

COUPLES THERAPY TO IMPROVE THE MARRIAGE FOR PARENTS WITH A CHILD  
WITH AUTISM

By

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To the families that put their trust in me. I am humbled and honored to have experienced joy and sorrow alongside you. May your relationships enlighten us all.

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Abstract of Dissertation Presented to the Graduate School  
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Current research suggests that parents of a child with autism spectrum disorder (ASD) experience more stress than parents of typically developing children, and even children with other disabilities. High stress in parents can lead to poor psychological functioning and a decrease in overall marital and family functioning. Decreased family functioning can lead to an increase in ASD symptomatology, is a predictor of child problem behaviors, and can lead to a reduction in treatment effectiveness for the child. While it is widely recognized that the child's family plays a crucial role in how effective an intervention is, it is less understood what parents and families need from a systemic perspective to care for their child with ASD. The current study describes the implementation of a couples therapy intervention to improve the marital relationship of parents that have a child with autism. Results suggest couples therapy can have an impact. However, future research is warranted to address the complexities of systems theory based interventions for parents and families that are impacted by autism.

## CHAPTER 1 INTRODUCTION

Autism spectrum disorder (ASD) is a neurodevelopmental disorder that can appear early in infancy (Flanagan, Landa, Bhat, & Bauman, 2012), however often goes undiagnosed until later in childhood (Myers & Johnson, 2007; Shattuck et al., 2009). Recent estimates reported by Christensen et al. (2016) state that approximately 1 in 68 children are affected by ASD. Children with ASD have deficits with social interactions, impaired communication, restricted interests, and repetitive behaviors. As the name implies, ASD is a spectrum disorder. That is, children with an autism diagnosis can range from low to high functioning. Lower functioning children might lack verbal communication, have few daily living skills (e.g. needing assistance at meal times or going to the bathroom), restricted interests (e.g. playing with a few specific toys), and engage in repetitive behaviors (e.g. hand flapping or body rocking). Additionally, more severe problem behaviors like aggression and self-injury are not uncommon.

In many respects, higher functioning children with autism function similar to their typically developing peers. They are at the same level as their peers in terms of daily living skills. They might also be highly skilled verbally, often displaying adult-like conversational skills. However, deficits are still very apparent and they may hold rather odd and restricted interests. For example, a child might express an interest in the food processing industry, and can go into extreme detail on how certain foods are made. Difficulty with social norms (the hallmark of ASDs) is obvious. Despite conversational proficiency, higher functioning children might not understand that it is not acceptable to go into disturbing detail about the food processing industry when they are a dinner

guest. This is an example of deficits with “theory of mind” (Williams, 2010). That is, a lack of awareness concerning how their actions impact others.

Whether low or high functioning, raising a child with ASD can create high levels of stress for parents. For parents with a child with ASD, increased stress can lead to poor psychological functioning which can negatively impact many facets of their lives (Benson, 2006; Benson & Karlof, 2009). For example, a mother becomes depressed because her child's problem behaviors are increasing. This affects the stability of the marriage as the mother has little time or energy to focus on the marital relationship. Hartley et al. (2010) suggest that parents of a child with ASD have a higher rate of divorce than parents with a child without a disability. Furthermore, the risk of divorce maintains at a high level over a longer period of time for parents with a child with ASD (Hartley et al., 2010).

The diagnostic process is another area that can create stress for parents. Parents can notice signs of ASD in early infancy (Myers & Johnson, 2007). However, Shattuck et al. (2009) found that ASD diagnoses do not come until about the age of 6 or later. Thus, many parents find the diagnostic process slow (e.g. Goin-Kochel, Mackintosh, & Myers, 2006; Howlin & Moore, 1997). This slow and convoluted diagnostic process increases stress and breeds distrust of professionals (Osborne, McHugh, Saunders, & Reed, 2008a). A distrust of professionals can have a lasting impact that can further perpetuate already high levels of stress. Not being able to trust the professionals whose task it is to treat a child with ASD is problematic. Kogan et al. (2008) suggests that children with ASD and their families have less access to, and

problems with, specialty care and other family support services. These additional factors can also lead to increased stress in parents.

In a qualitative analysis of the impact of a child with ASD on family life, Myers, Mackintosh, and Goin-Kochel (2009) provide an illuminating description employing parents' own words. Themes of stress, child problem behaviors, treatment demands, problems with schools, financial burdens, and sibling neglect were common. All of these factors can lead to high levels of stress and poor parental functioning with parents that have a child with ASD.

There is a strong evidence base that parents of children with ASD experience more stress than parents of other disabilities, in particular Down syndrome (Abbeduto et al., 2004; Hayes & Watson, 2013). Both Abbeduto and colleagues (2004) and Hayes and Watson (2013) suggest potential differences in parental stress between ASD and Down syndrome may be related to the fact there is a clear genetic marker from birth as well as a relatively known prognosis with Down syndrome. High levels of variability in the expression of ASD symptoms (e.g. language impairments) as well as externalizing problem behaviors (e.g. aggression, self-injury), other co-morbid disorders (e.g. anxiety), and the general unpredictability of how ASD manifests itself over time all contribute to high levels of parenting stress (Hayes & Watson, 2013).

Baker, Seltzer, and Greenberg (2011) suggest that family functioning has an impact on the child with ASD just as much as the child with ASD impacts the family. A study by Kelly, Garnett, Attwood, and Peterson (2008) concluded that decreased family functioning and high levels of conflict can lead to an increase in ASD symptomatology. Additionally, parental stress and conflict can lead to a reduction in treatment

effectiveness for the child (Osborne et al., 2008b; Rao & Beidel, 2009). While it is widely recognized that the child's family plays a crucial role in how effective an intervention is (McConachie & Diggle, 2007), it is less well known what families need from a therapeutic perspective to care for that child with ASD (Karst & Van Hecke, 2012).

### **Purpose of the Study**

One recommendation that appears in the literature to help parents deal with stress in relation to their child's problem behaviors as well as ASD symptoms is couples therapy (e.g. Kelly et al., 2008; Osborne & Reed, 2009). Osborne and Reed (2009) suggest it is important that parents address their stress before engaging in interventions for their child. They found that high stress in parents is an indicator of future child problem behaviors. Kelly et al. (2008) suggest couples therapy as it can address contextual factors that could increase ASD symptoms in their child. They found that family conflict predicted anxiety and depression in the child, which in turn predicted levels of ASD symptomatology. Saini et al. (2015) and Karst and Van Hecke (2012) review the complex and reciprocal nature the impact of having a child with ASD has on the parents and the family, and the importance of future research on ASD interventions to measure parent and family impact.

Despite these recommendations in the literature, there are no known studies that have investigated the effect couples therapy can have on parents of child with autism. However, research is beginning to emerge to address these gaps. For example, a study by Ekas, Timmons, Pruitt, Chilain, and Alessandri (2015) emphasize the importance of focusing on positive factors (e.g. emotional support, optimism) to improve the couple relationship among parents with a child with ASD. Ramisch, Onaga, and Oh (2014) suggest that communication and shared expectations about marriage are what keep the

relationship strong between parents that have a child with autism.

The intent of this study was to explore the extent to which couples therapy can improve the marriage of parents of a child with ASD by utilizing an already developed and tested instrument called the Systemic Therapy Inventory of Change (STIC®; Pinosof et al., 2015; Pinosof et al., 2009) to evaluate client change throughout therapy.

### **Integrative Problem Centered Metaframeworks**

Integrative Problem Centered Metaframeworks (IPCM; Breunlin, Pinosof, Russell, & Lebow, 2011; Pinosof, Breunlin, Chambers, Solomon, & Russell, 2015; Pinosof, Breunlin, Russell, & Lebow 2011) is the theoretical approach used in the couples therapy intervention in the current study. As the name suggests, IPCM is an integrative and problem focused theory that combines the underlying clinical logic typically present in different models of psychotherapy (Breunlin et al., 2011). There are five pillars that form the theoretical foundation of IPCM: partial and progressive knowing, systems theory, constraint theory, differential causality, and sequential organization (Pinosof et al., 2015a).

Partial and progressive knowing assumes there is an objective reality. However, human knowledge will always be biased and socially constructed, and while that knowledge will evolve over time based on the intake of new information, the objective reality will never be fully known (Breunlin et al., 2011). When applied to psychotherapy, IPCM states there is no distinct assessment and intervention phase. The therapist is perpetually taking in new information to formulate hypotheses to understand what prevents the resolution of the couple's problem so as to help facilitate the resolution of the problem (Pinosof et al., 2015a). Thus, assessment and intervention in IPCM is recursive and constant as new information about the problem is uncovered.

Systems Theory (von Bertalanffy, 1968) assumes that human systems have various hierarchies and subsystems (e.g. couple, parent-child, society) and that those various systems are dynamic; constantly interacting, relating, and informing each other to self-regulate and maintain homeostasis. IPCM suggests that couples are more than the sum of the individuals that comprise the couple. That is, the couple is not only a mix of the spouses' personalities, but the couple is also informed by their families of origin and the relationships the partners have with their children, and a therapist must understand the impact these systems have on couple functioning (Pinsof et al., 2015a).

Constraint Theory (Breunlin, 1999) informs IPCM by focusing on the "identification and removal of constraints that prevent problem solving." (Breunlin et al., 2011, p. 295). An example of how constraint theory is applied in IPCM is instead of a therapist asking, "Why are you stressed?" the question could become "What would happen if you were not stressed?" In this example, the question is designed to shift the focus on the more desired state of being, rather than perseverating on the problem. IPCM assumes that couples have the ability to resolve their problems with the facilitation of removing the constraints that prevent resolution of the problem (Pinsof et al., 2015a).

The differential causality pillar states that interactive systems are mutually influential, "with different systems contributing differentially to the variance in any process or outcome." (Breunlin et al., 2011, p. 295). For example, stress proliferation (i.e. a main stressor causing stress in secondary areas) is a problem with parents that have a child with ASD (Benson, 2006; Benson & Karlof, 2009). With differential causality, stress proliferation impacts couples differently. For some couples stress proliferation may activate biological symptoms (e.g. anxiety) in partners that lead to

conflict. For others, stress proliferation may lead to disengagement and reduced communication between partners.

The final pillar is sequential organization. Sequences are “interwoven tapestries of behavior, emotion, and cognition” (Breunlin et al., 2011, p. 301). IPCM suggests that maladaptive sequences are how couple problems manifest themselves (Pinsof et al., 2015a). For example, a problem sequence might initiate when one spouse asks a question related to their child. This question leads to a heated argument with frequent insults. The argument ultimately results in the couple withdrawing from each other, with the original question never being answered. Thus, IPCM works with the couple to remove the constraints that maintain this problem sequence which can lead to more adaptive sequences (Pinsof et al., 2015a).

IPCM is integrative and presents a blueprint that is inherent in the practice of psychotherapy with individuals, couples, or families (Breunlin et al., 2011). The blueprint includes the interconnected framework of hypothesizing, planning, conversing and feedback. For the current study, the IPCM blueprint provided a basic script on how to implement the couples therapy intervention. This blueprint can be visualized below:

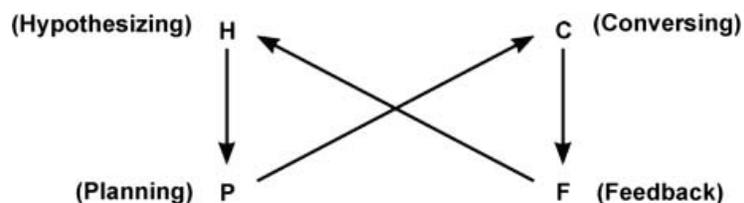


Figure 1-1. The Blueprint from Breunlin, Pinsof, Russell, & Lebow, 2011.

The hypothesizing framework aids with the process of determining what the problem is and how it's maintained. That is, the therapist works with the couple to not

only define the problem, but to determine what is preventing the couple from resolving their problem. It does this by focusing on problematic sequences within the client. Thus, IPCM is focused on the problematic sequences between behavior, emotions, and cognitions of individuals, couples, and families alike that present for therapy. To contextualize the problem further, IPCM incorporates Bruehl, Schwartz, and MacKune-Karrer's (1997) metaframeworks theory to provide broad categories that inform the problems that clients bring to therapy. The six metaframeworks that also inform IPCM are based on internal family systems and sequences, as well as organizational, developmental, multicultural, and gender-related concepts.

The planning framework in the IPCM blueprint serves to structure how therapy can help resolve the problem. More specifically, it incorporates common factors approaches (Sprenkle, Davis, & Lebow, 2009) to create six general categories. Within these categories examples of different therapy models are suggested to guide techniques used in the therapy room. Figure 1-2 illustrates how the hypothesizing and planning frameworks from the blueprint are categorized within the context of individual, couple, and family therapy. The large arrow is a graphical representation of how IPCM suggests that psychotherapy should progress. That is, beginning with more action oriented or behavioral approaches before moving to more emotional, bio-behavioral, or existential approaches in therapy. The smaller arrow serves as a "reminder" that higher level issues (e.g. how the individual views his or herself) regularly impact relational dynamics as therapy progresses down the matrix (Pinsof et al., 2015a).

Hypothesizing Metaframework	Planning Metaframework	Contexts of Therapy		
		Family- Community	Couple	Individual
Sequences Organization Development	<b>Action</b> e.g., Structural, Behavioral, Functional, Strategic			
Culture Gender Spirituality Sequences of mind (M1)	<b>Emotion/Meaning</b> e.g., Cognitive, Narrative, Experiential, EFT, CBT, DBT, Psychoeducation			
Biology	<b>Biobehavioral</b> e.g., relaxation, mindfulness, CBT, psychopharmacology			
Intergenerational Patterns: Sequences, Organization, Mind	<b>Family of Origin</b> e.g., Structural, Bowenian,			
Organization of Mind (M2)	<b>Internal representation</b> e.g., Object relations, Attachment Theory, Internal Family Systems			
Development of Self (M3)	<b>Self</b> e.g., Self Psychology, existential therapy			

Figure 1-2. The IPCM Matrix from Pinsof, Breunlin, Russell, & Lebow 2011.

IPCM was chosen as the theory to inform the couples therapy intervention in the current study as it is comprehensive, multisystemic, and empirically informed (Breunlin et al., 2011; Pinsof et al., 2011). It provides a clinical framework to intervene with couples based on a specific problem they present with, yet flexible enough to shift to different approaches should the problem not resolve itself within the hypothesized framework. Additionally, IPCM could be a theoretical perspective to help organize ASD research based in family systems theory across time (Cridland, Jones, Magee, & Caputi, 2014). Moreover, the data collection instrument used in the current study was created from IPCM theory.

## **Systemic Therapy Inventory of Change**

The Systemic Therapy Inventory of Change, or STIC, is an innovative empirically based feedback system to track client change in psychotherapy from a systemic perspective (Pinsof et al., 2015b, Pinsof et al., 2009). The STIC was born out of IPCM so that the theory can maintain its empirical underpinnings (Breunlin et al., 2011; Pinsof et al., 2011).

There are other systemic measures that could have been used (e.g. SCORE-15; Stratton et al., 2014, FACES-IV; Olsen, 2011) in combination with other individual self-report measures. However, most are not designed to be used as frequently as the STIC, and therefore lose the ability to more accurately track client change over time.

Additionally, other measures are too broad in their constructs and thus somewhat disconnected to the reason clients present for therapy (Pinsof et al., 2015b). The STIC system was created through a systematic process to accurately reflect how clients experience their relationships both in and out of therapy (Pinsof et al., 2015b; Pinsof et al., 2009).

The STIC relies on self-report data across six dimensions and subscales focusing on behavior, cognition, and emotion. The six dimensions are: “Individual Problems and Strengths” (IPS) that measure individual functioning; “Family of Origin” (FOO) measures the client's perspective of their family growing up; “Relationship with Partner” (RWP) measures the client's perspective on their marriage or relationship with a significant other; “Family/Household” (FH) measures the client's experience of their current family; “Child Problems and Strengths” (CPS) measures the adult client's perspective on their child(ren); and “Relationship with Child (RWC) measures the parent’s perspective of the relationship with their child. Data from each of the different dimensions and subscales

fall into normal and clinical ranges that are based on a U.S. national representative sample (Pinsof et al., 2015b). Given that the focus of this study is the couples' relationship, results will focus on findings derived from the RWP scale.

The STIC was chosen for data collection in this study because it is designed to measure parental and family functioning on several dimensions with repeated measures so as to increase validity within the study. STIC data collection in the current study occurred on a weekly basis. This level of investigation takes current research on the impact of stress proliferation on parents that have a child with ASD to the next level by not just measuring individual, couple, or family functioning once or twice during the course of a study, but by repeatedly measuring the effects of a couples therapy treatment designed to address functioning across the STIC domains throughout the duration of the study. Regularly collecting data on systemic variables allows for not only a more detailed picture of how the couple is functioning, but also allows for better assessment of the effectiveness of the couples therapy treatment (Knobloch-Fedders, Pinsof, Haase, 2015).

There have been other studies that tested interventions in reducing stress with parents of a child with ASD (e.g. Keen, Couzens, Muspratt, & Rodger, 2010; Tonge et al., 2006). However, these studies were based on teaching parents basic skills/behavior management with the child with ASD, and assessing stress levels in a pre-/post-test group design. The multi-dimensional approach (including measures of the impact of stress as well as other individual and relational functioning) in the current study investigated the effects of the couples therapy treatment over time in a non-concurrent multiple baseline across participants experimental design (Barlow & Hersen, 1984). A

distinct advantage of this methodological approach over other group design studies is its feasibility in applied settings (Kazdin, 2011). A multiple baseline design can be employed in most clinical agencies that provide psychotherapy services, and may be the best single subject design methodology for psychotherapy research (Ray, 2015). Additionally, using a multiple baseline design allows both clinician and researcher alike to make empirically informed decisions on treatment effectiveness in “real-time” based on client performance (Kazdin, 2011).

### **Significance of the Study**

This study aimed to explore how couples therapy could be used as an effective intervention to improve the marital relationship in parents with a child with ASD. Systemically-based interventions (including couple and family therapy) have been shown to be more effective than individual therapy or treatment-as-usual with various adult and child clinical populations (Carr, 2009a; Carr, 2009b; von Sydow, Beher, Schweitzer & Retzlaff, 2010). However, family systems based therapies are not well established as an intervention for families with a child with ASD (Carr, 2010; Cridland et al., 2014). This is problematic as the literature on ASD treatments call for more interventions that focus on the parents and the family environment (e.g. Keen et al., 2010; Osborne et al., 2008a; Solomon, Ono, Timmer, & Goodlin-Jones, 2008).

The demonstration of positive effects on the marital relationship can lead to couples therapy as a common treatment recommendation for parents of a child with ASD. This is significant as the rate and risk of divorce is higher and longer lasting in parents with a child with ASD as opposed to parents without a child diagnosed with ASD (Hartley et al., 2010). Hartley, Papp, and Bolt (2016) found that days where there were negative marital interactions predicted an increase in stress related to parenting a

child with ASD. This finding suggests that improving the quality of the marital relationship can lead to a reduction in stress related to parenting a child with ASD. Furthermore, Markowitz et al. (2015) state that many families experience a reduction in family quality of life prior to their child being formally diagnosed. Thus, intervention needs to focus on the greater family environment rather than just individual child symptoms and functioning.

### **Research Question**

- To what extent does couples therapy improve the marital relationship in parents that have a child with ASD?

### **Hypothesis**

- Couples therapy will improve the quality of the marriage for parents that have a child with ASD.

## CHAPTER 2 REVIEW OF LITERATURE

Since the first description of autism by Kanner in 1943, there have been many advances in how autism is treated. One of the most empirically validated treatment approaches is based on the principles of applied behavior analysis (ABA). Additionally, speech and language interventions, as well as educational interventions all target the child and his or her core ASD symptoms (Schreibman et al., 2015). All of these treatments are effective as they reduce problem behaviors, increase skill sets, and reduce the likelihood of institutionalization.

However these treatments solely focus on the child and his or her deficits. Furthermore, many interventions require parents and other family members to assume the role of a clinician which may increase overall treatment effects with the child with ASD (McConachie & Diggle, 2007). Yet parents are not always successful taking this role. Many times children return to clinics with increased problem behaviors when parents stop implementing the treatment recommendations for a number of reasons (e.g. complexity or intensity of the recommendations, personal beliefs or understanding of what should happen). Treatment adherence for parents with a child with ASD is problematic (Allen & Warzak, 2002; Moore & Symons, 2009). While behavior analysts have developed effective interventions for children with ASD, parents do not always implement these treatments, and a lack of skills does not seem to be an issue (Allen & Warzak, 2002). Therefore, if parents have the skill sets to intervene yet their child is regressing upon discharge, what else could be preventing progress? One factor that has been minimally addressed in the literature is parental functioning (Karst & Van Hecke, 2012; Saini et al., 2015). Throughout most of the literature on treating the child

and his or her deficits, there are no known studies that target the couple relationship for intervention with parents that have a child with ASD. It is important to review what is currently known about the treatment of children with ASD and the impact that it has on the parents.

### **ABA Interventions**

Applied Behavior Analysis, or more commonly known as ABA, is the systematic application of the science of human behavior to populations or problems of social significance including an analysis of the functional relationship between treatment and effect (Baer, Wolf, & Risely, 1968). ABA is technically not an intervention for autism. The principles and strategies that comprise ABA have been successfully utilized to change behavior in people with autism. Techniques such as reinforcement, prompting, and fading are used in different capacities to increase appropriate behaviors, reduce problem behaviors, and teach other functional skills. Discrete Trial Training, or DTT, is one packaged approach that incorporates a number of various ABA strategies to achieve desired behaviors.

One critique of DTT is the level of intensity required for its procedures (McEachin, Smith, & Lovaas, 1993). While DTT is an empirically validated treatment, it is intense. For example, in the Lovaas' (1987) oft-cited study, services were provided for 40 hours per week for a two-year period. For the best treatment effects, there is a large time commitment that may prove difficult when juggling other obligations such as a job, other children, or simply making dinner. DTT interventions are most effective when implemented with a high level of integrity.

## Early Intervention

One of the most common treatment recommendations when a young child is first diagnosed is Early Intensive Behavioral Intervention (EIBI) or early intervention. EIBI is a comprehensive behavior intervention based on the techniques of Lovaas (1987). Components of EIBI programs include home or center based, individualized one-on-one training with children around the age of three. EIBI also incorporates many ABA techniques, and is intensive with as many as 40 hours per week spent on the intervention. Additionally, parents are often trained to assume the role of therapists for their child (for a more detailed description see Green, Brennen, and Fein, 2002).

Kovshoff, Hastings, and Remington (2011) reported similar findings to Lovaas (1987). They found that after two years children in the study's intervention group had a higher chance of being placed in regular education classrooms. However, at the two year follow up since the early intervention had stopped, some of the children did not maintain the initial progress. In a meta-analytic review of EIBI studies using IQ and adaptive behavior scores (Sparrow & Cicchetti, 1989) as outcome measures, Eldevik et al., (2009) found that EIBI was more effective than the control and other comparison groups. Eldevik et al. (2009) recommend that EIBI should be the first intervention recommendation for young children with ASD.

As previously mentioned, in many EIBI programs parents are trained to take over as the child's therapist to increase treatment effects across various settings (e.g. home or public places). McConachie and Diggle (2007) suggest that parent implemented treatment works. However, the researchers go on to question the extent to which the effectiveness of parent implemented treatment compares when considering the effect that it has on the parents' relationship, wellbeing, and emotional health.

## **ASD Impact on Parents**

In a survey study, Schwichtenberg and Poehlmann (2007) found that mothers of children with ASD reported fewer depressive symptoms when their child was participating in an ABA intervention that had a higher number of hours per week. However, when there were a higher number of hours per week invested, mothers reported more feelings of personal strain. The authors reported that the relationship between ABA intensity, maternal depression and personal strain appear to be a function of something other than ASD symptomatology. That is, it is possible these mothers could be experiencing stress proliferation (Benson, 2006; Benson & Karlof, 2009). Stress proliferation is when certain main stressors increase stress in secondary areas. To illustrate with the case of families with a child with ASD, a mother might be stressed when the intensity of her daughter's self-injury increases. This may in turn create tension within her marriage if she feels her husband is not doing enough to help intervene.

A large portion of studies on caregivers and autism are from the mother's perspective (e.g. Baker, Blacher, Kopp, & Kraemer 1997; Benson & Kersh, 2011). This is likely due to the fact that mothers are typically the primary caretakers of children with ASD. Tehee, Honan, Hevey (2009) report that mothers experience more stress than fathers. The authors' findings suggest that this is due to the level of involvement of the parents. They found a strong positive correlation between perceived stress and levels of involvement in caring for the child in mothers. There was no similar finding in fathers.

However, Davis and Carter (2008) and Baker et al. (2003) did find similarities in levels of stress between mothers and fathers in relation to ASD symptoms, as well as child problem behaviors in their children. Baker et al. (2003) suggest that similarities in

levels of stress between mothers and fathers are related to high levels of agreement on child problem behaviors. This could be related to the greater involvement of the fathers in child care duties (Baker et al., 2003). These findings taken in conjunction with Tehee, Honan, and Hevey (2009) suggest higher involvement in raising a child with ASD increases parental stress.

Another issue where there seems to be some discrepancy is whether parenting stress is a product of the child's ASD symptomatology (e.g. deficiencies in social interaction, limited communication skills, restricted interests, and repetitive behaviors) or problem behaviors (e.g. self-injury, aggression, etc.). Baker et al. (2003) suggests that parental stress is more associated with child problem behaviors (that are not always present in children with ASD) than it is with developmental delays (i.e. ASD symptomatology). Davis and Carter (2008) suggest that the most consistent predictor of parental stress is ASD symptom severity. Osborne and Reed (2009) suggest that problem behaviors cause parenting stress.

The Osborne and Reed (2009) study appears to be more conclusive as they were able to draw their conclusions based on two distinct time points with two distinct comparison groups. Group 1 focused on very young children (age range approximately 2.5 to 4), and Group 2 included older children (age range 5 to 16). Both groups were assessed at one time point, and then again 9 to 10 months later. The researchers were able to conclude that ASD severity and parenting stress is mostly a concern when the child is young. Additionally, parenting stress looks as though it is "a much stronger predictor of future child behavior problems than child behavior problems are a predictor of subsequent higher levels of parenting stress." (Osborne & Reed, 2009, p. 68-69).

While the aforementioned studies (i.e. Baker et al., 2003; Davis & Carter, 2008; Osborne & Reed, 2009) might initially appear to conflict with each other, Baker et al. (2003) suggests that child problem behaviors and parental stress might have a mutually escalating effect. That is, as problem behaviors increase so does parenting stress and vice versa. This escalating effect idea can be connected to the concept of stress proliferation (Benson, 2006; Benson & Karlof, 2009). This mutually interactional effect is highlighted by Baker, Seltzer, and Greenberg (2011). They found that the parental relationship impacts the child with ASD as well as the child having an impact on the parental relationship.

The important conclusion that should be drawn is that having a child with ASD creates high levels of stress in parents. This stress can impact many areas of their lives including interventions with the child. High levels of stress can reduce the effectiveness of EIBI (Osborne et al. 2008b). More specifically, the greater the time commitment required in the EIBI program, and the more stress parents reported, the fewer the gains (Osborne et al., 2008b). This is an implication for needed intervention targeting the parental relationship.

Lyons, Leon, Phelps, and Dunleavy (2010) and Pottie and Ingram (2008) suggest the use professional services to assist with coping techniques that can reduce stress and increase positive mood in parents. Osborne and Reed (2009) suggest it is important that parents address their own stress before starting child interventions as high stress is an indicator of future child problem behaviors. These conclusions are similar to Kelly et al. (2008) who found a relationship between family conflict and ASD symptomatology and the importance of addressing the family conflict. Additionally,

Hartley et al., (2016) found that negative marital interactions between spouses lead to an increase in stress related to parenting. These findings suggest the importance of intervening with the parents to address contextual factors that could increase ASD symptomatology in their child.

### **Summary**

To this point, chapter two has highlighted some of the research literature that suggests that parents of a child with autism experience a great amount of stress when it comes to treating ASD symptomatology and associated problem behaviors (e.g. Osborne and Reed, 2009). Furthermore, the impact of this stress can reduce the effectiveness of ASD interventions (Osborne et al., 2008b). There are several other review articles that thoroughly detail the current state of the impact of autism on parents and families (Karst & Van Hecke, 2012; Saini et al., 2015; Sim, Cordier, Vaz, & Falkmer, 2016; Tint & Weiss, 2016). Examples of the reviewed research include Ekas et al., (2015), Hastings et al., (2005), and Hartley et al., (2016). The findings from these studies all point to a reciprocal nature parents and their child with autism have on each other.

In their synthesis of the literature, Tint and Weiss (2016) state that to date family research (including parental relationships) has been deficit based as well as atheoretical. They suggest that family systems oriented theories can provide a solid theoretical foundation from which to base future research in. This call seems like the perfect complement to address the conclusion from Saini et al. (2015): the need for more research into effective interventions aimed at supporting the relationship of parents that have a child with autism.

Chapter 3 outlines the methods for a couples therapy intervention that can begin to lay the foundation for more systemic oriented research to improve the relational functioning of parents that have a child with ASD.

## CHAPTER 3 METHODOLOGY

This chapter will detail the methodology used for studying the effect of a couples therapy intervention on the marriage quality of parents that have a child with ASD. First, the participants and the treatment setting are described. Next, the research design is reviewed. Then the dependent measure is detailed, including how it is administered and scored. Next, the independent variable is explained including the theoretical approach and outline of treatment procedures. Finally, treatment integrity and data analysis are discussed.

In 2007, a working group supported by the NIMH established guidelines for designing research studies for psychosocial interventions in autism (Smith et al., 2007). Within these guidelines, the initial phase suggests a “formulation and systemic application of a new intervention technique” (Smith et al., 2007 p. 366). While the authors were referring to direct interventions for children with ASD, this study extends the concept to interventions with children’s parents. That is, as the child with ASD impacts parental well-being (indicating a potential need for intervention for the parents), parents also have an impact on child well-being (indicating a potential need for intervention with the parents that can impact the child). The notion that the relational dynamics of the parental relationship (e.g. quality of the marriage) has an impact on the child’s development and characteristics of ASD, and that the parents could benefit from intervention is an idea that is gaining increased attention in the research literature (e.g. Baker et al., 2011; Hartley et al., 2016; Saini et al., 2015)

The task in the first phase of the guidelines is to “conduct initial efficacy studies to refine techniques and document clinical significance of effects” (Smith et al., 2007 p.

357). The current study is consistent with the first phase of the guidelines as a “proof of concept” study. That is, the study has some evidence or “proof” that couples therapy has an effect on the marital relationship of parents that have a child with ASD. Additionally, this study incorporates a single subject research design that is underutilized in psychotherapy research (Ray, 2015; Sharpley, 2007). However, this design allows the study to maintain the guidelines established by Smith et al. (2007) to better refine the techniques and effects of couples therapy research with parents that have a child with ASD.

### **Participants and Setting**

To participate in the study parents had to be married with a biological child with ASD. Additional inclusion criteria included: a) both biological parents reporting stress and conflict in their marriage that match stress and conflict descriptors in the clinical range of the STIC; b) both parents were required to have access to a computer and be comfortable enough to complete data collection via the Internet throughout the course of the study; and c) both parents were willing to attend weekly therapy sessions.

The couples in this study were recruited from a large autism clinic in the Mid-Atlantic region of the US. A recruitment flyer was posted in the waiting area of the center. Two additional announcements were made to the employee only email group informing providers of the study so that they may inform the parents of their patients who might be interested. The current study obtained IRB approval from the academic institution where the researcher is completing his doctoral degree, as well as from the medical institute where the study was conducted. Informed consent was obtained prior to any data collection.

The first couple in the current study is Jasmine and Avi. They are both in their 40s, and have graduate degrees with a combined household income over \$150K. Both parents come from divorced families, and have previously engaged in marital therapy.

Jasmine and Avi have two daughters aged seven and nine. Three months prior to enrolling in the current study, their youngest daughter was diagnosed with ASD. The diagnosis was a surprise as the couple was initially told their daughter did not have ASD. In the first session, the couple reported leading busy and “hectic” lives. This self-described “chaos” seemed to lead to negative interactions between the couple. A major concern for Jasmine and Avi is determining what they as parents need to do given their daughter’s diagnosis. More broadly, Jasmine states that being “Grand Central” (i.e. having to orchestrate and coordinate everything in the family) is most stressful. Avi says a lack of structure and regular schedules are most stressful for him.

For Jasmine her goals for therapy were to reduce anger, communicate better, and enjoy her spouse more. Avi’s goals were being able to better handle expectations not being met, talk more with his spouse, and bring some resolution to arguments. From a clinical perspective, the recurring themes in therapy are that Jasmine and Avi would like the family to get into a better rhythm and routine.

The second couple is Serena and Nadir. They are both in their 40s, Asian-American, and have graduate degrees with a combined household income over \$150K.

Serena and Nadir have two sons aged four and two and half. Their youngest son was diagnosed with ASD three months prior to beginning this couples therapy intervention. After the diagnosis Serena reported being in a “fog” and not being able to concentrate. She reported that she has gone through the phases of grief, and feels like

she can now move on. However, in the first session she presented as more reserved and possibly still in a “fog.” In contrast, Nadir suggested he took a more proactive approach and began looking for recommended interventions to meet their son’s needs, as well as to plan for the future especially around finances. Both Serena and Nadir suggested that as a couple they talk less and bicker more since having children, especially around care for their son with ASD. They report that there is too much to do in a day and as a result there is no time for each other. Furthermore, because they are exhausted things seem to quickly escalate into an argument. How to communicate better with each other was a primary goal in therapy.

The third couple in this research study is Lilliana and Caleb. They are both in their 40s, Caucasian, with graduate degrees with a combined household income of over \$150K. Both parents come from divorced families.

Lilliana and Caleb have three children. Their oldest son is eleven, their middle daughter is nine, and their youngest son is seven. The youngest son was recently diagnosed with ASD as well as a de novo genetic mutation (i.e. new genetic variants not seen in either biological parent) of known significance. While the exact implications of this mutation are not known, it does provide some genetic explanation of his ASD diagnosis (Meyer, Axelsen, Sheffield, Patil, & Wassink, 2012). During the course of this study, their son began intensive outpatient behavioral therapy. The couple reports that they have been to marital therapy previously, but it was not helpful as they felt the therapist did not understand their youngest son and his needs. A major issue for them is that their son’s problems behaviors have been escalating. Caleb stated that his biggest

stress is the day to day issues with his son's school. Lilliana stated that her biggest stress is the unpredictability of the home environment.

Sessions took place in a clinic office setting utilized for outpatient psychotherapy services. This setting is typical for psychotherapy services in community agencies, as well as private practices that offer mental health services.

### **Dependent Variable**

To examine the relationship between couples therapy and improved marital relationship status, this study measured the quality of the marriage of parents that have a child with ASD as they engaged in a couples therapy intervention. This dependent variable was chosen as the target as emerging research suggests that quality of the marriage of parents with a child with autism can systemically impact that child and his or her disorder (e.g. Baker et al., 2011).

Measurement of the quality of the parents' marriage occurred using the *Systemic Therapy Inventory of Change (STIC)* (Pinsof et al., 2009) In addition to measuring the quality of the marriage (i.e. the couple relationship), the STIC measures individual parental functioning, as well as child and family functioning. The STIC includes six scales: "*Individual Problems and Strengths*" (IPS) that measures individual characteristics of the parent, "*Family of Origin*" (FOO) measures each parents' perspective of their family growing up, "*Relationship with Partner*" (RWP) measures each parents' perspective on the quality of their marriage, and is the primary measure in the current study, "*Family/Household*" (FH) measures each parents experience of their current family, "*Child Problems and Strengths*" (CPS) measures the parent's perspective on their child(ren), and "*Relationship with Child*"(RWC) measures the parent's perspective of their relationship with their child

Each one of the six scales includes measures of several dimensions. For example, the primary scale in the current study, Relationship with Partner (RWP) is the combination of six subscales that ask questions related to “Partner Positivity”, “Trust”, “Commitment”, “Anger/Inequity”, “Sexual Satisfaction”, “Physical Abuse”, and “Substance Abuse” within the marriage. See Pinosof et al. (2015b) for the complete list of the STIC scales, dimensions, descriptions, and psychometric properties.

The STIC captures self-report data from each of the parents who complete the STIC separately. For the purposes of this study, parents completed their own *initial* STIC to determine sufficient levels of stress or conflict to qualify for the study. Data from the *initial* STIC served as the first baseline data point. The second questionnaire completed is the *intersession* STIC. It is a short form of the *initial* STIC and was used to collect data on a session by session basis as the primary dependent measure. Data from the *intersession* STIC was used for subsequent baseline data points, as well as all data points during the treatment phase. The *initial* STIC takes approximately 45 minutes to complete, while the *intersession* STIC takes approximately five minutes (Pinosof, Goldsmith, & Latta 2012). Data collection during baseline occurred approximately once a week. During the treatment phase, data collection occurred approximately 24 hours before each treatment session. Additionally, the STIC includes risk assessment questions (e.g. questions related to physical harm to self or other). The current study included an IRB approved protocol to address the endorsement of any risk items.

The STIC including the sub-scales have shown strong convergent reliability with other well-known instruments (e.g. Beck Depression Inventory (BDI) - Beck, Ward, Mendelson, Mock, & Erbaugh, 1961; Child Behavior Checklist (CBCL) - Achenbach &

Edelbrock, 1991). Further testing has continued to support the strong psychometric properties of the STIC (Pinsof et al., 2015b).

### **Independent Variable**

The independent variable in the current study is the couple therapy treatment. Couples therapy is defined by the Integrative Problem-Centered Metaframeworks (IPCM; Pinsof et al., 2015a). IPCM is a theoretical framework for conducting systemic and empirically informed psychotherapy.

### **Overview of the Systemic Approach and IPCM**

The couples therapy intervention followed the principles and approach of IPCM theory. As introduced in chapter one, IPCM provides an integrative and multisystemic framework for conducting couples therapy. At its core, IPCM is based in general systems theory. That is, the therapist maintains the assumption that the problems that parents bring to therapy do not reside in the individuals (i.e. pathological), but are a symptom of difficulties and barriers in the relationship between the partners. IPCM theory further defines the aforementioned difficulties as problem sequences between different systems (Pinsof et al., 2015a). These problem sequences include patterns of behavior, beliefs, and emotions.

According to IPCM, patterns of behavior are defined as a statement, question, or recounting of past events that occur in the therapy session and the verbal and non-verbal responses and reactions of the other partner. During the couples therapy intervention, the therapist focuses on the patterns of behaviors within the couple and the beliefs that are formed as a result of those behaviors. In the current study, beliefs are defined as cognitions (e.g. the meaning that the couple attaches to how they interact) and emotions (e.g. an internal feeling a partner expresses verbally or non-verbally). A

non-verbal response to a pattern of behavior would be denoted and verbally confirmed by the therapist. For example, aggressive communication is a pattern of behavior. The resulting belief might be that the couple can never agree on anything, which can lead to feelings of depression. These behavior patterns and beliefs are recursive and can be assessed by the therapist's observation of couple interactions, as well as descriptions provided by the couple. The therapist can then help the couple determine the connections between the patterns of behavior, the resulting beliefs, how they impact the couple relationship, and how they can change.

### **Treatment Procedures**

IPCM serves as a blueprint that can be used as a guide for the therapist in conducting psychotherapy with individuals, couples, or families (Pinsof et al., 2015a). The blueprint includes the interconnected process of hypothesizing, planning, conversing and feedback (see Fig. 1-1). For the current study the blueprint provided a basic script on how to implement the couples therapy intervention.

Beginning with hypothesizing, the therapist and his/her clients work together to determine what broadly defines their presenting problem. Data from the STIC aids this process. For each of the couples in the current study, data from the STIC showed that couple functioning was low. During the first session when hypothesizing what the presenting problem was and why couple functioning might be low, the therapist determined it was related to sequences and organization. More specifically, the therapist observed frequent arguments with little resolution. Of note, it is possible that more than one system could be impacting low couple functioning (e.g. concern over emerging problem behavior with the child with ASD). Too much incoming data is a concern with the STIC system (Pinsof et al., 2015b). Currently, the best approach is for

the therapist to review STIC data with the couple to determine the biggest problem to address in therapy.

With regard to planning, the therapist and clients worked together to devise a plan to address the hypothesized constraints to resolving the problem. For the couples in this study, the constraints of their reduced ability to communicate were related to chaotic and unpredictable daily schedules. In planning, IPCM states that therapy should first focus on brief, more behaviorally based interventions (e.g. how the couple interacts with each other) before moving to more historical or existential issues (e.g. problems with the family of origin or the acceptance of self) (Pinsof et al., 2011). In this study the therapist addressed arguments by focusing on how they communicate with each other to reduce the frequency of arguments.

The conversing “phase” involves asking questions, making statements, and providing directives (Pinsof et al., 2011). It is the responsibility of the therapist to maintain focus on the resolution of the presenting problem throughout the therapy. For the participants in the current study, questions, statements, and directives focused on how to improve communicating with each other to reduce arguing.

With regard to feedback, data is collected and monitored throughout the course of therapy. Empirical data from the STIC is also utilized to determine if the couple is resolving their presenting problem, or if changes need to be made with the direction of therapy. For example, the therapist may begin to notice that while a couple may engage in an argument in session, the argument is less destructive and the couple is able to bring resolution and respect their differing opinions. Thus, if data from the STIC in this case example suggests that there is a reduction in anger, and that the RWP scale is

trending toward the normal range, then it can be concluded that therapy was successful for the particular presenting problem.

### **Design**

The phase one guidelines for designing interventions with ASD (Smith et al., 2007) suggest the use of single subject experimental design (Barlow & Hersen, 1984) to investigate the research question. The current study employed a non-concurrent multiple baseline across participants design (Kazdin, 2011). Ray (2015) suggests that a multiple baseline design may be the most appropriate design for psychotherapeutic research. Procedurally, this method requires that a baseline be established first with each couple, followed by the intervention phase. In the case of this study, the intervention was introduced with each couple in a sequential, stepwise fashion so as to compare the effects of the intervention across participants. A treatment effect can be determined if the intervention introduced changes in the direction of the baseline (Kazdin, 2011). Additionally, the magnitude of change, slope of the data path, and stability and overlap in the data were examined to evaluate the efficacy of the intervention.

For the research question (*To what extent does couples therapy improve the marital relationship in parents that have a child with ASD?*), data were collected to establish a baseline level of functioning across the various scales that the STIC measures. Data continued to be collected on the STIC domains as the couple entered treatment. A maximum of 9 treatment sessions was set for this study. Previous research suggests that treatment effects can be seen within 9 sessions or less (Knobloch-Fedders et al., 2015; Lundblad & Hansson, 2006; Moore & Crane, 2014). All participants were aware of this limit. No further termination criteria were utilized based

on the data as clinical judgment determined it would be inappropriate to stop treatment before the maximum. However, the first couple did not reach the maximum number of treatment sessions due to difficulty traveling to the treatment site. A portion of the final treatment session for all couples was spent discussing future recommendations post-study. This is done for ethical considerations as it would be unethical to stop the intervention if the study destabilized couple functioning and there was no plan in place to re-stabilize the couple post-study.

### **Treatment Integrity**

Treatment integrity data were not collected for this study. The study was conducted in a clinical and naturalistic setting similar to the description in Knobloch-Fedders et al. (2015). That is, all treatment sessions were conducted in an outpatient setting where other clinical services are provided. Future studies will aim to collect treatment integrity data to further refine and standardize the procedures of IPCM therapy, and minimize the effects of experimenter bias.

### **Data Analysis**

As previously stated, the experimental design of the current study is a non-concurrent multiple baseline across participants. The three participants are each couple, with data paths graphed separately for each spouse. Visual analysis of the data was utilized to determine the effect of the couples therapy on parental relationships. Visual analysis included an evaluation of the mean level (i.e. average score of all data points) between the phases, trend (i.e. slope or direction of the data path), and variability (fluctuations around the mean or slope) of the data paths in baseline and intervention phases (Horner et al., 2005). Additional visual analysis included an immediacy of effect (i.e. how quickly there was a change between baseline and treatment phases), overlap

(i.e. the amount of treatment data that overlaps with baseline data), and consistency of data. That is, consistency of the data in all baseline phases across the participants, as well as data from the treatment phases across participants (Kratochwill et al., 2010). Generally speaking, a treatment effect could be indicated if there is a difference between the baseline and intervention phases in terms of the mean level, trend, and stability of the data paths.

At the client level (for the current study the client is the couple) the STIC has built in indicators of change. Scores on the various STIC domains fall into clinical and normal ranges that have been normed from a random and nationally representative sample (Pinsof et al., 2015b). Scores above zero are in the normal range, and scores below zero fall into the clinical range. All scores represent standard deviations from the clinical cut off. The STIC suggests that clinically significant change occurs when the scores move from the clinical range to the normal range. Statistically significant change occurs when a client score changes by one standard deviation between sessions (Pinsof et al., 2012). Thus, a change in score of one or more between any two sessions of the STIC scales means there has been a significant drop (or increase) in the severity (or improvement) of a given problem as reflected by the STIC (Pinsof et al., 2015b). For the current study, the statistical level of change was derived by calculating the difference between the last data point in the baseline phase and the last data point in the treatment phase. A difference of one or more indicates statistically significant change in improvement or deterioration of marriage quality during the course of treatment in the current study. For a more detailed review of the psychometric properties of the STIC system see Pinsof et al. (2015b).

## CHAPTER 4 RESULTS

This chapter will present the results from the study investigating the effects of the couples therapy intervention. The analysis reports on data from each couple on the Relationship with Partner (RWP) scale of the STIC. Visual analysis consisted of examining the level, trend, and variability of each phase (i.e. baseline and treatment) for each spouse within the couple relationship. Change as indicated by the STIC system is also reported.

While all scales from the STIC were monitored throughout the course of this study for all couples, the dependent variable for intervention was the marital relationship as measured using the RWP scale. STIC scores are normed and are reported in standard deviations from the clinical cutoff. Scores above zero fall into the normal range. Scores below zero are in the clinical range. Statistically significant change is also reported. That is, significant change in improvement or deterioration of marriage quality during the course of this study.

### **Jasmine and Avi**

At baseline, Jasmine's mean level of relationship quality on the RWP scale was -0.38, which is in the clinical range with a downward trend. During the treatment phase, Jasmine's mean level was -0.28 on the RWP scale, with an upwards trend. Variability was low across the phases. A clinical significant change occurred for Jasmine as the last data point in the treatment phase was in the normal range of the RWP scale. This indicates there was a clinical improvement in marriage quality. Statistically significant change did not occur as the change in score between the final data point in baseline and the final data point in treatment was 0.89.

At baseline, Avi's mean level of marriage quality was -1.15 which is in the clinical range with a downward trend. During treatment, Avi's mean level was -0.73 with an upward trend. Variability was low across the phases. Clinically significant change did not occur as his last data point of -0.18 was just below the clinical cut-off score of 0. However, statistically significant change did occur as the difference between the last baseline and treatment data point was 1.1. Based on the normal sample of the STIC, this indicates that Avi had a statistically significant improvement in marriage quality.

### **Serena and Nadir**

Serena scored in the clinical range during baseline, with a mean level of -1.40 on the RWP scale and a downward trend. At treatment, the mean level was -1.06 and remained in the clinical range. There was a slight amount of variability between both phases. During treatment, neither clinically or statistically significant change occurred indicating no change in the marital quality of their relationship.

At baseline, Nadir's score was in the clinical range on the RWP scale with a mean level of -1.09 and a downward trend. The treatment phase remained in the clinical range with a mean level of -1.19 with a downward trend that suggests deterioration in the quality of the marital relationship. Variability was low throughout the phases. Based on the RWP scale, neither clinically or statistically significant change occurred.

### **Lilliana and Caleb**

At baseline, Lilliana was in the clinical range on the RWP scale with a mean level of -2.08 and a stable trend. The treatment phase remained in the clinical range, with a mean level of -2.35 with a slightly downward trend. Variability was modest. Based on the RWP scale, there was no clinically or statistically significant change in the quality of the marriage.

In baseline, Caleb was in the clinical range on the RWP scale with a mean level of -2.20, and an upward trend. During treatment, he remained in the clinical range with a mean level of -2.22 and an upward trend. There was a high level of variability in Caleb's data. Based on the RWP scale, there was neither clinically nor statistically significant change. However, Caleb just missed statistically significant change as his calculated score was 0.98.

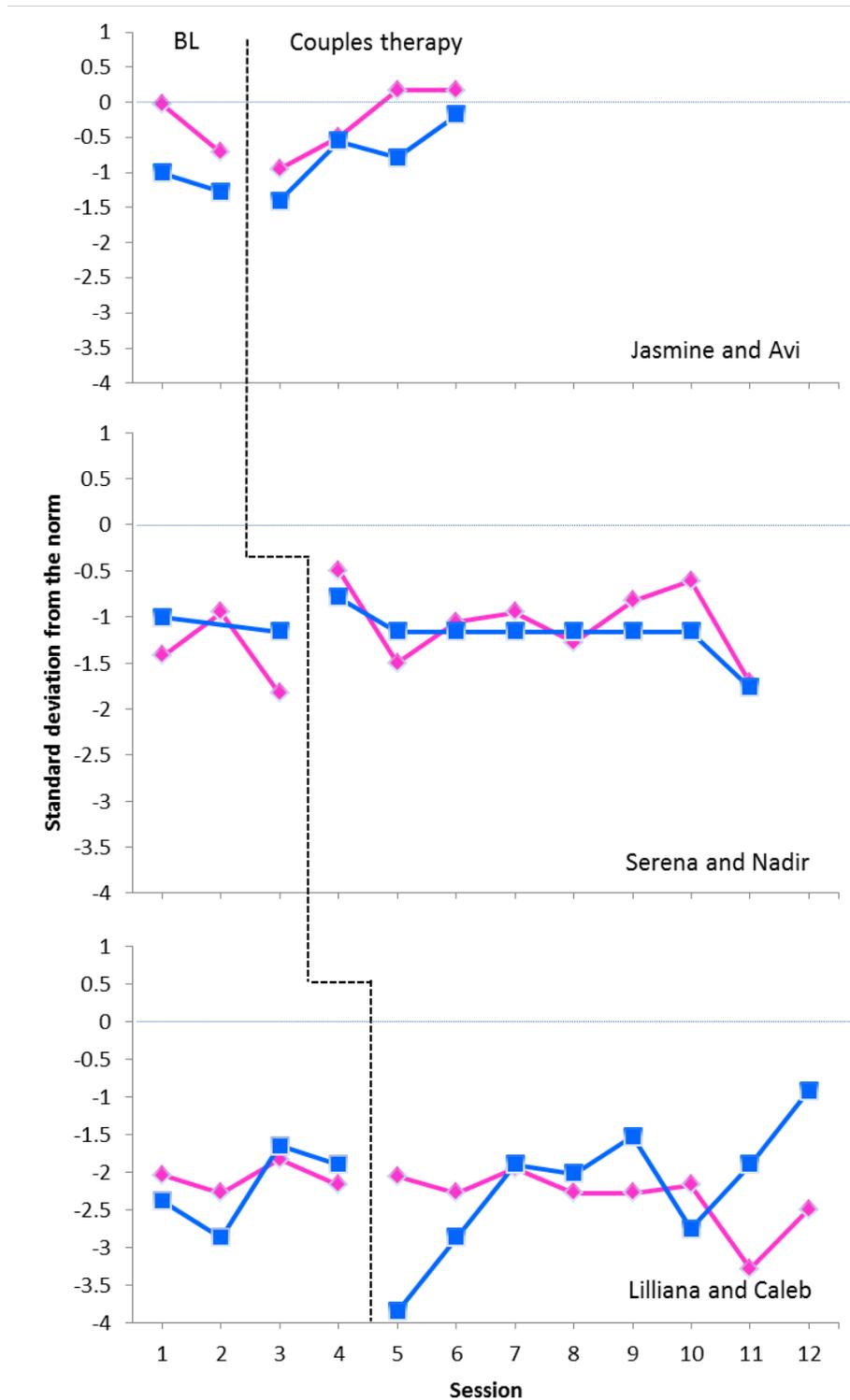


Figure 4-1. Relationship with Partner graph. The x-axis is each therapy session. The Y-axis is the standard deviation from the clinical cutoff. The clinical cutoff is horizontal line at 0 on the y-axis. The normal range is the area above 0. The clinical range is the area below 0. The pink line (diamond shape) is Jasmine, Serena, and Lilliana. The blue line (square shape) is Avi, Nadir, and Caleb.

## CHAPTER 5 DISCUSSION

The research question addressed in this study was to what extent does couples therapy improve the marital relationship in parents that have a child with ASD? The hypothesis was that couples therapy would improve the quality of the marriage for parents that have a child with ASD.

Given the proposed hypothesis, data from this study suggests a non-effect due to a lack of experimental control (Horner et al., 2005). Despite the non-effect, the couples therapy intervention should not be discarded from further development (Kazdin, 2011). Moreover, it could be argued that what these data show is that the intervention did have an effect, just not in the expected direction. Future studies will need to tease apart the complexities of working with parents that have child with autism in experimentally sound ways.

### **The Couples**

#### **Jasmine and Avi**

During baseline, the scores of both partners were trending downward. When treatment was introduced, the trend in the relationship began to improve for both spouses. The speed of which change in relationship functioning occurred for Jasmine and Avi are in line with the findings of Knobloch-Fedders et al. (2015). That is, quick positive change within the first four sessions.

Communication between Jasmine and Avi was difficult. Several times throughout the course of therapy they commented on the chaos of their lives, the difficulty they were having parenting both of their daughters, and how little time they had for each other. They stated how the couples therapy intervention was the only time where they

could talk with each other. It is possible that the couples therapy was reducing the “spillover effect” (Hartley et al., 2016). That is, there was less spillover from negative marital interactions that were impacting their parenting experiences. Over the course of the therapy, the couple reported that they were gaining confidence in their ability to disclose the ASD diagnosis to their younger daughter and her older sister (as well as manage potential responses).

### **Serena and Nadir**

When treatment was implemented there was an initial change in the quality of the relationship; however couple functioning returned to baseline levels after several sessions. In fact, not only did Nadir’s data return to baseline levels, his level of relationship quality deteriorated in the final session. For Serena, after three consecutive sessions of improvement, she experienced a statistically significant reduction in marital quality in the last session. Both partners reported that they had a major argument before the final session. The couple’s youngest son’s delays are significant and clinical recommendations from other providers suggest he needs substantial support (American Psychiatric Association, 2013). The significance of their son’s delays might be contributing to increased stress and the lack of quality in the couple relationship (Osborne & Reed 2009). Additionally, with the son’s recent diagnosis, the couple could still be in the process of resolving the diagnosis (Yirmiya, Seidman, Koren-Karie, Oppenheim, Dolev, 2015). Due to experimental time constraints, the current study could not further explore the connection between their son’s delays and the quality of their marriage.

For Nadir, in the final session he disclosed that he struggled to answer the STIC questions, never feeling like his responses changed from week to week. The lack of

variability with his RWP scores could be related to habituation of the STIC questions from week to week. However, when viewing the STIC data (e.g. the trust subscale which was not reported) in conjunction with the content of the therapy sessions (e.g. statements about feeling underappreciated, and nothing he does is good enough), it seems more likely that his emotional needs were not being met in and out of the therapy sessions. It could be that resolution to diagnosis could be especially problematic for him. Yirmiya et al. (2015) suggest that fathers may have a different coping strategy which could be impacting the marital relationship as well as the parenting relationship (Hartley et al., 2016).

### **Lilliana and Caleb**

Out of the three couples, Lilliana and Caleb's data is probably the most difficult to draw any clear conclusion. Caleb's baseline phase showed a fair amount of variability as well as an upward trending slope. From a methodological standpoint, it would have been more appropriate to extend the baseline until it stabilized (Kazdin, 2011). However, to delay treatment further would have been ethically problematic. Both he as well as Lilliana were endorsing risk items on the STIC (e.g. harm to self or others).

Lilliana's data are clearer. In fact, when viewing her data in isolation, one could conclude that treatment actually contributed to a reduction in marital quality. Baseline data were stable and that stability continued into the treatment phase suggesting no treatment effect. However, in the final two sessions Lilliana experienced a reduction in marital functioning. When considering the details of the conversations in session, some progress was being made. For example, in between the sixth and seventh sessions, there was a gap of two weeks due to scheduling conflicts. At the beginning of the seventh session, Lilliana reported that she did not like the break as she felt like she

needed the therapy sessions to check in and work through the issues of the week.

From a broader clinical perspective Lilliana and Caleb were a more complex case. Not only was their data highly variable, they also presented with more intense clinical issues. Their son engaged in physical aggression, and that aggression was a catalyst for aggression within the family as it became more difficult to manage. During the course of this research study, Lilliana and Caleb's son began intensive behavior therapy for the aforementioned problem behaviors. While the current study did not directly assess the impact of the son's treatment on the marital relationship, it should be noted that towards the end of couples treatment Caleb did report that through this study he was better able to appreciate his relationship with his son. Additionally, while not reported in the current study, data on the relationship with the child scale in the STIC for their son with ASD was trending towards the normal range for both Caleb and Lilliana. It is possible that the couples therapy may have primed the marital relationship to better support the intensity of the behavioral treatment and improve the relationship with their son (Karst & Van Hecke, 2012; Schwichtenberg, & Poehlmann, 2007).

### **Limitations**

The lack of treatment effects in the expected direction for two of the three couples poses a challenge for the demonstration of experimental control with the multiple-baseline single-subject design study. Typically, control is demonstrated in the multiple baseline design when the change in responding in each established baseline corresponds with the implementation of the independent variable (i.e. the onset of therapy in the current study). In this study, treatment did not correspond with a significant positive change in the quality of the marriage for each participant, thus there is no replication of treatment effects to demonstrate reliable experimental control.

However, these results could have been impacted by factors associated with the way this single case study design was implemented (e.g. study duration, timing of data collection). These factors could be indicative of a lack of sustained treatment effects, rather than the lack of control. For example, with Serena and Nadir the argument could be made that the couples therapy treatment brought up issues that they previously have not resolved, or even considered. Thus, the reduction in marital quality observed in the current study could be related to the implementation of the couples therapy intervention (i.e. working through difficult issues). Had the treatment been conducted for a longer period of time it may have been the case that their RWP data would begin to trend toward the normal range as they resolved their differences.

A similar effect could be argued with Lilliana and Caleb (i.e. an unexpected result from the implementation of treatment). Caleb's data demonstrated near statistically significant change in improvement and his treatment data were on an upward trend. In contrast, Lilliana's data suggested deterioration in marital quality. With this couple it could be argued that the treatment did have an effect that resulted in the emergence of different perspectives on the status of the marital relationship. That is, Caleb was getting his needs met in therapy, whereas Lilliana was not, resulting in the data trends in opposite directions. If the study had been longer in duration, the couple could have possibly shifted their perspective on their marriage to where both were trending towards the normal range. More research is needed to identify if the current results indicate a lack of control, or demonstrate an ineffective treatment to improve the marital relationship. This is discussed further under future directions.

It should be noted that a persistent issue with non-effects data does lead to potential publication bias. There is some existing research that suggests how publication bias occurs in such cases (e.g. Dwan, Gamble, Williamson, & Kirkham, 2013; Easterbrook, Berlin, Gopalan, & Matthews, 1991; Sham and Smith, 2014). That is, research that demonstrates some treatment to be ineffective is less likely to be published. This publication bias can have a significant impact on the scientific understanding of treatment in that only half the story (i.e. the successful half) is allowed to be told.

The use of a self-report measure (i.e. the STIC) to examine changes in the quality of marital relationship is another limitation in this study. The measurement of couple functioning is based on a parental self-report tool. Thus, the interpretations of findings in couple functioning are subjective. Additionally, while the couples therapy treatment was conducted in a naturalistic environment with an experienced and fully Licensed Marriage and Family Therapist, treatment integrity data have not been analyzed. Thus, more subjectivity could have been introduced as the experimenter could have deviated from the treatment procedures. This will be discussed further in future directions.

While the current study recruited a fairly diverse sample in some areas (e.g. parent ethnicity and child's level of functioning), other areas were not. All participants in the current study came from a high socio-economic level. Therefore, results from this study can only be generalized to married couples with similar demographics. Additionally, it was beyond the scope of this initial study to include single parents, same sex parents, or non-biological parents.

## Future Directions

The results of this study indicate that methodological design is one of the primary concerns in future research with parents of ASD children. The current study may be the first of its kind to study a couples therapy intervention with a multiple baseline design in family focused ASD research. It is clear that treatment protocols must be more concretely defined. While IPCM theory (Breunlin et al., 2011; Pinsof et al., 2015a; Pinsof et al., 2011) is well structured, it may not be descriptive enough for any couples therapist to implement with a high level of fidelity. In the same vein, it will be crucial to include treatment integrity checks in future research. Integrity checks are to insure that couples therapy with parents that have a child with ASD is being conducted appropriately and that it is having the intended effect (Smith et al., 2007). Sandberg et al. (2015) offer a potential process for developing a treatment integrity procedure for a systems based theory for couples therapy. Southam-Gerow and McLeod (2013) offer a definition of treatment integrity to more broadly advance the field of treatment integrity research. The authors' definition includes a therapist competence component. In future studies with treatment integrity data, therapist competence may be of particular importance when working with families impacted by autism due to the disorders complex manifestation and its impact on parents (Hayes & Watson, 2013).

Additionally, it may be important to include periodic clinical checks during more applied systemic therapy research. There is an inordinate amount of data that comes in from the STIC (Pinsof et al., 2015b). This flow of data may require a study team to monitor its impact on clinicians executing the therapy, as well as the clients.

Similarly, capturing data post therapy session should be evaluated. This relates directly to the demonstration of the control issue described earlier. That is, it is possible

that there was some transient benefit to therapy that was not captured by the present methods. Future research should include not only pre- and post- measures, but in session measurement as well. If there is an initial impact of therapy on marital functioning, then next steps would include investigating methods to sustain that benefit over longer periods, or to identify the optimal therapy schedule (e.g., bi-weekly, weekly, etc).

It will also be important to investigate the length of time needed for treatment effects. Due to experimental time constraints, the current study was capped at nine treatment sessions. Knobloch-Fedders et al. (2015) found that treatment effects stabilized by the eighth session using couples therapy based in IPCM. Only one of the couples in the current study found similar results. However, Knobloch-Fedders et al. (2015) did not control for the presenting problem. It is possible that due to the complexities and unpredictable nature of ASD (Hayes & Watson, 2013), parents of children with ASD may need a longer period of time to see treatment effects. Furthermore, experimental time constraints in the current study may have negatively influenced treatment sessions by “forcing the issue” to quickly resolve the problem within the time allowed.

Finally, future research should investigate the impact of a couples therapy intervention longitudinally in conjunction with child-focused treatments such as early intervention and other behavioral based treatments. It may be possible that couples therapy may improve child outcomes (e.g. Karst & Van Hecke, 2012; Rao & Beidel, 2009).

## Conclusions

Since the first known descriptions of autism (Kanner, 1943), many great strides have been made in our biological understanding of this condition (Sanders et al., 2015) as well as how to best intervene with the child to improve outcomes (Schreibman et al., 2015). While the research base is lagging behind, understanding and interest in the parental and family systems impact of ASD is increasing (e.g. Baker et al., 2011; Hartley et al., 2016; Markowitz et al., 2015).

The current study adds to the emerging research base on the impact the parental relationship has on the child with ASD. Despite the inconclusive results of the current study, potential positive effects were seen with at least one couple. This study serves as an initial step aimed at answering the call for more systems oriented research specifically for parents of children with ASD (Cridland et al., 2014; Tint & Weiss, 2016). This study also begins to reintroduce single subject research methodology to the field of marriage and family therapy research (Crane, 1985). Technology is emerging to address the complexities of research with couple and family systems, and to help bridge the scientist-practitioner gap (Pinsof et al., 2012). Couple and family research no longer needs to rely on large group design studies in large institutions. Single subject research can be a viable method to bring research to the individual psychotherapist to the various settings in which they practice (Ray, 2015; Smith et al., 2007).

## APPENDIX SYSTEMIC THERAPY INVENTORY OF CHANGE

The following is a list of the six major scales and their subscales. The STIC was created using simple and common language (Pinsof et al., 2009). For a more in-depth review of the scales, descriptions, and psychometric properties see Pinsof et al. (2015b).

**“Individual Problems and Strengths” (IPS)** measures individual characteristics of the parent

- Flexibility/Resilience
- Life Functioning (with work, school, or home)
- Open Expression
- Self-Acceptance
- Disinhibition (self-control including harming others)
- Negative Affect (depression, anxiety)
- Self-Misunderstanding
- Substance Abuse

**“Family of Origin” (FOO)** measures each parents’ perspective of their family growing up

- Mutuality of Expectations (Clear Expectations)
- Positivity
- Abuse
- Intrusiveness
- Negativity
- Substance Use

**“Relationship with Partner” (RWP)** measures each parents’ perspective on the quality of their marriage

- Commitment
- Partner Positivity
- Sexual Satisfaction
- Trust
- Anger/Inequity
- Physical Abuse
- Substance Abuse

**“Family/Household” (FH)** measures each parent’s experience of their current family

- Boundary Clarity
- Decision Making
- Family Pride
- Positivity
- Abuse
- Feeling Misunderstood
- Negativity

**“Child Problems and Strengths” (CPS)** measures the parent’s perspective on their child(ren)

- Parent/Child Alliance
- Prosocial (child ability to think about others)
- Social/Academic
- Antisocial
- Food/Weight Concerns
- Impulsivity
- Negative Affect (depression, anxiety)

**“Relationship with Child” (RWC)** measures the parent’s perspective of their relationship with their child

- Efficacy (ability to parent well)
- Positivity
- Negativity

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## BIOGRAPHICAL SKETCH

After graduating with a bachelor's degree in Child and Family Development from the University of Georgia, Jason got his start in the world of autism by providing applied behavior analysis based services at the Marcus Autism Center in Atlanta, GA. It was at Marcus where he first saw there was a real need for family intervention, especially for families that have a child with a disability. These experiences catapulted him to complete a master's degree in Marriage and Family Therapy at Syracuse University.

While his master's program provided him with a great clinical foundation, he wanted to do more. Not only did Jason want to help people, he wanted to advance the science of family therapy. This is what led him to pursue a doctoral degree in Counseling and Counselor Education from the University of Florida. During his time at UF, Jason was able to "put it all together" by expanding his clinical skillset as well as begin to develop his research skills. Currently, he is employed at the Center for Autism and Related Disorders at the Kennedy Krieger Institute where he practices Marriage and Family Therapy as well as continuing to develop a research agenda of utilizing technology to improve care for families that are impacted by autism.