34
Externalising	3.75	2.64	.20	.94	2.40	1.37	1.78
Internalising	2.92	1.80	.04	.32	.81	-.50	-.65
Problem Behaviours Total	10.81	6.17	.20	.19	.49	.19	.24

Table 7.8

Bivariate Correlations Between the PBDQ and the SSRS-P scores in the Animal Fun Sample

	Coop N = 41	Assert N = 41	Resp N = 41	SC N = 41	SS Total N = 41	Extern Prob N = 39	Intern Prob N = 39
Emotional Warmth	.49**	.30	.40**	.36*	.49**	-.30	-.31
Punitive Discipline [^]	.26	.04	.04	.34*	.22	-.49**	-.33*
Autonomy Support	.31	.29	.36*	.36*	.42**	-.32*	-.10
Permissive Discipline [^]	.14	.18	.20	-.05	.15	.20	-.00
Democratic Discipline	.44**	.28	.45**	.33*	.48**	-.23	-.25
Total Score	.46*	.31	.40*	.37*	.49**	-.32*	-.27

Note. Extern Prob = Externalising Problems, Intern Prob = Internalising Problems.

[^] Reverse scored.

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

7.3.3 Discussion

All subscales of the PBDQ demonstrated adequate internal consistency, suggesting that each subscale is assessing a homogenous construct of parenting. This is consistent with the reliability results reported in the EFA and CFA sample analyses, and provides further support for the reliability of this newly developed measure. All subscales also showed correlations in the expected direction with several SDQ and SSRS-P subscale scores, with the exception of a small correlation found between Permissive Discipline (reverse scored) and SSRS-P Externalising Problems score. All correlation effect sizes are discussed in terms of Cohen's (1988) conventions ($r = .1$ is small, $r = .3$ is medium, and $r = .5$ is a large effect size), rather than statistical significance, due to unequal and relatively small sample sizes in this study as well as the large number of tests that were conducted, making Type 1 errors a concern. These results therefore need to be interpreted conservatively.

7.3.3.1 Emotional Warmth. Overall results indicated that higher levels of parental warmth are associated with higher levels of social skill, including cooperation, assertion, responsibility, and self control, higher levels of prosocial behaviour, and lower levels of internalising problems, and externalising or conduct problems in children. These effect sizes were small to medium. There was some

discrepancy in the effect sizes for the relationship between Emotional Warmth and SDQ Emotional Symptoms between the two samples, suggesting that this relationship may not generalise across samples.

7.3.3.2 Punitive Discipline (reverse scored). Overall results suggested that higher levels of parental punitive discipline are associated with higher levels of child conduct problems and emotional or internalising problems, and lower levels of prosocial behaviour and social skill, including cooperation and self-control. These effect sizes were small to medium. However, a small negative correlation was also found between Punitive Discipline and Conduct Problems in the Animal Fun sample, but a medium effect size was found in the Test-Retest sample, suggesting that the magnitude of this correlation may differ between samples.

7.3.3.3 Autonomy Support. These results indicate that higher levels of parental autonomy support are associated with higher levels of social skill in children, including cooperation, assertion, responsibility, and self-control, as well as lower levels of internalising and externalising problems. These effect sizes were small to medium. There was some discrepancy in the effect sizes for the relationship between Autonomy Support and SDQ Conduct Problems between the two samples, suggesting that the magnitude of this correlation may differ between samples.

7.3.3.4 Permissive Discipline (reverse scored). The results generally indicated that higher levels of permissive discipline are associated with higher levels of conduct problems, and lower levels of social skill in children. These effect sizes were small to medium.

However, a small unexpected positive correlation was found between Permissive Discipline (reverse scored) and SSRS-P Externalising Problems, suggesting that lower levels of permissive discipline were associated with higher levels of externalising problems in children. This suggests that further investigation of this factor and its relationship with externalising problems needs to be conducted. It is possible that factors other than parenting are influencing externalising symptoms which have not been controlled for in the current study.

In addition, on the SDQ, a medium negative correlation was found between the reverse scored Permissive Discipline subscale and SDQ Emotional Symptoms in the Animal Fun sample; however, the correlation coefficient of this relationship in the Test-Retest sample was close to zero ($r = -.01$). It appears that higher levels of

permissive discipline may be associated with higher levels of emotional symptoms in children, but this finding may not generalise across samples

7.3.3.5 Democratic Discipline. Results generally suggested that higher levels of democratic discipline are associated with lower levels of externalising problems and higher levels of prosocial behaviours and social skill, with effect sizes ranging from small to large. However, there was some discrepancy in the effect sizes for the relationship between Democratic Discipline and SDQ Emotional Symptoms and Conduct Problems between the two samples, suggesting that the magnitude of these correlations may differ between samples.

7.3.3.6 Total PBDQ score. Results indicate that the sum of higher levels of emotional warmth, autonomy support, and democratic discipline, and lower levels of punitive and permissive discipline, are associated with higher levels of prosocial behaviour, higher levels of social skill, including cooperation, assertion, responsibility, and self-control, and lower levels of externalising problems, and lower internalising problems in children, with effect sizes ranging from small to large. There was some discrepancy in the effect sizes of the relationship between Total PBDQ score and SDQ Emotional Symptoms and Conduct Problems scores, suggesting that the magnitude of these relationships may not generalise across samples.

7.4 General Discussion

This phase of the research examined the psychometric properties of the PBDQ in two predominantly Australian samples of parents of children aged three to 12 years. Overall, the results provide preliminary support for the reliability and validity of the PBDQ in assessing key parenting dimensions. All PBDQ subscales and the Total PBDQ score demonstrated acceptable to excellent internal consistency (George & Mallery, 2003), and test-retest reliability correlations suggested that the measure is relatively stable over a two to four week period, with correlations ranging from .77 to .93 over two weeks, and .74 to .90 over four weeks. These results are comparable with those reported for other parenting measures. A comparison of the reliability statistics of the PBDQ with other parenting measures are presented in Table 7.9 below.

Table 7.9

*Comparison of Internal Consistency and Test-Retest Reliability of Parenting**Measures*

Measure	Cronbach's alpha	Test-Retest Reliability (time period)
PBDQ	.69 - .88	.77 - .93 (2 weeks) .74 - .90 (4 weeks)
Parenting Scale (Arnold et al., 1993)	.23 - .84	.79 - .84 (2 weeks)
Alabama Parenting Questionnaire (Shelton et al., 1996)	.46 - .80	.84 - .90 (2 weeks)
Parental Authority Questionnaire- Revised (Reitman et al., 2002)	.56 - .77	.54 - .88 (1 month)
Parenting Styles and Dimensions Questionnaire (Robinson et al., 1995)	.58 - .91	Not available
Parent-Child Relationship Questionnaire-Parent Version (Furman & Adler, 1983, as cited in Furman & Giberson, 1995).	.68 - .88	Not available
Weinberger Parenting Inventory- Parent Version (Weinberger et al., 1989, as cited in Wentzel et al., 1991)	.63 - .91	.86 for Inconsistent/Harsh Parenting (2 weeks)

Evidence of concurrent validity was obtained by examining the relationship between the PBDQ subscales and total score to measures of child behavioural, emotional, and social outcomes. With the exception of a small unexpected relationship between Permissive Discipline and externalising problems, all meaningful correlations were in the expected direction. In general, better childhood outcomes were associated with lower levels of parental Punitive Discipline and Permissive Discipline, and higher levels of Emotional Warmth, Autonomy Support, and Democratic Discipline, which is consistent with previous research (Baldwin, 1948; Barber, 1996; K. E. Clark & Ladd, 2000; Cunningham & Boyle, 2002; Garber & Martin, 2002; Gerlsma et al., 1990; Grolnick & Ryan, 1989; Johnston et al., 2002; Khaleque & Rohner, 2002; McLeod, Weisz et al., 2007; McLeod, Wood et al., 2007; G. S. Pettit et al., 1997; Rapee, 1997; Rothbaum & Weisz, 1994; Stolz et al., 2005). Emotional Warmth and Total PBDQ score had the largest number and the strongest correlations with childhood outcomes, indicating that Emotional Warmth and the combination of parenting dimensions together may be more influential than the other four subscales individually. This finding also provides support for the utility of the higher order structure of the PBDQ. However, it is also possible that this result was obtained due to the higher internal consistency of the Total PBDQ score compared with the individual subscale scores.

Although Baumrind (1978) questioned the importance of parental warmth as a unique predictor of child behaviour, the results of the current research are consistent with parental acceptance-rejection theory (Rohner, 1986, 1999; Rohner & Rohner, 1980), which states that children have a need for parental acceptance, love, and warmth, and when this need is unfulfilled, the child is more likely to demonstrate internalising, externalising, and self-regulation difficulties, as well as generally poor psychosocial functioning. Stolz et al. (2005) also concluded that parental support was the most important predictor of adolescent social initiative and depression, and a strongly predictor of antisocial behaviour in their cross national samples, which is consistent with the current results.

According to Reitman et al. (2002), there is relatively limited research on the psychometric properties of existing parenting measures, and Holden and Edwards (1989) suggested that researchers in the past have tended to produce new, idiosyncratic measures of parenting rather than validating existing assessments. Some of the parenting measures that were used in the development of the PBDQ, such as the PS (Arnold et al., 1993), APQ (Shelton et al., 1996), PSDQ (Robinson et al., 1995), and PAQ-R (Reitman et al., 2002), have demonstrated some evidence of validity, showing significant correlations with measures of child behaviour (Arnold et al., 1993; Dadds et al., 2003; Feldman et al., 1990; Robinson et al., 1996), observations of parent and child behaviour (Arnold et al., 1993; Hawes & Dadds, 2006; Johnston et al., 2002), measures of parent depression (Arnold et al., 1993), and other parenting measures (Arnold et al., 1993; Reitman et al., 2001), and distinguishing clinic versus non-clinic samples (Arnold et al., 1993; Shelton et al., 1996). However, the psychometric properties of other parenting measures, such as the PCRQ (Furman & Adler, 1983, as cited in Furman & Giberson, 1995), and WPI (Weinberger et al., 1989, as cited in Wentzel et al., 1991) do not appear to have been rigorously or extensively examined, and all of the existing parenting measures appear to have problems with theoretical comprehensiveness, developmental methods, factorial validity, or psychometric properties. The results of the current study therefore provide promising support for the PBDQ as a psychometrically sound, empirically developed, and comprehensive self-report parenting measure.

Several limitations of this research are noted. Firstly, the validity analyses employed a cross-sectional research design, which limits analysis of the causal directionality of the identified relationships and the predictive validity of the PBDQ

scores. Whether internalising symptoms, conduct problems, and low social skill result from or influence the use of particular parenting behaviours cannot be determined in the current analyses. According to Maccoby (1983, 1992), parenting research has shifted over time to focus on the parent-child dyad rather than the individual, including shared understandings, dynamic and reciprocal interactions, and connected streams of behaviour, and several researchers have demonstrated bidirectional and reciprocal relationships between child depression, social initiative, and antisocial behaviour and parent behaviours (Barber et al., 2005; Combs-Ronto et al., 2009; Patterson, 1980, 1982; G. S. Pettit et al., 2001; Sameroff & Chandler, 1975; Scaramella et al., 2002; Scaramella & Leve, 2004; Verhoeven et al., 2010).

Secondly, although the PBDQ was significantly correlated with measures of child emotional, behavioural, and social outcomes, the effect sizes were generally small to moderate. These results were expected, as other studies examining relationships between parenting and childhood outcomes have also typically found small to moderate effect sizes (Bates et al., 1998; Maccoby & Martin, 1983; Morris et al., 2002). In addition, meta-analytic studies have suggested that parenting may account for only 4 - 8% of the variance in childhood anxiety, depression, and externalising problems (McLeod, Weisz et al., 2007; McLeod, Wood et al., 2007; Rothbaum & Weisz, 1994), and Maccoby (2000) explained that correlation coefficients below .30 may be practically and clinically significant in identifying children at risk for poor psychosocial outcomes.

Furthermore, the domain-specific approach to socialisation suggests that each aspect or domain of the parent-child is associated with different child outcomes (Grusec & Davidov, 2010). For example, Grusec and Davidov explained that parental discipline as part of the control domain is associated with moral and principled behaviour in the child, while comforting and supporting the child as part of the protection domain is associated with self-regulation and stress reactions in children. Therefore, it is not expected that the positive end of each parenting dimension would be strongly correlated with all positive child outcomes, and there may be other important child outcomes that were not measured in the current study that are associated with the socialisation domains measured by the PBDQ.

Due to the interaction of parenting with a multitude of variables within the layers of the ecological context in which parenting occurs, it may be unreasonable to expect high correlations. Indeed, it is possible that the unexpected relationship found

between Permissive Discipline and externalising problems could be explained by other contextual factors that account for a greater proportion of the variance in externalising problems, such as genetics (Scarr, 1992), that were not assessed and controlled for in the current study. In addition, there is significant evidence to suggest that the effects of parenting may differ according to demographic variables, such as parent and child gender (Puustinen et al., 2008; Stolz et al., 2005), which were not included in the current analyses and may have influenced the results obtained. It is also important to note that the SDQ Emotional Symptoms subscale and the SSRS-P Internalising Problems subscale were found to have minimally acceptable to below acceptable internal consistency in the current study (Loewenthal, 2001), which may have contributed to the small to moderate effect sizes found.

A further limitation of this study was that criterion validity was evaluated using a single informant. It is therefore possible that the significant correlations that were found between parenting and criterion variables may be due to shared method variance, and therefore replication of these preliminary results using multiple informants is needed to firmly establish the criterion validity of the PBDQ.

Finally, it is important to note that the current validity results should be interpreted conservatively, due to the large number of correlational analyses that were conducted on the same dataset, and the subsequent increased probability of Type 1 errors. These results therefore provide an initial indication of the relationships between PBDQ subscales and child outcomes only, and further testing with larger samples is therefore required in future research. In addition, the assessment of criterion validity, predictive validity, and the effects of social desirability on PBDQ scores was beyond the scope of this research. Future research is needed to investigate these psychometric properties, and also replicate the results of the psychometric analyses presented here.

Despite these limitations, the current study used more rigorous and extensive assessment procedures than many previous parenting measures (Holden & Edwards, 1989). The results presented provide preliminary support for the reliability and validity of the PBDQ in assessing important parenting dimensions, and the utility of the combined parenting score in predicting key childhood adjustment outcomes.

CHAPTER 8

PHASE FOUR: PRACTICAL UTILITY OF THE PBDQ

8.1 Overview

Previous chapters have discussed the development and psychometric assessment of the PBDQ, and the findings have provided some preliminary support for the reliability and validity of the measure. The purpose of this final experimental chapter is to investigate the practical utility of the PBDQ, and use this measure to address some important questions that have been raised in the parenting literature in relation to the universality and generalisability of parenting theories and assessments. P. Kline (2000) and Cronbach and Gleser (1965) defined utility as the benefits of a test for a specific purpose in an applied setting relative to its costs. The term utility is therefore used in the current study to refer to the practical usefulness and applicability of the PBDQ in assessing parenting across different parenting subgroups that differ by important demographic variables.

A considerable amount of research has been devoted to investigating the effects of parenting on child development (Maccoby, 2000). However, less research has focused on the relationship between parenting behaviours and key demographic variables that are likely to influence childrearing values and behaviours. According to Kotchick and Forehand (2002), studies that have investigated factors that affect parenting have generally focused on situations of child neglect or abuse rather than using normative samples, while other studies have only explored the effects of specific stressors in relation to parenting and child adjustment outcomes, rather than considering the broader ecological context in which parenting occurs. As it is clear from the research that parenting does not operate in a vacuum, it is important to consider these wider contextual variables in order to understand and predict parenting practices in both research and clinical settings.

Parenting is influenced by dynamic interactions between contextual or situational factors, parent cognitions and affective experiences, and psychological and behavioural features of the child (Grolnick et al., 2007). Kotchick and Forehand (2002) presented an ecological model of parenting based on the research summarised by Luster and Okagaki (1993). The model outlines four settings that impact on the ecology of parenting, including social context, family context, child factors, and parent factors. Social context includes ethnicity and cultural background (Chen et al.,

2000), as well as socioeconomic status and neighbourhood quality (Bradley, Corwyn, McAdoo, & Garcia-Coll, 2001; Pinderhughes, Nix, Foster, & Damon, 2001), while family context encompasses factors such as marital relationship, financial status, number of children, and parent illness or stress (Kendler et al., 1997; Kotchick & Forehand, 2002). At a more proximal level, parent variables such as age, gender, education level, and psychological factors (Kendler et al., 1997), as well as child factors such as birth order (Volling & Elins, 1998), child age and gender (Holden & Miller, 1999), and various psychological and physical characteristics have also been identified as important variables that may impact on parenting behaviour (Kotchick & Forehand, 2002). Although several studies have investigated the relationship between one or a combination of these variables and parenting practices, the extent to which these factors impact on parenting behaviour is unclear.

As discussed in Chapter 3, findings from several studies suggest that parenting differs as a function of these key demographic variables, and that parenting dimensions may even have different meanings and effects on child outcomes in different demographic groups (L. M. Locke & Prinz, 2002; McWayne et al., 2008; Rhoades & O'Leary, 2007). However, in contrast, there are also studies that have found little or no difference in parenting practices between these groups (Abramovich et al., 1982; Davidov & Grusec, 2006), and there is evidence to support the existence of universal parenting dimensions that can be applied across cultures and other demographic domains (Bernstein et al., 2005; Khaleque & Rohner, 2002). It is also possible that there are some universal dimensions, such as warmth, that are applicable across all parent groups, while other dimensions may be unique and specific to particular groups, such as the notion of training in Asian cultures (Chao, 1994, 2001).

Previous research in this area has been limited by difficulties related to the assessment of parenting, including inconsistencies in assessment methodology and parenting features assessed, as well as the problematic psychometric properties of some of the existing parenting measures. In addition, most studies have only looked at one dichotomous cultural dimension of individualism versus collectivism, which may not be adequate in explaining cultural variations in parenting (Harkness et al., 2000; Hofstede, 1991; Miller, 2002). As findings in this area have been mixed and no consensus has yet been reached, further research is needed to clarify the nature of the

relationship between these key demographic variables and parenting dimensions using a comprehensive, psychometrically sound measure of parenting.

Four cultural dimensions were included in the current study, as proposed by Hofstede (1980, 1983, 1991, Hofstede et al., 2010), which were based on the country of the participant's nominated ethnic identity. Ethnic identity refers to the degree of affiliation between a person and a specific cultural group (Rotheram & Phinney, 1987). This cultural group is often reflective of the person's country of birth or race (Aboud & Skerry, 1984), but there also appears to be some level of personal choice and control in selecting an ethnic identity (Appiah, 2000). According to Laroche, Kim, and Clarke (1997), ethnic identity remains largely unchanged over time, even after extensive contact with a different cultural group, and therefore this variable was chosen over country of residence or ethnicity to assess parent culture.

Hofstede (1980) analysed a database of over 116 000 questionnaires on employee attitudes and values, which represented participants from over 70 different countries. From this database, there were sufficient data for systematic analysis for 40 countries, while data for another 10 countries was published by Hofstede in 1983. Four cultural dimensions were derived through factor analysis and theoretical reasoning, which are Individualism versus Collectivism, Power Distance, Uncertainty Avoidance, and Masculinity versus Femininity (Hofstede, 1980, 1983, 1991). Each of the 50 countries examined have been allocated a score for each of these four dimensions, with scores ranging between zero and 100.

According to Hofstede, Hofstede, and Minkov (2010), Individualism versus Collectivism refers to the degree of integration between an individual and other members of their culture. Individualistic cultures generally have loosely integrated social frameworks where there is a large amount of individual freedom and autonomy, and individuals are responsible for themselves and their immediate families only (Hofstede et al., 2010). Collectivist cultures are highly integrated, with individuals expected to be loyal to and consider the interests of their relatives and other members of their in-group, and share the same group beliefs and opinions (Hofstede et al., 2010). Higher scores on this dimension represent higher levels of individualism.

Power Distance instead refers to the degree to which inequality of power and wealth distribution is accepted and expected by the less powerful members of a society (Hofstede et al., 2010). Higher scores on this dimension represent a greater

degree of acceptance of a power hierarchy in which everyone has their place, whereas low power distance scores describe societies in which people aim to minimise the unequal distribution of power and the effects that it has on less powerful people (Hofstede et al., 2010). This dimension appears to be related to parenting concepts of democracy and authoritarianism.

Uncertainty avoidance refers to the extent to which the members of a society are uncomfortable with uncertainty and ambiguity, with higher scores indicative of greater levels of discomfort, risk avoidance, and anxiety in that society, as well as greater rigidity of beliefs and behaviours (Hofstede et al., 2010). Societies with lower scores are more accepting and more tolerant of diverse views, but they also tend to work less hard and take more risks (Hofstede, 1983). It is possible that high uncertainty avoidance may promote overprotective and intrusive parenting behaviours due to an overestimation of risk (Ungar, 2009).

Finally, Masculinity versus Femininity refers to the extent to which gender-stereotyped roles are observed in society, as well as the preference for values that are traditionally considered as being more masculine or feminine (Hofstede, 1983, Hofstede et al., 2010). Higher scores reflect greater gender division, and a preference for competition, achievement, assertiveness, material reward for success, and heroism, while lower scores represent more equality between the gender roles, and a greater preference for cooperation, modesty, quality of life, and caring for the less fortunate (Hofstede, 1983; Hofstede et al., 2010). It is possible that greater masculinity may be related with more achievement-oriented parenting behaviours, while femininity may promote parenting behaviours associated with self-regulation and social skills.

According to Jones (2007), Hofstede's (1980) research on cultural dimensions was based on coherent theory and rigorous research methods, and therefore provides researchers with valid and important insight into cross-cultural relationships. In addition, Bond (2002) stated that this conceptualisation is one of the most widely cited pieces of research in existence, and most of the subsequent replications of Hofstede's study have confirmed his original predictions. However, the dimension of Individualism versus Collectivism was not validly confirmed in some independent studies (Sondergaard, 1994), providing further support for the inclusion of three additional cultural dimensions in the current study. It appears that

this cultural conceptualisation has not been used in the context of parenting in previous research.

A final consideration in the current research was the dimension of Anxious Intrusiveness. Although this subscale score was dropped from the final PBDQ measure due to low correlations with Autonomy Support and Democratic Discipline scores, and low loading on the Total PBDQ factor, there is strong evidence to suggest that this dimension is consistent with a form of overprotective, intrusive, and psychologically controlling parenting style (Arrindell et al., 1998; Capron, 2004; L. Carlson et al., 1992; Crosby & Grossbart, 1984; Hauser, 1991; K. H. Rubin et al. 2002; Thomasgard & Metz, 1999; Parker et al., 1979). As hypothesised in Chapter 6, it is possible that this factor may comprise a separate but important parenting construct that is independent of autonomy support and democratic discipline. As a result, further investigation of the Anxious Intrusiveness construct is needed.

The first objective of the final research phase was to explore some of the important questions in the literature related to the similarity and universality of parenting dimensions and assessment across parenting subgroups. In addition, this study sought to investigate the utility of the PBDQ across these parenting subgroups, with the aim of providing further support for the usefulness and psychometric properties of the measure. Questions of universality and utility were investigated by examining the reliability of the PBDQ across groups defined by parent gender, caregiver status, and child gender. Although it would have been ideal to conduct CFA to determine the factorial validity of the PBDQ across all parenting subgroups, the sample sizes were too small to meet the minimum requirement of five cases per item as recommended by MacCallum et al. (1999) for all variables except child gender. Instead, several analyses were conducted to assess the variability in PBDQ scores across different parenting subgroups and the variability accounted for by specific demographic variables, which could indicate differences in the interpretation of PBDQ factors between subgroups. This could then be verified in future research with confirmatory factor analyses conducted on larger samples of parent subgroups. Cronbach's alpha was calculated for each PBDQ scale for each parenting subgroup to determine whether the scales had comparable and acceptable internal consistency. CFA was conducted on parents of male children and parents of female children separately to assess the factorial validity of the PBDQ in each sample. In addition, analyses were conducted to determine whether PBDQ subscale scores differed

according to parent gender, caregiver status, and child gender. Standard and hierarchical multiple regression analyses were used to determine the contributions of a number of key demographic variables, including parent culture, marital status, parent age, child age, parent socioeconomic status, parent education level, number of children, and child birth order, to the variance in PBDQ subscale scores and total score. Finally, a hierarchical multiple regression analysis was used to determine the unique and combined contribution of demographic variables on Anxious Intrusiveness to investigate the utility of this construct. Thus the seven aims of the final phase of this research were as follows:

1. To compare the reliability of the PBDQ subscale scores and total score across parent gender, parent caregiver status, child gender, and parent culture.
2. To compare the factorial validity of the PBDQ between parents of male and female children.
3. To determine whether parents differ in PBDQ subscale scores and total score across parent gender, caregiver status, and the interaction between the two.
4. To determine whether parents differ in PBDQ subscale scores and total score across child gender.
5. To determine whether child gender, parent education level, number of children, child birth order, and culture account for a significant proportion of the variance in PBDQ subscale scores and total score.
6. To determine whether child gender, parent education level, number of children, child birth order, and culture account for a significant proportion of the variance in Anxious Intrusiveness scores.

8.2 Method

8.2.1 Research Design

This study was a non-experimental cross-sectional self-report design. A cross-sectional design was chosen as these designs can be effective in defining variables and their distribution patterns, and have the advantage of being fast and inexpensive (Hulley, Cummings, Browner, Grady, & Newman, 2007).

8.2.2 Participants, Materials and Procedure

Participant data collected for the factor analyses presented in Chapter 6 were used in the current study. Participants from the EFA and CFA samples were combined, yielding a total of 846 cases. All demographic information except for

cultural dimension scores for this sample was described in Chapter 6. Descriptives for cultural dimension scores are provided in Table 8.1.

Table 8.1

Descriptive Statistics for Hofstede's (1980) Cultural Dimensions in the Combined EFA and CFA Sample (N = 740)

	Score Range	<i>M</i>	<i>SD</i>
Individualism versus Collectivism	6 - 91	86.03	14.02
Power Distance	22 - 104	38.13	9.69
Uncertainty Avoidance	8 - 112	50.25	8.39
Masculinity versus Femininity	14 - 95	60.88	4.25

8.2.3 Missing Values Analysis

Missing values analysis indicated that eight cases were missing for number of children (.9%), as well as six missing cases for child birth order (.7%), 11 missing cases for child gender (1.30%), four missing cases for parent age (.5%), seven cases missing for parent gender (.8%), five cases missing for parent education level (.6%), and 106 missing cases for the four parent culture variables (12.5%). There were no missing cases for parent caregiver status. Little's MCAR test was significant, $\chi^2(121, N = 846) = 205.67, p < .001$, indicating missingness was not completely random. Examination of the separate variance *t*-tests revealed that Power-Distance, Individualism-Collectivism, Masculinity-Femininity, and Uncertainty Avoidance missingness were significantly related to parent age, parent education, Emotional Warmth, Anxious Intrusiveness, and Permissive Discipline. All regression analyses involving these variables were run with and without missing values replaced. Missing values were replaced using Expectation Maximisation and compared with the results using the original scores (Tabachnick & Fidell, 2007). Results of the analyses with missing values replaced are reported in this section (see Appendix S for analyses without missing values replaced). There were minor differences between the two analyses, but these were considered trivial, and therefore the results using the replaced missing values were reported.

8.3 Comparison of PBDQ Reliability across Parent and Child Gender, Caregiver Status, and Culture

8.3.1 Results

Cronbach's alpha was calculated for the PBDQ subscale scores and total score in the full sample to provide a basis for comparison. All values were acceptable to excellent according to the criteria discussed by George and Mallery (2003).

Results are presented in Table 8.2.

Table 8.2

Internal Consistency of Full Sample PBDQ Subscale Scores and Total Score

PBDQ Score	Full Sample ($N = 846$)
Emotional Warmth	.83
Punitive Discipline	.79
Autonomy Support	.70
Permissive Discipline	.70
Democratic Discipline	.75
Total Score	.87

8.3.1.1 Parent gender. The data file was split according to parent gender, and Cronbach's alpha calculated for PBDQ subscale scores and total score in both samples. Across male and female parents, all values were acceptable to excellent (George & Mallery, 2003). Results are presented in Table 8.3. Close concordance between Cronbach's alpha values for male and female respondents suggests that the measure and subscales are internally reliable for both genders.

Table 8.3

Internal Consistency of PBDQ Subscale Scores and Total Score by Parent Gender

PBDQ Score	Female ($N = 763$)	Male ($N = 77$)
Emotional Warmth	.82	.85
Punitive Discipline	.79	.78
Autonomy Support	.71	.70
Permissive Discipline	.70	.71
Democratic Discipline	.74	.78
Total Score	.87	.88

8.3.1.2 Caregiver status. The data file was split according to parent caregiver status. Due to the small sample sizes in the non-primary caregiver and shared caregiver groups, and the effect of small sample sizes on reliability (Shevlin, Miles, Davies, & Walker, 2000), these samples were combined in the current analysis. Cronbach's alpha calculated for PBDQ subscale scores and total score in both samples. All values were at least minimally acceptable (above .6 for subscales with less than 10 items; Loewenthal, 2001). Results suggest that the measure is internally reliable for both primary and non-primary caregivers, although results were more variable in the non-primary caregiver sample. Cronbach's alpha values are presented in Table 8.4.

Table 8.4

Internal Consistency of PBDQ Subscale Scores and Total Score by Caregiver Status

PBDQ Score	Primary Caregivers (<i>N</i> = 728)	Non-Primary Caregivers or Shared Equally (<i>N</i> = 78)
Emotional Warmth	.81	.85
Punitive Discipline	.79	.76
Autonomy Support	.70	.63
Permissive Discipline	.71	.60
Democratic Discipline	.74	.81
Total Score	.87	.86

8.3.1.3 Child gender. The data file was split according to child gender, and Cronbach's alpha calculated for PBDQ subscale scores and total score in both samples. All values were at least minimally acceptable (above .6 for subscales with less than 10 items; Loewenthal, 2001). Results are presented in Table 8.5. Internal reliability values for both males and females suggest that the measure is reliable with parents with children of both genders.

Table 8.5

Internal Consistency of PBDQ Subscale Scores and Total Score by Child Gender

PBDQ Score	Female (<i>n</i> = 405)	Male (<i>n</i> = 430)
Emotional Warmth	.81	.85
Punitive Discipline	.81	.77
Autonomy Support	.74	.66
Permissive Discipline	.71	.68
Democratic Discipline	.77	.73
Total Score	.87	.87

8.3.1.4 Parent culture. The data file was split in half according to Individualism versus Collectivism score (Hofstede, 2001), based on participant nominated ethnic identity in the demographics questionnaire. Scores of 50 or above were considered individualistic cultures, and cultures with scores below 50 were considered collectivist cultures. Cronbach's alpha calculated for PBDQ subscale scores and total score in both samples. All values were at least minimally acceptable, with the majority considered acceptable or excellent (George & Mallery, 2003). Results are presented in Table 8.6 below. Internal reliability values suggest that the measure is reliable with parents from both individualistic and collectivist cultures.

Table 8.6

Internal Consistency of PBDQ Subscale Scores and Total Score by Parent Culture

PBDQ Score	Individualistic Culture (<i>N</i> = 716)	Collectivist Culture (<i>N</i> = 49)
Emotional Warmth	.82	.84
Punitive Discipline	.79	.77
Autonomy Support	.70	.78
Permissive Discipline	.69	.77
Democratic Discipline	.76	.70
Total Score	.86	.87

8.3.2 Discussion

A comparison of Cronbach's alpha between parenting subgroups was conducted in order to determine the utility of the PBDQ across parent gender, caregiver status, culture, and child gender, and provide evidence concerning the question of the universality of parenting dimensions. Results suggested that the measure is equally reliable for male and female parents, for parents with male and female children, and for parents from individualistic and collectivist cultures, with all

values falling within the acceptable to minimally acceptable range. However, the latter finding needs to be interpreted with caution, as some studies have found that individualism versus collectivism is insufficient in explaining cultural variations in parenting practices (Harkness et al., 2000; Hofstede 1991; J. G. Miller, 2002). In addition, the measure of culture involved dichotomisation of a continuous variable for the purpose of this analysis, and sample sizes were unequal and likely to be non-representative due to the large number of Australian parents in the study.

Cronbach's alpha values that were computed using primary caregivers appear to be most consistent with those computed using the full sample, which is not surprising given that 90% of the sample that specified caregiver status identified themselves as primary caregivers. Results suggest that non-primary and shared caregivers may be more variable in terms of their Autonomy Support and Permissive Discipline in comparison to primary caregivers; however, due to the small and unequal sample sizes for non-primary and shared caregivers and likelihood of a non-representative sample, this finding must be interpreted with caution. Indeed, Shevlin et al. (2000) suggested that higher variability is likely to be a function of smaller sample size, resulting in a smaller Cronbach's alpha value.

Importantly, the Cronbach's alpha value for Total PBDQ score was considered excellent across all parenting subgroups (George & Mallery, 2003), providing preliminary support for the generalisability of the relationships between the PBDQ scores and the higher order factor structure across parent and child gender, caregiver status, and parent culture.

Overall, these results suggest that the PBDQ demonstrated acceptable internal consistency across parent gender, child gender, caregiver status, and parent culture. Taken together, these findings provide support for the utility of the measure across these key demographic variables, as well as providing preliminary support for the universality of dimensions of the five PBDQ dimensions of Emotional Warmth, Punitive Discipline, Autonomy Support, Permissive Discipline, and Democratic Discipline, and the Total PBDQ score; however, PBDQ factor structure needs to be compared across parenting subgroups in future research to further investigate the question of universality.

8.4 Comparison of PBDQ Factorial Validity between Parents of Male and Female Children

8.4.1 Results

The data file was split according to child gender, and CFA was conducted on each parenting subgroup using EQS version 6.1. Although the chi square statistic is the most basic assessment of goodness of fit, it is not recommended for use as an index of goodness of fit due to high sensitivity to sample size (Hu & Bentler, 1999). Instead, model fit indices were considered acceptable if the Comparative Fit Index and the Non-normed Fit Index reached .85 (Bentler, 1990; Hu & Bentler, 1999), the Root Mean Square Error of Approximation value was below .08 (Hu & Bentler, 1999), and the Satorra-Bentler chi-square divided by degrees of freedom was less than two (Ullman, 2001). The female and male child first order and higher order models demonstrated acceptable fit, with most fit indices exceeding the minimum values specified above. Fit statistics are summarised in Table 8.7.

Table 8.7

Comparison of Model Fit by Child Gender

Model	S-B χ^2	df	S-B χ^2 /df	CFI	NNFI	RMSEA	RMSEA Upper Limit	RMSEA Lower Limit
<i>Cut-off Criteria</i>			< 2	= / > .85	= / > .85	= / < .06	< 0.08	Close to 0
Female children								
First order model	621.41	314	1.98	.90	.89	.05	.06	.04
Higher order model	672.35	313	2.15 [^]	.89	.87	.05	.06	.05
Male children								
First order model	601.65	314	1.92	.91	.90	.05	.05	.04
Higher order model	636.48	313	2.03 [^]	.90	.89	.05	.05	.04

Note. S-B χ^2 = Satorra-Bentler Chi-square statistic, df = degrees of freedom, S-B χ^2 /df = Satorra-Bentler chi-square divided by degrees of freedom, CFI = Comparative Fit Index, RMSEA = Root Mean Square Error of Approximation.

[^] Does not meet minimal acceptable fit criteria.

8.4.2 Discussion

Results supported the factorial validity of the PBDQ in parents of male and female children, with all models demonstrating acceptable fit statistics in all of the fit statistics examined except for the relative Satorra-Bentler chi-square statistics (chi-

square divided by degrees of freedom; Ullman, 2001) in the higher order models for parents of both male and female children. However, the relative chi-square statistics were only marginally below the acceptable cut-off, and the statistics used in the current study are conservative, with most researchers suggesting that a relative chi-square of less than 3 indicates acceptable model fit (Carmines & McIver, 1981; R. B. Kline, 1998; Munro, 2000).

These results suggest that the PBDQ subscale scores and Total PBDQ score are valid for use with parents of male and female children, providing further support for the utility of the measure. The findings also provide preliminary support for the universality of the PBDQ parenting dimensions and the generalisability of the underlying factor structure of the PBDQ between parents of male and female children.

8.5 Comparison of PBDQ Subscale Scores across Parent Gender and Caregiver Status

8.5.1 Results

8.5.1.1 Assumption testing. Although slight differences exist between the samples, the independence, normality, multicollinearity, and linearity assumption testing results for this sample are also applied to the sample used in section 8.5. A multivariate analysis of variance (MANOVA) was conducted to examine the effects of parent gender, caregiver status, and the interaction between them on subscale scores of the PBDQ. The assumption of independence was met and the smallest cell size was 11, which is larger than the number of dependent variables; however sample sizes were substantially unequal (see Table 8.8), and therefore results must be interpreted with caution.

Table 8.8

Cell Sizes of Caregiver Status x Parent Gender

		What is your gender?		Total
		Female	Male	
Are you the primary caregiver?	No	18	26	44
	Yes	688	35	723
	Shared Equally	23	11	34

The Kolmogorov-Smirnov test of univariate normality was statistically significant for female parents and primary caregivers on all of the PBDQ subscale scores, for male parents on all PBDQ scores except for Anxious Intrusiveness and Autonomy Support, for non-primary caregivers on all PBDQ scores except for Punitive Discipline and Anxious Intrusiveness, and for shared caregivers on the Emotional Warmth, Autonomy Support, and Democratic Discipline scores. Although MANOVA is considered robust to violations of univariate normality when group sizes exceed 30, the significantly unequal group sizes in the current sample render this violation more problematic. Skewness and kurtosis values were converted into z -scores, and almost all of these exceeded an absolute value of 3.29, which indicates significant skew and kurtosis at $p < .001$ (Field & Miles, 2010). However, Field and Miles explained that skewness and kurtosis significance testing is of limited value with sample sizes greater than 200 due to small standard errors, and therefore inspection of the shape of the distribution and the raw skewness and kurtosis values should be used instead. Thus, inspection of the histograms, normal Q-Q plots, and boxplots indicated that all PBDQ subscales except for the Emotional Warmth and Punitive Discipline subscales approximated normality in both females and males.

As a result, Emotional Warmth subscale scores were transformed using the $\text{Log}_{10}(K - X)$ formula as recommended by Tabachnick and Fidell (2001) for substantial negative skew, where K is a constant calculated as the largest score plus 1. Punitive Discipline scores were transformed using the $\text{SQRT}(X)$ formula recommended for moderate positive skew. Following the transformations, Kolmogorov-Smirnov statistics remained significant for Emotional Warmth scores for female parents, male parents, primary caregivers, and shared caregivers, and for Punitive Discipline scores for female parents and primary caregivers; however, skewness statistics were significantly reduced and the normality plots had an improved approximation of normality. Eight univariate outliers (defined as more than 3.29 standard deviations from the mean) were also detected on the Emotional Warmth, Punitive Discipline, Autonomy Support, and Democratic Discipline subscale scores. Scores were truncated to 3.29 standard deviations from the mean to retain the same approximate ranking.

The assumption of multicollinearity was met, with no PBDQ subscales correlating higher than $r = -.54$, and the relationships between the PBDQ subscales were approximately linear. Nine cases exceeded the Mahalanobis Distance critical χ^2

value of 22.458 for $df = 6$ at $\alpha = .001$ for caregiver status and 10 cases exceeded this limit for parent gender, indicating the presence of multivariate outliers; however none of these had a Cook's Distance value approaching 1, which indicates that these outliers were not influential and therefore the cases were retained.

Box's M was non-significant at $\alpha = .001$, indicating that homogeneity of variance-covariance matrices was not violated. Levene's Test of Equality of Error Variances suggested violations for DD subscales at $\alpha = .05$; however, the multivariate results were non-significant and therefore this did not present a problem.

8.5.1.2 Main analysis. Pillai's trace was statistically non-significant for the interaction between caregiver status and parent gender, $F(10, 1584) = .59, p = .823$, partial $\eta^2 = .00$, as well as caregiver status, $F(10, 1584) = 1.06, p = .391$, partial $\eta^2 = .01$, and parent gender, $F(5, 791) = 1.98, p = .08$, partial $\eta^2 = .01$, indicating the absence of any meaningful parent caregiver status x parent gender, parent gender, and caregiver status differences on PBDQ subscale scores.

8.5.2 Discussion

The results of the MANOVA suggested that there is no mean difference between PBDQ subscale scores according to parent gender and caregiver status. Most previous parenting measures have been developed and normed on samples of mothers (Adamsons & Buehler, 2007; Day & Mackey, 1989), but the current results suggest that scores on the PBDQ are similar across mothers and fathers, and also across primary and non-primary caregivers. Stolz et al. (2005) explained that mothers and fathers may adopt similar parenting behaviours, but the effects of their behaviours on child outcomes may differ and therefore further research needs to be conducted to assess these relationships.

It is important to note that the sample sizes in MANOVA analysis were grossly unequal, the assumptions of normality and homogeneity of variance were violated for some of the PBDQ subscale scores, and Emotional Warmth and Punitive Discipline scores were transformed. As a result, these results must be interpreted with caution, and further research is needed in order to replicate these findings. Future research should also compare the parenting scores from caregivers within the same family to assess the degree of consistency between parenting behaviours in the same family, and also determine the unique and shared variance in child outcomes accounted for by mothers' and fathers' parenting behaviours. Nevertheless, the

current results provide support for the consistency of parenting behaviours described in the PBDQ across parent gender and caregiver status.

8.6 Comparison of PBDQ Subscale Scores across Child Gender

8.6.1 Results

8.6.1.1 Assumption testing. A MANOVA was conducted to examine child gender differences on subscale scores of the PBDQ. Independence, normality, linearity, and multicollinearity assumption testing for this sample was conducted in Aim 3. The transformed Emotional Warmth and Punitive Discipline subscale scores from the previous analysis were also used in the current study.

Two univariate outliers were detected for female children and two for male children on the Emotional Warmth subscale, while one univariate outlier was detected for female children on the Punitive Discipline subscale. In addition, two univariate outliers were detected for female children and one for male children on the Autonomy Support subscale, and one univariate outlier was detected for female children and one for male children on the Democratic Discipline subscale. Scores were truncated to 3.29 standard deviations from the mean to retain the same approximate ranking.

Nine cases exceeded the Mahalanobis Distance critical χ^2 value of 22.458 for $df = 6$ at $\alpha = .001$; however none of these had a Cook's Distance value approaching 1, and therefore the cases were retained. Box's M was non-significant at $\alpha = .001$, indicating that homogeneity of variance-covariance matrices could be assumed. Levene's Test of Equality of Error Variances was also non-significant at $\alpha = .05$ for all PBDQ scores.

8.6.1.2 Main analysis. The MANOVA was statistically non-significant, $F(5, 829) = .187, p = .967$, partial $\eta^2 = .001$, indicating the absence of any meaningful child gender differences on PBDQ subscale scores.

8.6.2 Discussion

The results of the MANOVA conducted in this study suggest that there is no mean difference between PBDQ subscale scores according to child gender, indicating that parents show similar levels of behaviours toward male and female children between the ages of three and 12 years. Although there is some evidence to suggest that parents may have different expectations of their children as a result of child gender (Whiting & Edwards, 1988), it appears that these do not manifest as differences in Emotional Warmth, Punitive Discipline, Autonomy Support,

Permissive Discipline, or Democratic Discipline. However, as the transformed Emotional Warmth and Punitive Discipline scores were used in the current analysis, results must be interpreted with caution.

Barber and Harmon (2002) stated that there is limited evidence for gender differences in the experience of psychologically controlling parenting practices (Barber & Harmon, 2002). In addition, a meta-analysis conducted by Lytton and Romney (1991) on parenting and child gender concluded that effect sizes for child gender were very small and non-significant, with relationships found in both directions. They also found that differential treatment of male and female children, particularly the encouragement of sex-typed activities, perception of gender stereotyped characteristics, and disciplinary strictness, were found to decrease as the child got older (Lytton & Romney, 1991). It would therefore be interesting to investigate whether the degree of consistency that was found between parents of male and female children in the current study is related to child age in a future study. In addition, the results of the current study do not preclude potential differences in the effects of the same parenting practices on child outcomes according to child gender, and therefore further research is needed to clarify this relationship. Finally, it is important that future research examines the PBDQ scores based on different children within the same family in order to determine whether the consistency of parenting behaviours toward male and female children is also found at an individual family level.

8.7 Predictors of PBDQ Subscale Scores and Total Score

Due to mixed findings regarding the effects of parent education level, number of children, child birth order, and culture on parenting behaviour, analyses were conducted to determine the unique and combined ability of these demographic variables to predict PBDQ scores. A non-directional hypothesis was proposed, as mixed findings have been reported for the direction of effects of all of the demographic variables included in this study on parenting behaviours, and Hofstede's (1980) cultural dimensions have not been previously examined in this context. Thus, it was hypothesised that in combination, the demographic variables would account for significant variance in PBDQ total and scale scores. All effect sizes are discussed in terms of Cohen's (1988) conventions, where $f^2 = .02$ is small, $f^2 = .15$ is medium, and $f^2 = .35$ is a large effect size.

8.7.1 Results

8.7.1.1 Bivariate correlations. Categorical variables, including parent gender and education level, were dummy coded for this analysis. Zero order correlations between predictors and the PBDQ subscale scores and total score are presented in Table 8.9. Only those predictors that were significantly correlated with the outcome variable were included in each regression analysis.

Table 8.9

Bivariate Correlations Between Predictors and PBDQ Subscale Scores and Total Score

Variable	EW	PD	AS	PerD	DD	Total Score
Number of Children	-.06	-.02	.01	-.10**	-.05	.01
Child Birth Order	-.04	-.08*	-.04	-.06	-.05	.01
Parent Gender	.18**	-.10**	.03	-.04	.11**	.13**
Parent Age	-.12**	-.05	-.05	.12**	.01	-.06
Child Age	-.11**	-.06	.02	-.10**	.04	.05
Parent Education						
High School	.08*	.05	.02	-.05	-.03	.01
TAFE/Diploma	-.01	.08*	-.04	-.03	-.04	-.04
University Degree	.01	-.06	.04	-.01	.05	.05
Postgraduate Degree	-.09**	-.06	-.03	.09*	.01	-.03
Parent Culture						
Power-Distance	.03	.06	-.04	.07*	.04	-.03
Individualism-Collectivism	.01	-.03	.01	-.09*	-.01	.03
Masculinity-Femininity	-.03	-.07*	-.04	-.06	-.05	.01
Uncertainty Avoidance	-.01	.04	.02	.03	.02	-.02

Note. EW = Emotional Warmth, PD = Punitive Discipline, AS = Autonomy Support, PerD = Permissive Discipline, DD = Democratic Discipline. Variables were dummy coded as male = 0, female = 1 for parent gender.

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

Parent gender, parent age, child age, high school education, and postgraduate education were significantly correlated with Emotional Warmth, while child birth order, parent gender, TAFE/diploma education, and Masculinity-Femininity were significantly correlated with Punitive Discipline. All significant correlations were small in magnitude, suggesting that there are not large variations across demographics. Permissive Discipline was significantly correlated with number of children, parent age, child age, parent education- postgraduate, Power-Distance, and Individualism-Collectivism.

None of the predictors included in this study were significantly correlated with Autonomy Support, and therefore no further analyses were conducted using this outcome variable.

Only one dichotomous predictor, parent gender, was significantly correlated with Democratic Discipline and Total PBDQ scores, and therefore two bivariate regressions were conducted.

8.7.1.2. Assumption testing. Although there are slight differences that exist between each sample, the following assumption testing is applied to all regression analyses conducted in this chapter, including those conducted on the Anxious Intrusiveness factor.

The sample size far exceeds the recommendation by Tabachnick and Fidell (2007) of $50 + 8(k)$ for the full regression model and $104 + k$ for testing individual predictors. The transformed Emotional Warmth subscale score calculated for the MANOVA analyses was used in the current analysis, as this variable was notably skewed, and therefore violated the assumption of univariate normality. Four univariate outliers were detected, and these scores were truncated to 3.29 standard deviations from the mean to retain approximate rank order (Tabachnick & Fidell, 2007). According to G. H. McClelland and Judd (1993), only the outcome variable is considered a random variable and therefore there is no assumption that independent variables be normally distributed, as long as the residuals in the regression model are normally distributed and the assumption of homoscedasticity is met.

Inspection of the normal probability plot of standardised residuals and the scatterplot of standardised residuals against standardised predicted values did not reveal any clear patterns, indicating that the assumptions of normality, linearity, and homoscedasticity were met. Mahalanobis distance exceeded the critical chi-square value (χ^2) for $df = 5$ ($\alpha = .001$) at 20.52 for one case, indicating the presence of a multivariate outlier; however Cook's distance did not exceed 1 (Cook's Distance = .001), suggesting that the outlier was not influential and was therefore retained in the analysis (Tabachnick & Fidell, 2007). The assumption of multicollinearity was met, with all tolerance values exceeding .20 and all VIF values less than 5 (Allen & Bennett, 2008).

8.7.1.3 Predictors of Emotional Warmth. A standard multiple regression analysis was conducted to estimate the proportion of variance in Emotional Warmth scores accounted for by the five correlated predictor variables. In combination,

parent gender, parent age, child age, highschool education, and postgraduate education accounted for a significant 4.58% of the variance in Emotional Warmth scores, $R^2 = .05$, adjusted $R^2 = .04$, $F(5, 830) = 7.97$, $p < .001$. The effect size was calculated as $f^2 = .05$, which is considered small. Unstandardised (B) and standardised (β) regression coefficients, and squared semi-partial correlations (sr^2) for each predictor in the regression model are reported in Table 8.10. Only parent gender and parent age accounted for significant unique variance in Emotional Warmth, with female parent gender and younger age associated with higher Emotional Warmth scores.

Table 8.10

Unstandardised (B) and Standardised (β) Regression Coefficients, and Squared Semi-Partial Correlations (sr^2) For Each Predictor in a Regression Model Predicting Emotional Warmth PBDQ Score

Variable	B [95% CI]	β	sr^2
Parent Gender	-.064 [-.092, -.036]**	-.151	.023
Parent Age	.002 [.000, .003]*	.089	.005
Child Age	.001 [-.002, .005]	.032	.001
Parent Education- High School	-.005 [-.025, .014]	-.021	.000
Parent Education- Postgraduate	.016 [-.005, .037]	.058	.003

Note. $N = 846$.

CI = confidence interval.

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

8.7.1.4 Predictors of Punitive Discipline. A hierarchical multiple regression analysis (HMRA) was conducted to estimate the proportion of variance in Punitive Discipline scores accounted for by the four correlated predictor variables. A HMRA was chosen due to the exploratory nature of the research in relation to the cultural variables. Blocks of predictors were entered in hierarchical order, with demographic variables entered first.

On step 1 of the HMRA, child birth order, parent gender, and parent education-TAFE/diploma accounted for a significant 1.94% of the variance in Punitive Discipline score, $R^2 = .02$, adjusted $R^2 = .02$, $F(3, 842) = 5.56$, $p = .001$. Child birth order, parent gender, and parent education- TAFE/diploma all accounted for a significant proportion of the incremental variance. The effect size for this step was considered small, calculated as $f^2 = .02$.

On step 2, the cultural predictor Masculinity-Femininity was added to the regression equation, and explained an additional non-significant .30% of the variance in Permissive Discipline score, $\Delta R^2 = .003$, $\Delta F(1, 841) = 2.59$, $p = .108$. The effect size for the change in R^2 was calculated as $f^2 = .00$, which is considered very small.

The combined model accounted for a significant 2.24% of the variance in Permissive Discipline score, $R^2 = .02$, adjusted $R^2 = .02$, $F(4, 841) = 4.82$, $p = .001$. Child birth order, parent gender, and parent education- TAFE/diploma remained significant predictors of Punitive Discipline in the final regression model. Results indicated that male parent gender, lower child birth order, and completing TAFE or diploma education level were associated with higher levels of Punitive Discipline. The effect size was considered small, calculated as $f^2 = .02$. Unstandardised (B) and standardised (β) regression coefficients, and squared semi-partial correlations (sr^2) for each predictor in the regression model are reported in Table 8.11.

Table 8.11

Unstandardised (B) and Standardised (β) Regression Coefficients, and Squared Semi-Partial Correlations (sr^2) For Each Predictor in a Regression Model Predicting Punitive Discipline PBDQ Score

Variable	B [95% CI]	β	sr^2
Step 1			
Child birth order	-.019 [-.036, -.001]*	-.072	.005
Parent gender	-.075 [-.129, -.022]**	-.094	.008
Parent education -TAFE/diploma	.051 [.002, .100]*	.070	.005
Step 2			
Child birth order	-.018 [-.035, .000]*	-.068	.004
Parent gender	-.073 [-.126, -.019]**	-.091	.008
Parent education -TAFE/diploma	.051 [.002, .100]*	.070	.004
Masculinity Femininity	-.003 [-.007, .001]	-.055	.003

Note. $N = 846$. CI = confidence interval.

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

8.7.1.5 Predictors of Permissive Discipline. A hierarchical multiple regression analysis (HMRA) was conducted to estimate the proportion of variance in Permissive Discipline scores accounted for by the five correlated predictor variables. A HMRA was chosen due to the exploratory nature of the research in relation to the cultural variables. Blocks of predictors were entered in hierarchical order, with demographic variables entered first.

On step 1 of the HMRA, number of children, parent age, child age, and parent education- postgraduate degree accounted for a significant 5.76% of the variance in Permissive Discipline score, $R^2 = .06$, adjusted $R^2 = .05$, $F(4, 841) = 12.85$, $p < .001$. Number of children, parent age, and child age accounted for a significant proportion of the incremental variance; however the incremental variance accounted for by parent education- postgraduate degree was non-significant. The effect size for this step was considered small, calculated as $f^2 = .06$.

On step 2, the cultural predictors of Power-Distance and Individualism-Collectivism were added to the regression equation, and explained an additional significant .87% of the variance in Permissive Discipline score, $\Delta R^2 = .009$, $\Delta F(2, 839) = 3.91$, $p = .020$. The effect size for the change in R^2 was calculated as $f^2 = .01$, which is considered small.

The combined model accounted for a significant 6.63% of the variance in Permissive Discipline score, $R^2 = .07$, adjusted $R^2 = .06$, $F(6, 839) = 9.93$, $p < .001$. Number of children, parent age, and child age remained significant predictors of Permissive Discipline in the final regression model; however, the incremental variance accounted for by the two cultural variables was non-significant. Results indicated that smaller number of children, older parent age, and lower child age were associated with higher levels of Permissive Discipline. The effect size was considered small, calculated as $f^2 = .07$.

Unstandardised (B) and standardised (β) regression coefficients, and squared semi-partial correlations (sr^2) for each predictor in the regression model are reported in Table 8.12 below.

Table 8.12

Unstandardised (B) and Standardised (β) Regression Coefficients, and Squared Semi-Partial Correlations (sr^2) For Each Predictor in a Regression Model Predicting Permissive Discipline PBDQ Score

Variable	B [95% CI]	β	sr^2
Step 1			
Number of children	-.055 [-.096, -.014]*	-.092	.008
Parent age	.021 [.014, .028]**	.230	.035
Child age	-.043 [-.059, -.026]**	-.197	.028
Parent education – postgraduate	.033 [-.062, .128]	.024	.001
Step 2			
Number of children	-.053 [-.094, -.012]*	-.088	.007
Parent age	.021 [.014, .029]**	.235	.036
Child age	-.044 [-.061, -.027]**	-.203	.029
Parent education – postgraduate	.022[-.073, .117]	.016	.000
Masculinity-Femininity	-.000 [-.008, .008]	.005	.000
Individualism-Collectivism	-.004 [-.010, .001]	-.089	.002

Note. $N = 846$. CI = confidence interval.

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

8.7.1.6 Predictors of Democratic Discipline. A bivariate regression analysis was conducted to estimate the proportion of variance in Democratic Discipline scores accounted for by parent gender. Parent gender accounted for a significant 1.31% of the variance in Democratic Discipline scores, $R^2 = .01$, adjusted $R^2 = .01$, $F(1, 844) = 11.24$, $p = .001$. Results indicated that female parent gender is associated with significantly higher Democratic Discipline scores. The effect size was calculated as $f^2 = .01$, which is considered small. The unstandardised (B) regression coefficient was .222 (95% Confidence Interval .092, .352), and the standardised (β) regression coefficient was .115.

8.7.1.7 Predictors of PBDQ Total Score. A bivariate regression analysis was conducted to estimate the proportion of variance in Total PBDQ scores accounted for by parent gender. Parent gender accounted for a significant 1.62% of the variance in Democratic Discipline scores, $R^2 = .02$, adjusted $R^2 = .02$, $F(1, 844) = 13.94$, $p < .001$. Results indicated that female parent gender is associated with significantly higher PBDQ Total scores. The effect size was considered small, calculated as $f^2 = .02$. The unstandardised (B) regression coefficient was .89 (95% Confidence Interval .42, 1.35), and the standardised (β) regression coefficient was .127.

8.7.1.8 Missing values. As Power-Distance, Individualism-Collectivism, Masculinity-Femininity, and Uncertainty Avoidance missingness were significantly related to parent age, Emotional Warmth, and Permissive Discipline, missing values were replaced using expectation maximisation and compared with the results using the original scores (Tabachnick & Fidell, 2007). Minor differences were obtained when running the analyses without missing values replaced, particularly in relation to predictors of Punitive Discipline; however, these differences were considered trivial due to the very small percentage of variance in PBDQ scores accounted for by significant predictors in both analyses (see Appendix S).

8.7.2 Discussion

Results indicated that female parent gender was associated with higher levels of Emotional Warmth and Democratic Discipline, higher Total PBDQ scores, as well as lower levels of Punitive Discipline. In addition, younger parent age was associated with higher levels of Emotional Warmth, while higher levels of Punitive Discipline were associated with earlier born children and parents who completed TAFE/diploma education. Several predictors were significant for Permissive Discipline, with higher scores associated with a smaller number of children, older parent age, and younger child age. None of the demographic variables included in this study were significantly correlated with Autonomy Support scores.

The finding that female parent gender is associated with emotionally warm, democratic, and less punitive parenting is consistent with previous literature. Indeed, several studies have found that fathers tend to be more authoritarian and punitive in their parenting style, whereas mothers are more likely to be authoritative toward their children and use more democratic explanation than fathers (Adamsons & Buehler, 2007; Conrade & Ho, 2001; Holmbeck et al., 1995; Lytton, 1980; Russell et al., 2003). Aunola et al. (1999) and Zervides and Knowles (2007) suggested that this effect is due to the fact that females generally spend more time with the child, and tend to be more emotionally open and sensitive when compared to males. However, the effect sizes in the current study were small, which is also consistent with studies that have found a strong degree of consistency between mothers' and fathers' parenting practices (Davidov & Grusec, 2006; Forehand & Nousiained, 1993; Hilton & Devall, 1998; Verhoeven et al., 2007).

There is limited research on the effects of parent age on parenting behaviour; however lower maternal age is generally associated with greater levels of child

adjustment problems (Hayes, 1987; T. G. O'Connor et al., 2002; Tremblay et al., 2004). However, in the current study, lower maternal age was associated with higher levels of Emotional Warmth, which is generally associated with positive child adjustment. It is possible that maternal age interacts with other demographic variables in influencing child outcomes, and previous relationships may be due to factors that are correlated with younger maternal age, such as lack of financial resources, poor health habits, lack of social support, lower level of education, limited parenting knowledge, and self-regulation problems (Joussemet et al., 2008). The effect size of this relationship was small, and 92.2% of participants were over 25 years of age, which may have influenced these results.

The results of this study provide some support for Volling and Elins' (1998) finding that parents are likely to discipline their older child significantly more often than their younger child; however, the current study found a specific relationship between birth order and Punitive Discipline, while Volling and Elins only discussed general disciplinary behaviours. Several other studies have found no significant relationship between parenting practices and birth order (Abramovich et al., 1982; Lasko, 1954), and the effect size of this relationship was small, suggesting that further research on this relationship is needed.

Finally, a smaller number of children, older parent age, and younger child age, were associated with greater levels of permissive discipline. The findings related to parent and child age and permissive discipline are interesting, as the literature suggests that parenting is relatively stable when the child is between 3 and 12 years of age (G. C. Roberts et al., 1984), and there is limited research on disciplinary practices according to parent age. It is also unclear why a smaller number of children is associated with greater levels of permissive discipline, as larger sibship size is generally associated with reduced parenting quality (Lawson & Mace, 2009). There is some evidence to suggest that parents may be more indulgent towards only children (Lai, Zhang, & Wang, 2000), which could manifest as more permissive and permissive disciplinary behaviour; however, effect sizes for all of these relationships were small, and therefore further investigation of these effects is necessary in order to draw more accurate conclusions about the effects of these variables on Permissive Discipline.

Overall, it appears that only small amounts of variance in PBDQ scores could be accounted for by the included variables, suggesting that there is limited variation

in PBDQ scores as a result of parent age, gender, child age, number of children, birth order, parent education, and the four cultural variables assessed in this study.

However, it is possible that the effects of parenting behaviours on child outcomes are influenced by these demographic variables, and therefore future investigation of these relationships is needed. These results provide further preliminary support for the utility of the PBDQ with various parenting subgroups, as well as the universality of the parenting behaviours described by the PBDQ dimensions.

8.8 Predictors of Anxious Intrusiveness

8.8.1 Results

8.8.1.1 Internal consistency. Cronbach's alpha was computed for the Anxious Intrusiveness factor prior to the regression analysis. Cronbach's alpha was .67, which is acceptable for subscales with less than 10 items according to Loewenthal (2001).

8.8.1.2 Bivariate correlations. Categorical variables were dummy coded for this analysis. Zero order correlations between predictors and the Anxious Intrusiveness factor are presented in Table 8.13.

Table 8.13

Bivariate Correlations between Predictors and Anxious Intrusiveness

Variable	Anxious Intrusiveness
Number of Children	-.10**
Child Birth Order	-.09**
Parent Gender	.01
Parent Age	-.32**
Child Age	-.18**
Parent Education	
High School	.24**
TAFE/Diploma	.07
University Degree	-.06
Postgraduate Degree	-.25**
Parent Culture	
Power-Distance	.19**
Individualism-Collectivism	-.13**
Masculinity-Femininity	-.06
Uncertainty Avoidance	.03

Note. Variables were dummy coded as male = 0, female = 1 for parent gender.
* $p < .05$. ** $p < .01$.

8.8.1.3 Main analysis. A HMRA was conducted to estimate the proportion of variance in Anxious Intrusiveness scores accounted for by the eight correlated predictor variables. HMRA was chosen due to the exploratory nature of the research in relation to the cultural variables. Blocks of predictors were entered in hierarchical order, with demographic variables entered first.

On step 1 of the HMRA, the demographic predictors of number of children, child birth order, parent age, child age, parent high school education, and parent postgraduate education accounted for a significant 14.17% of the variance in Anxious Intrusiveness score, $R^2 = .14$, adjusted $R^2 = .14$, $F(6, 839) = 23.08$, $p < .001$. The effect size for this step was calculated as $f^2 = .17$, which is considered medium. Number of children, parent age, parent education- high school, and parent education- postgraduate accounted for a significant proportion of the incremental variance, while the incremental variance accounted for by child birth order and child age was non-significant.

On step 2, the cultural predictors Power-Distance and Individualism-Collectivism were added to the regression equation, and these explained an additional significant 3.22% of the variance in Anxious Intrusiveness score, $R^2 = .17$, adjusted $R^2 = .17$, $\Delta R^2 = .03$, $\Delta F(2, 837) = 16.31$, $p < .001$. The effect size for the change in R^2 was calculated as $f^2 = .03$, which is considered small. Power-Distance accounted for a significant proportion of the incremental variance, while Individualism-Collectivism did not. Number of children, parent age, parent education- high school, and parent education- postgraduate remained significant predictors of Anxious Intrusiveness in the final regression model. Results indicated that higher Power-Distance culture scores, younger parent age, smaller number of children, and completing high school education but not completing a postgraduate degree were associated with higher Anxious Intrusiveness scores. The effect size was calculated as $f^2 = .21$, which is considered medium.

Unstandardised (B) and standardised (β) regression coefficients, and squared semi-partial correlations (sr^2) for each predictor in the regression model are reported in Table 8.14.

Table 8.14

Unstandardised (B) and Standardised (β) Regression Coefficients, and Squared Semi-Partial Correlations (sr^2) For Each Predictor in a Regression Model Predicting Anxious Intrusiveness

Variable	B [95% CI]	β	sr^2
Step 1			
Number of children	-.074 [-.143, -.006]*	-.094	.004
Child birth order	.022 [-.060, .104]	.024	.000
Parent age	-.025 [-.035, -.015]**	-.209	.025
Child age	-.013 [-.035, .008]	-.047	.002
Parent education – high school	.183 [.060, .306]**	.11	.009
Parent education – postgraduate	-.246 [-.377, -.115]**	-.137	.014
Step 2			
Number of children	-.068 [-.135, .000]*	-.086	.004
Child birth order	.023 [-.058, .104]	.025	.000
Parent age	-.022 [-.032, -.012]**	-.187	.019
Child age	-.017 [-.038, .004]	-.060	.003
Parent education – high school	.187 [.066, .308]**	.113	.009
Parent education – postgraduate	-.264 [-.393, -.135]**	-.147	.016
Power-Distance	.018 [.008, .028]**	.201	.012
Individualism-Collectivism	.001 [-.005, .008]	.025	.000

Note. $N = 846$. CI = confidence interval.

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

8.8.2 Discussion

Results indicated that higher Power-Distance culture scores, younger parent age, and completing high school education but not completing a postgraduate degree were associated with higher Anxious Intrusiveness scores. Higher Power Distance scores represent a greater degree of acceptance of a power hierarchy in which everyone has their place (Hofstede et al., 2010). Although this appears to relate to authoritarian rather than indulgent parenting, these styles may overlap in their use of non-responsive, controlling behaviours that discourage autonomy and democratic parent-child communication (Baumrind, 1967; Chorpita & Barlow, 1998; Thomasgard & Metz, 1993). Lower maternal age has been associated with child adjustment problems in previous studies (Hayes, 1987; T. G. O'Connor et al., 2002; Tremblay et al., 2004), which may be due to a number of correlated factors including, lower level of education, ineffective parenting behaviour and knowledge, and self-regulation problems (Joussemet et al., 2008), which may all contribute to noncontingent parental responding to the child.

Effect sizes for these relationships were found to be small to medium, suggesting that the parenting behaviours described by Anxious Intrusiveness were moderately affected by demographic variables. Importantly, anxious, overprotective parenting behaviour is thought to undermine a child's sense of mastery, agency, self-efficacy and perceived control, and prevent them from learning effective coping and emotional regulation skills (Chorpita & Barlow, 1998; Fox et al., 2005; McLeod, Wood et al., 2007; Rapee, 2001; Wood, 2006). It therefore appears that further investigation of the Anxious Intrusiveness construct is warranted in the future, as culture, parent age, and education appear to present significant risk for overprotective, and psychologically controlling parenting behaviour. These demographic variables may indicate target groups for interventions to minimise negative child regulation and adjustment outcomes.

8.9 Summary

The results of this study suggest that there is very little variation in Emotional Warmth, Punitive Discipline, Autonomy Support, Permissive Discipline, Democratic Discipline, and Total PBDQ scores across parent age, gender, education level, caregiver status, number of children, and culture, as well as child gender, age, and birth order. Non-primary and shared caregivers were found to be slightly more variable in terms of their Autonomy Support and Permissive Discipline in comparison to primary caregivers, and some significant relationships were found between demographic variables and PBDQ scores, but all of the effect sizes for these significant relationships were found to be small, which suggests that these may not represent meaningful differences in PBDQ scores and the corresponding parenting behaviours.

Additionally, there were some interesting significant relationships found between Anxious Intrusiveness and several demographic variables, and effect sizes for these relationships were calculated as medium. As there is also theoretical support for the existence and importance of anxious, overprotective parenting behaviours, it appears that future investigation of the nature of this construct and its effects on childhood outcomes is needed.

Some methodological limitations were noted in the current study, such as violation of assumptions, missing data, the use of transformed variables, and unequal sample sizes, which suggest that these results should be interpreted with caution.

Nevertheless, the degree of consistency between the results presented in this chapter suggests that there is limited variability in PBDQ scores across these parent groups.

Taken together, the results provide preliminary support for the generalisability and practical utility of the PBDQ in assessing parenting behaviours across a range of parenting subgroups, with PBDQ scores consistently found to be highly reliable across all of the parenting subgroups assessed. In addition, support for the factorial validity of the PBDQ across parents of male and female children was also found. These results provide preliminary support for the universality of the five parenting dimensions assessed by the PBDQ. However, the universality of the factor structure and other psychometric properties of the PBDQ need to be evaluated in larger samples across a range of cultures and other demographic variables to further evaluate the usefulness and applicability of this measure in assessing universal parenting dimensions.

CHAPTER 9

GENERAL DISCUSSION AND CONCLUSIONS

“The hardest part of raising a child is teaching them to ride bicycles. A shaky child on a bicycle for the first time needs both support and freedom. The realization that this is what the child will always need can hit hard.”

- Sloan Wilson (1920-2003)

There is no such thing as a perfect parent. However, a major focus of parenting research has been identifying the individual and combined parenting behaviours that promote positive and negative child outcomes. The overall aims of this research were to develop a comprehensive, psychometrically sound self-report measure of parenting behaviours using empirical means and through this process, identify the key dimensions underlying contemporary parenting practices. This measure was then used to address some important issues in the parenting literature.

A mixed method research design was employed in developing the PBDQ, with previous literature and existing self-report assessments used to develop the initial pool of items, while qualitative parent feedback and factor analysis of quantitative data were used in the refinement and validation of the measure. The reliability and validity of the PBDQ was then assessed and compared across a number of parenting subgroups which differed according to key demographic variables. This chapter will discuss the major findings of this study, and compare them to previous parenting theories, relevant findings, and existing parenting measures. The theoretical, research, and clinical implications of this research will also be discussed, as well as strengths, limitations, and suggestions for future research.

9.1 Summary of the Development of the PBDQ

Although there are a large number of self-report parenting measures that have been used in the literature, many of these have not been developed using rigorous empirical methodologies, some have reported problematic psychometric properties, and none of the existing measures appear to assess all relevant dimensions of parenting for parents of preadolescent children. Because of these issues, a need for a psychometrically sound, comprehensive self-report measure for use with parents of

children aged three to 12 years was identified, and therefore the Parenting Behaviours and Dimensions Questionnaire was developed.

Phase One of this project involved consultation and review of the parenting literature and commonly used measures in order to produce a set of suitable items for the PBDQ. In Phase Two, the PBDQ item pool was subjected to principal axis factoring on a community sample of 580 parents who responded to an online survey. This yielded a six factor solution. Factors labels were derived from previous literature, and included Emotional Warmth, Punitive Discipline, Anxious Intrusiveness, Autonomy Support, Permissive Discipline, and Democratic Discipline. Emotional Warmth reflected the degree of affection and emotional support that parents show toward their child, while Punitive Discipline described the frequency of harsh, psychological, and mood-dependent discipline strategies used by the parent. The third factor, Anxious Intrusiveness, described overprotective, indulgent, and intrusive parenting behaviour, while the fourth factor of Autonomy Support referred to scaffolding and contingent, responsive parenting behaviours. Permissive Discipline described inconsistent, lax, and permissive discipline, and finally, Democratic Discipline included the explanation of rules and expectations, and other-oriented discipline.

The six factor correlated model demonstrated acceptable fit in a confirmatory factor analysis. However, examination of the factor loadings and correlations suggested that the third factor, Anxious Intrusiveness, did not load highly on the higher order factor and was not correlated with the Autonomy Support and Democratic Discipline subscales. A final higher order model was tested with the Anxious Intrusiveness factor removed, which showed improved fit statistics, although the six factor correlated model is the preferred model for future research into the core dimensions of parenting.

The final PBDQ therefore consisted of five factors with a total of 27 items, with higher levels of Emotional Warmth, Autonomy Support, and Democratic Discipline scores, and lower levels of Punitive Discipline and Permissive Discipline defining higher Total PBDQ scores. Although the Anxious Intrusiveness factor was dropped from the final PBDQ, it still emerged as core dimension in the assessment of contemporary parenting in the EFA, and therefore it was included in discussions of the theoretical contribution of the current research.

9.1.1 Assessing Key Parenting Dimensions

A multitude of different parenting dimensions have been proposed in the literature over time; however, it was unclear which of these were most important in describing contemporary parenting practices. The results of the current study suggest that there are six core parenting dimensions which combine a number of different concepts from previous research, including parental warmth (Barber & Rollins, 1990; S. H. Landry et al., 2006; L. M. Locke & Prinz, 2002), acceptance (Baldwin et al., 1945; Roe, 1957; Rohner, 1986, 1999; Schutz, 1960; Symonds, 1939), love (Schaefer, 1959, 1965), hostility and rejection (Schaefer, 1959, 1965; Symonds, 1939), overprotection (Arrindell et al., 1998; Thomasgard & Metz, 1999; Parker et al., 1979) overgratification of the child's wishes (Capron, 2004; L. Carlson et al., 1992; Hauser, 1991; K. H. Rubin et al., 2002), dependency-oriented psychological control (Barber & Buehler, 1996; Soenens et al., 2010), responsiveness (Ainsworth et al., 1971; Karreman et al., 2006; Maccoby & Martin, 1983), contingent responding (Bornstein et al., 2008; Johnston et al., 2002; Karreman et al., 2006; S. H. Landry et al., 2001; Tamis- LeMonda & Bornstein, 2002), autonomy support (Deci & Ryan, 1985, 2000), scaffolding (S. H. Landry et al., 2002; Vygotsky, 1962), inconsistency (Chamberlain & Patterson, 1995), chaos (Grolnick & Pomerantz, 2009), achievement-oriented psychological control (Barber & Buehler, 1996; Soenens et al., 2010), and democracy (Baldwin, 1946, 1949; Baldwin et al., 1945; Schaefer, 1959, 1965). E. Skinner et al. (2005) also identified six core features of parenting, reflecting the three main dimensions of parental warmth, behavioural control, and psychological control, and the dimensions that are often considered to be their bipolar opposites. Like E. Skinner et al., each dimension identified in the current research also appears to measure only one end of a bipolar parenting dimension, rather than assuming that it also measures its conceptual opposite. However, the results of the current study also suggest that E. Skinner et al.'s dimensions do not adequately describe the behaviours associated with contemporary parenting practices, including the recognition of punitive discipline, democracy, and anxious intrusiveness as distinct and important parenting dimensions.

Interestingly, most of the dimensions uncovered in this research appear to relate to the conceptualisations proposed by Baumrind (1966, 1967, 1971) and to a lesser extent, Hoffman (1963, 1970, 1980). Although not distinguished as separate dimensions, Emotional Warmth and Democratic Discipline are consistent with

descriptions of Baumrind's (1966, 1967, 1971) authoritative parenting style. In addition, authoritative parenting was later described in terms of high levels of responsiveness and demandingness by Maccoby and Martin (1983) and Baumrind (1991, 1996), and these are consistent with low levels of Permissive Discipline and high levels of Autonomy Support respectively. Behaviours associated with authoritarian parenting include punitive, forceful, and autonomy restrictive behaviours and discouragement of democracy and explanation (Baumrind, 1966), which appears to be consistent with high levels of Punitive Discipline and low levels of Autonomy Support and Democratic Discipline in the current conceptualisation. Authoritarian parenting is also generally thought to be characterised by low levels of Emotional Warmth and Permissive Discipline. Baumrind (1978) also explained that authoritarian parents may be protective and concerned, which could relate to Anxious Intrusiveness. Permissive parents were described by Baumrind (1966, 1967, 1971) as non-punitive and democratic, but they do not attempt to shape or assist in the regulation of the child's behaviour. This parenting style appears to be most strongly related to Permissive Discipline, but these parents may also score highly on Emotional Warmth and Democratic Discipline, and low on Autonomy Support. These parents are also unlikely to engage in Punitive Discipline, although Baumrind stated that permissive parents may also be indulgent and protective, which is consistent with Anxious Intrusiveness. The final parenting style of neglectful parenting, which was later added by Maccoby and Martin (1983), does not appear to be consistent with any particular dimensions of the PBDQ; however, we can hypothesise that involved parenting would correspond to low scores on all of the PBDQ dimensions. These results suggest that the PBDQ dimensions may represent a disaggregation of Baumrind's parenting styles into composite dimensions, which will allow for the examination of their unique, relative, and combined contributions to childhood outcomes.

In addition, Autonomy Support and Democratic Discipline appear to reflect Hoffman's (1963, 1970, 1980) concepts of other-oriented and inductive discipline, while power assertion and Punitive Discipline also seem to describe similar parenting behaviours. However, love withdrawal, which involves ignoring the child, rejection, and expression of anger (Hoffman, 1963, 1970, 1980), does not appear to be closely related to any of the PBDQ dimensions. The PBDQ also does not include dimensions of parental rejection or neglect, the provision of structure, or coercive discipline,

despite the inclusion of items such as “I get so busy that I forget to check where my child is and what he/she is doing”, “I am more concerned with my own feelings than my child’s feelings”, “I set firm guidelines for my child’s behaviour”, and “I make my child feel ashamed or guilty when he/she misbehaves” in the original PBDQ item pool. Interestingly, C. C. Lewis (1981) suggested that the provision of responsive, democratic, and inductive parenting is more important than parental control in promoting positive child outcomes. Indeed, it seems that Autonomy Support and Democratic Discipline can be broadly described as autonomy supportive parenting behaviours as they are administered in a responsive manner, with Emotional Warmth also thought to be a feature of responsive parenting (Johnston et al., 2002; Karreman et al., 2006). On the other hand, Punitive Discipline, Permissive Discipline, and Anxious Intrusiveness describe unresponsive parenting behaviours that undermine the child’s autonomy, and are therefore considered psychologically controlling. It therefore appears that an important component of all of the PBDQ dimensions is the way in which the behaviour is administered, and this is more important in describing contemporary parenting practices than the use of specific control strategies.

Indeed, one of the major contributions of the PBDQ is the assessment of parental autonomy support or responsiveness in parents of preadolescent children. This dimension appears to be related to the administration of specific parenting behaviours, such as assistance, behavioural control, and comfort, in a way that takes into account the child’s developmental level, needs, and abilities. Johnston et al. (2002) explained that self-report measures that ask how often parents assist their child in tasks or provide directions do not accurately capture this dimension; however, the Autonomy Support items included in the PBDQ specifically ask parents about the child’s age, needs, and abilities, and discuss the encouragement of initiative and problem solving before asking for help. Interestingly, all of the Autonomy Support items were derived from suggestions made by participants or the list of researcher generated items related to responsiveness and autonomy support, suggesting that existing parenting measures have not adequately assessed autonomy supportive, responsive parenting behaviour. Studies on the parenting of preadolescent children have rarely included a measure of autonomy support or psychological control, although features of these dimensions are sometimes assessed as part of the parental warmth or behavioural control dimensions (Aunola & Nurmi, 2005).

Aunola and Nurmi (2004, 2005) suggested that the effects of psychological control may be more harmful in middle childhood than in adolescence, as the parent-child relationship is still developmentally very close and influential prior to adolescence. However, in the current measure, it appears that low Autonomy Support did not equate to guilt induction, love withdrawal, ridiculing, or other behaviours that are traditionally included under the umbrella of psychological control in studies on parents of adolescents (Barber, 1996; Barber et al., 2012). Although Punitive Discipline, Anxious Intrusiveness, and Permissive Discipline appear to be related to psychological control, no single homogenous psychological control dimension emerged from the factor analysis that included these traditional psychologically controlling behaviours. It is important to note that this result was obtained despite inclusion of a number of concepts thought to be related to psychological control in the original PBDQ item pool, including guilt induction, dominance, verbal punishment, possessive, and protective behaviours in the PCRQ (Furman & Adler, 1983, as cited in Furman & Giberson, 1995), directiveness, verbal hostility, and punitive parenting in the PSDQ (Robinson et al., 1995), psychological intrusiveness and harsh discipline in the WPI (Weinberger et al., 1989, as cited in Wentzel et al., 1991), overreactivity in the Parenting Scale (Arnold et al., 1993), authoritarian parenting in the PAQ-R (Reitman et al., 2002), as well as overprotection and indulgence from the researcher generated list of items. These results suggest that psychological control may be multifaceted and better captured by a number of different dimensions, including punitive, authoritarian discipline, parental inconsistency, and the use of intrusive, overprotective strategies, although further investigation of the latter construct is needed. It is also possible that psychologically controlling behaviours may manifest differently in parenting preadolescent children compared to the parenting of adolescents.

The nature of psychological control in childhood and its relationship to child outcomes is still not well understood. Several researchers have suggested that the effectiveness and appropriateness of certain parental control strategies may decrease over the course of child development (L. M. Locke & Prinz, 2002; Maccoby, 1980; Mahler et al., 1975; G. C. Roberts et al., 1984), which could explain the absence of traditional psychologically controlling behaviours in the PBDQ. G. S. Pettit et al. (2001) proposed that parent hostility may manifest as overt harsh and punitive behaviour in early childhood in response to external issues of behavioural

compliance, which then evolves into more covert and traditionally psychologically controlling behaviour in adolescence in response to more internal individuation processes. In support of this, G. S. Pettit and Laird (2002) found that parental hostility when the child was five years old predicted parental psychological control when the child was aged 12. It is also possible that traditional psychologically controlling practices were not well represented in the initial item pool, as they have rarely been included in studies of parents of preadolescent children, and items in the researcher generated list reflected more autonomy supportive and overprotective, intrusive strategies rather than rejecting, guilt inducing, or shaming psychologically controlling practices. Finally, parents who volunteered to participate in this research may have been highly involved and enthusiastic parents, and they were generally highly educated, and therefore endorsement of negative parenting behaviours may have been limited resulting in the underrepresentation of these dimensions in the PBDQ.

Psychological control in adolescence also appears to involve not only the intention of the parent to make their child feel guilty or manipulate their emotional state, but also the child's experience or perception of parental behaviour as manipulative or intrusive. This is consistent with social domain theory, which defines psychological control as intrusion into the adolescent's personal psychological domain (Nucci, 1996; Nucci et al., 2005; Smetana et al., 2005; Smetana & Daddis, 2002); however, this may not be captured by the measurement of overt parent behaviours. Indeed, psychological control is often measured through adolescents reporting their parent's behaviours, rather than parents reporting on themselves (Baumrind, 2005). Further evidence for the subjectivity of this construct comes from G. S. Pettit et al. (2001), who found that the magnitude of parent psychological control scores largely depends on the informant used. It therefore appears that traditional psychologically controlling behaviours may still be important in the parenting of preadolescent children; however, further research needs to examine the child's perception and experience of their parent's behaviours in assessing the construct of psychological control.

9.1.2 Psychometric Properties

In addition to the theoretical contribution, the five factor PBDQ also provides a practical, high utility measure of core parenting dimensions that addresses the methodological and psychometric limitations of other measures. Although some

preliminary evidence for the psychometric properties of the PBDQ was provided in Phase Two of this research, Phase Three involved specific investigation of the test-retest reliability, internal consistency, and construct validity of the measure. Analyses were also conducted on parenting subgroups with the aim of providing further psychometric and practical support for the PBDQ. These subgroups were defined by parent age, gender, caregiver status, and culture, as well as child age.

9.1.2.1 Internal consistency. Cronbach's alpha suggested that all of the PBDQ scores had at least minimally acceptable internal consistency across four separate samples, including the EFA, CFA, Test-Retest and Animal Fun samples. In addition, Phase Four results suggested that the PBDQ subscales and Total PBDQ score were equally reliable for male and female parents, for parents with male and female children, and for parents from individualistic and collectivist cultures, with all Cronbach's alpha values falling within the minimally acceptable to excellent range (George & Mallery, 2003; Loewenthal, 2001). Although all scores were also above the minimally acceptable level for all groups of caregivers, the combined group of non-primary and shared caregivers were more variable in terms of their Autonomy Support and Permissive Discipline scores compared to primary caregivers. However, this finding needs to be interpreted with caution as higher variability may be a function of smaller sample size (Shevlin et al., 2000).

Total PBDQ score demonstrated the highest internal consistency throughout all of the Phase Three and Phase Four analyses, providing support for the generalisability of the relationships between the PBDQ scores and the higher order factor structure across parent and child gender, caregiver status, and parent culture. Overall, these results provide support for the utility of the PBDQ in assessing five homogenous parenting dimensions and an overall parenting score.

9.1.2.2 Test-retest reliability. Phase Three results suggested that test-retest reliability was above the preferred threshold of .80 for all of the subscales except for Emotional Warmth, which was assessed using a non-parametric test due to violation of the normality assumption. The two week test-retest correlations were slightly higher than those calculated over a four week period, although test-retest reliability was highest for overall parenting score in both conditions. These results were comparable with those reported for other parenting measures, and suggested that the PBDQ is relatively stable over a two to four week period.

9.1.2.3 Face and content validity. Evidence for face and content validity of the PBDQ comes from the methodology employed in Phase Two, as the initial item pool was based on an extensive review of previous research, items from existing parenting measures that assessed a range of constructs, as well as suggestions made by contemporary parents who were consulted as part of the expert review process. These parents were consulted in each phase of measure development, and they reviewed all items for relevance, clarity, and importance. As a result, the item pool contained a representative sample of items that were relevant and valid in the assessment of parenting, meeting criteria for face and content validity (Groth-Marnat, 2009).

9.1.2.4 Factorial validity. The factorial validity of the PBDQ was established by deriving a simple six factor structure using EFA procedures, and assessing the fit of a hypothesised higher order structure using CFA procedures in Phase Two. A five factor higher order model demonstrated acceptable fit statistics and internal consistency with the Anxious Intrusiveness factor removed, providing support for the factorial validity of the PBDQ.

In addition, the PBDQ higher order five factor models showed acceptable fit statistics for parents of both male and female children in Phase Four, although the relative Satorra-Bentler chi-square statistics (Ullman, 2001) were marginally below the acceptable cut-off. However, the relative chi square cut-off criteria adopted in this research was very conservative compared to many other studies (Carmines & McIver, 1981; R. B. Kline, 1998; Munro, 2000). In addition, researchers generally recommend using the NNFI, CFI, and RMSEA statistics to assess model fit (Marsh, Balla, & Hau, 1996; Marsh, Hau, & Grayson, 2005), and these were all well within the acceptable limits in both models. These results suggest that the PBDQ factor structure is valid for use with parents with both male and female children.

9.1.2.5 Construct validity. Correlations between the PBDQ scores and measures of child internalising, externalising, and social outcomes were computed to provide evidence of concurrent construct validity in Phase Three. Results were generally in the expected direction and consistent with previous research, suggesting that higher levels of parent Emotional Warmth, Autonomy Support, and Democratic Discipline and lower levels of parental Punitive Discipline, and Permissive Discipline were associated with high levels of social skill and prosocial behaviour, and low levels of internalising and externalising problems in children. Effect sizes

ranged from small to large, although Emotional Warmth and Total PBDQ score had the strongest correlations with child outcomes, suggesting that the sum of dimensions may be more influential than the other four PBDQ subscales on their own. There was a small unexpected negative relationship between Permissive Discipline and externalising problems; however, it is possible that factors other than parenting, such as genetics, may have had an influence on this outcome, which is consistent with previous research (Rice et al., 2002; Scarr, 1992; van Beijsterveldt et al., 2004).

In addition, the PBDQ subscale scores correlated as expected with each other, with the autonomy supportive parenting dimensions of Emotional Warmth, Autonomy Support, and Democratic Discipline positively correlated, and the unhelpful, psychologically controlling dimensions of Punitive Discipline and Permissive Discipline positively correlated with each other and negatively correlated with the other dimensions. These results provide further support for the convergent construct validity of the PBQ.

9.1.2.6 Comparison with previous measures. Some support for the reliability and validity of the PS (Arnold et al., 1993), APQ (Shelton et al., 1996), PSDQ (Robinson et al., 1995), and PAQ-R (Reitman et al., 2002) has been provided in previous research; however, limited psychometric information is available for the PCRQ (Furman & Adler, 1983, as cited in Furman & Giberson, 1995), and WPI (Weinberger et al., 1989, as cited in Wentzel et al., 1991). In addition, many of these measures were not developed using rigorous methodologies combining theoretical and empirical procedures, and all of these measures appear to have problems with theoretical comprehensiveness.

The psychometric properties reported in the current study appear to be comparable to those associated with previous measures, and some of these results are even better and more extensive than other parenting measures. Specifically, the PBDQ subscale scores appear to have at least minimally acceptable internal consistency across all samples tested, unlike four of the six measures used in developing the PBDQ item pool. In addition, the highest test-retest reliability out of all of the measures reviewed belonged to the Total PBDQ score, suggesting that this score represents a highly stable and reliable assessment of parenting behaviour. However, it is possible that internal consistency for other measures has been assessed in a greater number of samples, and therefore the lower limit of the internal consistency range provided may reflect an unusually low result. In addition, the

samples used by other researchers may have been more diverse or smaller in size than those in the current study, which could have also affected the internal consistency results. Nevertheless, these results suggest that the PBDQ demonstrates excellent reliability as compared to previous parenting measures.

However, some of the parenting measures reviewed in Chapter 3 presented more extensive validity testing than what was conducted on the PBDQ in the current study. For example, the PS (Arnold et al., 1993) and the APQ (Shelton et al., 1996), which were both designed to assess parenting techniques associated with conduct problems, demonstrated validity through distinguishing between clinic and non-clinic samples of mothers and their children. Although the PBDQ provides a general assessment of parenting behaviour, subscale scores such as Punitive Discipline and Permissive Discipline are theoretically and empirically associated with child behavioural problems and other negative outcomes, and therefore assessing the predictive validity of these subscales and the validity of the PBDQ as a clinical screening measure would add to the body of support for the utility of this measure.

The results of the current study suggest that the PBDQ exhibits high reliability and validity in assessing parenting behaviours and furthermore, the internal reliability results appear to generalise across parent gender, caregiver status, culture, and child gender. These findings provide support for the utility of the measure across these key demographic variables, as well as providing preliminary support for the universality of dimensions of the five PBDQ dimensions of Emotional Warmth, Punitive Discipline, Autonomy Support, Permissive Discipline, and Democratic Discipline, and the Total PBDQ score.

9.2 Universality of Parenting Dimensions

Stolz et al. (2005) suggested that it is important to assess the applicability of models of parenting developed using Caucasian, middle-class samples to multiple samples of parents differing in socio-economic, cultural, political, and religious background. If these models are found to be universally applicable, parenting dimensions can be meaningfully assessed across these different groups, and important differences in cultural significance of parenting practices and their effects on childhood outcomes can be further examined.

Phase Four of this study involved a series of analyses to assess the variability in PBDQ scores across a number of different parenting subgroups in order to provide preliminary support for the universality of the parenting dimensions described in the

PBDQ. The results of the internal consistency analyses, confirmatory factor analysis, and bivariate, multiple, and hierarchical regression analyses suggested that there was little difference in the variability of PBDQ scores across groups defined by parent gender, age, caregiver status, and child gender, as well as limited variance in PBDQ scores accounted for by the continuous predictors of child age, parent age, birth order, number of children, and cultural variables. In addition, MANOVA analyses suggested that there was no mean difference between PBDQ subscale scores according to parent gender, caregiver status, and the interaction between them, as well as no mean difference in scores according to child gender. These results suggest that the behaviours described by the PBDQ dimensions are consistent across several key demographic variables, providing preliminary support for the universality of Emotional Warmth, Punitive Discipline, Autonomy Support, Permissive Discipline, and Democratic Discipline. However, further research is needed to determine whether this limited variability in PBDQ scores translates to similarity in the reliability, validity, and factor structure of the PBDQ in larger samples of parenting subgroups.

Although the PBDQ exhibited similar psychometric properties and factor structure across different subgroups defined by demographic variables, it is possible that the effects of these behaviours on child outcomes may differ between groups (Bernstein et al., 2005; Stolz et al., 2005). In addition, there may be other parenting variables that are specific to different parenting subgroups that were underrepresented in the PBDQ development sample. Parental ethnotheories, or implicit assumptions about the normal way to raise children, are shaped by the larger culture and range from universal themes, which are called *etics*, to those that are specific to cultural areas, groups, or subgroups, which are called *emics* (Harkness & Super, 2006; Kagitcibasi, 2005; McNeely & Barber, 2010; Peterson et al., 2005; Sinha, 1997; Yau-Fai Ho, 1994). It is thus possible that the five dimensions outlined by the PBDQ represent broader *etic* concepts, while there may be culture-specific differences in the manifestation of these domains as well as additional *emic* parenting concepts within specific cultures. Therefore, further research is needed to explore the extent of the applicability of the PBDQ to different cultural and societal groups.

9.3 Implications of the Research Findings

9.3.1 Theoretical Implications

The current study identified six core dimensions of parenting, five of which were included in the final PBDQ. These dimensions combined a number of different concepts from previous literature, providing some clarity to the definition of key parenting dimensions as well as highlighting the similarities and differences between a number of parenting concepts that vary in terminology, definition, theoretical basis, and assessment. It appears that the six dimensions of Emotional Warmth, Punitive Discipline, Anxious Intrusiveness, Autonomy Support, Permissive Discipline, and Democratic Discipline are important in describing contemporary parenting behaviour, and may also represent the disaggregated dimensions of Baumrind's (1966, 1967, 1971) typology. In addition, these dimensions appear to reflect autonomy supportive and psychologically controlling parenting behaviours, which provides support for their inclusion in models of parenting preadolescent children.

The current study also provided preliminary support for the universality of the five PBDQ parenting dimensions. If the results demonstrating the generalisability of psychometric properties and factor structure, and limited variability in PBDQ scores across parenting subgroups can be replicated in further studies, the PBDQ could be used to compare parenting practices across different cultural and social groups, as well as the effects of these practices on important child outcomes.

Although the original item pool for the PBDQ included items from assessments of parenting styles, homogenous parenting dimensions emerged in the factor analysis. This suggests that the individual component parenting dimensions were more important than aggregated styles in defining contemporary parenting practices. Furthermore, these dimensions had differential relationships with other PBDQ dimensions as well as with child outcomes. For example, Emotional Warmth was moderately correlated with Anxious Intrusiveness, while the related concept of Autonomy Support did not appear to be related to this dimension at all. In addition, Democratic Discipline had a much stronger relationship with child internalising/emotional symptoms than did the related dimension of Autonomy Support. These results provide support for the assessment of disaggregated parenting dimensions rather than focusing on aggregated parenting styles.

However, all of the positive, autonomy supportive parenting behaviours, including Emotional Warmth, Autonomy Support, and Democracy, appeared to have

the same direction of association with internalising symptoms, social skills, and conduct problems in children, while the negative psychologically controlling parenting behaviours of Punitive Discipline and Permissive Discipline had the same direction of association with childhood outcomes as each other, which were in the opposite direction to the positive parenting dimensions. This suggests that it is important to include combinations of parenting behaviours as well as individual parenting dimensions in models discussing risk and protective factors for child internalising, externalising, and social problems. Although the effect sizes of the relationships between PBDQ scores and child outcomes were generally small to medium, it is suggested that environmental stressors such as parenting may interact with a specific genotype to precipitate the onset of internalising problems, and that even small correlations may be important in identifying children at risk for adjustment problems (Caspi et al., 2003; Maccoby, 2000; McLeod, Weisz et al., 2007; Wilhelm et al., 2006).

Therefore, it appears that the PBDQ provides a comprehensive conceptualisation of parenting dimensions, as well as a high utility assessment tool. Without this type of instrument, which combines previous parenting theories, existing measures, practical perspectives on parenting, and empirical measure development procedures, the research in this area will continue to be plagued by inconsistency, definitional ambiguity, and lack of comparability and generalisability of findings across studies and groups.

9.3.2 Research and Clinical Implications

The evidence for the theoretical comprehensiveness, psychometric properties, and utility of the PBDQ suggests that this measure can be used to improve comprehensiveness, quality, consistency, and accuracy of parenting assessment in both research and clinical settings. The dimensions identified by the PBDQ can also provide the foundations for the development of alternative and more complex parenting assessment systems, including observational measures, research and clinical interviews, and child-report measures. These can then be used to collect comprehensive and valid multitrait multimethod parenting assessment data that addresses problems such as shared method variance. Grolnick (2003) suggested that previous studies may have underestimated the magnitude of relationships between parenting and child outcomes due to unreliable or inconsistent methods, and

therefore the use of more complex assessment systems based on core dimensions may result in larger and more clinically and practically significant results.

As previously mentioned, small but potentially clinically significant correlations were found between PBDQ dimensions and child outcomes in the current research. This indicates that the behaviours described by the PBDQ dimensions could be used to inform parenting education and intervention initiatives, as well as interventions aimed at improving child social, emotional, behavioural problems. Emotional Warmth and Total PBDQ appeared to be most strongly related to key childhood outcomes, and therefore Emotional Warmth behaviours may be a good initial target for intervention, while comprehensive interventions should eventually target all of the behaviours outlined in the PBDQ as the sum of the dimension scores had the greatest influence on child outcomes.

The evaluation of such parenting interventions or clinical studies could also be achieved by administering the PBDQ before and after the intervention is conducted to determine if any meaningful changes in parenting behaviour have occurred. This measure has the additional advantage of being relatively brief and economical, which minimises the burden of participant responses and increases the utility of the measure, particularly for research purposes (DeVellis, 2003). As a result, it could also be used for large scale screening of children or families at risk for poor psychosocial outcomes, allowing for early identification, targeted intervention, and identification of clinical samples for future parenting research.

9.4 Strengths of Project

As previously discussed, the main strengths of this study relate to the rigorous mixed-method questionnaire development procedure adopted, including the combination of various sources of expertise, as well as the large and diverse questionnaire development sample, and the use of Internet data collection methods. While previous theoretical and assessment literature and existing measures were used to provide the initial item pool, the refinement and validation of the measure was accomplished using two forms of qualitative parent feedback as well as the empirical assessment of the individual item and overall model performance. Such mixed-method designs allow the researcher to integrate the different perspectives and levels of meaning that are gained through these different methodologies (Tashakkori & Creswell, 2007). Contemporary parents were consulted as part of the expert review process as the item pool already reflected the perspectives of parenting research

experts through the use of items from existing measures, and community psychology research suggests that participants are the real experts concerning their own situations, behaviours, and issues (Angelique & Culley, 2007). Following this review process, EFA, CFA, and the assessment of psychometric properties of the measure were conducted on separate samples, supporting the validity and generalisability of the findings.

The use of Internet data collection methodology for the empirical assessment of item and model performance represented a significant strength of this research. These methods allow researchers to obtain large participant samples at a low cost, and they are associated with more complete responses, and less socially desirable response sets (Birnbaum, 2004; Carlbring et al., 2005; Chang & Krosnick, 2009; Gosling et al., 2004; I. Lewis et al., 2009; G. S. Pettit, 2002; Rhodes et al., 2003). In fact, Gosling et al. reported that the data obtained using Internet surveys were of equal or better quality than those obtained through more traditional methods (Gosling et al., 2004). Participants in the current samples primarily lived in Australia and were largely well educated; however, there was significant diversity in many of the demographic variables, particularly in the EFA and CFA samples, which supports the generalisability of this measure across a range of parenting subgroups.

A final strength of this study was the inclusion of Hofstede's (1980, 1983) four continuous cultural dimensions in relation to parenting. Hofstede's research was based on coherent theory and rigorous research methods, and most of his predictions have been replicated and widely cited, providing a valid and important insight into cross-cultural relationships (Bond, 2002; Jones, 2007; Sondergaard, 1994). Previous parenting research has generally examined parenting in individual cultures or compared parenting across multiple countries, and has generally dichotomised culture as individualistic and collectivist groups. However, several researchers have suggested that this distinction is inadequate in explaining cultural variations in parenting practices (Harkness et al., 2000; Hofstede 1991; J. G. Miller, 2002). The current study instead used the scores on Individualism versus Collectivism, Power Distance, Uncertainty Avoidance, and Masculinity versus Femininity for each parent culture in assessing the variance in PBDQ scores accounted for by cultural and other demographic variables.

9.5 Limitations

The key limitations of the current study have been discussed in previous chapters, and relate to the problems with the analyses, the use of cross-sectional methodology, small effect sizes, and sample biases. Limitations relating to the analyses conducted in Phase Three and Phase Four include violation of assumptions for some of the PBDQ subscale scores and the use of transformed data, increased probability of Type 1 errors due to multiple analyses conducted on the same data set, the use of a single informant in assessing criterion validity, insufficient statistical power in some of the validity analyses, and significant missing data for some cultural variables. Consequently, these results only provide an initial indication of the relationships between PBDQ subscales and child outcomes, and further replication of these findings in future is required. The SDQ Emotional Symptoms and SSRS-P Internalising Problems subscales were found to have minimally acceptable to below acceptable internal consistency in Phase Three (Loewenthal, 2001), which may have resulted in the underestimation of relationships between internalising symptoms and PBDQ scores.

The validity analyses conducted in Phase Three also constituted cross-sectional research, which limits the analysis of the causal directionality and predictive validity of the PBDQ. Whether internalising symptoms, conduct problems, and low social skill result from or influence the use of particular parenting behaviours cannot be determined. Results have found significant bidirectional and reciprocal relationships between parenting and child outcomes (Barber et al., 2005; Combs-Ronto et al., 2009; Patterson, 1980, 1982; G. S. Pettit et al., 2001; Scaramella et al., 2002; Scaramella & Leve, 2004; Verhoeven et al., 2010), thus it is important to conduct longitudinal studies in future that can examine such effects.

Thirdly, although the PBDQ was significantly correlated with measures of child emotional, behavioural, and social outcomes, effect sizes were generally small to moderate, and therefore questions the practical significance. However, these results were expected, as other studies have also typically found small to moderate effect sizes (Bates et al., 1998; Maccoby & Martin, 1983; Morris et al., 2002), and these may still be important in screening for children at risk for poor adjustment outcomes (Maccoby, 2000). Due to the interaction of parenting with a multitude of variables within the layers of the ecological context in which parenting occurs, it

may be unreasonable to expect high correlations between parenting and child outcomes.

McLeod, Weisz et al. (2007) and McLeod, Wood et al. (2007) explained that the small effect sizes generally found between parenting and child outcomes may also be due to self-report methodologies, which tend to underestimate the magnitude of the association. Self-report methods may also be plagued by problems such as inability to assess dynamic parent-child transactions (C. Hill et al., 2008), lack of insight and emphasis on salient or recent events (Zaslow et al., 2006), and social desirability biases (Bornstein & Zlotnik, 2008), although other measures that were used in the development of the PBDQ suggested that social desirability did not appear to be affecting their results.

The samples used in the various phases of this research predominantly consisted of Australian mothers, which may limit generalisability of the findings to fathers and to populations outside of Australia. However, although there is some evidence to suggest that the same parenting behaviour may have a different impact on child outcomes depending on the gender of the parent (Crockenberg et al., 1996; Hart et al., 1992; Stolz et al., 2005; Tamis-LeMonda et al., 2004), the results of the current study suggested that there was little variability in PBDQ scores and reliability of the PBDQ as a result of parent gender. In addition, the developmental sample included participants from the USA, England, Germany, Canada, Portugal, Ireland, Dubai, Pakistan, Hong Kong, Singapore, Bahrain, Philippines, South Africa, and Italy, and therefore the PBDQ factor structure and psychometric properties may generalise across these groups, even if the relationships between parenting and child outcomes differ.

Another sample bias is the higher education level attained by the participants in all phases of this research as compared to Australia's national average as reported by the Australian Bureau of Statistics (ABS; 2011). The ABS reported that 26% of Australians aged 25 to 64 years had a Bachelor degree or above, while in the current study, 75.0 % of parents who provided individual item feedback had a Bachelor degree or above, as did 46.7% of focus group participants, and 50.7% of the participants in the EFA and CFA samples. Additionally, Australia has a higher proportion of people with a Bachelor qualification or above compared to the average of other predominantly Western countries in the Organisation for Economic Co-operation and Development (ABS, 2011), which may limit the generalisability of

these findings. Specifically, this sample bias may have impacted on the items that were retained in the initial PBDQ item pool, as well as the resultant factor structure of the PBDQ and the relationships found between the PBDQ scores and child outcomes. This emphasises the importance of replicating the factor structure and other preliminary findings related to the psychometric of the PBDQ across larger and more diverse samples of parents.

Failure to use random sampling in asking parents to choose a child to answer the parenting items about may also represent a source of bias in the responses; for example, parents may have chosen the child that they employed the most socially desirable parenting behaviours with. Future research is needed to replicate the psychometric properties of the PBDQ in samples where random sampling procedures are used.

Furthermore, generalisability of results may be affected by the self-selection process of participation. Parents who volunteered to participate may be more interested, committed, and involved in parenting, more willing to change their behaviours to become more effective parents, and more open to information about parenting, than other parents who did not choose to participate. As a result, these parents may have endorsed more positive parenting items, which could have resulted in the exclusion of items relating to negative parenting behaviours such as neglect, rejection, and corporal punishment, in the final PBDQ. Baumrind (1966, 1967, 1971) also had difficulty finding parents that matched her descriptions of permissive parenting, and other research has also found that parents are generally warm and involved, and use little harsh, punitive discipline (Driscoll et al., 2008; Gaylord-Harden et al., 2010; Kapinus & Gorman, 2004; S. H. Landry et al., 2006; Lieb et al., 2000; Lorber et al., 2011; Mahoney et al., 2000; Mallinckrodt, 1992; Spokas & Heimberg, 2009).

Finally, it is possible that other parenting factors that did not emerge in the final PBDQ solution are important in explaining contemporary parenting practices, including culturally specific parenting dimensions that may have been underrepresented in the initial item pool. The initial parallel analysis suggested the presence of ten factors, but these were eventually reduced due to low item loadings, cross loadings, or insufficient number of items. However, although the seventh factor appeared to be relatively homogenous and appeared to describe parental involvement, or instrumental acts that express commitment (L. M. Locke & Prinz,

2002; E. Skinner et al., 2005), the remaining three factors appear to contain theoretically inconsistent items with generally low factor loadings. This suggests that further investigation of the involvement factor items may be worthwhile in future research; however, there appears to be little justification for pursuing the remaining three factors.

9.6 Future Directions

The PBDQ represents a new measure of parenting, and therefore it is recommended that further independent research is conducted to replicate and extend the psychometric and utility assessment findings presented in this study in multiple and diverse samples of parents. For example, further research is needed to establish the predictive, criterion, and discriminant validity of the PBDQ, and to test the validity of the PBDQ model in clinical populations where parenting is thought to play a role in the disorder. Studies should also evaluate the PBDQ with parent samples that have used random sampling techniques in selecting a child to answer about, as well as samples that include a greater number of fathers and non-primary caregivers and parents from more diverse cultures. Although parents in the PBDQ development samples represented a number of different cultures and ethnic identities, most of the participants lived in Australia and therefore these parents may differ slightly to other parents with the same ethnic identity but living in a different country. Such research will be invaluable in extending the evidence for the utility of the PBDQ and the preliminary claims of generalisability and universality of its dimensions.

As mentioned earlier, future research could also develop multi-method assessments based on the core dimensions identified in this research, as this measure was developed using rigorous questionnaire development procedures (Budd & Holdsworth, 1996; Buri, 1991). Alternative measures can then be used to provide valid, comprehensive, and consistent assessment of the five core parenting dimensions within clinical and research settings. The development of a child-report measure could also be used to assess the child's experience or perception of parental behaviour as manipulative or intrusive, which is an important component of psychological control (Nucci, 1996; Nucci et al., 2005; G. S. Pettit et al., 2001; Smetana et al., 2005; Smetana & Daddis, 2002).

There was little variability in PBDQ scores across a number of demographic variables in this research; however, the results of the current study do not preclude

potential differences in the effects of the same parenting behaviours on child outcomes in different sociocultural groups. In addition, there may be other parenting dimensions that are specific to certain sociocultural groups which exist alongside the five PBDQ dimensions. It appears that further exploration of these issues would be useful in developing cross-cultural and universal parenting models, and clarifying the relationship between parenting and important child outcomes across different parenting subgroups.

According to Stolz et al. (2005), examination of mother and father parenting behaviours as separate predictors of child outcomes may lead to spurious results, as these scores are often moderately to highly correlated. Future research is therefore needed to compare the PBDQ scores from caregivers within the same family to determine the unique and shared variance in child outcomes accounted for by mothers' and fathers' parenting behaviours, and assess the degree of intra-family parenting consistency. It is also important that future research examines PBDQ scores based on different children within the same family, in order to determine whether the findings of consistency of parenting behaviours toward male and female children and the limited variability in PBDQ scores accounted for by child age and birth order is also applicable within individual families.

Another important direction for future research is the examination of various combinations of PBDQ dimensions, rather than just the cumulative Total PBDQ score, in predicting child outcomes to assess for specificity and combined predictive ability. In addition, there may be complex relationships between PBDQ scores and child outcomes, including interactions, curvilinear, and mediational relationships, which need to be explored in order to identify the standards for good enough parenting and minimal parenting competency. These relationships could also be affected by other predictors of parenting and child outcomes which are included in Kotchick and Forehand's (2002) ecological model, and therefore inclusion of these factors may be useful in clarifying the nature of the influence of parenting on child outcomes. Finally, as previously mentioned, longitudinal research is needed to examine bidirectional influences between PBDQ parenting behaviours and child internalising, externalising, and social outcomes.

The final recommendation for future research is to further investigate and develop the theoretical PBDQ model. As previously discussed, the development of additional items based on the suggestions made by contemporary parents in Phase

One may facilitate the discovery of additional parenting dimensions that are not represented in the current PBDQ model. In addition, further research is needed to investigate the Anxious Intrusiveness factor that emerged in the EFA but was not included in the final PBDQ questionnaire. This factor was consistent with descriptions of overprotective, indulgent, and intrusive parenting, as well as psychological control as defined by SDT (Deci & Ryan, 1985, 2000), and dependency-oriented psychological control (Barber & Buehler, 1996; Soenens et al., 2010). In addition, Anxious Intrusiveness correlated significantly and in the expected direction with Emotional Warmth, Punitive Discipline, and Permissive Discipline, and it showed some interesting relationships with key demographic variables that could present risk factors for this type of parenting, and the associated negative child adjustment outcomes.

Therefore, it appears that further investigation of this construct in future research is warranted. It is recommended that this research examine the nature of the relationship between Anxious Intrusiveness and theoretically related factors such as parental anxiety, child internalising and externalising problems, as well as measures of overprotective parenting and psychological control from the adolescent literature, and also assess non-linear relationships between Anxious Intrusiveness and PBDQ Autonomy Support and Democratic Discipline factors. It is possible that this factor may comprise a separate parenting construct that is independent of Autonomy Support and Democratic Discipline, and has important implications for child development and psychosocial outcomes.

9.7 Conclusions

This project was the first to combine previous parenting assessment items with expert parent review and suggestions and rigorous empirical procedures to produce a brief but comprehensive measure of parenting dimensions for parents of preadolescent children. This study is unusual in that it used the questionnaire development methodology to identify core parenting dimensions rather than mapping content onto predetermined theoretically derived domains; however, due to the inconsistency and confusion in the parenting literature regarding the number and definition of core parenting dimensions, and the diversity of concepts that had been assessed in previous parenting studies, it was not possible to specify the expected parenting dimensions a priori. Furthermore, the consultation of parents as experts represents another novel component of the study, as most questionnaire development

studies consult research and clinical experts to review their items. Because it was presumed that experts had produced the original assessments on which the PBDQ was predominantly based, contemporary parents who were qualified by their practical experience of parenting were used to review existing items and suggest other important areas of parenting to assess.

The overall findings of this research suggest that there are five core dimensions that are important in describing contemporary parenting practices, with the possible inclusion of a sixth. These include factors that are supportive and promote volitional functioning, including Emotional Warmth, Autonomy Support, and Democratic Discipline, as well as factors that undermine the development of autonomy in the child and do not take the child's needs, abilities, and development into account, such as Punitive Discipline, Permissive Discipline, and Anxious Intrusiveness, although further investigation of the latter dimension is needed. Out of the five PBDQ dimensions, Emotional Warmth appears to be the most influential of these, although the sum of the parenting variables together has a larger influence on child outcomes than any of the other four dimensions considered individually.

The results of this research also suggest that the PBDQ is a comprehensive, psychometrically sound, and practically useful measure of parenting that can be used to enhance the quality, consistency, and accuracy of parenting assessment in both clinical and research settings. There is also some evidence for the generalisability of the psychometric properties of the PBDQ and the universality of the underlying model across a number of parenting subgroups defined by demographic variables.

Parenting research has long been held back by the use of idiosyncratic, theoretically narrow, and psychometrically problematic measures of parenting that did not allow for the comparability of results across studies and the determination of core parenting dimensions. Therefore, the current research will allow for greater progression in parenting research in the future, including the systematic comparison of parenting research and theory, improved parenting and child psychosocial interventions, and the development of more comprehensive and clinically useful parenting assessments based on the dimensions identified in this study.

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APPENDIX A**PHASE ONE: LIST OF RESPONSIVENESS, OVERPROTECTION, AND
AUTONOMY SUPPORT ITEMS**

1. I only provide help to my child with things that they are not capable of
2. I provide guidance and direction before my child asks for it
3. I do things for my child that he/she is capable of doing for him/herself
4. I take over when my child is doing something the wrong way
5. I give my child responsibilities appropriate to his/her age
6. When my child asks for something, I give in and let him/her have it
7. I give my child toys and entertainment when I am unable to spend time with him/her
8. I encourage my child to try things for him/herself before asking for help
9. I let my child try to figure things out for him/herself before giving my input
10. When I know my child wants something, I give it only for a reward or special occasion
11. I encourage my child to work towards long term goals
12. I try to meet my child's needs and desires immediately
13. I am there for my child when he/she seeks me out
14. I am less involved in my child's daily activities than when he/she was younger
15. I check on my child when he/she is not at home
16. I try to anticipate what my child's desires are and provide them before he/she has to ask
17. I try to provide my children with as many opportunities as I can, regardless of their efforts
18. I pester my child for details about his/her life

APPENDIX B

PHASE ONE: LIST OF ELIMINATED REDUNDANT ITEMS

1. I slap or hit my child when he/she does something wrong
2. How much do you hit this child when he or she has been bad?
3. I spank when our child is disobedient
4. You slap your child when he/she has done something wrong
5. You hit your child with a belt, switch, or other object when he/she has done something wrong
6. I use physical punishment as a way of disciplining our child
7. I slap our child when the child misbehaves
8. I shove our child when the child is disobedient
9. How much do you spank this child when he or she misbehaves?
10. How much do you punish this child by giving him or her a paddling when he or she has done something wrong?
11. You spank your child with your hand when he/she has done something wrong
12. I yell or shout when our child misbehaves
13. How much do you yell at this child for being bad?
14. When my child misbehaves- I raise my voice or yell; I speak to my child calmly.
15. I withhold scolding and/or criticism even when our child acts contrary to our wishes
16. I scold and criticise to make our child improve
17. Some parents take away privileges a lot when their children misbehave, while other parents hardly ever take away privileges. How much do you take away this child's privileges when he/she misbehaves?
18. I punish by taking privileges away from our child with little if any explanations
19. How much do you forbid this child to do something he or she really likes to do when he or she has been bad?
20. I punish my child by not letting him/her do things he/she likes for long periods of time
21. You send your child to his/her room as a punishment
22. You use time out (make him/her sit or stand in a corner) as a punishment.
23. The punishment you give your child depends on your mood
24. When I tell my child not to do something- I say very little; I say a lot.
25. When my child misbehaves- I give my child a long lecture; I keep my talks short and to the point
26. My child has reason to be scared of me when I find out he/she has done something wrong
27. My child feels my punishments are unfair
28. Some parents make their children feel bad about themselves a lot when they misbehave, while other parents do this a little. How much do you make this child feel bad about himself or herself when he or she misbehaves?
29. If saying "No" doesn't work- I take some other kind of action; I offer my child something nice so he/she will behave
30. You threaten to punish your child and then do not actually punish him/her
31. I state punishments to our child and do not actually do them

32. When I give a fair threat or warning- I often don't carry it out; I always do what I said.
33. I threaten to do things that- I am sure I can carry out; I know I won't actually do.
34. I give in to our child when the child causes a commotion about something
35. You let your child out of a punishment early (like lift restrictions earlier than you originally said)
36. Sometimes I really get after my child, while other times that same thing doesn't really bother me
37. I let my child get away with things that maybe I should be tougher about
38. When my child does something I don't like- I do something about it every time it happens; I often let it go.
39. I tell child out expectations regarding behaviour before the child engages in an activity
40. Your child fails to leave a note or to let you know where he/she is going
41. Your child is out after dark without an adult with him/her
42. Your child comes home from school more than an hour past the time you expect him/her
43. Your child is at home without adult supervision
44. I explain the consequences the child's behaviour
45. I emphasise the reasons for rules
46. How much do you give this child reasons for rules you make for him or her to follow?
47. I give our child reasons why rules should be obeyed
48. I expect my children to follow my directions, but I am always willing to listen to their concerns and discuss the rules with them
49. Smart parents should teach their children early exactly who is the boss in the family
50. I demand that our child do things
51. Most problems in society could be solved if parents were stricter when their children disobey
52. Other parents should use more force to get their children to behave
53. I tell our child what to do
54. It is for my children's own good to require them to do what I think is right, even if they don't agree
55. My children do not need to obey rules simply because people in authority have told them to
56. Most problems in society would be solved if parents would let their children choose their activities, make their own decisions, and follow their own desires when growing up
57. Children need to be free to make their own decisions about activities, even if this disagrees with what a parent might want to do
58. I am the kind of parent that- I set limits on what my child is allowed to do; I let my child do whatever he or she wants.
59. I give praise when our child is good
60. How much do you tell this child that he or she did a good job?
61. You compliment your child when he/she does something well
62. Some parents and children spend a lot of free time together, while other parents and children spend a little free time together. How much free time do you and this child spend together?

63. How much do you and this child go places and do things together?
64. I love the time I spend with my child
65. You play games or do other fun things with your child...
66. I joke and play with our child
67. I show sympathy when our child is hurt or frustrated
68. How much do you and this child like the same things?
69. How much are you and this child alike?
70. How much do you think highly of this child?
71. Some children think very highly of their parent, while other children don't think so highly of their parent. How much does this child think highly of you?
72. How much do you and this child love each other?
73. How much do you show this child how to do things that he/she doesn't know how to do?
74. How much do you help this child with things he or she can't do by him- or herself?
75. How much do you and this child give each other a hand with things?
76. Some parents and children do special favours for each other a lot, while other parents and children do special favours for each other a little. How much do you and this child do special favours for each other?
77. How much do you want this child to do things with you rather than with other people?
78. How much do you and this child tell each other everything?
79. How much do you and this child talk to each other about things that you don't want others to know?
80. My life would be empty without my child
81. How much do you not let this child go places because you are afraid something will happen to him or her?
82. How much do you and this child argue with each other?
83. I argue with our child
84. I disagree with our child
85. How much do you and this child get mad at and get in arguments with each other?
86. I always encourage discussion when my children feel family rules and restrictions are unfair
87. I show respect for our child's opinions by encouraging our child to express them
88. I take into account our child's preferences in making plans for the family
89. When I have to handle a problem- I tell my child I am sorry about it; I don't say I'm sorry.
90. If I could live my life over, I would definitely want to have kids again

APPENDIX C

PHASE ONE: INITIAL ITEM POOL FOR THE PROPOSED PBDQ (REDUNDANT ITEMS DELETED)

1. I spank, slap, or hit my child when he/she misbehaves
2. I grab my child when he/she is being disobedient
3. I make my child feel ashamed or guilty when he/she misbehaves
4. I ignore my child when he/she misbehaves
5. I yell or scream at my child when he/she misbehaves
6. I explode in anger toward my child when he/she misbehaves
7. I use bad language or curse when my child misbehaves
8. I scold or criticise when my child's behaviour doesn't meet my expectations
9. I say mean things to my child when he/she does something I don't like
10. I take privileges away from my child as punishment
11. I send my child off to somewhere alone as punishment
12. I make my child stay home as punishment
13. I give my child extra chores as punishment
14. I lecture my child about not complaining if they talk back or complain about how I handle a problem
15. I discuss the reasons why my child is being punished with him/her
16. If saying no doesn't work straight away, I keep trying to convince my child to comply
17. I get into an argument with my child when he/she misbehaves
18. I make my child tell me why he/she misbehaved when it happens
19. I make my punishments unpleasant enough to make sure that he/she will remember them
20. I discipline first and ask questions later
21. I use rewards and punishments to direct my child's decisions and behaviour
22. I use punishment more than reason to direct my child's decisions and behaviour
23. I get upset about things after letting them go unnoticed for a while
24. I am loving toward my child one moment, and difficult to deal with the next
25. I let my child talk him/herself out of being punished
26. I back down from a punishment if my child might 'make a scene'
27. I give in to my child when he/she gets upset
28. I let my child do something I have said that he/she isn't allowed to do
29. I don't punish my child if he/she misbehaves then acts sorry
30. I feel that getting my child to obey me is more trouble than it's worth
31. I don't punish my child when he/she has misbehaved
32. I ignore my child's misbehaviours
33. I do things for my child when he/she refuses to do them
34. I let my child get away with a lot more when he/she is not at home
35. I am easy on my child one minute, and hard on him/her the next
36. I tell my child I will do one thing, but end up doing something else
37. I threaten my child with punishments that I would never actually use
38. I threaten my child with punishment more often than actually giving it
39. I use threat as a punishment with little or no justification
40. I am on my child's back more when I am upset or under stress
41. The punishments that I decide on are often influenced by my mood

42. My child is unsure about when I will disapprove of something that he/she has done
43. I get upset when my child tries to disagree with me
44. I get upset when my child has a different opinion than I do
45. I try to change how my child thinks or feels about things
46. I am short tempered with my child when he/she does something to upset me
47. I hold a grudge against my child when he/she does something to upset me
48. I get visibly frustrated or angry when my child misbehaves
49. I do things I don't mean to do when a problem with my child builds up
50. I lose my patience when my child does something to upset me
51. I punish my child more severely than I mean to
52. I can't ignore my child's pestering
53. I let my child know what behaviour is expected, and punish them if they don't comply
54. I discipline my child when he/she misbehaves
55. I take action immediately when my child misbehaves
56. When I ask my child to do something, I make sure that he/she does it
57. I give my child a reminder or warning before I discipline them
58. I follow through when I agree to do something with my child
59. I bribe my child with rewards to get him/her to obey me
60. I coax or beg my child to stop when he/she is misbehaving
61. I channel our child's misbehaviour into a more acceptable activity
62. I get on my child's back in a way that makes him/her angry
63. I nag my child to do things
64. I remind my child that other children behave better than him/her
65. I disagree and quarrel with my child
66. I pick on my child when he/she doesn't deserve it
67. I let my child bend the rules more than I should
68. I let my child get away with too much
69. I let my child do what he/she wants in situations in which I should be stricter
70. I set firm guidelines for my child's behaviour
71. I allow our child to annoy someone else
72. I allow my child to interrupt others
73. I am easygoing and relaxed with my child
74. I let my child go out without a set time to be home
75. I direct the behaviours, activities, or desires of my children
76. I am responsible for telling my child what to do
77. I allow my children to decide most things for themselves without much input from me
78. I allow my child to have their way as often as I have my way
79. I find it amusing when my child does something to upset his/her teacher or another adult
80. I allow my child to get into a little trouble
81. I order my child around
82. I tell my child what to do
83. I make my child do things
84. I tell my child exactly what I want him/her to do and how I expect it done
85. I expect my children to do what I ask simply out of respect for my authority
86. I let my child know when he/she is doing a good job
87. I praise my child when he/she behaves well

88. I let my child know that I appreciate what he/she tries or accomplishes
89. I praise and compliment my child
90. I tell my child when I like what he/she did
91. I tell my child how proud I am of him/her
92. I hug or kiss my child when he/she has done something well
93. I reward my child for obeying my or behaving well
94. I tell my child that I like it when he/she helps around the house
95. I know the friends who my child is out with
96. My child stays out in the evening past the time he/she is supposed to be home
97. I have a good idea of what my child is doing when he/she is out of my sight
98. I get so busy that I forget to check where my child is and what he/she is doing
99. I check if my child comes home at the time he/she is supposed to
100. I leave without telling my child where I am going
101. I explain to my child how I feel about his/her good behaviour
102. I explain to my child how I feel about his/her bad behaviour
103. I explain to my child why his/her behaviour was wrong when he/she misbehaves
104. I talk to my child about the consequences of his/her actions
105. I reason with my child when he/she misbehaves
106. I give my child reasons about why he/she isn't allowed to do something
107. I explain to my child the reasons why I expect them to do something
108. I discuss the reasons for family rules with my child
109. I let my children make their own opinions and decisions about family matters
110. I respect my child's opinion
111. I ask my child's opinion on matters that concern him/her
112. I allow my child to discuss with me if they feel that my expectations are unfair
113. I encourage my child to express him/herself freely when disagreeing with me
114. I allow my child input into family rules
115. I listen to my child's ideas about issues that concern him/her before making a decision
116. I am understanding when my child disagrees with my expectations of them
117. I allow my child to help plan family activities
118. I admit to making a mistake if my decision hurts my child
119. I apologise to my child when I have made a mistake
120. I spoil my child
121. I let my child have things that I'm not sure are good for him/her to have
122. I fear that my child will not like me if I discipline him/her
123. I find it difficult to discipline my child
124. I take my child's desires into account before asking him/her to do something
125. I take my child's opinions into account before making decisions that affect him/her
126. I make decisions based on what my children want
127. I am willing to change my expectations to meet the needs of my child
128. I expect my child to do things immediately without questions
129. I tell my child that he/she has to conform because I say so
130. I forbid my child to question my decisions
131. I set strict, well-established rules for my child
132. I provide comfort and understanding when my child is upset
133. I show patience toward my child

134. I am responsive to my child's feelings or needs
135. I hug, kiss, and hold my child to express affection
136. I only provide help to my child with things that they are not capable of
137. I provide guidance and direction before my child asks for it
138. I do things for my child that he/she is capable of doing for him/herself
139. I take over when my child is doing something the wrong way
140. I give my child responsibilities appropriate to his/her age
141. When my child asks for something, I give in and let him/her have it
142. I give my child toys and entertainment when I am unable to spend time with him/her
143. I encourage my child to try things for him/herself before asking for help
144. I let my child try to figure things out for him/herself before giving my input
145. When I know my child wants something, I give it only for a reward or special occasion
146. I encourage my child to work towards long term goals
147. I try to meet my child's needs and desires immediately
148. I am there for my child when he/she seeks me out
149. I am less involved in my child's daily activities than when he/she was younger
150. I check on my child when he/she is not at home
151. I try to anticipate what my child's desires are and provide them before he/she has to ask
152. I try to provide my children with as many opportunities as I can, regardless of their efforts
153. I spend my free time doing things with my child
154. I make spending time with my child a high priority
155. I have warm and intimate times with my child
156. I play around and have fun with my child
157. I enjoy spending time with my child
158. I volunteer to help with special activities that my child is involved in
159. I help my child with his/her homework when it is difficult
160. I check that my child is doing his/her homework correctly
161. I do my child's homework for him/her when it is difficult
162. I drive my child to a special activity
163. I attend parent meetings, parent/teacher conferences, or other meetings at my child's school
164. I encourage my child to talk about their problems
165. I have friendly talks with my child
166. I ask my child about what he/she is planning to do for the day
167. I ask my child about his/her day at school
168. I talk to my child about his/her friends
169. I pester my child for details about his/her life
170. I know the name of my child's friends
171. I am aware of problems or concerns about my child at school
172. I admire my child
173. I respect my child
174. I am proud of my child
175. My child admires me
176. My child respects me
177. My child is proud of me

178. I have strong feelings of affection toward my child
179. My child has strong feelings of affection toward me
180. I care about my child
181. My child cares about me
182. My child and I have things in common
183. I feel left out when my child doesn't need me as much as he/she used to
184. I want my child to spend time with me
185. I want this child around me
186. I think of myself as the most important person in my child's life
187. I share secrets and private feelings with my child
188. My child shares secrets and private feelings with me
189. I share more of my life with my child than with anyone else
190. I depend on my child's support more than I should
191. I rely on my child to cheer me up when I'm feeling down
192. It is important to me that my child is thankful for all that I have done for
him/her
193. I do nice things for my child
194. My child does nice things for me
195. I give my child a hand with something
196. My child gives me a hand with something
197. I give my child a lot of advice when he/she is trying to do something
198. I help my child when he/she is struggling with something
199. I take over when my child is struggling with something
200. I teach my child things that he/she doesn't know
201. I prevent my child from doing things out of fear he/she might get hurt
202. I prevent my child from doing things that his/her friends are doing that I think
are not safe
203. I have difficulty letting my child do things that children his/her age are doing
204. I worry about my child when he/she is not at home
205. I enjoy the daily chores of being a parent
206. I find being a parent satisfying
207. I feel weighed down by the burden of being a parent
208. I am confident about my parenting abilities
209. I am more concerned with my own feelings than my child's feelings
210. I am unsure of how to solve my child's misbehaviour

APPENDIX D

PHASE ONE: DEMOGRAPHICS QUESTIONNAIRE

DEMOGRAPHIC INFORMATION			
To be completed by the <u>primary caregiver</u>			
1. Your current marital status: <i>(please tick one response)</i>			
<input type="checkbox"/> Single	<input type="checkbox"/> Married	<input type="checkbox"/> Divorced	
<input type="checkbox"/> Defacto	<input type="checkbox"/> Separated	<input type="checkbox"/> Widowed	
2. How would you describe the living arrangements for your children most of the time during the past year? <i>(please tick one response)</i>			
<input type="checkbox"/> Mother & Father together			
<input type="checkbox"/> Parent & Stepparent			
<input type="checkbox"/> Mother only			
<input type="checkbox"/> Father only			
<input type="checkbox"/> Mother & Father separately – shared custody			
<input type="checkbox"/> Grandparent			
<input type="checkbox"/> Other relative			
<input type="checkbox"/> Legal guardian			
<input type="checkbox"/> Other <i>(please specify)</i>			
3. Please list people <u>currently</u> living in the home, as follows			
Male	Female	Age	Relationship to you <i>(please specify e.g., partner, son, stepdaughter)</i>
<input type="checkbox"/>	<input type="checkbox"/>	_____	_____
<input type="checkbox"/>	<input type="checkbox"/>	_____	_____
<input type="checkbox"/>	<input type="checkbox"/>	_____	_____
<input type="checkbox"/>	<input type="checkbox"/>	_____	_____
<input type="checkbox"/>	<input type="checkbox"/>	_____	_____
<input type="checkbox"/>	<input type="checkbox"/>	_____	_____
<input type="checkbox"/>	<input type="checkbox"/>	_____	_____
<input type="checkbox"/>	<input type="checkbox"/>	_____	_____
4. Your current occupation: _____ <i>(please specify e.g., high school teacher, auto mechanic, homemaker, salesperson etc)</i>			

Please continue on the next page...

5. Your highest level of education completed: _____
 (please specify e.g., Year 10, Year 12, Bachelor degree, TAFE degree, postgraduate degree, apprenticeship etc)

6. Your partner's current occupation (if applicable): _____
 (please specify e.g., high school teacher, auto mechanic, homemaker, salesperson etc)

7. Your partner's highest level of education completed (if applicable):

 (please specify e.g., Year 10, Year 12, Bachelor degree, TAFE degree, postgraduate degree, apprenticeship etc)

8. This questionnaire was completed by: (please tick one response)

<input type="checkbox"/>	Mother
<input type="checkbox"/>	Father
<input type="checkbox"/>	Step-parent
<input type="checkbox"/>	Grandparent
<input type="checkbox"/>	Legal guardian
<input type="checkbox"/>	Other (please specify) _____

9. Today's date is: _____ (day) / _____ (month) / 2008 (year)

APPENDIX E
PHASE ONE: INDIVIDUAL PARENT FEEDBACK PARTICIPANT
INFORMATION AND CONSENT FORM

INFORMATION SHEET

Dear parent,

My name is Carly Reid and I am a PhD (Clinical Psychology) student at Curtin University of Technology. I am developing a measure of parenting style for my research, and am asking parents to share their opinions on a number of parenting questions. If you would like to participate in this important research, please sign and return the attached consent form.

Your participation is greatly appreciated and you may withdraw consent at any time without affecting yourself or the study. For more information, please contact me directly on 9226 1398, carly.reid@curtin.edu.au or my supervisors Professor Jan Piek 9266 7990, j.piek@curtin.edu.au, and Associate Professor Clare Roberts 9266 7992, c.roberts@curtin.edu.au. If you wish to contact someone outside the study please contact Linda Teasdale, Ethics Committee Secretary on 9266 2784.

Kind regards,

Carly Reid
PhD candidate
School of Psychology
Curtin University of Technology

Consent Form

- 1 I have read the information provided to me about the Parenting Study and fully understand the nature of my participation.**
- 2 I understand that this research is a PhD project conducted by Carly Reid at the School of Psychology, Curtin University of Technology**
- 3 I understand that I may withdraw consent at any stage without affecting my rights or the responsibilities of the researchers in any respect.**

I AGREE to take part in this project *(please tick box and provide the details requested below)*

Name.....

Signature.....

Date.....

THANK YOU FOR YOUR PARTICIPATION IN THIS IMPORTANT RESEARCH.

APPENDIX F**PHASE ONE: FOCUS GROUP INFORMATION AND CONSENT FORM****INFORMATION SHEET**

Dear parent,

My name is Carly Reid and I am a PhD (Clinical Psychology) student at Curtin University of Technology. I am conducting research identifying patterns of parenting behaviour in parents of 3-17 year old children.

I am asking for parents to volunteer for a focus group to share their opinions on a list of parenting questions. This group will run for approximately two hours, and will be audiotaped. Morning tea will be provided, and participants will go in the draw to win one of three \$50 Coles/Myer vouchers. The focus group will take place at Curtin University at a time and date suitable to volunteers.

Your participation is greatly appreciated and you may withdraw consent at any time without affecting yourself or the study. For more information, please contact me directly on 9226 1398, carly.reid@curtin.edu.au or my supervisors Professor Jan Piek 9266 7990, j.piek@curtin.edu.au, and Associate Professor Clare Roberts 9266 7992, c.roberts@curtin.edu.au. If you wish to contact someone outside the study please contact Linda Teasdale, Ethics Committee Secretary on 9266 2784.

Kind regards,

Carly Reid
PhD candidate
School of Psychology
Curtin University of Technology

Consent Form

- 1 I have read the information provided to me about the Parenting Study and fully understand the nature of my participation.
- 2 I understand that this research is a PhD project conducted by Carly Reid at the School of Psychology, Curtin University of Technology
- 3 I understand that this focus group will be audiotaped
- 4 I understand that I may withdraw consent at any stage without affecting our rights or the responsibilities of the researchers in any respect.
- 5 I consent to be contacted by phone should the researchers require any further information my child's participation.

I **AGREE** to take part in this project *(please tick box and provide the details requested below)*

Name.....

Signature.....

Date.....

Address.....

Home Phone..... Work Phone.....

**THANK YOU FOR YOUR PARTICIPATION IN THIS IMPORTANT
RESEARCH.**

APPENDIX G

PHASE ONE: FINAL ITEM POOL

Italicised items were retained unchanged

Bolded items were reworded

Underlined items were added

1. **I smack my child when he/she misbehaves**
2. **I make my child feel ashamed when he/she misbehaves**
3. **I shout at my child when he/she misbehaves**
4. **I scold when my child's behaviour doesn't meet my expectations**
5. *I take privileges away from my child as punishment*
6. *I send my child off to somewhere alone as punishment*
7. *I discuss the reasons why my child is being punished with him/her*
8. *If saying no doesn't work straight away, I keep trying to convince my child to comply*
9. *I get into an argument with my child when he/she misbehaves*
10. **I punish first and ask questions later**
11. I am consistent in the way I punish my child
12. **I allow my child to express his/her side of the story before I punish him/her**
13. *I give in to my child when he/she gets upset*
14. **I don't punish my child if he/she acts sorry**
15. **It is more trouble than its worth to get my child to obey me**
16. *I don't punish my child when he/she has misbehaved*
17. *I ignore my child's misbehaviours*
18. *I am easy on my child one minute, and hard on him/her the next*
19. *I threaten my child with punishments that I would never actually use*
20. *The punishments that I decide on are influenced by my mood*
21. *I try to change how my child thinks or feels about things*
22. **I remain upset with my child when he/she has misbehaved**
23. *I lose my patience when my child does something to upset me*
24. *I punish my child more severely than I mean to*
25. **I let my child know what behaviour is expected**
26. *I take action immediately when my child misbehaves*
27. *When I ask my child to do something, I make sure that he/she does it*
28. *I follow through when I agree to do something with my child*
29. *I bribe my child with rewards to get him/her to obey me*
30. **I channel my child's misbehaviour into a more acceptable activity**
31. **I have to nag my child to do things**
32. *I remind my child that other children behave better than him/her*
33. *I pick on my child when he/she doesn't deserve it*
34. I make punishments that are appropriate to my child's misbehaviour
35. *I let my child get away with too much*
36. *I set firm guidelines for my child's behaviour*
37. **I allow my child to interrupt other adults**
38. *I am easygoing and relaxed with my child*
39. *I allow my children to decide things for themselves without much input from me*
40. **I find it amusing when my child does something to upset his another adult**
41. **I allow my child to get into mischief**
42. *I tell my child exactly what I want him/her to do and how I expect it done*
43. *I let my child know when he/she is doing a good job*
44. *I praise my child when he/she behaves well*
45. I praise my child's efforts, regardless of the outcome
46. I recognise my child's strengths and talents
47. *I tell my child how proud I am of him/her*
48. *I hug or kiss my child when he/she has done something well*
49. **I reward my child for behaving well**
50. *I have a good idea of what my child is doing when he/she is out of my sight*
51. **I forget to check where my child is and what he/she is doing**
52. *I leave without telling my child where I am going*

53. I encourage my child to do the right thing
54. I try to set a good example for my child
55. I use money to reward my child's good behaviour
56. I provide realistic feedback to my child about their behaviour
57. I encourage my child to consider another person's point of view
58. I encourage my child to consider the consequences of their choices before making them
- 59. I explain to my child how I feel about his/her behaviour**
60. *I talk to my child about the consequences of his/her actions*
61. *I give my child reasons about why he/she isn't allowed to do something*
- 62. I listen to my child's opinion on matters that concern him/her**
63. I try to acknowledge how my child is feeling
64. *I allow my child input into family rules*
65. *I allow my child to help plan family activities*
66. *I apologise to my child when I have made a mistake*
67. *I let my child have things that I'm not sure are good for him/her to have*
68. *I find it difficult to discipline my child*
- 69. I base my decisions on what my child wants**
70. *I expect my child to do things immediately without questions*
71. *I forbid my child to question my decisions*
- 72. I set strict rules for my child**
73. *I provide comfort and understanding when my child is upset*
74. *I show patience toward my child*
- 75. I respond to my child's feelings or needs**
76. *I hug, kiss, and hold my child to express affection*
77. *I help my child when he/she is struggling with something*
78. *I take over when my child is struggling with something*
79. *I teach my child things that he/she doesn't know*
80. I encourage my child to problem solve
81. I adjust my level of assistance in tasks based on my child's age and ability
82. *I do things for my child when he/she refuses to do them*
83. *I do things for my child that he/she is capable of doing for him/herself*
84. *I take over when my child is doing something the wrong way*
85. *I give my child responsibilities appropriate to his/her age*
86. I encourage my child to choose his/her own interests and activities
87. *I encourage my child to try things for him/herself before asking for help*
88. *I let my child try to figure things out for him/herself before giving my input*
- 89. I try to meet my child's desires immediately**
- 90. I make time for my child when he/she needs me**
91. *I try to anticipate what my child's desires are and provide them before he/she has to ask*
92. I try to shield my child from experiencing negative emotion
93. *I make spending time with my child a high priority*
94. *I play around and have fun with my child*
95. *I volunteer to help with special activities that my child is involved in*
- 96. I take my child to special activities**
97. *I attend parent meetings, parent/teacher conferences, or other meetings at my child's school*
- 98. I encourage my child to talk about his/her problems**
99. *I have friendly talks with my child*
100. I show an interest in my child's life
- 101. I am aware of problems or concerns about my child**
102. I show my child that I love them unconditionally
103. *I care about my child*
104. I encourage my child to express his/her affection for people
105. *I share secrets and private feelings with my child*
106. *I share more of my life with my child than with anyone else*
107. *I rely on my child to cheer me up when I'm feeling down*
108. *I prevent my child from doing things out of fear he/she might get hurt*

- 109. I have difficulty letting my child do things that most children his/her age are doing**
- 110. *I worry about my child when he/she is not at home*
 - 111. *I find being a parent satisfying*
 - 112. *I am confident about my parenting abilities*
- 113. I am more concerned with my child's feelings than my own**
- 114. I evaluate how effective my parenting strategies are
 - 115. I am willing to change the way I parent if it is not very effective
 - 116. I make time to do nice things for myself

APPENDIX H

PHASE TWO: DEMOGRAPHICS QUESTIONNAIRE

Parenting Style Questionnaire

Thank you for participating in my study. This questionnaire consists of questions about basic demographic information, followed by a list of parenting behaviours for you to rate on a scale from *never* to *always*. The entire study should take approximately 10-20 minutes to complete.

As parents treat each child differently, **please choose ONE of your children aged 3-12 years to answer the following questionnaire about. Please complete the survey only once**, even if you have more than one child aged 3-12 years.

Once you have finished the study, you will be invited to enter the draw to win a \$100AUD voucher from Coles/Myer or Amazon.com. Please note that your competition entry is NOT linked to your responses in any way.

There are 79 questions in this survey

Demographic Questions 1

1 [1]

Questionnaire completed by

Please choose **only one** of the following:

- Mother
- Father
- Step-parent
- Grandparent
- Other relative
- Legal guardian
- Other

2 [1b]

Are you the primary caregiver?

Please write your answer here:

3 [2]

Where do you live?

Please choose **only one** of the following:

- WA, Australia
- NSW, Australia
- VIC, Australia
- ACT, Australia

- QLD, Australia
- SA, Australia
- NT, Australia
- Outside Australia

4 [2b]

Please specify location

Only answer this question if the following conditions are met:

° Answer was 'Outside Australia' at question '3 [2]' (Where do you live?)

Please write your answer here:

5 [3]

How many children do you have?

Please write your answer here:

6 [4]

What birth number is the child that you are answering about? (E.g. first born- 1, second born- 2, etc)

Please write your answer here:

Living Arrangements

7 [5]

How would you describe the living arrangements for your child most of the time?Please choose **only one** of the following:

- Mother and father together- original family
- Mother and father together- blended family
- Parent and step-parent together
- Mother only
- Father only
- Mother & Father separately – shared
- Grandparent
- Other relative
- Legal guardian
- Other

8 [5b]

Please specify other**Only answer this question if the following conditions are met:**

° Answer was 'Other' at question '7 [5]' (How would you describe the living arrangements for your child most of the time?)

Please write your answer here:

9 [6]

Please list the gender and age of the people currently living in the home**Your gender**Please choose **only one** of the following:

- Female
- Male

10 [6b]
Your age

Please write your answer here:

11 [6c]
Person 2Please choose **only one** of the following:

- Female
- Male

12 [6d]
Age

Please write your answer here:

13 [6e]
Person 3Please choose **only one** of the following:

- Female
- Male
- No more people to add

14 [6f]
Age**Only answer this question if the following conditions are met:**

°Answer was 'Female' or 'Male' at question '13 [6e]' (Person 3)

Please write your answer here:

**15 [6g]
Person 4**

Only answer this question if the following conditions are met:

°Answer was 'Female' or 'Male' at question '13 [6e]' (Person 3)

Please choose **only one** of the following:

- Female
 Male
 No more people to add

**16 [6h]
Age**

Only answer this question if the following conditions are met:

°Answer was 'Female' or 'Male' at question '15 [6g]' (Person 4)

Please write your answer here:

**17 [6i]
Person 5**

Only answer this question if the following conditions are met:

°Answer was 'Female' or 'Male' at question '15 [6g]' (Person 4)

Please choose **only one** of the following:

- Female
 Male
 No more people to add

**18 [6j]
Age**

Only answer this question if the following conditions are met:

°Answer was 'Female' or 'Male' at question '17 [6i]' (Person 5)

Please write your answer here:

**19 [6k]
Person 6**

Only answer this question if the following conditions are met:

°Answer was 'Female' or 'Male' at question '17 [6i]' (Person 5)

Please choose **only one** of the following:

- Female
 Male

No more people to add

20 [6l]

Age

Only answer this question if the following conditions are met:

°Answer was 'Female' or 'Male' at question '19 [6k]' (Person 6)

Please write your answer here:

21 [6m]

Person 7

Only answer this question if the following conditions are met:

°Answer was 'Female' or 'Male' at question '19 [6k]' (Person 6)

Please choose **only one** of the following:

- Female
- Male
- No more people to add

22 [6n]

Age

Only answer this question if the following conditions are met:

°Answer was 'Female' or 'Male' at question '21 [6m]' (Person 7)

Please write your answer here:

23 [6o]

Person 8

Only answer this question if the following conditions are met:

°Answer was 'Female' or 'Male' at question '21 [6m]' (Person 7)

Please choose **only one** of the following:

- Female
- Male
- No more people to add

24 [6p]

Age

Only answer this question if the following conditions are met:

°Answer was 'Female' or 'Male' at question '23 [6o]' (Person 8)

Please write your answer here:

25 [6q]
Person 9

Only answer this question if the following conditions are met:
°Answer was 'Female' or 'Male' at question '23 [6o]' (Person 8)

Please choose **only one** of the following:

- Female
 Male
 No more people to add

26 [6r]
Age

Only answer this question if the following conditions are met:
°Answer was 'Female' or 'Male' at question '25 [6q]' (Person 9)

Please write your answer here:

27 [6s]
Person 10

Only answer this question if the following conditions are met:
°Answer was 'Female' or 'Male' at question '25 [6q]' (Person 9)

Please choose **only one** of the following:

- Female
 Male
 No more people to add

28 [6t]
Age

Only answer this question if the following conditions are met:
°Answer was 'Female' or 'Male' at question '27 [6s]' (Person 10)

Please write your answer here:

29 [6u]
Person 11

Only answer this question if the following conditions are met:
°Answer was 'Female' or 'Male' at question '27 [6s]' (Person 10)

Please choose **only one** of the following:

- Female
- Male
- No more people to add

30 [6v]
Age

Only answer this question if the following conditions are met:
° Answer was 'Female' or 'Male' at question '29 [6u]' (Person 11)

Please write your answer here:

31 [6w]
Person 12

Only answer this question if the following conditions are met:
° Answer was 'Female' or 'Male' at question '29 [6u]' (Person 11)

Please choose **only one** of the following:

- Female
- Male
- No more people to add

32 [6x]
Age

Only answer this question if the following conditions are met:
° Answer was 'Female' or 'Male' at question '31 [6w]' (Person 12)

Please write your answer here:

Questions about your child

33 [7]

How old is your child?

*

Please write your answer here:

34 [8]

What is your child's gender?Please choose **only one** of the following: Female Male

35 [9]

Has your child ever suffered from any serious physical health problems (e.g. asthma, cerebral palsy)?Please choose **only one** of the following: Yes No

36 [9b]

Please specify health problems**Only answer this question if the following conditions are met:**

°Answer was 'Yes' at question '35 [9]' (Has your child ever suffered from any serious physical health problems (e.g. asthma, cerebral palsy)?)

Please write your answer here:

37 [10]

Has your child ever suffered from any physical or sensory disabilities (e.g. hearing impairment)?

Please choose **only one** of the following:

- Yes
 No

38 [10b]

Please specify physical or sensory disabilities

Only answer this question if the following conditions are met:

° Answer was 'Yes' at question '37 [10]' (Has your child ever suffered from any physical or sensory disabilities (e.g. hearing impairment)?)

Please write your answer here:

39 [11]

Has your child ever suffered from any mental health or psychological problems (e.g. Depression, Attention Deficit Hyperactivity Disorder)?

Please choose **only one** of the following:

- Yes
 No

40 [11b]

Please specify mental health or psychological problems

Only answer this question if the following conditions are met:

° Answer was 'Yes' at question '39 [11]' (Has your child ever suffered from any mental health or psychological problems (e.g. Depression, Attention Deficit Hyperactivity Disorder)?)

Please choose **all** that apply:

- Conduct/behaviour problems
 Attention problems
 Social problems
 Anxiety/stress
 Sadness/depression
 Bed-wetting/soiling
 Shyness/withdrawal

Eating disorder Self esteem problems Other:**41 [12]****Has your child ever been diagnosed with a learning problem?**Please choose **only one** of the following: Yes No**42 [12b]****Please specify learning problems****Only answer this question if the following conditions are met:**

°Answer was 'Yes' at question '41 [12]' (Has your child ever been diagnosed with a learning problem?)

Please write your answer here:

Questions about you

43 [13]

What is your marital status?Please choose only **one** of the following:

- Single
- Defacto
- Married
- Separated
- Divorced
- Widowed
- Other

44 [13b]

Please specify other**Only answer this question if the following conditions are met:**

°Answer was 'Other' at question '43 [13]' (What is your marital status?)

Please write your answer here:

45 [14]

What is your current occupation?

Please write your answer here:

46 [15]

What is your highest level of education completed?Please choose only **one** of the following:

- Primary 1-7 years
- High School 8-10 years
- High School 11-12 years
- Apprentice/Technical
- Diploma
- Some University
- University Degree
- University Postgraduate

47 [16]**What is your ethnic identity? (e.g. Australian, Malaysian, etc.)**

Please write your answer here:

48 [17]**Have you ever suffered from any serious physical health problems (e.g. cerebral palsy)?**Please choose **only one** of the following:

- Yes
- No

49 [17b]**Please specify physical health problems****Only answer this question if the following conditions are met:**

° Answer was 'Yes' at question '48 [17]' (Have you ever suffered from any serious physical health problems (e.g. cerebral palsy)?)

Please write your answer here:

50 [17c]**Have these physical health problems onset or continued since having children?****Only answer this question if the following conditions are met:**

° Answer was 'Yes' at question '48 [17]' (Have you ever suffered from any serious physical health problems (e.g. cerebral palsy)?)

Please choose **only one** of the following:

- Yes
 No

51 [18]

Have you ever suffered from any physical or sensory disabilities (e.g. hearing impairment)?

Please choose **only one** of the following:

- Yes
 No

52 [18b]

Please specify physical or sensory disabilities

Only answer this question if the following conditions are met:

° Answer was 'Yes' at question '51 [18]' (Have you ever suffered from any physical or sensory disabilities (e.g. hearing impairment)?)

Please write your answer here:

53 [18c]

Have these physical or sensory disabilities onset or continued since having children?

Only answer this question if the following conditions are met:

° Answer was 'Yes' at question '51 [18]' (Have you ever suffered from any physical or sensory disabilities (e.g. hearing impairment)?)

Please choose **only one** of the following:

- Yes
 No

54 [19]

Have you ever suffered from any mental health or psychological problems (e.g. depression, anxiety)?

Please choose **only one** of the following:

- Yes
 No

55 [19b]

Please specify mental health or psychological problems

Only answer this question if the following conditions are met:

° Answer was 'Yes' at question '54 [19]' (Have you ever suffered from any mental health or psychological problems (e.g. depression, anxiety)?)

Please choose **all** that apply:

- Anxiety/stress
 Sadness/depression
 Shyness/withdrawal
 Thought problems
 Personality Problems
 Attention problems
 Social problems
 Aggressive behaviour
 Relationship problems
 Substance abuse
 Self esteem problems
 Abuse
 Eating Disorder
 Other:

56 [19c]

Have these mental health or psychological difficulties onset or continued since having children?

Only answer this question if the following conditions are met:

° Answer was 'Yes' at question '54 [19]' (Have you ever suffered from any mental health or psychological problems (e.g. depression, anxiety)?)

Please choose **only one** of the following:

- Yes
 No

Questions about your partner

57 [20]**Does your partner live in the home?**Please choose **only one** of the following:

- Yes, currently lives in the home
- No, but spends a significant amount of time in the home
- No, does not live in the home
- Not applicable

58 [21]**What is your partner's marital status?****Only answer this question if the following conditions are met:**

° Answer was 'No, but spends a significant amount of time in the home' or 'Yes, currently lives in the home' at question '57 [20]' (Does your partner live in the home?)

Please choose **only one** of the following:

- Single
- Defacto
- Married
- Separated
- Divorced
- Widowed
- Other

59 [21b]**Please specify other****Only answer this question if the following conditions are met:**

° Answer was 'Other' at question '58 [21]' (What is your partner's marital status?)

Please write your answer here:

60 [22]**What is your partner's current occupation?****Only answer this question if the following conditions are met:**

° Answer was 'Yes, currently lives in the home' or 'No, but spends a significant amount of time in the home' at question '57 [20]' (Does your partner live in the home?)

Please write your answer here:

61 [23]**What is your partner's highest level of education completed?****Only answer this question if the following conditions are met:**

° Answer was 'Yes, currently lives in the home' or 'No, but spends a significant amount of time in the home' at question '57 [20]' (Does your partner live in the home?)

Please choose **only one** of the following:

- Primary 1-7 years
- High School 8-10 years
- High School 11-12 years
- Apprentice/Technical
- Diploma
- Some University
- University Degree
- University Postgraduate

62 [24]**What is your partner's ethnic identity? (e.g. Australian, Malaysian, etc.)****Only answer this question if the following conditions are met:**

° Answer was 'Yes, currently lives in the home' or 'No, but spends a significant amount of time in the home' at question '57 [20]' (Does your partner live in the home?)

Please write your answer here:

63 [25]**Has your partner ever suffered from any serious physical health problems (e.g.**

cerebral palsy)?

Only answer this question if the following conditions are met:

° Answer was 'Yes, currently lives in the home' or 'No, but spends a significant amount of time in the home' at question '57 [20]' (Does your partner live in the home?)

Please choose **only one** of the following:

- Yes
 No

64 [25b]**Please specify physical health problems**

Only answer this question if the following conditions are met:

° Answer was 'Yes' at question '63 [25]' (Has your partner ever suffered from any serious physical health problems (e.g. cerebral palsy)?)

Please write your answer here:

65 [25c]**Have these physical health problems onset or continued since your partner has been living in the home?**

Only answer this question if the following conditions are met:

° Answer was 'Yes' at question '63 [25]' (Has your partner ever suffered from any serious physical health problems (e.g. cerebral palsy)?)

Please choose **only one** of the following:

- Yes
 No

66 [26]**Has your partner ever suffered from any physical or sensory disabilities (e.g. hearing impairment)?**

Only answer this question if the following conditions are met:

° Answer was 'Yes, currently lives in the home' or 'No, but spends a significant amount of time in the home' at question '57 [20]' (Does your partner live in the home?)

Please choose **only one** of the following:

- Yes
 No

67 [26b]
Please specify physical or sensory disabilities

Only answer this question if the following conditions are met:

° Answer was 'Yes' at question '66 [26]' (Has your partner ever suffered from any physical or sensory disabilities (e.g. hearing impairment)?)

Please write your answer here:

68 [26c]
Have these physical or sensory disabilities onset or continued since your partner has been living in the home?

Only answer this question if the following conditions are met:

° Answer was 'Yes' at question '66 [26]' (Has your partner ever suffered from any physical or sensory disabilities (e.g. hearing impairment)?)

Please choose **only one** of the following:

- Yes
 No

69 [27]
Has your partner ever suffered from any mental health or psychological problems (e.g. depression, anxiety)?

Only answer this question if the following conditions are met:

° Answer was 'Yes, currently lives in the home' or 'No, but spends a significant amount of time in the home' at question '57 [20]' (Does your partner live in the home?)

Please choose **only one** of the following:

- Yes
 No

70 [27b]**Please specify mental health or psychological problems**

Only answer this question if the following conditions are met:

° Answer was 'Yes' at question '69 [27]' (Has your partner ever suffered from any mental health or psychological problems (e.g. depression, anxiety)?)

Please choose **all** that apply:

- Anxiety/stress
- Sadness/depression
- Shyness/withdrawal
- Thought problems
- Personality Problems
- Attention problems
- Social problems
- Aggressive behaviour
- Relationship problems
- Substance abuse
- Self esteem problems
- Abuse
- Eating Disorder
- Other:

71 [27c]**Have these mental health or psychological difficulties onset or continued since your partner has been living in the home?**

Only answer this question if the following conditions are met:

° Answer was 'Yes' at question '69 [27]' (Has your partner ever suffered from any mental health or psychological problems (e.g. depression, anxiety)?)

Please choose **only one** of the following:

- Yes
- No

APPENDIX I

PHASE TWO: INFORMATION SHEET

Curtin University

SCHOOL OF PSYCHOLOGY AND SPEECH PATHOLOGY

Parenting Questionnaire

Participant Information Sheet

My name is Carly Reid and I am a PhD (Clinical Psychology) student at Curtin University. I am conducting research identifying patterns of parenting behaviour in parents of children aged 3-12 years. Parents who complete the online survey can enter the draw to win a \$100AUD Coles/Myer or Amazon.com voucher.

By submitting your responses, you are consenting to participate in this study. **Please complete the survey only once, even if you have more than one child aged 3-12 years.** Choosing to participate is completely voluntary and you will not be disadvantaged in any way should you choose not to participate or if you discontinue participation at any time. Your responses are completely anonymous, thus we are unable to withdraw your responses from the study once the questionnaire has been submitted. The data will be kept securely for 5 years at Curtin University and will be accessible only by myself and my supervisors. While you are unlikely to directly benefit from this research, this research may benefit the wider community in its understanding of parenting patterns and their relationship to important childhood outcomes. The results are likely to be published in a peer reviewed journal, but individuals will not be identifiable as no personal identifiable information is being collected.

Thank you very much for the time and effort in completing this questionnaire. If you have any queries about any of the information, please contact me on +61 8 9266 1398 or email carly.reid@curtin.edu.au or my supervisors, Professor Jan Piek, on +61 8 9266 7990 or j.piek@curtin.edu.au and Associate Professor Clare Roberts +61 8 9266 7992, or c.roberts@curtin.edu.au. If you wish to contact someone outside the study please contact Linda Teasdale, Ethics Committee Secretary on +61 8 9266 2784.

Kind regards,

Carly Reid
PhD candidate
School of Psychology Curtin University

[Link to questionnaire](#)

This study has been approved by the School of Psychology Ethics Committee and by the Curtin University HREC, (Approval Number 172/2007). Should you have any concerns about the conduct of this project, please contact the Committee either by writing to the School of Psychology, Curtin University, GPO Box U1987, Perth, 6845, by telephoning +61 8 9266 7182, or emailing l.steed@curtin.edu.au

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Parenting Question 5 I let my child know when he/she is doing a good job	.360							
Parenting Question 72 I teach my child things that he/she doesn't know	.353							
Parenting Question 86 I praise my child's efforts, regardless of the outcome	.326							
Parenting Question 2 I encourage my child to do the right thing	.319	.301						
Parenting Question 67 I help my child when he/she is struggling with something	.287		.258					
Parenting Question 22 I listen to my child's opinion on matters that concern him/her	.272		.259	.209				
Parenting Question 55 I apologise to my child when I have made a mistake	.231							
Parenting Question 80 I find it amusing when my child does something to upset another adult	-							-.212
Parenting Question 15 I shout at my child when he/she misbehaves	.229							
Parenting Question 7 I lose my patience when my child does something to upset me	.826							
Parenting Question 32 I punish my child more severely than I mean to	.774							
Parenting Question 13 I get into an argument with my child when he/she misbehaves	.752							
Parenting Question 56 I am easy on my child one minute, and hard on him/her the next	.693							
Parenting Question 43 The punishments that I decide on are influenced by my mood	.635							
Parenting Question 27 I remind my child that other children behave better than him/her	.620							
Parenting Question 37 I show patience toward my child	.610							
Parenting Question 8 I am easygoing and relaxed with my child	-.591							.213
	-.582							

Parenting Question 101 I remain upset with my child when he/she has misbehaved	.574						
Parenting Question 74 I punish first and ask questions later	.574	-.279					
Parenting Question 18 I make my child feel ashamed when he/she misbehaves	.563				.255		
Parenting Question 10 I pick on my child when he/she doesn't deserve it	.554						-.232
Parenting Question 4 I have to nag my child to do things	.516						
Parenting Question 21 I threaten my child with punishments that I would never actually use	.491						
Parenting Question 65 I smack my child when he/she misbehaves	.489	-.210					.210
Parenting Question 25 I find it difficult to discipline my child	.437	-.319					
Parenting Question 53 I scold when my child's behaviour doesn't meet my expectations	.415	.224			.342		
Parenting Question 51 I am confident about my parenting abilities	-.415						
Parenting Question 85 I send my child off to somewhere alone as punishment	.303		-.282				.260
Parenting Question 11 I try to set a good example for my child	-.267						
Parenting Question 93 I channel my child's misbehaviour into a more acceptable activity							
Parenting Question 64 I set strict rules for my child	.623				.202		
Parenting Question 3 I set firm guidelines for my child's behaviour	.541						
Parenting Question 61 I do things for my child when he/she refuses to do them	-.533						.228
Parenting Question 111 I don't punish my child when he/she has misbehaved	-.520						
Parenting Question 41 I take privileges away from my child as punishment	.237	.501				-.255	
Parenting Question 26 I allow my child to interrupt other adults	-.494					.214	

Parenting Question 35 I expect my child to do things immediately without questions	.249	.486	.229				
Parenting Question 52 I give in to my child when he/she gets upset	.203	-.469	.284				
Parenting Question 40 When I ask my child to do something, I make sure that he/she does it		.463					
Parenting Question 107 I find it more trouble than it's worth to get my child to obey me	.404	-.460					
Parenting Question 98 I ignore my child's misbehaviours		-.424			.214		
Parenting Question 30 I forbid my child to question my decisions	.215	.395	-.200				
Parenting Question 92 I don't punish my child if he/she acts sorry		-.379	.229				
Parenting Question 97 I do things for my child that he/she is capable of doing for him/herself		-.373					
Parenting Question 9 I let my child get away with too much	.199	-.358					-.278
Parenting Question 19 I am consistent in the way I punish my child	-.200	.312	.205				.220
Parenting Question 44 I take action immediately when my child misbehaves		.298			.264		
Parenting Question 36 I base my decisions on what my child wants		-.281					
Parenting Question 54 I give my child reasons about why he/she isn't allowed to do something			.645				
Parenting Question 114 I discuss the reasons why my child is being punished with him/her	.253		.561				-.205
Parenting Question 14 I talk to my child about the consequences of his/her actions			.544				
Parenting Question 89 I encourage my child to consider the consequences of their choices before making them			.472		.300		

Parenting Question 84 I allow my child to express his/her side of the story before I punish him/her		-.283	.465					
Parenting Question 12 I explain to my child how I feel about his/her behaviour	.230		.438					
Parenting Question 20 I let my child know what behaviour is expected		.259	.346					
Parenting Question 77 I encourage my child to consider another person's point of view			.339					
Parenting Question 70 I evaluate how effective my parenting strategies are			.326		.304			
Parenting Question 88 I tell my child exactly what I want him/her to do and how I expect it done		.287	.311	.250				
Parenting Question 60 I try to acknowledge how my child is feeling	.240		.254					
Parenting Question 103 I provide realistic feedback to my child about his/her behaviour	.233		.252				-.201	
Parenting Question 95 I am willing to change the way I parent if it is not very effective			.220				.215	
Parenting Question 34 I have a good idea of what my child is doing when he/she is out of my sight			.208					
Parenting Question 46 I try to shield my child from experiencing negative emotion				.563				
Parenting Question 91 I try to anticipate what my child's desires are and provide them before he/she has to ask				.540				
Parenting Question 48 I worry about my child when he/she is not at home				.537				
Parenting Question 117 I am more concerned with my child's feelings than my own	.290			.494				
Parenting Question 105 I share more of my life with my child than with anyone else				.473			-.216	

Parenting Question 76 I try to meet my child's desires immediately			.471			
Parenting Question 62 I rely on my child to cheer me up when I'm feeling down			.444			-.242
Parenting Question 49 I take over when my child is doing something the wrong way			.416	-.300		
Parenting Question 29 I prevent my child from doing things out of fear he/she might get hurt			.367	-.219		
Parenting Question 113 I have difficulty letting my child do things that most children his/her age are doing			.292	-.224		
Parenting Question 42 I follow through when I agree to do something with my child						
Parenting Question 39 I encourage my child to try things for him/herself before asking for help				.717		
Parenting Question 45 I encourage my child to choose his/her own interests and activities		.210		.528		
Parenting Question 116 I let my child try to figure things out for him/herself before giving my input				.523		
Parenting Question 63 I encourage my child to problem solve				.494		
Parenting Question 81 I adjust my level of assistance in tasks based on my child's age and ability				.454		.230
Parenting Question 31 I allow my child to decide things for him/herself without much input from me				.413	.214	
Parenting Question 68 I take over when my child is struggling with something				.261	-.402	
Parenting Question 38 I give my child responsibilities appropriate to his/her age		.229		.400		
Parenting Question 24 I allow my child input into family rules		.279			.542	-.286

Parenting Question 69 I volunteer to help with special activities that my child is involved in	.255					.523		
Parenting Question 50 I attend parent meetings, parent/teacher conferences, or other meetings at my child's school						.508		
Parenting Question 23 I take my child to special activities	.347					.436		
Parenting Question 66 I allow my child to help plan family activities			.225	.230	.398		-.350	
Parenting Question 112 I make time to do nice things for myself		-.202			.229			
Parenting Question 33 I try to change how my child thinks or feels about things						.483		
Parenting Question 79 I let my child have things that I'm not sure are good for him/her to have						.403		
Parenting Question 73 I allow my child to get into mischief			-.238	-.234		.355		
Parenting Question 96 I forget to check where my child is and what he/she is doing						.339		
Parenting Question 99 I am aware of problems or concerns about my child				.218		-.308		
Parenting Question 75 If saying no doesn't work straight away, I keep trying to convince my child to comply				.204		.210		
Parenting Question 59 I use money to reward my child's good behaviour								-.624
Parenting Question 100 I share secrets and private feelings with my child	.256							
Parenting Question 16 I reward my child for behaving well							-.207	.566
Parenting Question 28 I praise my child when he/she behaves well	.212							.391
Parenting Question 6 I bribe my child with rewards to get him/her to obey me		.250					-.276	.346
Parenting Question 106 I make punishments that are appropriate to my child's misbehaviour			.256					.260

APPENDIX K

PHASE TWO: LIST OF PBDQ ITEMS IN FINAL CORRELATED MODEL

1. I tell my child how proud I am of him/her
2. I encourage my child to choose his/her own interests and activities
3. I try to anticipate what my child's desires are and provide them before he/she has to ask
4. I show an interest in my child's life
5. I give in to my child when he/she gets upset
6. I worry about my child when he/she is not at home
7. I lose my patience when my child does something to upset me
8. I encourage my child to try things for him/herself before asking for help
9. I don't punish my child if he/she acts sorry
10. I encourage my child to consider the consequences of their choices before making them
11. I am more concerned with my child's feelings than my own
12. I let my child know what behaviour is expected
13. I try to meet my child's desires immediately
14. I threaten my child with punishments that I would never actually use
15. I do things for my child that he/she is capable of doing for him/herself
16. I show my child that I love them unconditionally
17. I give my child reasons about why he/she isn't allowed to do something
18. I am easy on my child one minute, and hard on him/her the next
19. I adjust my level of assistance in tasks based on my child's age and ability
20. I make time for my child when he/she needs me
21. The punishments that I decide on are influenced by my mood
22. I share more of my life with my child than with anyone else
23. I talk to my child about the consequences of his/her actions
24. I do things for my child when he/she refuses to do them
25. I give my child responsibilities appropriate to his/her age
26. I respond to my child's feelings or needs
27. I allow my child to interrupt other adults
28. I try to shield my child from experiencing negative emotion
29. I punish my child more severely than I mean to
30. I let my child try to figure things out for him/herself before giving my input
31. I don't punish my child when he/she misbehaves
32. I recognise my child's strengths and talents
33. I explain to my child how I feel about his/her behaviour

Emotional Warmth Mean Score

Item 1
Item 4
Item 16
Item 20
Item 26
Item 32

Punitive Discipline Mean Score

Item 7
Item 14
Item 18
Item 21
Item 29

Responsiveness Mean Score

Item 2
Item 8
Item 19
Item 25
Item 30

Discipline Consistency Mean Score

Item 5
Item 9
Item 15
Item 27
Item 31
Item 35

Democratic Discipline Mean Score

Item 10
Item 12
Item 17
Item 23
Item 33

Anxious Intrusiveness Mean Score

Item 3
Item 6
Item 11
Item 13
Item 22
Item 28

APPENDIX L

PHASE TWO: UNCORRELATED CFA MODEL

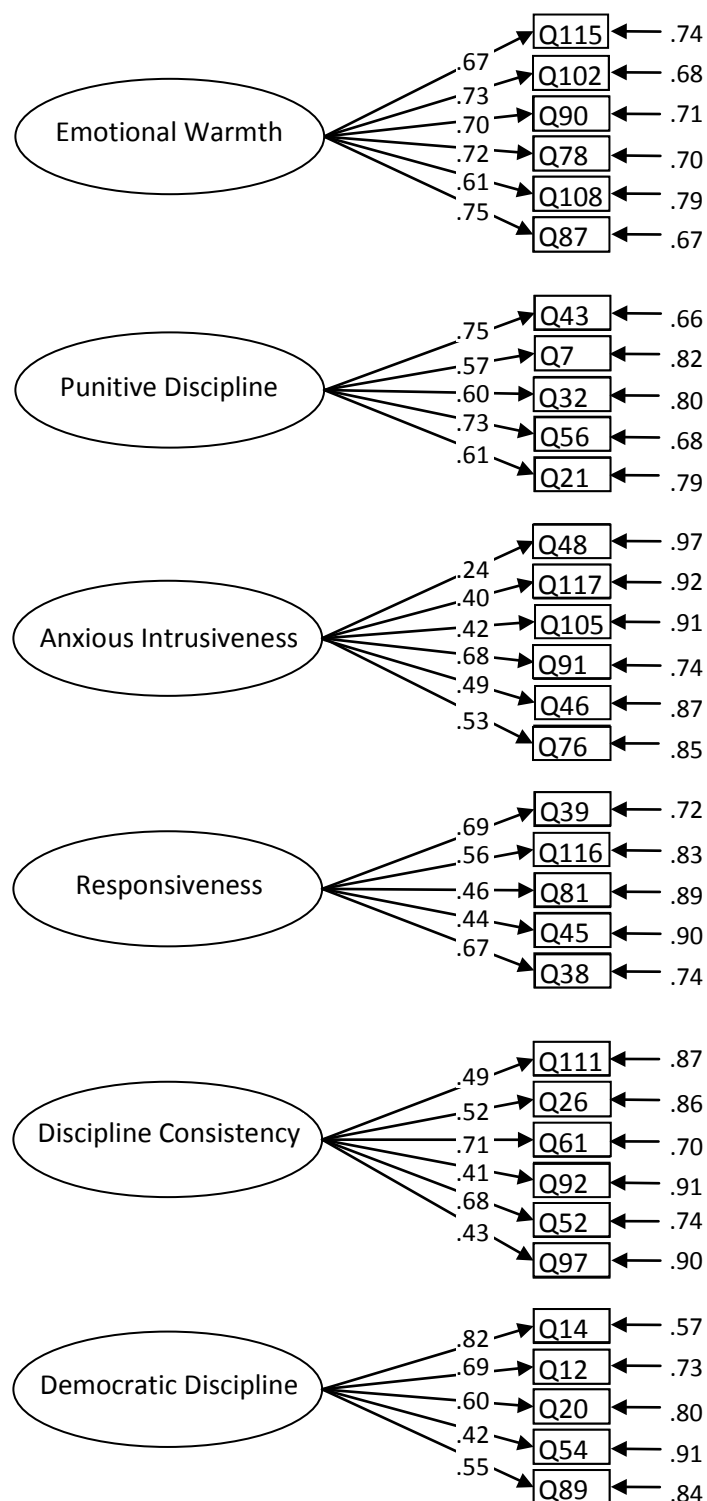


Figure 1. Uncorrelated model tested in confirmatory factor analysis.

APPENDIX M

LIST OF PBDQ ITEMS IN FINAL HIGHER ORDER MODEL

1. I tell my child how proud I am of him/her
2. I encourage my child to choose his/her own interests and activities
3. I let my child know what behaviour is expected
4. I give in to my child when he/she gets upset
5. I lose my patience when my child does something to upset me
6. I encourage my child to try things for him/herself before asking for help
7. I don't punish my child if he/she acts sorry
8. I encourage my child to consider the consequences of their choices before making them
9. I show an interest in my child's life
10. I threaten my child with punishments that I would never actually use
11. I do things for my child that he/she is capable of doing for him/herself
12. I show my child that I love them unconditionally
13. I give my child reasons about why he/she isn't allowed to do something
14. I am easy on my child one minute, and hard on him/her the next
15. I adjust my level of assistance in tasks based on my child's age and ability
16. I make time for my child when he/she needs me
17. The punishments that I decide on are influenced by my mood
18. I talk to my child about the consequences of his/her actions
19. I do things for my child when he/she refuses to do them
20. I give my child responsibilities appropriate to his/her age
21. I respond to my child's feelings or needs
22. I allow my child to interrupt other adults
23. I punish my child more severely than I mean to
24. I let my child try to figure things out for him/herself before giving my input
25. I don't punish my child when he/she misbehaves
26. I recognise my child's strengths and talents
27. I explain to my child how I feel about his/her behaviour

Emotional Warmth Mean Score

Item 1

Item 9

Item 12

Item 16

Item 21

Item 26

Punitive Discipline Mean Score

Item 5

Item 10

Item 14

Item 17

Item 23

Responsiveness Mean Score

Item 2

Item 6

Item 15

Item 20

Item 24

Discipline Consistency Mean Score

Item 4

Item 7

Item 11

Item 19

Item 22

Item 25

Democratic Discipline Mean Score

Item 3

Item 8

Item 13

Item 18

Item 27

Total PBDQ Mean Score

APPENDIX N

PHASE THREE: PARTICIPANT INFORMATION SHEET

SCHOOL OF PSYCHOLOGY AND SPEECH PATHOLOGY

Parenting and Child Emotional and Behavioural Outcomes - Initial Completion

Participant Information Sheet

My name is Carly Reid and I am a PhD (Clinical Psychology) student at Curtin University. I am conducting research investigating whether a newly developed questionnaire is effective in measuring parenting, and exploring how parenting affects emotional development and behavioural regulation in children aged three to 12 years. Parents who complete the online survey on both occasions can enter the draw to win a \$50AUD Coles/Myer voucher.

Upon accessing the link below, you will be asked to enter some personally relevant information (e.g. first two letters of mother's maiden name, last two digits of home phone number) to create an identification code. This unique identification code will mean that the researcher is not able to link identifying participant information and email addresses to the participant's responses, ensuring confidentiality and privacy. You will then be asked to complete a demographics questionnaire, two smaller scales that are part of a larger child strengths and difficulties questionnaire, and a parenting measure. At the end of the survey, you will be asked to send an email to the researcher specifying today's date, which cannot be linked to your responses. Parents will then be emailed again either two or four weeks later and asked to complete the same identification code information, and complete the parenting questionnaire a second time.

By submitting your responses, you are consenting to participate in this study. **Please complete the survey for only one child, even if you have more than one child aged 3-12 years.** Choosing to participate is completely voluntary and you will not be disadvantaged in any way should you choose not to participate or if you discontinue participation at any time. Once responses have been submitted, they can only be removed if you provide your identification code information to the researcher within the 5-year storage period of the research data. While you are unlikely to directly benefit from this research, it may benefit the wider community in its understanding of parenting, and emotional and behavioural outcomes in childhood. The results are likely to be published in a peer reviewed journal, but individuals will not be identifiable as no personal identifiable information is being collected.

Thank you very much for the time and effort in completing these questionnaires. If you have any queries about any of the information, please contact me on +61 8 9266 1398 or email carly.reid@curtin.edu.au or my supervisor, Professor Jan Piek, on +61 8 9266 7990 or j.piek@curtin.edu.au. If you wish to contact someone outside of the study, please contact Linda Teasdale, Ethics Committee Secretary, on +61 8 9266 2784.

Kind regards,
Carly Reid
PhD candidate
School of Psychology and Speech Pathology, Curtin University

Link to questionnaire

This study has been approved by the Curtin University Human Research Ethics Committee (Approval Number HR172/2007). The Committee is comprised of members of the public, academics, lawyers, doctors and pastoral carers. Its main role is to protect participants. If needed, verification of approval can be obtained either by writing to the Curtin University Human Research Ethics Committee, c/- Office of Research and Development, Curtin University, GPO Box U1987, Perth, 6845 or by telephoning 9266 2784 or by emailing hrec@curtin.edu.au.

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APPENDIX O

PHASE THREE: INITIAL COMPLETION EMAIL

Dear parent,

Thank you for completing my initial parenting questionnaire online. I would appreciate it if you would fill out the questionnaire for the second time on (or within one day of) **[INSERT DATE]**. The link will be emailed to you on the day before the re-test is due.

After you have completed this, you will be given the opportunity to enter the draw to win a \$50 voucher.

Thanks again for your participation!

Carly Reid

Associate Lecturer | PhD (Clinical Psychology) Candidate | School of Psychology and Speech Pathology | Faculty of Health Sciences

Curtin University

Tel | +61 8 9266 1398

Fax | +61 8 9266 2464

Email | [mailto: carly.reid@curtin.edu.au](mailto:carly.reid@curtin.edu.au)

Web | <http://curtin.edu.au>

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APPENDIX P**PHASE THREE: RETEST LINK EMAIL**

Dear parent,

[INSERT NUMBER] weeks ago, you completed the initial parenting questionnaire for my PhD research. Please remember to fill out the parenting questionnaire for the second time on (or within one day of) **[INSERT DATE]** by accessing the following link:

[http://psych.curtin.edu.au/research/phd/\[INSERT CONDITION\].cfm](http://psych.curtin.edu.au/research/phd/[INSERT CONDITION].cfm)

After you have completed this, you will be given the opportunity to enter the draw to win a \$50 voucher. Your participation is greatly valued!

Kind regards,

Carly Reid

Associate Lecturer | PhD (Clinical Psychology) Candidate | School of Psychology and Speech Pathology | Faculty of Health Sciences

Curtin University

Tel | +61 8 9266 1398

Fax | +61 8 9266 2464

Email | <mailto:carly.reid@curtin.edu.au>

Web | <http://curtin.edu.au>

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APPENDIX Q

PHASE THREE: ANIMAL FUN DEMOGRAPHICS QUESTIONNAIRE



Dear Parent,

Thank you for you and your child's participation in the Animal Fun Pre-Primary Movement Project at **Name** Primary School so far. Would you kindly complete the enclosed questionnaires and return to the pre-primary teacher, Name, by **date/2009**. These questionnaires ask you about your child and how they behave in everyday life. If you have any queries about any of the information, please contact Carly Reid on 9266 1398 or email carly.reid@curtin.edu.au

Thank you very much for the time and effort in completing these questionnaires. We greatly appreciate your ongoing support of this important research, and your commitment to the physical, social and emotional well-being of our children.

Kind regards,

The Animal Fun Project Team

Please answer the following questions in relation to your pre-primary school child.

10. Questionnaire completed by: _____

11. Date completed: _____ (day) / _____ (month) / _____ (year)

12. Child's date of birth: _____ (day) / _____ (month) / _____ (year)

13. Child's age in years: _____ years old

14. Child's Gender: (please circle)

Male	1	Female	2
------	---	--------	---

15. Child's country of birth: _____

16. First language spoken: _____

17. Has your child ever suffered from any serious physical health problems (e.g. asthma, cerebral palsy)? (please circle)

Yes	1
No	2

⇒ If yes, please specify: _____

18. Has your child ever suffered from any physical or sensory disabilities (e.g. hearing impairment)? (please circle)

Yes	1
No	2

⇒ If yes, please specify: _____

19. (a) Has your child ever received help for any mental health or psychological problems (e.g. Depression, Attention Deficit Hyperactivity Disorder)? *(please circle)*

Yes	1	⇒ Go to Question 10(b)
No	2	⇒ Go to Question 11

(b) If yes, what type of problem/s? _____

(c) What was the exact diagnosis (if given)?: _____

(d) Who diagnosed your child (eg. doctor, psychologist, etc.)? _____

(e) At what age was your child first diagnosed? _____ years _____ months

20. (a) Has your child ever been diagnosed with a learning problem? *(please circle)*

Yes	1	⇒ Go to Question 11(b)
No	2	⇒ Go to Question 12

(b) If yes, what type of problem/s? _____

(c) What was the exact diagnosis (if given)?: _____

(d) Who diagnosed your child (eg. school psychologist, etc.)? _____

(e) At what age was your child first diagnosed? _____ years _____ months

21. (a) Has your child ever been diagnosed with any movement coordination problems? *(please circle)*

Yes	1	⇒ Go to Question 12(b)
No	2	⇒ Go to Question 13

(b) If yes, what type of problem/s? _____

(c) What was the exact diagnosis (if given)?: _____

(d) Who diagnosed your child (eg. school psychologist, etc.)? _____

(e) At what age was your child first diagnosed? _____ years _____ months

22. Has your child ever had physiotherapy or other physical training? *(please circle)*

Yes	1	⇒ Go to Question 13(b)
No	2	⇒ Go to Question 14

(b) If yes, please detail: _____

23. Has your child ever had remedial reading or speech therapy? *(please circle)*

Yes	1	⇒ Go to Question 14(b)
No	2	⇒ Go to Question 15

(b) If yes, please detail: _____

24. Is your child currently on any kind of medication?

Yes	1	⇒ Go to Question 15(b)
No	2	⇒ Go to Question 16

(b) If yes, what is the name of the medication? _____

(c) What is the medication prescribed for? _____

(d) What is the usual dosage for medication (eg. 3 mg, twice daily etc)? _____

(e) At what age did your child begin taking this medication? _____ years _____ months

(f) Does your child ever temporarily stop taking the medication? (eg. weekends, school holidays)?

Yes	1	⇒ Go to Question 15(g)
No	2	⇒ Go to Question 16

(g) Please explain: _____

The following information refers to the parents of the child**25. What is the mother's occupation?** _____**26. What is the father's occupation?** _____**27. Mother's current marital status:** *(please circle one number)*

Single	1	Married	3	Divorced	5
Defacto	2	Separated	4	Widowed	6

28. Father's current marital status: *(please circle one number)*

Single	1	Married	3	Divorced	5
Defacto	2	Separated	4	Widowed	6

29. What is the mother's highest level of education? *(please circle)*

Primary 1-7 years	1	Diploma	5
High School 8-10 years	2	University Degree	6
High School 11-12 years	3	University Postgraduate	7
Apprentice/Technical	4		

30. What is the father's highest level of education? *(please circle)*

Primary 1-7 years	1	Diploma	5
High School 8-10 years	2	University Degree	6
High School 11-12 years	3	University Postgraduate	7
Apprentice/Technical	4		

APPENDIX R
PHASE THREE: ANIMAL FUN PARENT AND CHILD INFORMATION
AND CONSENT FORMS



INFORMATION SHEET

Dear Parent/Carer,

Animal Fun: A movement program promoting physical and mental health

My name is Carly Reid and I am writing on behalf of the School of Psychology at Curtin University of Technology, to invite you and your child to participate in a study evaluating the effectiveness of a new movement program for pre-primary children. We are inviting all of the pre-primary children at your school to participate. Your school is one of twelve schools in Western Australia approached for their participation.

The Research Team

Professor Jan Piek, Assoc. Professor Clare Roberts, Dr. Rosie Rooney, and myself from the School of Psychology, Professor Leon Straker, and Ms Lynn Jensen from the School of Physiotherapy, and Professor Tanya Packer and Ms Alma Dender from the School of Occupational Therapy have extensive experience in working with young children. Their expertise includes research experience with developmental movement difficulties, childhood anxiety and depression, and intervention programs for young children.

What this Research is about?

With the support of your principal, and the pre-primary teachers, we are trying to evaluate the effectiveness of a program which aims to improve children's fine and gross motor skills, while promoting participation in physical activities and children's general wellbeing. We know that regular physical exercise helps concentration and encourages positive moods and that fine and gross movement abilities are necessary for academic and sporting performance. Older children who have delays in their fine and gross motor coordination may experience anxiety, self-concept and social difficulties; however, there is not a lot of information regarding these problems for younger children. Therefore, we have designed a movement program, called *Animal Fun*, for Pre-Primary children that is fun for the children, and can be easily incorporated into the daily school curriculum and supervised by teachers. We would now like to involve your child in the program to test its effectiveness. This will allow us to refine the program and incorporate it into the pre-primary curriculum in the future. I am also using the post-test data from this project as part of my PhD study, looking at the effects of parenting on children's cognitive, behavioural, and social development.

What will participation involve?

With your consent, we are testing all pre-primary children at your school before and after their participation in the school-based program. Children will be tested again when they are in grade one. Testing will consist of several activities to determine your child's level of fine

and gross motor coordination, such as cutting out shapes, drawing, playing with beads, jumping, hopping, and throwing/catching a ball. They will also play with puzzles and blocks. The children will also look at some pictures to decide how they feel about themselves. Parents will be given questionnaires to complete in term one and term four, and again in term three of the following year. Your child's pre-primary teacher will be asked to complete a questionnaire regarding children's social skills. All information obtained will remain confidential and information will not be shared without your consent. We will be visiting your child's school to carry out the testing in a familiar environment for your child. Testing will be carried out by trained research assistants across a number of sessions to avoid fatiguing your child. The total testing time will be approximately 1.5-2 hours. Your child will also participate in the *Animal Fun* activities, which will be included in the daily activities set by the pre-primary teacher.

Are there any risks?

No. Children usually find these activities interesting and fun. Our researchers provide children with rests and diversions to make sure that they don't lose interest. Each child gets one-on-one attention to make sure they do as well as possible in the tasks and find the experience pleasant. The group *Animal Fun* Movement Program will be supervised by teachers.

Does my child have to take part?

No. Participation in this research project is entirely voluntary. If you do not want your child to take part in the project, or your child does not wish to take part, then they simply do not. This decision should always be made completely freely, and any and all decisions are respected by members of the research team without question. Your child has also been provided with a letter from us that we encourage you to discuss with him/her. There will be no consequences relating to a decision by you and your child to participate or not, other than those already described in this letter. These decisions will not affect your family's relationship with your child's teacher or your child's school.

As the *Animal Fun* activities will be incorporated into the daily routine, your child can still take part in the activities without completing the testing. If you do not want your child to participate in the *Animal Fun* activities, please let the teacher know and another activity can be arranged during these times.

What if either of us was to change our mind?

Once a decision is made to participate, either you or your child can change your mind at any time within the minimum 5-year storage period of the research data (see below). If you decide to withdraw from participation in the project, all contributions made to the project will be destroyed unless explicitly agreed to by you. If the project has already been published at the time you and your child decide to withdraw, your child's contribution that was used in reporting the project can not be removed from the publication.

What will happen to the information collected, and is privacy and confidentiality assured?

Information that identifies anyone will be removed from the data collected. The data is then stored securely in a locked filing cabinet at Curtin University and can only be accessed by those directly involved in the project. The data will be stored for a minimum period of 5 years, after which it will be destroyed according to the Curtin University Functional Records Disposal Authority protocol.

The data are maintained in a way that enables us to re-identify an individual's data and destroy it if participation is withdrawn. This is done by using a system of individual codes,

known only to the research team, which is used to link each individual's consent form to all data that relate to that individual.

The identity of your child and the school will not be disclosed at any time, except in circumstances that require reporting under the Department of Education and Training Child Protection policy, or where the research team is legally required to disclose that information. Participant privacy, and the confidentiality of information disclosed by participants, is assured at all other times. As a large amount of useful data will be collected for this project, we also request your permission to allow de-identified data only to be used in future research projects.

Are there any benefits?

Yes. You and your child will be involved in important research that promotes physical, social, and emotional well-being that will benefit future years of children at your school and others. You will be informed of any areas of concern in your child's assessment; however you may also request a copy of the results of the assessment, regardless of result. Your child's teacher will be made aware of the assessment results with your consent, and will continue to include your child in movement activities throughout the year, which will benefit your child in other areas of development. A summary of the research findings may also be requested on completion of the project. You can access this by contacting me using the details listed below, and expect it to become available by mid 2011.

How do I know that the people involved in this research have all the appropriate documentation to be working with children?

Under the Working with Children (Criminal Record Checking) Act 2004, people undertaking research that involves contact with children must undergo a Working with Children Check. Each member of the research team that has contact with children has a current Working with Children Check. Evidence that these Checks are current has been provided to the Principal of your school. I am also happy to provide you with copies if you have any concerns.

Is this research approved?

This study has been approved by the Curtin University Human Research Ethics Committee (Approval Number HR 02/2009). The Committee is comprised of members of the public, academics, lawyers, doctors and pastoral carers. Its main role is to protect participants. If needed, verification of approval can be obtained either by writing to the Curtin University Human Research Ethics Committee, c/- Office of Research and Development, Curtin University of Technology, GPO Box U1987, Perth, 6845, or by telephoning 9266 2784 or by emailing hrec@curtin.edu.au. The research has also met the policy requirements of the Department of Education and Training.

How does my child become involved?

Please ensure that you:

- discuss what it means to take part in the project with your child before you both make a decision; and
- take up my invitation to ask any questions you may have about the project

Once all questions have been answered to your satisfaction, and you and your child are both willing to become involved, please complete the Consent Form on the following page and return it to your child's teacher by **May 8, 2009** (your child will also need to complete the Consent Form attached to his/her letter).

More information?

For more information, please phone the Research Coordinator, Carly Reid, on 9266 1398 or email Carly.Reid@curtin.edu.au. If you wish to speak with an independent person about the conduct of the project, please contact Linda Teasdale by phoning 9266 2784 or by emailing hrec@curtin.edu.au.

This project information letter is for you to keep.

Kind Regards,

Carly Reid

Research Coordinator
Pre-Primary Movement Program
School of Psychology
Curtin University of Technology
CRICOS Provider Code 00301J
Ph: 9266 1398
Fax: 9266 2464

email: carly.reid@curtin.edu.au



CONSENT FORM

Animal Fun: A movement program promoting physical and mental health

- I have read this document, or have had this document explained to me in a language I understand, and I fully understand the aims, procedures, and risks, as described within it.
- For any questions I may have had, I have taken up the invitation to ask those questions, and I am satisfied with the answers I received.
- I understand that participation in the project is entirely voluntarily.
- I understand what it means for me to participate in this project.
- I am willing for my child to become involved in the research project, as described.
- I have discussed with my child what it means to participate in this project, and he/she has explicitly indicated a willingness to take part, as indicated by his/her completion of the child consent form.
- I understand that both my child and I are free to withdraw that participation at any time within 5 years of project completion, without affecting the family's relationship with my child's teacher or my child's school.
- I consent to be contacted by phone should the researchers require any further information regarding my child's participation.
- I give my permission for the contribution that my child makes to this research to be used in future research projects, conference talks and published in a journal, provided that my child or the school is not identified in any way.
- I understand that a summary of findings from the research will be made available to me and my child upon its completion.

Please also tick boxes if you wish to give consent for the following:

- I give permission for my child's assessment data to be released to his/her school.
- I would like to be provided with a summary report with my child's results.

Parent/Guardian's Name.....

Parent signature:.....

Date:.....

Child's Name..... My child is a (*please circle*)

Date of Birth...../...../..... Boy / Girl

Address.....
.....

Home Phone..... Mobile/Work

Phone.....

THANK YOU FOR YOUR PARTICIPATION IN THIS IMPORTANT RESEARCH.

Child Information Sheet –

To be read by parent and discussed with child prior to child consent

Hello

My name is Carly. I have a project that you might like to help me with.

The project is about children's movement, development, and how well they get along with other people. Would you like to help me for about 2 hours?

If you want to stop at anytime, that's OK, you can...

I won't tell anyone what you say while helping me with the project, unless I need to tell someone like your parents or your teacher that you are having problems with some of the activities.

Your mum or dad, or the person who looks after you, has talked with you about helping with the project. Now you can say for yourself.

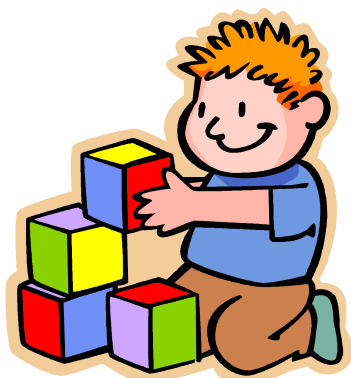
If you do want to help with the project, please draw a circle around the tick on the next page. It shows some pictures of what you will be doing with the people coming to your school.

If you don't want to help with the project – that's OK too.

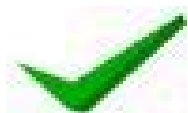
Carly Reid

Research Coordinator
Pre-Primary Movement Program
School of Psychology
Curtin University of Technology
CRICOS Provider Code 00301J
Ph: 9266 1398
Fax: 9266 2464
email: carly.reid@curtin.edu.au

Consent Form for Young Children



- I know that I don't have to help with the project, but I would like to.
- I know that I can stop whenever I want.
- I know that I will be asking some questions and playing with some games and puzzles as part of the project.
- I know that I need to draw a circle around the tick on this page before I can help with the project.



YES

I would like to help with the project



NO

Not this time

Name of child: _____

Today's Date: / /

APPENDIX S

REGRESSION ANALYSES WITH MISSING VALUES NOT REPLACED

Predictors of Emotional WarmthModel Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.214 ^a	.046	.040	.11972	.046	7.970	5	830	.000

a. Predictors: (Constant), What is your age?, What is your gender?, ParentEd_Postgrad, ParentEd_Highschool, How old is your child?

b. Dependent Variable: EW_Truncated_Regr

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.571	5	.114	7.970	.000 ^a
	Residual	11.897	830	.014		
	Total	12.468	835			

a. Predictors: (Constant), What is your age?, What is your gender?, ParentEd_Postgrad, ParentEd_Highschool, How old is your child?

b. Dependent Variable: EW_Truncated_Regr

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
		B	Std. Error	Beta			Zero-order	Partial	Part
1	(Constant)	.136	.029		4.785	.000			
	ParentEd_Postgrad	.016	.011	.058	1.485	.138	.096	.051	.050
	ParentEd_Highschool	-.005	.010	-.021	-.536	.592	-.083	-.019	-.018
	What is your gender?	-.064	.014	-.151	-4.451	.000	-.157	-.153	-.151
	How old is your child?	.001	.002	.032	.802	.423	.088	.028	.027
	What is your age?	.002	.001	.089	2.095	.036	.134	.073	.071

Predictors of Punitive Discipline

Model Summary^c

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.127 ^a	.016	.012	.22024	.016	4.007	3	732	.008
2	.137 ^b	.019	.013	.22010	.003	1.972	1	731	.161

a. Predictors: (Constant), What is your gender?, What birth number is the child that you are answering about?, ParentEd_TAFEDipAppr

b. Predictors: (Constant), What is your gender?, What birth number is the child that you are answering about?, ParentEd_TAFEDipAppr, Eth_MasFem

c. Dependent Variable: PD_Truncated_Regr

ANOVA^c

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.583	3	.194	4.007	.008 ^a
	Residual	35.508	732	.049		
	Total	36.091	735			
2	Regression	.679	4	.170	3.502	.008 ^b
	Residual	35.412	731	.048		
	Total	36.091	735			

a. Predictors: (Constant), What is your gender?, What birth number is the child that you are answering about?, ParentEd_TAFEDipAppr

b. Predictors: (Constant), What is your gender?, What birth number is the child that you are answering about?, ParentEd_TAFEDipAppr, Eth_MasFem

c. Dependent Variable: PD_Truncated_Regr

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
		B	Std. Error	Beta			Zero-order	Partial	Part
1	(Constant)	1.562	.030		52.093	.000			
	ParentEd_TAFEDip	.046	.026	.066	1.786	.075	.061	.066	.065
	Child birth order	-.018	.009	-.072	-1.967	.050	-.073	-.073	-.072
	What is your gender?	-.064	.028	-.084	-2.279	.023	-.083	-.084	-.084
2	(Constant)	1.722	.118		14.610	.000			
	ParentEd_TAFEDip	.046	.026	.066	1.788	.074	.061	.066	.066
	Child birth order	-.018	.009	-.069	-1.887	.060	-.073	-.070	-.069
	What is your gender?	-.062	.028	-.080	-2.190	.029	-.083	-.081	-.080
	Eth_MasFem	-.003	.002	-.052	-1.404	.161	-.060	-.052	-.051

Predictors of Permissive Discipline

Model Summary^c

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.219 ^a	.048	.043	.58625	.048	9.205	4	729	.000
2	.239 ^b	.057	.049	.58430	.009	3.436	2	727	.033

a. Predictors: (Constant), What is your age?, How many children do you have?, ParentEd_Postgrad, How old is your child?

b. Predictors: (Constant), What is your age?, How many children do you have?, ParentEd_Postgrad, How old is your child?, Eth_IndColl, Eth_PD

c. Dependent Variable: PerD_Mean

ANOVA^c

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.654	4	3.164	9.205	.000 ^a
	Residual	250.548	729	.344		
	Total	263.202	733			
2	Regression	15.000	6	2.500	7.323	.000 ^b
	Residual	248.202	727	.341		
	Total	263.202	733			

a. Predictors: (Constant), What is your age?, How many children do you have?, ParentEd_Postgrad, How old is your child?

b. Predictors: (Constant), What is your age?, How many children do you have?, ParentEd_Postgrad, How old is your child?, Eth_IndColl, Eth_PD

c. Dependent Variable: PerD_Mean

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
	B	Std. Error	Beta			Zero-order	Partial	Part
1 (Constant)	2.211	.132		16.768	.000			
ParentEd_Postgrad	.038	.050	.029	.772	.440	.081	.029	.028
How old is your child?	-.038	.009	-.178	-4.068	.000	-.087	-.149	-.147
Number of Children	-.052	.022	-.088	-2.357	.019	-.104	-.087	-.085
What is your age?	.019	.004	.203	4.563	.000	.104	.167	.165
2 (Constant)	2.498	.415		6.015	.000			
ParentEd_Postgrad	.027	.050	.021	.548	.584	.081	.020	.020
How old is your child?	-.039	.009	-.184	-4.214	.000	-.087	-.154	-.152
Number of children	-.050	.022	-.085	-2.277	.023	-.104	-.084	-.082
What is your age?	.019	.004	.208	4.668	.000	.104	.171	.168
Eth_IndColl	-.004	.003	-.087	-1.320	.187	-.094	-.049	-.048
Eth_PD	.001	.004	.009	.141	.888	.075	.005	.005

Predictors of Democratic Discipline

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.111 ^a	.012	.011	.55202	.012	10.530	1	837	.001

a. Predictors: (Constant), What is your gender?

b. Dependent Variable: DD_Truncated

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.209	1	3.209	10.530	.001 ^a
	Residual	255.057	837	.305		
	Total	258.266	838			

a. Predictors: (Constant), What is your gender?

b. Dependent Variable: DD_Truncated

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
	B	Std. Error	Beta			Zero-order	Partial	Part
1 (Constant)	5.008	.063		79.604	.000			
What is your gender?	.214	.066	.111	3.245	.001	.111	.111	.111

Predictors of Total PBDQ Score

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.124 ^a	.015	.014	1.97575	.015	13.090	1	837	.000

a. Predictors: (Constant), What is your gender?

b. Dependent Variable: TotalScoreMeanTruncated

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	51.098	1	51.098	13.090	.000 ^a
	Residual	3267.319	837	3.904		
	Total	3318.417	838			

a. Predictors: (Constant), What is your gender?

b. Dependent Variable: TotalScoreMeanTruncated

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
	B	Std. Error	Beta			Zero-order	Partial	Part
1 (Constant)	24.270	.225		107.791	.000			
What is your gender?	.855	.236	.124	3.618	.000	.124	.124	.124