The Importance of Coparenting Quality when Parenting a Child with an Autism Spectrum Disorder: A Mixed-method Investigation.

Christopher Dominic May
RN, BA, MBA

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ABSTRACT

Parents of children with an Autism Spectrum Disorder (ASD) are known to experience higher levels of parenting stress than almost all other parents. Parenting stress has been associated with poor child and parent outcomes, including an increased risk of parental substance abuse, depression and anxiety, and an increased prevalence of externalising behaviour problems in the parent's children. Concern regarding outcomes associated with these high levels of parenting stress has generated a call in the autism literature for the development of effective interventions to minimise and reduce parenting stress in families where there are children with an ASD.

Coparenting quality has been associated with parenting stress and parenting self-efficacy in non-clinical samples, however these relationships have not been explored in families where there are children with an ASD. This study employed a mixed-method design to explore relationships between parenting stress, coparenting quality, and autism-specific parenting self-efficacy (ASPSE) in complementary quantitative and qualitative enquiries. In the quantitative enquiry mothers and fathers (N = 152) completed validated surveys. In a subsequent qualitative enquiry parenting couples (N = 11) participated in interviews exploring the adaptation of coparenting partnerships to the parenting of a child with an ASD.

Mothers and fathers in the present study experienced high and similar levels of parenting stress. Coparenting quality shared stronger relationships with parenting stress than any other factor and this association was stronger than that previously reported in a large non-clinical sample. Coparenting quality also mediated the relationship between ASPSE and parenting stress. Parents in the interview cohort described alterations to their coparenting partnerships that occurred in association with the parenting of a child with an ASD, the factors that motivated them to uphold their coparenting quality, and the processes that they employed to maintain and enhance their coparenting partnership.

Coparenting quality shares important relationships with the high levels of parenting stress that occur in both mothers and fathers of children with an ASD. Parents understand the importance of their coparenting partnerships, however service delivery has traditionally focused on dyadic mother/child relationships. The outcomes of this investigation should encourage researchers and service providers to give more consideration to the importance of this coparenting quality in the planning, provision and evaluation of autism services.

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Chapter 1 : INTRODUCTION

1.1 BACKGROUND

The parenting of any child can be a challenging and difficult task at times but the parenting of some children with special needs, such as those with an Autism Spectrum Disorder (ASD), can be so difficult that it can damage a parent's health, relationships, and parenting ability. Indeed, parents of children with an ASD experience a higher incidence of depression than other parents, and they often report strong feelings of isolation from family and friends, lower levels of satisfaction in their parent/child relationships, and chronic anxiety about their child's future. Regardless of the impact that the difficulty of parenting a child with an ASD has on parents they are still expected to play a key role in supporting their child's therapeutic needs while attending to their other parenting roles and responsibilities.

The difficulty of parenting a child with an ASD manifests in high levels of parenting stress. This is important because firstly, the parents of children with an ASD are known to experience higher levels of chronic parenting stress than almost all other groups of parents; and secondly, because many studies, in families where there are children with either typical or atypical development, have now demonstrated that high levels of parenting stress predict an array of important child and parent outcomes. High levels of parenting stress in clinical and non-clinical samples have been linked to an increased risk of parental substance abuse, depression and anxiety, and an increased prevalence of externalising behaviour problems in these parent's children. Parents with chronically elevated levels of parenting stress are also more likely than other parents to display harsh and emotionally remote parenting. The high levels of parenting stress experienced in families where there is a child with an ASD may have additional importance because high levels of parenting stress reduce the ability of these parents to provide the parenting and therapeutic support that their children require. Concern over relationships between parenting stress and both child and parent outcomes in families where there is a child

with an ASD has resulted in calls in the autism literature for the development of effective interventions to minimise and reduce parenting stress.

Interventions designed to reduce parenting stress in families where there is a child with an ASD have now been examined in many studies. These studies have often reported little or no influence on parenting stress but the most successful interventions have focused on parenting self-efficacy (PSE) and parenting support. Studies reporting reductions in parenting stress in association with increased parenting support have concentrated on the formal, professional support provided through health and education services. However, parents also receive parenting support from other informal sources such as family, friends and their parenting partner. The cumulative findings from a number of studies have now illustrated that these sources of informal support provide a more effective buffer against parenting stress in families where there are children with an ASD than the formal support that parents receive from institutions and service providers. These findings suggest that more attention should be given to informal sources of parenting support when researching parenting stress in families where there is a child with an ASD.

There is mounting evidence that one aspect of informal support, the support that parents receive from their parenting partnership, has a particularly important influence on parenting stress and other factors commonly associated with ASD. The importance of the parenting partnership has been explored in research founded in coparenting theory, which employs multivariate models of coparenting quality to examine relationships between the quality of parenting partnerships and both child and families outcomes. The parents' coparenting partnership is that part of their relationship that is primarily concerned with child rearing and the quality of this relationship has been linked to higher levels of parenting self-efficacy, lower levels of parenting stress and the incidence of children's externalising behaviour problems in both clinical and non-clinical samples. Coparenting quality could be particularly important in families where there is a child with an ASD because externalising behaviour problems are common in these children, because parents in these families experience high levels of parenting

stress and because social isolation often limits these parents' access to other sources of informal parenting support.

There is both empirical evidence and theoretical argument indicating that coparenting quality could have an important influence on parenting stress in families where there is a child with an ASD. However, a review of the parenting, coparenting and autism literatures has been unable to find any published studies on the relationship between coparenting quality and parenting stress in either families where there is a child with an ASD or in families where parents are known to be experiencing high levels of parenting stress. The present study aimed to address this identified gap in the literature by exploring relationships between coparenting quality, parenting stress, parenting self-efficacy, and other associated factors in a cohort of biological mothers and fathers living together with their child with an ASD.

1.2 PRIMARY HYPOTHESIS

The primary hypothesis for this study is that Coparenting Quality, as measured with the Parenting Alliance Measure, will be negatively associated with Parenting Stress, as measured with the Parenting Stress Index, in biological mothers and fathers living together with their child with an ASD.

1.3 OVERVIEW OF RESEARCH DESIGN

This study employed a sequential explanatory mixed-methodology to explore relationships between the quality of the coparenting partnership and levels of parenting stress in mothers and fathers of children with an ASD. The study included a quantitative investigation followed by a qualitative enquiry. The qualitative enquiry was designed to build on and provide explanation for empirical outcomes while also seeking to advance the current state of knowledge in the coparenting literature.

The primary purpose of the quantitative investigation was to explore relationships between parenting stress, as an outcome variable, and the quality of the coparenting partnership, as an independent variable, in biological mothers and fathers living together with their child with an ASD. A simultaneous assessment of PSE, parenting support, and other variables that have previously been associated with the severity of parenting stress in families with or without a child with an ASD was conducted to determine the relative importance of the relationship between coparenting quality and parenting stress in the present sample. These other variables included factors such as socioeconomic position, the position of the child in the family and the severity of the child's ASD.

The assessment of PSE employed a tool that evaluated parent beliefs regarding their ability to successfully parent a child with an ASD. This specialised form of PSE was described in the present study as Autism-specific Parenting Self-efficacy (ASPSE) and the use of this specific measure ensured that parent responses were focused on the parenting of a child with an ASD and not on the parenting of other children. The analyses aimed to determine the relative strength of association between parenting stress, ASPSE and coparenting quality while also seeking to explore and describe the complex relationships that theoretically exist between these variables. The investigation of these complex relationships included an exploration of the direction and nature of influence between ASPSE, coparenting quality and parenting stress with Structural Equation Modeling (SEM). These and other outcomes were employed to inform the design of the qualitative arm of the investigation.

The subsequent qualitative enquiry explored three domains of the relationship between coparenting quality and the parenting of a child with an ASD. These domains consisted of the influence that the parenting of a child with an ASD has on the coparenting relationship; the adaptation of coparenting partnerships to the parenting of a child with an ASD; and an enquiry into parent beliefs regarding relationships between coparenting quality, parenting self-efficacy and their child's developmental outcomes. Semi-structured interviews were designed with the support of coparenting theory and research in combination with evidence from the empirical arm

of the present study. Questions were designed to provoke discussion of parent perceptions and beliefs in regard to each of the three interview domains.

1.4 METHOD

The sample included biological mothers (N = 80) and fathers (N = 72) who were living together with their child with an ASD. Parents (N=152) were primarily recruited through specialised schools in New South Wales (NSW) that provide education for children with an ASD. Other parents were recruited through snowballing and smaller autism services. Participants included parenting couples (n = 69), mother only (n = 11) and father only (n = 3) respondents from a total of 83 families. There were a number of families (n = 9, range = 2–4) in which there was more than one child with an ASD. Parenting couples (N = 11) were recruited from this cohort for the qualitative arm of the study, this sample included couples with both high and low aggregated (mother plus father) levels of parenting stress.

Surveys were self-completed and returned by mail. Each package included 189 questions designed to gather information on a range of latent variables and other demographic data. These variables included parent beliefs about the severity of their child's ASD; parenting stress; coparenting quality; parenting self-efficacy; the availability and importance of formal and informal parenting support; and the role of the father. Qualitative interviews were conducted by phone, transcribed and then thematically analysed with the support of qualitative research software.

1.5 MEASURES

Parents in the quantitative arm of the study responded on the following questionnaires. Parenting stress was reported on the long form Parenting Stress Index (101 items). The Parenting Alliance Measure (20 items) assessed the quality of coparenting relationships. A modified version of the

Autism Parenting Questionnaire (21 items), designed to assess outcomes from parenting interventions, was employed to assess Autism-specific Parenting Self-efficacy (ASPSE). The Family Support Scale (18 items) assessed parent perceptions of the availability and importance of a range of sources of formal and informal support, and the "What is a Father?" Scale (15 items) reported on parent beliefs in regard to the role of the father. A general questionnaire (11 items) reporting on the severity of the child's ASD and a range of socioeconomic and demographic indicators was also developed for the study.

1.6 RESULTS

The present study found that mothers and fathers in the sample experienced high and similar levels of parenting stress, that coparenting quality was predictive of maternal and paternal parenting stress, and that the association between coparenting quality and parenting stress was stronger in families where there is a child with an ASD than that previously reported in a large non-clinical sample. Coparenting quality shared a stronger relationship with parenting stress, in this cohort of parents, than any other variable accounted for in the investigation and this relationship was much stronger for fathers than mothers.

There was a significant correlation ($p < .05$) between ASPSE and coparenting quality in both maternal and paternal data and this correlation was stronger for fathers. ASPSE was moderately associated with maternal but not paternal parenting stress, a relationship that lost significance when controlling for the influence of coparenting quality. Correlations between maternal and paternal total scores on each of these variables enabled the aggregation of data to form couple indices of coparenting quality, parenting stress and ASPSE which were employed in the development of potential pathways of influence. Structural equation modeling of these pathways demonstrated that a couple's sense of coparenting quality mediated the relationship between a parent's sense of ASPSE and a couple's level of parenting stress.

The analysis of parent interviews found that parents in the present sample often made important alterations to their parenting roles and responsibilities in response to the emergence of their child's ASD. These changes increased the intensity of maternal relationships with the affected child and influenced the distribution of authority in coparenting partnerships. However, parents were motivated to compensate for these changes, with thoughts and behaviours that supported and enhanced their coparenting partnership, by a belief that the quality of their coparenting relationship would play an important role in determining the developmental outcomes of their child with an ASD.

Further analysis identified processes that played an important role in the adaptation of coparenting partnerships to the parenting of a child with an ASD by contributing to coparenting quality. These processes included: the sharing of information; the development of a sense of shared parenting endeavour; the development of a sense of a shared parenting journey; and the ability to identify and appreciate a partner's complementary contribution to parenting quality. The analysis found that parents in this sample illustrated the quality of their coparenting relationships by describing a sense of coparenting competence which they linked to their ability to make a positive contribution to their child's developmental outcomes.

1.7 CONCLUSION

The question of how best to reduce the high levels of parenting stress in families where there is a child with an ASD is both important and pressing. Research has found that parenting support could play a key role in addressing parenting stress in these families but studies have overlooked the importance of the support that parents receive from their coparenting relationship. This omission is serious because there is considerable evidence from other contexts that the coparenting partnership is likely to have a substantial influence on parenting stress in these families. This thesis has addressed this gap in the literature by directly exploring relationships

between coparenting quality, parenting stress and a range of other associated factors in families where there is a child with an ASD.

The analysis of survey data found substantial support for the primary hypothesis that coparenting quality would share a negative association with parenting stress while also finding that coparenting quality was a more important predictor of maternal and paternal parenting stress than any other variable assessed in the study. The quality of the coparenting relationship was also found to mediate the negative relationship between ASPSE and the high levels of parenting stress experienced by parenting couples. Although the quantitative analysis found that the level of coparenting quality was similar to that found in non-clinical samples the qualitative enquiry found that the emergence of a child with an ASD influenced parenting roles and responsibilities in ways that could negatively influence coparenting quality. Parents provided an explanation for these findings by describing how they worked to sustain and enhance the quality of their coparenting partnerships because they believed that this relationship would play an important role in helping their child with an ASD to achieve optimal developmental outcomes.

The present study has found evidence of important relationships between coparenting quality and parenting stress that should encourage research on the development of coparenting interventions in families where there is a child with an ASD. Coparenting research, in non-clinical samples, has demonstrated that the quality of coparenting relationships can be responsive to intervention. However, experience also demonstrates that it is often unrealistic to expect parents, particularly fathers, to routinely participate in such programs. Alternative interventions, seeking to integrate practices that facilitate and promote coparenting quality into routine interactions between service providers and parents could also be explored as a means of supporting parents to develop and sustain the quality of their coparenting relationships. The present study has found that mothers will provide an important gateway for coparenting intervention and that early coparenting intervention could be particularly important as parents renegotiate roles and responsibilities in the transition to the parenting of a child with an ASD. Such innovations could help to synchronise service provision with extant parenting culture by

migrating dyadic rituals of service delivery toward triadic, and more inclusive, paradigms of health and education practice.

Chapter 2 : LITERATURE REVIEW

2.1 INTRODUCTION

Relationships between coparenting and children's social and emotional development are receiving increasing interest as clinicians and researchers gradually shift the focus of their attention from dyadic, mother/child interactions, to the importance of other factors in the broader family system. Indeed theorists have described the coparenting partnership, usually between a child's biological parents, as the most important relationship that occurs in the complex array of family subsystems, and the theoretical importance of this relationship is finding increasing support in empirical studies. A recent meta-analysis on studies exploring relationships between coparenting and children's social and emotional development found that there is now sufficient evidence to claim that coparenting quality is predictive of variations in children's psychological adjustment (Teubert & Pinquart, 2010). An important aspect of this psychological adjustment is the relationship between coparenting and the development of children's externalising behaviour problems because these behaviour problems create more difficulty for the child, the parents and others involved in the child's care than any other feature of a child's development (Tremblay, 2010).

Despite such findings there has been very little research on the importance of coparenting quality in families where there are children whose behaviour is characterised by the presence of externalising behaviour problems. Children with Autism Spectrum Disorders (ASD) have a higher incidence of externalising behaviour problems than almost all other groups of children and these behaviour problems manifest in the high levels of parenting stress experienced in these families. High levels of parenting stress can in turn compromise a parent's ability to provide the quality of parenting and skilled therapeutic support that children with an ASD require and this has led to concern that high levels of parenting stress could prevent children with an ASD from reaching their developmental potential. This concern has stimulated many studies exploring factors that interact with parenting stress and the influence of programs designed to reduce

parenting stress in families where there is a child with an ASD. However, despite previous research in non-clinical samples reporting links between coparenting quality and parenting stress an exploration of the parenting and autism literatures has found no studies in the parenting or autism literature exploring the relationship between these and other associated factors in families where there is a child with an ASD.

The following literature review examines the current state of knowledge concerning relationships between coparenting quality, parenting stress and other interrelated factors in clinical and non-clinical samples, including families where there is a child with an ASD. The review is nuanced by a family systems perspective and pays particular attention to research and theory that focus on parenting relationships and father involvement. The chapter begins with an overview of the history, aetiology and management of ASD because this history has implications for the relationship that parents have with the provision of a child's therapy. The review then progresses into an exploration of the literature concerning relationships between parenting stress, coparenting, parenting self-efficacy and parenting support and concludes with recommendations for the research that is presented in the following chapters.

2.2 AUTISM SPECTRUM DISORDERS

The definition and diagnosis of Autism have been in a continual state of flux and refinement since Kanner first described the syndrome in 1943. An example of this state of flux occurred during the process of writing this literature review when the diagnostic criteria for an ASD was updated from a triad of impairments including communication, socialisation, and the presence and severity of unusual or repetitive behaviours, to a dyad of impairment focusing on socialisation and repetitive behaviours (Levy et al., 2009; DSMIV, 1994; DSMV, 2013). Current estimates of the incidence of ASD vary but it has been reported to occur in up to 116 per 10,000 children (Levy, Mandel, & Schultz, 2009, Lord & Bishop, 2010). The reported incidence varies because ASDs are difficult to diagnose as they occur on a spectrum, ranging from low

functioning autism, where children often have significant co-morbidity and intellectual delay, to high functioning autism where the symptomatology is often more subtle and intelligence ranges from normal to high (Levy et al., 2009; Volkmar & Pauls, 2003). However, children with an ASD are also characterised by a range of characteristics and characteristic behaviours not included in the diagnostic criteria. These other characteristics comprise disabilities and chronic health ailments including speech and language delays, hyperactivity, anxiety, externalising behaviour problems, tactile sensitivity, epilepsy, gastrointestinal disorders, sleep disturbance and many more (Levy et al., 2009, Lord & Bishop, 2010).

THE AETIOLOGY OF AUTISM

For many years autism was thought to be a consequence of dysfunctional parenting which resulted in parents, particularly mothers, being blamed for the condition and children with an ASD missing out on appropriate intervention (Silverman & Brosco, 2007). The reason for this misunderstanding is thought to have stemmed from the fact that children with an ASD often have periods of apparently typical development before the signs of autism emerge (Silverman & Brosco, 2007). Therefore, the dominant medical opinion for many decades was that autism syndrome developed as a result of subconscious parental rejection and this phenomenon became known as "refrigerator parenting" (Marcus et al., 2005; Silverman & Brosco, 2007). Rimland (1964), the father of a child with autism, was the first to describe autism as a biologically determined neurological disorder, and the earliest objective evidence of a biological origin of autism came from a 1977 paper describing a high degree of concordance in identical twins (Silverman & Brosco, 2007). It is now believed that the diminished warmth in the parent-child relationship, which clinicians had observed in the families of children with an ASD, was a consequence of having a child with an ASD and not a cause of the condition. It has since been speculated that the pervasive misunderstanding of the aetiology of ASD not only contributed to the stress of parents, but also resulted in harmful treatments and delays in the development of effective interventions (Silverman & Brosco, 2007). More than twenty years separated

Rimland's identification of ASD as a neurological condition and the publication of the first reports indicating that the developmental trajectories of children with an ASD could be altered through behavioural intervention.

Intervention and the Development of Children with an ASD

An entrenched misunderstanding of the aetiology of autism impeded the development of effective interventions long after Rimland's (1964) paper went to press. Prior to the publication of Lovaas's (1987) landmark paper, reporting on the benefits of Applied Behavioural Analysis (ABA) in a randomised control trial (RCT) in children with autism, there were still thought to be no effective treatment options. A lack of treatment options meant that the large majority of clinicians and parents continued to very pessimistic about the developmental prognosis for children with an ASD. Lovaas's (1987) findings stimulated a sustained period of optimism for children with an ASD, a substantial growth in related research, and the development of an overwhelming array of treatment options (Rogers & Vismara, 2008). Recent reviews of autism therapies have concluded that many of the interventions promoted in the formal and informal autism literature are unlikely to be effective, and that interventions based primarily on ABA continue to be the only therapies to have developed a sufficiently supportive evidence base to provide a measure of confidence in their efficacy (Prior & Roberts, 2006; Rogers & Vismara, 2008). According to Rogers and Vismara (2008) approximately 50% of children with an ASD can be expected to achieve normal development and up to 90% will achieve significant improvements in their symptomatology when their therapy is developed and implemented in accordance with the principles of ABA.

ABA evolved from the foundations of B. F. Skinner's behaviourism and the use of ABA in children with an ASD was first described by Wolf, Risley, and Mees (1964) who were students from Skinner's school. The original conception of ABA in individuals with autism involved eight key features. These features included the integration of developmental and

behavioural approaches, individualisation of goals, a progression from simple to more complex skills and the training of parents and others to implement these interventions in multiple environments (Green, 2001). The inclusion of parenting as a cornerstone of ABA may have played an important role in redefining parents as potential therapeutic, as opposed to causal, agents in relation to their child's ASD. The re-conceptualisation of autism as a biological condition, in which developmental outcomes can often be altered through intervention, and the growth in therapeutic options, often but not always founded on ABA, have therefore occurred alongside changing relationships between parents, health providers and children with an ASD (Green, 2001, Levy et al., 2009).

The Therapeutic Role of the Parent

It is now generally accepted that parents play a pivotal role in supporting and implementing many forms of behavioural therapy for their children with an ASD (Marcus et al., 2005; Myers & Johnson, 2007; Siller, Hutman, & Sigman, 2013; Silverman & Brosco, 2007; Solomon, Ono, Timmer, & Goodlin-Jones, 2008; Vismara, Colombi, & Rogers, 2009). Indeed, parents are often expected to understand the aims of therapy, to be aware of their child's progress, to support and implement therapeutic interventions and to perform incidental teachings that take advantage of everyday interactions to reinforce therapeutic gains (Levy, 2009; Marcus et al., 2005). Parents are therefore trained in techniques to improve communication and interaction with their child, to promote their child's social and intellectual development, to avoid interactions that will provoke high levels of anxiety, and to negotiate the family's relationships with services (Carbone, Behl, Azor, & Murphy, 2010; Marcus et al., 2005; Siller et al., 2013; Siller & Sigman, 2002). The knowledge and skills that parents gain in these therapeutic alliances can be empowering, and the sense of competence that parents often develop has been demonstrated to moderate the difficulties associated with the parenting of a child with an ASD (Sofranoff & Farbotko, 2002; Pisterman et al., 1992; Vismara et al., 2009). However, as pointed out by other researchers, such empowerment is unlikely to make up for the difficulties associated with the parenting of a child

with an ASD, the management of other associated disorders, the costs and the many other demands associated with ongoing therapy, and ubiquitous concerns about the child's developmental prognosis (Gray, 1997; Kelly, Garnett, Attwood, & Peterson, 2008).

The combination of these difficulties and concerns makes the parenting of a child with an ASD more demanding and more difficult, than the parenting of almost all other children with either typical or atypical developmental trajectories (Marcus, Kunce, & Schopler, 2005; Rao and Beidel 2009; Totsika, Hastings, Emerson, Lancaster, & Berridge, 2011; Schopler & Mesibov, 1984; Zuckerman et al., 2013). Many researchers have been interested in isolating the factors that make the greatest contribution to this parenting difficulty. Their studies have found that the parenting of a child with an ASD is associated with an array of parenting stressors including diagnostic confusion, unpredictable development, communication difficulties, embarrassing and unmanageable child behaviours, failure of parenting strategies, the difficulty of interpreting the child's behaviours, and a lack of reciprocity in warmth and affection in the parent-child relationship (Gray, 1997; Marcus et al., 2005; Osborne & Reed, 2010). A key finding in many of these investigations has been that the characteristic behaviours of children with an ASD make a greater contribution to parenting difficulty than any other factors, including the level of the child's intellectual function (Totsika et al., 2011; Weiss, 2002). The difficulties that parents experience in the parenting a child with an ASD can be compounded by their own maladaptive behaviours.

Mothers and fathers have been found to employ behaviours that contribute to the risk of negative outcomes as they try to cope with the difficulties associated with the parenting of a child with an ASD. For example, parents often withdraw from key sources of support, such as friends and extended family, as a result of their child's behaviours (Gray, 1997; Gray, 2003; Rodrigue et al; 1990, Woodgate, Ateah, & Secc, 2008). Maladaptive behaviours, such as withdrawal and isolation, could contribute to the high rates of psychological distress and depression (Daniels et al., 2008; Meltzer, 2011); low rates of parent-to-parent relationship satisfaction (Baker et al., 2003; Deater-Deckard et al., 2005); high rates of marital difficulty; and

the low levels of parenting self-efficacy reported in parents of children with an ASD (Brobst, Clopton, & Hendrick, 2009; Estes, Munson, Dawson, Koehler, Zhou, & Abbott, 2009; Gray, 2003; Griffith, Hastings, Nash, & Hill, 2010; Hastings, 2003; Davis & Carter, 2008; Rodrigue et al., 1990; Schieve, Blumberg, Rice, Visser, & Boyle, 2007; Tomanik, Harris, & Hawkins, 2004). A recent grounded theory exploration of coparenting in families where there is a child with an ASD has found that parents (N = 19) made adaptive alterations in their parenting roles and responsibilities in response to the emergence of their child's ASD (Hock, Timm, & Ramish, 2012). These alterations included an increase in "tag team parenting" which inflated a parent's sense of isolation by reducing opportunities for the support and connection that they might have received during joint parenting activities (Hock et al., 2012, p. 6). The combination of complex parenting difficulties, maladaptive behaviours, and a pervasive loss of parenting support contribute to the likelihood that parents of children with an ASD will experience high and hazardous levels of parenting stress.

2.3 PARENTING STRESS

DEFINING PARENTING STRESS

Parenting stress is a specific form of psychological stress that is generated from parenting activities (Abidin & Brunner, 1995; Deater-Deckard, 2004). Before the specifics of parenting stress can be discussed it is necessary to preface this section with a brief exploration of the history and conceptualisation of psychological stress.

The current understanding of psychological stress is founded in research on relationships between physiological stress and disease. Seyle (1936) first described a syndrome produced by "diverse nocuous agents" in which patients with a wide variety of conditions experienced the same cluster of physiological responses. Although Seyle was careful not to claim responsibility for discovering a link that had been described in antiquity he later coined the biophysical

application of the term ‘stress’ when illustrating biochemical pathways between this syndrome and disease. Seyle’s work was mainly focused on physical stress but was readily linked to psychological stress during the latter half of the 20th century as it became apparent that periods of exposure to exceptionally difficult circumstances led to maladaptive behaviours such as drug and alcohol abuse, and physiological responses such as hypertension that, over time, often result in harm to the individual and others around them (Holroyd & Lazarus, 1982). Early psychological stress theory proposed that individuals were passive victims of stressful events and the expectation was that people would respond to the same event in similar ways. However, this proposal was not supported by evidence demonstrating that different people respond to the same potentially stressful events in a variety of different ways (Holroyd & Lazarus, 1982). A transactional model of the stress response has therefore emerged as a useful means of explaining the diversity of human responses to potentially stressful events.

Transactional models of stress response, which account for interactions between individual perceptions and actual circumstances, are better equipped than passive models to explain the diversity of responses that occur to known stressors. Holroyd and Lazarus (1982) were the first to propose a transactional definition of stress in which an individual’s judgement and evaluation play a mediational role in determining how a person is psychologically and physiologically influenced by potentially stressful circumstances. They concluded that psychological stress occurs when individuals make “a judgement that environmental and/or internal demands tax or exceed the individual’s resources for managing them” (Holroyd & Lazarus, 1982, p. 22). This insight has played an important role in the development of tools which can effectively assess an individual’s susceptibility to stress, and the refinement of these tools has enabled the investigation of stress in various contexts of an individual’s life.

The transactional nature of stress underscores the importance of isolating the context in which stress is primarily generated because an understanding the context enables the development of interventions that specifically target causal or protective factors. Theorists have identified an array of contextual forms of stress, such as the post-natal or post-traumatic stress,

which link situational experiences to the generation of stress responses and one important form of contextual stress is parenting stress. Deater-Deckard (1998, p.315) proposed the following definition of parenting stress, which is consistent with Holroyd and Lazarus's transactional conceptualisation of stress, and will serve as the working definition of parenting stress that underpins this thesis:

> Parenting stress can be defined as the aversive psychological reaction to the demands of being a parent. Parenting stress cannot be indexed by a single measure but is instead represented as a complex process linking (a) the task demands of parenting, (b) the parent's psychological well-being and behavior, (c) the qualities of the parent-child relationship, and (d) the child's psychosocial adjustment. Parenting stress is experienced as negative feelings toward the self and toward the child or children, and by definition these negative feelings are directly attributable to the demands of parenthood.

The demands of parenthood can be expected to generate some degree of parenting stress in all parents and acute periods of parenting stress can be a positive force when the dissonance associated with the stress results in the successful adaptation of parents to their developing child or altered parenting circumstances (Deater-Deckard, 2004; Patterson, 2002). However, chronically high levels of parenting stress are predictive of dysfunctional parenting and a range of negative child and parent outcomes (Abidin, 1992, Deater-Deckard, 2004, Morgan, Robinson, & Aldridge, 2002). The ability to identify factors that increase or decrease a parent's susceptibility to parenting stress may be of crucial importance for families where there are children whose characteristic behaviours predict high and chronic levels of parenting stress.

Parenting Stress in Families where there is a Child with an ASD

Evidence of relationships between parenting, family outcomes and parenting stress are particularly important for the parents of a child with an ASD because these parents are more likely to experience high and detrimental levels of parenting stress than almost all other parents (Brobst et al., 2009; Davis & Carter, 2008; Dunn, Burbine, Bowers, & Tantleff-Dunn, 2001; Epstein et al., 2008; Hayes & Watson, 2013; Hoffman, Sweeney, Hodge, Lopez-Wagner, & Looney, 2009; Mori, Ujiie, Smith, & Howlin, 2009; Rodrigue et al., 1990; Schopler & Mesibov, 1984). Uncertainty of outcomes (Lovaas, 1987; Rogers and Vismara, 2008); financial costs and lost earning opportunities (Marcus et al., 2005); a lack of emotional reciprocity from the child (Tobing & Glenwick, 2002; Kasari & Sigman, 1997); severity of ASD (Epstein, Saltsman-Benaiah, O'Hare, Goll, & Tuck, 2008; Schieve et al., 2007); and the communication difficulties associated with an ASD have all been found to contribute to the high levels of parenting stress experienced by parents of children with an ASD (Higgins, Bailey, & Pearce, 2005; Marcus et al., 2005; Osborne & Reed, 2010). However, a number of studies have now added support to early speculation that children's externalising behaviour problems are a more salient parenting stressor than the severity of the child's autism or any other aspect of the syndrome (Donenberg & Baker, 1993; Estes et al., 2009; Hastings, 2003; Hastings et al., 2005; Davis & Carter, 2008; Shieve et al., 2007). Regardless of aetiology, the high levels of parenting stress that parents of a child with an ASD often experience place these parents, and their children, at a higher risk of the negative outcomes associated with parenting stress than that which can be expected in almost all other families.

The Importance of Parenting Stress

Chronically high levels of parenting stress are predictive of poor quality parenting behaviours while also predicting the risk of parental depression, anxiety, and substance abuse (Abidin & Brunner, 1995; Deater-Deckard, 2004; Mitchell & Cabrera, 2009; Morgan et al., 2002; Patterson,

2002). Parenting stress has been associated with the likelihood of harsh and emotionally remote parenting which places children at a higher risk of abuse and neglect (Behnke et al., 2008; Deater-Deckard 2005); an increased risk of children developing externalising behavioural problems (Chaffee & Cunningham, 1991; Creasy & Reese, 1996; Rivers & Stoneman, 2003; Wieland & Baker, 2010); and a reduced parenting capacity to either improve a child's behaviour or protect family relationships and family members from the consequences of children's behaviour problems (Benson, 2009; Giallo & Gavida Payne, 2006). Parenting stress has been shown to negatively influence parental perceptions of their child's behaviours and to decrease the quality of parent-child attachments (Hoffman et al., 2009). Parents with high levels of parenting stress have also been found to report that their own sense of psychological well-being is poorer than that of other parents (Yirimiya & Shaked, 2005). Moreover, the clinical importance of parenting stress has been highlighted by a recent report on the benefits of assessing parenting stress in clinical settings. The authors reported that it is important to assess parenting stress due to the negative relationships that parenting stress has with both parenting quality and the efficacy of parenting interventions designed to address concerns about parenting quality (Sheppard, McDonald, and Welbourne, 2010). Parenting stress is therefore an important indicator of dysfunction in the parent-child system because it is predictive of alterations in parental well-being, parent-child relationships, parenting behaviours and the behaviours and psychological well-being of the parent's children.

However, the parenting needs of some children could make them more susceptible than others to the negative outcomes associated with high levels of parenting stress. It has been proposed that the importance of parenting stress depends on the context in which it occurs; a proposal that is consistent with expectations derived from Belsky's differential susceptibility hypothesis (Belsky, Bakermans-Kranenburg, & van IJzendoorn, 2007; Deater-Deckard, 1998; Patterson, 2002). The differential susceptibility hypothesis proposes that parenting quality plays a more important role in determining child outcomes in families where there are children whose development is characterised by unusually challenging behaviours (Belsky et al., 2007). Parenting stress is predictive of parenting quality and could therefore be expected to share a

stronger relationship with child outcomes in families parenting in this context. Studies have found support for the influence that context has on the relationship between parenting stress and child outcomes. For example, Baker et al. (2003) found that parenting stress contributed to a worsening in children's externalising behaviour problems when behaviour was already perceived to be a problem in children with developmental delay. Similar outcomes have been reported in families with a child with an ASD where parenting stress has been linked to parenting behaviours and parent perceptions of symptomatology. Studies with families where there is a child with an ASD have found that parenting stress is associated with decreased parenting involvement and reduced parenting skills in relation to limit setting and communication (Osborne & Reed, 2010); elevated parental perceptions of the severity of behaviour problems (Kelly et al., 2008); and a reduction in the efficacy of behavioural interventions (Osborne, McHugh, Saunders, & Reed, 2008, Karst & Vaughan Van Hecke, 2012). Children with an ASD require competent and consistent parenting in combination with parenting that supports their therapeutic needs. These findings suggest that the needs of children with an ASD could make them particularly susceptible to the negative consequences of chronically high levels of parenting stress.

In recognition of the importance of parenting stress in determining both child and parent outcomes in families of children with an ASD a recent editorial, in an autism journal, called for the development of effective interventions to reduce parenting stress in families of children with an ASD (Mandell, 2010, see also Karst & Vaughan Van Hecke, 2012). Before discussing the current state of intervention research on parenting stress in families where there is a child with and ASD this exploration will review the theoretical perspectives that have underpinned the evaluation of parenting stress.

While theorists generally agree on the definition and consequences of parenting stress, Crnic and Booth's daily hassles theorem and Abidin's systemic model of parenting stress form two distinct schools of thought concerning its aetiology (Deater-Deckard, 2004). The first of these is Crnic and Booth's (1991) theorem of daily hassles which conceptualises parenting stress within the normative parenting context, wherein high levels of parenting stress result from having to deal with more 'daily hassles' than the parent can manage (Crnic, Gaze, & Hoffman 2005; Crnic & Lowe, 2002; Ostberg & Hagekull, 2000; Patterson, 2002; Quintero & McIntyre, 2010). In this dyadic model a parent's susceptibility to, interpretation of, and level of exposure to daily hassles combine to determine the parent's susceptibility to parenting stress (Crnic et al., 2005; Deater-Deckard, 2004). While the daily hassles theorem has proven to be useful it has been criticized for not giving sufficient weight to a range of other child, parent, and family characteristics (Creasy & Reece, 1996; Deater-Deckard, 1998). That is to say that there are other factors, in addition to daily hassles, that bear an important influence on a parent's susceptibility to parenting stress.

The second school of thought derives from Abidin's (1995b) systemic model of parenting stress. Abidin's model provides a more systemic explanation for the aetiology of parenting stress which is more aligned to family systems thinking, wherein parenting stress is generated from an imbalance between an array of stressors and resources in the parent-child system (Belsky, Learner, & Spanier., 1984; Minuchin, 1985, Patterson, 2002, Ingoldsby, Smith, & Miller, 2004). Abidin's conceptualisation of parenting stress is consistent with the complex web of multidirectional relationships described by family theorists in which parenting stress is generated from interactions between a range of dynamic processes linking child characteristics, parenting demands, parenting resources, inter-parental relationships and the relationships that parents and children have with other people and institutions (Abidin, 1995; Belsky, 1984; Deater-Deckard, 2004, McCubbin & Patterson, 1983; Minuchin, 1985; Patterson, 2002). Abidin's model therefore provides a complex explanation for the aetiology of parenting stress, which is more aligned to descriptions of other family theorists, than Crnic and Booth's daily hassles theorem.

Both of the proposed models of parenting stress accept that the level of parenting demand and the availability of parenting resources are determined by the nature, behaviour, experience and capability of family members and how well parents are supported by evolving relationships with each other and with the people and institutions of their broader community (Abidin; 1995b, Belsky et al., 1984; Deater-Deckard, 2004). However, Abidin's model is more comprehensive and more deliberate in the way that it describes the complex and transactional nature of parenting. This complex and transactional understanding of parenting underpins the primary hypothesis of this thesis and the investigation of parenting stress in this thesis is therefore founded on Deater-Deckard's (1998) definition and Abidin's (1995) systemic conceptualisation of parenting stress.

THE PARENTING STRESS INDEX (PSI)

The systemic conceptualisation of parenting stress that underpins this thesis was employed in the development of the Parenting Stress Index (PSI). Developed by Abidin (1995) the PSI is founded on a systemic understanding of family process. The PSI has demonstrated excellent psychometric properties in a range of family contexts and it has become one of the most commonly applied assessment tools in family research (Sheppard et al., 2010). The utility of the PSI is enhanced by the opportunity that it presents to easily subdivide results into stress that is derived from either the parent or child domain. The child domain measures perceived child characteristics that are known to influence parenting difficulty such as the child's distractibility, adaptability and acceptability. The parent domain assesses parent characteristics and those aspects of a parent's life that are thought to contribute to a parent's ability to function in the parenting role. The parent domain therefore assesses factors such as a sense of parenting competence, a sense of isolation in the parenting role and a parent's sense of spousal support. The PSI has proven to be a robust measure of parenting stress when applied in a wide of range of situational and cultural contexts, and the conceptualisation of parenting stress that underpins the PSI has become the default position for the majority of parenting stress research (Abidin, 1995;

Sheppard et al., 2010). There is now a substantial body of evidence supporting the validity of the risk factors identified as determinants of parenting stress in the PSI and parents who have children with an ASD are more likely than other parents to be chronically exposed to many of these factors, especially those that are derived from the child domain.

Many studies, using the PSI and other measures, have sought to identify and stratify the factors that are linked to parenting stress. Higher levels of parenting stress have been associated with the parenting of children with a chronic illness (Gupta, 2007), children with disabilities (Baker, Blacher, Crnic, & Edelbrock, 2002; Duarte, Bordin, Yazigi, & Mooney, 2005; Tomanik et al., 2004), children with low levels of responsiveness (Hoppes & Harris, 1990), children with poor social competence (Anthony et al., 2005; Campbell, 1994; Griffith et al., 2010; Kasari & Sigman, 1997), children with irregular sleep, wake and feeding patterns (Ostberg & Hagekull, 2000), and children with atypical internalising behaviour problems such as anxiety (Anthony et al., 2005). However, many studies have now reported that both perceived and observed externalising behaviour problems such as aggression and disruptive behaviours, commonly found in children with an ASD, make a greater contribution to parenting stress than any other child factor (Anthony, et al., 2005; Baker, et al., 2002; Campbell, 1994; Baxter, Cummins, & Yiolitis, 2000; Griffith et al., 2010; Gupta, 2007; Morgan, Robinson, & Aldredge, 2002; Phetrasuwan & Miles, 2009; Quintero & McIntyre, 2010, Schieve et al., 2007; Tomanik et al., 2004). A parent's perception of the severity of their child's behaviours problems may be more important than other objective measures because these perceptions are dependent on a parent's expectations, beliefs and parenting resources. Belsky (1984) referred to the relationship between child characteristics and parenting resources as "goodness of fit".

PARENT-CHILD GOODNESS OF FIT

The concept of goodness of fit between child demands and parenting resources provides a useful model for understanding how child and parent characteristics interact with each other to

influence parenting stress and parenting behaviours. Goodness of fit, in this context, refers to the influence that relationships between child and parent characteristics have on parenting behaviours such as parental warmth, harshness, rejection, admiration, tolerance and anger (Belsky et al., 1984). The parenting of a child who is inherently predisposed to disruptive or difficult behaviours, or is perceived by the parents as difficult or fussy, can negatively influence parenting resources, parenting competence and parenting relationships to the point where this diminishes the quality of parenting that the child receives (Baker, Blacher, & Olson, 2005; Osterberg, 2000; Saloviita, Itälinna, & Leinonen, 2003; Campbell, 1994). Different parents will react and respond to a child's disruptive or difficult behaviours in different ways and similar children in different families can therefore be expected to generate different levels of parenting stress.

A parent's capacity to cope with a child's challenging and difficult behaviours is substantially determined by the parent's predispositions and other factors outside of their parent-child relationship that act to enhance or diminish parenting resources. Parenting resources can be negatively or positively influenced by factors such as paid employment, life events, and the availability and helpfulness of parenting support (McBride, 1989; McBride, Schoppe & Rane, 2002). The relationship between parenting support and parenting stress has been explored in many studies with families where there is a child with an ASD.

Relationships between Parenting Support, Parenting Stress and the Parenting of a Child with an ASD

The quality and availability of the support that parents receive in their parenting role is now thought to play a particularly important role in helping parents to cope with challenging child behaviours and it has become evident that some sources of support may be more important than others. A useful system for the categorisation of support comes from Dunst, Jenkins, and Trivette (1984) who divided parenting support into three domains of formal, informal, and

spousal support. These categories have retained relevance and are often referred to in the literature.

Although there is some evidence that formal support, such as that provided by professional services can be helpful for families under stress, a number of studies have questioned the ability of this type of support to either improve parental well-being or to influence parenting stress (Cummins & Baxter, 1997; Saloviita, et al., 2003; Unger & Powell, 1980; White & Hastings, 2004; see also Boyd, 2002). More recent evidence has demonstrated that services providing a family-centred approach, where professionals work in partnership with parents and where the perceived needs of the family take priority, can have a greater influence on parenting stress than other service-based approaches (Dempsey, Keen, Pennell, O'Reilly, & Neilands, 2009; Trute and Hiebert-Murphy, 2007). A key aspect of the family-centred approach is that it takes advantage of the benefits associated with a family's network of informal sources of parenting support.

Studies focusing on the importance of informal sources of support have determined that the availability of informal support, such as the support provided by friends and extended family, is a more important predictor and moderator of parenting stress than the availability of formal support (Benson, 2006; Dunn et al., 2001; Ekas, Lickenbrock, & Whitman, 2010; Rodrigue et al., 1992, Saloviita et al., 2003). However, informal parenting support appears to be much more important for mothers than fathers and this is thought to be due to the primary caring role that mothers often play in parenting relationships (Saloviita et al., 2003). Fathers may, however, gain vicarious benefit from the support that mothers receive because a father's sense of well-being is often heavily dependent on how well the mother is coping (McDonald & Hastings, 2010). Mothers and fathers of children with challenging behaviours can therefore be expected to experience lower levels of parenting stress when they have access to, and receive parenting support from, informal sources. Unfortunately the parents of children with challenging externalising behaviours, such as those often observed in children with an ASD, often report higher levels of social isolation than other parents and the extent of this isolation is associated

with the severity of the child's symptomatology (Benson, 2006; Dunn et al., 2001; Ekas, 2010; Hartley, Sikora, & McCoy, 2008; Rodrigue et al., 1992). The social isolation that parents of children with an ASD often experience limits their opportunities for informal support and thereby increases the likelihood that these parents will rely more heavily than other parents on the support that they receive from their parenting partnership.

The third source of support identified by Dunst, Jenkins and Trivette (1984), partner support, has been found in numerous studies to share a stronger relationship with parenting stress in both mothers and fathers than any other source of formal or informal parenting support (Blair & Hardesty, 1994; Cooper, McLanahan, Meadows, & Brooks-Gunn, 2009; Cowan & Cowan, 2000; Kersh, Hedvat, Hauser-Cram, & Warfield, 2006). When asked, most parents will identify their marital partner, who is most commonly the child's biological parent, as their primary means of social support and two large studies have reinforced the importance of partner support by demonstrating that single parents, those living without spousal support, report higher levels of parenting stress than other parents (Baxter et al., 2000; Cooper et al., 2009; Kersh et al., 2006; Williford, Calkins, & Keane, 2007). Both scholarly and popular autism literatures, including recent papers, have reported that parents of children with an ASD experience high rates of divorce and separation which could limit opportunities for partner support (e.g. see Karst & Vaughan Van Hecke, 2012); however, a recent study by Freedman, Kalb, Zablotsky and Sturat (2010) has reported that parents of children with an ASD are no more prone to separation or divorce than other parents (Divorce, 2013, p.643). It can therefore be expected, in accordance with national data on couples with children, that approximately 80% of Australian parents who have a child with an ASD will be relying on their child's other biological parent as their most important source of parenting support (Baxter, Gray, & Hayes, 2010). It is therefore reasonable to predict that the availability and quality of partner support will play an important role in determining the susceptibility of a parent of a child with an ASD to high and hazardous levels of parenting stress.

Several studies have explored the influence that interventions focused on known risk factors, such as parenting support, have on parenting stress in families where a child has an ASD. The following studies assessed parenting stress with various versions of the PSI. Wong and Kwan (2010) were unable to demonstrate a program effect on parenting stress in a randomised control trial (RCT) with primary carers (N = 17, mothers, grandparents and foster mothers) of children with an ASD, in which a brief early intervention, designed to enhance parenting skills, was implemented immediately after diagnosis. An alternative approach was taken by Ashfaq, Saeed and Jahangir's (2009) who trialed cognitive behaviour therapy (CBT) in mothers of children with an ASD (N = 7) but were unable to achieve an associated reduction in parenting stress. In a multi-pronged intervention Baker-Ericzen, Brookman-Frazee, and Stahmer (2005) measured changes in parenting stress in mothers and fathers following a program in which toddlers with an ASD spent time in integrated programs with typically developing children and in which both mothers and fathers received training, information and encouragement in relation to a range of interventions. Baker-Ericzen et al. (2005) reported an intervention-related reduction in maternal parenting stress (child domain only) with no associated reduction in paternal parenting stress. Keen, Couzens, Muspratt, and Rodger (2010) also trialed a multi-faceted intervention when exploring the combined influence of a two-day workshop, attended by both parents, and professional support primarily focused on mothers in an RCT on a program involving families of children recently diagnosed with an ASD. Keen et al. attained a substantial (8%) reduction in maternal parenting stress by achieving reductions in both domains of the PSI. These outcomes are encouraging; however, none of these studies has reported program-related reductions in both maternal and paternal parenting stress.

Many interventions designed to reduce parenting stress in mothers or fathers in families, not identified as having a child with an ASD, have reported little or no influence on total PSI scores (Bagner, Sheinkopf, Vohr, & Lester, 2010; Gross, Fogg, & Tucker, 1995; Keefe, Karlsen, Lobo, Kotzer, & Dudley, 2006; McBride, 1991) However, studies deliberately and successfully

recruiting both parents to all aspects of an intervention have tended to produce more encouraging reductions in parenting stress in both parents, and in both the child and parent domains of the PSI. Pisterman et al. (1992) performed an RCT on families (N = 91) of children with Attention Deficit Hyperactivity Disorder (ADHD), in which both parents typically attended a behavioural intervention targeting a sense of parenting competence. Pisterman et al. reported a combined program effect of reduced parenting stress for mothers and fathers in both child (97^{th} to 87^{th} percentile) and parent (73^{rd} to 53^{rd} percentile) domains of the PSI. In a similar study Anastopoulos, Shelton, DuPaul and Guevremont, (1993) employed a behavioural intervention in an RCT conducted on children with ADHD (N = 36) in which both parents were encouraged to attend. Anastopoulos et al. measured only maternal PSI and reported intervention associated reductions in parenting stress in child (99^{th} to 95^{th} percentile) and parent (75^{th} to 55^{th} percentile) domains. In an early intervention study targeting infant communication Kaareson, Ronning, Ulvund, and Dahl (2006) achieved the greatest reductions in parenting stress in both domains of the PSI in mothers and fathers (N = 140) of preterm infants (a group at high risk of parenting stress), who jointly attended more classes than other participants. Kaareson et al. reported a program effect on maternal child (d = .30) and parent (d =.41) domains and paternal child (d = .44) and parent (d = .40) domains of the PSI with a significant correlation *(*Spearman's p = -.33, p = .01) between paternal attendance and follow-up PSI scores. Other studies have reported reductions in parenting stress in association with interventions that focused on the coparenting relationship. Felner et al. (1994), reported on a single group (N =191) pre- and post-test study intervention designed to strengthen the parenting partnership and promote participation by both parents that achieved a 35 percent participation rate from fathers. Felner et al. reported that the largest reductions in parenting stress occurred in both mothers and fathers of those couples where both parents attended the most classes. Feinberg, Jones, Kan, and Goslin (2010) also reported on a longitudinal follow-up (3.5 years) of an intervention in which first-time parents attended a program designed to promote positive coparenting behaviours. Feinberg et al. reported that these parents achieved small significant reductions in parenting stress (d = .16) in association with small increases in supportive coparenting (d = .18). The collective experience of these studies demonstrates that interventions designed to reduce the level of parenting stress in a family

system can achieve positive outcomes when both parents participate and the program focuses on family relationships.

These studies have focused on a range of parenting factors such as parenting skills, parent-child interaction, cognitive behavioural therapy, self-efficacy, professional support, integration, behaviour modification, infant communication and coparenting in parenting partnerships. The accumulated outcomes from these studies indicate that interventions often have divergent influences on mothers and fathers; that interventions which reduce parenting stress in both child and parent domains will have the greatest overall influence on parenting stress; and that interventions can achieve reductions in the parenting stress of both parents in both domains of the PSI when they engage both parents and focus on family relationships.

However, services and researchers often find it difficult to engage and work with both parents and this difficulty has an enduring influence on practice. The expectations and experiences of parents, the need to work or care for other children and the working paradigms of services create multifaceted barriers to engagement between services and both partners in a parenting relationship (Garfield & Fletcher, 2011; McDonald & Hastings, 2010). These cultural and practical barriers have determined that clinicians and researchers working with families, including those where there is a child with an ASD, often make minimal effort to engage or work with both parents (Fleischmann, 2005). These factors may explain why there has been very little research on the relationship between coparenting quality and parenting stress in ASD or any other context.

2.4 COPARENTING

SERVICE PROVISION AND THE SPOUSAL RELATIONSHIP

The tendency to overlook the importance of the paternal role and spousal relationship is not unique to the literature on parenting stress; such oversights have been noted by many critics of both child and family literature and practice (Affleck et al., 2013; Costigan & Cox, 2001; Hornby, 1994; MacDonald & Hastings, 2010; McHale, Kuerston-Hogan, & Rao, 2004a; Pleck, 2007; Altiere & Von Kluge, 2009; Taylor & Daniel, 2000). The disproportionate attention given to the influence, beliefs and experiences of mothers may be attributed to factors such as the enduring influence of Bowlby's assertions concerning the exclusive and central role of the mother in infant attachment (Ainsworth & Bowlby, 1991; Lamb, 2010; McHale & Fivaz-Depirsinge, 1999; Newland & Coyle, 2010) and the persistence of differentiated gender roles in relation to both parenting and the generation of income (Gray, 2003; Macdonald & Hastings, 2010; Sanderson & Sanders Thompson, 2002; Whittingham, Sofronoff, Sheffield, & Sanders, 2009). Mothers in most developed countries continue to provide and direct the majority of parental care, attend the majority of appointments with providers of children's health and education services, and perform the majority of negotiations with these services (Bristol, Gallagher and Schopler, 1988; Chesler & Parry, 2001; Garfield & Isacco, 2006; Hallberg, Beckman, & Hakansson, 2010; Hauenstein, 1990; Raikes, Summers & Roggman, 2005). Clinician and educator experience of these stereotypical parenting behaviours are thought to combine with their own personal expectations and beliefs to make both service providers and researchers highly oriented to interacting with mothers, and this experience leaves them with limited skills in working with either the alternative parent or the parenting partnership (Affleck et al., 2013; Berlyn, Wise, & Soriano, 2008; Garfield & Fletcher, 2011; McDonald & Hastings, 2010; Seung, Ashwell, Elder, & Valcante, 2006). In short, gendered roles, responsibilities and expectations have commonly led service providers and researchers into overlooking or underutilizing important relationships in the family system.

The tendency for service provision to focus on dyadic mother/child relationships has persisted regardless of the fact that the importance of complex family dynamics has now been recognised for almost sixty years (McHale & Fivaz-Depeursinge, 1999). Traditional relationships between clinicians, educators, family researchers and families have reinforced dyadic maternal/child relationships while overlooking what Weissman and Cohen (1985) described as the central role of the parenting relationship in determining family process. Weissman and Cohen's prognostication on the importance of the parenting relationship coincided with Minuchin's (1985) landmark paper challenging the practice of working with dyadic relationships in family therapy. Minuchin's paper coherently linked family systems thinking with paradigms of practice in family therapy by making a convincing argument for the importance of the family system, including the parenting relationship, in determining the developmental outcomes of individuals. Minuchin argued that by focusing their work on dyadic and linear relationships between parent behaviour and a child's outcomes both researchers and clinicians in the United States had created the single parent family long before such families were commonplace.

Although parenting theorists have celebrated the instrumental role that Minuchin's paper played in coherently demonstrating the importance of both family and individual-level variables in the social, emotional and cognitive development of children, paradigms of practice have been slow to change (Ingoldsby et al., 2004; Feinberg, 2003; Favez et al., 2012; McHale & Kuersten-Hogan, 2004a). This lack of change could be attributed the overwhelming complexity of family systems. However, it is important to note that although all relationships in the family system are important in some way, they are not all equally important. A central tenet of family systems theory is recognition of the particular importance of a family's executive subsystem which is, in most families, including those most at risk from parenting stress, made up of the children's biological mother and father (McHale & Kuersten-Hogan, 2004a; Minuchin, 1985; Ingoldsby et al., 2004; Feinberg, 2003). The importance of this parenting relationship has been explored in coparenting theory and research.

Coparenting Terminology

Before further discussion of the literature it is necessary to clarify the terminology that has been adopted in this thesis to describe coparenting partnerships. The terminology in this thesis conforms to traditions in the coparenting literature, where alternative terms such as *coparenting partnership*, *parenting teamwork*, or *coparenting quality* have been used when referring to the coparenting relationship (see McHale, 2011; McHale et al., 2004c; Feinberg, 2003). McHale, and other researchers, have employed the term "quality" as a qualifying adjective for the categorisation of coparenting partnerships. In this thesis the term quality is used to refer to the collective strength of intra-couple processes such as support, cooperation and joint family management that characterise the coparenting partnership (Talbot & McHale, 2004; Van Egeren, 2005). Coparenting quality was measured in this thesis with the Parenting Alliance Measure, which is described in detail in Chapter Three (methodology).

Coparenting Theory

Children have important and consequential dyadic relationships with each of their parents and they also have a different and important triadic relationship with their parents' coparenting partnership (Belsky, 1984; Flouri & Buchannan, 2004). Theorists and family researchers have adopted the term coparenting to describe the unique relationship that operates in the parenting executive subsystem; coparenting refers exclusively to those aspects of the relationship between parents/carers that are related to parenting activities (Feinberg, 2003; McHale & Kuersten-Hogan, 2004a; Van Egeren & Hawkins, 2005). While there is a degree of interplay between the coparenting relationship and a parent's marital or other relationships, the coparenting relationship remains an independent construct which can remain strong and supportive when other aspects of a parent's relationship are less successful (Feinberg, 2003; Feinberg, Brown, & Kan, 2012; Morrill, Hines, Mahmood, & Cordova, 2010). The coparenting partnership therefore

forms an alternative entity within the family system and children have different relationships with this entity than they do with either of their parents.

However, children of the present day have different relationships with their coparenting partnerships than children in the past because coparenting relationships have responded to adaptive pressures. The latter half of the 20th century saw coparenting relationships evolve in many families from traditional unions of functional interdependence into relationships focused on their offspring's social and emotional development (McHale et al., 2002). These changes have been accompanied by increasing paternal involvement and responsibility as mothers take on greater commitment to paid work. However, each coparenting partnership will exercise its own approach to the distribution of roles and responsibilities and the way that parenting is conducted. It is the parent's satisfaction with this arrangement that has proven to be a key factor in determining how well parents support each other in their parenting roles (Feinberg, 2003, McHale et al., 2004a).

This satisfaction with the support that parents receive from their coparenting partner forms a cornerstone of the coparenting relationship. Fienberg (2003) captured the importance of this perception of support when describing the coparenting relationship as the "support and coordination (or lack of it) that parental figures exhibit in childrearing" (p. 96). However, Feinberg (2003) has also identified four key factors that work together to represent the quality of a coparenting relationship: joint family management, support/undermining, childrearing agreement, and the division of parenting labour. Other theorists have identified similar characteristics to frame their models of coparenting. Although there is minor disagreement among coparenting theorists regarding the key characteristics that make up their multivariate models there is also substantial similarity and a general acceptance of these relatively discrete components of coparenting has enabled the development of tools for assessing the quality of coparenting relationships. The availability of such measures has facilitated the assessment of relationships between coparenting quality and other important family factors (Feinberg et al., 2012; McHale & Kuersten-Hogan, 2004a; Van Egeren & Hawkins, 2005). The maturation of

coparenting theory has therefore supported the development of an increasingly complex body of evidence regarding coparenting dynamics and the relationships that exist between coparenting quality and both parent and child outcomes (Abidin & Brunner, 1995; Bearss & Eyberg, 1998; Feinberg et al., 2010; Fivaz-Depeursinge, Gable, Crnic, & Belsky, 1994; Lopes, Python, & Favez, 2009; McHale, 2010; Morrill et al., 2010; Schoppe, Mangelsdorf, & Frosch, 2001).

Coparenting Theory in Practice

A longitudinal study by Feinberg and his colleagues has made an important step in linking the development of coparenting theory to practice by demonstrating, in a previously cited RCT (N = 169 couples), that coparenting quality can be effectively facilitated during the perinatal period (Feinberg & Kan, 2008). This intervention consisted of a series of pre- and post-natal participatory workshops during which parents learnt about and practiced family relationship skills (Feinberg, 2012). Longitudinal follow-up of Feinberg and Kan's cohort has found that this intervention was able to achieve enhanced and sustained supportive coparenting in the intervention group, which was significantly above that of controls (Feinberg et al., 2010). The importance of this increase in coparenting quality was demonstrated by associated improvements in parenting self-efficacy and parenting satisfaction, and a reduction in parenting stress. An important outcome from this study was that the benefits of the coparenting intervention were greatest for low income parents and parents who were assessed to have insecure attachments in close relationships; therefore parents in most need were the ones to gain most from the intervention. This longitudinal study suggests that coparenting is a malleable component of the family system and that those parents whose parent-child relationships were most at risk may achieve the greatest benefit from enhanced coparenting quality.

There are aspects to Feinberg et al.'s outcomes that could be particularly important for families where there is a child with an ASD. Feinberg et al. demonstrated an intervention effect on parenting stress and a significant gender effect in which a parent's relationship satisfaction

was improved only when the parent's child was a boy. These outcomes could be important for families where there is a child with an ASD because of the high levels of parenting stress experienced in these families and because boys are much more at risk of being diagnosed with an ASD than girls (Hayes & Watson, 2013; Levy, 2009). The timing of Feinberg and Kan's intervention was also important because it was influential when conducted during the couple's transition to parenthood. Parents are thought to be susceptible to intervention during the transition to parenthood because this is a time when they are reformulating their thoughts and behaviours in regard to parenting roles and responsibilities (Cowan & Cowan, 2000). Parents also experience alternations in parenting roles and responsibilities as they transition to the parenting of a child with an ASD and this could also make them susceptible to coparenting intervention at and around this time (Hock et al., 2012). These areas of commonality indicate that coparenting relationships could be particularly important in families where there is a child with an ASD and that early coparenting intervention could be highly effective in these families.

Coparenting in Families where there is a Child with an ASD

Accumulated evidence from studies in families of both typically and atypically developing children points toward relationships between the coparenting partnership and the symptoms that characterise children with an ASD. For example, externalising behaviour problems are common in children with an ASD and multiple studies in families of typically developing children, using different methodologies, have demonstrated that coparenting quality is predictive of both parent and teacher assessments of children's externalising behavioural problems, not explained by parenting style, in families of infants, young school aged children and adolescents (Abidin & Brunner, 1995; Schoppe, Mangelsdorf, & Frosch, 2001; Karreman, van Tuijl, van Aken, & Dekovic, 2008; Feinberg, Kan, & Hetherington 2007; Schoppe-Sullivan, Weldon, Cook, Davis, & Buckley, 2009). Another example of a link between coparenting quality and ASD is found in children's social behaviour. The impaired social development and externalising behaviour problems, characteristic of children with an ASD, have been attributed to an underdeveloped

theory of mind, which has been described as the ability to know that "other people want, feel or believe things" (Baron-Cohen, Leslie and Frith, 1985, p.38). Gronendyk and Volling (2007) found a significant positive correlation between coparenting quality and conscience development, an important component of social behaviour, in young children. The final example of this link occurs in research on children's play. Children with an ASD are often characterised by an impaired capacity to participate in symbolic play, such as the personification of toys (Jarrod, Boucher, & Smith, 1993). Keren, Feldman, Namdari-Weinbaum, Spitzer, and Tyano (2005) found that a coparenting style marked by cooperation and autonomy predicted higher levels of children's symbolic play during triadic interactions. These outcomes indicate that the primary developmental concerns and behavioural characteristics associated with an ASD, some of which have been strongly linked to parenting stress, are positively influenced by the quality of coparenting relationships.

Another important factor in the relationship between coparenting quality and parenting stress in families where there is a child with an ASD is the influence of cumulative tension which is thought to be amplified when both parents are experiencing high levels of parenting stress (Belsky & Crinic, 1995). Keen et al. (2010) found that both mothers and fathers of children with an ASD experience high and similar levels of parenting stress and this cumulative experience, which is clearly linked to child behaviour, could augment interactions between child behaviour and coparenting quality. This hypothetical relationship between child behaviour and coparenting quality was first proposed by Minuchin (1974) and there is evidence to support this relationship from longitudinal studies. A mixed-method longitudinal study on married couples (N = 50) by McHale et al. (2004c) concluded that coparenting cohesion was predictive of parental assessments of children's reactivity. And a more recent longitudinal mixed-method study on intact parenting couples (N = 38) demonstrated that toddlers' styles of interaction with their parents predicted patterns of cohesion and disunity in the parenting partnership (Fivaz-Depeursinge et al., 2009). In summary, the behaviours of a child with an ASD contribute to both maternal and paternal parenting stress and this accumulated stress is likely to amplify the influence that child behaviour has on coparenting quality. Families of children with an ASD

could therefore be expected to experience lower coparenting quality than other parents due to the influence that children's behavioural difficulties can have on both parenting stress and coparenting relationships.

A third indicator of an important relationship between coparenting quality and the parenting of a child with an ASD can be found in research exploring connections between coparenting and marital quality. Complex interactive pathways have been reported between coparenting quality, parenting practices, marital adjustment, marital warmth and overall marital health (Bonds & Gondoli, 2007; Morrill et al., 2010). Marital conflict, which has been linked to competitive coparenting, is thought to be more common in parents of children with an ASD (McHale, 1995), higher levels of disruptive and difficult behaviour in typically developing children (McHale & Kuersten-Hogan, 2004a), and higher levels of symptomatology in children with autism (Kelly et al., 2008). The reciprocal nature of relationships within the family system indicates that alterations in marital quality that are linked to the parenting of a child with an ASD will have an influence on the support that parents receive from their coparenting partnership.

Coparenting in Socially Isolated Families

Partner support has been identified as a key characteristic of coparenting quality and this support is likely to play a particularly important role in determining parent outcomes in families where there is a child with an ASD. While parents of typically developing children usually identify their marital partner as their main source of parenting support (Blair & Hardesty, 1994; Cowan & Cowan, 2000; Kersh et al., 2006), the social isolation experienced by parents of children with an ASD could make this supportive aspect of their coparenting relationship even more important. However, some aspects of the relationship between coparenting quality and support could be gender specific. Studies investigating the importance of partner support in parents of children with an ASD have found that fathers in these families tend to utilise avoidant coping, such as withdrawing from parenting and spousal engagement (Brobst et al., 2009; Gray, 2003; Higgins et

al., 2005; Dunn et al., 2001; Boyd, 2002; Hastings et al., 2005; Pozo, Sarriá, & Brioso, 2013). These studies have found that fathers of children with an ASD utilise avoidant coping more often than other fathers and more often than mothers, who are inclined to take on a central and somewhat exclusive role in the child's care. Changes in parenting roles and responsibilities often occur alongside a loss of support from extended family and social networks and this loss of support is usually experienced by both parents.

These alterations in parenting behaviours have been found to have a negative influence on both coparenting quality and parenting stress. Dunn et al. (2001) reported that avoidant coping is potentially maladaptive because of the strong association that they observed between avoidant coping and parenting stress in a cohort of parents of children with an ASD. Avoidant coping was also linked to coparenting quality by McBride and Rane (1998) who found that reduced levels of father involvement and responsibility predicted lower maternal perceptions of coparenting quality. This evidence suggests that changes in parenting behaviour, which are known to occur in response to the emergence of a child with an ASD, will have a negative influence on coparenting quality and may increase parenting stress. However, little is known about the relationship between parenting stress and coparenting quality in the parents of children with an ASD.

2.5 The Relationship between Coparenting Quality and Parenting Stress

Coparenting quality could provide an important pathway for the reduction of parenting stress in families where there is a child with an ASD. For example, Abidin and Brunner (1995) explored the relationship between coparenting quality, as measured with the Parenting Alliance Measure (PAM), and parenting stress, assessed with the long version of the PSI, in a broadly representative sample of American parents (N = 512). This investigation determined that the PAM was measuring a distinct psychological construct from parenting stress and that

coparenting quality shared a small to moderate negative association with parenting stress in mothers (r = -.26, p < .01) and fathers (r = -.28, p < .01) of typically developing children. The significance of this study lies in the relationship that was reported between coparenting quality and parenting stress however, Belsky and Jaffee (2006) have reported that relationships such as these could be influenced by context in which the parenting is performed.

One context that could enhance the importance of the relationship between coparenting quality and parenting stress is the parenting of children with atypical developmental trajectories. However, there are only a small number of studies on the relationship between parenting stress and coparenting quality in families where there are children with atypical development or in families where parents are likely to be experiencing high levels of parenting stress. These studies have either reported on relationships between parenting stress and coparenting quality in families experiencing only intermittent or acute stress or they have measured these factors and not reported on relationships between them. Frank et al. (1991) used the long version of the PSI and an alternative parenting alliance scale (31 items), developed by Frank, Jacobsen and Avery (1998, as cited in Frank et al., 1991), and examined the relationship between parenting alliance and parenting stress in parents (N = 56) of children (aged 3-4) who were experiencing a minor illness. Frank et al. found a significant relationship (r^2 = .42, p < .001) between coparenting quality and parenting stress in fathers, which was not related to the child's illness, but no significant relationship between scores on maternal parenting alliance and parenting stress. Unfortunately this combination of measures has not been applied in other samples which leaves no opportunity to contrast these results with similar studies in non-clinical cohorts. Harvey (2000) assessed coparenting quality with the PAM and parenting stress, using the short version PSI, in parents of children with ADHD (N = 70). Unfortunately, Harvey did not report on the relationship between coparenting quality and parenting stress. Although these studies have made important contributions to the coparenting literature they have not reported on the relationship between coparenting quality and parenting stress in families where parents are likely to be experiencing high and chronic levels of parenting stress.

Indeed a review of the parenting, coparenting and autism literatures has been unable to find any published studies on the relationship between coparenting quality and parenting stress either in families where there is a child with an ASD or in families where parents are known to be experiencing high levels of parenting stress. However, studies exploring relationships between parenting self-efficacy and either parenting stress or coparenting quality provide some insight into the potential importance of coparenting quality in families where there is a child with an ASD.

2.6 SELF-EFFICACY

The balance between parenting demands and parenting resources is thought to be influenced by perceptions of competence that mothers and fathers have in their parenting role, and these perceptions could be particularly important for the parents of children with an ASD. Increasing confidence in the capacity of behavioural therapy to alter the developmental trajectories of children with an ASD has resulted in a remarkable shift in the importance that is accorded to the knowledge, skill and parenting capability of a child's parents. Parents and clinicians have migrated from a position of hopelessness, in which it was thought that little could be done to improve outcomes for the child with an ASD, to the current perspective where many believe that a therapeutic environment will often reshape a child's destiny (Silverman & Brosco, 2007). Despite this pervasive optimism, the parents of children with an ASD experience more parenting problems and lower rates of parenting success than other parents (Hastings & Brown, 2002). Low rates of parenting success have been found to have a negative influence on a parent's sense of parenting competence (Coleman & Karraker, 1998). Parents of children with an ASD can therefore be expected to experience lower perceptions of parenting competence because of the difficulty that they experience in managing their child's behaviours.

The theoretical framework applied in this thesis to explore the factors that influence parenting competence and the influence that perceptions of parenting competence have on child

and family outcomes is derived from Bandura's (1997) theory of self-efficacy. Bandura's self-efficacy theory describes relationships between perceptions of competence and a person's motivation to achieve change.

Defining Self-efficacy

Bandura (1977) first proposed self-efficacy as a unifying cognitive theory to explain the important role that individual, or collective, expectations of being able to elicit change play in driving human actions. Self-efficacy is now thought to be an important motivator of the initiation, intensity and maintenance of the coping behaviours that people use to manage life challenges and therefore a person's self-efficacy will not only determine what they do but how well they cope with the process of doing it. The strength of belief that people have in their self-efficacy is thought to influence…

> … the courses of action people choose to pursue, how much effort they put forth in given endeavours, how long they will persevere in the face of obstacles and failures, their resilience to adversity, whether their thought patterns are self-hindering or self-aiding, how much stress and depression they experience in coping with taxing environmental demands, and the level of accomplishments they realize. (Bandura 1997, p.3)

A person's self-efficacy can therefore be expected to predict how well they cope with and how they respond to challenging and difficult life events. While providing a general explanation for the motivation behind human behaviour, self-efficacy theory has also been applied to specific areas of human endeavour such as parenting.

PARENTING SELF-EFFICACY

Parenting self-efficacy (PSE) is now thought to play an important role in motivating parents to do their best in helping their children to achieve optimal developmental outcomes (Bandura, 1997, Spielman & Ben-Ari, 2009). Parenting self-efficacy describes the level of competence, the ability to perform well, that a parent believes that he or she has in the parenting role (Coleman & Karraker, 2000; Sevigny & Loutzenhiser, 2010). PSE has become an important concept in parenting research because high levels of PSE have been positively associated with mother/child attachment and the development of children's social, emotional and cognitive abilities (Belsky & Jaffee, 2006; Coleman & Karraker, 2003, Jones & Prinz; 2005). This relationship between child development and PSE is thought to occur because parents who have confidence in their PSE are much more likely to provide their children with stimulating, nurturing, adaptive and responsive parenting environments (Coleman & Karraker, 2000; Shumow & Lomax, 2002).

Interest in the importance of PSE in determining child and family outcomes has given rise to a growing body of research seeking to identify the factors that have the greatest influence on a parent's sense of PSE. Porter and Hsu (2003) found that a global perception of self-efficacy was a strong predictor of maternal PSE, which tended to remain relatively stable over time. This study also found that specialised, task-specific PSE was strongly associated with child behaviours and maternal experience. Other studies have also reported that a general sense of self-efficacy is predictive of both maternal and paternal PSE and that maternal PSE is associated with a range of factors including children's behavioural characteristics, family income, parents' educational attainment and parenting knowledge (Coleman & Karraker, 2000; Coleman & Karraker, 2003; Morawaska, Winter, & Sanders, 2009). Studies including both mothers and fathers have therefore found that although there are some differences in the factors that predict and interact with maternal and paternal PSE there are factors which share similar relationships with the PSE of both parents.

Cumulative evidence indicates that the quality and availability of relationships that support parents in their parenting role are predictive of the PSE of both parents. However, there are some gendered differences in the factors that share relationships with maternal and paternal PSE. For example, paternal PSE has been more strongly associated with parenting stress and parenting involvement while maternal PSE is more strongly linked to a mother's sense of general self-efficacy and child temperament (Sevigny & Loutzenhiser, 2010; Leerkes & Burney, 2007).. However, these studies, and many others, have consistently found that both maternal and paternal PSE are best predicted by the availability and quality of supportive relationships. A recent review (N = 47 papers) found that supportive relationships and personal experience are more important determinants of PSE than parenting knowledge or any other factor (Jones and Prinz, 2005). These findings have important implications for families parenting a child with an ASD because of the increasing attention that has been given to parenting knowledge in the hope of improving child and parent outcomes (Karst & Vaughan Van Hecke, 2012).

Parenting Self-Efficacy and Parenting Support (ASD)

Important associations between PSE and parent involvement in families where there are children with an ASD have encouraged researchers to seek out the factors that are most predictive of a parent's sense of PSE in these families (Solish & Perry, 2008). One study found that both maternal and paternal PSE, in parents of children with an ASD can be positively influenced by general parenting programs (Sofranoff & Farbotko, 2002). Another study by Kuhn and Carter (2006) demonstrated that variations in the PSE of mothers of children with an ASD can be accounted for by factors such as maternal depression, parenting stress, and a lack of agency and guilt. Kuhn and Carter also found that a mother's knowledge about autism shared a relatively weak association with her sense of PSE. Many of the factors that have been linked with maternal PSE are also known to share a predictive relationship with the quality and availability of relationships that support parents in their parenting role.

Studies exploring the relationship between PSE and parenting support in families where there is a child with an ASD have reported that parenting support is linked to PSE in these families. In a previously cited RCT, including both mothers and fathers of children with an ASD, Keen et al. (2010) achieved modest improvements in maternal and paternal PSE and parenting stress following the provision of intensive parenting education in combination with a home support program that occurred around the time of their child's diagnosis. They also found that parents who had the lowest PSE and highest parenting stress at baseline made the greatest improvements in both variables. Keen et al.'s outcomes provided support for previous findings by Hastings and Symes (2002) in mothers (N = 130) of children with an ASD in which maternal PSE was predicted by the support that the mothers received from an autism-specific parenting program. These studies demonstrate that social support plays an important role in the development of the PSE in the parents of children with an ASD which is similar to the relationship between these factors in other families.

Parenting Self-Efficacy, Coparenting Quality and Parenting Stress

An understanding of the complex relationships, described in the previous section, between PSE, parent gender, knowledge and supportive relationships, becomes more complicated by evidence of bidirectional influences between these factors. These bidirectional influences support a dynamic and systemic understanding of PSE that is consistent with Belsky's (1984) conceptualisation of systemic family process. For example, higher levels of maternal PSE have been associated with a mother's ability to maintain sensitive and competent parenting of temperamentally reactive infants and adolescents (Dumka, Gonzales, Wheeler, & Millsap, 2010; Leerkes & Crockenberg, 2003). While other studies have found that child characteristics, such as gender, high degrees of emotionality, poor social skills and externalising behaviour problems predict lower levels of both maternal and paternal PSE (Forste, Bartkowski, & Jackson, 2009; Maniadaki, Sonuga-Barke, Kakouros, & Karaba, 2005; Spielman & Ben-Ari, 2009). It is therefore reasonable to expect that parents with a sense of PSE which supports the competent

parenting of a reactive child will experience child behaviours that support and further enhance their sense of PSE. This complex additive relationship between PSE and child behaviour has prompted speculation that PSE plays a particularly important role in determining both child and parent outcomes in families where there are children whose developmental trajectories are characterised by unusually challenging behaviours (Hastings & Symes, 2002).

Another important and highly relevant aspect of self-efficacy theory is the relationship that it describes between a parent's sense of PSE and the ability to cope with parenting related stressors (Bandura, 1997). Many studies have found support for this relationship in the mothers of children with and without ASD demonstrating that levels of stress, including parenting stress, share an inverse relationship with perceptions of PSE (Jackson & Huang, 2000; Keen et al., 2010; Kuhn & Carter, 2006; Hastings & Brown, 2002; Hastings and Symes, 2002; Teti, O'Connell & Reiner, 1996; Weiss, 2002). These studies have provided substantial support for a predictive relationship between parenting stress and PSE in families where there is a child with an ASD but they have not explored the role that coparenting quality, a known predictor of both parenting stress and PSE, could play in the relationship between these factors.

A key factor in the relationship between PSE and supportive relationships is thought to be the opportunity that these relationships give parents to symbolise and talk about their parenting experiences (Bandura, 1997). It could therefore be expected that a supportive coparenting relationship, in which parents have the opportunity to share their parenting experiences with a partner who understands the context in which they occur, could play a particularly important role in determining a parent's sense of PSE. Coparenting research has explored this relationship and found that there is evidence of important associations and bidirectional relationships between coparenting quality and PSE in a range of parenting contexts. Coparenting quality has been found to predict higher levels of PSE in parents of typically developing children (Caldera & Lindsay, 2006; Margolin, Gordis, & John, 2001) and in parents of children with disabilities (Floyd, Gilliom, & Costigan, 1998). Feinberg et al. (2010) assessed PSE as a long term outcome in their perinatal coparenting intervention and found that enhanced maternal and paternal PSE

could be attributed to improvements in the quality of coparenting relationships. Whiteside (1998) found a potential explanation for the relationship between PSE and coparenting quality when reporting that parents with higher levels of PSE are more likely to provide positive affirmation and support for their partner's parenting behaviours because they are more inclined than other parents to believe that their partner is a competent parent. The cumulative findings from these studies demonstrate that parents with higher quality coparenting partnerships are likely to experience higher levels of PSE and lower levels of parenting stress.

This exploration of relationships between coparenting quality, parenting stress and PSE has found that the association between these factors may be even stronger in families where there are children with unusually challenging behaviours. However, there has been little research on the relationship between parenting self-efficacy and the support that parents achieve from the quality of their coparenting relationship in families where there are children with an ASD.

Measures of Autism-specific Parenting Self-Efficacy

Parents of children with an ASD often require specialised parenting knowledge and skills and an assessment of PSE in these parents will be more informative when the tool used to assess PSE measures a parent's perception of their ability to successfully parent a child with an ASD. Measures of general PSE are readily available but highly specific measures of parenting self-efficacy are rare (Coleman & Karraker, 2000; Meunier & Roskam, 2009). There are, however, two established measures that could be utilised to assess autism-specific PSE. The Early Intervention Parenting Self-Efficacy Scale (EIPSES) was developed for testing task-specific PSE in parents of children with an ASD who were attending an early intervention program and this tool focuses on the key aims of this intervention (Guimond, Wilcox, & Lamorey, 2008). Eight of the sixteen items of the EIPSES are committed to assessing a parent's perceptions of the influence that specific environmental, task related, factors will have on their child's outcomes and the remaining questions focus on more general autism-related PSE (Guimond et al., 2008).

The EIPSES is therefore substantially focused on environmental, task-specific factors which could influence the reliability of this measure in the general population. A recent study has found that task-specific measures of PSE, usually validated in maternal research, may be less reliable when employed with fathers because fathers and mothers often perform different parenting tasks to those being assessed in the measures (Murdock, 2013). The assessment of PSE in a general population of parents of children with an ASD will therefore be better served by a tool that is not as focused on specific or program related tasks as the EIPSES.

An alternative non-task-specific measure, The Autism Parenting Questionnaire (APQ), was designed as a pre- and post-measure to assess the influence that an early intervention program, designed to enhance a parent's knowledge and skill in regard to the parenting of a child with an ASD, would have on a parent's sense of autism related PSE (Kim, Anderson, Birkin, Seymour, & Moore, 2004). The APQ contains eighteen items that assess a parent's confidence in their ability to parent a child with an ASD in five sub-domains. The domains of the APQ include parenting knowledge, behaviour management, play, communication, and the parenting of a child with an ASD. The remaining seven questions on the APQ were designed to assess perceptions of parenting stress and family function.

The psychometric properties of both the APQ and EIPSES are sound; however, the APQ is more applicable as a general measure of PSE and may be more reliable when used with fathers because many of the questions on the EIPSES focus on task-related activities associated with a specific intervention program. There have been no studies using either of these measures to assess the relationship between PSE, parenting stress and coparenting quality in families where there is a child with an ASD.

2.7 SUMMARY

This chapter has explored key elements of the literature concerning relationships between the parenting of a child with an ASD, parenting stress, coparenting, parenting self-efficacy and parenting support in both clinical and non-clinical populations. The chapter has revealed that parents play an important role in supporting and delivering behavioural interventions designed to promote optimal social and emotional development for children with an ASD. However, these parents often experience high levels of parenting stress which negatively influence their ability to deliver effective behavioural interventions, predict children's difficult behaviours and have a negative relationship with parent well-being. These relationships between parenting stress and both child and parent outcomes have generated a growing interest in the development of interventions to either reduce parenting stress, or ameliorate its influence in families where there is a child with an ASD.

More specifically, this chapter has revealed that interventions targeting parenting support and parenting self-efficacy have achieved the greatest reductions in parenting stress in families where there is a child with an ASD, and that these factors are linked to the quality of the parents' coparenting partnership. These links indicate that coparenting quality can be expected to share a predictive relationship with parenting stress in families where there is a child with an ASD. However the relationship between coparenting quality and parenting stress may be even stronger in these families due to the characteristic behaviours of children with an ASD and the adaptive responses of their parents. Although there is a reasonable support for the importance of associations between coparenting quality and parenting stress in other contexts this review has been unable to find any studies exploring relationships between these constructs in the parents of children with an ASD. These findings establish the need for an exploration of relationships between the variables of parenting stress, coparenting quality and parenting self-efficacy in this specific parenting context. This thesis pursues this exploration in the following chapters with a view to investigating the importance of coparenting quality while also exploring the adaptation of coparenting relationships to the parenting of a child with an ASD.

Chapter 3 : METHODOLOGY

3.1 INTRODUCTION

The previous chapter reviewed the literature that explores parenting stress, coparenting quality, parenting self-efficacy and parenting support in families where there are children with typical and atypical developmental trajectories. The review found that parenting stress is an important predictor of child and parent outcomes and that parenting self-efficacy, coparenting quality and parenting support are important predictors of parenting stress. The literature review also focused on relationships between these factors in families where there is a child with an ASD. This aspect of the review found that although there is a substantial literature on relationships between parenting stress, parenting self-efficacy and parenting support in families where there is a child with an ASD, very little is known about relationships between these factors and coparenting quality in this parenting context.

The present chapter describes the methodology that was applied in the present study to investigate the nature and direction of relationships between coparenting quality, parenting support, parenting self-efficacy and parenting stress in families where there is a child with an ASD. This chapter presents hypotheses that will be empirically tested in the following chapters, details the methodology that will be used to test these hypotheses, and sets forth the rationale for the research design. The chapter also presents questions that will be explored in a qualitative exploration of the importance of coparenting quality in families where there is a child with an ASD. This presentation of methodology is comprised of detailed descriptions of research processes, rationales for the design and study samples, reasoning behind the choice of research tools, and justification for the choice of analytic techniques.

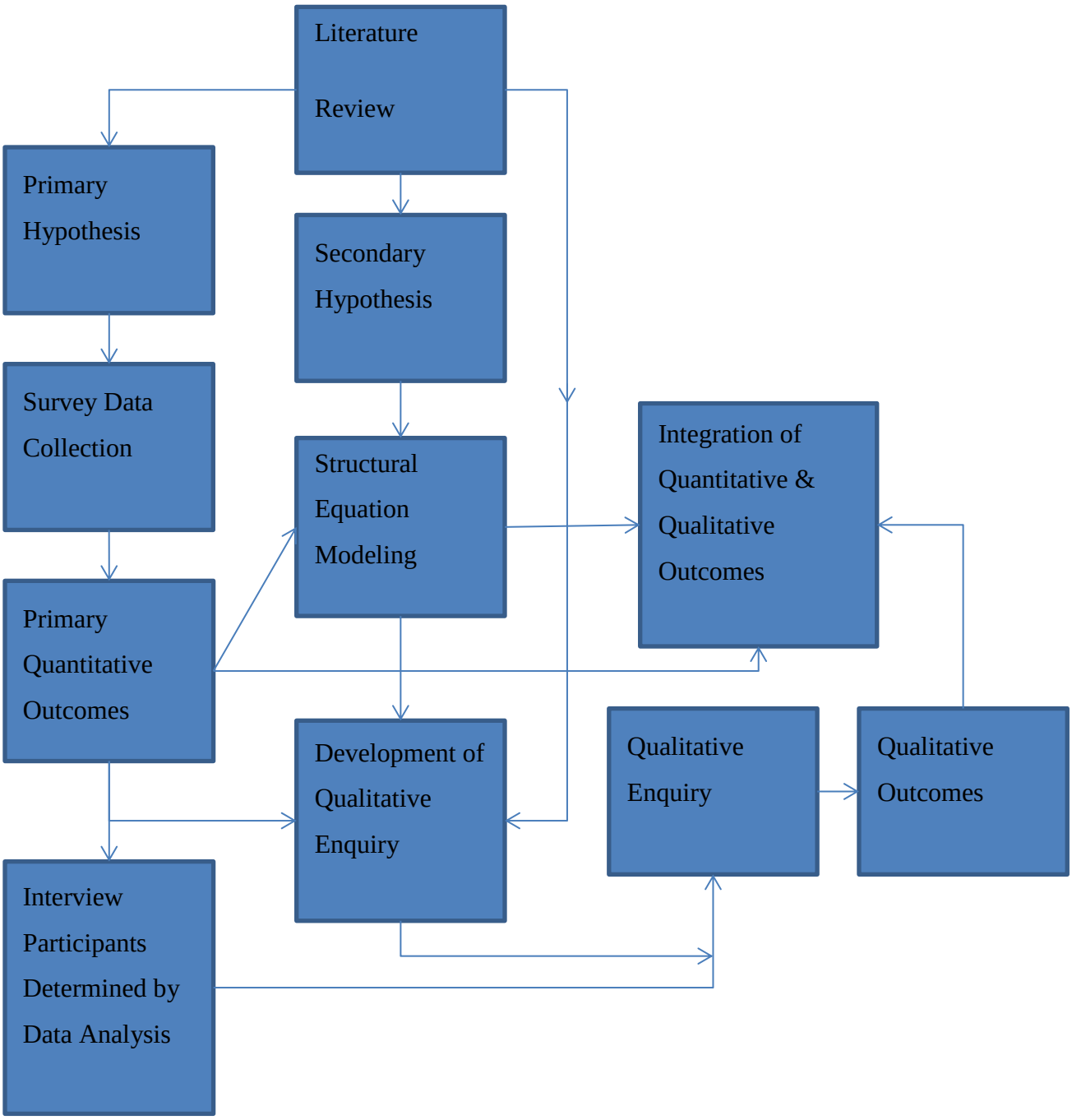
3.2 THE METHODOLOGY OF THE PRESENT STUDY – MIXED-METHODS RESEARCH

A sequential explanatory mixed-methodology was applied to the present investigation because it has proven to be a reliable technique when researching in the complex arena of family studies (Doyle et al., 2009; Feilzer, 2010; Plano-Clark et al., 2008). The mixed-methodology applied to the present study was designed to take advantage of the complementary strengths of both quantitative and qualitative research approaches (Bergman, 2008; Tashakkori & Teddlie, 2003). The analysis of quantitative data was designed to identify and quantify relationships between study variables while the qualitative arm of the study was designed to build on this knowledge and generate explanations for the quantitative outcomes through an interpretation of the lived experiences of participants (Ivankova et al., 2006; Plano-Clark et al., 2008).

The sequential explanatory mixed-method design of this research (Figure 3.1) is modeled on a blueprint described by Creswell, Clark, and Garrett (2008) which consists of "two phases, beginning with the quantitative phase and then [followed by] the qualitative phase, which aims to explain or enhance the quantitative results" (Doyle, Brady, & Bryne, 2009. p.181). Quantitative outcomes were also utilised in the present study to direct the selection of participants for the qualitative arm of the study and to inform the development of an interview schedule; the schedule development was also guided by a contemporary knowledge of the coparenting literature (Ivankova et al., 2006). These processes intrinsically linked the two arms of the study, however the application of divergent methodologies determined that the different arms of the investigation remained substantially segregated (Bergman, 2008; Morse, 2003).

The final component of this mixed-method investigation was an integration phase, which served to partially reunite the two arms of the study and presented an interpretive analysis of the investigation's outcomes (Roulston, 2010).

FIGURE 3.1 MODEL OF THE RESEARCH PROCESS



The mixed-methodology of the present study therefore aimed to provide alternative insights into relationships between key study variables in families where there is a child with an ASD (Bergman, 2008). The quantitative arm of the investigation was designed to accommodate the need for an objective enquiry in which results and analysis could be readily compared and contrasted to similar studies (De Vellis, 2003). Each of the survey measures assessed a latent variable, which in itself cannot be observed or directly measured but is represented by an array of underlying concepts. The analysis of data generated from these surveys provided predictions about the distribution of these aggregated perceptions and behaviours in the broader population (De Vellis, 2003; Waszak & Sines, 2003). Analysis also assessed the strength and direction of relationships between each of these latent variables within and across maternal and paternal data. These outcomes were employed in the design and implementation of the qualitative arm of the study.

Techniques, such as observation, interview and thematic analysis have been commonly utilised when exploring issues of family process (Bergman, 2010; Daly, 1991; Lebow, 2012). However, studies of family process have traditionally concentrated on the dyadic context of mother/child interactions and the child outcomes associated with this relationship (MacDonald & Hastings, 2010; McHale Kuerston-Hogan & Rao, 2004; Pleck, 2007; Altiere & Von Kluge, 2009). Recognition of the importance of coparenting quality has generated a new wave of family process research exploring interactions that occur in the context of the triadic relationship between parenting couples and their children (Feinberg, 2003: for examples see Brown et al., 2010; Schoppe et al., 2001; Stoneman & Gavidia-Payne, 2006). These studies have demonstrated that qualitative techniques can provide an effective framework for exploring the role of triadic relationships in family processes.

The second arm of the investigation employed qualitative interviews to explore the adaptation of coparenting relationships to the parenting of a child with an ASD. This enquiry relied upon, and built on, quantitative outcomes from the first arm of the study but also aimed to build on the current state of knowledge in the coparenting literature (Ivankova, Creswell, &

Stick, 2006; Greene, 2008; Marshall & Rossman, 2011; Plano-Clark et al., 2008). The sequential design of the study (Figure 3.1) enabled the investigation to utilize quantitative data for the identification of potential participants (i.e. couples), with the highest and lowest levels of parenting stress. This purposive sample was selected to support the study's aim of exploring the adaptation of coparenting relationships to the parenting of a child with an ASD in families where parents were likely to be experiencing the parenting of a child with an ASD in very different ways (Guest, Bunce, & Johnson, 2006).

Triangulation of Outcomes

The primary intention of the mixed-methodology applied in the present study was to enable the qualitative enquiry to explain and build on the outcomes of the quantitative analysis. The mixed-methodology was therefore not intended or designed to generate greater validity for either arm of the study through the corroboration of quantitative and qualitative outcomes.

Triangulation is a metaphor adapted from the vernacular of navigation and applied to mixed-methods research wherein a process of triangulation is used in an effort to provide absolute accuracy (Hammersley, 2008). Qualitative theorists do not make claims that triangulation in mixed-method behavioural research will result in trigonometric accuracy, however they do accept that different methods can develop complementary data about a particular phenomenon.

The triangulation process applied to the present study drew on the outcomes from both arms of the study and used this information to support conclusions derived from either source (Roulston, 2010; Hammersley, 2008).This process had the potential to support stronger and more legitimate conclusions than could have been achieved in either arm of the study (Greene, 2008; Hammersley, 2008; Tashakkori & Teddlie, 2003). For example, parents were asked about their perception of the influence that parenting teamwork is likely to have on their ability to cope with the parenting of a child with an ASD – a question that had already been answered through a

quantitative analysis of the relationship between coparenting quality and parenting stress. The information obtained about the relationship between these factors through the qualitative process enabled the investigation to report on whether or not the empirical results were congruous with parents' stated opinions.

RESEARCH AIMS

In this section of thesis the aims of the quantitative arm of the present study are stated as hypotheses. The hypotheses are segregated into a primary and multiple secondary hypotheses, which describe the principal and subordinate purposes of the quantitative enquiry.

Quantitative Aims

Primary hypothesis – (Correlation, ANOVA, Regression)

> That Coparenting Quality, as measured by the Parenting Alliance Measure, will be negatively associated with levels of Parenting Stress, as measured by the Parenting Stress Index, in biological mothers and fathers living together with their child with an ASD.

Secondary hypotheses:

> That parent beliefs about the Role of The Father, as measured by the What is a Father scale, will be positively associated with Coparenting Quality, as measured by the Parenting Alliance Measure, in biological mothers and fathers living together with their child with an ASD.

> That Autism-specific Parenting Self-efficacy, as measured by the modified Autism Parenting Questionnaire, will be negatively associated with Parenting Stress, as measured

by the Parenting Stress Index, in biological mothers and fathers living together with their child with an ASD.

That Autism-specific Parenting Self-efficacy, as measured by the modified Autism Parenting Questionnaire, will mediate the relationship between Coparenting Quality, as measured by the Parenting Alliance Measure, and Parenting Stress, as measured by the Parenting Stress Index, in biological mothers and fathers living together with their child with an ASD.*

That Coparenting Quality, as measured by the Parenting Alliance Measure, will mediate the relationship between the Autism-specific Parenting Self-efficacy, as measured by the modified Autism Parenting Questionnaire, and Parenting Stress, as measured by the Parenting Stress Index, in biological mothers and fathers living together with their child with an ASD.*

**Note – Evidence supporting each of these potential pathways has been presented in the literature review. Structural Equation Modeling was applied to assess the level of fit between the parent data and each of these theoretic pathways. The outcomes of this modeling determined which of the pathways maintained validity through indices of fit.*

QUALITATIVE AIMS

The aims of the qualitative arm of the study are described as explorations of relationships between the coparenting partnership and the parenting of a child with an ASD in biological mothers and fathers living together with their child with an ASD. The qualitative enquiry was conducted in three domains:

The first domain explored the influence that the parenting of a child with an ASD has on the way that parents work together in their coparenting partnership.

The second domain explored the adaptation of the coparenting partnership to the parenting of a child with an ASD.

The third domain explored parent perceptions of the relationship between their coparenting partnership and the developmental outcomes of their child with an ASD.

3.3 POPULATION SELECTION AND SAMPLING STRATEGIES

SAMPLE CHARACTERISTICS

The present study aimed to explore relationships between study variables in a population where many of the parents would be experiencing chronically high levels of parenting stress. Parents have reported that the increasing complexity of early education combined with the social challenges of early schooling make the early school years the most difficult period in the parenting of a child with an ASD (Gray, 2006). Children who experience steady improvement in their symptomatology tend to find these experiences less challenging but many children with an ASD demonstrate little or no improvement in symptomatology and the parents of these children are known to experience high degrees of chronic parenting difficulty (Duarte et al., 2005). The period of time around the diagnosis of an ASD is also known to be a time when almost all parents experience high levels of distress but the distress associated with diagnosis is often transient. This investigation therefore sought to recruit parents who had already moved through the initial turmoil surrounding their child's diagnosis. To satisfy these requirements the aim was to recruit a sample of parents who were caring for younger children (under 13 years of age) with an established diagnosis of an ASD.

Non-biological parents were excluded from recruitment because a number of studies have found that there are substantial differences in the relationships that biological and non-biological parents have with their children (Coohey, 2006; Daly & Wilson, 2005; Tooley, Karakis, Stokes, & Ozanne-Smith, 2006; although see Tomison, 1996). Separated and divorced parents were also excluded because of the complex parenting arrangements that often occur in these families and the potential for the trauma of relationship breakdown to have multifarious negative influences on coparenting quality (Waller, 2010).

RECRUITMENT

The schools of Autism Spectrum Australia (ASPECT) provided a source of families that met the study criteria. ASPECT is a not-for-profit, non-government provider of evidence-based education programs for children with autism in New South Wales, Australia. ASPECT is the largest specialised provider of education services for young children with an ASD in NSW and operates a number of regional and metropolitan schools (ASPECT, 2011). ASPECT schools provide both intensive school-based intervention and outreach support services for children who attend mainstream education and have qualified for government support following the formal diagnosis of an ASD. Three regional schools in NSW were approached to gauge their likely support in recruiting parents to the project and all three (Hunter, Central Coast and South Coast) indicated an intention, dependent on ethics approval, to support the project.

A consideration raised by ASPECT staff during the consultation process was that the divorce and separation rate in parents of children with an ASD, often reported in the informal media as being as high as 80%, could jeopardise the possibility of recruiting a sufficient sample. However, a literature review and meta-analysis exploring the risk of separation and divorce in parents of children with disabilities (Risdal & Singer, 2004), data from the Australian Institute for Health and Welfare (AIHW, 2004) and a recently published study on divorce and separation rates in North American parents of children with an ASD (Freedman, Kalb, Zablotsky, & Stuart,

2012) demonstrated that rates of divorce and separation in families where a child has an ASD were not likely to be significantly different from that experienced in other families.

Sample Size

Calculations, based on standard deviations from previous research using identical survey tools, determined that one hundred couples (200 parents) would be sufficient to detect a correlation between variables in the primary hypothesis as low as 0.23 and provide enough confidence to build a robust multivariate model with an acceptable level of significance ($p < .05$). However, a robust model was likely to be achieved in the present study with less data because evidence from the literature review suggested that coparenting quality would share a stronger relationship with parenting stress in the parents of children with an ASD than that previously found in Abidin and Brunner's (1995) non-clinical sample.

Structural Equation Modelling (SEM) is described in detail later in this chapter but one important benefit of SEM is the ability to assess the validity of causal pathways on relatively small samples (Kaplan, 2009; Kline, 2005). Previous research has demonstrated that SEM can be effective in analysing the likelihood of causal relationships in cohorts with as little as one hundred and fifty participants where there are low to moderate correlations between study variables (Blunch, 2008; Kaplan, 2009). The present study therefore aimed to recruit two hundred parents ($N = 200$) with the intention of performing an interim analysis ($N = 150$ parents) and cease recruitment at this point if probability calculations associated with correlations between key study variables were sufficient to support the proposed analysis ($p < .05$).

3.4 OVERVIEW OF MEASURES

Participants in the quantitative arm of the study were administered measures of parenting stress, coparenting quality, parenting support, parenting self-efficacy and a range of other demographic variables (see Appendix 23). Validated survey tools were used to assess parent perceptions in relation to these latent variables (Table 3.1). Demographic and other data was collected with a questionnaire designed for the present study. Where possible the demographic questionnaire employed items adapted from other surveys in order to ensure the best chance of delivering meaningful and accurate data. Data from all questionnaires, other than the Parenting Stress Index, was used to form an array of independent variables that were expected to share associations with either parenting stress or coparenting quality in parents that have a child with an ASD (Table 3.1).

TABLE 3.1 OVERVIEW OF RESEARCH VARIABLES

Variables	Surveys	Items
Age of Parent		
Socioeconomic Position*	.	
Hours in Paid Work*		
Age of Child with an ASD		
Presence of Siblings		
Position in Family		
Number of Siblings		
Mental Health History		
Severity of ASD	General Demographic Questionnaire.*	11
Coparenting Quality	Parenting Alliance Measure	20
Autism-specific Parenting Self-efficacy	Autism Parenting Questionnaire	25
Role of the Father	What is a Father Questionnaire	15
Perception of Social Support	Family Support Scale	18
Parenting Stress	Parenting Stress Index	101
Total Items		189

* Questionnaire designed for the study included questions from the Longitudinal Study of Australian Children survey (LSAC, n.d.)

The final five surveys listed in Table 3.1 were validated tools whose psychometric properties are described later in this chapter. These instruments gathered data on the strength of latent variables which, for the purpose of this study, were interpreted as observed variables due to the previously reported strength of these instruments' psychometric properties. Observed variables are usually considered to be factors that can be directly measured, such as people or time; however latent variables can be interpreted as observed variables when they have been measured with validated, reliable instruments (Blunch, 2008). The quantitative arm of the present study was the first in this field of research to explore the relationships between this assembly of latent variables in a cohort of families where there is a child with an ASD.

3.5 SURVEY DISTRIBUTION PROCESS – (APPENDIX 24 – STUDY PROCESS MAP)

Staff at each of the ASPECT schools were informed as to the background and aims of the research and information on the study that was published in each of the schools' parent newsletters.

Packages including questionnaires (Table 3.1), information letters, consent forms, and a precautionary list of counseling services (see Appendices 1 to 12 – excluding 9) were distributed by the participating schools to all families who met recruitment criteria. The package contained separate sealed envelopes, addressed to the mother and father.

A single prepaid, preaddressed, return envelope was included in the package with a reminder note to include both mother and father surveys before returning the package.

3.6 STUDY VARIABLES AND SURVEY TOOLS – (APPENDICES 1 TO 6)

PSYCHOMETRIC PROPERTIES OF THE SURVEY TOOLS

The present study had thirteen independent variables, each of which has been identified in previous studies as a variable that shares a relationship with the dependent variable of parenting stress in the parents of children with an ASD.

Survey tools, other than the demographic questionnaire, employed in this investigation were designed to measure participant experiences of psychological constructs (latent variables) such as parenting stress or coparenting quality. Each of these survey tools had established acceptable psychometric properties in previous studies. The psychometric properties of a questionnaire describe the accuracy with which the survey measures the construct that it is

designed to assess; these properties are primarily reported in terms of reliability and validity (De Vellis, 2003).

Reliability refers to the proportion of variance that occurs in responses across the questionnaire and can therefore be attributed to the true score of the latent variable that the survey tool is designed to assess (De Vellis, 2003). Reliability is usually reported in terms of internal consistency which refers to the uniformity with which all of the questions on a survey measure a single phenomenon. An assessment of a questionnaire's reliability therefore reports on the degree to which all of the questions within a survey tool are measuring the same latent variable (De Vellis, 2003).

However, reliability does not determine that the questionnaire is actually measuring the phenomenon of interest. A questionnaire's validity describes the likelihood that a survey is measuring the latent variable of interest in a given population. Content validity refers to the degree to which the latent variable of interest is responsible for co-variation between items on a questionnaire and discriminate validity reports on the ability of a survey to discriminant between the latent variable of interest and other theoretically related constructs (De Vellis, 2003). Although evidence is provided regarding the discriminant validity of some of the survey tools employed in the present study this validity was only relevant to this investigation when evidence was available from previous research where the same measure has been employed in a similar way in comparable populations. Where survey validity had not been previously established in other similar cohorts, it was established in the present study by contrasting survey outcomes with subscale scores on other validated measures (Abidin, 1995). The following subsections of this chapter provide detail on each of the measures employed in the present study, starting with items on the demographic questionnaire.

Socioeconomic Position

Socioeconomic position is an aggregated score of a parent's level of education, occupational status and level of family income, each of which has been demonstrated in numerous studies to share predictive relationships with parenting stress (Abidin, 1995; Ostberg & Hagekull, 2000). The aggregation of these factors into a single variable has previously been described by Blakemore, Strazdins and Gibbings (2009) who drew on Australian studies to demonstrate that an unweighted, composite average score of parent income, education, and occupational status, measured with Australian Bureau of Statistics codes, could be presented as a single summary measure. The validity of this composite measure of socioeconomic position was demonstrated through strong associations between this measure and other indicators of social disadvantage. This present study utilised unweighted categorical paternal assessments of these indices, or maternal data when paternal data not available, to calculate a composite measure of socioeconomic position in a manner similar to that described by Blakemore et al. (2009).

Hours in Paid/Non-voluntary Work

The number of hours associated with paid work has been linked, in a number of studies, to the distribution of childcare tasks between parents and to at least one aspect (involvement in child care) of the coparenting relationship (ABS, 2006; Baxter, Hewitt, & Haynes, 2008; Buckley & Schoppe-Sullivan, 2010; Cabrera, Tamis-LeMonda, Bradley, Hofferth, & Lamb, 2000; see also Moorhead, 2001). The hours that each parent commits to paid employment have also been associated with parental perceptions of their partner's involvement. Rane and McBride (2000) demonstrated that for each unit increase in hours of maternal employment the odds of a father being classified by the mother as high nurturing increased by 3.95%, which was in turn strongly and positively correlated with the perceived nurturing beliefs that the father held about himself.

The question used to assess this variable in the present study was adapted from a questionnaire used in the Longitudinal Study on Australian Children (LSAC, n.d.). This question was intended to capture all of the non-voluntary hours that each parent spent outside of the parenting environment including commuting, overtime, studying and all home and office work related to paid employment.

Family Position of Child with an ASD

The presence of siblings, the chronological age of siblings and the number, gender and position of siblings are all factors that could influence the social and emotional development of the child with an ASD (Blacher & Begum, 2009; McAlister & Peterson, 2006; Ostberg & Hagekull, 2000). Each of these factors was considered as a potential confounding variable for the purposes of the present study.

History of Parent Mental Health

The presence of maternal depression can account for up to 38% of the variance in the parent domain of the Parenting Stress Index (Gelfand, Teti, & Fox, 1992). A more recent study by Cornish, Barnett, Kowalenko and Tennant (2006) found that postnatal depression predicted higher levels of parenting stress in middle class mothers and Misri et al. (2010) found that antenatal maternal depression directly impacted on postnatal parenting stress. Less is known about the relationship between depression and parenting stress in fathers although McBride (1989) demonstrated that depressed fathers were more likely to experience high levels of parenting stress. Parents in the present study were therefore asked to indicate if they had a history of mental illness, requiring treatment, which preceded the birth of their child with an ASD.

Severity of Autism – ADOS Scores and Other Criteria

The Autism Diagnostic Observation Schedule (ADOS) is the most commonly used measure for the diagnosis and classification of autism in Australia (Gibbs et al., 2012). The ADOS was designed to differentiate between children with autism and pervasive developmental disorder and children who are not on the autism spectrum (Lord et al., 2000). Although the total ADOS score is not considered to be sufficient for diagnostic purposes the correlations across the four modules of the ADOS are sufficient to use the total ADOS score as an indicator of the child's level of functioning (Aldred, Green, & Adams, 2004). Parents were asked to provide their child's total ADOS score and for the purposes of this study, children with total ADOS scores of 11 – 17 were to be classified as high functioning and children with total ADOS scores of 18 – 24 were to be classified as low functioning (Aldred et al., 2004).

When parents did not provide an ADOS score, they were asked to rate their child as either high or low functioning. Parents were given the opportunity to identify their child's level of function categorically as high, low or unknown. If parents identified their child's level of function then this was accepted because parents could be expected to have this knowledge after their experience of an extensive diagnostic and planning process. If parents disagreed about the child's level of function then the provider's judgement was accepted. If consent was not obtained, or if a clear judgement could not be made then this component of the data was omitted from the analysis.

The Parenting Alliance Measure (PAM)

The parenting alliance was first described by Weissman and Cohen (1985) and this description established the founding principles for the development of coparenting theory. Coparenting theorists have since broadened the conceptualisation of coparenting, however the coparenting alliance, described by Weissman and Cohen (1985, p.27) as "the capacity of the spouse to acknowledge, respect, and value the parenting roles and tasks of the partner" remains the

cornerstone of this emerging theoretical domain. The term parenting alliance has now been used in a number of studies as an operational representation of coparenting quality (see Bonds & Gondoli, 2007; Brown et al., 2010; Floyd et al., 1998; Hughs, Gordon, & Gaertner, 2004).

Studies have assessed the quality of coparenting relationships with a variety of coparenting measures (Feinberg, Brown, & Kan, 2012; Kolak &Volling, 2007; Margolin, Gordis, & John, 2001), subscales from other questionnaires such as the Family Experiences Questionnaire (Floyd & Zmich, 1991), modified versions on the PAM (Feinberg & Kan, 2008), observational techniques (Caldera & Lindsey, 2006; Fivaz-Depeursinge et al., 2009; Floyd & Zmich, 1991; McBride & Ho, 2004; McHale, Kuersten-Hogan & Lauretti, 2001; Schoppe et al., 2001) and combinations of observation and self-report (Brown et al., 2010; Buckley & Schoppe-Sullivan, 2010; Groenendyk & Volling, 2007; McHale et al., 2004c).

The PAM (Appendix 3) was developed as a self-report measure of a multi-variant model of coparenting quality and assesses the degree to which parents believe that they have a sound parenting relationship with their parenting partner (Abidin & Brunner, 1995). The PAM has demonstrated reliability and validity when used with mothers and fathers of children aged 1 – 19 years in a variety of parenting contexts (Abidin & Konold, 1999; Konold & Abidin, 2001). The PAM was selected for the present study for three reasons: it has been a commonly used technique for measuring parental perceptions of the strength of their coparenting relationship; there is considerable literature supporting its reliability and validity; and it has been used in a previous study to assess the relationship between parenting stress and coparenting quality in a non-clinical sample.

Abidin and Brunner (1995) assessed the factor structure, reliability, and preliminary reliability of the PAM on parents (N = 512, mothers = 321, fathers = 191) and found a mean score for married participants (N = 221) of eighty-four (SD = 13.1) with excellent reliability (α = .97) across the sample. Hughs et al. (2004) also reported on the psychometric properties of the PAM in a study to predict spousal perceptions of their coparenting quality (N = 99 couples).

Hughs et al. found that responses and survey reliability were remarkably similar in both wives (M = 83.51, SD = 14.68, α = 0.96) and husbands (M = 84.43, SD = 11.61, α = 0.97).

The validity of the PAM as a distinct measure of coparenting quality has also been supported by a number of studies. The validity of the construct of coparenting quality (as assessed by the PAM) has been demonstrated by the association between a PAM total score and parenting stress in parents of young children (Abidin & Brunner, 1995), the parenting of adolescents (Sheras et al., 1998, cited in Abidin & Konold, 1999), the quality of marital relationships (Morrill et al., 2010), and also by family adjustment, children's self-esteem, and children's social competence (Abidin & Brunner, 1995). A moderate correlation between the PAM and each of these factors supports both the convergent and discriminant validity of the PAM. One study, focusing on the discriminate validity of the PAM in relation to closely associated constructs of marital adjustment and perceived child behaviour, was reported by Bearss and Eyeberg (1998). This study assessed the relationship between total PAM scores and measures of both marital quality and children's emotional adjustment. The study concluded that coparenting quality, as measured by the PAM, made a unique contribution to child outcomes. The PAM professional manual provides extensive additional information on the validity of the PAM (Abidin & Konold, 1999).

The PAM contains twenty items, which participants respond to on a five-point Likert scale thereby generating a maximum possible score of one hundred. Total scores on the PAM were utilised in the present study to represent a parent's perception of coparenting quality in the same manner in which these scores have been applied in previous studies (Abidin & Konold, 1999).

AUTISM PARENTING QUESTIONNAIRE

The Autism Parenting Questionnaire (APQ; Appendix 4) was developed to yield a measure of the relative effectiveness of a parent-focused early-intervention program designed to develop a parent's competence in understanding and parenting a child with autism (Kim et al., 2004). The APQ was designed to assess six dimensions of parenting competence and one dimension of parenting stress.

- Parent beliefs about their autism knowledge
- Parent communication with their child with autism
- Parent use of play to interact with their child with autism
- Parent confidence in managing the behaviors of their child with autism
- Parent confidence in parenting their child with autism
- Stress associated with the parenting of a child with autism (4 items).

The APQ was therefore designed to measure parents' perceptions of their competence to effectively parent their child with an ASD. This sense of competence has been utilised in the present study to represents a parent's sense of autism-specific parenting self-efficacy (ASPSE). The previously established psychometric properties of the APQ, in a similar population, supported the probability that the APQ would provide an accurate assessment of ASPSE.

Kim et al.'s (2004) report on the psychometric properties of the APQ was based on normative data from a cohort of parents in New Zealand (N = 295) who were parenting a young child with an ASD (M = 105.1, SD = 15.8). The reliability alpha for the APQ in this cohort was strong (α = .87) and the authors also reported on correlations between each of the survey's subscales. Correlations across the domains of the APQ were reported as low to moderate, indicating that each of the subscales was assessing related but different components of the same latent variable.

To increase the discriminate validity of the APQ from the present study's outcome measure (parenting stress) the questionnaire was used as designed but the analysis omitted responses to the four questions concerning parenting stress. For the purposes of the present study the total scores on the first five domains of the APQ were combined to indicate a parent's level of parenting self-efficacy.

Parent Perceptions of the Role of the Father

The "What is a Father? Questionnaire (WIAF)" (Appendix 6) was derived from The Role of The Father Questionnaire (ROFQ), which was originally designed for use with parents of infants (Schoppe, 2001). The ROFQ was designed by Palkovitz (1984) to assess the extent to which parents believe that the father's role makes an important contribution to child development. The content validity of the ROFQ has been demonstrated by its ability to predict father involvement in a number of studies (McBride & Rane, 1997; Palkovitz, 1984; Rane & McBride, 2000). Rane and McBride (2000) modified the ROFQ for use in younger children and found that the modified survey had good reliability (fathers $\alpha = .73$, mothers $\alpha = .77$ in a sample of predominantly white, middle-class American couples ($N = 89$).

The WIAF is a modified form of the ROFQ that has been designed for use in older children. The WIAF asks questions ($N = 15$) about a parent's traditional and non-traditional fathering beliefs, and these are responded to on a five-point Likert scale. Responses to questions about traditional beliefs are reverse scored to provide a total score which represents a parent's beliefs about the fathering role (Schoppe-Sullivan, Brown, Cannon, Mangelsdorf, & Sokolowowski, 2008). The WIAF has demonstrated reliability and validity in studies with parents of both typically developing and fussy children (Cannon, Schoppe-Sullivan, Mangelsdorf, Brown, & Sokolowowski, 2008; Buckley & Schoppe-Sullivan, 2010; Wong, Mangelsdorf, Brown, Neff, & Schoppe-Sullivan, 2009). Cronbach's alpha for the WIAF in these

studies has demonstrated that the surveys reliability has been acceptable when used with mothers (α = .69 to .73) and slightly more reliable when utilised with fathers (α = .70 to .75).

Social Support

The conceptualisation and importance of social support and its relationship to parental well-being has been addressed in the previous chapter. The previous chapter also described how studies exploring the importance of social support have consistently found differences in the way that mothers and fathers tend to weight both the importance and availability of social support in their parenting role. However, the overarching conclusion from studies exploring the relationship between social support and parenting stress in families where there are children with atypical development is that social support is an important moderator of both maternal and paternal parenting stress (Smith, Oliver, & Innocenti, 2001).

The present study utilised the Family Support Scale (FSS; Appendix 5), developed by Dunst et al. (1984), as an aggregate measure of a parent's perceptions regarding the availability and importance of formal and informal sources of parenting support, including perceptions of support from a parenting partner. Although there is a substantial literature on the use of the FSS with mothers, much less is known about the use of this or any other scale in the assessment of the importance of social support for a father's parenting (Boyd, 2002). Boyd (2002) therefore concentrated his analysis of the parenting support literature on the importance of support for mothers of children with an ASD. Boyd concluded that the FSS has proven to be a reliable tool when used with mothers of a child with an ASD and that the FSS has been the most commonly used measure of parenting support in this parenting context.

The FSS is a self-reported measure in which eighteen items are responded to on a six-point Likert scale, with responses ranging from zero (support from this source is not available) to six (support from this source is extremely helpful). Hanley, Tasse, Aman, and Pace (1998) assessed the psychometric properties of the FSS mostly in mothers (74%) from families with

typically developing children and found that the FSS was reliable (α = .85) with a strong test-retest correlation (*r* = .73). Dunst and Leet (1986) sampled mothers (*N* = 45) of preschool-age children with a range of disabilities and found that the FSS had excellent indices of internal reliability (α = .92), split-half reliability (.95 Spearman-Brown) and a less convincing test-retest reliability (*r* = .52) at two to three months. Importantly for the present study, the total score on the FSS has been found to share a small to moderate negative correlation (*r* = -.26) with the Parenting Stress Index (short form) in a large cohort of parents (*N* = 880) whose children were affected by a range of disabilities (Smith et al., 2001).

The total score on the FSS represented the latent variable of parenting support in the present study. The analysis aimed to generate an indication of the importance of coparenting quality by contrasting the strength of correlation between parenting support and parenting stress with the relationship between coparenting quality and parenting stress in the present sample. A detailed exploration of responses to individual items on the FSS was expected to provide evidence regarding the relative importance of specific sources of parenting support for mothers and fathers in this particular cohort of parents.

PARENTING STRESS

As discussed in the previous chapter, the Parenting Stress Index (PSI; Appendix 2) was designed to provide a systemic measure of parenting stress (Abidin, 1995). The long form PSI (3rd edition) is a self-completed questionnaire (120 items) in which responses are noted on a separate answer sheet. Most of the questions are responded to on a five-point Likert scale, ranging from strongly agree to strongly disagree, and the remaining questions (11 items) require the respondent to indicate which of four or five options best describes their beliefs. The total score on the PSI indicates an overall index of parenting stress, but the PSI also generates scores in three distinct realms, which Abidin (1995) described as the external, child and parent domains. These domain scores indicate the contribution that either external influences, perceived child demands or

depleted parenting resources make to a parent's level of parenting stress. The last nineteen questions of the PSI assess the influence that external sources have on parenting stress. The last nineteen questions of the PSI were omitted from the present study because they are rarely reported on in the literature and they were also omitted from the previous study (Abidin & Konold, 1995), which will be utilised to establish the relative importance of coparenting quality in the present sample.

The child and parent domains of the PSI are made up of subscales that assess parent and child characteristics that influence a parent's susceptibility to parenting stress. There are six child sub-domains: distractibility/irritability, adaptability, reinforces parent, demandingness, mood and acceptability. There are also seven parenting sub-domains: competence, isolation, attachment, health, role restriction, depression and spouse. The PSI user manual provides extensive data on the validity and reliability of each of these sub-domains (Abidin, 1995).

The PSI user manual also provides summaries of normative data for the PSI in a range of clinical groups but does not provide normative data for parents of children with autism or an ASD (Abidin, 1995). The non-clinical normative data provided for fathers (N = 200) indicates that fathers can be expected to report lower stress scores (Fathers = 201.6; Mothers = 222.8) and a narrower standard deviation (Fathers = 26.5; Mothers = 36.6) on the PSI than mothers. Pelchat, Lefebvre, and Perrault, (2003) found that maternal and paternal parenting stress is derived from different sources within the parent and child domains of the PSI but at least one study has found that such differences may not be evident in the parenting stress profile of mothers and fathers of children with an ASD (Keen et al., 2010). The present study provided an opportunity for further exploration of the parenting stress profiles of mothers and fathers of children with and ASD and the prospect of replicating Keen et al.'s findings in a larger cohort.

The psychometric properties of the PSI are well established. The PSI has achieved excellent reliability (α = .96) for total parenting stress scores in a large sample (N = 2633) of parents of typically developing children and demonstrated a test-retest reliability (.88 to .96) in a

number of studies at periods of up to three months (Abidin, 1995). The child and parent domains of the PSI have also demonstrated excellent reliability (parent alpha = .92; child alpha = .91) in Abidin's (1995) analysis of normative data. The present study analysed both levels and sources of parenting stress and also utilised PSI data to assess the validity of other surveys employed in the data collection. For example, the parenting competence subscale of the PSI provided an assessment of a parent's general sense of parenting self-efficacy and this was utilised to assess the validity of the autism-specific measure of PSE employed in the present study.

3.7 The Aggregation of Parenting Stress and Other Scores

Maternal and paternal PSI scores were aggregated in the present study to provide a systemic representation of the level of parenting stress that was occurring within a coparenting partnership. The validity of this aggregation was supported by the strength of correlation between maternal and paternal PSI total scores. Aggregated (couple) parenting stress was expressed as a combined total of maternal and paternal PSI scores, and not as an average score, in order to clearly differentiate couple data from single-parent outcomes. The aggregation of coparenting quality and ASPSE was conducted on the same principles.

3.8 Quantitative Data Analysis Plan

Testing of the Primary Hypothesis

General descriptive statistics were calculated for each of the main study variables including:

- Distribution
- Means and standard deviations

- Range.

The primary hypothesis was tested with correlation analysis, analysis of variance (ANOVA) and linear regression. These analytic processes are described in detail in the following sub-sections of the thesis.

Correlation

Correlation refers to the degree to which one variable was associated with another variable in the present cohort (Altman & Gardner, 1988). Correlations in the present study were interpreted according to Cohen's (1987) recommendations on effect size estimation for the Pearson Correlation Coefficient (cited in Hojat & Xu, p.224):

- $r \approx .10$ then effect size = small = negligible practical importance
- $r \approx .30$ then effect size = moderate = moderate practical importance
- $r \approx .50$ then effect size = large = crucial practical importance.

Where there was normal distribution of survey responses a Pearson Correlation Coefficient was utilised to analyse effect size between study variables. The alternative, Spearman Correlation Coefficient, was calculated when one or more variables were abnormally distributed. Key correlations were calculated for relationships between:

- Maternal responses between surveys
- Paternal responses between surveys
- Maternal and paternal responses to each survey
- Maternal and paternal responses between surveys
- Combined (aggregated) maternal and paternal responses between selected surveys.

Analysis of Variance (ANOVA)

ANOVA was used to indicate the degree of dependence/independence that existed between variables included in regression modeling. The following assumptions were required before performing ANOVA (Stevens, 2002):

- That observations were not directly correlated with one another
- That observations in each group were normally distributed.

If data did not satisfy tests for normal distribution then the data was adjusted (for example removing outliers) and analysed prior to and post adjustment to determine if abnormal distribution was unduly influencing the data. This process was followed throughout the analysis. Histograms are provided (Appendix 19) in support for the normality of distribution for responses on the PSI.

Linear Regression

Linear regression can be utilised to demonstrate a predictive relationship between variables by estimating the anticipated change in a nominated dependent variable that can be expected to occur in association with change in a nominated independent variable (Altman & Gardner, 1988). Regression analysis was utilised in the present study to indicate how much change in parenting stress could be expected in this cohort of parents for a unit change in a parents' perception of coparenting quality.

The assumptions of regression needed to be satisfied before performing this component of the analysis. The assumptions are that:

- Variables will be normality distributed
- Variables represent a linear relationship

- Variables are reasonably independent
- Variables have homogeneity of variance.

Relationships between all of the study variables were assessed with correlation. ANOVA and regression were performed on variables that shared a statistically significant correlation coefficient at $p < .05$. The reasonable independence of latent variables was determined by a connection between variables that did not approach perfect correlation ($r = 1.0$), and by theory and previous research, presented in the literature review, demonstrating that these variables represent related but independent constructs.

Actor Partner Analysis

The Actor-Partner Interdependence Model, developed by Kashy and Kenny (2000), is a conceptual framework for analysing dyadic data (Cook & Kenny, 2005). Actor effects represent the relationship between a participant's independent and dependent variables and partner effects represents interactions between a participant's variables and those of their partner.

Survey data for the PSI, PAM and ASPSE were analysed for actor and partner effects to determine whether or not there was evidence that there were interactions across the cohort within a participant's variables and whether or not a participant's variables were interacting with variables assessed in their parenting partners. Relationships between perceptions of coparenting quality and parenting stress across partnerships were of particular interest in the actor-partner analysis of the present sample.

Structural Equation Modeling

The process in SEM involved the development of theoretical models that predicted numerical relationships between study variables. These models were then tested against study data to develop indices of fit between a predicted model and study outcomes (Kline, 2005). Structural Equation Modelling (SEM) can be used to draw conclusions about the likelihood of causal relationships in cross sectional data (Blunch, 2008). SEM was employed in the present study to perform a path analysis testing the validity of the mediating relationships described in the secondary hypotheses. This component of the analysis was also likely to provide important information that could be utilised to explain relationships that were expected to occur between variables in the primary hypothesis.

Kenny, Kashy and Cook (2006) have identified and described four distinct stages in the development of SEM (specification, identification, estimation and testing) that needed to be satisfied in order to complete the analysis. The following descriptions of these phases paraphrase Kenny et al.'s original explanation.

Specification

In the specification stage a determination is made about whether the relationship between study variables is causal or correlational. This determination is made on the basis of available theoretical position/s concerning relationships between the variables. A causal relationship can be bidirectional but SEM allows for a prediction of the most likely pathway. In this study, specification was required for the variables of parenting stress, coparenting quality and ASPSE. The pathways tested with SEM have been described in the hypotheses and the theoretical justification of these pathways can be found in the previous chapter.

Identification

Identification refers to possible relationships between the quantity of parameters that need to be estimated and provides a measure of model complexity. "A model is said to be identified when there is sufficient information in the data to estimate uniquely the model's parameters" (Kenny et al., 2006. p.103). A relative Chi-square ratio of less than 2.0 indicates that the level of complexity in a model is sufficient to satisfy the need for identification (Ullman, 2001). An important component of identification is that variables in the model have to be observed. As previously discussed, the established reliability and validity of the measures used in the present study determined that data from these surveys could be justifiably entered into proposed models as observed data (Blunch, 2008). The software employed in this analysis (AMOS) provides a report on the status of identification for any proposed pathways and will not produce further analysis where identification is inadequate.

Estimation

Estimation describes maximum likelihood of best fit and it is achieved using an implied covariance matrix that is generated from the proposed model. The aim of estimation is to select a set of values that make the implied covariance matrix closely match the covariance matrix that is developed from the observed data. Maximum likelihood uses an iterative solution to solve the set of equations that are implied within the model. Estimates of covariance are therefore assigned to each parameter and improved upon through an iterative process until the maximum likelihood model fit is determined. This analysis is highly complex, and Kenny et al. (2006) have recommended the use of specialised SEM software, such as AMOS, for resolving these estimations.

Testing Fit

Fit is an estimation of the capability of a model to reproduce the same or similar data in other comparable populations. The estimation of fit therefore refers to the likelihood that the model

being assessed represents a causal pathway that is likely to be reproducible in other, similar populations.

SEM develops a measure of fit in which observed relationships between study variables are compared to a theoretical model. One index is insufficient to support the validity of a pathway and although there are many indices of data fit the most commonly applied technique in the behavioural sciences is to combine a series of Chi-square tests with the results of a root mean square error of approximation (RMSEA) (Kenny et al., 2006). The significance of RMSEA is reported using the probability of close fit (PCLOSE) and because PCLOSE explores the probability of an alternative hypothesis to the proposed model the result is interpreted inversely to the usual expectations of a *p* value (Kenny, 2010).

Kenny (2010) recommends that a series of Chi-square tests returning an index of < 2.0 can be used as a reasonable measure of fit for models with between 75 and 200 cases. When a Chi-square (< 2.0) occurs in conjunction with an RMSEA of (< .05) and a PCLOSE of (> .05) then the proposed model is considered to be supported by SEM (Blunch, 2008). The validity of fit is generally enhanced by lower indices of Chi-square and RMSEA and a higher PCLOSE (Blunch, 2008). A Chi-square (< 2.0) in combination with an RMSEA < 0.5 and a PCLOSE > 0.5 was used in the present study to represent an acceptable measure of fit and therefore determine the validity of a proposed pathway.

Analysing the Mediating Influence of Study Variables

There are alternative methods of mediation analysis but the power of SEM makes further analysis unnecessary. The mediator function of the third variable represents a "generative function through which the focal independent variable is able to influence the dependent variable of interest" (Baron & Kenny, 1986, p.1173). This generative function can either moderate or mediate the outcome variable and the conceptual distinction between these influences can be understood as follows. A moderator is a third variable that influences the strength of the

relationship between two variables and a mediator is a third variable that explains the relationship between two variables (Smith, 1982). The mediating variable shares the same statistical properties as a confounding variable and relies on a theoretically supported conceptualisation to differentiate it from potentially confounding variables (Mackinnon, Krull, & Lockwood, 2000).

Baron and Kenny (1986) proposed the following set of conditions that must be satisfied in order for a variable to function as a mediator:

1. Variations in the independent variable account for variations in the proposed mediator (Path a)
2. Variations in the proposed mediator account for variations in the outcome variable (Path b)
3. The previously significant relationship between the independent and outcome variables no longer exists when paths a and b are controlled. Mediation is considered strongest when path c is reduced to zero as a result of controlling paths a and b. If path c is not reduced to zero then this indicates the activity of multiple mediators.

FIGURE 3.2 THE CONDITIONS OF THE MEDIATOR VARIABLE

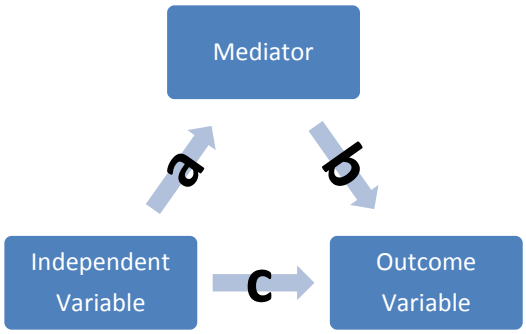


Figure 3.2 - Adapted from Baron and Kenny (1986)

Perfect mediation occurs when the independent variable has no effect on the outcome variable when analysis controls for the influence of the mediator variable. However, there are two important assumptions in Barron and Kenny's (1986) methodology for testing mediation that have particular bearing on the present study. The first is that there is no measurement error in the potential mediator and the second is that that the outcome measure (parenting stress) does not cause the proposed mediator (coparenting quality).

The inherent nature of latent variables will always incur some measurement error and the inherent feedback between all components of the family system determines that the nominally independent variables of parenting self-efficacy and coparenting quality will share some causal relationship with each other. The validity of pathway analysis and any proposed mediator influence is therefore reliant on an assumption of directionality based upon experimental data, as presented in the previous chapter, and the strength of fit demonstrated by SEM. Pathway validity was also supported in the present study by a secondary assessment of the direction of influence within the model, which was achieved by reversing any supported pathways (Blunch, 2008). The inverted pathway was then analysed to determine if acceptable indices of fit could be achieved when variables were modeled in the alternative direction.

Other Analysis

The internal consistency (reliability) of each of the survey tools was assessed by a calculation of Cronbach's alpha coefficient and reported on according to Kline's (1999) metric for the interpretation of this coefficient.

3.9 THE QUALITATIVE ARM OF THE INVESTIGATION

INTRODUCTION

Previous sections in this chapter have introduced the mixed-methodology, discussed the relationship between the two arms of the study, and described the rationale for and processes required to complete the quantitative arm investigation. The remaining sections of this chapter describe the rationale for the qualitative arm of the study, give a brief description of the research paradigm, and provide a detailed account of the steps in the qualitative arm of the project.

THE QUALITATIVE RESEARCH PARADIGM

The present study employed a sequential explanatory mixed-methodology in which a qualitative enquiry was designed to explain and build on the findings of the quantitative arm of the study while also building on knowledge gleaned from the literature (Creswell & Tashakkori, 2007; Ivankova, Creswell, & Stick, 2006). This qualitative arm of the study aimed to explore three domains of the coparenting experience. The first domain explored how coparenting relationships had been influenced by the emergence of a child with an ASD. The second domain explored how coparenting relationships were adapting to the parenting of a child with an ASD. The third domain explored parents' beliefs about the importance of their coparenting partnership by investigating their perceptions concerning relationships between their sense of coparenting quality, their sense of autism-specific parenting self-efficacy, and their child's developmental prognosis.

An interview schedule (Appendix 9) was designed according Marshall and Rossman's (2011) description of a topical or guided interview that is designed to bring out a participant's views concerning a few general topics. The interview was also designed according to Roulston's

(2010) conceptualisation of the neo-positivist approach to interview practice. Roulston (2010, p.52) described this neo-positivist approach to the interview as a process in which the …

> Skilful interviewer asks good questions, minimises bias and research influences through taking a neutral role which generates quality data and produces valid findings. The data generated from this process provide valid and credible knowledge concerning the beliefs, perceptions, experience and opinions of the authentic self of the interviewee. The interviewer generally refrains from participating in the data generation, other than asking questions.

The interview schedule contained seventeen questions. Four of the questions were either administrative or icebreaking and the other thirteen, semi-structured questions were designed to provoke responses in relation to key study concepts such as coparenting quality and parenting self-efficacy (Kvale, 1996; Roulston, 2010). Questions were not asked in the theoretical terminology of concepts, such as parenting stress or coparenting quality, but were designed to elicit parent responses in relation to the underlying factors that are represented by these latent variables. For example, when seeking information about coparenting quality, questions were asked about parenting conflict and partner strengths. The questions also included a range of commonly used probes such as "I noticed you said" or "can you tell me what you mean by that?" Some questions were designed to tease out specific responses about issues such as parenting teamwork, while others were designed to provoke discussion on broader areas of interest such as support and helpfulness. Many of the questions were also designed to encourage parents to bring information and stories into the interview that were within the study's area of interest but not confined by the theoretical bias of the investigation (Roulston, 2010).

Interview questions were designed with knowledge acquired from the quantitative analysis, with knowledge gleaned from the literature and with the support of a qualitative researcher with a history of recent, scholarly publications in the arena of family studies. The

interview schedule was then piloted on a small sample of parents and any required modifications were made before applying the schedule in a broader cohort of participants.

The Interview Sample

Selection of the interview sample was guided by the analysis of quantitative data. Parents' total scores on the PSI were combined to provide an aggregate measure of a couple's parenting stress. Parenting couples with the highest and lowest aggregated parenting stress scores were eligible for interview (for relationships between PAM and PSI across this sample see Appendix 16). The aim was to interview equal numbers of parents from either end of this aggregated parenting stress spectrum. Data was not segregated or analysed in regard to these levels of parenting stress. The purpose of this aspect of recruitment was to ensure that there was heterogeneous representation in the sample in regard to parent experiences of parenting stress.

Sourcing data from a heterogeneous cohort of parenting couples made an important contribution to the validity of the current study while also contributing to the methodological challenges. The recruitment of fathers has proven to be particularly challenging for many researchers but fathers are more likely to participate in research that is less intrusive and adaptable to their scheduling needs (Mitchell et al., 2007). The challenge of recruiting both partners in parenting couples in the present cohort was further complicated by the difficulties that parents of children with an ASD often experience in regard to flexibility, leaving their children with other carers, and finding the opportunity to attend out of home activities (Gray, 1997). The methodology needed to ensure that parents who were offered an interview were given the optimal opportunity to participate.

The Interview Process

Interviews were conducted by telephone in order to maximise the likelihood of participation. Parents were contacted prior to the interview to confirm their consent, obtained on the original consent form, and to arrange for an interview time that was convenient for both parents. Parents were then interviewed in a single session to reduce the opportunity for them to discuss, and therefore influence, their partner's responses.

Interviews were scheduled to reduce the risk of gender bias by alternately interviewing fathers and mothers first. This was to minimise a gendered influence if parents became aware of their partner's perceptions by overhearing their partner's interview. Parents were encouraged to go to a private space and not listen to each other's interview.

Sample Size and Data Saturation

Data saturation in qualitative enquiry occurs when it becomes apparent that further data collection and analysis will be unlikely to alter the outcomes of an investigation (Guest et al., 2006). The experience of qualitative researchers suggests that data saturation is often achieved after interviewing approximately ten participants (Guest et al., 2006; Smith, 2003). Saturation was likely to be readily achieved in the present study because the investigation was conducted on a reasonably homogenous population and interviews were designed to collect a distinct and limited range of data. However, a theoretical lack of independence between participants in a parenting partnership required that parenting couples were counted as individuals in the sample size calculation. The investigation therefore aimed to interview five couples with the highest, and five couples with the lowest, levels of aggregated parenting stress before making an interim assessment of the adequacy of saturation.

THE ANALYTIC PARADIGM

Qualitative data analysis has been described by Marshall and Rossman (2011, p.207) as a "search for general statements about relationships and underlying themes". The methodology for the qualitative arm of the present investigation was underpinned by a theoretically driven, interpretive process in which the researcher, using the current state of knowledge about coparenting quality in this and other contexts, was overtly seeking information on specific issues related to the coparenting partnership (Roulston, 2010). The investigation therefore set out to explore three, previously described domains of the coparenting experience.

Interview questions were designed to generate data that could be differentiated into a set of a priori themes, derived from theory and evidence, and related to each of these three domains (see Appendix 25). However, the investigation allowed for the possibility that other factors, not identified in the literature review, would influence the adaptation of coparenting partnerships to the parenting of a child with an ASD. The study therefore required a hybrid methodology that supported both deductive reasoning, predicated upon a priori beliefs, and inductive reasoning informed by unexpected data (Braun & Clarke, 2006; Fereday & Muir-Cochrane, 2006). The investigation therefore employed a thematic analysis in which a priori themes were theoretically derived and then reorganised to fit the data while new themes were developed as required by the evidence (Braun & Clarke, 2006; Morse, 2003).

The thematic analysis was segregated into different, but not entirely distinct, phases of coding and analysis. The neo-positivist approach to data collection employed in this study, as compared to more post-modern phenomenological approaches, was transferred into the analysis phase by keeping the enquiry focused on the relatively narrow range of data that the interview process was intended to generate (Marshall & Rossman, 2011).

Interviews were digitally recorded and later transcribed (see Appendices 13 and 14 for example transcriptions) by the investigator. Qualitative software (NVivo 9) was used to code the

data into the previously described thematic structure (QSR, n.d.). New themes, such as the role of paid employment and changes in teamwork trajectory, were developed to accommodate new and unexpected information as it emerged from the data. Themes were reorganised and redefined several times, using an iterative process, until an array of sufficiently delineated, logically coherent and relevant themes had emerged.

Coding

The thematic analysis of pilot data resulted in a reorganisation of a priori themes into three broad domains that corresponded to the stated aims of the qualitative enquiry. These domains included child influences on parenting teamwork, the adaptation of coparenting partnerships to the parenting of a child with an ASD and parent perceptions of the relationship between their coparenting partnership and their child's developmental outcomes. Further sub-themes were then developed through an iterative and recursive coding process, in which the preliminary thematic structure was adjusted, condensed and revised as required by the data (Kvale, 1996; Roulston, 2010; Smith, 2003). This process enabled the generation of some sub-themes that had not yet been conceptualised in the coparenting literature (Marshall & Rossman, 2011; Richards, 2005; Roulston, 2010; Smith, 2003). The coding process began after the investigator had become broadly familiar with the content of interview transcripts and continued until the investigator was satisfied that the requirements of saturation had been met.

The coding process consisted of the placing of data into literal and semantic themes. Data was coded literally according to explicit terminology and phrases, and semantically according to an interpretation of contextual meaning. This contextual interpretation was partially influenced by the question that was being answered but was also determined by the participant's construction of context in their response. Much of the data was coded into multiple themes.

Analysis

The second component of the thematic analysis was an analytical phase wherein the investigation aimed to answer the question of "What is going on here?" (Wolcott, 1994 - cited in Roulston, 2010, p.154). In this analytical phase the collective meaning of data, which had been systematically coded into themes and sub-themes, was described. This description was supported by perceived relationships between the network of themes and the theoretical framework of the study. Descriptions developed in this analytical phase were grounded in the data and have been reported as findings in the chapter of qualitative results.

Quantification of Selected Interview Data

Although the analysis was primarily thematic there was also some counting of responses in areas of the analysis where categorical responses were provided by the parents. These categorical responses were available because aspects of some interview questions were designed to elicit quantifiable responses. For example, when asked if having a child with an ASD had changed their parenting expectations, the parents usually began their response with a "yes" or "no" before providing further information. Quantitative data were calculated from these responses and then used to complement some aspects of this process-orientated exploration (Maxwell, 2010).

Addressing Quality in Qualitative Research

It is generally more difficult to assess quality in qualitative studies than in quantitative investigations, where survey outcomes can be evaluated according to widely accepted measures of validity and reliability and objective indices of probability (Giorgi, 2002). The validity of qualitative analysis is determined more subjectively by the quality and transparency of a study's methodology. However, a clear definition of what constitutes a quality process in qualitative research is still being contested. This contest concerns broad considerations regarding the

matching of the nature of the qualitative enquiry to the discipline and other factors, which focus on the processes and sincerity of the research (Giorgi, 2002; Tracy, 2010).

The previously described neo-positivist approach to the present study made an important contribution to the overall validity of the present investigation by narrowing the focus of the enquiry, and by combining different sources of information to develop conclusions. The validity of the qualitative process was also supported by adhering to qualitative research process criteria described by Tracey (2010) as rigour, sincerity and credibility.

Rigour refers to both the care and attention observed in the research process and the "complexity of abundance" (Tracy, 2010, p.841) that is generated in both data collection and analysis. Rigour is demonstrated in the planning of, and adherence to, the methodology and was further supported in the present study by the application of well-developed theoretical constructs to the analysis of a generous source of appropriate data.

Sincerity refers to notions of truth and honesty and is achieved through self-reflection, "vulnerability, honesty, transparency and data auditing" (Tracy, 2010, p. 841). Sincerity does not imply that a simple awareness of the risks associated with the researcher's biases, intentions and other fallibilities is enough to overcome them. Sincerity was achieved in the present study through the investigator's demonstration of best endeavours to be transparent in the research process and by militating against the influence of bias through vigilant monitoring and self-reflection.

The third criterion is credibility. Credibility refers to the perceived truthfulness and trustworthiness of the research conclusions. Credibility in the present study was substantially supported by a detailed methodology that described the processes, circumstances and specific conditions in which the data was generated and how conclusions were justified. However, the credibility of this enquiry was also supported by the investigators best endeavours to account for

the inevitable threats that personal predispositions and systemic bias could have made to the trustworthiness and credibility of any component of the entire study.

3.10 Procedures to Address Trustworthiness and Credibility in Either Arm of the Study

Militating against Bias

Bias is an unavoidable component of any research project. Bias is introduced with the choice of research question and continues throughout the approach to the literature review, the choice of methodology and the choice of emphasis and writing style (Bradley, 1994, Kenny et al., 2006; Marshall & Rossman, 2011; Smith, 2003). Theorists advise that bias can be managed, but not fully controlled, by careful and transparent research design and by developing a vigilance that can only be achieved by recognising the probability that bias will inevitably be present (Kenny et al., 2006; Marshall & Rossman, 2011; Smith, 2003). Bias was therefore present in the current investigation through the choice of hypotheses and the narrow focus of the study design, because this narrow focus had the potential to exclude relevant information. Outcomes could also have been influenced by unknown characteristics and predispositions of the voluntary participants.

The risk of bias was mitigated in the present study through the development of an open and transparent methodology and through attempts to limit subjectivity in the qualitative process. The neo-positivist design of the interview schedule was intended to limit the opportunity for the interviewer to influence participant responses while also encouraging open discussion that had the potential to produce unexpected data.

DECLARATION OF THE INVESTIGATOR'S PREDISPOSITIONS

Researchers are encouraged to identify their personal motivations and predispositions in the hope that this will create an awareness of potential bias (Marshall & Rossman, 2011; Roulston, 2010). The primary investigator's interest in this area of research has grown out of more than thirty years of nursing experience, including approximately twenty-five years in paediatrics. This nursing experience included ten years of working with families whose children had diabetes, experience as a midwife and many years of working with adolescents and young children with chronic and acute conditions. During this work the investigator developed an interest, spurred on by personal observations and an ongoing attention to the literature, in the apparent ability of some families to cope better than others, the role that fathers play in determining child and family outcomes, and the relationship between fathers and family-related services such as health and education. The investigator has developed a belief in the importance of involved fathering and this belief has been strongly influenced by recent exposure to the coparenting and other parenting literature, and experience in working with The Fathers and Families Research Team, Family Action Centre, University of Newcastle. The investigator has been responsible for the development and continued facilitation of fathers' antenatal classes at John Hunter Hospital in Newcastle, NSW, and has recently published recommendations in relation to this area of practice (May & Fletcher, 2013). It was through this work that the investigator became familiar with the work of Dr. Richard Fletcher, the primary supervisor of this research project.

3.11 ETHICAL CONSIDERATIONS

The present study was approved by the Research Ethics Committee of ASPECT. The protocol was also granted approval (Approval # H-2010-1203) by the Human Research Ethics Committee, University of Newcastle, NSW, Australia. All human research conducted through the University of Newcastle must comply with the Australian Code for the Responsible Conduct

of Research (2007b) and the National Health and Medical Research Council's (NHMRC, 2007a) guidelines for the conduct of ethical human research.

Reimbursement of Participants

An offer of an opportunity to receive reasonable compensation is consistent with the NHMRC guidelines on Human Research (NHMRC, 2007a). All participants were offered the opportunity to go into the draw for a shopping voucher, valued at A$100, which could be redeemed at a shopping centre in their local area. A non-profit lottery, such as this, is permissible under section 4G of the Lotteries and Art Unions Act (1901) and the voucher draw was administered in accordance with the act (NSW Govt, 1901). One voucher was drawn for participants in the pilot study and four vouchers were drawn for remaining participants at the end of each phase of the project. Each parenting couple was given the opportunity to win one voucher only.

Data Storage, Access and Disposal

The following processes describe the de-identification and safe storage of data.

- All returned questionnaires and consent forms contained the parent names and contact information.
- Upon receipt of the questionnaire and consents each was assigned an identification code that was used to track and link data. Couples were tracked by assigning an identical number with a different prefix (M# for mothers and D# for fathers).
- All identifying data were then separated from questionnaires prior to data entry.
- Consent forms and questionnaires were securely stored and all data entered into password-protected spread-sheets.
- The investigator was blinded to the identity of the respondents at the time of data entry and during data analysis.

- A separate spread-sheet linking participants to the identification numbers was created to provide contact information to the researcher in order to proceed with the phase two recruitment and interviews.
- All data has been stored and flagged for disposal in accordance with University of Newcastle guidelines for human research.

3.12 PILOTING THE QUANTITATIVE PROCEDURE

A pilot study was conducted to assess the effectiveness of the study procedure in accessing families and gathering data. The pilot study aimed to collect data from families with school-aged children under ten years of age and recruited these families through informal networks. Major difficulties associated with this phase of the recruitment were that families had to have a child under ten with an ASD and avoiding contamination of the next phase of recruitment by not recruiting children who were currently attending an ASPECT school.

Four families were contacted through informal, non-ASPECT autism networks, and three of these returned completed surveys from both parents.

The pilot study demonstrated that the survey tools were acceptable to the parents, who all completed and returned the surveys without difficulty. The families who completed surveys commented that some of the questions may have been more appropriate for younger children, which was not surprising because the PSI was initially designed for use with parents of younger children but has since been validated for parents of children up to twelve years of age. No other issues were detected during the pilot study.

3.13 Dissemination of the Study Outcomes

This research will be presented as a thesis to the University of Newcastle, the study will also be published in peer-reviewed journals, and outcomes have already been presented at relevant national and international meetings (May, Fletcher, Dempsey, & Newman 2013; May, Fletcher, Dempsey, & Newman, 2013b). All participants will receive a summary of the research conclusions if they have indicated a desire to do so on their consent forms.

3.14 Summary

The primary purpose of the present study was to explore the importance of coparenting quality in mothers and fathers from families where there is a child with an ASD. The investigation focused on a range of variables that had previously been found to share significant relationships with coparenting quality in the parents of children with typical and/or atypical developmental trajectories, including those with an ASD. The study employed a sequential explanatory mixed-methodology, in which the quantitative arm was designed to generate statistical interpretations of numerical relationships between study variables. These outcomes were utilised in the qualitative arm of the enquiry to support the selection of participants and to guide the development of the interview schedule. The qualitative arm of investigation was designed to build on, and provide explanations for, relationships between study variables that had been detected in the quantitative arm of the project.

A neo-positivist approach to the qualitative enquiry contributed to the synchronicity of the two distinct phases of the project by enabling a targeted exploration of relationships that had previously been observed in the quantitative data. A major strength of this mixed-methodology lies in the combined contribution of an objective quantitative investigation which assessed the strength of relationships between study variables and a qualitative enquiry, which built on and developed explanation for interactions that were found in the quantitative analysis.

The following chapter presents the recruitment outcomes and the analysis of quantitative data.

Chapter 4 : QUANTITATIVE ANALYSIS

4.1 INTRODUCTION

This chapter reports on outcomes of the quantitative enquiry which has been described in the previous chapter. The report commences with an analysis of response rate and description of participants. Analysis, conducted with SPSS software, is then presented on data distribution and the reliability of the survey measures in the current cohort (IBM Corporation, 2012). The validity of measures not previously employed in a similar cohort is then assessed by contrasting their performance with relevant subscale data on the PSI.

The chapter then reports on analysis within and between responses for each of the latent variables. Data is initially analysed by gender to determine the profile of each latent variable and relationships between each of the variables in maternal and paternal data sets. This is complemented by an analysis of these relationships in aggregated couple data. The analysis also reports on relationships between variables across the maternal and paternal data sets and, where possible, the strength of relationships between variables in the present cohort is then contrasted with reported relationships between the same variables in other studies.

Predictive relationships are assessed in the final stages of this chapter where the variables that demonstrated a significant correlation with parenting stress ($p < .05$) in paternal or maternal data sets are analysed concurrently with linear regression and analysis of variance. The analysis then concludes with structural equation modeling, conducted with AMOS software, which assesses the validity of pathways of influence between the key study variables of coparenting quality, autism-specific parenting self-efficacy, and parenting stress (Arbuckle, 2012).

4.2 METHOD

RESPONSE RATE

In the initial phase of recruitment, surveys (N = 177) were distributed to eligible couples at three participating ASPECT schools. Forty-six sets of surveys (N = 90 parents) were returned from these schools giving an overall response rate of 26%. The difference in the response rate between each of the schools χ^2 (1, N = 90) = 6.0 (p = .19) was not significant. These responses provided insufficient data for the required analysis and a second phase of recruitment, employing less intensive strategies, was initiated across a number of sites. These secondary strategies included the mailing of flyers to eligible parents in the three remaining ASPECT schools of NSW, some snowballing by interested participants, and the distribution of flyers at an early intervention service linked to the University of Newcastle. The less precise nature of this second round of recruitment did not support a comprehensive calculation of response rate.

Preliminary analysis of relationships between key study variables was conducted when eligible data was available from seventy-five families (N =141 participants). This interim analysis returned moderate to strong correlations between key study variables and it became apparent that it would not be necessary to recruit more families to demonstrate support for the study's primary hypothesis. Approximately one hundred and fifty participants were required for effective structural equation modeling and recruitment efforts were therefore ceased in expectation that a sufficient volume of late returns would trickle in to satisfy this condition (Blunch, 2008; Kenny et al., 2006).

THE PARTICIPANTS

Eligible responses were eventually received from mothers and/or fathers from eighty-three families (*N* = 152 parents) (Table 4.1). More mothers (*N* = 80) responded than fathers (*N* = 72) with both mother and father surveys being returned from sixty-nine couples. There were eleven families in which only the mother participated and three in which the father was the only parent to return surveys.

Surveys were received from a further four families whose data was ineligible for inclusion in the study. This was due to either the presence of non-biological parents or because the age of the child with an ASD exceeded the recommended age-range for the Parenting Stress Index (PSI).

TABLE 4.1 SUMMARY OF PARTICIPANTS – QUANTITATIVE ENQUIRY

	N
Parent/Family Data	
Families	83
Mothers (Age: *M* = 39, range = 28-49, *SD* = 5.47)	80
Fathers (Age: *M* = 42, range = 30-63, *SD*, 6.58)	72
Couple data (Surveys returned by both mother and father).	69
Child Data (*N* = 95)	
Age of oldest child with an ASD (*M* = 6.8, range = 2-12, *SD* = 2.53)	
Boys with an ASD	78
Families with more than one child with an ASD. (Range = 1 - 4)	9
Oldest child with an ASD has an older sibling.	31
Older sibling male (or has both male and female older siblings)	18
Children with high functioning autism.	50*

* Confirmation of severity only available for 72 children (88%)

The surveys employed to assess the key study variables of parenting stress (PSI), coparenting quality (PAM) and autism-specific parenting self-efficacy (ASPSE) proved to be very reliable in the present cohort (Table 4.2). The reliability of the Family Support Scale (FSS) was in the higher end of the questionable range (bordering on acceptable) when used with mothers, which enabled the inclusion of maternal FSS data in the analysis. The "What is a Father Questionnaire" (WIAF) proved to be questionably reliable in mothers and unreliable in fathers in this population. WIAF data was included in both maternal and paternal analysis but conclusions concerning paternal WAIF should be regarded with a high degree of caution.

TABLE 4.2 SUMMARY OF SURVEY RELIABILITY

		Cronbach's Alpha	Reliability*
PSI	Father	.91	Excellent
	Mother	.94	Excellent
PAM	Father	.93	Excellent
	Mother	.96	Excellent
ASPSE**	Father	.93	Excellent
	Mother	.89***	Good
FSS	Father	.79	Acceptable
	Mother	.68	Questionable
WIAF	Father	.38	Unacceptable
	Mother	.64	Questionable

Note. PSI = Parenting Stress Index, PAM = Parenting Alliance Measure, ASPSE = Autism-specific Parenting Self-efficacy, FSS = Family Support Scale, WIAF = What is a Father Scale.
*These descriptions are based on Kline's (1999) guide for the interpretation of the alpha coefficient.
**ASPSE is assessed with only 21 of 25 possible items (Four stress questions were omitted from the analysis).
*** On the threshold of .9, which is the lower limit for excellent reliability.

4.3 DATA DISTRIBUTION

Analysis of data distribution (Table 4.3) demonstrated that normal distribution ($p > .05$) was achieved for responses to most of the surveys.

TABLE 4.3 NORMALITY OF DISTRIBUTION FOR SURVEY RESPONSES

Kolmogorov-Smirnov Test of Normality of Distribution

	Paternal		Maternal	
Variable	Statistic	Significance	Statistic	Significance
PSI	.094	.19	.082	> .20
PAM	.076	> .20	.083	> .20
ASPSE	.075	> .20	.101*	.039
FSS	.109*	.034	.056	> .20
WIAF	.181*	<.001	.084	> .20

Note. PSI = Parenting Stress Index, PAM = Parenting Alliance Measure, ASPSE = Autism-specific Parenting Self-efficacy, FSS = Family Support Scale, WIAF = What is a Father Scale. For further information on the normality of PSI data distribution, data, histograms and Q-Q Plots, see Appendix 19.
* Survey data not normally distributed.

Pearson correlation coefficients were employed to analyse relationships between normally distributed data and Spearman correlation coefficients were also used where responses to one or more of the measures was abnormally distributed.

4.4 ANALYSIS OF SURVEY DATA

PARENTING STRESS

As expected in the present population, the total PSI scores for both mothers and fathers were higher than that which would be expected from a non-clinical sample (see Table 4.4). Abidin (1995) provided normative data for maternal PSI in a large US population (N = 2,633, M = 222.8, SD = 36.6) and advised that high maternal PSI scores (> 85th percentile of 258) should give cause for clinical concern. Mean PSI for both maternal and paternal parenting stress in the present study was above the 90th percentile of means reported for non-clinical PSI (see Figure 4.1, p. 107). The average level of maternal parenting stress in present cohort (M = 280, SD = 43.0) would therefore give rise to clinical concern if this were a non-clinical sample.

TABLE 4.4 PSI DESCRIPTIVE STATISTICS

	N	*M*	*Range*	*SD*
Mother PSI total	80	280	182 – 373	43.0
Father PSI total	72	276	197 – 365	40.0
Aggregated mother and father PSI*	83	562	384 – 730	75.0

Note. PSI = Parenting Stress Index, PAM = Parenting Alliance Measure.
*Where mother or father data is missing the aggregated score was obtained by doubling the solitary parent's response

Fathers in the present sample experienced high and similar levels of parenting stress to mothers. There was also a strong within couple correlation between total PSI scores for mothers and fathers in the present cohort (N = 69, r = .512, p < .001), which indicates that high levels of parenting stress experienced by one parent are often reflected in the parenting stress of their partner. The strength of this correlation supported the calculation of an aggregated couple index of parenting stress (Table 4.5) which was applied in the later stages of the analysis.

TABLE 4.5 PSI DESCRIPTIVE STATISTICS – COUPLE DATA ONLY

	N	*M*	*Range*	*SD*
Maternal PSI	69	276	182 – 373	44.3
Paternal PSI	69	273	197 – 347	38.4
Aggregated Maternal/Paternal PSI	69	549	384 – 666	73.2

Note. PSI = Parenting Stress Index.

Parenting stress was higher in parents from couples where only one parent elected to participate in the study. The mean PSI for couple data (Table 4.5) was lower than mean PSI for the total cohort. Mean PSI was therefore higher for both mother only (M = 303) and father only participants (M = 300). The previously demonstrated strength of association within couple PSI (r = .512) had indicated that levels of parenting stress experienced by these participants were likely to be reflected in the parenting stress of their non-participating partner. Solitary parent responses could therefore indicate that these participants represented relationships in which both parents were experiencing high levels of parenting stress. The small number of responses from a solitary parent does not support confident conclusions regarding this aspect of the data however the analysis does support conjecture concerning the probability that aggregated parenting stress may be higher in couples where only one parent elected to participate.

PSI CHILD AND PARENT DOMAIN DATA

Responses to the PSI can be categorised into two broad parent and child domains. These domains are designed to indicate whether parenting stress is primarily derived from child or parent behaviours and characteristics. PSI child domain scores (Tables 4.6) were similar for both mothers and fathers (Table 4.7), and parent domain scores were significantly but not remarkably

different. Mothers and fathers therefore tended to share a similar experience of their child but there were gendered differences in parent domain factors that contributed to parenting stress.

The high levels of parenting stress in the present cohort were primarily derived from the child domain ($M > 99^{th}$ percentile) but there was also a larger contribution from the parenting domain ($M > 75^{th}$ percentile) than would normally be expected (see Figure 4.1, p. 107). Therefore, unlike parents of typically developing children in Abidin's (1995) normative data, mothers and fathers of children with an ASD in the present sample experienced high and similar levels of parenting stress which were generated by factors within both child and parent domains of the PSI.

TABLE 4.6 PSI – PARENT AND CHILD DOMAIN SCORES

	N	*Range*	*M*	*SD*
Maternal Child Scale	80	91- 182	141.56	23.03
Maternal Parent Scale	80	69 - 194	138.81	25.48
Paternal Child Scale	72	94 - 182	139.59	21.39
Paternal Parent Scale	72	86 - 198	136.01	24.66

Note. PSI = Parenting Stress Index

TABLE 4.7 SIMILARITY BETWEEN MATERNAL AND PATERNAL PSI DOMAIN SCORES

Pearson Chi-Square - Couple Data Only (*N* = 69).

	χ^2	*df*	*p*
Mother/father child domain total scores	2198.42	2208	.553
Mother/father parent domain total scores	2418	2300	.043

Note. PSI = Parenting Stress Index. χ^2 = Pearson's Chi Square.

PSI Subscale Data

Similarity between maternal and paternal parenting stress extended into the detail of the PSI subscale data (Figure 4.1). The average subscale is made up of eight questions (range = 5-13) and Abidin's (1995) analysis of the mean coefficient alpha (.78, *range* = .70-.84) for each individual scale achieves Kline's (1999) acceptable range. The modest reliability of these individual subscales determines that small differences, observed between maternal and paternal subscale data in the present sample, are unlikely to be clinically meaningful. However, this detailed analysis of PSI data contributes further evidence of similarity in the parenting stress profile of mothers and fathers of children with an ASD.

FIGURE 4.1 MATERNAL AND PATERNAL PSI SUBSCALE DATA *

Percentile	Raw Scores															
	Child Domain							Parent Domain								PSI Total
	DI	AD	RE	DE	MO	AC	Total	CO	IS	AT	HE	RO	DP	SP	Total	
99+	36	38	18	31	18	21	145	45	22	22	21	32	36	28	188	320
95	33	3	15	25	14	18	130	40	20	18	19	29	30	26	169	294
90	31	31	14	24	13	17	122	37	18	17	17	26	27	23	153	267
85	29	30	12	22	12	16	116	35	17	16	16	24	26	22	148	258
70	28	28	11			15	114	34	16	15	15	23	24	21	142	252
75	27			21	11		111	33	15	14	14	22	23	20	137	244
70		27		20		14	108	32	14		13	21	22	19	132	239
65	26	26	10	19			105	31		13	12	20		18	129	234
60	25				10	13	102	30	13				21		126	228
55	24	25	9	18			100	29				19		17	123	224
50		24			9	12	99		12	12	11		20	16	121	222
45	23		8	17			97	28				18	19		118	217
40		23				11	95	27				17		15	115	214
35	22	22		16	8		93	26	11	11	10		18	14	112	208
30			7			10	89	25				16	17		110	201
25	21	21		15	7		87	24	10	10		15		13	107	195
20	20	20		14		9	82	23			9	14	16	12	102	188
15	19	19	6	13	6	8	78	22	9	9		13	15	11	99	180
10	18	17		12		7	75	21	8	8	8	12	13	10	92	170
5	16	15					66	18	7		7	11	12	8	82	159
1	9	11	5	9	5		50	15	6	7	5	8	9	7	69	131
Father	29.6	35.7	14.9	27.3	12.4	19.8	139.6	30.3	18.0	14.1	13.2	19.7	21.3	19.4	136.0	275.6
Mother	30.5	36.0	14.8	28.0	12.6	19.6	141.6	31	16.6	12.4	13.9	21.9	21.9	21.1	138.8	280.4

Note. Father profile = Blue highlighter, Mother profile = Pink highlighter, Both mother and father have same percentile = Green highlighter. See legend (below) for explanation of abbreviations.
*This data is plotted from approximate subscale scores. See Appendix 15 for mean data on all subscales.

Legend - Figure 4.1

Child Domain		Parent Domain	
DI	Distractibility/Irritability	CO	Competence
AD	Adaptability	IS	Isolation
RE	Reinforces Parent	AT	Attachment
DE	Demandingness	HE	Health
MO	Mood	RO	Role Restriction
AC	Acceptability	DP	Depression
		SP	Spouse

In summary, the level of parenting stress in the present cohort was high for both mothers and fathers and this outcome was similar to that reported in previous research with parenting couples who were parenting children with an ASD (Keen et al., 2010). The strength of association between maternal and paternal PSI indicates that both parents can often be expected to have high and similar levels of parenting stress if they are parenting a child with an ASD. The final, important contribution from this component of the analysis is that, although the source of parenting stress is skewed toward the child domain of the PSI, the high levels of parenting stress experienced by the parents in the present sample can also be attributed to sources across the parent domain. This detailed analysis of PSI data demonstrates that further exploration is warranted of the parenting stress that is generated in the parent domain of the PSI in both mothers and fathers of children with an ASD.

COPARENTING QUALITY

Descriptive statistics for the quality of coparenting relationships in this cohort (Table 4.8) indicated that parenting alliance scores for both mothers and fathers were only marginally lower than those reported in Abidin and Konold's (1999; Appendix 22) non-clinical sample (Father: *M* = 82.7, *SD* = 12.1; Mother: *M* = 80.2, *SD* = 15.0). The user manual for the PAM also provides normative data for couples parenting children with a range of developmental disabilities (Abidin & Konold, 1999; Appendix 21). This normative PAM data can be employed to assess the relative strength of coparenting relationships in families where there is a child with an ASD by contrasting current outcomes with those of other parents who are parenting in a similar context. The parenting of a child with Attention-Deficit/Hyperactivity Disorder (ADHD) can be expected to generate similar parenting problems to those that occur in families where there is a child with an ASD. Indeed, children with ADHD are also characterised by the presence of externalising behaviour problems and ADHD occurs as a comorbid condition in approximately thirty percent of children with an ASD (Siminoff et at., 2008). Parents in the present sample reported similar levels of coparenting quality to parents of children with ADHD (*M* = 80.7, *SD* = 13.5, *N* = 151)

(Abidin & Konold, 1999). Despite a prediction from the literature review of diminished coparenting quality in families where there is a child with an ASD the present analysis has found that coparenting in the present sample was similar to that which would be expected in other clinical and non-clinical samples.

TABLE 4.8 DESCRIPTIVE STATISTICS – MATERNAL AND PATERNAL PAM

	N	*Range*	*M*	*SD*
Father PAM total score	72	51 - 99	80.7	11.8
Mother PAM total score	79	37 - 104	78.0	15.4

Note. PAM = Parenting Alliance Measure.

To determine the validity of the PAM as a measure of coparenting quality in the present sample, total PAM scores were correlated with responses to the PSI spousal subscale (Table 4.8). A moderate to strong correlation was expected between the PAM and the spousal subscale because previous research has found that coparenting quality, as measured by the PAM shares important and complex relationships with parents' marital/romantic partnerships (Morrill et al., 2010). The strength of correlation between maternal (r = -.56, p = <.001) and paternal (r = -.51, p = <.001) PAM and PSI spousal subscale data (Table 4.9) demonstrated that the PAM was measuring a related but different construct to that represented by the spousal subscale. The validity of this assessment was partially supported by the questionable to acceptable reliability of the spousal subscale in present sample (Maternal Alpha = .7, Paternal Alpha = .65). These outcomes demonstrated qualified support for the validity of the PAM as a measure of coparenting quality in this cohort of parents of a child with an ASD.

TABLE 4.9 CORRELATION MATRIX – PATERNAL/MATERNAL PAM AND PSI PARENTING SUBSCALE

			1	2	3
1	Mother PSI Spouse Subscale	Correlation			
		Sig.			
2	Father PSI Spouse Subscale	Correlation	.35**		
		Sig.	.003		
3	Father PAM	Correlation	-.39**	-.51**	
		Sig.	.001	<.001	
4	Mother PAM	Correlation	-.56**	-.13	.54**
		Sig.	<.001	.300	<.001

Note. PSI = Parenting Stress Index, PAM = Parenting Alliance Measure, Pearson Correlations (2-tailed)
** Correlation is significant at the 0.01 level (2-tailed).

A strong correlation between maternal and paternal PAM (r = .54, p = <.001, Table 4.9) in the present sample was similar to that reported by Abidin and Brunner (1995) and indicates that mothers and fathers were often sharing a similar experience of their coparenting quality. This relationship validated the aggregation of PAM data into a single indicator of couple coparenting quality that was applied in the later stages of this analysis.

AUTISM-SPECIFIC PARENTING SELF-EFFICACY

An important aim of the present study was to analyse the validity of the modified Autism Parenting Questionnaire (APQ) as a measure of ASPSE in this cohort of parents. The content validity of the APQ is partially established by the nature of the questions, which directly target the cornerstones of parenting self-efficacy: such as a parent's beliefs that they can successfully apply their parenting knowledge and ability when parenting their child with an ASD. However, an objective assessment of content validity could also be achieved by correlating parent responses on the modified APQ with responses to the parenting competency subscale on the PSI.

The legitimacy of this test of validity was supported by the expected and actual reliability of the PSI's parenting competence subscale in the present cohort. The parenting competence subscale has been reported across a number of previous studies to return a relatively strong coefficient alpha (.83) (Abidin, 1995). The competency subscale returned an alpha in the acceptable range (.74) in the present sample for both mothers and fathers which demonstrated that the subscale provided a reasonable tool for assessing the content validity for the modified APQ.

The strength of correlation between the responses to the APQ and the PSI's parenting competence subscale (Table 4.10) for both fathers (r = -.374, p = .001) and mothers (r = -.384, p < .001) indicated a moderate and highly significant relationship between these variables which supported the validity of the modified APQ as a measure of PSE. However, the correlation between these scores would be expected to be much stronger if the APQ and parenting competence subscales were assessing identical constructs. This analysis, combined with both the content of the APQ and the expert opinion committed to its design, supported the probability that the APQ was measuring an alternative construct, which has been described in this thesis as ASPSE (Kim et al., 2004). These findings also lent support to Bandura's (1997) speculation concerning the transference of self-efficacy from general to specific by demonstrating an association between parent responses to these general and highly specific measures.

The psychometric properties of the modified APQ in the present study therefore supported the concept of ASPSE as a unique construct and the validity of the modified APQ as a measure of ASPSE. A total score on the modified APQ was therefore accepted in the present study as a representation of a parent's sense of ASPSE. There is no published normative data for the modified form of the APQ which was adapted to the present study by omitting responses to the four questions on parenting stress from the analysis.

TABLE 4.10 PEARSON CORRELATION MATRIX – ASPSE AND PSI PARENTING COMPETENCE SUBSCALE

			1	2	3
1	Father ASPSE	Correlation			
		Sig.			
2	Mother ASPSE***	Correlation	.30*		
		Sig.	.011		
3	Mother PSI	Correlation	-.22	-.38**	
	Competence Subscale	Sig.	.073	<.001	
4	Father PSI	Correlation	-.37**	.11	.20
	Competence Subscale	Sig.	.001	.367	.120

Note. PSI = Parenting Stress Index, ASPSE = Autism-specific Parenting Self-efficacy. Pearson Correlation (2-tailed)

** Correlation is significant at the 0.01 level (2-tailed).

*** Note that Spearman correlation applied for mother ASPSE due to abnormal distribution of maternal responses.

Descriptive statistics for the modified APQ (Table 4.11) in the present sample demonstrated that mothers generally reported a higher level, a narrower standard deviation, and a tighter range of ASPSE than fathers. Fathers were therefore likely to feel less capable than their parenting partners when caring for their child with an ASD and may have, as a consequence, been more reluctant to get involved in parenting activities (Bandura, 1997).

TABLE 4.11 ASPSE DESCRIPTIVE STATISTICS

	N	*Range*	*M*	*SD*
Maternal ASPSE*	81	52 -126	97.4	13.43
Paternal ASPSE	72	35 - 126	90.2	17.11

Note. ASPSE = Autism-specific Parenting Self-efficacy.

* Not normally distributed

Correlation analysis indicated that there was a moderate and highly significant association between paternal and maternal ASPSE (r = .335, p < .005) in the current cohort. This association indicates that parents can often expect to share a similar experience of ASPSE with their parenting partner. However, the association between maternal and paternal ASPSE was weaker than those between maternal and paternal parenting stress or coparenting quality.

THE FAMILY SUPPORT SCALE

There was a moderate to strong correlation between maternal and paternal responses on the FSS (r = .462, p = <.01). There was also a trend for fathers to report higher satisfaction with the availability and quality of overall parenting support than mothers (Table 4.12). However the modest reliability of the FSS in the maternal sample (paternal α = .79, maternal α = .68) suggests that more caution should be applied when considering the maternal FSS results than would be otherwise indicated when considering analysis from more reliable measures.

TABLE 4.12 FAMILY SUPPORT SCALE – DESCRIPTIVE STATISTICS

	N	*Range*	*M*	*SD*
Mother FSS	80	9 - 60	33.47	10.37
Father FSS	72	15 - 78.00	34.80	12.57

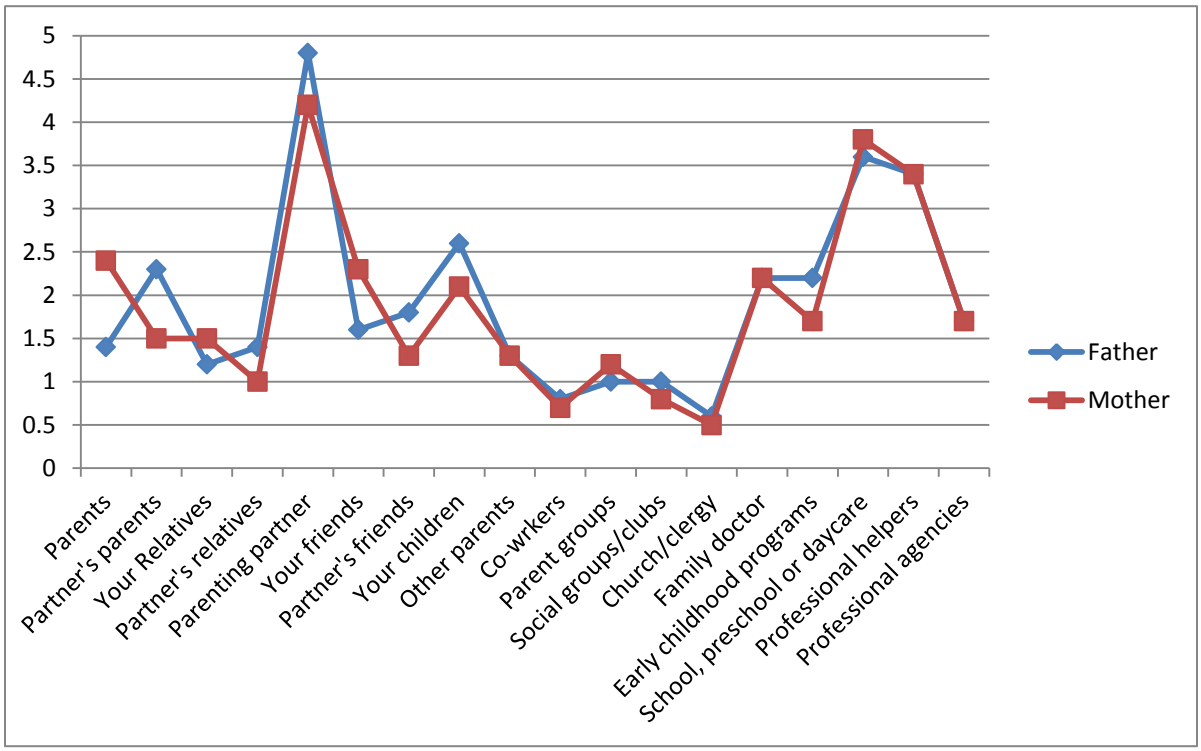
Note. FSS = Family Support Scale

The context of parenting a child with an ASD may account for the relatively poor performance of the FSS in the maternal cohort. Dunst and Leet (1986) reported excellent reliability alpha (α = .92) when the FSS was employed in a study on mothers (N = 45) of preschool children with a range of disabilities. Hanley (1988) reported a lower but good reliability (α =.85) when the FSS was employed in study with parents (N = 244; 73.6% mothers) of typically developing children. The relatively unique circumstances experienced by parents of children with an ASD, as described in the literature review, may help to explain the lower, but satisfactory, reliability of the FSS in the present sample. Caring for a child with an ASD creates a

complex role for the parent as co-therapist while simultaneously levying a heavy tax on parenting resources. The combined influences of having to choose from a broad range of therapies, the continuity and intensity of therapy, the uncertainty of outcomes and the social isolation that parents of children with an ASD often experience, are hypothesised in the present thesis to intensify the parenting relationship and increase a parent's reliance the support of their parenting partner. These factors may have been responsible for a skew that occurred in responses to the FSS toward the item of partner support. A skew toward a single item would have a negative influence on the correlation between responses across the questionnaire and diminish the survey's reliability.

The FSS asks parents to rate how helpful their partner had been during the last three to six months. Paternal responses to this item (M = 4.75) lay in the upper end of the very helpful range and maternal responses on the same item (M = 4.15) were in the lower end of the same range (Table 4.13). To understand the relative importance of responses to the item on spousal support these findings were compared with mean responses for all other questions on the FSS (Mother: M = 2.2 Father: M = 2.3; Figure 4.2). Although support from school, preschool or daycare and professional helpers, such as teachers and therapists, rated highly for both parents these sources were not as helpful as the support that parents received from their parenting partner. Partner support is an indicator of coparenting quality and the relatively high ratings that parents placed on the importance of partner support in both maternal and paternal data lend support to the importance of coparenting quality in this cohort of parents.

FIGURE 4.2 MEAN PARENT RESPONSES TO FACTORS ON THE FSS (*N* = 152)



Note. FSS = Family support scale. All sources = 18 items.

TABLE 4.13 PARENT RELIANCE ON EACH OTHER AS A SOURCE OF SUPPORT

	N	*Range*	*M*	*SD*
Paternal partner support	72	3 – 5	4.75	.524
Maternal partner support	80	1 - 5	4.15	1.13

Note. FSS = Family Support Scale. Data is for FSS Q5, See Appendix 5 for full questionnaire.

The WIAF questionnaire was employed in the present study to investigate relationships between parent perceptions of the role of the father and coparenting quality. Lower scores on the WIAF indicate contemporary, more involved, less traditional, beliefs about the role of the father. The WIAF proved to be less reliable than expected in the present sample.

Mean WIAF scores were very similar across maternal and paternal data sets however, fathers in the present sample reported a wider standard deviation and broader range of scores than mothers (Table 4.16). This could indicate that the fathers of children with an ASD have more divergent views about the role of fathering than the mothers or that the role and responsibility changes that Hock et al (2011) reported in parents of children with an ASD distort paternal perceptions of the fathering role. These or other factors resulted in poor WIAF reliability ($\alpha = .38$) in the paternal sample which precludes the development of confident conclusions from paternal WIAF data. Although the WIAF achieved only questionable reliability ($\alpha = .64$) in the maternal sample these results were used to support cautionary analysis in regression modeling.

TABLE 4.14 WIAF DESCRIPTIVE STATISTICS

	N	*Range*	*M*	*SD*
Father WIAF	72	25 – 71	33.83	7.37
Mother WIAF	80	20 - 46	32.95	5.34

Note. WIAF = What is a Father Scale

4.5 CORRELATION ANALYSES

The primary aim of correlation analysis was to investigate relationships between the three key study variables of Coparenting Quality (PAM), and Parenting Stress (PSI) and ASPSE (APQ). However, the first step in this component of the analysis was the development of a correlation

matrix for all of the study variables. A description of the calculation of some of these variables is required before moving forward with the presentation of outcomes.

Family Socioeconomic Position

The analysis of this component of the demographic data focused on paternal responses because paternal responses to items included in the calculation of socioeconomic position tended to be more complete. Analysis of data relating to parent education, income and occupation indicated that although the present cohort tended to be affluent and well educated, participation included families from a diversity of socioeconomic backgrounds (Appendix 26). A slim majority of fathers (54%) were either unskilled or skilled workers, such as plumbers or carpenters, and a large majority (84%) indicated that they had completed some form of education following high school. Household income was recorded on a six point categorical scale with each option providing an income range. Mean household annual income for families in the present sample (M = \$80,000 to \$120,000, Range = < \$30,000 to > \$150,000) was similar to that reported in a national, Australian, sample of couple families with dependent children during the same period (ABS, 2013).

The calculation of a family's socioeconomic position (SEP) provided a more integrated overview of socioeconomic distribution in the sample than could otherwise be provided by any single indicator. The algorithm used to estimate SEP was similar to the algorithm developed by Blakemore et al. (2009), and combined one parent's categorical scores on household income, years in education and estimated prosperity into a single index (see Appendix 26). The inclusion of an estimation of prosperity in the calculation of SEP was validated in the present study by the strength of association between this factor and a combined index of salary and years in education (r = 0.41, p = 0.01). Although paternal data was primarily used for the assessment of SEP maternal responses were utilised (N = 13) when paternal data was inadequate or unavailable.

The analysis of SEP (Table 4.17) demonstrated that although the status of participants was skewed toward the higher end of the socioeconomic spectrum the present cohort included families from a diversity of socioeconomic positions (see Appendix 26 for detailed maternal and paternal demographic data).

TABLE 4.15 ESTIMATION OF SOCIOECONOMIC POSITION – DESCRIPTIVE STATISTICS

	N	*Range***	*M*	*SD*
Family Socioeconomic Position	82*	3 - 16	10.99	2.75

* One family excluded due to insufficient data.

** Minimum possible score = 3. Maximum possible score = 18

RELATIONSHIPS BETWEEN KEY STUDY VARIABLES BY PARENT GENDER

Relationships between total scores on each of the surveys were analysed separately for fathers (Tables 4.18) and mothers (Tables 4.19). Spearman correlations were applied when assessing relationships where one or more variables was abnormally distributed (see Appendix 20)

There was strong negative correlation between paternal coparenting quality (PAM) and paternal parenting stress (PSI) (r = -.51, p < .001) and a similar, but weaker, relationship between these factors in maternal data (r = -.36, p < .001). These outcomes provided strong, positive support for the study's primary hypothesis. The relationship between parenting stress and coparenting quality in both paternal and maternal data was also stronger in the present cohort that that previously reported in Abidin and Konold's (1996) non-clinical sample. The stronger relationship between these variables in the current sample supports speculation, generated in the literature review, that coparenting quality may be more important in families where there is a child with an ASD than it is in other, non-clinical samples.

The first of the secondary hypotheses, that the role of the father will be positively associated with coparenting quality, found support in relationships between maternal (r = -.45, p = <.001) and paternal (r = -.28, p = .017) WIAF and PAM. Lower scores on the WIAF indicated

progressive, less traditional beliefs about the role of the father. Negative correlations between coparenting quality and fathering beliefs therefore demonstrated that contemporary beliefs about the role of the father were associated with coparenting quality in both mothers and fathers in the present sample. WIAF scores also demonstrated moderate to strong associations with ASPSE in both maternal (r = -.40, p < .001) and paternal (r = -.44, p < .001) data. However, the poor reliability of WIAF in the present sample, particularly in paternal responses, demands that extra caution be applied in the interpretation of these results.

The other secondary hypotheses tested in this component of the analysis concerned relationships between ASPSE and parenting stress. ASPSE shared a small and marginally insignificant negative association with parenting stress in the paternal sample (r = -.23, p = .051, Table 4.18) and a much stronger, highly significant relationship with parenting stress in maternal data (r = -.35, p = .002, Table 4.19). These outcomes provide conditional support for the hypothesis that autism-specific parenting self-efficacy is negatively associated with parenting stress in parents of children with an ASD.

Other outcomes included a weak relationship between severity of ASD and parenting stress in maternal data (r = -.22, p = .050) which was not reflected in the paternal sample (see Appendix 28). There was also moderate correlation (r = -.30, p = .010) between parenting support (FSS) and parenting stress in paternal data which was not reflected in the maternal sample (r = -.18, p = .106). The absence of a significant relationship between maternal parenting support and parenting stress defied an expectation generated in the literature review that the quality and availability of both informal and formal parenting support would have a moderating influence on maternal parenting stress.

TABLE 4.16 CORRELATION MATRIX - PSI, PAM, ASPSE – PATERNAL DATA

			1	2	3	4
1	PSI					
2	PAM	Correlation	-.51**			
		Sig.	<.001			
3	ASPSE	Correlation	-.23	.32**		
		Sig.	.051	.006		
4	FSS t	Correlation	-.28	.21		
		Sig.	.019	.078		
5	WIAF t	Correlation	.27	-.32**	-.45**	-.059
		Sig.	.022	.007	<.001	.612

Note. PSI = Parenting Stress Index, PAM = Parenting Alliance Measure, ASPSE = Autism-specific Parenting Self-efficacy, Pearson Correlations (2-tailed), (*N* = 72*)*
t Abnormally distributed
**Correlation is significant at the 0.01 level (2-tailed).
*Correlation is significant at the 0.05 level (2-tailed).

TABLE 4.17 CORRELATION MATRIX - PSI, PAM, ASPSE – MATERNAL DATA

			1	2	3	4
1	PSI					
2	PAM	Correlation	-.36**			
		Sig	.001			
3	ASPSE t	Correlation	-.28*	.20		
		Sig	.012	.080		
4	FSS	Correlation	.21	-.21	.37**	
		Sig	.058	.062	.001	
5	WIAF	Correlation	-.44**	.23*	-.40**	-.30**
		Sig	<.001	.037	<.001	.006

Note. PSI = Parenting Stress Index, PAM = Parenting Alliance Measure, ASPSE = Autism-specific Parenting Self-efficacy, FSS = Family Support Scale, WIAF = What is a Father Scale, Pearson Correlations (2-tailed), (*N* = 80*)*
t Abnormally distributed.
* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

Relationships between Key Study Variables within Couple Only Data

A correlation matrix was also analysed on aggregated couple only data (N = 69) for the key study variables of parenting stress, coparenting quality and ASPSE (Table 4.20). The purpose of aggregating couple data was to capture the parenting executive as an entity in the analysis of this systems-focused enquiry. Analysis of this data found that associations between coparenting quality and either parenting stress (r = -.41, p = .001) or ASPSE (r = -.32, p = .007) persisted in the couple only data. However, the previously observed relationship between parenting stress and ASPSE was not sustained. Associations that emerged from the analysis of aggregated couple data were later utilised when testing causal pathways between these key study variables with structural equation modeling.

TABLE 4.18 CORRELATION MATRIX - PSI, PAM, ASPSE – COUPLE DATA ONLY

			1	2
1	Aggregated Couple PAM			
2	Aggregated Couple ASPSE	Correlation	.32**	
		Sig.	.007	
3	Aggregated Couple PSI	Correlation	-.41**	-.21
		Sig.	.001	.087

Note. PSI = Parenting Stress Index, PAM = Parenting Alliance Measure, ASPSE = Autism-specific Parenting Self-efficacy, Pearson Correlations (2-tailed), *(N* = 69), This is for Couple data only.
** Correlation is significant at the 0.01 level (2-tailed).

Correlation analysis of relationships between study variables has demonstrated that coparenting quality shares an association with parenting stress which is of moderate importance for mothers, crucial importance for fathers and moderate to crucial importance for parenting couples in the present sample. A matrix of complex relationships between the key study variables of parenting stress, coparenting quality, and ASPSE has also emerged from the

analysis. Some variables that were predicted to have strong relationships were not significantly correlated, and other associations, such as those that occurred between family support and parenting stress, demonstrated that there are substantial differences in the maternal and paternal experience.

Severity of Child's ASD and Other Variables

Many of the variables in the demographic questionnaire failed to demonstrate a significant relationship with either maternal or paternal parenting stress. Neither the family's socioeconomic position, the presence of older siblings, the age of the child with an ASD, or maternal hours committed to paid work, demonstrated a significant relationship with parenting stress in maternal or paternal data sets.

Assessment of severity of a child's ASD was calculated on maternal responses only (N = 81) and returned small correlations with maternal PSI (r = -.220, p = .045) and paternal ASPSE (r = .254, p = .034) but not with other outcomes. This component of the analysis was not performed in accordance with the planned methodology because although there was no disagreement between maternal and paternal estimates, when both parents completed the item, there was a large amount of missing data (17%) in the paternal responses with a further eight fathers (11%) responding that they were not sure. Eighty-one mothers completed the item (98%) with seventy-two (89%) providing an estimate and nine (11%) indicating that they were unsure. ADOS scores were not provided by any parents. Many parents made unsolicited comments on their questionnaire indicating that they did not understand what the question was asking for and that they had no idea what an ADOS score was.

Relationships across Maternal and Paternal Responses

The previous analysis demonstrated that there were important similarities and strong relationships within the maternal and paternal data. This section of the analysis reports on correlations across maternal and paternal variables with a particular focus on relationships between parenting stress, coparenting quality and ASPSE (Table 4.24). To avoid the influence of responses where only one parent elected to participate in the study, the analysis in this section relied on couple data only. Pearson and Spearman correlation matrixes for these associations in the total cohort can be found in Appendix 27.

Relationships between maternal and paternal data on each of the key study variables were generally large, particularly those between parent reports of coparenting quality, ($r = .54$, $p < .001$), and parenting stress ($r = .57$, $p < .001$). A Spearman correlation between maternal and paternal ASPSE ($r = .28$, $p = .021$) was of moderate practical importance (see Appendix 27). These relationships became important during structural equation modeling.

There were very few significant correlations between maternal and paternal data across other study variables (Appendix 27). One unexpected finding was that neither maternal nor paternal perceptions of parenting support (FSS) shared a significant relationship with other factors across partner data.

Those associations that did occur between maternal and paternal variables indicated that maternal beliefs and perceptions may have an influence on paternal behaviour. There was a moderate and highly significant association between maternal coparenting quality and paternal ASPSE ($r = .36$, $p = .003$) and maternal beliefs about the fathering role (WIAF) shared a moderate to strong relationship with both paternal perceptions of coparenting quality ($r = .37$, $p = .002$) and paternal ASPSE ($r = .46$, $p < .001$). These relationships were not reciprocal which suggests that maternal factors share stronger relationships with their partner's parenting than paternal factors do on maternal factors.

Paid work may have played a role in determining the strength of maternal influence on paternal parenting. Fathers reported (M = 4.3, $S.D$ = 1.76) spending much more time in paid work than mothers (M = 1.7, $S.D$ = 1.47) yet there were no associations between paternal hours in paid work and other variables. There was however, a moderate to strong correlation between maternal hours in paid work and paternal ASPSE (r = .35, p = .003). The strength of association between maternal paid work and paternal ASPSE was consistent with expectation derived from previous studies reporting on the important function that paid maternal work plays in influencing paternal involvement and skill development in the delivery of childcare (Baxter & Smart, 2010; Bradbury & Katz, 2005; Presser, 1994).

TABLE 4.19 CORRELATION MATRIX – PSI, ASPSE AND PAM – COUPLE DATA BY GENDER

			1	2	3	4	5
1	Maternal PSI	Correlation					
2	Maternal PAM	Correlation	-.34**				
		Sig.	.005				
3	Maternal ASPSE	Correlation	-.29*	.12			
		Sig.	.015	.324			
4	Paternal PSI	Correlation	.57**	-.26*	-.02		
		Sig.	<.001	.030	.843		
5	Paternal PAM	Correlation	-.25*	.54**	.14	-.44**	
		Sig.	.038	<.001	.256	<.001	
6	Paternal ASPSE	Correlation	-.09	.36**	.34**	-.19	.27*
		Sig.	.440	.003	.005	.124	.025

Note. PSI = Parenting Stress Index, PAM = Parenting Alliance Measure, ASPSE = Autism-specific Parenting Self-efficacy. Pearson Correlations (2-tailed). (*N* = 69). Couple data only.

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Correlations that occurred between maternal and paternal responses on the key study variables of parenting stress, coparenting quality and ASPSE, could be interpreted as indicating that similar alterations in one parent's variables could be expected to occur when changes occurred in associated variables in their partner. However associations such as these, in dyadic data, can be misleading and Kashy and Kenny (2000) recommended that the evaluation of relationships in dyadic data should be explored with actor-partner analysis because this form of analysis is tailored to the interpretation of relationships between interconnected data.

4.6 ACTOR-PARTNER ANALYSIS

The Actor-Partner Interdependence Model was developed by Kashy and Kenny (2000) as a conceptual framework for analysing dyadic data. Actor effect represents the relationship between participant independent and dependent variables and partner effect represents the relationship between participant variables and those of their partner. This analysis required the use of alternative software (STATA 12) and the support of an independent statistician who was familiar both dyadic data analysis and the STATA environment (Stata Corporation, 2011). Under the supervision of the investigator the survey data for PSI, PAM and ASPSE were analysed for actor-partner relationships and the statistician's report has been paraphrased in the following paragraph.

Actor-partner analysis supported the reasonably strong association between a parent's level of parenting stress and that of their partner which indicates that a parent's level of parenting stress is likely to predict that of their partner. The analysis also found that parents' personal levels of parenting stress were predicted by their own levels of ASPSE and coparenting quality. However, a parent's sense of either ASPSE or coparenting quality was not predictive of their partner's level of parenting stress. Actor-partner analysis therefore found evidence of actor effects between parenting stress, coparenting quality and ASPSE and partner effects between parenting stress but the analysis did not support partner effects between other variables. These findings are important for the present study because they indicate that while increasing a parent's sense of coparenting quality predicts a reduction in their own levels of parenting stress this change is unlikely to be associated with a reduction the parenting stress of their partner.

4.7 LINEAR REGRESSION

Regression modelling was conducted with variables that had demonstrated significant relationships with parenting stress ($p < .05$) in the correlations analysis (see Figure 4.3). The purpose of linear regression was to predict the corresponding change that is likely to occur in a dependent variable when change occurs in one or more independent variables. The benefit of multiple linear regressions is that they can control for the influence that multiple independent variables are likely to have on a dependent variable by contemporaneously analysing their relationships with a dependent variable in a single model. Linear regression was performed separately on maternal and paternal data (Tables 4.25 to 4.30) due to a lack of independence between couple data and because parent gender played an important role in determining which factors were included in the development of the regression models. The validity of linear regression in the present sample was supported by the linear nature of maternal and paternal responses on the PSI (Figures 4.4 and 4.5).

FIGURE 4.3 VARIABLES INCLUDED IN MATERNAL AND PATERNAL REGRESSION MODELS

	Variables
Paternal Regression	• Coparenting Quality (PAM) • ASPSE (APQ) • Family Support (FSS)
Maternal Regression	• Severity of ASD • Coparenting Quality (PAM) • ASPSE (APQ) • Beliefs about Role of the Father (WIAF)

TABLE 4.20 REGRESSION MODEL SUMMARY – PATERNAL DATA

Model	R	R^2	Adjusted R^2	SE
1	.54[a]	.29	.26	34.35

Note. Predictors: (Constant), FSS, PAM, ASPSE. Dependent Variable: Parenting Stress. PAM = Parenting Alliance Measure, ASPSE = Autism-specific Parenting Self-efficacy, FSS = Family Support Scale. (*N* = 72)

TABLE 4.21 ANOVA – PATERNAL DATA

Model		Sum of Squares	*df*	Mean[2]	*F*	*p*
1	Regression	33115.07	3	11038.36	9.36	<.001[a]
	Residual	80216.04	68	1179.65		
	Total	113331.11	71			

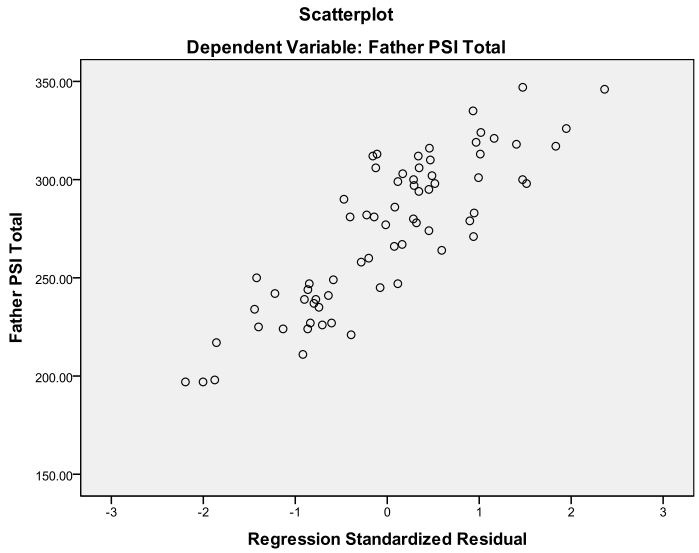
Note. Predictors: (Constant), FSS, PAM, ASPSE. Dependent Variable: Parenting Stress. PAM = Parenting Alliance Measure, ASPSE = Autism-specific Parenting Self-efficacy, FSS = Family Support Scale.

TABLE 4.22 REGRESSION COEFFICIENTS – PATERNAL DATA

Model		Unstandardized Coefficients		Standardized Coefficients		
		β	*SE*	*β*	*T*	*p*
1	(Constant)	427.06	31.10		13.73	<.001
	Paternal PAM	-1.58	.37	-.47	-4.31	<.001
	Paternal ASPSE	-.06	.26	-.02	-.21	.834
	Paternal FSS	-.54	.35	-.17	-1.57	.121

Note. PAM = Parenting Alliance Measure, ASPSE = Autism-specific Parenting Self-efficacy, FSS = Family Support Scale. Dependent Variable: Parenting Stress Index Total Score

FIGURE 4.4 STANDARDISED RESIDUAL PLOT - PATERNAL PSI



Note. Regression standardised residual = standardised residual error for paternal model. (N = 72)

TABLE 4.23 REGRESSION MODEL SUMMARY – MATERNAL DATA

Model	R	R^2	Adjusted R^2	SE
1	.50[a]	.25	.21	38.50

Note. Predictors: (Constant), Mother's Assessment of ASD Severity, Mother PAM, Mother ASPSE, Mother, WIAF. PAM = Parenting Alliance Measure, ASPSE = Autism-specific Parenting Self-efficacy, WIAF = What is a Father Scale. (*N* = 80)

TABLE 4.24 ANOVA – MATERNAL DATA

Model		Sum of Squares	*df*	Mean[2]	*F*	*p*
1	Regression	36077.92	4	9019.48	6.08	<.001[a]
	Residual	109696.43	74	1482.38		
	Total	145774.35	78			

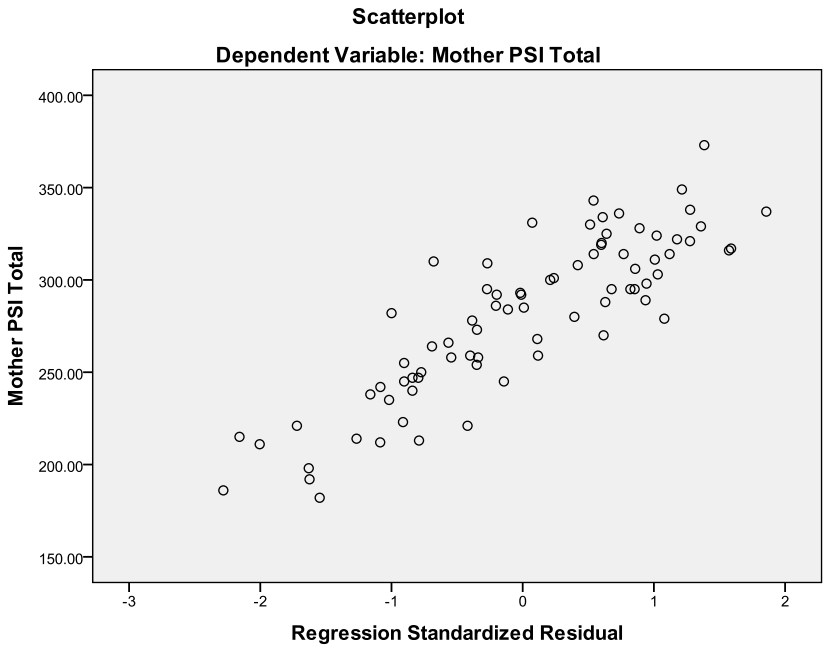
Note. Predictors: (Constant), Mother's Assessment of ASD Severity, Mother PAM, Mother ASPSE, Mother, WIAF. Dependent Variable: PSI total. PAM = Parenting Alliance Measure, ASPSE = Autism-specific Parenting Self-efficacy, WIAF = What is a Father Scale.

TABLE 4.25 REGRESSION COEFFICIENTS – MATERNAL DATA

		Unstandardized Coefficients		Standardized Coefficients		
Model		*β*	*SE*	*β*	T	Sig.
1	(Constant)	457.04	69.48		6.58	<.001
	Maternal PAM	-.84	.31	-.30	-2.73	.008
	Maternal ASPSE	-.73	.40	-.21	-1.83	.071
	Maternal WIAF	-.14	.98	-.02	-.14	.883
	Maternal ASD Severity	-18.77	7.46	-.26	-2.52	.014

Note. PAM = Parenting Alliance Measure, ASPSE = Autism-specific Parenting Self-efficacy, WIAF = What is a Father Scale

FIGURE 4.5 STANDARDISED RESIDUAL PLOT – MATERNAL PSI



Note. Regression standardised residual = standardised residual error for maternal model. (N = 80)

The outcomes of regression modeling supported the study's primary hypothesis by demonstrating that coparenting quality is a more powerful predictor of parenting stress for both mothers (Tables 26, 27,28) and fathers (Tables 29,30,31) in the present sample than any of the other factors accounted for in the analysis. The regression models demonstrated high levels of significance for both mothers (F = 6.084, p < .001) and fathers (F = 9.375, p < .001) and accounted for approximately 30% of the variation in paternal parenting stress (r^2=.292) and 25% of the variation in maternal parenting stress (r^2=.247). The regression analysis also demonstrated that, apart from coparenting quality, the severity of ASD was the only other factor to maintain a significant relationship with parenting stress when controlling for the influence of other associated study variables and this only occurred in the maternal sample.

The regression analysis predicted that an increase of eleven (11) points in the average paternal parenting alliance score would result in a decrease in the mean level of parenting stress of sixteen (16) points. Such a change in PSI score would reduce the mean PSI from 275 to 259 which would ease the level of parenting stress from the 85th to the 80th percentile (see Figure 4.1) and thereby reducing parenting stress to a level that would no longer give cause for concern in a non-clinical population (Abidin, 1995).

Linear regression demonstrated the importance of the relationship between coparenting quality and parenting stress. The loss of significance in the relationship between ASPSE and PSI in both maternal and paternal models provided evidence that coparenting quality mediates the relationship between ASPSE and parenting stress. However, structural equation modeling is better equipped to analyse the nature and direction of influence between these study variables.

4.8 STRUCTURAL EQUATION MODELING

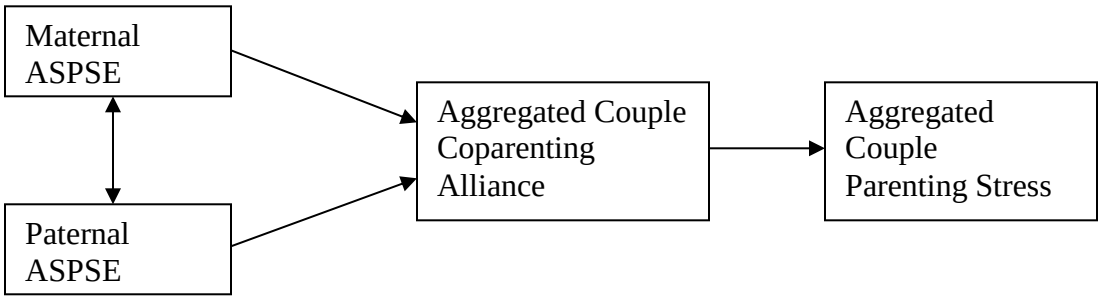
As described in the methodology, SEM can support conclusions about causal relationships between variables by testing theoretical models, which predict numerical relationships, against actual data (Blunch, 2008). The requirements of SEM were described in detail in the previous chapter. The requirement of identification, which represents model complexity, is satisfied by a relative Chi-square ratio (χ^2/df) ratio of < 2.0 (Ullman, 2001). Once identification is achieved AMOS software is then able to carry out a covariance matrix analysis to assess relationships between the proposed model and the study data. The key indices of model fit are Chi Square (χ^2), RMSEA and PCLOSE. A statistically significant chi square (< 2.0) in combination with an RMSEA (< 0.5) and a PCLOSE (> 0.5) represents acceptable indices of fit between a proposed theoretical model and outcome data (Kline, 2005).

Structural equation modeling was performed on the following model to assess the role of coparenting quality in the relationship between ASPSE and parenting stress (Figure 4.6). The

model successfully achieved identification (χ^2/df = .571) and was found to have excellent indices of fit. The indices of fit for this model χ^2 (2, N = 166) = 1.41, (RMSEA = 0.000, PCLOSE = 0.680) demonstrated further support for both primary and secondary study hypotheses by supporting a pathway of influence from coparenting quality to parenting stress. The analysis also provided confirmation of the mediating role of coparenting quality in the relationship between ASPSE and parenting stress. However, this model was calculated with estimated data for the non-participating parent in couples (N = 14) in which only one parent responded, the analysis was therefore repeated with data from couples (N = 69) where both parents participated. The couple data only analysis also maintained excellent indices of fit χ^2 (2, N = 138) = 1.62, (RMSEA = 0.000, PCLOSE = .566).

The final step in SEM was to seek confirmation for the mediating influence of coparenting quality on ASPSE by reversing the model; thereby testing for the possibility that ASPSE mediated the influence of coparenting quality on parenting stress. The indices of fit for this inverted model did not support the alternative pathway χ^2 (2, N = 166) =10.2, RMSEA = 0.165, PCLOSE = .021).

FIGURE 4.6 THE MEDIATING INFLUENCE OF COPARENTING QUALITY



Structural equation modeling therefore supported the existence of a causal pathway which runs from individual, but related, perceptions of ASPSE through a couple's sense of coparenting quality and into a couple's level of parenting stress. Structural equation modeling therefore indicates that high levels of ASPSE are unlikely to influence parenting stress when parents have low quality coparenting relationships.

4.9 SUMMARY AND CONCLUSION

Support for the primary hypothesis was found through multiple modes of analysis. Important relationships between coparenting quality and parenting stress were demonstrated in correlation analysis, linear regression and structural equation modeling. Coparenting quality proved to be a more powerful predictor of parenting stress, in this cohort of mothers and fathers of a child with an ASD, than any other variable accounted for in the study. The analysis also found that the importance of coparenting quality may be enhanced by the parenting of a child with an ASD because coparenting quality shared a stronger relationship with parenting stress in the present sample than that previously reported in parents of typically developing children.

Structural equation modeling supported the likelihood of a causal relationship between coparenting quality and parenting stress. SEM also provided some explanation for this relationship by demonstrating that coparenting quality plays an important mediating role in the relationship between autism-specific parenting self-efficacy and parenting stress. An exploration of the clinical importance of these findings and deliberation concerning their implications is presented in the concluding chapter of this thesis where qualitative findings from the following chapter are integrated into the final analysis.

Chapter 5 : ANALYSIS OF PARENT INTERVIEWS

5.1 INTRODUCTION

The quantitative arm of the present study set out to explore relationships between coparenting quality, parenting stress and other associated factors in in a cohort of biological mothers and fathers living together with their child with an ASD. The analysis demonstrated that coparenting quality shares important relationships with parenting stress, parenting self-efficacy and other associated factors in this cohort of parents. However, as previous research has found that the parenting of a child with an ASD brings about structural change in coparenting partnerships (Hock et al., 2012); further investigation is required to understand how coparenting relationships are influenced by the parenting of a child with an ASD and how these relationships adapt to this transformed parenting environment.

The purpose of the qualitative arm of the study was to build on, and find explanations for, the quantitative outcomes that have presented in the previous chapter while also seeking to build on the current state of knowledge in the coparenting literature. The qualitative enquiry set out to achieve this through semi-structured, interviews exploring three domains of the relationship between the coparenting partnership and the parenting of a child with an ASD. This chapter reports on the thematic analysis of the interview data.

5.2 DEVELOPMENT OF THE INTERVIEW SCHEDULE

The qualitative arm of the investigation was conducted with a semi-structured interview schedule designed to explore three distinct domains of a parent's experiences and expectations. namely an exploration of mother and father perceptions concerning the influence that the parenting of a child with an ASD had on their coparenting partnership, the adaptation of their coparenting

partnership to the parenting of a child with an ASD and the influence that their coparenting partnership is likely to have on the developmental outcomes of their child with an ASD.

The first domain of the interview explored parents' perceptions of how their coparenting partnership had responded to the emergence of their child's ASD. Family systems theory predicts that disruptions in a child's developmental trajectory will influence how parents understand and behave in regard to their parenting roles, responsibilities and coparenting partnerships (Broberg, 2011; Burton, Lethbridge, & Phipps, 2008; Mason & Pavia, 2006; Messer, 2010; Stryker, 2007; Talmi, 2013). This theoretical prediction has been supported by longitudinal mixed-method studies which have found that child characteristics, such as personality and behaviour, play a role in determining the way that coparenting partnerships work (Fivaz- Depursinga et al., 2009; McHale et al., 2004c; also see Feinberg, 2003). The emergence of a child's ASD is usually evidenced by changes in a child's behavioural characteristics and at least two investigations have concluded that parenting roles and responsibilities are often altered by the emergence of a child's ASD (Gray, 1997; Hock et al., 2012). The first domain of this qualitative investigation built on these previous studies by exploring how the emergence of a child's ASD influenced the distribution of parenting roles and responsibilities, the distribution of parental authority and the sense of purpose that parents have in their collective parenting work.

The second domain of the interview explored the adaptation of coparenting relationships to the parenting of a child with an ASD. The framework for this domain of the analysis was developed by amalgamating an array of coparenting characteristics, identified by various theorists, into a single set of five sub-themes (see Appendix 25). This skeleton of sub-themes is presented in the following section on the development of the analytic framework (p.139). Interview questions were designed to provoke discussions that would relate to this framework, and the adaptation of coparenting quality was explored through an analysis of parent experiences in relation to each of these sub-themes.

The final domain of the interview explored parent perceptions of the association between their coparenting partnership and their children's developmental outcomes. This component was designed to generate explanations for the importance of coparenting quality and relationships between coparenting quality and ASPSE that were found in the previous chapter. An important component of this domain was an exploration of relationships between a sense of parenting self-efficacy (PSE), particularly that which related to the care of a child with an ASD, and a sense of coparenting quality. Parents with high levels of PSE are likely to try harder, and for longer, in their parenting work because they believe that their parenting will have a positive influence on child outcomes (see Chapter 2 p. 43). The quantitative analysis in the previous chapter demonstrated that there is a positive relationship between parenting self-efficacy and coparenting quality in parents of children with an ASD. This domain of the analysis sought explanations for this relationship by exploring parent perceptions of the links that exist between their coparenting partnership, their sense of parenting self-efficacy and their child's developmental outcomes.

Questions across the three domains of the interview schedule were designed to orient parents to different periods in their parenting time-line and to progressively orient them toward a discussion of their triadic parenting relationship. Questions exploring how the emergence of a child with an ASD had influenced the coparenting partnership were therefore set in a past tense. Parents were asked how having a child with an ASD had influenced their parenting expectations, their experiences of support, and how they had managed the stresses associated with the parenting of a child with an ASD. The terminology of these first domain questions was directed toward the individual parent and did not directly encourage parents to discuss parenting in a partnership. This component of the enquiry was designed to gain insight into the importance that parents placed on their dyadic verses their triadic parenting relationships.

Questions in the second domain were asked in the present tense and designed to orient participants to current family processes that have previously been associated with coparenting quality. Questions in this domain oriented parents toward a discussion of current triadic parenting relationships. The purpose in this domain was to explore family processes associated

with the ongoing adaptation of coparenting partnerships to the parenting of a child with an ASD. Parents were asked about their partner's strengths and weaknesses as a parent, how parenting disagreements were managed, and the role that their coparenting partnership played in helping them to cope with the parenting of a child with an ASD. The expectation was that in answering these questions the parents would illustrate their responses in the context of themes developed out of coparenting theory. Discussion was therefore expected to occur around factors such as solidarity, support, cooperation and conflict in the coparenting partnership.

The third domain of the interview explored parents' perceptions of the relationship that may have existed between their coparenting partnership and child outcomes. This domain oriented parents to think about the future by asking them how important their parenting relationship is likely to be in determining the progress of their child with an ASD. By exploring parent perceptions regarding the relationship between coparenting quality and potential child outcomes, the interview was indirectly investigating the parent's understanding of relationships between their coparenting partnership and a sense of parenting self-efficacy.

5.3 PILOTING THE INTERVIEW SCHEDULE

Pilot interviews were conducted to test the efficacy of the interview schedule, the interview process, and the suitability of the thematic coding framework. Pilot interviews were performed with the first three eligible couples that had initially consented to a follow-up interview and had then responded to an invitation to participate. Interviews were recorded and later transcribed by the investigator. Parents appeared to cope well with the interview process, as evidenced by the fact that all parents completed the entire interview and many were keen to provide extra information.

Only minor alterations to the interview schedule (Appendix 9) were required following the analysis of pilot data. The first was to remove the question "How would you describe the

teamwork between you both in regard to parenting (name of child/n)?" This question tended to elicit a short and uninformative response such as "good" or "great" and did not contribute to the quality or quantity of the data. The second modification was to remove the question "Has having a child like (name of child with an ASD) changed the way that you work together as a parenting team?" because parents had provided this information elsewhere in the interview.

Pilot data was eligible for use in the final analysis, when participants met the eligibility criteria, because only minimal change had been made to the interview schedule.

5.4 DEVELOPMENT OF THE ANALYTIC FRAMEWORK

Data from the pilot interviews was initially coded into the a priori framework of analysis themes described in the methodology (p.88, see Appendix 25). However, it became apparent during the thematic analysis of pilot data that the aims of the qualitative enquiry would be best supported by reorganising the a priori themes into a structure that was congruent with the three domains of the qualitative enquiry. These thematic domains and their related sub-themes, as listed below, formed the framework for the thematic analysis.

1. The influence that the emergence of a child's ASD had on the coparenting partnership.
    - Responding to change.
    - Paid employment, roles and responsibilities.
    - Working together to deal with the job at hand.

2. *The Adaptation of the coparenting partnership to the parenting of a child with an ASD.
    - Coparenting solidarity
        - A sense of coparenting competence
        - Shared parenting endeavour
        - A shared parenting journey

        - Negative influences on coparenting solidarity
    - Communication coordination and cooperation
    - Partner Support and the Coparenting Partnership
    - Shared Parenting and the Coparenting Partnership
    - Conflict and Antagonism in the Coparenting Partnership
        - Getting it out in the open
        - Resolving conflict

3. The relationship between the coparenting partnership and the developmental outcomes of the child with an ASD.

These thematic categories formed the structure for the main body of the interview analysis. When the final set of themes and sub-themes had emerged, concrete examples, clear definitions, and inclusion and exclusion criteria were developed to support the analysis. However, the thematic structure remained open to the development of new and different themes and alternative analytical frameworks depending on information and relationships that emerged during further analysis. Although other themes and sub-themes did emerge these were readily incorporated into the previously described domains in the final analysis.

5.5 PARTICIPANTS

The final interview cohort included twenty-two parents from eleven biological, mother and father couples. Six of the couples had reported low levels of aggregated parenting stress and five couples had reported high levels of parenting stress. Four other couples, two from either end of the stress spectrum, declined to be interviewed. The recruitment aimed to include couples with both high and low levels of stress to ensure that there was representation from these parents in the interview cohort. Parents were not identified by this criterion during the analysis and data was not analysed separately for parents or couples with high or low levels of parenting stress.

An overview of the interview cohort can be found in Table 5.1. The range and variation in the data demonstrates that the participants were caring for children of varying ages with varying degrees of ASD and that the participants represented parents with a range of ages, socioeconomic positions and outcomes on the key study variables.

TABLE 5.1 INTERVIEW COHORT – LOW AND HIGH STRESS PARENTING COUPLES

	Low Stress Couples (*N* = 6)			High Stress Couples (*N* = 5)		
	Range	*M*	*SD*	*Range*	*M*	*SD*
Age oldest child ASD	7-8	7.5	.55	2-12	5.6	3.78
Family position child ASD	1-3	2.2	.837	1-3	1.8	.84
ASD Severity*	1-2	1.8	.408	1-2	1.2	.45
Family Socioeconomic Pos	10-16	12.0	2.19	7-15	11.0	3.74
Father Age	33-46	41.0	4.69	37-51	41.6	5.81
Mother Age	37-47	40.8	3.71	30-49	38.4	8.20
Father PSI	197-237	222	13.39	274-321	303.8	20.77
Mother PSI	182-254	210	25.97	320-373	338.2	22.55
Father PAM	84-96	90.3	5.32	71-92	82.0	9.57
Mother PAM	81-100	92.3	7.61	46-90	73.2	17.30
Father ASPSE	94-116	102.7	8.62	71-114	87.2	16.93
Mother ASPSE	93-122	105.3	9.98	75-102	92.4	10.92
Father Social Support	27-49	40.8	8.66	21-42	34.0	8.28
Mother Social Support	27-48	41.0	7.38	29-46	36.2	6.76

1. One mother and one father in the high stress cohort reported a history of mental health treatment.
2. One family in the high stress cohort reported more than one child with an ASD.
* 1 = low functioning, 2 = high functioning.

5.6 THE INTERVIEW PROCESS

Interviews were conducted at a time when both parents were available to ensure that each parent was interviewed before having the opportunity to discuss their experience with their partner and thereby influence their partner's responses. Parents were asked to move to an isolated part of their home during their interview so they could not be overheard by their children or their parenting partner. All parents said they were complying with this request, a claim that was supported by an absence of background noise during the interviews. Parents were advised that they could withdraw from the interview at any time, the interviewer monitored for signs of distress, and all parents were asked if they were happy to continue at approximately half-way through the interview. The initial interview for each couple was conducted alternately with mothers and fathers.

5.7 FINDINGS

The thematic analysis in the following sections is supported by quotations from parent interviews. All names have been changed to pseudonyms to protect the privacy of participants (see Appendix 17 for a table of pseudonyms). Although the quotations used to support the analysis are reasonably distributed across the cohort (Mother Quotations: N = 55, Range 3-9, M = 5.0; Father Quotations: N = 42, Range 1-7, M = 3.81), some parents tended to be more articulate or succinct than others and have been cited more often.

The analysis in this chapter is presented in the three previously described domains of the qualitative investigation, namely the influence that the emergence of a child's ASD had on the coparenting partnership, the adaptation of the coparenting partnership to the parenting of a child with an ASD, and the relationship between the coparenting partnership and the developmental outcomes of the child with an ASD. The analysis begins with an exploration of the influence that the emergence of a child with an ASD has on the coparenting partnership.

DOMAIN ONE: THE INFLUENCE THAT THE EMERGENCE OF A CHILD'S ASD HAD ON THE COPARENTING PARTNERSHIP.

Alterations in the coparenting partnership that occurred in response to the emergence of a child with an ASD were explored in this domain of the enquiry. Data was referenced to this theme when parents described how the emergence of their child's ASD had influenced the way that they worked with their parenting partner. In this domain there were three dominant sub-themes of (1) responding to change, (2) paid employment, roles and responsibilities, and (3) working together to deal with the job at hand.

Responding to change

> *"...you have to change what you know and what you do and how you understand what is going on with your child."*

The analysis found that the emergence of a child with an ASD had a profound influence on relationships, roles, responsibilities and distribution of authority in coparenting partnerships. Almost all parents (19/22) stated that their parenting experience had changed when asked to discuss their memory of the thoughts and feelings that they had about their parenting role when they first began to understand that their child had an ASD. The other three parents reported no change in their parenting experience. Changes in the parenting experience were often described in general statements about how the emergence of a child with an ASD had altered the way that parents thought about, and interacted with, their child and how this experience had influenced their future expectations:

> (M7) "Whether you like it or not you have to change what you know and what you do and how you understand what is going on with your child."

(F9) " … having a child with autism has pretty much turned everything upside down, changed all the expectations, changed what you thought about your life."

These changes were often experienced along with a growing sense of isolation from friends and family. Previous research by Gray (2003) found that Australian mothers of children with an ASD tend to experience social isolation in association with their child's externalising behaviour problems. Parents in this cohort described this isolation as an experience that they shared with their parenting partner:

(F4) "Friends just sort of disappear. We have felt very isolated."

The pervasive nature of these changes suggests that coparenting partnerships are unlikely to have avoided some influence from the emergence of a child's ASD. The following parents provided more explicit descriptions of how the demands of parenting a child with an ASD had created pressure on them to work effectively together in their coparenting partnership:

(F2) "You had better make sure you talk about what is happening and make sure you agree and that you are consistent. So yeah we have had some sort of dealings and some conversations about how we parent. This definitely helped, especially in the initial stages."

(M7) "We now know that things can get better, that we can help them to get better and it takes both of us to achieve that."

(F9) "The books didn't help so we had to work it out together."

The following mother described a journey of change in which the demands of caring for a child with an ASD resulted in her having to alter the way that she communicated and interacted with her parenting partner:

> (M9) "I suppose the most important thing is yeah, learning that you can't do it all on your own. Yeah, you have to learn to communicate with your partner with your family … learning how to be more flexible took a lot of patience and caused a lot of stress because I am a control freak, I like things to be done in a certain way. So that journey was quite stressful."

While another mother reflected on how her knowledge of her child's needs had influenced her parenting relationship and how she now had to manage a desire to direct her partner's parenting:

> (M6) "Sometimes you do feel like just saying no this way, and you've got to do it my way, but just try and take some time before you jump in."

Parents provided evidence that their parenting experience had not turned out as planned, and that this had encouraged them to modify their parenting behaviours and altered their interactions with their parenting partner. Such periods of uncertainty, fuelled by dissonance between expectations and reality, are likely to stimulate a process of self-evaluation that can result in a redefining of role identities and role relationships within the family (Stryker, 1968). The following mother illustrated a link between interactions within her coparenting partnership and the disruption of her parenting identity:

> (M11) "As a younger person having a baby for the first time you tend to get this idea that you might be in control and that is just not the case [laughs] … [now] we can talk problems through and come up with a solution that neither of us might have thought about."

This mother changed from talking about herself in isolation – i.e. using the word "you" singular – when contemplating her parenting, to talking about a parenting partnership – using the word

"we" plural – when dealing with the reality. There was a trend across all the interviews for mothers to begin the interview focusing on "I" and to then focus on "we" as they became oriented by the questions to a discussion on their parenting partnership. Fathers tended to refer to their parenting in plural terms – "we" or "our" – earlier in their interview responses. The way that parents refer to their parenting in either singular or plural terms has been identified by Isacco and Garfield (2010) as an important indicator of the strength of their parenting coalition.

This analysis has found that the time around diagnosis was an important milestone in the adaptation of the coparenting partnership to the parenting of a child with an ASD. The emergence of an ASD influenced the way that these parents understood their parenting roles and this resulted in changes to the way that they worked within their coparenting partnership. The following section of the analysis explored how having a child with autism influenced parenting roles in relation to paid work and how these changes influenced the coparenting partnership.

Paid Employment, Roles and Responsibilities

> *"She [the mother] is seeing a lot more of what he [the child] is doing and how he is doing things."*

This section of the analysis explored parent perceptions of the relationship between paid employment and the emergence of a child with an ASD. Data was referenced to this sub-theme when parents were describing the relationship between paid employment and their parenting teamwork. This included discussion on the influence that the parenting of a child with an ASD had on work hours and/or decisions to either cease or take up paid employment.

Like many other parents of children with special needs the parents in this sample described pragmatic economic decisions that they had made in regard to paid work and how these decisions had ultimately influenced the distribution of parenting roles and responsibilities (Burton et al., 2008; Curran, Sharples, White, & Knapp, 2001; Mason & Pavia, 2006). Parents

provided evidence that having a child with an ASD had caused many mothers to withdraw from paid work and some fathers to do more paid work than they had previously planned. Maternal participation in paid employment in non-clinical samples is positively associated with paternal involvement in child-related activities, and involvement is a key component of the parenting partnership (see Chapter 2, p.65). It is therefore likely that alterations in the distribution of paid employment in families where there is a child with an ASD will influence the coparenting process (Presser, 1994).

In all cases, except for a father who had recently become unemployed, fathers spent more hours in paid work than mothers and many of the parents indicated that having a child with an ASD had resulted in mothers doing less or no paid work:

> (F10) "…we never actually formally agreed on what our roles would be but, ah, I suppose I trudge off to work and earn the money and Tess has really sacrificed her career to assist Toby…"

Alterations in parent relationships with paid employment further increased the intensity of the primary carer role for mothers in this sample and these factors appeared to influence the distribution of authority in the coparenting partnership. The sense of authority that many mothers in this sample had in their parenting partnership was evidenced by descriptions of the mother's role as a teacher (F6 & M4) or the manner in which parents described her as a parenting expert:

> (M6) "I think Peter just defers to me because I have had more experience in the area…"

> (M9) "Arthur is now my area of expertise…he [husband] kind of looks at it as though, 'well, yeh she is the kind of expert on our son."

The role of primary carer gave mothers access to information, and therefore knowledge, that their partner had not acquired. This extra knowledge could result in the mother assuming the role of autism expert and parenting teacher:

> (F1) "Leanne often teaches me strategies."

> (F6) "So I have paid more attention and listened more to Jane because of Steven and because of that need to break things down into step by step, to form the routine needed to help Steven."

> (M4) "Ted [partner] does get a bit anxious and needs help but he does try to listen to what I say so it is usually pretty consistent in parenting."

The following mother described a role in which she is teaching her partner. This mother described how her greater knowledge gave her the authority to monitor her partner's parenting and provide direction when she saw that it was required:

> (M9) "… he's learning a lot as he goes along … sometimes he needs to be called out and told 'you know he is just like any other kid'…I can coach him but I'm the one who's going to the speech therapy and the OT and all sorts of different things...I can kind of give him a bit of a nod or I can kind of go over that way which sort of encourages him to teach Arthur in a better way."

This trend toward maternal authority was wide-ranging, with almost all of the parents (19/22) reporting that the mother would usually win in disputes about parenting decisions. For example (M3) frankly claimed "I usually win" while (F7) thought that "she usually wins". Some parents thought that having one parent concede to the other in parenting disagreements was a

good way to avoid conflict; some thought that maternal parenting authority was the natural order of things; and others thought that such authority was a natural and reasonable consequence of their division of labour:

> (F9) "I work 60 to70 hours a week maybe. She's not working, she spends a lot more time with Arthur, she is seeing a lot more of what Arthur is doing and how he is doing things … so when she does suggest things it's normally got a pretty good grounding."

Paid employment did play a role in determining the structure of the coparenting partnership in families in this sample by placing a disproportionate degree of parenting responsibility and authority on primary carers (mothers) and by reducing the opportunity for direct involvement of the other parent (fathers). However, parents took measures, such as passing on knowledge and providing guidance, to compensate, in part, for the negative influences that other factors may have had on their sense of coparenting quality.

Working Together to Deal with the Job at Hand

> *"This is the path we are on… we are dealing with it."*

Parents in this cohort described a process in which the difficulty of parenting a child with an ASD served as a catalyst for commitment to their coparenting partnership. Parents were committed to dealing with the job at hand and this required the support of their parenting partner. An important factor in this discussion was parent recognition that they had no other choice than to deal with the job at hand:

> (M8) "Why would you not want something better than that? So for me obviously this is a path that we are walking on at the moment, but I would change it and I expect that it will change and I wouldn't ever

> say that I am happy with where it is at or that's what we are dealing with."
>
> (F10) "It's not a disease people get cured from its who they are and what they'll be and as soon as you get your head around that then yeah, everything else just falls into place."

Parents described a personal responsibility not only to deal with the unexpected and difficult task of parenting a child with an ASD but also to provide their child with optimal parenting. They explained that it was their duty to care for the child (F5), that they needed to "get their act together" to deal with the challenge of parenting a child with an ASD (F6) and they described the way that they worked at their parenting relationship to make sure that their child achieved optimal developmental outcomes (F7). In the following extracts the parents use the term "we" when describing their commitment to the project of parenting their child in partnership, regardless of the difficulty of the task or the satisfaction that it brings.

> (M7) "We now know that things can get better, that we can help them to get better and it takes both of us to achieve that."
>
> (M8) "This is the path we are on… we are dealing with it."
>
> (F10) "You can't get out of the game so you have to make the game work."
>
> (M3) "I don't think we could do it without each other."

The responsibility of managing a task that is greater and more difficult than previously thought encouraged these parents to draw more heavily on resources that were available in their parenting partnership. The unexpected difficulty of caring for a child with an ASD therefore

provided an impetus for these parents to value, nurture and enhance the quality of their coparenting partnership.

Summary of Domain One Analysis

Parents in this cohort described considerable alteration in coparenting relationships around the time when they first began to understand that their child had an ASD. There were many aspects to this period of change which included the development of a more intensive parenting role for primary carers, a redistribution of authority, a greater awareness of the need to make best use of parenting resources and a reorganisation of roles and responsibilities in regard to paid and unpaid work. The overarching finding was that parents often altered their roles and responsibilities in coparenting partnerships as they began to understand and accept that their child had an ASD.

This reorganisation tended to reinforce traditionally gendered parenting roles and responsibilities and enhance maternal authority in the parenting relationship. The conventional parenting roles of mother as primary carer and father as the primary earner not only persisted across these families but were reinforced by the propensity for mothers to withdraw from paid work in order to provide the care and attention that their child with an ASD required. The necessity for paid work tended to reduce the opportunity for paternal involvement and increase the intensity of mother/child relationships. However, the difficulties associated with the parenting of a child with an ASD tended to isolate parents from informal sources of support and make them more reliant on the support that they received from within their parenting partnership. These factors served as a catalyst for parents to place greater value on the importance of their coparenting partnership and encouraged them to find ways to make this relationship work more effectively.

Having demonstrated that the emergence of a child with an ASD changed the parents' expectations and experiences of their coparenting partnership, the analysis now turned to the task

of investigating processes associated with the adaptation of the coparenting partnership to the parenting of a child with an ASD

Domain Two: The Adaptation of the Coparenting Partnership to the Parenting of a Child with an ASD.

This domain of the analysis explored the adaptation of the coparenting partnership to the parenting of a child with an ASD. This domain is organised under five sub-themes. The analysis of this domain began with an exploration of the parents' discussion of coparenting solidarity when parenting a child with an ASD.

Coparenting Solidarity

Van Egeren and Hawkins (2004) described the important contribution that parenting partners' promotion of each other's parenting qualities makes to a sense of coparenting solidarity. Data was referenced to this sub-theme of coparenting solidarity when parents indicated that they were growing together and becoming closer, and when parents discussed shared childrearing values and/or mutual understandings about their children. Data was also coded to this sub-theme when parents expressed an appreciation for the qualities that their partner brought to their parenting relationship. A large quantity of data was initially coded to this sub-theme. The analysis of this quantity of data was facilitated by the development of four distinct sub-themes within coparenting solidarity, namely a sense of coparenting competence, shared parenting endeavour, a shared parenting journey and negative influences on coparenting quality.

A Sense of Coparenting Competence

> *"… he helps me deal with him as well… we complement each other."*

In data coded to the main theme of coparenting solidarity the parents described the importance of sharing agreement with their parenting partner in regard to parenting goals, roles and practices. Parents illustrated the importance of learning about, and sharing, the work and responsibility of

parenting a child with an ASD together, and how important it was for their partner's parenting to complement their own.

Parents in this sample primarily promoted their partners' qualities by talking about the parenting environment that their partnership created, the skills that their partner contributed, and their partner's ability to provide love, care and encouragement. There was a trend in this data for fathers to talk more generally about their partner's parenting strengths, such as commitment, determination and caring:

> (F2) "She will just do whatever he needs, not worrying about money or anything. Just focusing on his needs."

> (F5) "She just wants to make sure they do the best they can and she'll do whatever it takes to help them."

Whereas mothers tended to focus on specific things that fathers did in their parenting role:

> (M11) "He is very good for them because he teases them in a way that they can understand so that they can go out into the real world and understand when people are teasing them…"

> (M6) "Yeah he is good at engaging him and entertaining him but he is also good at thinking about how we can use this to do something more for his development."

> (M9) "He's a great dad, in that he teaches Arthur his limits, he does all the things a great dad does, you know wrestles and does all those types of things."

A parent's sense of coparenting solidarity was influenced by the degree to which they believed that their partner's parenting ability contributed to their own, personal sense of coparenting competence. This aspect of parenting self-efficacy has not previously been described in the coparenting literature however parents in this cohort described a sense of collective parenting self-efficacy that only existed in association with their coparenting partnership. This sense of parenting self-efficacy was described in this investigation as coparenting competence and defined as a parent's perception of a collective parenting efficacy that is generated in the coparenting partnership and only exists in association with that partnership.

The following father gave an example of coparenting competence when he explained that his child would experience enhanced social development as a result of experiencing his parents working well together:

> (F11) "I think seeing the relationship and the parenting partnership that we have has got to be a positive for him. It will help him to get a good job, help him to have normal relationships …"

This parent's understanding of the relationship between children's social development and parenting finds support in literature on the development of emotion regulation (Calkins & Hill, 2007; Gross, 2011). However, parents were also able to describe other means by which their coparenting competence would influence their child's social and emotional development. Parents described a positive relationship between their coparenting competence and the quality of parenting that their child received. This occurred when their parenting partner did something that they, as a parent, might not have been able to do themselves:

> (M10) "I understand where his strengths are and where mine are…he helps me deal with him as well…we complement each other."

> (M11) "I guess I understand where his strengths are and where my strengths are because we have talked through so many issues."

This component of the enquiry has found that coparenting solidarity was enhanced when parents believed that their personal sense of coparenting competence was reinforced by a partner's parenting that complemented their own and therefore made a positive contribution to the parenting environment. In this and other aspects of the analysis a sense of coparenting competence represented parent perceptions of the quality of their coparenting partnership. The following analysis explored how a sense of shared parenting endeavour also contributed to a parent's perception of coparenting solidarity.

Shared Parenting Endeavour

> *"...we both want what's best for our children so at the end of the day that's the thing that keeps it working."*

A sense of "shared parenting endeavour" captures the sharing of parenting goals, beliefs, practices and expectations. The parents in this sample described how this sharing contributed to their coparenting solidarity. For example, the following parent described the importance of having the shared parenting goal of wanting to do what was best for their child's developmental outcomes:

> (M5) "…we both want what's best for our children so at the end of the day that's the thing that keeps it working…"

Parents also described how a sense of shared parenting endeavour contributed to perceptions of coparenting competence and cohesion:

> (F4) "Both parents have to be on the same page…It just falls to pieces otherwise."

> (F9) "I think the working together is more important…as a team you have to figure out the best way to do it"

> (M8) "You've got to be on the same wavelength otherwise it would just be like chaos I think. There would be no real structure or plan or goals. There would be no strength to what you were doing."

The following mother used a mechanical metaphor to express how solidarity and coparenting competence were achieved through their shared parenting endeavour:

> (M2) "So the two of us are really the ones that are making things happen and taking turns and so, yeah, it is just the motorbike has two wheels and with the other wheel it is pretty hard without it."

Parents adapted to the parenting of a child with an ASD by developing a sense of shared parenting endeavour, which included shared parenting goals, beliefs, practices and expectations. This sense of shared endeavour contributed to cohesion and therefore solidarity in the coparenting partnership and the sense of solidarity that was achieved through these processes helped parents to adapt to the parenting of a child with an ASD. It was also important for the parents to believe that they were sharing the parenting journey with their parenting partner.

A Shared Parenting Journey

> *"We are closer because of Kevin. We work more closely together because of Kevin."*

A sense of sharing the parenting journey played an important role in enhancing coparenting solidarity. Parents used a variety of travelling metaphors to describe the journey they were on together:

(F7) "We are both trying to head in the same direction."

(F2) "…we have to come to some sort of conclusion on what is going to work for David…"

(F9) "…we have come out as a better couple and I think that too has led to Arthur being probably a lot more passive, relaxed, so there is not as much stress in the family unit."

The last parent (F9) illustrated how a shared parenting journey had positively influenced the quality of their coparenting partnership. Other parents described how their experiences of compromise and camaraderie in their parenting journey had enhanced their coparenting solidarity:

(F11) "It's about being open to a bit of modification in your parenting technique which is, I think we've found, reasonably easy to do."

(F7) "We are closer because of Kevin. We work more closely together because of Kevin."

Parents' experience of this shared journey contributed to their sense of coparenting solidarity. However, the process of adaptation was weakened by a diminished sense of coparenting solidarity when parents experienced high levels of dissonance and disunity.

Negative Influences on Coparenting Solidarity

"… the mother instinct kicked in and I felt like I had to fix everything and I had to do it all myself."

Data was referenced to this theme when parents spoke about dissonance and disunity in their coparenting partnership. The analysis found that solidarity in the coparenting partnership was likely to be diminished by excessive parental gate-keeping and a tendency toward disapproval of a partner's parenting behaviours (Allen & Hawkins, 1999; Cannon et al., 2008). When describing disunity and dissonance parents made reference to the negative consequences of parental gate-keeping. One father said:

> (F4) "If she is in a real filthy mood then she may turn around and say 'I don't need you I can do it by myself'. Whereas if things are good then I think she does really appreciate the help and the hand that I give her around the house..."

His partner had a different perspective but acknowledged the negative consequence of her gate-keeping behaviour:

> (M4) "I can see that he needs my help, but when I am stepping in all the time that is not helping either."

Another mother had previously identified the negative consequences of her gate-keeping before changing her behaviours to encourage her partner's engagement:

> (M9) "When it came to James I think it was probably just that the mother instinct kicked in and I felt like I had to fix everything and I had to do it all myself. And so then, yeah, I think it was then, when I got to a point it just hit me in the head, and I realised that you can't do this."

Some parents' disapproval of their partner's parenting was so strong that it appeared to threaten their sense of coparenting solidarity. These examples were limited to maternal

comments on concerns regarding fathers' interactions with their children. These behaviours included being too playful, too impatient, teasing the children too often and not being strict enough. Some of these concerns were stated very strongly:

> (M1) "…usually I'm the one with the strategies and the backup plan and the ten steps ahead whereas he's just said it, bang, that's what I'm gonna do and there's no reason, there's no strategy, there's nothing."

> (M7) "Harry tends to be kind-hearted to the point of ridiculousness in my book and sometimes that has meant that things have got damaged or happened that should not have happened regardless of Kevin's disabilities. I would correct that if I could."

Coparenting solidarity was at risk in this cohort when parents had strong concerns about the way that their partner's parenting clashed with their own and when there was a perception that one parenting partner was taking an unreasonable degree of control in the parenting relationship.

Summary of the Analysis of Coparenting Solidarity

Coparenting solidarity was enhanced in these families when parents experienced a sense of a shared parenting endeavour which was generated from shared parenting goals, roles and practices. Solidarity was also enhanced when parents believed that that they were on a shared parenting journey in which they were learning together and sharing the work and responsibility of parenting their child with an ASD. Parents associated the coparenting solidarity that they achieved through these processes with a sense of coparenting competence.

Communication, Cooperation and Coordination in the Coparenting Partnership

In the initial framework of themes, derived from coparenting theory, cooperation was a theme along with joint family management. However, it became apparent during the analysis of pilot data that cooperation was intrinsically linked to coordination and communication and these factors were therefore added to cooperation and grouped into a single theme. Joint family management was described by Feinberg (2003) as a collective characteristic of coparenting quality, which included communication, coordination and cooperation but also conflict. Joint family management was omitted from the thematic framework in this enquiry because the analysis of conflict occurred alongside antagonism under an alternative theme. Data was referenced to the present theme when parents described how communication had increased their ability to cooperate with each other in the coordination of childrearing activities (see McHale, 2010).

Parents were motivated to achieve cooperation and coordination in order to make the best use of their parenting resources and enhance their sense of coparenting competence. Parents described how they proactively cooperated to coordinate their parenting thinking and parenting behaviours.

Sharing opinions had helped parents to find agreement:

> (F2) "It is really talking to each other a lot about what our plans are and what we are doing with David."

> (M10) "We can talk problems through and come up with a solution…"

> (F3) "We might discuss different views on something but we generally come to an agreement … we discuss it together and make sure we are both in agreement"

Mothers and fathers also coordinated their parenting reactively, when it became apparent that either poor parental coordination was causing a problem or a situation had arisen that required a coordinated parental response:

> (M11) "We kind of look at how we are going with respect [to] the children. … If they are not doing alright then we sit down and talk with each other about what we can do to help."

Parents also referred to strategies that they used to facilitate communication so that they could understand each other's thinking and find agreement about the distribution of parenting tasks. This process often resulted in the specialisation and differentiation of parenting roles and responsibilities. The coordination of parenting activities through specialisation and differentiation helped parents to achieve their parenting goals:

> (M7) "It can't work here unless we share and differentiate the work…"

The coordination of parenting therefore enhanced a sense of coparenting competence by making the coparenting partnership "work". Communication and coordination were also important factors in the prevention and resolution of conflict:

> (F2) "… if we didn't have those conversations to try and sort stuff out … then I think there would be a lot of conflict."

Parents therefore illustrated what they had achieved through communication but also described how they communicated. Almost all of the parents discussed the importance of talking

and some spoke of the importance of listening or making sure that communication happened when they were calm. Deliberate, calm communication was an important factor in the coordination of parenting.

> (F11) "Terry and I are very good at talking things out between us."

> (F6) "I don't rely on osmosis reaching her; I tell her and she tells me."

> (F9) "…we can talk about things, we can make decisions together."

The fundamental importance of communication in the parenting relationship was explained by a mother who stated:

> (M2) "We talk about it, that's how we find out that we disagree."

The importance of communication in the parenting partnership was also reinforced by one mother, who acknowledged the lack of teamwork that she experienced with her parenting partner. She stated that she rarely disagreed with her partner about parenting issues because he did not engage in parenting discussions. Poor communication had contributed to her sense of isolation in their parenting partnership:

> (M1) "I have made all of the decisions about what he does and where he goes. Rod hasn't been to any of the appointments, he hasn't been to any of the therapies and he sort of doesn't give me much feedback about what he thinks."

Communication therefore played an important role in the adaptation of the coparenting partnership by enabling the coordination of parents' thinking and behaviours in relation to their parenting roles and responsibilities. Communication helped parents to understand where they disagreed and to find agreement about their parenting objectives. Parents believed that this

process produced consistency in parent-child interactions and helped them to coordinate the optimal use of parenting resources through a process of specialisation and differentiation in regard to their parenting roles and responsibilities. Parents described how these processes were linked to their ability to manage conflict and to deliver parenting that would make a positive contribution to their child's developmental outcomes. These links further demonstrated the importance of a sense of coparenting competence which parents also associated with the quality of support they received from their coparenting partnership.

Partner Support and the Coparenting Partnership

Data was referenced to this theme when parents described a relationship between the actions and behaviours of their partner and their ability to sustain personal efforts to accomplish parenting goals. As predicted from the quantitative analysis of family support, the parents in this cohort indicated that they relied heavily on the support they received from their parenting partner (see Chapter 4, p.114). This qualitative analysis found that the provision of support in the parenting partnership was neither structured nor planned but relied on factors such as generosity, trust and a belief that partners were backing each other up as the family adapted to the parenting of a child with an ASD. Parents indicated that feeling supported in their coparenting partnership contributed to a sense of coparenting competence by enhancing their ability to cope. When asked about her most important source of support, one mother said:

(M2) "The Clive [her partner], definitely the Clive."

This statement was an important guide to the analysis because it was an indication that Clive's supportive partnering was not achieved with a single act, attribute or way of thinking but depended on a range of behaviours and traits. Other parents also described the importance of their partner's support in broad terms, for example:

(M8) "I could not do it without his support, or not do it well."

> (M3) "…yeah I think if we didn't have each other I don't think we'd cope as well, that's for sure."
>
> (M10) "…certainly the support of my husband."
>
> (M6) "You need that support there, which is having another person who knows what you are going through, who knows Stephen [the child] and knows what he is like…"

When asked how they keep their parenting relationship working, many of the parents indicated that support was usually unplanned and unstructured but still played an important role in their parenting partnership:

> (M4) "It is so sad because we, because it is so hectic every day that I have never really thought about things like that."
>
> (M5) "We've got to have that support with each other. Yeh I don't know his thinking on it … we don't really talk about it. We just live it."

The level of perceived support was usually augmented by factors such as trust and generosity in the parenting partnership:

> (F11) "…there is a lot of trust between us and that helps in everything in life; parenting, your own relationship."
>
> (M7) "You know that when the other person arrives you will have an ally."

A perception of giving or being given to was a common thread in many of the responses. This could be implicit, when partners described the provision of help, time, support, or guidance; or more explicit when parents described how they shared factors such as trust, confidence, respect and understanding in their relationship, for example:

> (M11) "I have every confidence in Peter's parenting and hopefully he feels the same way about me."

Parents also described how their partner's support had positively influenced a personal sense of parenting self-efficacy, for example:

> (M9) "…he helps me and supports me in being a better mother."

This mother had not always taken advantage of the support that was available in her parenting partnership but when she did it helped her to cope:

> (M9) "I realised that you can't do this and that's what made me sort of start talking to him and that's when everything opened up and immediately everything got better …"

When illustrating supportive actions and behaviours, parents described the importance of backing each other up, which generally referred to the act of supporting each other's parenting – for example "on the right track and … need to back each other up" (F3), or "back each other up, no matter what" (M1). The following mother felt that being backed up by her partner related directly to her ability to cope with the stresses associated with parenting a child with an ASD.

> (M10) - "Definitely knowing that you're not in it alone. I have always had Michael to back me up or go to when I've been at that point where I just can't cope."

Parents described a strong sense of reliance on the support they received from their parenting partner. This sense of support in the coparenting partnership depended on a range of partner behaviours and attributes, but the presence of an exchange of trust, appreciation and generosity in parenting-related thoughts and actions were particularly salient. Parents did not usually plan how to support each other but it was important for them to believe that they were sharing the burden of parenting and backing each other up in their parenting interactions.

Shared Parenting and the Coparenting Partnership

Shared parenting in this analysis refers to a parent's sense of equity (justness and fairness) in the way that parenting responsibilities were distributed in the parenting relationship (Van Egeren & Hawkins, 2004). Data was coded to either shared parenting equity or shared parenting inequity when parents explicitly or implicitly indicated that parenting responsibilities were shared fairly or unfairly in their parenting partnership.

Parenting was often described as a shared experience in which both parents were taking responsibility for their children when they were there to do so:

> (F4) "Now at family functions Jane and I are spending half our time or more, a lot of our time out watching the kids."

Some parents described how they deliberately made sure that their parenting experience was equally shared:

> (M2) "…well partly me forcing him in a way, from day one, he has been kind of doing always a fifty-fifty contribution about anything. Maybe he is doing more [laughs]"

Parents usually relied on each other to do what they could when they were available and they often promoted each other's involvement. However, these descriptions of equity and fairness focus on direct participation in care, which does not take other parenting activities, such as engagement, accessibility and responsibility, into account (Hawkins & Palkovitz, 1999; Lamb, Pleck, Charnov, & Levine, 1985). Parents in this sample were often responsible for different and specialised parenting roles and responsibilities in the manner that McHale et al. (2004b) described as the business of family commerce. These roles and responsibilities influenced their opportunities for direct involvement.

All but one of the mothers in this sample indicated that the division of roles and responsibilities in their relationship had resulted in their doing most of the direct childcare. However, almost all of these mothers also indicated that they were satisfied with their partner's parenting contribution. These responses suggest that these parents may have been taking parenting activities, other than direct involvement, into account when making an assessment of fairness and equity in their coparenting work. For example M7 described their situation as "continuous teamwork"; M3 described her partner as doing an "excellent job" and could not see how he could "improve at all" in his parenting role; and M6 stated that her partner knew what needed to happen so that "the house runs effectively". One mother gave an example of how her partner's parenting support was ever-present, even though he was working elsewhere:

> (M5) "I think it's great that he's so supportive … sometimes like they'll carry on at home and I'll say look I'm going to ring Dad in a minute if you keep it up, and then I'll ring him and he'll talk to them on the phone."

This mother articulated a belief, as did others, that it was her role to manage the children, that this was the natural order of things, and that this role contributed to her authority in their parenting partnership:

> (M5) "You know day to day women are the ones who run the families – so, mostly, like, men help and they're great but…I am the one who has the most time with them and I know them better than anybody else."

> (M9) "Arthur is now my area of expertise and … he [husband] kind of looks at it as though, well, yeah, she is the kind of expert on our son."

This sense of a special responsibility to the parenting role appeared to influence the mothers' sense of fairness and equity by helping them to accept that they were responsible for a disproportionate burden of care. However, not all of the mothers were satisfied with how their parenting authority had influenced their partner's involvement:

> (M4) "I don't know if I have made the rod for my own back but I often find myself doing it because it is easier."

Her partner (F4) thought that the strength of maternal parenting authority in their family was primarily due to the amount of time that he was unable to spend with the children:

> (F4) "…the kids listen to her more than me as an authority figure. But I think that is natural because Jen spends so much more time with them."

Many of the mothers believed that their role as primary carer had influenced the balance of power in their parenting partnership and that this had occurred because of the father's responsibility to paid employment. In at least one case the mother thought that her partner's relationship with paid employment, as opposed to his responsibility, was directly responsible for his lack of knowledge and involvement:

> (M1) "He's a strong believer that work was the most important thing. He needed to go to work, he needed to be more into work. So he sort of missed a lot of the important parenting stuff and learning the strategies … I got the feeling that he felt that it wasn't important because he wasn't here most of the time."

Responsibility to paid employment was only one factor in a complex system of influences that determined parenting involvement. In the following family the child's preference for the father meant that, in addition to being the only parent in paid employment, he was also doing most of the child's personal care when he was available.

> (M7) "He has to have Dad to be with him at night, to help him and reassure him, and occasionally get him back to sleep and that just means that Dad has to be up with Kevin and that is like usually every night."

This was an example of the importance of both specialisation and accessibility because this mother (M7) believed that she did not have the strength or patience to manage her son at night. The following mother gave another example of the importance of specialisation and accessibility in which parenting partners helped each other out when they were best equipped to do so. This complementary relationship contributed to their sense of coparenting competence:

> (M11) "We do work well as a team and if I can't cope any more I tend to go and have a shower and say to Pete "can you put Greg into bed tonight" or "can you deal with the kids" and usually by the end of the day when I've kind of had it whereas Pete doesn't cope as well first thing in the morning. So I do the first thing in the morning getting the kids off to school. So, yeah, we do work well as a team."

The complex needs of a child with an ASD resulted in the primary carers, usually mothers in this sample, taking on a greater primary parenting role and exercising greater authority in their parenting partnership than they would have expected if their child did not have an ASD. However, parents in these families generally considered the distribution of parenting roles and responsibilities in their parenting partnership to be fair and equitable.

Parents allocated parenting roles and responsibilities according to their beliefs about the best use of their parenting resources. They expressed dissatisfaction with parenting equity when, after taking these considerations into account, they believed that their partner was not doing their fair share. A perception of fairness in the parenting partnership, as opposed to an objective measure, was important for the parents in this sample. Parents in this cohort gave support to McHale et al.'s (2004b) business-like representation of the parenting partnership by linking their perceptions of fairness and equity in their parenting work to a sense of coparenting competence.

> (F10) "I think we have a good balance … we've slipped into roles, for better or for worse, but they seem to work so that's the way it will stay unless something pushes us out of those roles."

Parents in the present sample made pragmatic economic decisions about the best use of their parenting resources and they took these into account when assessing their satisfaction with the fairness and equity of their coparenting partnership. The distribution of roles and responsibilities ultimately influenced the allocation of authority in the parenting partnership and primary carers often tried to compensate for this by promoting opportunities for partner involvement and by sharing knowledge and trust. A perception of fairness and equity was important because it contributed to a sense of coparenting competence which encouraged the parent to keep trying in their parenting role.

In the following section, the parents' comments demonstrate how the allocation of authority, as observed in this section of the analysis, can help to reduce conflict and antagonism in the coparenting partnership.

Conflict and Antagonism in the Coparenting Partnership

The theme of conflict and antagonism in the coparenting partnership was a repository for references to behaviours and thinking that helped to reduce, manage or contribute to discord and animosity in the parenting partnership.

Communication played an important role in managing conflict and antagonism in the adaptation of the parenting partnership to the parenting of a child with an ASD. Parents developed communication strategies such as respecting each other's point of view, talking through disagreements when they were calm, avoiding disagreement in front of the children and resisting the inclination to say hurtful things to each other. They also spoke about the importance of accepting that there could be ongoing parenting disagreements, and how valuable it was to have at least one parenting partner who demonstrated the ability to resolve conflict and thereby avoid the rise of antagonism.

Getting it "out in the open"

Parents talked through parenting disagreements to either reduce the risk that unresolved conflict would damage their parenting partnership or to "get it out in the open" so that they could understand each other:

> (F5) "So we have a tendency to get things out in the open, we don't stew on things."

> (F2) "…they are good productive arguments so to speak. But it is more about trying to get it out in the open … and trying to understand where each other is coming from."

Parents also described strategies that facilitated effective communication in order to reduce conflict such as; waiting until they were calm; never disagreeing in front of their children, avoiding saying things that would hurt each other, and respecting each other's point of view:

> (F11) "…we are very open to being able to talk it out... We're not big on saying things that hurt each other."

> (F3) "…when you are disagreeing on a point make sure you do it at a time when it's appropriate; when the kids aren't around you don't bring it out."

RESOLVING CONFLICT

Parents also had other ways of dealing with conflict and antagonism such as; accepting that disagreement existed and just moving on:

> (F5) "Look, even sometimes if I disagree, I just accept and move on so that there is no more argument."

When asked, the greater majority (80%) of the parents in this cohort indicated that one partner, almost always the mother, usually won in parenting disputes. Therefore, in most of these families, and as expected according to Cowan and Cowan's (2000) analysis of non-ASD families, fathers were more likely to acquiesce when it came to parenting disagreements and they did this to reduce the frequency and intensity of conflict. An understanding of areas of authority

and the ability to agree on a winner, to signal when a disagreement was over, therefore contributed to the ability to move on:

> M9 – "I think when you disagree there is always someone that's got to be the right person in the situation, someone whose decision you have to go with."

However, it was important to have a partner who had the ability to resolve and diffuse conflict:

> (F11) "Terry and I are very good at talking things out between us … She is very good at resolving conflict."

Parents who believed that they managed conflict well often associated this ability with a sense of coparenting competence. They were therefore motivated to reduce conflict and antagonism in order to promote the best interests of their child:

> (M5) "Everyone has arguments and disagreements but we both want what's best for our children so at the end of the day that's the thing that keeps it working…"

The parents in this cohort employed a range of strategies to avoid or minimise conflict and antagonism in their coparenting partnership and they associated this ability with a sense of coparenting competence. Timely, constructive and respectful communication was often used to work through or avoid ongoing parenting disagreements. However, when communication could not resolve a disagreement the parents often gave final authority to the child's primary carer.

Domain Two: Conclusion

This component of the analysis explored the processes associated with the adaptation of the coparenting partnership to the parenting of a child with an ASD. The analysis demonstrated that a modified framework of themes, which were developed from coparenting theory, provided a useful structure for an exploration of coparenting adaptation in the present sample.

The analysis concluded that parents relied heavily on their coparenting partners when adapting to the parenting of a child with an ASD. They often made pragmatic, business-like decisions about the distribution of parenting roles and responsibilities in order to make best use of their parenting resources. Communication played an important role in the coordination of these roles and responsibilities and in the management and resolution of disagreement, conflict and antagonism. It was important for parents to believe that their parenting roles and responsibilities were fairly distributed despite the fact that specialisation and differentiation ultimately influenced the distribution of childcare tasks, parenting knowledge and authority within the coparenting partnership.

Parents accommodated these disparities in direct care, knowledge and authority by developing a sense of shared parenting endeavour and a sense of being on a shared parenting journey. These perceptions contributed to a sense of appreciation for the way that their partner's parenting complemented their own. These perceptions and processes contributed to the parents' sense of coparenting competence, which was evident in their belief that when they did these things well together they were more likely to realise optimal developmental outcomes for their child with an ASD.

Domain Three: The Relationship between the Coparenting Partnership and the Developmental Outcomes of the Child with an ASD.

The aim of this domain of the analysis was to explore the parents' understanding of the relationship between their coparenting partnership and their child's developmental outcomes.

When asked how important their parenting relationship was likely to be in determining the progress of their child with an ASD, almost all of the parents (19/22) thought that the way that they worked together in their parenting partnership would play an important role in determining their child's outcomes while the remaining parents were not sure about this influence. Many parents described this relationship in broad statements such as:

> (F6) "It is huge, it is everything."
>
> (M8) "Oh, that is vital."
>
> (M3) "I don't think he would have excelled as much as he has without the both of us; having both of us there. Yeah, parenting together."

One father described the relationship between his child's developmental outcomes and a sense of coparenting competence by saying that …

> (F10) "If we didn't agree on what our goals were, and … have that understanding of roles…I don't think Toby would have the opportunities to, um, develop."

Other parents described more specific influences such as the following parent who described how her parenting relationship would make a difference to child outcomes by enabling them to provide parenting consistency:

> (M11) "You both need to be doing the same things with him at the same time. Otherwise he gets very confused. "

And, as previously discussed, parents also illustrated the importance of their coparenting partnership in enabling them to model social relationships to their child with an ASD:

> (F11) "Hopefully he sees what a good relationship is and hopefully we could model that for him."

One parent described the risk of both parents agreeing when they were on the wrong course. The following mother believed that if she had not disagreed with her partner, who she thought was in a state of denial about their child's developmental difficulties, their child would not have had the opportunity to benefit from early intervention:

> (M1) "…if you had two parents that parented in the same style and got along perfectly and didn't debate these things then the poor kid still wouldn't have a diagnosis."

This comment underscores the need for effective communication strategies which were found to contribute to a sense of coparenting competence in domain two of this analysis. Parents in this cohort described how the quality of the coparenting partnership that they achieved through these processes, would play an important role in determining their child's developmental outcomes. One parent summarised the relationship between his coparenting partnership and a collective sense of parenting self-efficacy as follows:

> (F9) "Having the knowledge, yeah, you've got to have the knowledge how to do it, but if you don't have the teamwork then it is not going to work very well."

Parents in the present sample described how their parenting was more consistent, calmer and more effective because of the way that their parenting relationship had adapted to the parenting of their child with an ASD. Parents were motivated to optimise the quality of their coparenting partnership by a belief that their coparenting competence would help their child to realise their optimal developmental potential.

Summary and Conclusion

The analysis of parent interviews presented in this chapter has found that having a child with an ASD influenced how the parents in this cohort thought about and behaved in their coparenting partnership. The emergence of a child's ASD altered the distribution of roles, responsibilities and authority in coparenting partnerships. However, despite having substantial diversity in the strength of their coparenting quality, parents in the present study were able to describe strategies that they had employed to support and sustain the quality of their coparenting partnership as they faced these challenges.

Parents in this cohort worked to develop the quality of their coparenting partnership in order to enhance their coparenting competence and make the best use of their parenting resources Parents described how they shared knowledge and responsibility, when they could do so, and how the development of a sense of a shared parenting endeavour and a belief that they were on a shared parenting journey enhanced a sense of parenting and coparenting competence.. They believed that these factors would help their child with an ASD to achieve optimal developmental outcomes.

The analysis has demonstrated that a multivariate coparenting framework, developed from coparenting theory, has produced an applicable scaffold around which to structure an investigation of the relationship between coparenting quality and the parenting of a child with ASD. Parents described their coparenting relationships in terms of coparenting competence which served, in this analysis, as a manifestation of coparenting quality. The concept of

coparenting competence, which emerged from this domain of the analysis, was found to share relevance with all aspects of the multivariate framework of themes developed out of coparenting theory.

The parents in this cohort also described relationships between their coparenting partnership, their ability to cope, their parenting self-efficacy and their sense of partner support all of which were congruent with relationships demonstrated in the quantitative analysis. A deeper analysis of relationships between qualitative and quantitative outcomes will be presented in the concluding chapter of this thesis. The following chapter concludes this thesis by reviewing the combined outcomes of the present study, relating them to the present state of knowledge and developing recommendations for practice and future research.

Chapter 6 : CONCLUSIONS AND RECOMMENDATIONS

6.1 INTRODUCTION

The present study was designed to explore the importance of the coparenting relationship in parents of children with an ASD. The mounting coparenting literature has generated increasing support for the central role of the coparenting relationship in the family system. This study extends the coparenting literature into the parenting of children in families characterised by externalising child behaviour problems and parenting stress. The study sought to answer the following questions.

1. What are the relationships between coparenting quality, parenting stress, parenting self-efficacy, parenting support and perceptions of the role of the father in families where there is a child with an ASD?
2. How do coparenting relationships adapt to the parenting of a child with an ASD?

6.2 OUTCOMES

COPARENTING QUALITY IS AN IMPORTANT PREDICTOR OF PARENTING STRESS IN FAMILIES PARENTING A CHILD WITH AN ASD

Correlation analysis in the present investigation found that coparenting quality and parenting stress shared a strong association in paternal data and a moderate relationship in maternal data. Regression modeling demonstrated that coparenting quality was a more important predictor of parenting stress in both mothers and fathers than socioeconomic factors, severity of the child's ASD, family support, parenting self-efficacy, or any other variable accounted for in the study. Structural equation modeling found support for a causal pathway linking higher levels of coparenting quality to lower levels of parenting stress. These empirical outcomes provided

strong support for the primary hypothesis that coparenting quality is negatively associated with parenting stress in families where there is a child with an ASD.

The qualitative enquiry added complementary support to outcomes of the quantitative investigation through parent descriptions of the importance of their coparenting relationship in helping them to cope with the difficulties associated with the parenting of a child with an ASD. The qualitative arm of the study also developed explanations for interactions between coparenting quality and parenting stress that were found in the quantitative analysis. Parents described how their coparenting relationship enhanced their sense of parenting self-efficacy, helped them to make best use of their parenting resources, enabled them to share parenting difficulties with their parenting partner, provided them with support and encouragement, and helped them to find solutions to parenting problems. Parents also illustrated how a sense of isolation from family and friends served as a catalyst, augmenting the importance of the support and encouragement that they received through their coparenting partnership. However, despite relatively normal levels of coparenting quality, mean levels of parenting stress were very high in this cohort of parents.

Mothers and Fathers of Children with an ASD experience High and Similar Levels of Parenting Stress

Studies of parenting stress, in other contexts, have found that fathers can usually be expected to experience lower levels of parenting stress than mothers. The increased primary caring responsibility that mothers often take on in the care of their child with an ASD has been reported to result in a widening of the gap between maternal and paternal stress (see Karst & Vaughan Van Hecke, 2013). However, the present study found support for Keen et al.'s (2010) report that mothers and fathers of children with an ASD experience high and similar levels of parenting stress. The present study has also extended Keen et al.'s findings by demonstrating that maternal

and paternal parenting stress shared similar profiles across domains and all sub-domains of the parenting stress index.

Coparenting Quality in Parents of Children with an ASD was Stronger than Expected

Theory and evidence presented in the literature review generated an expectation that the demands of parenting a child with an ASD would have a negative influence on coparenting quality in the present sample. However, coparenting quality in the present cohort was similar to that reported in Abidin's (1999) normative data for the PAM which was generated from multiple studies in clinical and non-clinical samples. A possible explanation for the high levels of coparenting quality reported in the present cohort is that parents overestimated the quality of their parenting partnerships and that observation studies or the use of alternative coparenting measures may have yielded different results. However, the psychometric properties of the PAM were very strong in this study and the analysis of parent interviews provided plausible explanations for the strength of coparenting relationships.

The thematic analysis found that the parenting of a child with an ASD influenced roles, responsibilities and authority in parenting partnerships in ways that could have a negative influence on coparenting quality. However, parents developed strategies to sustain their coparenting quality in the face of these adaptive changes. Parents were motivated to sustain the quality of their coparenting partnerships by a few means: loss of informal support, which made them more reliant on the support of their parenting partner; the need to make best use of their parenting resources; and a belief that their parenting relationship would make an important contribution to their child's developmental outcomes. The strength of coparenting relationships in the present cohort suggests that parents' efforts to sustain their coparenting quality may have counteracted detrimental influences associated with the parenting of a child with an ASD in

many families. Parents linked their ability to work well together in their coparenting partnerships with both individual and collective perceptions of parenting self-efficacy.

Coparenting Quality shared Important Relationships with Parenting Self-efficacy (ASPSE)

Highly specialised parenting skills are often required to parent a child with an ASD and the development of these parenting skills has become a cornerstone of early intervention in families where there is a child with an ASD. The use of a highly specific measure of autism-related parenting self-efficacy (ASPSE) in the present study enabled an investigation of relationships between coparenting quality, parenting stress and parent perceptions of their ability to successfully apply these specialised skills to the parenting of their child with an ASD.

Analysis by gender demonstrated that ASPSE shared a moderate and highly significant association with parenting stress in maternal data and a relationship with paternal parenting stress that bordered on significance. However, these associations with parenting stress lost significance when controlling for the influence of other variables during multiple regression modeling. The loss of significance between variables during regression modeling can be due to the mediating influence of other variables in the model. Structural equation modeling was employed to assess the probability of these relationships.

Strong correlations between both maternal and paternal parenting stress and coparenting quality enabled the aggregation of couple data on these indices. These aggregated indices and a moderate correlation between maternal and paternal ASPSE supported the development and testing of pathways of influence between a parent's individual, but interrelated, sense of ASPSE and aggregated couple indices of coparenting quality and parenting stress. The analysis of these pathways demonstrated that coparenting quality mediates the relationship between ASPSE and parenting stress. A strong sense of ASPSE in either parent is therefore unlikely to reduce a

couple's susceptibility to parenting stress when the quality of the parents' coparenting relationship is poor. One father summed up this relationship as follows:

> (F9) "Having the knowledge, yeh, you've got to have the knowledge how to do it, but if you don't have the teamwork then it is not going to work very well."

These outcomes find support in Belsky and Haan's (2011) report on the influence that parenting has on children's development and Belsky's (1984) process model in which the parenting relationship plays a key role in determining parenting behaviour. In this model the personal resources of the parent, the characteristics of the child and the context in which parenting was performed all contributed to parenting quality. Belsky's model described the coparenting partnership as a principal source of parenting support and key determinant of the parenting context. Belsky therefore linked coparenting quality to child development through a theoretical influence on parenting behaviour, which has since found support in a number studies (see p.36 of this thesis). These and earlier aspects of the analysis have concentrated on the shared experience of mothers and fathers, yet other facets of the study pointed to important differences in the maternal and paternal coparenting experience.

Differences in the Coparenting Experience of Mothers and Fathers

Previous research has tended to concentrate on dyadic relationships between mothers and their children with an ASD and little is therefore known in regard to similarities or differences in the maternal and paternal experience. The successful recruitment of both mothers and fathers in the present study resulted in more fathers and more parenting couples participating in this study than any previously reported exploration of parenting stress in families where there is a child with an ASD (see Hayes & Watson, 2013). The present study is therefore the largest exploration, to date, of triadic relationships in the parenting of children with an ASD.

The investigation found that mothers may be less aware of the importance of coparenting quality than fathers. Coparenting quality shared a stronger relationship with parenting stress in the paternal data than it did in maternal data, which is congruent with reports from other studies where coparenting quality has been found to have a greater influence on paternal parenting behaviours (Brown et al., 2010; Elliston, McHale, Talbot, Parmley, & Kuersten-Hogan, 2008; Rongfang & Schoppe-Sullivan, 2011). These findings suggest that mothers may not feel the importance of their coparenting relationship as strongly as fathers. This outcome found support in the qualitative enquiry of the present study where mothers, unlike fathers, tended to focus on their dyadic mother/child primary caring role before being oriented toward a discussion on triadic family relationships.

However, despite a maternal focus on mother/child relationships, mothers in the present sample played a central role in relationships between fathers and their children, and this central role has important implications for the facilitation of coparenting quality. Parents in the interview cohort described how mothers usually win in parenting disputes, how fathers tend to defer to maternal authority in parenting decisions, and how maternal authority was augmented by interactions with education and support services that tended to focus their attention on dyadic mother/child relationships. The importance of maternal behaviours was also demonstrated by a highly significant association between maternal hours in paid work and paternal ASPSE. These findings indicate that fathers may feel more capable of caring for their child with an ASD and make a stronger contribution to coparenting quality when mothers exercise their authority carefully and make greater opportunities for paternal parenting involvement (see Murdock, 2013). These findings point to the importance of maternal beliefs and behaviours in families where there is a child with an ASD and indicate that the successful facilitation and enhancement of coparenting quality in these families will rely on maternal support.

The Adaptation of Coparenting Partnerships to the Parenting of a Child with an ASD

Although mothers may be oriented by experience and expectation toward their dyadic parenting relationships the outcomes from the present study have highlighted the central and important role that coparenting relationships play in the family system. Tamli (2013) proposed that this centrality would expose coparenting relationships to unavoidable adaptive pressures in families where there are children with unusually challenging externalising behaviours, which is a common characteristic of children with an ASD.

Parents in the qualitative arm of the current enquiry described how the emergence of their child with an ASD brought about alterations in parenting roles and responsibilities, and a shift toward greater maternal authority in coparenting partnerships. Social construction theorists have argued that the construction of mothering as a gendered talent or a gendered responsibility contributes to paternal dominance and that this gendered inequality is an important predictor of parents' dissatisfaction with their parenting partnership (Cowdery & Knudson-Martin, 2005; Knudson-Martin & Mahoney, 2009). However, the intensification of the mothering role in the present sample appears to have increased maternal authority and contributed to paternal reliance on the quality of the coparenting relationship with no evidence of diminished coparenting quality.

The redistribution of parenting authority in the present sample was compensated for by adaptive behaviours and adaptive thoughts that contributed to the quality of coparenting relationships. Parents were motivated to maintain the quality of their coparenting partnerships by a belief that it was important for them to make best use of their parenting resources in order to cope with the parenting of a child with an ASD and to achieve optimal developmental outcomes for their child. Participants described how they promoted coparenting quality by deliberately sharing information about the parenting of their child with an ASD and by recognising each other's complementary parenting skills and ability. The sharing of parenting knowledge was

described by Rawlings (2007) as a symbolic and practical means of sharing authority and Minuchin (1974) described the ability to recognise and value each other's complementary parenting skills as vital for the parenting subsystem. However, the analysis also identified other important processes that parents employed to successfully adapt their coparenting relationships to the parenting of a child with an ASD.

The analysis of semi-structured parent interviews found three key factors which permeated the parent responses and appeared to play an important role in facilitating the successful adaptation of coparenting relationships to the parenting of a child with an ASD. Parents used a variety of travelling metaphors to describe the first of these factors, which was the importance of developing and maintaining a sense of a joint parenting journey in which it was important for parents to share the highs and lows that they experienced along the way. The second factor was a sense of shared parenting endeavour which was both ideological and practical, but generally focused on doing what they could to achieve optimal developmental outcomes for their child with an ASD. The third factor was a sense of coparenting competence.

Parents often described the way that they managed coparenting issues with indirect reference to a sense of coparenting competence, defined in this study as the perception of a collective parenting efficacy that is generated in the coparenting relationship and which only exists in association with that partnership. This collective parenting self-efficacy occurred when parents believed that their partner's parenting skills and attributes complemented their own, therefore making the perceived quality of parenting from the partnership better than that which could be achieved by either parent alone. Parents gave examples of their coparenting competence in areas such as their ability to manage conflict, to delegate and negotiate roles and responsibilities and to jointly apply their knowledge about the parenting of their child with an ASD. One father gave the following example of the importance of coparenting competence in his relationship:

> (F10) "If we didn't agree on what our goals were, and … have that understanding of roles … I don't think Toby would have the opportunities to, um, develop."

Unexpected Outcomes

There was an unexpected lack of association between parenting stress and a number of variables in the present study (see Appendix 18). Socioeconomic position was not significantly associated with the parenting stress of either parent and nor was the presence of other or older siblings, which indirectly contests Blacher and Begum's (2009) predictions on the positive influence that siblings have on the social development of children with an ASD. There was a significant association between parenting stress and severity of the child's ASD in maternal but not paternal data that may be accounted for by the maternal primary caring role, a role that gave mothers greater exposure to the consequences of problematic behaviours. However, the most unexpected outcome was the lack of a significant correlation between the availability and quality of multiple sources of informal and formal parenting support and maternal parenting stress.

The insignificant correlation between outcomes on the FSS, a measure of parenting support, and parenting stress was inconsistent with the Boyd's (2002) report on a review of the literature concerning relationships between parenting stress and parenting support in mothers of children with autism. Boyd reported that an analysis of many studies, often employing the same measures as the present investigation, supported a conclusion that the combined influence of informal and formal social support effectively reduced parenting stress in mothers of children with autism. The lack of association between family support and maternal parenting stress in the present study could be accounted for by substantial changes at the family level which have occurred since the studies reviewed by Boyd were conducted. These changes include access to quality information across the internet which could reduce reliance on information from both formal and informal sources of support; the increasing therapeutic role accorded to parents of

children with an ASD which could reduce the need for professional services; and altered expectations of gendered parenting roles in the broader community which increase the opportunity for parents to share the parenting workload. This unexpected outcome highlights the importance of interpreting relationships between families, communities and services in a contemporary, client-centred context.

6.3 Implications for Theory and Practice

The negative outcomes associated with parenting stress are thought to be amplified when high levels of parenting stress are being experienced by both parents (Belsky & Crinic, 1995). High and similar levels of parenting stress experienced by parents of children with an ASD can therefore be expected to make a collective and additive contribution to the risk of negative child and parent outcomes. Findings from this investigation add weight to Mandell's (2010) call for the development of interventions to address parenting stress in families where there is a child with an ASD and demonstrate the importance of developing interventions that can address parenting stress in both mothers and fathers. The present study has found that coparenting quality could be an important component of interventions designed to address both maternal and paternal parenting stress in a single-intervention strategy.

Extant discourse concerning parenting stress in families where there is child with an ASD has focused on services such as education and support that tend to practice in dyadic paradigms and overlook the importance of the family's internal resources (see Hastings et al., 2005). This predisposition may have been encouraged by research demonstrating that parenting cohesion is often negatively influenced by children with challenging behaviours, a perspective that presents parenting relationships as more of a liability than a resource (McHale et al., 2004c). Paradigms of dyadic interaction and deficit-based approaches to family relationships run counter to an extensive literature on family-centred practice, which emphasises the importance of a family's informal networks of support (Dunst, 1985; Dunst, Johanson, Trivette, & Hamby, 1991,

Dempsey, 2009). However, the evaluation of services claiming to have incorporated family-centred practice into their service delivery has demonstrated the entrenched nature of dyadic practice because these services continued to focus on mother/child relationships and generally fail to engage with coparenting or other family relationships (Dunst et al., 1991; Peterson, Cohen, & Parsons, 2006). These paradigms of dyadic practice may inadvertently work to undermine coparenting partnerships by reinforcing maternal and paternal dyadic perspectives on parenting identity (Fox & Bruce, 2001; Spinnelli, Baglio, Donati, Grandolfo, & Osborn, 2004).

The present study has found that paradigms of practice that undermine coparenting relationships could be particularly limiting in families where there is a child with an ASD because of the strength of relationships between coparenting quality, parenting stress and parenting self-efficacy in these families. This investigation has also found that coparenting relationships could be particularly vulnerable to such influence around the time of the emergence and diagnosis of a child's ASD because this is a time when parents are reorganising their parenting roles and responsibilities. These findings should encourage researchers and service providers to be more attentive to the importance of coparenting relationships in families where there is a child with an ASD and to develop practices that integrate support for coparenting quality into early intervention. However, services can expect to encounter a high degree of difficulty if seeking to influence coparenting quality through direct engagement with both members of the parenting partnership (Mitchell et al., 2007). These outcomes support a recommendation for future research to explore a pragmatic approach to the support and enhancement of coparenting quality during early intervention which leverages maternal engagement and authority to positively influence coparenting quality.

The support and facilitation of coparenting quality will require alterations to current paradigms of practice which will depend on the cultural competence of those who either work within or plan services for parents of children with an ASD (Sawriker & Katz, 2008). Enhancing the competence of service providers in the support and facilitation of coparenting quality could have an enduring influence on models of practice and broader discourse concerning relationships

between family systems and service provision (Sarkadi, Kristiansson, Oberklaid, & Bremberg, 2008). The development and assessment of programs designed to enhance the competence of service providers in working effectively with coparenting partnerships should also be explored in future research.

6.4 LIMITATIONS OF THE STUDY

There are limitations to the present study that need to be considered in the interpretation of these conclusions and recommendations. Despite the power of the study's theoretical position, the strength of key correlations, predictions through regression and the goodness of fit achieved through SEM, the cross-sectional nature of the present study does not support the development of conclusions about causal relationships. It is also important to note that the triangulation of quantitative and qualitative outcomes does not add to the validity of either arm of the study but the process has added confidence to some of the study's outcomes. Findings from the present study will require validation from other similar studies and support from longitudinal data before conclusions concerning causal relationships can be developed.

The present study utilised the same tools (PAM and PSI) that had been employed in the generation of normative, non-clinical data in order to allow for a reasonable comparison between clinical and non-clinical data. This aspect of the study design placed limitations on the quality of the coparenting measure. Despite excellent psychometric properties, the PAM assesses only some aspects of the multi-variant model of coparenting whereas a more comprehensive measure of coparenting quality has recently been published by Feinberg et al. (2012). The use of a more comprehensive measure of coparenting quality would have contributed to the quality of some aspects of the study by enabling the analysis to delve into the specific arenas of coparenting quality that interact with parenting stress. Further research in this area will benefit from the use of more comprehensive coparenting measures.

The validity of the thematic analysis would have been enhanced by comparing the investigator's conclusions with those of other independent researchers. However, the exploratory nature of the analysis weighed heavily on the investigator's time and the nature of funding for this project determined that validation of qualitative data could not be achieved within the project's limited resources. The analysis strove to address this limitation by clearly describing the methodology, by articulating the preconceived positions of the researcher and by providing evidence to support all aspects of the enquiry's conclusions (Bryson, 2003; Tracey, 2010).

The final potential limitation concerns the representative nature of the sample and the ability to generalise these results to other populations. The response rate for the overall sample could not be determined but the initial response rate (26%) was reasonably strong for this type of research and the distribution of survey responses and demographic data indicated that the cohort was, within the context of the study, reasonably heterogeneous.

6.5 RECOMMENDATIONS FOR FUTURE RESEARCH

The outcomes of the present study support the implementation of a clinical trial to assess the influence of early intervention designed to support and enhance coparenting quality in families of children with an ASD have on parenting stress. Such a trial could utilise readily available knowledge from a coparenting intervention, such as Feinberg's Family Foundations, which has been applied in parents experiencing their initial transition to parenthood (NFI, 2013). However, the present study has concluded that interventions, such as family foundations, which require engagement between service provision and both partners in the parenting partnership, are unlikely to reach the majority of parents. An alternative approach could introduce practices into the current schedule of provider-client interactions which encourage and promote coparenting quality and work through the relationships that families already share with the services. Future research should aim to explore the feasibility of such potentially wide-ranging, pragmatic approaches to the support and facilitation of coparenting quality.

This study has concluded that coparenting interventions may be more successful if they occur around the time of the child's diagnosis, a time when families will not have developed strong relationships with autism services. The present study has found that many couples will already have high quality coparenting relationships which may benefit from support but are unlikely to be positively influenced by intervention. Research on the efficacy of coparenting intervention will therefore benefit from tools that can efficiently differentiate parents into those with higher or poorer quality partnerships. The concept of coparenting competence, which has emerged from the present study, could be applied to the development of alternative tools, based on previous self-efficacy measures that could efficiently and effectively assess coparenting quality in clinical practice.

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Appendices

Appendix 1 – Demographic Questionnaire

Research Ethics Approval # H-2010-1203

THE UNIVERSITY OF NEWCASTLE AUSTRALIA

Instructions

Either write the answer in the space provided or place a tick √ in the box that is most correct.

Please answer every question that you can. If you are unsure of the answer tick the response that is most correct.

Identifying Number (This number is inserted when the survey is returned)

When you have completed all of the surveys please return them in the prepaid envelope that has been provided

First Name (Parent completing survey)

Surname

Residential address

Street Number

Street Name

Suburb

Postcode

Mailing address if different from residential address

Street Number

Street Name

Suburb

Postcode

Other contact information

Email Address

Daytime phone number (to contact people participating in telephone interviews)

Alternative phone number

(In case your daytime number changes or you cannot be contacted on the daytime number)

Question 1

Parent Details		
Are you male or female?	Male ☐	Female ☐
What age did you turn on your last birthday?		
Do you currently live with your child/children & partner for more than half of the days of the year?	Yes ☐	No ☐

Research Ethics Approval # H-2010-1203

Question 2 (About all the children in your family)

Please provide information here on all of your children.
This also includes your child/n with ASD
Please write this information in the box next to the question.

Oldest child	
What age did the oldest child turn at last birthday	
Does this child have a diagnosed ASD? (Yes or No)	
Is this child a boy or a girl?	
Does this child live with you most of the time?	
2nd eldest child	
What age did the 2nd eldest child turn at last birthday	
Does this child have a diagnosed ASD? (Yes or No)	
Is this child a boy or a girl?	
Does this child live with you most of the time?	
3rd eldest child	
What age did the 3rd eldest child turn at last birthday	
Does this child have a diagnosed ASD? (Yes or No)	
Is this child a boy or a girl?	
Does this child live with you most of the time?	
4th eldest child	
What age did the 4th eldest child turn at last birthday	
Does this child have a diagnosed ASD? (Yes or No)	
Is this child a boy or a girl?	
Does this child live with you most of the time?	
5th eldest child	
What age did the 5th eldest child turn at last birthday	
Does this child have a diagnosed ASD? (Yes or No)	
Is this child a boy or a girl?	
Does this child live with you most of the time?	

(If you have more than 5 children please complete their detail on page X of the survey)

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Question 3 (About your child/n with ASD)

What is your relationship to the child/children in your family with ASD? Place a tick √ in the box beside the most correct answer (Mark one only)	Oldest child with ASD	2nd eldest child with ASD	3rd eldest child with ASD
	☐ Biological child	☐ Biological child	☐ Biological child
	☐ Adopted child	☐ Adopted child	☐ Adopted child
	☐ Step child	☐ Step child	☐ Step child
	☐ Foster child	☐ Foster child	☐ Foster child
	☐ Grandchild	☐ Grandchild	☐ Grandchild
	☐ Niece or nephew	☐ Niece or nephew	☐ Niece or nephew
	☐ Other relative	☐ Other relative	☐ Other relative
	☐ Unrelated	☐ Unrelated	☐ Unrelated

(If you have other children with an ASD could you please provide the information on a separate sheet and attach it to the survey.)

Question 4 (Combined annual salary)

Before income tax is taken out, what is the current **combined** yearly salary of you and your partner. Place a tick √ in the box beside the most correct answer (Mark one only)		
☐	Less than $30,000 per year	(Less than or equal to $577 per week)
☐	$30,001 to $50,000 per year	($578-$962 per week)
☐	$50,001 to $80,000 per year	($963 - $1538 per week)
☐	$80,000 to $120,000 per year	($1539 -$2308 per week)
☐	$120,000 to 150,000 per year	($2309 - $2884 per week)
☐	$150,000 or more	(More than $2885 per week)

Question 5 (Paid hours that you work)

How many hours per week are you involved in paid work. (This includes commuting time) Place a tick √ in the box beside the most correct answer (Mark one only)	
☐	Less than 20 hours
☐	20 to 30 hours
☐	30 to 40 hours
☐	40 to 45 hours
☐	45 to 50 hours
☐	50 to 55 hours
☐	55 to 60 hours
☐	More than 60 hours

Question 6 (About paid work you may be doing)

If you are in paid work. What was the occupation of the main job you held last week?	Write your answer here…
What are the main tasks that you usually perform in that occupation?	Write your answer here…

Question 7 (Overall prosperity)

Given your current needs, financial responsibilities and level of family debt. How would you say that you and your family are getting on? Place a tick √ in the box beside the most correct answer (Mark one only)		Prosperous
		Very comfortable
		Reasonably comfortable
		Just getting by
		Poor
		Very Poor

Question 8 (Years in education)

How many years have you spent in education? • This includes primary school, high school, apprenticeships, professional and other training. • **Do not include kindergarten &/or preschool.** Place a tick √ in the box beside the most correct answer (Mark one only)		Less than 6 years
		6-10 years
		10 -12 years
		12 -16 years
		16 – 20 years
		More than 20 years

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Question 9 (About your relationship with your partner)

How do you describe your relationship with your partner? Place a tick √ in the box beside the most correct answer (Mark one only)	☐	Married and living together
	☐	Not married and living together
	☐	Married and living separately
	☐	Separated
	☐	Divorced
	☐	Other
If other please describe	**Write your answer here**	

Question 10 (About your child's ASD)

What is your child's latest Autism Diagnostic Observation Schedule (ADOS) Score? (Write "don't know" if you do not know or are unsure)	Child # 1 ADOS Score ☐ Date of Score -------/--------/---------	Child # 2 ADOS Score ☐ Date of Score ------/--------/---------	Child # 3 ADOS Score ☐ Date of Score ------/--------/--------

If you have more than 3 children with ASD please provide this information on a separate sheet.

Question 10B (More about your child's ASD)

Can you please indicate whether you understand your child to have low or high functioning ASD Place a tick √ in the box beside the most correct answer	**Child # 1** **Low** ☐ **High** ☐	**Child # 2** **Low** ☐ **High** ☐	**Child # 3** **Low** ☐ **High** ☐

If you have more than 3 children with ASD please provide this information on a separate sheet.

Question 11 (About your personal mental health)

Before the birth of your child/n with ASD did you ever receive treatment from a psychiatrist for a mental health condition? Place a tick √ in the box beside the most correct answer (Mark one only)	Yes . ☐ Before the birth of my child with ASD I was treated by a psychiatrist for a mental health condition.
	No. ☐ Before the birth of my child with ASD I was **not** treated for a mental health condition by a psychiatrist.

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AUTHORISATION TO RELEASE MEDICAL INFORMATION

Note - This authorisation will only be used if the researchers require further information about the severity of your child's ASD (Questions 10 & 10b) from your education or health care professionals

THE UNIVERSITY OF NEWCASTLE AUSTRALIA

Today's Date: _____ Child's date of Birth: _____

Child's Name: _____

I, the undersigned, do hereby grant permission for Christopher May or Dr Richard Fletcher from the University of Newcastle to obtain information from the following health or education professionals in regard to their opinion in regard to the severity of the above named child's autism spectrum disorder.

Details of Education Provider who will be able to provide information on severity of ASD.

_____
(Name of person or institution the information will be coming from)

_____
(Address of person or institution the information will be coming from)

Details of Health Provider (Eg General Practitioner or Paediatrician) who will be able to provide information on severity of ASD.

_____
(Name of person or institution the information will be coming from)

_____
(Address of person or institution the information will be coming from)

I understand that this information will be used to support information that we have already provided for a PhD research project conducted through the School of Medicine and Public Health at the University of Newcastle NSW and will not be used for any other purpose.

This authorization will be valid for the period of twelve months from the above date.

I understand that I may revoke this consent at any time by sending a written notice to the above named health or education providers or by notifying the researchers by mail or email that consent has been withdrawn.

_____ _____ _____
Name of Parent 1 or Legal Guardian Signature Relationship to child

_____ _____ _____
Name of Parent 2 or Legal Guardian Signature Relationship to child

Note - Only one (1) release of information form is required for each child with ASD. **If you have more than 1 child with ASD please use the form from your partners questionnaire for the other child.**

Research Ethics Approval # H-2010-1203

This page if for parents who have more than 5 children.

6th eldest child	
What age did the 6th eldest child turn at last birthday	
Does this child have a diagnosed ASD? (Yes or No)	
Is this child a boy or a girl?	
Does this child live with you most of the time?	
7th eldest child	
What age did the 7th eldest child turn at last birthday	
Does this child have a diagnosed ASD? (Yes or No)	
Is this child a boy or a girl?	
Does this child live with you most of the time?	
8th eldest child	
What age did the 8th eldest child turn at last birthday	
Does this child have a diagnosed ASD? (Yes or No)	
Is this child a boy or a girl?	
Does this child live with you most of the time?	
9th eldest child	
What age did the 9th eldest child turn at last birthday	
Does this child have a diagnosed ASD? (Yes or No)	
Is this child a boy or a girl?	
Does this child live with you most of the time?	
10th eldest child	
What age did the 10th eldest child turn at last birthday	
Does this child have a diagnosed ASD? (Yes or No)	
Is this child a boy or a girl?	
Does this child live with you most of the time?	

If you have more than 10 children in your family please attach a page to your survey with their details.

APPENDIX 2 – PARENTING STRESS INDEX

Instructions:

The following questions should be answered using the PSI answer sheet.

There is no need for you to fill in your personal details on the top of the PSI answer sheet

The questionnaire contains 101 statements. Read each statement carefully. For each statement, please focus on the child you are most concerned about, and circle the response which best represents your opinion.

Circle the SA if you strongly agree with the statement.

Circle the A if you agree with the statement.

Circle the NS if you are not sure.

Circle the D if you disagree with the statement.

Circle the SD if you strongly disagree with the statement.

For example, if you sometimes enjoy going to the movies, you would circle A in response to the following statement.

I enjoy going to the movies. SA (A) NS D SD

While you may not find the response that exactly states your feelings, please circle the response that comes closest to describing how you feel. YOUR FIRST REACTION TO EACH QUESTION SHOULD BE YOUR ANSWER.

Circle only one response for each statement, and respond to all statements, DO NOT ERASE! If you need to change the answer, make an "X" through the incorrect answer and circle the correct response.

I enjoy going to the movies. SA A NS (D) SD

1. When my child wants something, my child usually keeps trying to get it.
2. My child is so active that it exhausts me.
3. My child appears disorganised and is easily distracted.
4. Compared to most, my child has more difficulty concentrating and paying attention.
5. My child will often stay occupied with a toy for more than 10 minutes.
6. My child wanders away much more than I expected.
7. My child is much more active than I expected.
8. My child squirms and kicks a great deal when being dressed or bathed.
9. My child can be easily distracted from wanting something.
10. My child rarely does things for me that make me feel good.
11. Most times I feel that my child likes me and wants to be close to me.
12. Sometimes I feel my child doesn't like me and doesn't want to be close to me.
13. My child smiles at me much more than I expected.
14. When I do things for my child, I get the feeling that my efforts are not appreciated very much.

For statement 15, choose a response choices 1 to 4 below.

15. Which statement best describes your child?
    1. Almost always likes to play with me.
    2. Sometimes likes to play with me.
    3. Usually likes to play with me.
    4. Almost never wants to play with me.

For statement 16, choose a response from choices 1 to 5 below.

16. My child cries and fusses:
    1. Much less than I expected.
    2. Less than I expected.
    3. About as much as I expected.
    4. Much more than I expected.
    5. It seems almost constant.

17. My child seems to cry or fuss more often than most children.
18. When playing, my child doesn't often giggle or laugh.
19. My child generally wakes up in a bad mood.
20. I feel that my child is very moody and easily upset.
21. My child looks a little different than I expected and it bothers me at times.
22. In some areas, my child seems to have forgotten past learnings and has gone back to doing things characteristic of younger children.
23. My child doesn't seem to learn as quickly as most children.
24. My child doesn't seem to smile as much as most children.

25. My child does a few things which bother me a great deal.
26. My child is not able to do as much as I expected.
27. My child does not like to be cuddled or touched very much.
28. When my child came home from hospital, I had doubtful feelings about my ability to handle being a parent.
29. Being a parent is harder than I thought it would be.
30. I feel capable and on top of things when I am caring for my child.
31. Compared to the average child, my child has a great deal of difficulty in getting used to changed in schedules or changes around the house.
32. My child reacts very strongly when something happens that my child doesn't like.
33. Leaving my child with a babysitter is usually a problem.
34. My child gets upset easily over the smallest thing.
35. My child easily notices and overreacts to loud sounds and bright lights.
36. My child's sleeping or eating schedule was much harder to establish than I expected.
37. My child usually avoids a new toy for a while before beginning to play with it.
38. It takes a long time and it is very hard for my child to get used to new things.
39. My child doesn't seem comfortable when meeting strangers.

For statement 40, chose from choices 1 to 4 below.

40. When upset, my child is:
    1. Easy to calm down.
    2. Harder to calm down than I expected.
    3. Very difficult to calm down.
    4. Nothing I do helps to calm my child.

For statement 41, choose from the choices 1 to 5 below.

41. I have found that getting my child to do something or stop doing something is:
    1. Much harder than I expected
    2. Somewhat harder than I expected
    3. About as hard as I expected
    4. Somewhat easier than I expected
    5. Much easier than I expected

For statement 42, choose from the choices 1 to 5 below.

42. Think carefully and count the number of things which our child does that bothers you. For example: dawdles, refuses to listen, overactive, cries, interrupts, fights, whines, etc. Please circle the number which includes the number of things that you counted.
    1. 1-3
    2. 4-5
    3. 6-7
    4. 8-9
    5. 10+

For statement 43, choose from the choices 1 to 5 below.

43. When my child cries it usually lasts.

    1. Less than 2 minutes
    2. 2-5 minutes
    3. 5-10 minutes
    4. 10-15 minutes
    5. More than 15 minutes

44. There are some things that my child does that really bother me a lot.
45. My child has had more health problems than I expected.
46. As my child has grown older and become more independent, I find myself more worried that my child will get hurt or into trouble.
47. My child turned out to be more of a problem than I had expected.
48. My child seems to be much harder to care for than most.
49. My child is always hanging on me.
50. My child makes more demands on me than most children.
51. I can't make decisions without help.
52. I have had many more problems raising children than I expected.
53. I enjoy being a parent.
54. I feel that I am successful most of the time when I try to get my child to do or not do something.
55. Since I brought my last child home from the hospital, I find that I am not able to take care of this child.
56. I often have the feeling that I cannot handle things very well.

For statement 57, choose from the choices 1 to 5 below.

57. When I think about myself as a parent I believe:

    1. I can handle anything that happens.
    2. I can handle most things pretty well.
    3. Sometimes I have doubts, but find that I handle most things without any problems.
    4. I have some doubts about being able to handle things.
    5. I don't think I handle things very well at all.

For statement 58, choose from the choices 1 to 5 below.

58. I feel that I am:

    1. A very good parent.
    2. A better than average parent.
    3. An average parent.
    4. A person who has some trouble being a parent.
    5. Not very good at being a parent.

For statement 59 and 60, choose from the choices 1 to 5 below.

59. What were the highest levels in school of college that you and the child's father/mother have completed?
    Mother

    1. 1st to 8th grade
    2. 9th to 12th grade
    3. Vocational of some college
    4. College graduate
    5. Graduate or professional school

60. **Father**
    1. 1st to 8th grade
    2. 9th to 12th grade
    3. Vocational of some college
    4. College graduate
    5. Graduate or professional school

For question 61, choose from the choices 1 to 5 below.

61. How easy is it for you to understand what your child wants or needs.

    1. Very easy
    2. Easy
    3. Somewhat difficult
    4. It is very hard
    5. I usually can't figure out what the problem is.

62. It takes a long time for parents to develop close, warm feeling for their children.
63. I expected to have closer and warmer feelings for my child than I do and this bothers me.
64. Sometimes my child does things that bother me just to be mean.
65. When I was young, I never felt comfortable holding or taking care of children.
66. My child knows I am his or her parent and want me more than other people.
67. The number of children that I have now is too many.
68. Most of my life is spent doing things for my child.
69. I find myself giving up more of my life to meet my children's needs than I ever expected.
70. I feel trapped by my responsibilities as a parent.
71. I often feel that my child's need control my life.
72. Since having this child, I feel that I am almost never able to do things that I like to do.
73. Since having a child, I feel that I am almost never able to do things that I like to do.
74. It is hard to find a place in our home where I can go to be by myself.
75. When I think about the kind of parent I am, I often feel guilty or bad about myself.
76. I am unhappy with the last purchase of clothing that I made for myself.
77. When my child misbehaves or fussed too much, I feel responsible, as if I didn't do something right.
78. I feel every time my child does something wrong, it is really my fault.

79. I often feel guilty about the way I feel toward my child.
80. There are quite a few things that bother me about my life.
81. I felt sadder and more depressed than I expected after leaving the hospital with my baby.
82. I wind up feeling guilty when I get angry at my child and this bothers me.
83. After my child had been home from the hospital for about a month, I noticed that I was feeling more sad and depressed than I had expected.
84. Since having my child, my spouse (or partner) had not given me as much help and support as I expected.
85. Having a child has caused more problems than I expected in my relationship with my spouse (or male/female friend).
86. Since having a child, my spouse (or partner) and I don't do as many things together.
87. Since having a child, my spouse (or partner) and I don't spend as much time together as a family as I had expected.
88. Since having my last child, I have had less interest in sex.
89. Having a child seems to have increased the number of problems we have with the in-laws and relatives.
90. Having children has been much more expensive than I had expected.
91. I feel alone and without friends.
92. When I go to a party, I usually expect not to enjoy myself.
93. I am not as interested in people as I used to be.
94. I often have the feeling that other people my own age don't particularly like my company.
95. When I run into a problem taking care of my children, I have a lot of people to whom I can talk to get help or advice.
96. Since having children, I have a lot fewer chances to see my friends and to make new friends.
97. During the past six months, I have been sicker than usual or have had more aches and pains than I normally do.
98. Physically, I feel good most of the time.
99. Having a child has caused changes in the way I sleep.
100. I don't enjoy things as I used to.

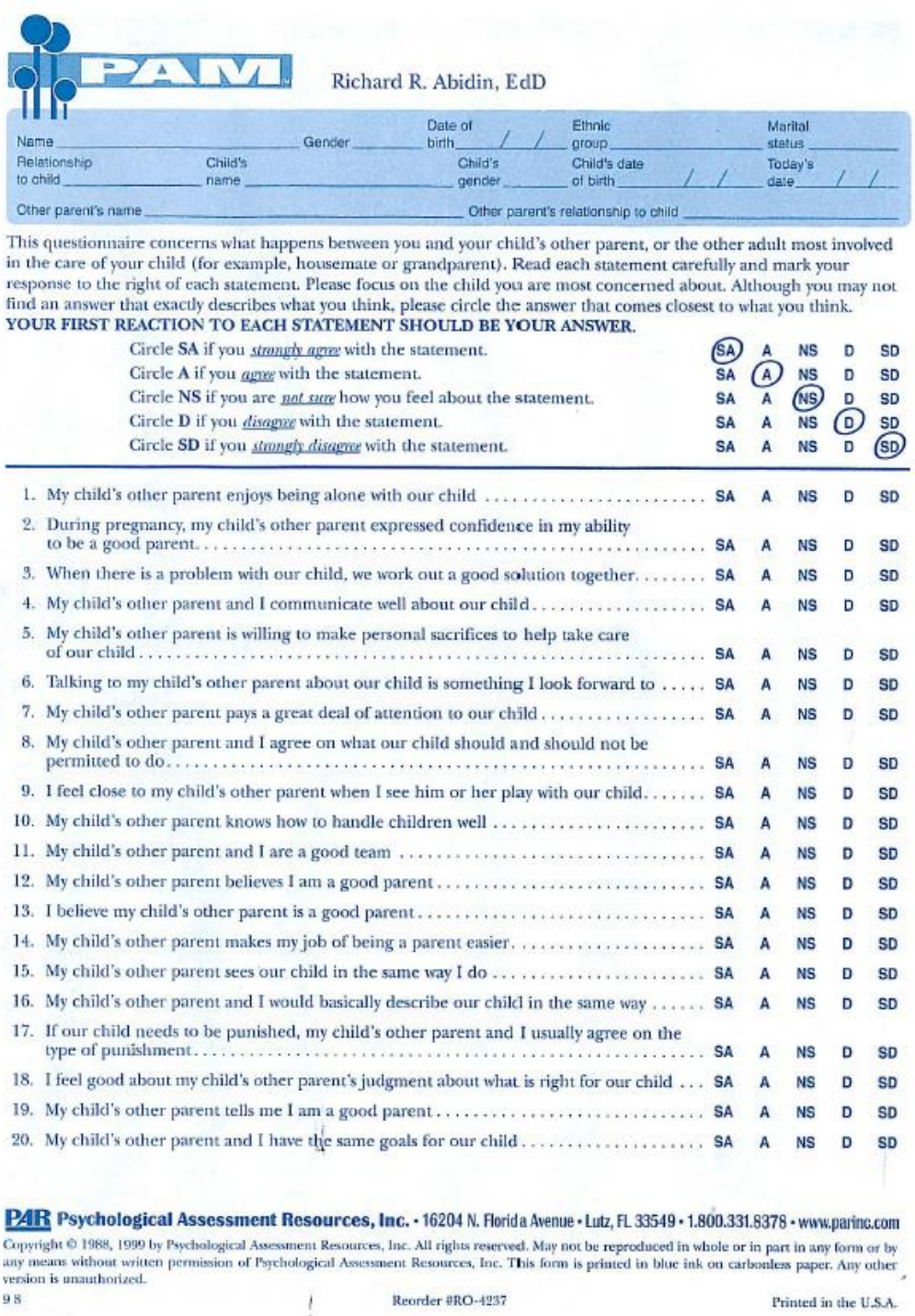
For statement 101, choose from the choices 1 to 4 below.

101. Since I've had my child

    1. I have been sick a great deal.
    2. I haven't felt as good.
    3. I haven't noticed any change in my health.
    4. I have been healthier.

THERE ARE NO QUESTIONS FOR ITEMS 102 -120. Please leave those items unmarked.

APPENDIX 3 – PARENTING ALLIANCE MEASURE



PAM

Richard R. Abidin, EdD

Name _____ Gender _____ Date of birth ___/___/___ Ethnic group _____ Marital status _____

Relationship to child _____ Child's name _____ Child's gender _____ Child's date of birth ___/___/___ Today's date ___/___/___

Other parent's name _____ Other parent's relationship to child _____

This questionnaire concerns what happens between you and your child's other parent, or the other adult most involved in the care of your child (for example, housemate or grandparent). Read each statement carefully and mark your response to the right of each statement. Please focus on the child you are most concerned about. Although you may not find an answer that exactly describes what you think, please circle the answer that comes closest to what you think.

YOUR FIRST REACTION TO EACH STATEMENT SHOULD BE YOUR ANSWER.

Circle **SA** if you *strongly agree* with the statement.	(SA)	A	NS	D	SD
Circle **A** if you *agree* with the statement.	SA	(A)	NS	D	SD
Circle **NS** if you are *not sure* how you feel about the statement.	SA	A	(NS)	D	SD
Circle **D** if you *disagree* with the statement.	SA	A	NS	(D)	SD
Circle **SD** if you *strongly disagree* with the statement.	SA	A	NS	D	(SD)

1. My child's other parent enjoys being alone with our child	SA	A	NS	D	SD
2. During pregnancy, my child's other parent expressed confidence in my ability to be a good parent	SA	A	NS	D	SD
3. When there is a problem with our child, we work out a good solution together	SA	A	NS	D	SD
4. My child's other parent and I communicate well about our child	SA	A	NS	D	SD
5. My child's other parent is willing to make personal sacrifices to help take care of our child	SA	A	NS	D	SD
6. Talking to my child's other parent about our child is something I look forward to	SA	A	NS	D	SD
7. My child's other parent pays a great deal of attention to our child	SA	A	NS	D	SD
8. My child's other parent and I agree on what our child should and should not be permitted to do	SA	A	NS	D	SD
9. I feel close to my child's other parent when I see him or her play with our child	SA	A	NS	D	SD
10. My child's other parent knows how to handle children well	SA	A	NS	D	SD
11. My child's other parent and I are a good team	SA	A	NS	D	SD
12. My child's other parent believes I am a good parent	SA	A	NS	D	SD
13. I believe my child's other parent is a good parent	SA	A	NS	D	SD
14. My child's other parent makes my job of being a parent easier	SA	A	NS	D	SD
15. My child's other parent sees our child in the same way I do	SA	A	NS	D	SD
16. My child's other parent and I would basically describe our child in the same way	SA	A	NS	D	SD
17. If our child needs to be punished, my child's other parent and I usually agree on the type of punishment	SA	A	NS	D	SD
18. I feel good about my child's other parent's judgment about what is right for our child	SA	A	NS	D	SD
19. My child's other parent tells me I am a good parent	SA	A	NS	D	SD
20. My child's other parent and I have the same goals for our child	SA	A	NS	D	SD

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APPENDIX 4 – AUTISM

PARENTING QUESTIONNAIRE

For the next 25 questions please place a tick (√) in the box which best describes how you understand or do things with your child with ASD or how having a child with ASD has impacted on your family life.

		Not true at all	Seldom true	Just a little true	Quite a bit true	Very much true	Definitely true
		1	2	3	4	5	6
1	I understand ways in which my child experiences the world differently from children without autism.						
2	I understand how autism influences my child's learning.						
3	I have a good understanding of why my child communicates the way the way he/she does.						
4	I can reflect on how I communicate with my child and change this accordingly.						
5	I warn my child before introducing something new.						
6	I match my language to a level my child understands.						
7	I wait until my child responds before I say something else.						
8	I use my facial expression and body language to encourage my child to take turns.						
9	I know some games that I can play with my child that will teach him/her to take turns.						
10	When I play with my child I make sure that he/she pays attention to our game or activity.						
11	There are some games my child enjoys playing with me.						
12	I structure daily activities to minimise problem behaviour.						
13	When my child has a tantrum I have a number of effective strategies.						
14	I am able to change my child's behaviour by the way I react to it.						
15	Looking at the triggers and results of my child's behaviour is helpful in managing him/her.						
16	My child with autism dominates my life.						
17	I feel trapped by the long-term responsibility of having a child with autism.						
18	I desperately need more help with parenting my child with autism						
19	My child with autism dominated my family life.						
20	I feel confident that things will improve as I learn more about how to deal with my child.						
21	I believe that I have some control over the future outcomes for my child.						
22	I feel I can improve my child's condition and future prospects.						
23	My family functions well as a unit.						
24	The needs of other family members are met most of the time.						
25	Most of the time our household runs fairly smoothly.						

APPENDIX 5 – FAMILY SUPPORT SCALE

The following questions list people and groups that are often helpful to members of a family raising a young child

Please choose the number that best describes how helpful these people have been to your family in the past 3 to 6 months.

If a source of help has not been available in the last 3 to 6 months tick the (0) not available response.

Place a tick √ in the box that best describes your preferred response.

		0 Not Available	1 Not at All Helpful	2 Sometimes Helpful	3 Generally Helpful	4 Very Helpful	5 Extremely Helpful
1	Your parents.						
2	Your spouse or partner's parents.						
3	Your relatives. (other than parents)						
4	Your spouse or partner's relatives. (other than parents)						
5	Your spouse or partner						
6	Your friends						
7	Your spouse or partner's friends						
8	Your own children						
9	Other parents						
10	Co-workers						
11	Parents groups						
12	Social groups/clubs						
13	Church members/clergy						
14	Your family or child's doctor						
15	Early childhood programmes						
16	School, preschool or day care centre						
17	Professional helpers (social workers, therapists, nurses, teachers etc)						
18	Professional agencies (Public health, social services, mental health etc)						

APPENDIX 6 – WHAT IS A FATHER? QUESTIONNAIRE

The following questions ask about your perceptions of the father's role. Please tick (√) the extent to which you agree or disagree with each of the following statements.

	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
1. Fathers should spend more time interacting with their children and less time at work.					
2. Fathers play a central role in the child's personality development.					
3. Fathers should be the disciplinarians in the family.					
4. The father's role is to provide for his family, not babysit the children.					
5. A father should be as heavily involved in the direct care of his child (e.g., feeding, dressing) as the mother.					
6. The responsibilities of fatherhood never overshadow the joys.					
7. Fathers and mothers should spend an equal amount of time with their children.					
8. Fathers have a special responsibility to make sure their children feel safe and protected.					
9. It is as important for a father to meet a child's emotional needs (e.g., love, security) as it is for the mother to do so.					
10. The most important thing a man can invest time and energy into is his family.					
11. Fathers are just as sensitive in caring for children as mothers are.					
12. A special part of the father's role is to give children moral and ethical guidance.					
13. The way a father treats his child has important life-long effects.					
14. Taking care of his children financially is the best way for a father to show he cares about them.					
15. Fatherhood is a highly rewarding experience.					

APPENDIX 7 – INSTRUCTIONS TO ACCOMPANY QUESTIONNAIRES

Human Ethics Approval # H-2010-1203

THE UNIVERSITY OF NEWCASTLE AUSTRALIA

Instructions for completing questionnaires.

Exploring parenting stress in families of children with Autism Spectrum Disorders (ASD).

Thank you for agreeing to participate in this survey. Your support is appreciated and it has the potential to help other families.

It is important for you to read the questions carefully.

Try to answer all of the questions but you should not dwell on them for too long. Often the first response that comes to mind is the best one.

If you become distressed or upset by any questions you can simply bypass that question. If your distress persists then you should stop completing the survey and return it incomplete. We also recommend that you seek professional support through your local health services or you could contact Lifeline on Ph: 13 1114.

For more information on local counselling services see page 4 of the project information letter.

Please Note

Different parts of the questionnaire have slightly different instructions. Make sure that you read these before completing each section.

It is important for the study that both parents complete the questionnaires. Please encourage your partner to participate.

If you have any questions about completing the survey you can contact;

Richard.Fletcher@newcastle.edu.au Tel: 4921 6401

Chris.May@newcastle.edu.au Tel: 4921 7224

APPENDIX 8 – INFORMATION STATEMENT FOR PARENTS

Exploring parenting stress in families of children with Autism Spectrum Disorders.

FACULTY OF HEALTH
SCHOOL OF MEDICINE AND PUBLIC HEALTH
Family Action Centre

Dr Richard Fletcher
Principal Research supervisor
Family Action Centre
University of Newcastle
Callaghan 2308
Richard.Fletcher@newcastle.edu.au
Ph: (02) 4921 6401

Associate Professor Ian Dempsey
Research supervisor

Professor Louise Newman
Research supervisor

Chris May
PhD Student
Chris.May@newcastle.edu.au
Ph: (02) 4921 7224
Fax: (02) 4921 8699

Exploring parenting stress in families of children with Autism Spectrum Disorders (ASD).

This research aims to gain a better understanding of the factors that contribute to and protect families of children with ASD from the stresses associated with parenting. This is a PhD research project being undertaken by Mr Christopher May from the School of Medicine and Public Health and the University of Newcastle which is being supervised by Dr Richard Fletcher, Professor Louise Newman and Associate Professor Ian Dempsey.

There are 2 parts to the research. Part 1 is a package of questionnaires which you can complete at home and part 2 is a telephone interview which will only be requested from a small number of participants.

Autism Spectrum Australia (ASPECT) is supportive of this research and has sent this information letter and questionnaire package to you on our behalf. The researchers have no information on who is receiving these invitations and receiving the invitation places you under no obligation to participate.

The questionnaires in this package will take approximately 1 hour to complete. The questionnaires will ask you questions about your personal health, your family structure, your child's ASD and about how parenting works in your family.

During Stage 2 of the research approximately 10% of those completing the questionnaires will be asked to participate in a telephone interview. The telephone interviews often give information that is not apparent in the responses to questionnaires and will therefore aim to provide a deeper exploration of the questions asked in the questionnaires. You can nominate your willingness to participate in the telephone interviews on the consent form in the attached documents.

Why is the research being done?

This research is being done to gain a greater understanding of the factors that contribute to and protect against parenting stress. The results will help families, clinicians and researchers to understand more about parenting stress and the factors that might help to reduce parenting stress in the families of children with an ASD.

Who can participate in the research?

Parents of children with ASD who are the biological parents of the child and are still living together can participate in the research. The parents must have turned at least 18 years of age.

What choice do you have?

Participation in this research is entirely your choice. Only those people who give their informed consent will be included in the project. Whether or not you decide to participate, your decision will not disadvantage you in any way. The staff of ASPECT will not be informed about who decides to participate in the research. Your decision to participate or not has no bearing on your relationship with ASPECT or ASPECT staff.

What would you be asked to do?

If you agree to participate you will be asked to do the following

1. Complete and return, in prepaid and addressed envelopes, a package of questionnaires and consent forms. We will accept your completion and return of the questionnaires as implied consent for your participation in the questionnaire component of the research.

2. Some respondents will also be asked to participate in a telephone interview which will be conducted at a later date. The interview will take approximately 60 minutes. The phone interview will be recorded and then transcribed into a document by a professional transcribing service. You can nominate your willingness to participate in the interview on a form located in the questionnaire. If you participate in a phone interview you will be given the opportunity to review, edit, or erase the audio recording and transcript to which you have contributed.

3. In some cases we may need to contact your health or education professionals to get another opinion on whether your child has a low or high functioning ASD. You will also be asked to complete an Authorisation to Release Medical Information Form which the researchers can present to your education or health professionals if it is required. You will find this form in the questionnaires.

4. You will also be asked if you would be interested in participating in a follow-up study. Depending on resources and participants a long term study could use the original data from this study and new data collected at the time to provide an understanding of parenting stress in families of children with autism over the longer term.

How much time will it take?

Completing the questionnaires will take about 1 hour.

The telephone interview (for a small number of participants) will also take about 1 hour.

Risks and benefits

As a way of compensating you for your participation in this research each parent is being offered the opportunity to win a $100.00 shopping voucher each time you participate.

Four vouchers for those who completed surveys will be drawn on 28th April 2011.

A fifth voucher for those participating in interviews will be drawn on 30th August 2011.

The shopping vouchers can be redeemed at a shopping centre in your area.

You will not otherwise benefit directly from this project but you may benefit through the knowledge that therapists & service providers gain from being exposed to the results of the research.

You may also to gain satisfaction from the opportunity to contribute to research which has the potential to improve outcomes for other families who, in the future, will experience similar challenges to yourself.

Some of the questions may be confronting for some people. Remember that you can withdraw from the project at any time. If you do become distressed during completion of the questionnaires then you should consider ceasing your responses and contacting an appropriate support service. For a list of these services see page 4 of this information letter.

How will your privacy be protected?

All information you give to us will be stored securely for 5 years at the University of Newcastle and only accessed by members of the research team. The information will then be destroyed.

If you participate in the phone interviews you will have the opportunity to review, edit, or erase the audio recording and transcript to which you have contributed. There will be nothing in the interview transcripts that will identify you personally. There is a remote possibility that somebody who knows you will be able to identify you by what you have said or the way that you say it however, no names or identifying information will be used when reporting the outcomes of the study. Any information you give us will remain confidential to the research team at all times.

Upon receipt of the returned questionnaires all consent forms and other identifying information will be labelled with an identifier and then it will be detached from the questionnaires and stored separately.

How will the information collected be used?

The returned questionnaires will be assigned identifying numbers and then entered into a database and analysed. The recording and notes taken during the telephone interviews will be analysed to identify themes and key concepts related to the project. The results will be will be presented in a PhD dissertation, presented at relevant conferences and submitted for publication in scientific journals.

You will not be identified in any reports arising from this project. You will be offered a summary of the results.

What do I do now?

Please complete the consent forms and questionnaires and return them to Chris May in the supplied reply-paid envelope. Not all parents will be asked to participate in the interviews but please complete the consent form and return it with the questionnaires in case you are selected. Alternatively, you may contact Richard Fletcher or Chris May by telephone or email.

How can you obtain information on the outcomes of the research?

If you wish to receive a summary of the results of the research please complete research results section on the consent form and provide your contact details. You can also contact the researchers at a later date if you change your mind.

Contact Information

If you would like further information or clarification please contact Chris May (see details on page 1)

Yours sincerely

Dr Richard Fletcher
Principal Supervisor

Professor Louise Newman
Supervisor

Associate Professor Ian Dempsey
Supervisor

Chris May
PhD research student

Complaints about this research
This project has been approved by the University's Human Research Ethics Committee, [Approval No. H-2010-1203]

Should you have concerns about your rights as a participant in this research, or you have a complaint about the manner in which the research is conducted, it may be given to the researcher, or, if an independent person is preferred, to the Human Research Ethics Officer, Research Office, The Chancellery, The University of Newcastle, University Drive, Callaghan NSW 2308, Australia, Tel: (02) 49216333, email Human-Ethics@newcastle.edu.au.

NEWCASTLE BASED COUNSELLING SERVICES

Unitingcare Unifam Counselling & Mediation Service

http://www.unifamcounselling.org
Level 3, 19 Bolton St
Newcastle NSW, 2300
Ph: (02) 4925 6000

22 Smith St
Charlestown NSW 2290
Ph: (02) 4943 9186

Interrelate Family Centres

161 Lambton Rd
Broadmeadow NSW 2292
Ph: (02) 4957 8888

Centacare

198 Lawson St
Hamilton NSW
Ph: (02) 49791172

Relationships Australia
http://www.relationships.com.au

Ph: 1300 364 277
Mobile:(02) 9418 8725

Relationships Australia New South Wales
87 Denison St Hamilton NSW 2303
Ph: (02) 4969 3977

Lifeline (Local call cost only)

Ph: 13 1114

Or contact your local GP or Community Health Centre

APPENDIX 9 – PHONE INTERVIEW SCHEDULE

Appendix I: Interview Schedule – Version 4 – March 2011

The Importance of coparenting quality when parenting a child with an Autism Spectrum Disorder: A mixed method investigation.

Good (morning / afternoon / evening), My name is (insert name of interviewer) from the Family Action Centre at the University of Newcastle and I am following up on the questionnaires that you answered earlier in 2010 about parenting a child with autism*.

As part of your responses to the questionnaire you consented to being contacted about participating in a telephone interview and you suggested that this would be a reasonable time to call.

Are you available to talk now?

Yes - Continue
No - Make a new appointment

Do you still agree to be interviewed about your parenting experiences?

Yes – Continue
No – Thank them for participation and conclude.

It would be best if we could talk to you privately so that others, including your children and partner, cannot overhear your conversation and so that you can concentrate on the questions. Do you need to move rooms before the interview starts so that you can have some privacy?

It is important to remember that taking part is voluntary and completely up to you. You can decide not to answer a particular question or opt out of the interview at any time.

This interview will take about 60 minutes depending on your experience and what you want to tell us. Are you happy for me to record the conversation?

No - Do not turn on tape recorder and take notes instead including Name of Interviewer, time, date and participant ID.

Yes - (Turn on recorder) **Thank you. I am now recording the interview. (State - Name of Interviewer, time, date and participant ID.)**

The information that you provide today is confidential and all information taken from this interview will be de-identified so that nobody reading any publications or hearing presentations about the research will be given information to help them identify who was speaking.

The interview recording will later be typed up and at the end of the interview I will ask if you would like me to send you a copy of the transcript.

1. **Can we start by checking some of the information that I have on your family.**

Appendix I: Interview Schedule – Version 4 – March 2011

The Importance of coparenting quality when parenting a child with an Autism Spectrum Disorder: A mixed method investigation.

1.1. How many children do you have?
1.2. How many of them have autism?
1.3. What is/are the name/names of your child/n with autism?

2. **Has having a child with autism changed your parenting expectations?**

   Probes
   - **How did that help you?**
   - **Have you had to change your plans about (/ the way that) how to parent?**
   - **I noticed that you said "----", can you tell me what you meant by that?**

3. **What do you think has been most helpful for you in parenting (name of child/n)**

   Probes
   - **Can you talk about the people who have been most helpful to you in parenting (name of child/n)?**

4. **Parenting is usually stressful. Can you talk about what it has been like for you to be a parent of (name of child/n)?**

5. **What do you remember as being important in helping or enabling you to manage the stresses associated with parenting (name of child/n)?**

   Probes
   - **What about your internal/external supports and strengths.**
   - **I noticed that you said "----", can you tell me what you meant by that?**
   - **Can you tell me a bit more about how other people have helped you to manage these stresses?**

6. **(Check-in) – I just need to check with you that the interview is going OK for you and that you are happy to continue.**

   - **Yes – Continue interview.**
   - **No – Enquire if interview could be concluded at another time or if the participant wishes to terminate the interview process altogether.**

7. **Now I want to talk to you about your partner. What name should I use for him/her?**

8. **Can you talk about your partners parenting?**

   - **How could you describe your partner's parenting?**

9. **What do you think are your partner's strengths as a parent?**

10. Are there important areas in which your partner could or should improve his/her parenting?

- **Do you think he/she should change the way he/she parents?**

11. Can you talk about what happens when you disagree with each other about parenting (name of child/n)?

Probe

- **I noticed that you said "----", can you tell me what you meant by that?**

12. How important has your parenting relationship with (partner's name) been in helping you to cope with a child with ASD?

Probe

- **How do you think it would be different if your parenting relationship was different?**

13. How important is your parenting relationship with (partner's name) likely to be in determining (XXXX) progress?

14. How do you keep your parenting relationship working?

15. Has anybody has ever talked to you about parenting teamwork in relation to parenting a child with ASD?

16. Having had your experiences, what advice would you give to somebody who has just begun to understand that their child has autism?

Probes

- **Please assume that this person is actively seeking your advice.**
- **What would you advise them to talk about with their partner?**

17. My final question is to ask if there is anything else that you would like to tell me about your experience of parenting a child with autism.

18. Would you like a copy of the transcript of this interview so that you can check it for anything that you may wish to change?

19. On behalf of the University of Newcastle and the Family Action Centre at the university I would like to thank-you for your time and effort in supporting this research. (Goodbye, Goodnight, etc).

APPENDIX 10 – PARENT CONSENT FORM

Human Ethic Approval # H-2010-1203

THE UNIVERSITY OF NEWCASTLE AUSTRALIA

Parent Consent Form

Exploring parenting stress in families of children with Autism Spectrum Disorders (ASD).

I have read the Parent Information Statement in regards to the purpose of the research and the request for participants to respond to questionnaires.

I understand that by completing this consent form I am agreeing to the following

1. I understand that the project will be conducted as described in the Parent Information Statement, which I have kept a copy of for future reference.
2. I have had the opportunity to have questions answered to my satisfaction.
3. I am consenting to be contacted and asked to participate in a telephone interview.
4. I am consenting to have my name placed in the draw for a voucher.
5. I am consenting to have the information I have supplied included in a longitudinal (follow-up) study on this project.
   (Place a tick in the box that is correct for you) Yes ☐ No ☐
6. I am consenting to be contacted in the future and invited to participate in follow-up research on this project.
   (Place a tick in the box that is correct for you) Yes ☐ No ☐
7. I may choose to withdraw from the study, or withdraw my consent for any part of the study, at any time and I do not need to explain my decision.
8. I understand that the findings of this research may be published in a PhD dissertation, scientific journal articles or presented at conferences and that the findings will be presented in a way that does not identify participants.

Name	
Signature	Date

Please note that due to the nature of this research both partners are required to sign a consent form.

I would like a copy of the summary of the research results emailed or posted to me at the conclusion of the research project. ☐ **No** ☐ **Yes**

If you would like a summary of the research results please provide email address or postal address below.

Email address .....

(OR Postal address)

Street Address .....

Town/Suburb ..... Post Code.....

Please return this form with the questionnaires in the reply paid envelope or you may contact the researchers (below) if you have any questions or concerns about the research or completing this consent form.

Richard.Fletcher@newcastle.edu.au Tel: 4921 6401 or Chris.May@newcastle.edu.au Tel: 4921 7224

NEWCASTLE | CENTRAL COAST | PORT MACQUARIE | SINGAPORE

The University of Newcastle Callaghan NSW 2308 Australia
enquirycentre@newcastle.edu.au CRICOS Provider Number: 00109J
T +61 2 4921 5000 www.newcastle.edu.au

Appendix 11 - Reminder Letter

Exploring parenting stress in families of children with Autism Spectrum Disorders.

FACULTY OF HEALTH
SCHOOL OF MEDICINE AND PUBLIC HEALTH
Family Action Centre

Dr Richard Fletcher
Principal Research supervisor
Family Action Centre
University of Newcastle
Callaghan 2308
Richard.Fletcher@newcastle.edu.au
Ph: (02) 4921 6401

Associate Professor Ian Dempsey
Research supervisor

Professor Louise Newman
Research supervisor

Chris May
PhD Student
Chris.May@newcastle.edu.au
Ph: (02) 4921 7224
Fax: (02) 4921 8699

Dear Mum and Dad

This letter is to remind you about the surveys that were sent out to you a couple of weeks ago. We are writing to remind you about the surveys because we understand how busy you are likely to be and that you may have forgotten to return them.

The information that you can provide is important. If you are interested in participating then this is a reminder to complete and return the surveys so that we can include your information in the research.

If you have already completed and returned the surveys then we would like to take this opportunity to thank you for your contribution.

This is the first and last reminder that you will receive.

If you would like further information or clarification please contact Chris May.

Yours Sincerely

Dr Richard Fletcher
Principal Supervisor

ProfessorLouise Newman
Supervisor

Associate Professor Ian Dempsey
Supervisor

Chris May
PhD research student

Appendix 12 – Counselling Services in Other Areas

Appendix N – List of counselling services - Version 1 June - 2010

The influence of the coparenting alliance and the role of the father on parenting stress in families where a child has an Autistic Spectrum Disorder.

NSW CENTRAL COAST BASED COUNSELLING SERVICES

Unitingcare Counselling

Level 2, 15 Watt Street, Gosford, 2250

Tel: 43259600

Website: http://www.unifamcounselling.org

Interrrelate Family Centres

213 Central coast Highway
Erina

Tel: 4363 8000

Website: http://www.interrelate.org.au/

Centacare

20 Watt Street
Gosford
NSW 2250

Tel: 4324 6403

Website: http://catholicsocialservices.org.au/

Relationships Australia

Tel: Local Call 1300 364 277

Website: http://www.relationships.com.au/

Lifeline

Ph: 13 11 14

Or contact your local GP or Community Health Centre

Appendix 13 - Example Transcription of Paternal Interview F6

Interview Transcript – Father 6 – C May

Peter. (Note that there will be some of the interview omitted because it was either discussion about clarification of questions or other discussion that was not important for the research

1. Has having a child with autism changed your parenting expectations?

- Expectations? Certainly changed my experience so I would say expectations, absolutely.

So has that changed your plans about you parent?

- Absolutely.

Can you tell me a bit more about that?

- I am a better dad with my daughter since Steven has been diagnosed. 100% better. I am better with Steven because if forces you to break things down into steps. To help Joe you have to break things you do down into steps and this flows on as a technique into other things that you do both with my wife (Jane), with myself and with my daughter.
- So Jane is a better natural parent than I am. Always has been. But I have probably grown more with the experience of Js diagnosis than Jane because she was good to start with.
- So I have paid more attention and listened more to Jane because of Steven & because of that need to break things down into step by step to form the routine needed to help Steven
- From that point it made me really good. Now there is a lot of people that I see who go to the clubs at night and all those sort of things. I don't do that. I find that I get a great deal of enjoyment out of my family to be honest.
- For example, I now to get my daughter to talk to me I do things with her that she likes and use that as a platform to get her to answer the questions about how her day was and things like that. Whether I run with her or take her to self defence classes or I find there is no point in banging on and asking her questions. It needs to be when she is relaxed and she is then more ready to open up. They are skills I have learnt because of Steven. It wasn't like that before.

I think you have said that it has made you respect L's parenting more.

- Oh absolutely. She has got a lot of skills. She has been a teacher all of her adult like. She ad not other career. Her innate ability to read a situation and understand with empathy what is required. To step back, or intervene, or you know record it for later use in context. That kind of capacity to read and analyse situations is something you can't… it is not switched on instantly. She has that gift, I don't and I learn a lot from observing her. She has got enormous skills and I still struggle with it Chris, I am still learning constantly.

2. What do you think has been most helpful for you in parenting J?

- Getting a lot of things right. Getting one thing right was never enough and never will be enough. You've gotto get a lot of things right. Jane and I have both immersed ourselves in getting information by reading, getting linked up with associations and organisations, talked to one another a lot more, Just in general rely on other and realise that it cant be just be done ourselves. You know we just cannot throw ourselves into something and do it all ourselves.
- We learnt pretty much in a year that this is going to be a lifelong things and we just have to get into it and get on top of it as best we can. And not be too hard on ourselves. So from that perspective we haves slowly immersed ourselves in getting more information, seeking more information and applying it in a way that we feel comfortable using it with Steven.
- Lots of things we don't use and never will but other things we do, and we use it constantly because we have sort out that information and tried to distil it through our own filter and that's… not every parent does that, I've seen a lot of parents who don't. whether its right for other parents or not it doesn't really matter for me, its more about what works for us.
- We have resigned ourselves that this is a long term thing and that we need to get our act together.
- It is a struggle but we are a lot better armed because we do seek out these things and we've got associated with authoritative sources and not fringe sources.
- We are associated at local level with a mainstream support group.
- We are supported by ASPECT which is the largest evidence based service provider in NSW and we've been to Tony Attwood seminars and subscribe to the mainstream people like Simon Baron-Cohen and things like that.
- So we follow what going on and take up the mainstream bits. We fit together many pieces so that it works. You've got to have many things right that includes our peace of mind, how we are in our headspace, how we get on together, how the rest of our life has to work, how we still spend time with our daughter and give her QT time.
- We also have to be ambitious for Steven and encourage his independence, We have to do a lot of these things and we accept that and we are a lot less stressed now than when we started.
- The second year of ding this was the hardest, well it certainly was for me, cause it was after that time when you realise it is a life time things and you just go "Oh this is a lot of work" as the same time as that was happening Steven went through that period where he was not sleeping well and all sorts of things were happening so we were being tortured physically so from that point of view we are in a better space now. Having said that it's still very hard, its very hard work because the need is to keep many things happening right. So there is a lot of pressure. Jane and I put a lot of pressure on each other to keep it up. So there is a lot of pressure from that point of view.

3. Can you talk about the people who have been most helpful to you in parenting Joe?

- L's mother firstly. Not because she knows anything about autism. It is because she is a very compassionate woman. She drove us around doing things, she supported my move to work from home. She supported us when we went to early intervention with Steven and when it couldn't be done she would take Steven. So having that family support has been very important.
- Now that has waned a bit as we have taken up more of the slack ourselves.
- She encouraged us at every point. No one else in the family could accept that Steven was special and needed help. I think the reason why is that one of L's brothers at J's age had the same symptoms except he was high functioning. So she now looks back at that time when he was young and sees how he missed out because he wasn't given early intervention. Her personal experience with L's brother formed her views which now have exposed themselves in the way that she's responded to our calls for help. She has been very supportive. I put her at number 1.
- I put Jane at # 2. She has driven me and supported me when I have gotten compassionate about wanting to do things.
- In terms of people outside from our immediate family no one else has really been supportive really. The say they understand but they don't really engage and help. So it's part of that alienation thing. It is not really an overt thing it's just the way it evolves.
- But outside of the family. ASPECT have been tremendous because they have provided us with early intervention and schooling for Steven. Getting in contact with them opens up information flow that has upskilled us, as much as it has helped J, it's upskilled us massively by getting us to focus on qualitative, authoritative, evidence based sources of information. So that has helped us.
- Also talked about Attwood seminars and APAC conference which "reinforced evidence based stuff, not just fringe stuff"
- Immediately after that I hooked up with a local support group. Run by a number of mums with kids a similar age to Steven. I have found, because I work from home, I found that it helped me to remain focussed and get a bit of socialisation out of that as well. I have found that a Godsend.

4. **Parenting is usually stressful. Can you talk about what it has been like for you to be a parent of J?**

- I'm probably predisposed to be anxious anyway. If autism is genetic and you are predisposed genetically to get it but an environmental trigger sets it off in you then I can see in myself a number of characteristics that are subclinical which Joe would elicit. So from that point of view if I had high anxiety it would make sense. Form my entire life I have been like that. I just have always been like that and I'm used to it. Whether having Steven made my more anxious I don't know. There is more reason to be anxious certainly but would I have been anxious anyway that is the question. I find that a difficult question to answer anyway because yes I have been anxious but that is just the way my life is. In my case it hasn't manifested itself in depression or drug abuse or that sort of stuff but I definitely feel anxious.

5. **What do you remember as being important in helping or enabling you to manage the stresses associated with parenting J**

    - Always has been and I ramped it up considerably with Steven is physical exercise. The need to have my time physical exercise. Jane has her time in the morning and does that now with E so she engages E to do that with her.
    - Up until 2 months ago I rode my bike every day. I pushbike every day. I make the time to have a workout in the Gym once a week and I run basically. Now my bikes on the fritz I'm just running and going to the gym basically.
    - L and I deliberately force time so that each of us can have time when it suits so that we can get that time to have a physical outlet. We both respond much…You can tell when we have had a couple of days without that physical exercise (laughs). It really presents so …
    - We haven't had a holiday since Steven was diagnosed. I know a number of people who will go away for holiday but we just haven't had a holiday. That is part us and also part Steven and how we react to Steven but the extra stress of having a holiday with Steven isn't worth it. So from that perspective we cause extra stress on ourselves.
    - In the context of having lived with this higher anxiety person throughout my life I have always been attracted to physical exercise and some of that has rubbed off on Jane. She never really was earlier on but she certainly is now. She has been even more so since Steven. We make time for it. It is a priority.

6. **(Check-in) – I just need to check with you that the interview is going OK for you and that you are happy to continue.**

    - Yes – I only have to go to work when I finish so carry on.

7. **Now I want to talk to you about your partner. Can you talk about your L's parenting?**

    - Essential and fantastic. If Jane wasn't here and I had to do it myself I would be constantly thinking how would Jane do this? That would be my first thought because she doesn't get it right all the time sometimes it takes a little bit of time, a pause to click in. When it clicks in her analysis is pretty much always right. (I rely heavily on her parenting and her style, it's innate, she just seems to be able to do. I don't know if she's just got a high empathy level or what it is. She's just has a skill at reading a situation well with children and knowing what to do and I cant list it down in 4 point form what it is she does but getting down at their level, putting yourself in their perspective, giving them extra time just to see what happens, only intervening when its really necessary. That kind of stuff (laughs) when doing it yourself you don't really rationalise it like that, but she just does in innately and I really heavily admire her even now very much so and I'm learning constantly from what she does as Joe grows and the challenges change and as our daughter grows her challenges change so we have some interesting conversations.

- Yeh, I'd be buggered pretty well if I had to do it myself, I reckon, I reckon I'd really struggle.

Does she know that?

Yeh I tell her that.

Does she know that even if you didn't tell her?

Yeh, I think so.(laughs), I think she would. She has a better opinion of me as a parent than I do of myself, that's probably the way I see it. So I come down pretty hard on myself. My God why did I say that or sometimes I'll escalate situations without thinking about it simply because of the pace that I am going at to get things done, to make sure that things get done. Whereas for Jane getting things done are far less important than taking into account the way that people think and considers that far more important than getting things done. So if we are running to a deadline for something she is less motivated by the deadline and more motivated by how it impacts on people. I am the other way around. Um … she is a very good parent, I am so lucky I really am. It is innate with her, it really is, and she is good with other kids too, not just our kids.

So I think that from her becoming a teacher society has benefited greatly. And I often say I could never be a teacher because I don't read the signals well enough. They have to be explained to me sometimes, the signals. Perhaps that is explained by me being partly at the low end of the spectrum sort of thing, I don't read social cues very well.

If you were going to talk about L's main strengths as a parent, what would they be?

Consistency, through thick and thin and deadlines and everything, she is consistent. Setting rewards and setting boundaries and setting timelines and tasks, at setting the pace at which things sort of change and their exposure to things, it is consistent.

So to give you an example with our daughter we introduced her to an allowance where she gets paid money in exchange for doing a certain thing. is manically consistent, she will not deviate the rules to ensure that E has a very good understanding that there are boundaries and the boundaries don't move. I will bend the rules if I get emotionally played on, if you know what I mean. Whereas Jane is just consistent, she says "that is just the way it is." So when she does it it works smoothly, whereas I will bend the rules because something special is happening and she won't. So her consistency is the thing I need to emulate, that's what gives her an air of control. When she does things she does it consistently.

Are there important areas in which Jane could or should improve his/her parenting?

Yeh, both of us. Give up work and just be full time parents. But in the absence of having more time, what do you do? So we are part-time parents; both of us. So the only the only thing I can see her doing more is have more time, and myself I can see if I had more time but we just don't. So we know that the kids miss out a bit because of that but we do our best to get around that the best we can. So, but if Jane spent more time that would be good but how can we spend more time? I just can't see how we can do it?

That's a whole different thesis for me that one.

(Laughs) Absolutely … well I mean I work from home now and we could move closer to L's work for example and that would cut down travel-time by 10 hours a week. We could actually take steps to address that but we just …. (Battery failed on recorder – last part of this response lost.)

Do you think he/she should change the way he/she parents?

Give up work and take more time with the kids (this is from notes as recorder was off) she does 99% right. I do 50%, it used to be 10%

Can you talk about what happens when you disagree with each other about parenting J?

(from notes) Jane wins because she is right (this was a succinct answer)

How important has your parenting relationship with (partner's name) been in helping you to cope with a child with ASD?

(from notes) "We are parents in isolation" We are not parenting together do we are not observing each other very often.

How important is your parenting relationship with (partner's name) likely to be in determining (XXXX) progress?

(from notes) "if we lose consistency through discourse then it all comes undone" "It is huge, it is everything"

How do you keep your parenting relationship working?

(from notes) I don't know, I love her, I can't describe a deliberate action.

Has anybody has ever talked to you about parenting teamwork in relation to parenting a child with ASD?

(from notes – this was succinct) "no"

Having had your experiences, what advice would you give to somebody who has just begun to understand that their child has autism?

What would you advise them to talk about with their partner?

Everything, I tell Jane that I am not coping, I'll say to her I'm not coping. I'll say I tried to do this and I'm not coping. And so I don't rely on osmosis reaching her I tell her and she tells me.

So if somebody comes to you asking for advice what would you tell them to talk about with their partner.

Oh that's a different thing. What I think is really important there is that at the beginning you are in information overload and you are still in denial, you are still in grief, you are still in mourning, you are getting no help from your family and friends. You are feeling isolated yourself and very confused. What you need to do initially is do things together which is the opposite of your capacity to do it. You need to find somehow capacity to do things together and get exposure to good quality sources of referral. People like ASECT, people like parent support groups, you need to do this together. And that's against all the things I said because you have no time to do things together but that's exactly what you need to do. Jane and I did that we made big efforts to do things together because we found that the things we did together we just understood and went right now you can do this and I can do that. You know we broke up the tasks once we knew what to do. Going on a conference together was fantastic, we did it together and we saw one another learn. We did this at the beginning of the process and it was really vital, just reading a book was not enough, you know, just going on a webpage is not enough, you've got to do it together.

I would have thought that forcing a parent to do a Hanen programme together would be a great way of doing it together.

We had a discussion about this experience and Peter said that they did do things separately in the beginning and it has now become clear to him that this was a mistake. (not transcribed). Peter talked about the benefits of benchmarking their experience against other families and about the satisfaction that he and other parents have experienced when they have done things together.

"You may have an OT or a speech pathologist or a psychologist but they are not there when it is happening, so you are talking to them after the event or before it happens" Peter's point here was that the parents experience the situations together and need to interpret these together. This is why they should attend the programmes together.

My final question is to ask if there is anything else that you would like to tell me about your experience of parenting a child with autism.

It doesn't get any easier, you get more knowledge, you know how to navigate things differently you know how to cope better as a couple and a family but there is always the next thing and it is always a battle. People in the general community, govt, service providers don't understand. Your family just don't get any better at understanding, um you lose friends because of the change in behaviours that you have to follow. Your child becomes the centre of your world. Joe is a flight risk the last 3 times he has been left unattended he has met with harm and on one of them he nearly killed himself. That forms your mind as a parent very fast. You can try and explain it to other people but they weren't there. What you find is that you get on top of one thing and then there is the next thing. (Peter gave examples about this such as having a different dentist and of the different issues that come up.) Peter gave examples of discrimination, bullying, health issues including that the local school could not cope with their son even though they wanted to and the travelling time to get to services, the difficulties of shopping due to behaviour.

His final message was that "There is always a battle and you done know when the next one is coming …you get callouses on you if you know what I mean. You've got to get tough because things just aren't going to get easier and there will always be something happening. But that can be a good way because if you approach it in the right way you can get that cup half full because you are focusing on the good stuff.

Interview Closed.

APPENDIX 14 - EXAMPLE TRANSCRIPTION OF PATERNAL INTERVIEW M8

Interview Transcript – Mother 8 – C May

Claire

Has having a child with autism changed your parenting expectations?

O, I think so yes.

So how has that helped you, has it helped you?

Um … I guess it probably has helped me, I have never really thought about it like that before but if I reflect back it has probably given me a greater, or a broader view on parenting.

And has it made you change your plans about the way that you are going to parent?

Yes because I've had to approach things differently to what I perhaps what I would have … I wouldn't have had to approach different things towards M if he didn't had autism so yes it would have changed the parenting approach.

OK and um what do you think has been most helpful for you in parenting Susan?

Having a supportive husband I would have to say.

Parenting is usually stressful. Can you talk about what it has been like for you to be a parent of Susan?

It's been a rollercoaster for me I think, yes just the stress and the worry that you have that you wouldn't have if … If I compare between Paris and Susan. There are stressed that I have with Susan that I don't have with Paris. So if he hadn't had autism then I can imagine that they would not have been part of the equation so yeh I don't quite know how else to say that.

What do you remember as being important in helping or enabling you to manage the stresses associated with parenting Susan?

Oh, well definitely um supportive, you know, Nigel's support and family and friends but above that I just have a great faith. It is a Christian faith. If I didn't have that I think I would be in a bad place and I am not in a bad place. So there is an expectation and a hope and a strength from having a faith in something bigger than yourself or something that has control over the situation when you cant control it.

And what about people. Are the any other people that have been particularly helpful?

Well, one of my best friends whose son has autism as well. For a few years when he was diagnosed there was nobody that I knew who had or who was a close friend or relative or anything who had a child with autism so I didn't have anybody to … who understood how I felt or what I was dealing with. So when I met my friend it came a lot easier because someone else was dealing with the same things and it just made, you know, if I was having a bad time with Susan or with anything she may know things so she would be able to give support and listen and vice versa so I don't know, It was, if I didn't have a friend who didn't have a child with autism I think I would feel very isolated and alone a lot more.

Check in. Ok to carry on.

Interview Transcript – Mother 8 – C May

How would you describe Nigel's parenting?

Amazing, confident, relaxed. I don't know, all of the good words (laughs)

I was going to ask what do you think his strengths as a parent but I think we will just pass on that one.

He has a lot of strengths actually.

Are there any important areas in which she could or should improve his parenting?

Any important areas?

Yes

Look I couldn't think of anything off the top of my head that was essential or important. I think he covers most areas of parenting pretty well actually.

It's not asking you to criticise him of course it's jsut …

No, No But I would struggle to criticise him if that was …

OK, so not everybody agrees all the time. Can you talk about what happens when you disagree with each other about parenting Susan?

Well, um. That doesn't happen very often. Generally I would say that he has the better reasoning behind something and I have to … and when I listen to it I say yeh that's right.

Han on, OK, so Nigel wins?

No, no, well no. That wouldn't be the case every time. I think he has more logic whereas I can approach things very emotionally and that's not or you know I think as an emotional response to something that often does not have logic or common sense to it. So often I feel like I might be looking at things with that exaggerated approach because I am do emotional about it. Whereas Nigel is not.

He can look at it much more clearer or with common sense. So when we put things on the table I can see that you know, Oh OK well I didn't even counter common sense into it, But there are times when I think that um, that we need to approach something and generally if I have a very strong opinion about that and I think that is what we should do then Nigel is very respectful of that and he will think things through and then come back and say yeh well I thin that was right or whatever.

So if you've got a really strong opinion you might win? (Ummm**) I'm teasing you here of course.** (Laughs) **But if it's important to you then you might bat it out and get your way is that what you are saying?**

If it is important to me and I think it is the right thing to do then Nigel will take, go away and respect that. But if he thinks it is not the thing to do then we will generally come to an agreement. There is

no, I don't think we have ever done anything where one person has agreed with it and the other has disagreed with it and we've done it with those terms.

OK, that's fantastic thank-you. How important has your parenting relationship with Nigel been in helping you to cope with a child with autism?

Um, very … number 1 really I could not do it without his support, or not do it well.

How do you think it would be different for you if your parenting relationship with Kaz was different?

I think we would all suffer and yeh, in not a good way at all really.

How important is your parenting relationship with Nigel is likely to be in determining Susan's progress?

Oh, that is vital as well, you've got to be on the same wavelength otherwise it would just be like chaos I think. There would be no real structure or plan or goals. There would be no strength to what you were doing.

How do you keep your parenting relationship working?

Sorry I don't understand that. (**question repeated**) Oh, how do we keep it working, communication. Communication and I think our faith comes into that as well, definitely, yeh they would be the 2 main things that keep it going yep.

Do you do anything actively to keep it going Claire. Are there times when you go, I know I've got to do that thing to keep my parenting relationship with Nigel at its best. Is there something that you are aware of that you need to…

No. I don't think I do really. (**you are not Robinson Crusoe OK**) (laughs)

I don't think so, we are just aware of each other but I don't know if that is something that we deliberately do.

Has anybody has ever talked to you about parenting teamwork in relation to parenting a child with ASD?

Parenting teamwork? (yes). Hmmmmm, no, well, no, the only thing that I would say is that Nigel's dad would have given council over the years, I would say, on parenting but that would be general, I wouldn't say that was just.

So that's about parenting, not about parenting teamwork? Is it about how you guys work together as a parenting team?

No, no, I would say there hasn't been.

Having had your experiences, what advice would you give to somebody who has just begun to understand that their child has autism?

Hmmm. Um… that would be huge I think because um if they had other children, I would say don't treat your child differently as far as seeing them and disciplining them and. Say you would allow one child to get away with something but not the child with autism ... you know treat them equally in that respect. I would say just get some good people around you and try not to be too scared.

What would you advise them to talk about with their partner?

To be very supportive of one another because there will be times when it could tear you apart and unless you actually swallow, sometimes even swallow your pride when you have been hurt by your partner or by what they have said or the way they have reacted and you haven't agreed with that reaction. Not to take offence to that but understand that there is a bigger picture behind it and be supportive of that. I don't know, very hard questions to answer I suppose.

Yeh, and they're designed to be but you've done beautifully.

Thankyou. Yeh but I think that being aware of how each other might be emotionally. You know, I think you need a greater insight maybe or a better tolerance level perhaps.

My final question is to ask if there is anything else you would like to tell me about your experienc of parenting a child with autism?

I don't like it (laughs).

Don't you?

I'd rather be on a different path.

Is that right?

Oh yeh, yeh definitely in the sense that um ...

That surprises me that you would say that.

Well, I think that you know I've never understood this thing, you know, I've come across many Mums who have said Oh you know life is difficult but I wouldn't change anything and I am floored b that and in fact I said to somebody once because these children often live in a lot of anxiety and a lo of confusion and they often don't understand the world around them, um learning is difficult, um relating to other children and adults is difficult. Why would you not want something better than that? So for me obviously this is a path that we are walking on at the moment but I would change it and I expect that it will change and I wouldn't ever say that I am happy with where it is at or that's what we are dealing with.

Not to say that it hasn't taught me many things but given the choice I'd rather be taught those through different circumstances.

That's great. Is there anything else?

Um … I think that in some ways it has grown me but in other ways it has … um I believe that it has changed the way that I deal with my other child in a negative way. I think that because I have or need to have so much tolerance and patience with M that P has missed out on that from me and I think that um it's influenced my relationship with her on a negative way. I am aware of it and I want to change that and I'm very conscious of it and if you are up, or if I'm upset with something that I've see in M or if I am feeling vulnerable then I think I don't have the tolerance and the patience and the compassion for P that I would have if he didn't have autism. And I don't think that's, yeh I think that's been a negative thing on my relationship with my daughter.

So you resent that.

Yes I do, I do. And I think that … well it's also within my control to change I think but it's a very big thing to change because you are overcoming a lot of emotion and tiredness and anger at times as well. Which I guess is why I am so pleased that I have a faith and God there and I can just go well this is out of control for me right now so I need you to come in and sort this out. Which I think happens.

So, yeh definitely I often wonder what it would be like, how much more time I might have spent with her, how much more patience I would have had with her had M not been diagnosed with autism.

Would you like a copy of the transcript of this interview so that you can check it for anything that you may wish to change?

I don't know, is Nigel getting one. (**no**) Well I don't need one.

Well I have to type it out anyway so if you change your mind just let me know.

OK

Interview terminated.

APPENDIX 15 – DETAILED PSI SUB-DOMAIN SCORES

Table X PSI domain Subscales - Descriptive Statistics

	N	Range	Min	Max	Mean	Std. Dev	Var
Father child subscale Distractibility/hyperactivity	72	26.00	19.00	45.00	29.5833	5.53287	30.613
Father child subscale Adaptability	72	31.00	16.00	47.00	35.6944	6.17956	38.187
Father child subscale Reinforces Parent	72	42.00	7.00	49.00	14.8750	5.58655	31.210
Father child subscale Demandingness	72	24.00	15.00	39.00	27.2500	5.32004	28.303
Father child subscale Mood	72	13.00	7.00	20.00	12.3611	3.15472	9.952
Father child subscale Acceptability	72	19.00	10.00	29.00	19.8333	3.97173	15.775
Father parent subscale Competence	72	27.00	17.00	44.00	30.3333	6.57995	43.296
Father parent subscale Isolation	72	20.00	8.00	28.00	17.9861	4.50506	20.296
Father parent subscale Attachment	72	15.00	8.00	23.00	14.0694	3.51386	12.347
Father parent subscale Health	72	14.00	6.00	20.00	13.2083	3.36066	11.294
Father parent subscale Role Restriction	72	25.00	9.00	34.00	19.6528	5.44152	29.610
Father parent subscale Depression	72	57.00	9.00	66.00	21.3472	7.43452	55.272
Father parent subscale Spouse	72	21.00	11.00	32.00	19.4167	4.43974	19.711
Mother child subscale Distractibility/hyperactivity	**80**	**25.00**	**18.00**	**43.00**	**30.5375**	**6.18480**	**38.252**
Mother child subscale Adaptability	**80**	**36.00**	**15.00**	**51.00**	**36.0250**	**7.29136**	**53.164**
Mother child subscale Reinforces Parent	**80**	**20.00**	**6.00**	**26.00**	**14.8000**	**3.88571**	**15.099**
Mother child subscale Demandingness	**80**	**24.00**	**16.00**	**40.00**	**27.9875**	**6.16748**	**38.038**
Mother child subscale Mood	**80**	**19.00**	**5.00**	**24.00**	**12.6375**	**3.71532**	**13.804**
Mother child subscale Acceptability	**80**	**21.00**	**11.00**	**32.00**	**19.5750**	**4.52776**	**20.501**
Mother parent subscale Competence	**80**	**29.00**	**18.00**	**47.00**	**31.0000**	**6.55647**	**42.987**
Mother parent subscale Isolation	**80**	**18.00**	**7.00**	**25.00**	**16.5875**	**4.37974**	**19.182**
Mother parent subscale Attachment	**80**	**12.00**	**7.00**	**19.00**	**12.3875**	**2.88819**	**8.342**
Mother parent subscale Health	**80**	**14.00**	**6.00**	**20.00**	**13.8500**	**2.88207**	**8.306**
Mother parent subscale Role Restriction	**80**	**34.00**	**7.00**	**41.00**	**21.9375**	**6.47164**	**41.882**
Mother parent subscale Depression	**80**	**27.00**	**10.00**	**37.00**	**21.9250**	**5.95080**	**35.412**
Mother parent subscale Spouse	**80**	**24.00**	**10.00**	**34.00**	**21.1250**	**5.10739**	**26.085**

APPENDIX 16 – AGGREGATED PSI AND PAM SCORES

Aggregated PSI & PAM Scores – Interview Cohort

Couple number	PSI	PAM
1	High	Low
2	Low	Moderate
3	Low	High
4	High	Low
5	Low	Moderate
6	High	Moderate
7	High	Low
8	Low	High
9	High	Moderate
10	Low	Moderate
11	Low	Moderate

High = > 85th Percentile.

Low = < 50th Percentile.

APPENDIX 17 – TABLE OF INTERVIEW PSEUDONYMS

Transcript/ Family Number	Father Pseudonym	Mother Pseudonym	Child Pseudonym/s
1	Wayne	Leanne	Jess
2	Michael	Tania	Toby
3	James	Simone	Ryan
4	Ted	Liz	Mary & Mike
5	Mark	Mary	Michael
6	Peter	Jane	Steven
7	Harry	Shelly	Kevin
8	Nigel	Claire	Susan
9	Frank	Isabel	Arthur
10	Clive	Philippa	David
11	Peter	Terry	Greg

APPENDIX 18 – CORRELATION MATRIX – DEMOGRAPHIC DATA AND MATERNAL/PATERNAL PSI

			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Father Age																		
2	Number of Children	Correlation	-.03																
		Sig.	.823																
		N	73																
3	Siblings with ASD	Correlation	.253*	.036															
		Sig.	.031	.762															
		N	73	75															
4	Older Siblings	Correlation	.341**	.470**	.022														
	Present	Sig.	.003	.000	.854														
		N	73	75	75														
5	Gender of Older	Correlation	-.038	.405*	.023	.021													
	Siblings	Sig.	.839	.024	.903	.912													
		N	31	31	31	31													
6	Father mother	Correlation	-.055	-.149	-.007	.154	.073												
	combined salary	Sig.	.644	.212	.955	.197	.701												
		N	72	72	72	72	30												
7	Father hours in paid	Correlation	-.153	-.026	-.277*	.019	-.011	.265*											
	work	Sig.	.197	.830	.018	.874	.955	.025											
		N	73	73	73	73	31	72											
8	Father Occupation	Correlation	.089	-.150	-.095	.121	-.125	.541**	.258*										
		Sig.	.465	.215	.433	.318	.509	.000	.031										
		N	70	70	70	70	30	69	70										
9	Father Years in	Correlation	.241*	-.235*	-.079	.025	-.144	.380**	-.017	.436**									
	Education	Sig.	.040	.045	.504	.834	.439	.001	.887	.000									
		N	73	73	73	73	31	72	73	70									
10	Father PSI	Correlation	.03	-.07	.13	-.20	.10	.11	-.03	-.02	.11								
		Sig.	.805	.583	.290	.098	.610	.349	.800	.876	.358								
		N	72	72	72	72	30	72	72	69	72								
11	Mother PSI	Correlation	.014	-.06	.14	-.04	.14	.02	.10	-.12	-.02	.57**							
		Sig.	.909	.636	.251	.737	.484	.860	.412	.351	.856	.000							
		N	70	72	72	72	29	69	70	67	70	69							
12	Family	Correlation	.037	-.244*	-.117	.082	-.093	.835**	.287*	.805**	.734**	.07	.02						
	Socioeconomic	Sig.	.753	.035	.317	.484	.619	.000	.014	.000	.000	.590	.889						
	Position	N	73	75	75	75	31	72	73	70	73	72	79						
13	Mother Age	Correlation	.772**	.027	.104	.350**	.198	.187	-.035	.177	.369**	-.10	.08	.290**					
		Sig.	.000	.825	.387	.003	.313	.127	.778	.152	.002	.413	.496	.010					
		N	69	71	71	71	28	68	69	67	69	68	79	78					
14	Mother hours in paid	Correlation	-.090	-.137	.239*	.016	.133	.320**	-.234	.010	.144	.13	-.12	.133	-.024				
	work	Sig.	.463	.257	.047	.894	.491	.008	.055	.938	.241	.311	.311	.250	.835				
		N	68	70	70	70	29	67	68	65	68	67	76	77	75				
15	Mother Occupation	Correlation	-.059	.229	.201	.074	.008	.163	-.146	.096	.001	.21	-.04	.052	-.081	.357*			
		Sig.	.705	.135	.191	.633	.977	.295	.349	.549	.997	.182	.777	.726	.591	.015			
		N	43	44	44	44	17	43	43	41	43	43	46	47	46	46			
16	Mother Years in	Correlation	.016	-.004	.156	-.060	-.373*	.139	-.063	.057	.323**	.15	.00	.310**	.157	.060	.408**		
	Education	Sig.	.897	.976	.187	.616	.042	.252	.604	.644	.006	.223	.973	.005	.168	.605	.004		
		N	71	73	73	73	30	70	71	68	71	70	80	80	79	77	47		
17	Mothers Mental	Correlation	.005	-.018	-.115	-.004	.177	.013	.035	-.005	.096	-.05	-.16	.020	.075	.033	-.156	-.119	
	health	Sig.	.970	.879	.331	.975	.349	.915	.775	.965	.426	.680	.144	.861	.510	.776	.296	.289	
		N	71	73	73	73	30	70	71	68	71	70	80	80	79	77	47	81	81
18	Fathers Mental	Correlation	.052	.045	-.048	.099	.188	.050	.172	.095	-.106	-.20	-.08	.004	-.023	.046	.048	-.248*	.075
	health	Sig.	.661	.704	.687	.409	.319	.676	.150	.436	.377	.106	.503	.972	.850	.710	.758	.038	.539
		N	72	72	72	72	30	71	72	69	72	71	69	72	68	67	43	70	70

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

APPENDIX 19 – NORMALITY OF DISTRIBUTION – PSI DATA

Normality of Distribution PSI

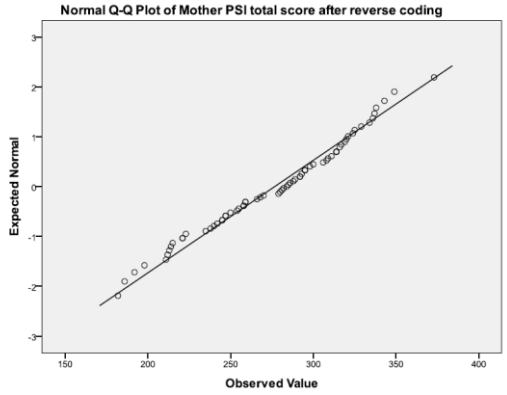
		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Father PSI total	(N=72)	.099	69	.093	.968	69	.070
Mother PSI total	(N= 80)	.086	69	.200*	.978	69	.249
Aggregated Mother & Father PSI	(N=83)	.080	69	.200*	.960	69	.028
Mother and Father total PSI	(N=152)	.086	69	.200*	.978	69	.249

a. Lilliefors Significance Correction

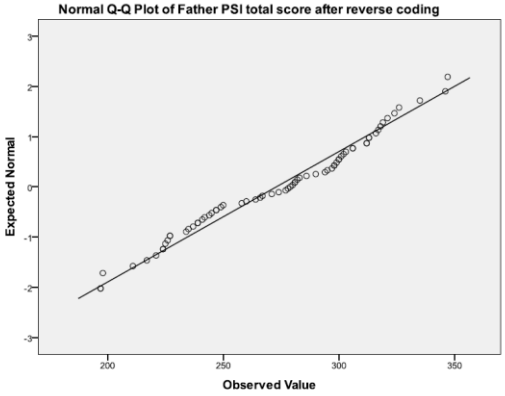
*. This is a lower bound of the true significance.

Shapiro Wilk analysis supplied but this method is only useful in small samples when N<70.

Mother PSI



Father PSI



APPENDIX 20 – SPEARMAN CORRELATION MATRIX – MATERNAL/PATERNAL PSI, PAM, ASPSE

SPEARMAN CORRELATION MATRIX - PSI, PAM, ASPSE - PATERNAL DATA

			1	2	3	4
1	PSI					
2	PAM	Correlation	-.52**			
		Sig	.000			
3	ASPSE	Correlation	-.26*	.35**		
		Sig	.030	.003		
4	FSS t	Correlation	-.30*	-.22	.30*	
		Sig	.010	.065	.012	
5	WIAF t	Correlation	.26*	-.28*	-.44**	-.14
		Sig	.025	.017	.000	.254

PSI = Parenting Stress Index, PAM = Parenting Alliance Measure, ASPSE = Autism Specific Parenting Self-efficacy, FSS = Family Support Scale, WIAF = What is a Father Scale.
Correlation (2-tailed)
(*N* = 72)
t Abnormally distributed.
*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

SPEARMAN CORRELATION MATRIX - PSI, PAM, ASPSE - MATERNAL DATA

			1	2	3	4
1	PSI					
2	PAM	Correlation	-.34**			
		Sig	.002			
3	ASPSE t	Correlation	-.35**	.23*		
		Sig	.002	.042		
4	FSS	Correlation	-.18	.33**	.21	
		Sig	.106	.004	.060	
5	WIAF	Correlation	.26*	-.45**	-.47**	-.30**
		Sig	.044	.000	.000	.007

PSI = Parenting Stress Index, PAM = Parenting Alliance Measure, ASPSE = Autism Specific Parenting Self-efficacy, FSS = Family Support Scale, WIAF = What is a Father Scale.
Spearman Correlations (2-tailed)
(*N* = 80)
t Abnormally distributed.
** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

APPENDIX 21 – PAM SCORES FOR PARENTS WITH CHILDREN FROM FOUR ASSOCIATED DIAGNOSTIC GROUPS

PAM Scores for Parents with Children in Four Diagnostic Groups (Abidin & Konold, 1999; p.5)

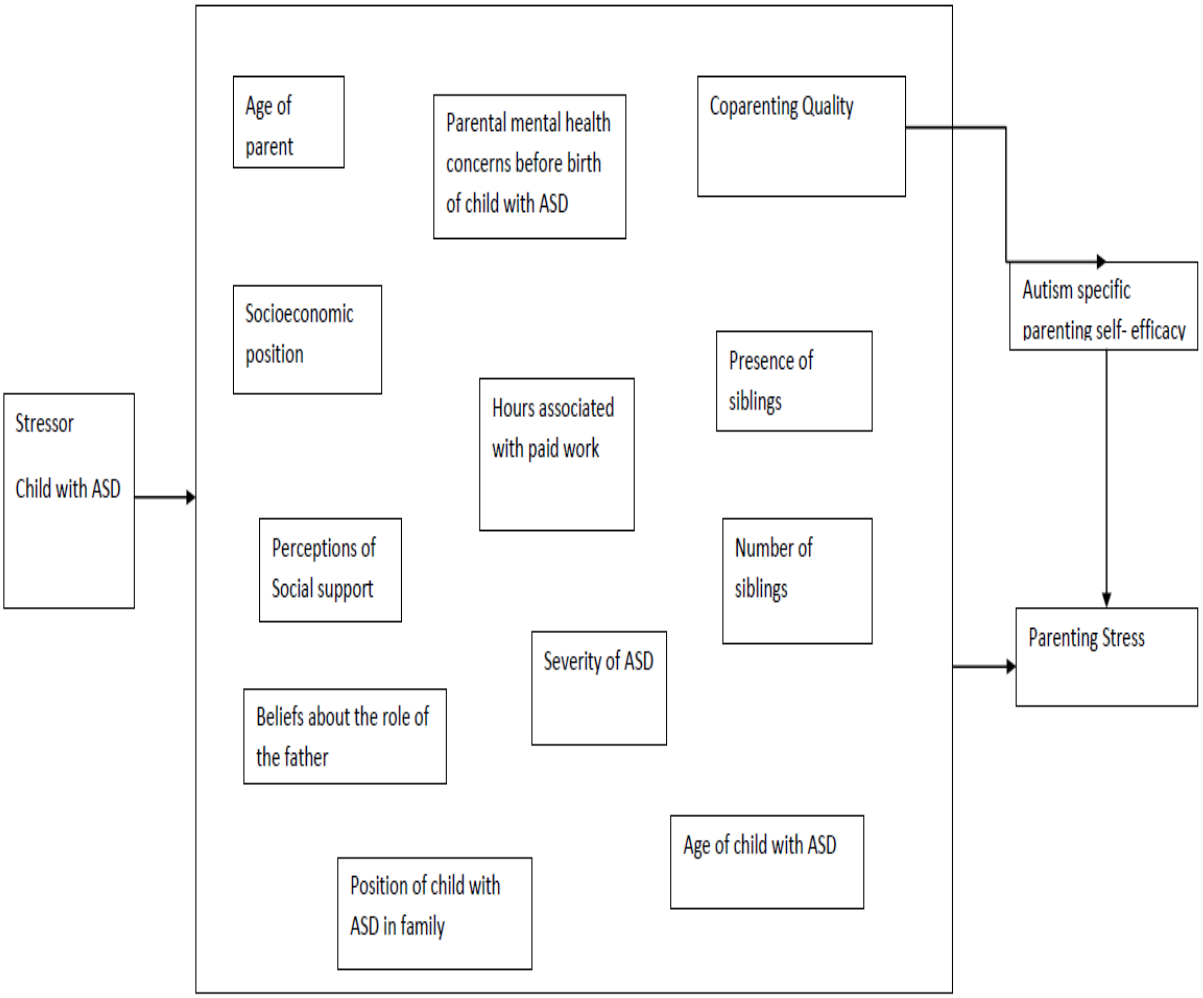
PAM total score	Mood Disorders	Attention-Deficit/Hyperactivity Disorder	Oppositional Defiant Disorder	Conduct Disorder
M	66	80.7	61.4	59.8
SD	17.4	13.5	24.4	20.7
n	17	151	17	47

APPENDIX 22 – NORMATIVE PAM DATA – MARRIED COUPLES

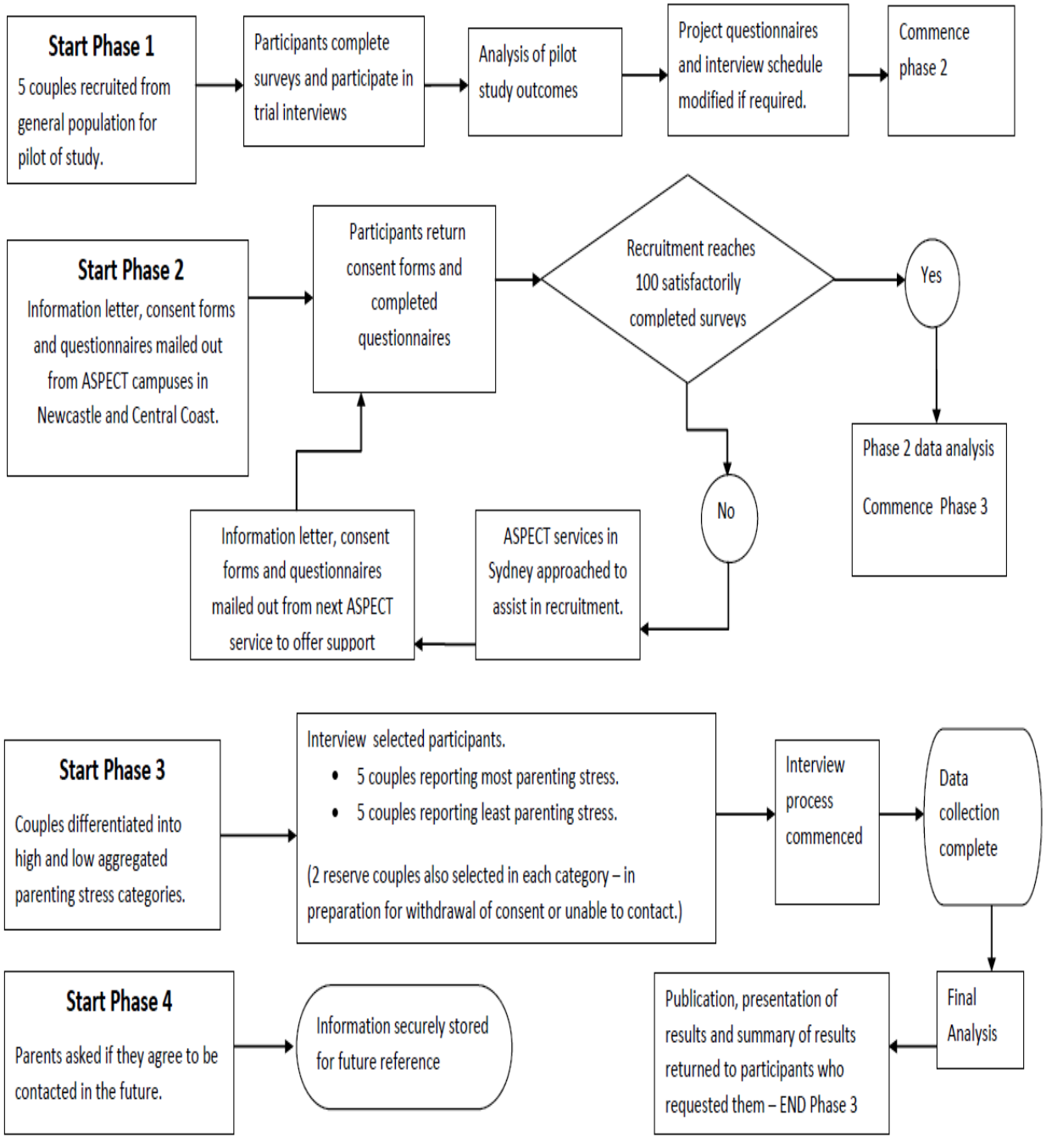
Normative PAM Data for Married Couples (Abidin & Konold, 1999)

	n	*M*	*SD*
Men	300	82.7	12.1
Women	663	80.2	15.0

Appendix 23 – Overview of Study Variables



APPENDIX 24 – STUDY PROCESS MAP



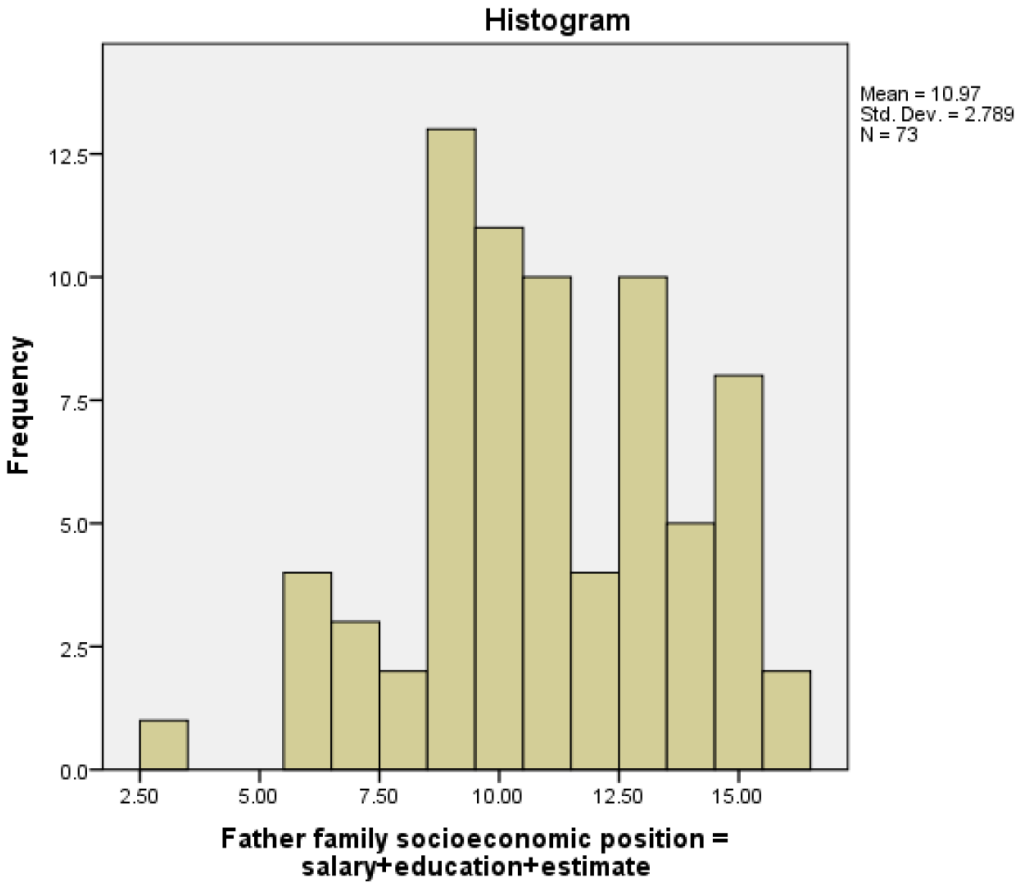
APPENDIX 25 – INITIAL SET OF ANALYSIS THEMES

Initial Set of Analysis Themes

1. Characteristics of the coparenting partnership
    a. Solidarity (McHale et al, 2004b; Van Egeren & Hawkins, 2004)
    b. Antagonism and undermining (McHale et al, 2004b; Feinberg, 2003; Van Egeren & Hawkins, 2004)
    c. Cooperation and joint family management (Feinberg, 2003; McHale, 2010)
    d. Joint involvement (McHale et al, 2004b; Feinberg, 2003; Van Egeren & Hawkins, 2004)
    e. Childrearing agreement (Feinberg, 2003)
    f. Support in the coparenting relationship (Feinberg, 2003; Van Egeren & Hawkins, 2004)
2. Who wins in disputes? (Cowan & Cowan, 2000)
3. Child influences on parenting teamwork? (Feinberg, 2003)
4. Coparenting and parenting self-efficacy (Feinberg, 2003; also see the literature review)
5. Expected outcomes associated with parenting teamwork.

APPENDIX 26 – DETAILED DEMOGRAPHIC DATA

Calculation of Socioeconomic Position.

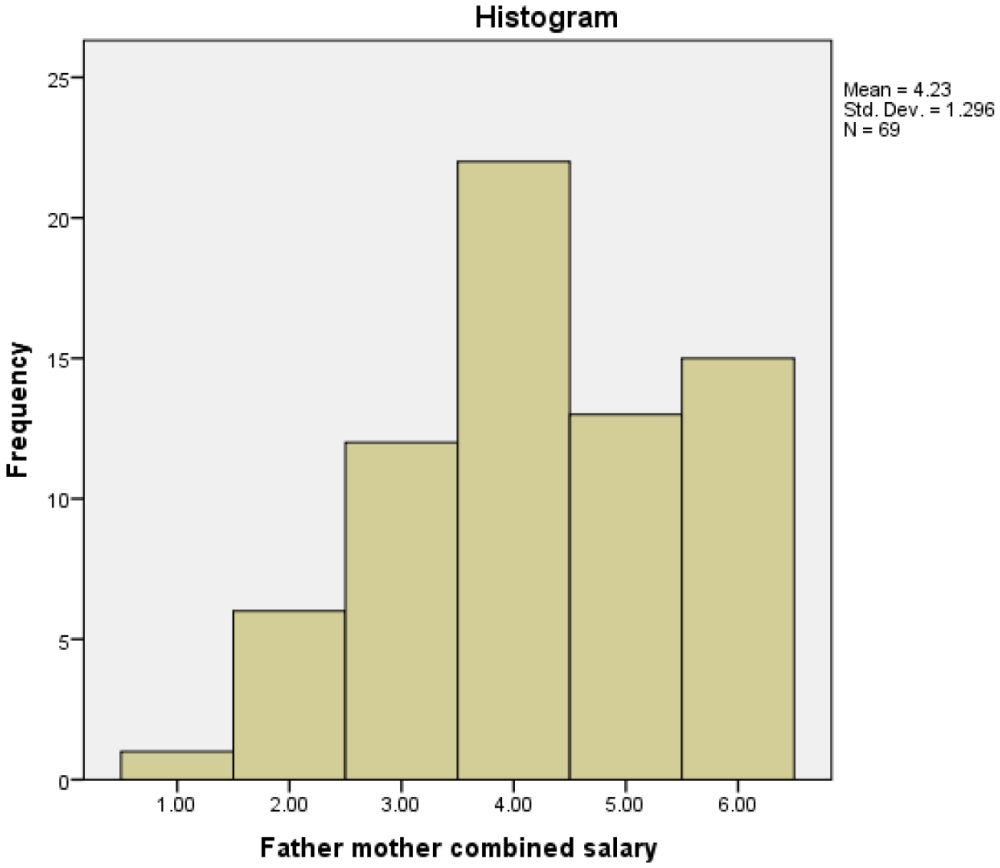


a. Calculated on maternal data when paternal data not available.

Descriptive Statistics – Paternal responses demographic data.

	N	Range	Mean	Std. Deviation
Combined salary	72	1 - 6	4.22	1.31
Father Occupation	70	1 - 4	2.51	1.00
Father Years in Education	73	2 - 6	4.40	1.00

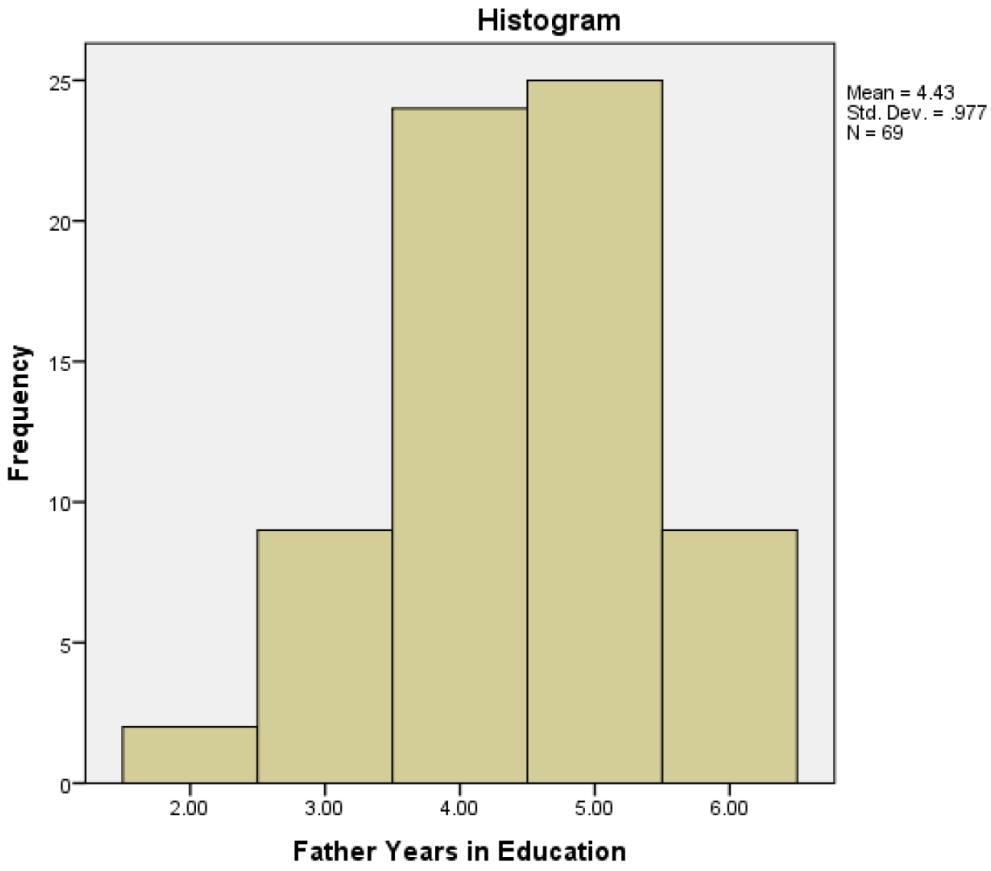
Father/Mother Combined Salary



Notes on Combined Salary. This is before tax is taken out. National average gross household income for couple households with dependent children in 2011-2012 was $2580 per week (ABS, 2013).

1= Less than $577 per week
2 = $578 - $962 per week
3 = $963 - $1538 per week
4 = $1539 – $2308 per week
5 = $2309 - $2884 per week
6 = More than $2885 per week.

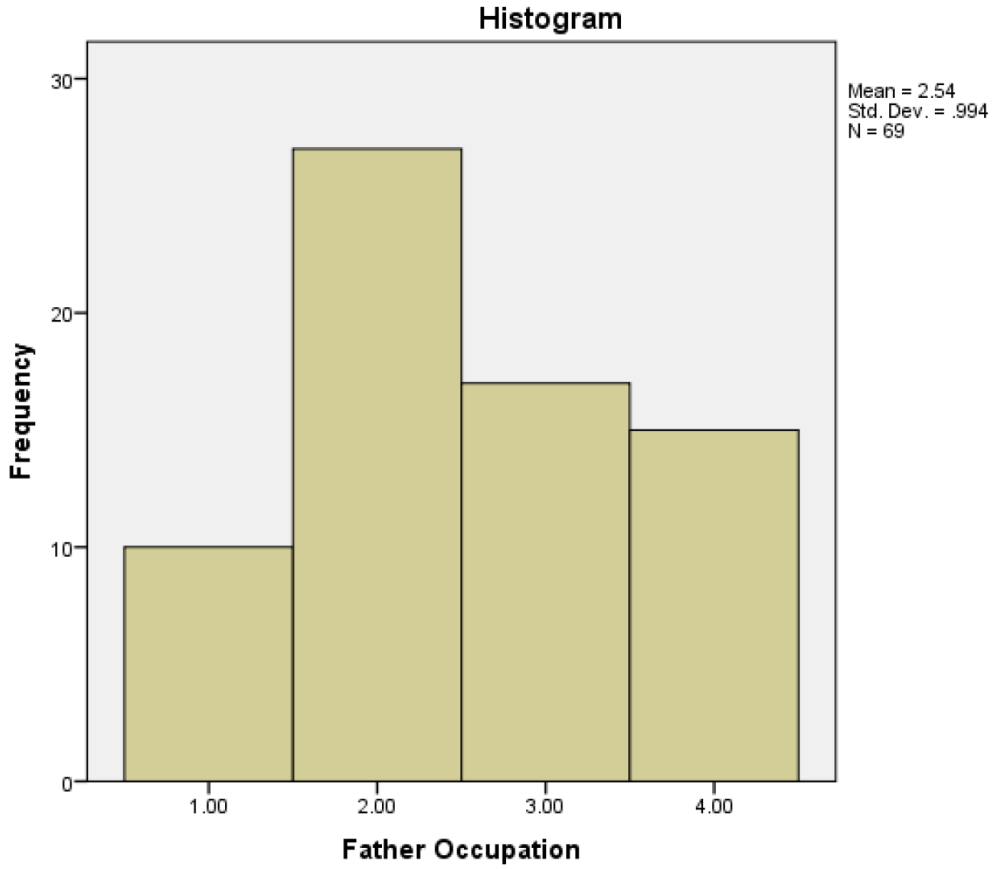
Father Years in Education



1 = Less than 6 years
2 = 6-10 years
3 = 10 -12 years
4 = 12 -16 years
5 = 16 – 20 years
6 = More than 20 years

a. Education includes primary school, high school, apprenticeships, professional and other training. (does not include kindergarten or preschool.

Father Occupation



1 = Unskilled

2 = Skilled

3 = Professional

4 = Manager/Executive

a. These were categorised by the investigator in response to participants description of their work.

APPENDIX 27 – CORRELATION MATRIX – MATERNAL AND PATERNAL OUTCOMES ON KEY LATENT VARIABLES

			1	2	3	4	5	6	7	8
1	Father PSI									
2	Father PAM	Correlation	-.51**							
		Sig.	.000							
		N	72							
3	Father ASPSE	Correlation	-.23	.32**						
		Sig.	.051	.006						
		N	72	72						
4	Father FSS	Correlation	-.28*	.21	.33**					
		Sig.	.019	.078	.005					
		N	72	72	72					
5	Father WIAF	Correlation	.27*	-.32**	-.45**	-.06				
		Sig.	.022	.007	.000	.621				
		N	72	72	72	72				
6	Mother PSI	Correlation	.57**	-.25*	-.10	-.26*	.03			
		Sig.	.000	.038	.440	.030	.838			
		N	69	69	69	69	69			
7	Mother ASPSE	Correlation	-.05	.18	.36**	.26*	-.19	-.28*		
		Sig.	.708	.144	.002	.029	.125	.012		
		N	70	70	70	70	70	80		
8	Mother FSS	Correlation	-.19	.20	.09	.46**	-.11	-.21		
		Sig.	.333	.105	.444	.000	.368	.062		
		N	69	69	69	69	69	80		
9	Mother WIAF	Correlation	.21	-.37**	-.46**	-.25*	.51**	.23*	-.44**	-.302**
		Sig.	.080	.002	.000	.037	.000	.037	.000	.006
		N	69	69	69	69	69	80	80	80

a) PSI = Parenting Stress Index, PAM = Parenting Alliance Measure, ASPSE = Autism Specific Parenting Self-efficacy.

b) Pearson Correlation (2-tailed)

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

APPENDIX 28 – CORRELATION MATRIX – SEVERITY OF ASD, PSI AND ASPSE – MATERNAL/PATERNAL DATA

Correlation Matrix - Severity of ASD, PSI and ASPSE - Maternal and Paternal Data

			1	2	3	4	5
1	Maternal PSI	Correlation					
		Sig.					
2	Paternal PSI	Correlation	.56**				
		Sig.	.000				
3	ASD Severity	Correlation	-.22*	-.17			
		Sig.	.050	.165			
4	Paternal ASPSE	Correlation	-.09	-.23	.25*		
		Sig.	.440	.051	.034		
5	Maternal ASPSE [t]	Correlation	-.28*	-.05	.13	.36**	
		Sig.	.012	.708	.246	.002	

a) PSI = Parenting Stress Index, PAM = Parenting Alliance Measure, ASPSE = Autism Specific Parenting Self-efficacy.

b) Pearson Correlation (2-tailed)

[t] Abnormal distribution

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).