

Running Head: CBC by a pediatric consultant

A multiple baseline investigation of Conjoint Behavioral Consultation (CBC) facilitated  
by a pediatric mental health consultant

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### **Abstract**

Behavior problems are the most common reason that young children are referred for mental health services (Offord et al., 1991). While effective intervention and treatment become a top priority for parents and educators alike, the resources mobilized to address these behavioral concerns vary depending on role and setting. A plethora of literature suggests that collaborative partnerships between families, educators and outside services providers are necessary and beneficial to address these issues, but there continues to be a lack of coordination between service providers, educational professionals and parents (Blue-Banning, Summers, Frankland, Nelson & Beegle, 2004; Power, DuPaul, Shapiro & Kazak, 2003).

Conjoint behavioral consultation (CBC; Sheridan & Kratochwill, 1992) is a model that has the potential to address barriers, improve communication, build partnerships and increase collaboration between educators, families and healthcare providers (Burt et al., 2008; Power, 2003; Sheridan et al., 2009). Developed for use in the school setting to build problem-solving partnerships between teachers and parents, the traditional CBC model has a formidable body of empirical evidence to support its effectiveness for a plethora of mental health, educational and behavioral issues (Sheridan, Eagle, Cowen and Mickelson, 2001; Wilkinson, 2005). While CBC has been recommended as “best practice” for use in pediatric settings (Power, 2003), this study is among the first to experimentally evaluate its effectiveness when facilitated by a pediatric mental health clinician.

In the current study, a pediatric mental health clinician used Conjoint Behavioral Consultation to facilitate the development and implementation of a collaborative behavior intervention plan. Parents, teachers and an outside mental health provider worked together to create and support a behavioral intervention that was used at home and school. Behavioral



outcomes and collaboration indicators were measured throughout the study. Direct observations were conducted to monitor the percentage of expectations and commands that each participant complied with during specific problematic routines at home and school.

Using a multiple baseline design across three participants, the researcher evaluated the effectiveness of collaborative interventions developed and implemented through CBC as means to improve behavioral outcomes at home and school. Data was evaluated for variability, trend, level, and percentage of overlapping data points. Effect sizes independent samples t-tests were also calculated for each participant. Perceptions of goal attainment, collaboration and parent-teacher relationship are qualitatively discussed. Results indicate that collaborative interventions developed by parents, teachers and a pediatric mental health clinician through the CBC process can be an effective way to improve behavior during problematic routines at home and school. Implications, limitations and future research directions are discussed.

## **Chapter 1**

### **Introduction**

Children develop and grow within multiple interrelated systems (Bronfenbrenner, 1977). For all children, these systems do not exist in isolation. Because a child's success in one environment is partially dependent on the others, positive partnerships between the systems and consistency across settings lead to better outcomes, such as improved student achievement, attendance, attitudes toward school and higher educational aspirations (Christenson, 1995; Sheridan, 1997; Sheridan, Clarke, Knoche, & Pope Edwards, 2006; Wilkinson, 2005).

When children are faced with mental health and/or medical conditions, the importance of collaboration between the systems in which they exist becomes even more important. Oftentimes, these children have many significant and varied needs (i.e. social, emotional, academic, behavioral, spiritual, physical and psychological) that require the expertise of multiple professionals (Burt, Clarke, Dowd-Eagle, & Sheridan, 2008; Sheridan, Warnes, Woods, Blevins, Magee, Ellis. 2009). While collaborative partnerships between families, physicians, psychologists and educators appear necessary and greatly beneficial, there continues to be a lack of coordination between service providers, educational professionals and parents (Blue-Banning, Summers, Frankland, Nelson & Beegle, 2004; Power, DuPaul, Shapiro & Kazak, 2003). Federal legislation (Individuals with Disabilities Education Improvement Act of 2004; IDEIA; PL 108-446), the American Academy of Pediatrics (AAP, 1993; 2000; 2001), families and prominent researchers (Power et al., 2003; Christenson, 2004; Sheridan, 2009) all acknowledge that educational, psychological, behavioral, and medical outcomes will be optimized when key stakeholders work together. However, many barriers such as time, geographical distance, scheduling, insurance reimbursement, role confusion, resistance to change, and lack of trust

interfere with effective collaboration (Ouellette, Briscoe, & Tyson, 2004; Park & Turnbull, 2003).

Conjoint behavioral consultation (CBC; Sheridan & Kratochwill, 1992) is a model that has the potential to address barriers, improve communication, build partnerships and increase collaboration between educators, families and healthcare providers (Burt et al., 2008; Power, 2003; Sheridan et al., 2009). Developed for use in the school setting to build problem-solving partnerships between teachers and parents, the traditional CBC model has a formidable body of empirical evidence to support its effectiveness for a plethora of mental health, educational and behavioral issues (Sheridan, Eagle, Cowen and Mickelson, 2001; Wilkinson, 2005). While CBC has been recommended as “best practice” for use in pediatric settings (Power, 2003), there is virtually no experimental data on its effectiveness in improving behavioral outcomes in home and school settings and its ability to increase collaboration between families, educators and healthcare providers (Sheridan et al., 2009).

The current study utilized a multiple baseline design to experimentally evaluate the effectiveness of conjoint behavioral consultation (CBC) as a means to increase collaboration between families, schools and pediatric mental health care providers and improve behavioral outcomes at home and school. The results of this study contribute to the literature by building upon the existing case and exploratory studies (Burt et al., 2008; Sheridan et al., 2009) that have investigated the use of CBC in pediatric settings. These non-experimental studies found encouraging acceptability ratings, perceptions of goal attainment, and effect sizes (Sheridan et al., 2009). In addition, parents reported greater feelings of support from their child’s school and teacher, and a participating teacher reported the realization that meeting the complex needs of a child required a “team effort.” While the existing literature suggests favorable outcomes when

CBC is used in pediatric settings, the current study is among the first to provide experimental data on its effectiveness.

Experimental findings and qualitative information gained from this study will inform professionals across settings about the benefits and challenges of using CBC in pediatric settings. With this enriched knowledge and empirical support, CBC will serve as a valuable tool for psychologists, educators and healthcare professionals who are seeking to improve collaboration, consistency and treatment outcomes for children with a myriad of mental health and medical issues. For children and families, the results of this study will bring them one step closer to obtaining the consistent, coordinated and comprehensive care that they need and deserve.

## **Chapter 2**

### **Literature Review**

When families, schools and communities collaborate, children prosper. The benefits of positive home-school partnerships are well documented (Christenson, 1995; Sheridan, 1997; Wilkinson, 2005) and the importance of continuity across settings has been demonstrated (Phelan, Davidson & Yu, 1998; Sheridan et al., 2006). Even with this knowledge, families, schools and community agencies face challenges when trying to collaborate in a meaningful and sustainable way to address issues such as behavior problems (LeFever, Butterfoss & Vislocky, 1999).

### **Behavior Problems**

Behavior disorders lead to negative outcomes for children, families, schools and communities (LeFever et al., 1999; Offord, Boyle & Racine, 1991; Shinn, Ramsey, Walker, Stieber, and O'Neill, 1987; Wentzel, 1993; Jenson, Olympia, Farley & Clark, 2004). In addition, children with developmental disabilities are especially at risk to develop behavior problems severe enough to need treatment (Horner, Carr, Strain, Todd, & Reed, 2002; Rutter, 1985).

Disruptive classroom behavior has been found to be predictive of poor performance on standardized achievement tests, lower grades, and less time spent actively engaged in classroom activities (Shinn, et al., 1987; Wentzel, 1993). More concerning is the higher rates of substance abuse, depression, and school drop out reported among students with externalizing problems (Jenson et al., 2004). Even in children as young as two years-old, non-compliant, aggressive and disruptive behavior problems have been linked to negative outcomes in adulthood, such as criminality and anti-social behavior (Vitelli, 1997).

When examining the development of more serious behavior problems and maladaptive patterns, non-compliance is considered to be a precursor to conditions such as oppositional defiant disorder (ODD) and conduct disorder (CD); (March & Mulle, 1998). Therefore, it is concerning that non-compliance is “one of the most common problems faced by educators and parents of children with and without disabilities” (Ray, Skinner & Watson, 1999, p. 622). In terms of treatment, compliance is often the target of intervention, as it serves as a prerequisite to effective instruction (Ray, Skinner & Watson, 1999). In addition, more significant behaviors such as tantrums and aggression can often be avoided if a child is able to comply with parental and educational demands.

Children with developmental disabilities are at an increased risk to develop disruptive problem behaviors (Horner, Carr, Strain, Todd, & Reed, 2002) and thus, experience the negative outcomes associated with those behaviors. For children with autism spectrum disorders, the marked impairment in social interaction and communication, along with the repetitive and stereotyped behavior patterns, increase the likelihood that they will demonstrate problem behaviors such as non-compliance (Volmer, 1995), tantrums, over activity, and other disruptive behavior (Rutter, 1985).

In addition to the negative outcomes for the child, behavioral problems can negatively impact the settings in which they arise (e.g., daycare, school), as they can harm student-teacher relationships (Birch & Ladd, 1998) and contribute to teacher burnout (Hastings & Bham, 2003). While many teachers report that they were not sufficiently trained to manage disruptive behavior in their classrooms (Stage & Quiroz, 1997), Lyon et al. (2009) assert that the implementation of school-based prevention programs can promote a positive classroom climate and support teachers’ mental health and perceptions of self-efficacy (Rimm-Kaufman & Sawyer, 2004).

Within families, disruptive behavior problems can have a negative impact on family functioning. Studies have shown that parents of children with attention deficit/ hyperactivity disorder (ADHD) and comorbid oppositional defiant disorder (ODD) or conduct disorder (CD) report greater marital discord than parents of children with ADHD alone or without a diagnosed behavior disorder (Wymbs et al., 2008). In addition, less marital satisfaction, more frequent fighting, and more negative verbalizations were reported by parents of children with ADHD than by parents of children without ADHD (Wymbs et al., 2008). These negative consequences can eventually lead to dissolution of the nuclear family unit. Wymbs et al. (2008) found that parents of children with ADHD were almost twice as likely to divorce by the time their children were 8 years old than parents of youth without ADHD (22.7% vs. 12.6%). Siblings also experience some of the stressors and relationship difficulties associated with disruptive behavior disorders. In fact, siblings of children with behavior disorders display more behavior problems than siblings of comparison children (Brestan, Eyeberg, Boggs & Algins, 1997). The evidence suggests that behavior problems can be very harmful to children, teachers, and families. But there is reason to be hopeful, as interventions exist to treat these concerns in a variety of settings. Therefore, it seems possible and logical for the systems that support children with behavioral problems to collaboratively and consistently implement interventions across settings. Unfortunately, research suggests that this cooperative coordination of service rarely happens, thus creating barriers to comprehensive assessment and treatment (Blue-Banning, Summers, Frankland, Nelson & Beegle, 2004; LeFever et al., 1999; Power, DuPaul, Shapiro & Kazak, 2003).

### **Systems Collaboration**

Given the damaging outcomes for teachers and families, it is no wonder that disruptive behavior problems are the most common reason that young children are referred for mental

health services (Offord et al., 1991). While effective intervention and treatment become a top priority for parents and educators alike, the resources mobilized to address these behavioral concerns vary depending on role and setting. For example, classroom discipline procedures and school-wide behavioral programs are frequently used to address many behavior problems at school. In children who demonstrate pervasive behavioral problems, teachers often seek consultation from special education teachers, school psychologists or school administration. Individualized school interventions are developed to address specific concerns. Parents, on the other hand, often obtain services from community mental health agencies, physicians and private mental health providers (e.g. psychologists, psychiatrists, social workers, counselors). Similar to the school-team, these mental health providers usually develop intervention plans to be implemented at home and during treatment sessions. These two entities typically function independently, with the parents serving as liaisons when absolutely necessary. An example of this fragmentation is well described in Power (2003) when he states "...school psychologists traditionally have targeted their efforts on issues arising in the school setting and they may focus only on the school and family systems. Similarly, pediatric psychologists typically focus on health and family systems and may have a limited understanding of school ecology" (p.13).

Park and Turnbull (2003) assert that "no one agency or service provider has all the knowledge and skills necessary to meet the multiple needs of children and families" (p.48), therefore integration of services is crucial to enhance the development of children and quality of life for their families (Bailey, 1998). While parents, professionals and legislators (Individuals with Disabilities Education Improvement Act; IDEIA; PL 108-446, 2004) recognize the importance of collaboration and strive to build partnerships (Blue-Banning et al., 2004), there



continues to be a lack of coordination between service providers, educational professionals and parents (Power et al., 2003; Blue-Banning et al., 2004).

Some researchers go even further to suggest that the lack of systematic collaboration between school and outside providers may be hindering the realization of maximal treatment outcomes (LeFever, Villers & Morrow, 2002). With ADHD particularly, results of the Multimodal Treatment Study of Children with ADHD (MTA) suggest that “regular and intense collaboration between providers of treatment and children’s teachers is an important tool for optimizing ADHD treatment intervention” (LeFever, et al., 2002, p.68)

### **Systems collaboration: Why do we need to work together?**

In order to successfully address the mental health needs of children; their functioning must be understood in terms of the multiple systems in which they exist (i.e. educational, recreational, healthcare, mental healthcare, faith-based institutions and child welfare (Power, 2003). The American Academy of Pediatrics (AAP, 2000; 2001) recognizes the importance of systems collaboration and recommends that physicians ask parents and school personnel about core symptoms, duration of symptoms and amount of functional impairment when they are treating children for medical and psychological disorders. According to the AAP (1993), this type of collaboration can reduce costs and improve detection, prevention and management of health conditions affecting children.

In 1999, the U.S. Department of Health and Human Services reported that there were not adequate resources to meet the many mental health needs of children and families. In fact, less than half of the estimated 21% of children between 9-17 who have one or more mental health disorders actually receive mental health or pediatric services to address their needs (Shaffer,

Gould, Fisher, & Trautman, 1996; U.S. Department of Health and Human Services, 1999). However, Weist et al. (2001) suggest that available resources can be enhanced by utilizing universal systems that are already in place to deliver services to children, namely schools, to provide improved mental health services. In addition to maximizing resources, research has demonstrated that collaborative linkages among family, school, health care system and mental healthcare system can improve a child's ability to cope with chronic illness and mental health disorders (Power et al, 2003). Further, recent educational reforms have emphasized the importance of addressing obstacles to learning and academic performance, many of which originate from medical or mental health issues (Adelman & Taylor, 1998). Thus, legislation such as Goals 2000 "affirmed that addressing the healthcare needs of children is the business of schools and that schools have a critical role to serve in providing healthcare services related to intervention and prevention" (Power et al., 2003, p. 8). When medications are involved in treatment, communication and collaboration between prescribing physicians, mental health providers and educators is even more critical (Power et al., 2003). By forging new partnerships between service providers, educational systems and community members, evidence-based treatments and strategies can be adapted to be used more broadly in the school and community settings (Power, 2003).

### **Collaborative partnerships: Why are they important?**

The past thirty years of research strongly links collaboration between families and educators with increased student success (Christenson, 1995; Sheridan, 1997; Wilkinson, 2005). In addition to the positive effects for children, home-school partnerships benefit families, teachers and schools (Christenson, 1995). The list of positive outcomes is extensive including improved school attendance, more positive attitudes toward school, increased student

achievement, better study habits, higher educational aspirations and fewer discipline referrals (Sheridan et al., 2006). In fact, positive, collaborative parent-educator partnerships are considered to be “primary protective factors” for children by prominent researchers in the field (Christenson & Sheridan, 2001; Weissberg & Greenberg, 1998). Families are more likely to contribute to and support their child’s school when they are given responsibility, involved in joint decision making, and treated as equal stakeholders (Garbacz et al., 2008).

When families and schools collaborate, consistent language, strategies, goals, and consequences are established in the home and school settings. This concept of continuity has been shown to be essential for maximal academic outcomes (Sheridan et al., 2006). If continuity is not present between home, school and peer settings, students have been shown to be at significant risk for mental health problems (Phelan et al., 1998). Positive family-school partnerships encompass many of the methods recommended for improving continuity such as shared goal setting and decision making, engaging in frequent, meaningful dialogue, and delivering consistent messages regarding learning (Christenson & Sheridan, 2001). In the case of early interventions, efforts were found to be more effective when continuity and positive relationships were present among care-giving systems (families and early childhood educators) (Rimm-Kaufman & Pianta, 2000).

In contrast, families report increased stress and exhaustion when they have to fight for services and struggle with difficult relational issues. In a qualitative study by Blue-Banning et al. (2004), families reported that their quality of life was linked to the quality of partnerships with service providers. This evidence further supports the importance of high-quality partnerships between families, educators and service providers (Blue-Banning et al., 2004).

**Benefits of collaborative partnerships.**

For children with disabilities, collaborative partnerships are especially important (Adelman & Taylor, 1997; McKnight, 1995; Roberts, Rule & Innocenti, 1998). Because of their significance to educational planning, emphasis on collaborative partnerships has been written into federal legislation. The Individuals with Disabilities Education Improvement Act (IDEIA; PL 108-446, 2004), established by congress to guide the provision of special education services to students with disabilities, names collaborative partnerships between families and schools as one of its six primary principles. Specifically, families and schools are required to work together when designing and implementing special education programs (IDEIA; PL 108-446, 2004). Even with legislation and the best intentions of schools and families, collaborative partnerships are rarely developed and maintained with success (Blue-Banning et al. 2004; Bruder, 2000; Rainforth, York & MacDonald, 1992).

Within the early childhood literature, the importance of systems collaboration has been established (Sheridan et al., 2006). When services are “family focused” and families are engaged in meaningful partnerships, parents experience an improved sense of self-efficacy and personal control (Blue-Banning et al., 2004). In addition, early collaborative experiences can encourage parents to become more involved in their child’s education, contributing to the creation of positive partnerships with future educators and service providers (Blue-Banning et al., 2004). Because a child’s early educational experience is positively related to later academic performance, these early partnerships will also support academic success later in a student’s academic career (Ladd & Price, 1987; Reynolds, 1991). In fact, high quality relationships between preschool teachers and parents, along with enriching home environments and the value

parents place on education and literacy, are essential components that contribute to academic performance.

When professionals collaborate, they are able to exchange invaluable knowledge, understanding and perspective. For example, Power, DuPaul, Shapiro and Parrish (1995) suggest that health-care providers can learn a great deal from consultants who are linked with the school system, such as educational polices, ecology of schools, single case evaluation, behavioral assessment, and school personnel that might be available for support. Equally, school-linked consultants can learn important information related to the child's functioning from healthcare providers, including medical information, medication side effects, and future treatment plans.

#### **A rose by any other name... Systems collaboration: Names and definitions.**

Many different names have been used to describe the idea of building positive, collaborative partnerships between influential systems in a child's life, including systems collaboration, school-linked services, wrap-around services, service integration, and inter-professional collaboration. Because this construct is discussed using different labels, it is important to review and understand the existing definitions. Blue-Banning et al. (2004) emphasize the importance of operationally defining the construct of partnership in a consistent manner, as they speculate that the gap between recommended and implemented practices might be partially due to the failure to adopt a consistent definition of partnership for use in research and practice.

Konrad (1996) defined service integration as "a process by which two or more entities establish linkages for the purpose of improving outcomes for people" (p.6). Park and Turnbull (2003) expanded this definition and regarded service integration as " (a) a systemic effort to

provide appropriate and harmonized services to young children and their families (Kagan, Goffin, Golub & Pritchard, 1995) and (b) collaborative partnerships between families and professionals, among professionals and among agencies that are formed in the process of enhancing child and family outcomes” (Park & Turnbull, 2003, p.50).

Another term that has been used to describe the same process is known as inter-professional collaboration. According to Arredondo, Shealy, Neal and Winfrey (2004), “inter-professional collaboration represents a “best practice strategy for responding to real-world complexity in education, training, research and practice....that reflects a paradigm shift away from notions of interdisciplinary centrism and toward an appreciation that other professions offer complementary ways of working that are valuable to the pursuit of common goals” (p. 790).

The term “school-linked” describes a situation in which an off-campus activity (community agency, outside mental health center) is formally connected to a school site (Adelman & Taylor, 1999). Franklin and Streeter (1995) offer a continuum of collaboration in their discussion of “school-linked service initiatives.” The five categories of approaches, which differ in the amount of necessary system change, include 1) informal, 2) coordinated, 3) partnerships, 4) collaboration and 5) integrated services. According to Adelman and Taylor (1999), developing informal relationships and launching service coordination is the most common focus of initial collaboration efforts.

### **Barriers and challenges to successful partnerships.**

Prominent leaders in the fields of healthcare and education are beginning to realize and acknowledge the importance of improved collaboration, due in part to the increased demands for student performance and affordable health care (LeFever et al., 1999). The challenge, however,

arises in the actual process of effective and sustainable collaboration between systems (LeFever et al., 1999). Adelman and Taylor (1999) highlight the fact that, while the literature is rich in support of collaborative partnerships and suggestions for successful implementation, the actual data from projects overwhelmingly indicate that establishing effective collaborations is an arduous task. According to Power et al. (2003), “each system has the potential to be more useful to children, (but) factors intrinsic to each system place severe restrictions on the amount of change that can be expected” (p. 30). This disconnect deprives all systems of the many benefits that collaboration could offer (Power et al., 2003).

Park and Turnbull (2003) present the many structural and interpersonal barriers that can interfere with successful service integration. Structurally, lack of ground rules and well-defined roles and responsibilities can impede progress toward effective collaboration. Other structural barriers include inadequate communication systems and the lack of participation by key organizational leaders. Beyond the structural challenges, collaboration ultimately depends on the relationship between individual people from each organization. Therefore, resistance to change, lack of trust, varying levels of commitment, and negative attitudes toward interagency linkages can all serve as interpersonal barriers to effective service integration (Park & Turnbull, 2003).

Weist et al. (2001) identify similar barriers to effective collaborative care including limited knowledge and staff, challenges with transportation, and difficult-to-navigate bureaucracy. Also acknowledged are the additional tensions that can develop when unfamiliar people are required to form new working relationships (Weist et al., 2001).

Issues of time, distance and communication are consistently documented in the literature (Ouellette, Briscoe, & Tyson, 2004; Park & Turnbull, 2003; Weist et al., 2001). In almost all

disciplines and systems, there seems to be a shortage of time. The scarceness of time creates many subsequent barriers related to scheduling, pre-existing commitments, and communication challenges, all of which hinder true interdisciplinary collaboration and cooperation (Ouellette et al., 2004; Weist et al., 2001). Distance between agencies further compounds the challenge of insufficient time, when meetings and networking require additional time and resources for transportation. Distance becomes an even more significant issue when families and community members do not have the means to consistently secure adequate transportation (Ouellette et al., 2004). In conjunction with time and distance, insurance reimbursement poses challenges to clinicians because policies often provide minimal mental health benefits and low rates of reimbursement. In addition, the very nature of collaboration is not rewarded by insurance companies, as they do not reimburse multiple professionals participating in a “team clinic” situation. When working with schools, clinicians can sometimes be reimbursed but schools cannot bill for the services that they provide (Nelson, Peacock, Bui & Duncan, under review). Because of these barriers, “the quality of the communication between schools, parents, service providers, and faith-based organizations remains poor” (Ouellette et al., 2004, p.307).

Even with the numerous barriers that exist, the desire to improve communication and collaborative relationships remains strong (Ouellette et al., 2004; Weist et al., 2001). Focus groups, consisting of parents, school representatives, human service providers and faith-based organizations, revealed that all involved parties maintain interest in improved communication, even when substantial challenges exist (Ouellette et al., 2004). As the benefits of collaborative relationships continue to be recognized, invested individuals can work together to overcome these challenges in the future (Weist et al., 2001). The goal of a true system of care for youth and families can only be achieved if educators, mental health providers, and community



members cooperatively plan, problem solve, and share knowledge (Weist et al., 2001). Specifically, recommendations include the exploration of cutting-edge communication and networking strategies that could address the barriers of time and distance (Ouellette et al., 2004).

### **Effectively linking systems of care: What is the key to successful collaboration?**

Despite all of the challenges, Adelman and Taylor (1999) assert that collaboration is worthwhile, as it can yield greater success and cost-effectiveness in the long run. Therefore, it is important to explore the key components to effective collaboration and partnership building.

Sheridan et al. (2004) suggest that positive partnerships consist of joint need identification, social support establishment, and acquisition of new skills and competencies. According to Turnbull, Turnbull, Erwin and Soodak (2006), these partnerships may be beneficial because teachers and families are able to better understand each other's unique knowledge and skill sets, leading to improved cooperation

A workgroup focused on inter-professional collaboration identified empathy, listening, flexibility, contextual understanding, sense of humor, and ability to "play well with others" as the interpersonal skills needed to build collaborative relationships that truly help clients (Arredondo et al., 2004). Park and Turnbull (2003) identified similar interpersonal skills that facilitate partnerships including showing empathy, sharing information and responsibility, cooperative problem solving, showing equal respect for each partner, having reasonable expectations, and openness and self-disclosure. In a similar vein, Blue-Banning et al. (2004) emphasized the importance of equality and reciprocity in interpersonal relationships and partnerships.

Not surprisingly, the consensus of the literature is that good communication skills serve as the foundation for strong positive relationships and collaboration (Arredondo et al., 2004; Blue-Banning et al., 2004; Park & Turnbull, 2003). To delve further into the specific communication skills necessary, the workgroup discussed in Arredondo et al. (2004) identified six important aspects related to communication including 1) listening, observing, speaking and writing 2) data gathering analysis, and reporting 3) awareness of world view, language, context and values of self and others 4) advocacy 5) use of technology and 6) ability to communicate and be understood (Arredondo et al., 2004, p.79).

The importance of well-defined roles and expectations also consistently surfaced in the literature (Park & Turnbull, 2003; Weist et al., 2001). Weist et al. (2001) suggest that all parties should be educated about each other's specific areas of expertise and desired roles. When stakeholders clearly understand each other's roles, it seems that territorial issues and disputes would be rare. This aspect is significant because Park and Turnbull (2003) emphasize the need to "neutralize territory issues." As Weist et al. (2001) asserted, "increasing a group's awareness of what each member can contribute helps reduce confusion and enhance effective collaboration" (p.1350).

When moving toward collaborative partnerships that incorporate necessary interpersonal skills, effective communication strategies, and well-defined roles and responsibilities, a family-centered approach is often emphasized in the literature (Park & Turnbull, 2003). Both families and professionals need to be educated and prepared in terms of the interpersonal and structural factors necessary to contribute to and enhance collaborative partnerships (Park & Turnbull, 2003). Finally, the mere act of attending to and discussing issues of consultation and collaboration is essential to future change (Arredondo et al., 2004).

**Is it possible? Real world examples.**

Progressive actions promoting school/community collaboration are vital to improve the educational outcomes and decrease the amount of time and resources that teachers, administrators and special education staff spend supporting students with behavioral difficulties (LeFever, et al., 2002). The SHINE coalition, based out of Virginia, demonstrated a commitment to improved school/community collaboration by bringing school leaders, health care administrators, parents and community members together in an attempt to improve the mental and physical health of children with ADHD. The coalition members identified turf battles, inconsistent provider practices and lack of adequate insurance coverage as the top three obstacles to collaborative and comprehensive assessment and treatment of children with ADHD (LeFever et al., 1999). Using these three obstacles to guide coalition goals, specific “work groups” were formed to target and improve these issues.

According to LeFever et al. (1999), SHINE’s initial ADHD project successfully created a “spirit of collaboration” that paved the way for future community collaboration projects to address other school health issues such as depression, school violence and asthma. The success and enthusiasm created by this coalition emphasizes the need to collaboratively link multi-disciplinary systems of care (LeFever, et al., 1999).

Nelson et al. (under review) recently conducted a study using video-conferencing technology to link families and schools with specialty mental health providers in order to more collaboratively diagnose ADHD in rural areas. Specifically, the researchers utilized school nurses as point people in coordinating collaboration and maintaining necessary documentation and paperwork. The researchers found this model to be a very effective way to evaluate for

ADHD in adherence with the American Academy of Pediatrics (AAP) guidelines (Nelson et al., under review).

### **Conjoint Behavioral Consultation (CBC)**

While the research clearly supports a need for collaborative family-school partnerships, how to effectively create these partnerships is an issue that continues to be explored and debated. In response to these questions, Sheridan and Kratochwill (1992) developed a structured method of consultation that encourages family-school collaboration by bringing all parties together to actively engage in the problem solving process and improve student outcomes. According to its creators, conjoint behavioral consultation (CBC) is a “structured, indirect form of service-delivery, in which parents and teachers are joined to work together to address the academic, social or behavioral needs of an individual whom both parties bear some responsibility” (Sheridan, 1997, p.121)

Since its origin, CBC has accumulated a formidable evidence base, supporting its effectiveness in addressing a multitude of childhood concerns (Garbacz et al., 2008, Guli, 2005; Sheridan et al., 2001). In addition, the model has continually evolved in order to better meet the needs of children, families and schools and incorporate the many other systems that have been shown to impact a child’s life (Sheridan, 1997). At its core, the CBC model appears to incorporate many of the previously identified components of effective collaboration including joint need identification (Sheridan et al., 2004), cooperative problem solving (Park & Turnbull, 2003), clearly defining roles and responsibilities (Weist et al., 2001), and effective communication strategies (Arrendondo et al, 2004). Because CBC systematically includes all of these components, it serves as a beneficial model to link systems of care.

### **Goals of CBC.**

Although the CBC process has a myriad of objectives, three overarching goals are consistently present: 1) Address student needs by utilizing evidence based interventions; 2) involve and engage families in their child's education and; 3) facilitate partnerships and build relationships between school and family systems (Garbacz et al., 2008; Sheridan, Clarke & Burt, 2008). The CBC model also aspires to increase expertise, resources and functional information in order to better conceptualize and solve problems (Sheridan, 1997). Subsequently, all parties should become more competent and confident data collectors, problem solvers and communicators, which should lead to better maintenance and generalization of positive outcomes (Sheridan, 1997; Sheridan & Colton, 1994). Hopefully, these improved skills can be applied to future situations and students.

### **Stages of CBC.**

In order to achieve these objectives, the CBC model outlines four stages, including the Conjoint Needs Identification Interview (CNII), Conjoint Needs Analysis Interview (CNAI), Conjoint Plan Implementation (CPI) and Conjoint Plan Evaluation Interview (CPEI). In the Conjoint Needs Identification (CNII), an interview is conducted to prioritize the child's most pressing need. After the need is identified, the team decides on the type and nature of data required and makes a plan for data collection. The data collected should be related to the identified need, and could include frequency, duration, intensity, and/or antecedents and consequences of the targeted behavior. In the Conjoint Needs Analysis Interview (CNAI), the team uses the obtained data to plan an appropriate intervention and set realistic goals for the student. During the Conjoint Plan Implementation (CPI) stage, families and school personnel

jointly implement the intervention across the home and school settings. Data is collected throughout the intervention and is evaluated during the Conjoint Plan Evaluation Interview (CPEI). During this phase, families, teachers and consultants discuss the success and/or need for changes of the current plan and develop a modified intervention plan if necessary (Garbacz et al., 2008).

### **Theoretical foundation of CBC.**

Not only is the CBC process well-structured and relevant to the issue of building collaborative family-school partnerships, it is also grounded in the combination of two prominent theoretical orientations. Ecological systems theory and behavioral theory are central to current conceptualizations of child psychology, development, and psychopathology. According to Sheridan (1997) “conjoint behavioral consultation represents an effective marriage between the empirically-validated structured approach of behavioral consultation and the important advances in the area of home-school partnerships” (p. 120). More specifically, CBC utilizes Bronfenbrenner’s (1977) ecological framework, in which children are perceived as developing and functioning in multiple interrelated systems (Sheridan et al., 2006). For example, children concurrently exist in their home, school, social, cultural, neighborhood, and community systems. All of these systems overlap and influence one another; an event that occurs in one system can impact the child’s behavior in another system (Sheridan, 1997). Within this model, it logically follows that interventions should encompass as many systems as possible, instead of solely focusing on the child in one environment (i.e. home or school; Sheridan et al., 2006). Conjoint behavioral consultation effectively incorporates this ecological framework by building positive relationships between home and school systems and developing interventions that will transcend systems and be implemented across settings.

In addition to ecological systems theory, the CBC process is guided by many of the foundational principles of behavior theory. The stages of CBC are based on behavioral research, which emphasizes the importance of identifying and manipulating antecedents and consequences when trying to modify a specific behavior. Another behavioral theme evident in CBC is the idea that the maintenance and generalization of treatment effects will be improved if consistent contingencies are implemented across settings (Sheridan, 1997). This “consistent programming across settings,” which is central to behavior therapy, is also an integral aspect of CBC (Sheridan, 1997).

While these two theories were developed separately and can sometimes appear to be at odds with one another, CBC fluently integrates both theories when trying to help children. This successful combination of ecological and behavioral approaches creates many benefits for children, families, teachers and consultants. For example, incorporating stakeholders from multiple systems in a behavior intervention can increase consistency and more efficiently monitor side effects and contrast effects. The feedback received from multiple systems can inform the intervention by promptly triggering modifications when necessary (Sheridan, 1997). Wilkinson (2005) articulately summarized how all the components of CBC work together to create a research based, comprehensive approach to addressing behavior problems, “application of the CBC model was informed by the strong empirical foundation for parent involvement and applied research indicating the importance of the family-school mesosystem when intervening with children’s behavior problems” (pp.176-177).

### **Empirical support for CBC.**

CBC's comprehensive theoretical foundation, structured process, and focus on relationship building and consistency across systems make it an ideal vehicle for implementation of a wide variety of interventions. In fact, Wilkinson (2005) asserts that "the research on CBC is promising and suggests that the model can be an effective strategy for delivering evidence based interventions (EBIs) for students with diverse problems such as social skill deficits, ADHD, academic underachievement and challenging classroom behavior" (p. 178).

Galloway and Sheridan (1994) found that empirically supported treatments delivered through CBC were more effective in creating behavior change than interventions that were implemented by parents and teachers on their own. CBC has also been shown to enhance maintenance and generalization of positive treatment outcomes (Sheridan, 1997). While the research on treatment effects and behavioral changes is a convincing reason to utilize a collaborative model such as CBC, consumer satisfaction and perceptions of communication, acceptability, and effectiveness are also pieces of data that add to its appeal. When parents and teachers work together through the CBC process, both parties report higher levels of satisfaction, acceptability and goal attainment (Sheridan et al., 2006). Parent perceptions of communication with their child's teacher also significantly improved after the completion of CBC (Sheridan et al., 2006).

The emergence of CBC is timely, as the importance of evidence based treatments delivered through child mental health systems, such as schools, has recently become a national priority (U.S. Department of Health and Human services, 1999). However, schools have had difficulty effectively implementing many evidence based mental health interventions because many of the interventions require collaboration with parents to be implemented with fidelity and success (Auster, Feeney-Kettler & Kratochwill, 2006). On top of the issue of collaboration,



Auster et al. (2006) also suggest that many of the evidence-based interventions are not easily transported into the school setting, further widening the gap between research and practice.

CBC provides a refreshing solution to improve collaboration when delivering many evidence-based interventions to address a variety of concerns. Thus far, CBC has been effectively utilized to improve homework completion (Galloway & Sheridan, 1994; Weiner, Sheridan & Jenson, 1998), externalizing and internalizing behavior problems (Illsey & Sladeczek, 2001), social skill development (Colton & Sheridan, 1998), compliance (Ray, Skinner & Watson, 1999), anxiety (Sheridan & Colton, 1994) and behavioral control (Wilkinson, 2005; Garbacz, 2008). Through a four-year meta-analysis, Sheridan et al. (2001) found meaningful effect sizes when CBC was used to improve inattention, non-compliance, disruptive behavior, reading accuracy and fluency, and anxiety.

Gortmaker, Warnes and Sheridan (2004) specifically addressed anxiety and selective mutism using CBC as a vehicle to implement an evidence-based intervention (shaping through positive reinforcement) with a five year-old boy. In this case study, the combination of CBC with self-management proved to be effective as the boy's vocalizations improved from zero per day to 7.7 per day across settings and with multiple adults (i.e. teachers and parents; Auster et al., 2006). CBC has also been shown to be effective when used in conjunction with a self-management intervention aimed at improving behavioral control in fourth and fifth grade students with ADHD. Wilkinson (2005) found that ratings of on-task and compliant behaviors improved, and were maintained, after receiving the intervention package consisting of CBC and self-management (Wilkinson, 2005).

CBC principles have also been used to improve compliance in children with autism. Ray, Skinner and Watson (1999) used collaborative parent-teacher interviews and intervention strategies to address aggressive behavior problems such as hitting, kicking and spitting in a 5 year-old boy with autism. These behaviors were so severe that the child was not able to function in a school setting and was receiving home-bound instruction. A school psychologist served as the consultant who facilitated the collaboration process. Because the aggressive behaviors tended to result from non-compliance, the team chose to target compliance. Compliance was also targeted because the child was typically compliant with his mother but not his teachers. Therefore, the team used behavioral momentum to expand the child's compliance to teacher issued commands by interspersing mother issued commands. By working collaboratively, the mother and teacher were able to improve the child's rate of compliance with teacher issued commands from less than 15% to 100%. The authors discuss this study as an example of "how school psychologists could work with teachers and parents in a collaborative manner to address student problems" (Ray, Skinner, & Watson, 1999, p. 627).

Many reasons exist as to why CBC appears to enrich and improve the outcomes of evidence based interventions. Auster et al. (2006) suggest that the comprehensive plan jointly developed through CBC allows parents and teachers to develop and improve skills "that enable them to serve as complimentary intervention agents" (p. 252) to help students reach their goals. Using a consultation model in a school setting, as opposed to a direct treatment model, also increases the feasibility of delivering evidence based interventions to the many students in need of mental health services (Kratochwill & Bergan, 1990). The integrity, fidelity and generalization of interventions can also be improved when ongoing guidance and support is provided by the consultant (Auster et al., 2006).

### **CBC in the pediatric setting.**

There is an impressive body of research supporting CBC's ability to encourage collaborative problem solving between families and schools, and in turn, improve outcomes for children with a variety of mental health issues and behavioral problems. However, the vast majority of CBC research has occurred in the school setting, with a school-based consultant coordinating the problem solving process between the classroom teacher and parent(s) (Burt et al., 2008). To date, the literature has largely neglected the empirical examination of CBC as a means to link outside mental health or medical agencies to the school and family systems, in order to collaboratively assess, problem solve, implement and evaluate interventions for the children they serve (Sheridan et al., 2009).

Even with the lack of research, the ecological nature of CBC seems to lend itself to building collaborative relationships between the many systems, beyond the school and family, who serve children with mental health issues and medical conditions (Burt et al., 2008). The flexibility of the CBC process is another reason to explore its use with multiple systems, as it can be adapted for use in a variety of settings and contexts (Burt et al., 2008) Power et al. (2003) recognized this capacity of CBC when they stated "CBC provides a framework for (a) aligning the family, school and health systems to facilitate integration of children with health problems into school, and (b) integrating systems of care into the problem solving process" (p.89).

When discussing the implementation of CBC in pediatric settings, Sheridan et al. (2009), identified several specific goals including comprehensive assessment, improved communication, facilitating interdisciplinary partnerships, establishing joint responsibility, promoting consistency across setting and systems, empowering parents and developing the knowledge and skills

necessary to promote continued collaborative problem solving among families, schools and health care providers.

A case study, described in Burt et al. (2008), serves as a starting point for the investigation of CBC in pediatric settings. In this case study, CBC was used as a framework to address behavioral and educational issues of a 13 year-old girl with Tourette's Syndrome, ADHD and a Learning Disability, who was being treated in a developmental pediatric clinic. Through the use of CBC, successful interventions were collaboratively developed, implemented and evaluated. On top of the behavioral improvements observed at home and school, the mother reported feeling greater support from the school, and the teacher reported the realization that addressing the student's needs was a "team effort."

Specifically, Burt et al. (2008) present the many reasons that medical settings are an ideal setting for CBC, including the vast array of medical and educational needs of children being served in pediatric settings. Considering the complex issues these children face, participation and cooperation of many different professionals with various areas of expertise is often required. Burt et al. (2008) go on to say that CBC is needed because "services for such students are often disjointed with little interdisciplinary collaboration across educational, medical and family systems."(p.115). Therefore, the authors suggest the use of a consultant who can serve as a link between medical, educational and family systems (Burt et al., 2008).

According to Burt et al. (2008), the roles of this recommended consultant could include "(a) channeling information among school, family, and healthcare providers (b) co-conceptualizing important case issues from multiple perspectives (c) educating each system about issues, present status and plans for multi-systemic intervention and (d) co-constructing and

coordinating multi-systemic intervention plans” (p.116). The authors also emphasize the importance of a consultant’s flexibility and ability to adapt to challenges and varying interpersonal issues. In addition, Burt et al. (2008) stress the importance of communication between the entire team of professionals in order to plan and execute effective behavioral, instructional, and pharmacological interventions. With successful communication between team members, these interventions cannot only be effective, but also receptive to the educational, psychological and medical implications that a treatment has on the child and his or her caregivers (Burt et al., 2008).

Building upon the case study and recommendations presented in Burt et al. (2008), Sheridan et al. (2009) conducted an exploratory study in which they implemented CBC with 29 children who were receiving pediatric services at a major university medical center. As part of a large training grant, school psychology graduate students served as consultants, working as liaisons between developmental pediatricians, families and teachers. These CBC cases were conducted in naturalistic conditions, without experimental controls, with the aim of answering exploratory questions regarding social validity, acceptability, perceptions of goal attainment and parent and teacher perceptions of outcomes when CBC is used to address concerns in a physician referred sample.

In this study, developmental pediatricians referred the participants because of social-emotional and/or behavioral difficulties that were interfering with learning at school and functioning at home. Referred participants included 19 elementary students, 13 middle school students, and 3 high school students. Traditional CBC consultation interviews (pre-consultation, Conjoint Needs Identification Interview (CNII), Conjoint Needs Analysis Interview (CNAI), and Conjoint Plan Evaluation Interview (CPEI)) usually took place in teachers’ classrooms. Parents

and teachers conjointly implemented interventions in home and school settings. Throughout the CBC process, developmental pediatricians participated in the process by exchanging relevant information with consultants, including sharing medical information and incorporating information about school and learning issues (Sheridan et al., 2009).

Results of this preliminary study suggested that CBC is an effective way to include medical providers in ongoing collaboration with families and schools. Specifically, parents and teachers found CBC procedures to be very or highly acceptable, as indicated by their ratings on the Behavior Intervention Rating Scale-Revised (BIRS-R). Further, analysis of goal attainment scale scores suggest that parents and teachers believed that their initial goals were nearly met across home and school settings (mean of 4 on a 5 point scale). In addition, encouraging behavioral effect sizes (Mean=1.42, SD=2.0) were reported, especially in the home setting (Mean=2.25, SD=2.4). It is important to note that behavioral effect sizes at school were considerably lower (M=.57, SD=.96). Sheridan et al. (2009) provide many possible explanations for this discrepancy and recommend that future research investigate this finding further. The authors also caution interpretation of the results because of the lack of standardized data collection procedures.

While it is clear that CBC yields favorable outcomes when used in pediatric settings, the specific mechanisms that contribute to positive outcomes have yet to be determined (Sheridan et al., 2009). However, the collaborative process and consistency of intervention delivery across environments probably contributed to the favorable results (Sheridan et al., 2009). The findings of this article provide a valuable framework for future studies using CBC in pediatric settings. But the authors specifically encourage “research utilizing more highly controlled procedures and

independent observers in data collection...to determine the efficacy of pediatric CBC with greater certainty” (Sheridan et al., 2009, p. 122).

Interdisciplinary CBC in unique settings, such as pediatric medical and mental health centers, is certainly an exciting area of research. According to Burt et al. (2008) “the collective expertise of the treatment team in assessment and plan development is a major advantage of interdisciplinary CBC, as it has the potential for enhancing the effectiveness of treatment decisions leading to improved outcomes for students with multi-faceted health-care needs” (p. 115).

### **The Current Study: Where Do We Go from Here?**

It is clear that collaborative partnerships between important systems in a child’s life lead to greater educational success, social adjustment and therapeutic outcomes (Auster et al., 2006; Christenson, 1995; Gortmaker et al., 2004; LeFever et al., 2002, Sheridan et al., 2006; Wilkinson, 2005). For children with complex mental health and behavioral needs, the need for collaboration between systems is even greater, as they often require the services and expertise of professionals from many different disciplines (Burt et al., 2008; Power et al., 2003, Sheridan et al., 2009). Therefore, it logically follows that children would be better able to meet educational, behavioral and therapeutic goals when families, schools and outside service providers form collaborative partnerships and provide consistent support. Unfortunately, clinical practice and empirical literature suggest that effective collaboration rarely takes place between these stakeholders, despite best intentions and efforts (Blue-Banning et al., 2004, Oulette et al., Power et al., 2003).

The current study seeks to investigate whether behavioral outcomes (namely compliance) can be improved, in multiple settings, by enhancing collaboration between families, schools and service providers using CBC. Conjoint behavioral consultation (CBC; Sheridan, 1997) is a structured, evidence-based model that was designed to engage families and schools in a collaborative problem solving process. A formidable amount of literature has supported its effectiveness in addressing numerous mental health and behavioral issues (Sheridan et al., 2001; Wilkinson, 2005).

While prominent figures in the field of pediatric school psychology recommend CBC as a best practice when working with families, schools and healthcare providers (Power et al, 2003), the current study will be one of the first to provide empirical data supporting its use. More specifically, the current study will examine effectiveness of utilizing CBC to incorporate school personnel into traditional pediatric mental health services. Using a multiple baseline across participants, the current study's design will examine the benefit that occurs when systems collaborate and parents, schools and pediatric mental health providers are included in intervention development and implementation.

Research questions:

1. Does the percentage of compliance with expectations and commands during a problematic home routine increase when parents, teachers and outside mental health clinicians use CBC to develop and implement a collaborative intervention?
2. Does the percentage of compliance with expectations and commands during a problematic school routine increase when parents, teachers and outside mental health clinicians use CBC to develop and implement a collaborative intervention?



3. Do parents and teachers report increased perceptions of goal attainment, as measured by Goal Attainment Scale (GAS) ratings, when parents, teachers and outside mental health clinicians use CBC to develop and implement a collaborative intervention?
4. Does the perception of relationship quality between parents and teachers, as measured by the Parent-Teacher Relationship Scale (PTRS), improve when the CBC process is used to develop and implement and collaborative intervention?
5. Does the estimated frequency of contacts between parents, teachers and pediatric mental health providers increase when the CBC process is used? When asked to rate the nature of contacts, do parents and teachers report improved quality and collaboration when CBC is used?

## **Chapter 3**

### **Method**

#### **Participants**

Three families experiencing behavior problems at home and school were recruited for participation in this study. Recruitment flyers were posted throughout the University of Kansas Center for Child Health and Development (CCHD). In addition, recruitment flyers were sent to CCHD service providers and school psychologists in surrounding school districts. Service providers and district personnel who referred potential participants were asked to consider history of appointment/ meeting attendance, interest in behavioral intervention, and proximity to KU Medical Center before referring families to the current study. Once recruited, families were contacted via phone to determine interest in participation. If interested, the researcher gathered the necessary information to complete the Participant Screening Questionnaire and determine if they met the criteria for participation in the study. Specifically, the questionnaire (Appendix A) included questions about age of child, age of parents, marital status, race, child's school and grade, special education status, parent relationship with the school, main behavioral concerns, rate of compliance at home and school, current behavioral treatment/therapy, and current medication.

Approximately 15 families were referred for the study. Eight of those families expressed interest and were formally screened for participation. Three families met eligibility criteria and agreed to participate. Participants attended three different schools in two different school districts. Participating families and teachers were given modest gift cards in appreciation for their time and dedication.

### **Inclusion criteria.**

In order to be considered for the study, children had to be enrolled in preschool or elementary school (ages 3-8). Parents needed to report frequent non-compliance at home and school. Specifically, parent estimates of compliance during at least one home and school routine needed to be less than 60%. In order to control for consistency of implementation, the child was required to have a stable residence in one household (parent, grandparent etc...). Divorced parents were not included unless both parents agreed to participate fully or the child lived solely with one parent. If children were on medication meant to manage attention or behavior, their treatment and dosage had to be stabilized with no plan of adjusting within the following six months. While pre-existing therapies were allowed to continue, additional therapy or treatment meant to prevent or manage disruptive behaviors could not be added during implementation of the current study. In order to participate in the study, the child's teacher(s) had to be willing to participate in data collection, intervention development, and intervention implementation. School administration was also required to be supportive of participation in the study. A specific diagnosis was not required for participation. Diversity was sought in terms of gender, ethnicity, and parent education. Informed consent was gained from each participating family (Appendix B).

### ***Participant 1.***

Participant 1 was a 7 year-old White male who attended second grade in a suburban school district. Participant 1 did not receive special education services, however his school team had frequently discussed and implemented behavioral interventions through the general education Student Intervention Team (SIT). Participant 1 lived with his biological parents and

12 year-old brother. Both parents worked and held college degrees. Participant 1 had a 12 year-old brother who attended the middle school next to his elementary school.

Teacher 1 was a 36-year-old White female. She held a bachelor's degree and 14 years of prior teaching experience. She had 3 years of experience teaching second grade at her current school.

*Target behaviors for Participant 1.*

The identified behavioral concerns for participant 1 were defined as follows:

1. *Compliance:* When asked to follow directions at home school, Participant 1 did not follow them on the first or second time they were asked about 40% of the time.
2. *Socially Inappropriate Behavior:* Participant 1 often engaged in socially inappropriate behaviors such as saying inappropriate things or making inappropriate noises, throwing things, poking other kids, and blurting out. This type of behavior typically happened during transitions and unstructured activities. Parents and teachers reported that Participant 1 was socially inappropriate about 40-50% of the time.
3. *Off-Task Behavior:* When Participant 1 was supposed to work on academic tasks, he demonstrated off-task behavior 40-50% of the time. Off-task behavior included behaviors such as not engaging in the appropriate activity, leaving the room, and making inappropriate body movements and noises.

Family 1 identified homework time as the routine in which the target behaviors were most likely to occur at home. Therefore, the intervention focused on his homework routine and it was video recorded for data collection purposes.

Teacher 1 identified the daily math lesson as the routine in which the target behaviors were most likely to occur at school. The intervention targeted this specific routine and data collection observations were conducted during this time. The complete collaborative intervention plan for participant 1 is included in Appendix P.

### ***Participant 2.***

Participant 2 was a 6 year-old White male who attended first grade in a suburban school district. He had been previously diagnosed with pervasive developmental disorder-not otherwise specified (PDD-NOS) and attention deficit/ hyperactivity disorder (ADHD). Behavioral medications had been stabilized before beginning this study and remained stable throughout intervention and follow-up. Participant 2 had an Individualized Education Plan (IEP) and received special education services for behavior and speech.

Participant 2 lived in a suburban area with his foster parents, 8 year-old biological sister, and infant twin foster brothers. Participant 2's foster parents were married and in the process of adopting he and his sister. Participant 2's foster father worked, while his foster mother cared for the children. Participant 2's foster mother had a high school degree and his foster father had a college degree.

Teacher 2 was a 47 year-old White female with 25 years of teaching experience. She had earned her master's degree plus 45 additional graduate education credits. Teacher 2 had been teaching at her current school for 13 years and had been teaching first grade for 10 years.

### ***Target behaviors for Participant 2.***

The identified behavioral concerns for Participant 2 were defined as follows:

1. *Non-compliance:* When given a direction, Participant 2 will ignore the directions, verbally say "no" or ask "why" and attempt to provide reasons why he should not have to

complete the task. Participant 2's parents and teacher reported that he usually needed to be asked 6 times before completing a direction. In addition, Participant 2 often had difficulty complying with the expectations of routines such as mealtime and daily reading activities.

2. *Self- Control:* Participant 2 often had difficulty maintaining self-control with his mouth and body. Participant 1 engaged in inappropriate behaviors such as body flapping, shaking, making inappropriate noises, touching others, and blurting out. Participant 1 was most likely to engage in this behavior from 10:00-11:30 at school and during meal times at home. During meal times, David played with his fork, made disruptive noises and refused to eat.

Family 2 chose dinnertime as the routine in which the target behaviors were most likely to occur at home. Therefore, the collaborative intervention focused on dinnertime and the family's dinnertime routine was video recorded for data collection purposes.

Teacher 2 identified the daily reading instruction time as the routine in which the target behaviors were most likely to occur at school. The intervention developed was largely focused on this school routine and data collection observations were conducted during this time. A complete collaborative intervention plan for participant 2 is included in Appendix Q.

### ***Participant 3.***

Participant 3 was a 7 year-old White male who attended first grade in a suburban school district. He had no known diagnoses and was not taking any behavioral medications. Participant 3 lived in a suburban area with his biological parents and 9 year-old sister. Both parents worked and held college degrees.

Teacher 3 was a 55 year-old White female with a bachelor's degree and 10 years of teaching experience. She had 7 years of experience teaching first grade. In addition, she had been teaching at her current school for 8 years.

*Target behaviors for Participant 3.*

The identified behavioral concerns for Participant 3 were defined as follows:

1. *Non-compliance:* When asked to follow directions at home school, Participant 1 did not follow them on the first or second time they are asked about 30-50% of the time.
2. *Lack of Self-Control:* During transitions and unstructured work times, Participant 2 was not able to show self-control about 50% of the time. When Participant 3 was not showing self-control, he often wandered around the room, focused on distracting objects, and made inappropriate noises and verbalizations.
3. *Socially Inappropriate Behavior:* Participant 3 engaged in socially inappropriate behaviors such as saying inappropriate things, using "baby talk," poking other kids, and blurting out. This type of behavior typically happened during unstructured activities and in response to changes in routine. In addition, Participant 3 often displayed socially inappropriate responses to upsetting situations. For example, Participant 3 would cry or have a "melt-down" if things did not go his way or if he got criticized. Parents and teachers reported that Participant 3 was socially inappropriate about 50% of the time.
4. *Lack of Independent Problem-Solving:* When Participant 3 was confused or did not immediately know an answer; he frequently relied on direction from adults to solve the problem. At baseline, Participant 3 demonstrated independent problem solving skills less than 50% of the time.

Family 3 identified homework time as the routine in which the target behaviors were most likely to occur. Homework sessions were video-recorded for data collection purposes. Teacher 2 chose the guided reading and reading workstations as the time in which the target behaviors were most likely to occur. Therefore, data collection observations were conducted during this specified time. A complete collaborative intervention plan for Participant 3 is included in Appendix R.

### **Procedure**

Participating families progressed through six phases including Pre-Consultation, Conjoint Needs Identification Interview (CNII), Conjoint Needs Analysis Interview (CNAI), Conjoint Plan Implementation (CPI), Conjoint Plan Evaluation Interview (CPEI) and Follow-up. An overview of the procedures and phases are presented in Table 1. Each phase is described in detail in the following narrative.



Table 1

*Overview of Procedures*

<b>Phase</b>	<b>Main Goals</b>	<b>Who is Included?</b>	<b>Data Collected</b>
Phase 1 Pre-Consultation	Recruitment Screening Verbal Consent Informed Consent Pre-intervention data collection Relationship Building	Clinician/Consultant Family School	Participant Screening Questionnaire Informed consent BASC, PTRS, ECBI, SESBI-R Collaboration Interview
Phase 2 Conjoint Needs Identification Interview (CNII)	Discuss strengths, goals and desires Discuss needs/ behavior problems Decide on and define behavior priority Select times most likely to occur Discuss what works and what doesn't Discuss data collection plan Approximately 60-90 minutes	Clinician/Consultant Family School	CNII interview form Home baseline data School baseline data GAS Collaboration Interview
Phase 3 Conjoint Needs Analysis Interview (CNAI)	Consultant/ clinician, parents and teacher bring hypotheses and intervention ideas. Review and analyze home and school baseline data Identify antecedents, consequences and setting events Develop shared understanding Brainstorm shared interventions Develop strategies to use at school and home Approximately 70-90 minutes	Clinician/Consultant Family School	Analysis of baseline data Create ABC charts CNAI interview form Create intervention fidelity checklist Parents and teachers complete PTRS
Phase 4 Conjoint Plan Implementation (CPI)	Implement intervention at home and school Consultant/ clinician supports intervention implementation through clinic sessions, in-class observations, and email. Encourage communication for questions or concerns Monitor progress and analyze trends to determine need for modification Approximately 4 weeks	Clinician/Consultant Family School	Home intervention data School intervention data GAS ECBI & SESBI weekly Collaboration Interview Intervention fidelity checklists
Phase 5 Conjoint Plan Evaluation Interview (CPEI)	Identify what worked and what didn't Determine need to continue or change plan If team decides to change plan, cycle back to Phase 4 (CNAI) If team decides to discontinue plan, develop maintenance and follow-up plan Identify ways to continue collaboration Approximately 40-80 minutes	Clinician/Consultant Family School	CPEI interview form Analyze intervention data from home and school GAS BASC, PTRS ECBI & SESBI-R Collaboration Interview
Phase 6 Follow-up	Discontinue formal intervention Collect post-intervention data	Clinician/Consultant Family School	Post-intervention interview GAS BASC, PTRS, ECBI & SESBI-R Collaboration Interview

**Phase 1- Pre-Consultation.**

Once families were recruited, detailed information about the study, including expectations, requirements and potential costs and benefits was presented. If verbal consent was obtained, families were asked to sign an informed consent document and a release of information to communicate with school personnel. A copy of the release to exchange information was faxed to the child's school. Copies of participant screening questionnaire, informed consent document, and release of information are included in Appendices A,B, and C.

The researcher, along with the family, then contacted the student's teacher via phone. Teachers were informally asked if they would be willing to participate in consultation, intervention development, and intervention implementation in order to support the behavioral goals of the student, family, and teacher. Expectations, study requirements and time commitment were explicitly defined and presented. If the teacher could not be reached via phone, an email was sent to the teacher describing the study and the parents' interest in school participation. Parents were asked to follow up the email with a personal visit or phone call asking for the teacher's participation. After verbal consent was obtained from the teacher, the following procedure was used to gain access to school information and permissions needed from the school district:

- 1) Teacher was told that participation was dependent upon district approval.
- 2) The researcher contacted the school district to determine district level procedures.
- 3) If district level procedures could be completed within a two-week time frame, the researcher began district level permission process.
- 4) The researcher completed all necessary paperwork and submitted it for district approval.

Once district approval was obtained, teachers (along with other participating school personnel) were asked to complete a written agreement to participate in the study. The written agreement included information about the stages of CBC, and the potential costs and benefits of participation in the study.

Once informed consent was gained from all parties, pre-intervention data were collected on the child's behavior, the initial parent teacher relationship, and the frequency of home-school communication. Parents were given a packet of pre-intervention paperwork to complete and bring back to the next scheduled appointment (CNII). The pre-intervention parent packet included the Behavior Assessment System for Children (BASC-2; Reynolds & Kamphous, 2006), the Eyberg Child Behavior Inventory (ECBI; Eyberg, 1999) the Parent-Teacher Relationship Scale-II (PTRS-II; Vickers & Minke, 1995), and an estimate of frequency of contact with the school. A packet of pre-intervention paperwork was also given to the child's teacher. Teachers were asked to bring the completed BASC-2, the Sutter Eyberg Student Behavior Inventory-Revised (SESBI-R; Sutter & Eyberg, 1999) PTRS-II, and an estimate of the frequency of contact that they have with that particular student's family to the first scheduled appointment (CNII).

### **Phase 2- Conjoint Needs Identification Interview (CNII).**

The initial consultation meeting or Conjoint Needs Identification Interview (CNII) was scheduled when informed consent was received from both parents and teachers. A mutually convenient time was chosen for the parents, teachers and the consultant/clinician to meet. The CNII took place at the child's school, as that was the most convenient location for the teacher and family. The duration of the CNII meetings in this study ranged from 60 to 90 minutes. In the Conjoint Needs Identification Interview (CNII), the consultant/clinician used the forms in

Appendix E to guide the process. Specifically, the consultant/clinician tried to build the relationship between the family and teacher by jointly identifying the strengths of the child, family and school, establishing joint responsibility in goal setting and decision making, validating shared goals of supporting the child and increasing communication. The consultant/clinician explained the process, established roles, and identified shared goals and desires. Together, the parents, teacher and consultant/clinician discussed the child's strengths and interests.

During the CNII, the team members prioritized behavioral problems and the specific routines in which these problems typically occurred. These behaviors were operationally defined and all parties agreed on a behavioral description. Because families already indicated that non-compliance was a significant issue during screening, routine compliance was the specific behavior targeted for data collection. The routines at home and school that were prioritized as most problematic were the data collection intervals. For example, two families chose homework time as the routine in which non-compliance was most likely to occur. In addition, one family chose dinnertime as the routine in which non-compliant and inappropriate behavior was most likely to occur. Once the problematic routines were identified, parents were asked to describe the expectations of the routine and the interactions that typically occurred. In addition, parents were asked to estimate how often the child complied with commands after the first or second time that they were issued. Similarly, the teacher also identified a problematic school routine when data would be collected at school. Two teachers chose morning reading time, while one teacher chose the afternoon math lesson. The teachers were also asked to describe the expectations of the routine and the interactions that typically occur. In addition, teachers were

asked to estimate how often the child complied with commands after the first or second time that they were issued during that time.

Once the target behaviors and data collection intervals were chosen, the consultant/clinician asked about strategies that had already been tried. In addition to routine compliance data, goal attainment scale (GAS; Kiresuk, Smith & Cardillo, 1994) data were collected on compliance and the remaining behavior priorities that were identified during the interview. If the team identified self-control and socially inappropriate behavior as the most significant behavior problems that result from or co-occur with non-compliance, then self-control and socially inappropriate behavior were listed on the goal attainment scale, along with compliance, and progress was measured weekly. Goal attainment scales for all participants are included in Appendix M. At the end of the CNII meeting, the family, school and consultant/clinician left with a plan to collect baseline data in their respective settings. Parents and teachers were asked to fax or email their GAS ratings and frequency of collaboration logs to the consultant/clinician weekly. When email communication was used, the secure email functionality that is set up for KUMC patients and clients was used. On many occasions, the researcher picked up the forms from the child's school.

After the CNII meeting, the consultant/clinician observed each problematic routine and began collecting baseline data on the percentage of time that the child was complying with the current routine expectations and commands. For home routines, participating families video recorded the chosen routine and gave the video to the researcher for coding.

### **Phase 3- Conjoint Needs Analysis Interview (CNAI).**

Once a stable trend (three consecutive data points that do not depart more than 30% from the mean of all previous data points in that phase; Kazdin, 1982) in compliance was established at home and school, the parents, teacher and consultant/clinician scheduled the Conjoint Needs Analysis Interview (CNAI). Approximately 3 days before the CNAI meeting, the consultant/clinician emailed the school team and parents, reviewing the agenda of the upcoming CNAI meeting and asking them to come prepared with behavioral data, hypotheses and intervention ideas. The CNAI meetings took place at the children's schools and lasted 70-90 minutes. The consultant/clinician used the CBC forms in Appendix F to guide the CNAI process. Specifically, the consultant/clinician tried to continue strengthening the partnership between the family and school by using inclusive language, encouraging and validating perspective sharing, fostering "give-and-take" communication, and promoting collaborative decision-making and shared responsibility for intervention development. The steps of the CNAI interview included evaluating data collected across home and school, collaboratively developing appropriate goals, discussing what happens before and after the target behavior (creating ABC chart), collaboratively developing an intervention to use across settings and reaffirming the importance of continued data collection. During this process, the team members used the baseline data (i.e. percentage of routine compliance, GAS scores) and information about antecedents and consequences (ABC chart) to collaboratively brainstorm possible interventions that could be used in the home and school setting. Together, the family, teacher and consultant/clinician decided on strategies that could be used at home and school. The agreed upon intervention, with consistent language and consequences, was implemented across settings. Intervention checklists

were developed to serve as a guide for the team and as a fidelity check. The Consultation Plan (included in Appendix F) were used as a format to develop intervention checklists (included in Appendix I)

#### **Phase 4- Conjoint Plan Implementation (CPI).**

After the CNAI meeting, the team members began cooperatively implementing the intervention. In CBC, this process is called the Conjoint Plan Implementation (CPI). In order to support the implementation of the intervention, families attended two traditional clinic sessions at the University of Kansas Medical Center. During these clinician-led sessions, the families were encouraged to ask questions and get clarification regarding the intervention. In addition, the consultant/ clinician facilitated problem-solving to address any concerns or unexpected issues relating to the plan. The clinician also encouraged families to practice aspects of the intervention, such as labeled praise and active ignoring, during these sessions. The consultant/ clinician would observe these practice sessions, providing feedback and suggestions when necessary. In addition to the sessions, families maintained frequent contact with the consultant/ clinician via email and phone. Families frequently corresponded with the clinician about intervention questions, challenges and successes.

Teachers were supported via email correspondence and in-class observations. On several occasions, the consultant/ clinician observed the classroom intervention and provided feedback and suggestions to the teacher. Using email, the consultant/ clinician and teacher would often discuss how to best implement the intervention developed in the CNAI. Minor modifications were made based on the needs of the teacher and the nature of the classroom environment.

During CPI, the researcher and other trained observers began collecting routine compliance data using the data collection method described in the measures section.

Concurrently, parents continued to submit video recordings of the chosen routine for coding. Throughout CPI, GAS forms were completed weekly. In addition, a collaboration interview was conducted with teachers and parents weekly. Teachers and parents completed the intervention fidelity checklist weekly. At the end of the each week, the consultant/clinician asked teachers and parents to email or fax copies of the intervention checklists, compliance checklists, and GAS, forms. On several occasions, the researcher and/or observers picked up the completed paperwork from the child's school.

Throughout Conjoint Plan Implementation (CPI), teachers and families were encouraged to contact each other or the clinician at any time, when questions, concerns or ideas arose. During this phase, the consultant/clinician monitored progress in each setting using the intervention fidelity checklists, routine compliance data, and collaboration interviews. If the intervention needed to be significantly modified at any time, a second Conjoint Needs Analysis Interview (CNAI) could have been scheduled.

#### **Phase 5- Conjoint Plan Evaluation Interview (CPEI).**

A Conjoint Plan Evaluation Interview (CPEI) was scheduled after the joint intervention had been implemented for about 3-4 weeks and/or the data were demonstrating a stable trend. These meetings took place at the participant's schools and lasted 40-80 minutes. The consultant/clinician used the forms in Appendix G to guide the CPEI process. In order to maintain the relationship built in previous phases, the consultant/clinician continued to promote open communication and collaborative decision making, reinforce joint efforts in addressing needs, discuss perceptions of the plan and process, reinforce teacher and family strengths and competencies for addressing future needs, and establish ways to partner in the future. The steps of the CPEI included determining if rates of compliance were increased and if goals for target



behaviors were met, evaluating what worked and what didn't, discussing continuation or termination of the plan and scheduling an additional interview if necessary. During this conference, the team collaboratively decided on a maintenance plan. This could have included continuing the intervention, reducing the frequency or intensity of the intervention, and/or determining which components of the intervention were essential for the child's future success. The formal data collection was terminated but continued contact and collaboration was encouraged.

At this time, post-intervention data were collected on the child's behavior, team members' perceptions of goal attainment, current parent-teacher relationship, frequency of school-home communication and the acceptability of the intervention. Parents completed a post-intervention packet including the BASC-2 (Reynolds & Kamphaus, 2006), the ECBI, a GAS (Kiresuk, Smith & Cardillo, 1994) the Parent-Teacher Relationship Scale-II (PTRS-II: Vickers & Minke, 1995), the Behavior Intervention Rating Scale (BIRS; Elliott & Von Brock, 1991) and an estimate of frequency of contact with the school. Teachers completed a post-intervention packet including the BASC-2, the SESBI-R, GAS, the PTRS-II, the BIRS, and an estimate of the frequency of contact that they have with that particular student's family.

### **Phase 6- Follow-Up.**

Phase 6 of the study was follow-up. During this phase, the CBC intervention was complete, formal data collection was discontinued, and a maintenance plan was in place. The researcher attempted to collect routine compliance data once weekly, during the two weeks following intervention. However, not all follow-up data was collected due to end of school year scheduling and lack of opportunity for observation. The researcher plans to collect a final measure of child behavior and parent-teacher relationship by administering the BASC-2, the ECBI, the SESBI-R

and the PTRS-II 8 weeks after the intervention was completed. Follow-up interviews were conducted using the Qualitative Follow-Up Interview Form in Appendix O. Information was collected regarding the challenges and advantages of using CBC in a pediatric setting,

### **Setting and Materials**

The setting for the proposed study is multi-faceted. Clinic intervention sessions took place in the Center for Child Health and Development (CCHD) at The University of Kansas Medical Center. Clinic sessions took place in private clinic rooms equipped with age appropriate toys and a one-way mirror for observation purposes. CBC meetings took place at each child's school. School intervention took place in the child's classroom. Parents carried out the home aspect of the intervention within the home setting.

### **Research Design and Data Analysis**

The current study was conducted using a mixed-method, single-subject design. A multiple baseline across participants design was used. Table 2 depicts the approximate timeline for each family in the study. All families were recruited simultaneously. Once families were screened in for participation, they promptly engaged in pre-consultation activities and the Conjoint Needs Identification Interview (Phases 1 & 2). All families began baseline data collection at approximately the same time. Families began intervention based on the stability of their baseline data. For example, the first family to demonstrate a stable trend in baseline was labeled Family 1.

Family 1 stayed in baseline for approximately 1 week or until trend stability was demonstrated (3 or more stable data points within 30% of the mean of all baseline data: Kazdin,

1982). The maximum amount of time allotted for baseline was two weeks. Once the baseline data were stable or has been collected for two weeks, Family 1 scheduled a Conjoint Needs Analysis Interview and began engaging in Conjoint Plan Implementation (Phases 3 & 4). The Conjoint Plan Implementation (CPI) lasted approximately 4 weeks. When the CPI was over, Family 1 engaged in the Conjoint Plan Evaluation Interview. The intervention was formally discontinued, a maintenance plan was created and Family 1 began follow-up. The actual time of baseline, intervention and follow-up for Family 1 was 10 weeks.

Family 2 continued collecting baseline data until Family 1 demonstrated a stable increasing trend in routine compliance. At this point, Family B also demonstrated a fairly stable trend in school baseline data and a decreasing trend in home baseline data. Family 2 began cycling through the phases, just as Family 1 did. If stable trends were not established within two weeks, then Family 2 would have begun intervention without the presence of trend stability. The actual time of baseline, intervention, and follow-up for Family 2 was 11 weeks.

Lastly, Family 3 continued collecting baseline data until Family 2 demonstrated a stable increasing trend in routine compliance. At this point, Family 3 was demonstrating a decreasing trend at home and school, therefore they began intervention (phase 2). Family 3 then began cycling through the phases, just as Families 1 & 2 did. If stable trends were not established within two weeks, then Family 3 would have begun intervention without the presence of trend stability. The estimated time of baseline, intervention and follow up for Family 3 was 12 weeks. The research design is summarized in Table 2.

Table 2

*Timeline for Families Participating in Multiple Baseline Design*

Family A  Total Time= 8 weeks	<b>Phase 1 &amp; 2</b> <b>Pre-Con/ CNII</b>	<b>Baseline</b>	<b>Phase</b> <b>4 &amp; 5</b> <b>CNAI/ CPI</b>	<b>Phase 6 &amp; 7</b> <b>CPEI/ F/U</b>		
	<b>3 weeks</b>	<b>1 week</b>	<b>4 weeks</b>	<b>2 weeks</b>		
Family B  Total Time= 9 weeks	<b>Phase 1 &amp; 2</b> <b>Pre-Con/ CNII</b>	<b>Baseline</b>	<b>Baseline</b>	<b>Phase 4 &amp; 5</b> <b>CNAI/ CPI</b>	<b>Phase 6 &amp; 7</b> <b>CPEI/ F/U</b>	
	<b>3 weeks</b>	<b>1 week</b>	<b>1week</b>	<b>4 weeks</b>	<b>2 weeks</b>	
Family C  Total Time= 10 weeks	<b>Phase 1 &amp; 2</b> <b>Pre-Con/ CNII</b>	<b>Baseline</b>	<b>Baseline</b>	<b>Baseline</b>	<b>Phase 4 &amp; 5</b> <b>CNAI/ CPI</b>	<b>Phase 6 &amp; 7</b> <b>CPEI/ F/U</b>
	<b>3 weeks</b>	<b>1 week</b>	<b>1 week</b>	<b>1 week</b>	<b>4 weeks</b>	<b>2 weeks</b>

The dependent variables of interest in this study were behavior (measured by routine compliance observations, goal attainment scaling, ECBI, SESBI-R and the BASC-2), and collaboration (measured by collaboration interviews and scores on the PTRS). The dependent variables are summarized in Table 3.

Table 3

*Dependent Variables and Corresponding Measures*

<b>Dependent Variable</b>	<b>Measures</b>
Behavior	Routine Compliance Observations Data Behavior Assessment Scale for Children (BASC-2) Eyberg Child Behavior Inventory (ECBI) Sutter-Eyberg Student Behavior Inventory (SESBI)
Collaboration	Weekly Collaboration Interviews Parent-Teacher Relationship Scale (PTRS)

Follow-up interviews were also conducted to gain qualitative information from the participants regarding the challenges and benefits of the CBC intervention process (see Appendix O for protocol).

## **Statistical Analysis**

### **Analogue measures.**

Continuous data (routine compliance data, GAS scores, collaboration interviews) were analyzed for trends on an ongoing basis using visual analysis. After the study was completed, the data were visually analyzed using level, trend direction (slope), and the percentage of overlapping data points (Tawney & Gast, 1984; Kazdin, 1982). In order to determine the interdependence of the continuous data collected, auto-correlations were calculated using the Durbin-Watson statistical test (Durbin & Watson, 1950). Calculating the correlation coefficient between adjacent data points, or autocorrelation, revealed if the data were correlated over time. This calculation helped verify an important assumption when using  $t$  and  $F$  tests, namely that data points are independent of one another. If the data were found to be serially dependent, then  $t$  and  $F$  tests were not appropriate (Kazdin, 1982). However, the autocorrelation calculation confirmed that the data points were independent ( $d \geq 2$ ), and mean differences were also calculated.

### ***Visual analysis.***

#### ***Level.***

Level stability, or range in data point values, was calculated for each condition. Data were considered stable when the range of values was low (80-90% of data points in a condition fell within 30% range of mean level of all data points in condition).

Level of change within each condition was also calculated. This was computed by identifying the ordinate values of the first and last data points in a condition, subtracting the

smallest from the largest, and noting if the change in level was an improvement or deterioration. This information was used when making decisions about changing conditions.

Lastly, the level of change between adjacent conditions was calculated by identifying the ordinate values of the last data point in the first condition and the first data point in the second condition and subtracting the lesser number from the greater number. It was important to note the direction and size of the level change. This provided information about the immediate impact that the intervention had on the target behavior. An intervention was considered “powerful” if a large level change occurred immediately after the new condition was introduced.

*Trend direction (slope).*

The slope, or steepness of the data path across time, was calculated using the split-middle method (White & Haring, 1980). This method included the following steps: “1) Divide the data to be summarized into two equal parts. If there is an even number of data points, then the dividing line will fall halfway between two of the rates. If there is an odd number of data point, the dividing line will fall on one of the data points. 2) Find the intersections of the mid-rate and the mid-date for each half. 2) Draw a line through the data which passes through both of the intersections found in step 2. 4) Count the number of data points which fall above and below the line drawn in step 3. There should be the same number of data points falling on and above the line as there are falling on and below the line.

After the split middle line was calculated, the data were examined for multiple data paths within a trend, trend direction, trend strength, and trend stability. Trend stability was calculated by determining how many data points in a condition fell within a specific range along the trend line (i.e. 80-90% of the data points fall within 30%). Trend direction was considered positive if the total percentage of compliance was steadily increasing.

*Percentage of Overlap.*

The percentage of overlapping data points was calculated for each adjacent condition. Specifically, the researcher determined the range of the data point values of the first condition, counted the number of data points plotted in the second condition, counted the number of data points in the second condition which fell within the range of values in the first condition, and finally divided the number of data points that fell in the range of the first condition by the total number of data points in the second condition. To convert to a percentage, this value was multiplied by 100. This percentage was used to evaluate the impact of the intervention, as lower percentage of overlapping data points indicate more effective interventions.

**Static measures.**

Qualitative information gained through the follow-up interview was summarized and interpreted in the discussion. In addition, changes in ECBI, SESBI-R and BASC-2 scale scores from pre to post intervention were also discussed qualitatively (*i.e. Clinically Significant to At-Risk range*). Each child's pre-intervention and post intervention BASC-2 profile was contrasted for changes. Lastly, treatment acceptability was assessed using the BIRS-R.

**Measures****Measures of behavioral outcomes.***Routine Compliance.*

During the Conjoint Needs Identification Interview (CNII), parents, teachers and the consultant/clinician identified the specific home and school routines in which routine non-compliance was most likely to occur. Data were collected during the most problematic home



routine and the most problematic school routine. Specific data collection procedures for routine non-compliance were as follows:

1. Parents and teachers identified one problematic routine at home and one problematic routine at school. Specific start and stop times were identified.
2. Parents described the general expectations placed on the child during the home routine and the typical interactions that occurred. In addition, parents were asked to estimate percentage of time their child was on task (engaging in the expected behavior) and how often their child complied with commands on the first or second time they were issued (percentage estimate).
3. Teachers described the general expectations placed on the child during the school routine and the typical interactions that occurred. In addition, teachers were asked to estimate what percentage of time the child was complying with the appropriate routine (engaging in the expected behavior) and how often the child complied with commands on the first or second time they were issued (percentage estimate).

The researchers observed for 30 minute increments during the chosen routines and recorded routine compliance using a 10 second interval, time-sampling method (see Appendix J for on-task data form example). Every 10 seconds, the researcher recorded whether the child was complying with the expected routine at that particular moment. A plus sign was written in the appropriate interval box if the child was complying with the expectations of the routine, while a minus sign was written in the appropriate interval box if the child was not complying with the expectations of the routine. Participants were coded as on-task if they were engaging in the expected activity and complying with the current adult directions. Participants were coded as non-compliant with the routine if they were not engaging in the expected activity and/or if they

were not following current adult directions. For example, a child was coded as non-compliant if the child was roaming around the room after the teacher had told the students to go to their desk and begin working. In the home setting, a child was coded as non-compliant if they were getting a snack during homework time without parent permission. However, they were coded as compliant if they had been given permission to get a snack. During baseline and intervention, researchers collected routine compliance data during chosen routines. School data were collected by a researcher observing during specific routines. Home data were collected using video recordings. All families choose to use a video camera during routines in which the child was expected to stay in one specific area (i.e. meal time, homework time). Parents were given frequent reminders to begin recording via email and text message. If necessary, parents were provided with a video camera and given specific directions regarding how to operate the video camera. Recordings were transferred to the researcher's computer at the end of each week.

The consultant/ clinician served as an observer. The consultant/ clinician had an education specialist degree in school psychology. She received formal training in classroom observations, held a graduate research assistantship in which observations were a large responsibility and worked as a school psychologist for two years. The second observer had a bachelor's degree in psychology and was working on a master's degree in special education. She had previous experience conducting classroom and home-based observations and was concurrently taking a class about behavioral observations. The third and final observer had an education specialist degree in school psychology. She received formal training in classroom observation and had 4 years of experience working as school psychologist, where observations were a large part of her responsibilities. Before conducting an in-person observation or video coding observation, all researchers were required to demonstrate 90% inter-rater reliability. In order to calculate

reliability, researchers simultaneously observed the same routine with synchronized stopwatches. At the end of the observation, each interval recording was compared. Intervals were considered reliable if both researchers coded on-task or if both researchers coded off-task. If the interval codes did not match, the interval was not counted as reliable. After comparing each interval, the number of reliable intervals was divided by the total number of intervals coded. The resulting quotient translated into the reliability percentage. For example, if there were 180 total intervals in a 30-minute observation and 150 of them were reliable, the resulting reliability would be 83.3%.

### ***Goal Attainment Scaling (GAS)***

Goal attainment scale (Kiresuck, Smith & Cardillo, 1994) data were collected on compliance, along with the remaining behavior priorities that were identified during the Conjoint Needs Identification Interview (CNII). If the team identified self-control and socially inappropriate behavior as the most significant behavior problems that resulted from or co-occurred with non-compliance, then self-control and socially inappropriate behavior were listed on the goal attainment scale, along with compliance, and progress would be measured weekly. Behavioral goals were set and defined at the Conjoint Needs Analysis Interview (CNAI). Parents and teachers were asked to define the level of current behavior, their realistic goal for the intervention and the very best that they could imagine it. These descriptions were paired with numerical values on a Likert scale (-2=Current Behavior to +2= Goal surpassed). Parents and teacher attached a detailed description to each numerical value so they had a reference for reporting. Each participant's goal attainment scale is included in Appendix M. Each week, the parents and teacher rated their perception of the child's current behavior somewhere on the scale. Ratings were examined to evaluate trends, improvements and/or necessary modifications.

***Behavior Assessment Scale for Children- Second Edition (BASC-2; Reynolds & Kamhaus, 2006).***

The BASC-2 (Reynolds & Kamphaus, 2006) is standardized, norm-referenced tool that was used to measure the child's behavioral functioning, as perceived by parents and teachers. The BASC-2 is a questionnaire that was individually completed by all participating parents and teachers. The Parent Rating Scale (PRS) was administered to parents before and after the intervention was implemented. Teachers completed the Teacher Rating Scale (TRS) before and after the intervention was implemented. Each participant completed a rating scale, with a myriad of items presented on a four-point response scale (*Never, Sometimes, Often, Almost Always*). The broad domains assessed on the PRS are Adaptive Skills, Externalizing Problems and Internalizing Problems. The broad domains assessed on the TRS are Adaptive Skills, Externalizing Problems, Internalizing Problems and School Problems. More specific scale areas such as hyperactivity, aggression, conduct problems, withdrawal, inattention, depression, and anxiety were also assessed. (Reynolds & Kamphaus, 2006).

Test-retest reliability has been calculated for scores on each rating scale across age-group forms. Test-retest reliability for TRS and PRS scores was generally strong (.78-.90). Moderate to strong inter-rater reliability has been demonstrated for the Teacher Rating Scale (TRS median estimates: Preschool=.65, Child=.56) and the Parent Rating Scale (PRS median estimates: Preschool=.74, Child= .69) (Reynolds & Kamphaus, 2006).

In terms of validity, the BASC-2 scores demonstrated higher construct validity on the Externalizing Composite, as all scales on this composite loaded highly across all levels. Factor analysis of the Internalizing Composite revealed that only three scales loaded onto the Internalizing Composite (TRS: Depression, Atypicality and Withdrawal; PRS: Anxiety,

Depression and Atypicality). When examining Concurrent Validity, moderate to high correlations were observed between the BASC-2 TRS and PRS scale scores and similar constructs on the Achenbach System of Empirically Based Assessment (ASEBA: Achenbach & Rescoria, 2001) and the Conner's Teacher/ Parent Rating Scales (CTRS-R, CPRS-R, Conners, 1997).

***Eyberg Child Behavior Inventory (ECBI; Eyberg, 1999)***

Developed to measure disruptive behavior in children ages 2-16, the ECBI is a 36-item parent rating scale. This measure consists of two scales, including the Intensity Scale and the Problem Scale. On the Intensity Scale, the frequency of each behavior is measured using a 7-point Likert scale. A raw score of 131 on the Intensity Scale indicates clinically significant behavior problems. On the Problem Scale, the parent indicates the extent to which behavior is problematic by endorsing a yes or no response. A raw score of 15 on the Problem Scale suggests that the behavior is significantly problematic for this child's parents. According to Eyberg & Robinson (1983), the ECBI is an appropriate measure for monitoring treatment effects, as its 7-point intensity scale makes it sensitive to change and its focus on "current" behavior allows for continuous monitoring.

The most recent standardization of the ECBI occurred in 1999 with a sample of 798 children. This sample was said to be representative of the general child and adolescent population in the southeastern United States in terms of age, gender, ethnicity, rural versus urban status, and socioeconomic status. ECBI scores have demonstrated strong test-retest reliability at intervals of 3 weeks, 12 weeks and 10 months for both the Intensity and Problem Scales. Test-retest reliability coefficients for the Intensity scale were .86 for 3-week intervals, .80 for 12-week intervals and .75 for 10-month intervals. In terms of the Problem Scale, test-retest coefficients

were .88 for 3-week intervals, .85 for 12-week intervals, and .75 for 10-month intervals. Both scales of the ECBI have shown very strong internal consistency reliability, with internal consistency coefficients of .95 for the Intensity scale and .93 for the Problem scale. Inter-rater reliability between parents ranged from .61 to .86.

There is empirical support for the concurrent validity of the ECBI, as ECBI scores have been shown to be significantly correlated with the total score on the Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1983). In addition, Baden & Howe (1992) demonstrated discriminative validity, as the ECBI cutoff scores were successfully used to discriminate between children with Conduct Disorders and typical children.

***Sutter-Eyberg Student Behavior Inventory-Revised (SESBI-R; Sutter & Eyberg, 1999)***

The SESBI-R is a 38-item rating scale completed by teachers to assess the severity of disruptive behavior and the extent to which teachers find these behaviors problematic. These items were partially developed from chart reviews of the problem behaviors most frequently reported by teachers. Because the SESBI-R was developed as a companion to the ECBI, the SESBI-R also contains a 7-point Intensity Scale and a Yes-No formatted Problem Scale.

The SESBI-R was standardized on a sample of 415 elementary school students from 11 schools in Gainesville, Florida. The SESBI-R has demonstrated very strong internal consistency reliability, as Cronbach's alpha coefficients ranged from .96 to .98. For children in regular education classrooms, test-retest reliability estimates ranged from .87 to .93. Test-retest reliability was lower for children in special education classrooms, as coefficients ranged from .64 to .94. While the information on the validity of the SESBI-R is limited, concurrent validity has been demonstrated as it correlates moderately with the Revised Edition of the School

Observation Scale and the teacher form of the Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1983).

**Measures of collaboration/ relationship quality.**

***Parent-Teacher Relationships Scale-II (PTRS: Vickers & Minke, 1995).***

The Parent-Teacher Relationship Scale (PTRS-II) was used to measure perceived relationship quality between teachers and parents. Development of this 24 item measure was based on the on the constructs of Cohesion and Adaptability. A pilot study was conducted with 62 total items. The original items were somewhat based on previous family relationship scales and were decided upon by a panel of teachers, parents and university faculty. From the results of the pilot study, a scale of 35 items was created. Factor analysis revealed that 24 of the 35 items loaded appreciably on two overarching factors, “Joining” and “Communication-to-Other.” The “Joining” factor was found to account for most of the variance for both parents and teachers. For the “Joining” factor, Cronbach’s alpha coefficients were .98 for both the parent and teacher scales. For the “Communication-to-Other” factor, Cronbach’s alpha coefficients were .86 for parents and .85 for teachers. Thus, the final PTRS-II scale includes 24 items that participants rate on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Test-retest reliability and validity studies with external criteria were not conducted in the original study. However, the researchers recommend that these studies be conducted in the future.

***Frequency and Quality of Contacts.***

The frequency and nature of contacts between parents and teachers were assessed using a weekly interview/ questionnaire. The researcher asked the parents and teachers to complete this short questionnaire each week. The parents and teachers were asked to estimate the number of contacts they had with one another. Then, the parent/teacher was asked to rate nature of the

contacts they reported. Contacts were rated on two five-point scales including 1) frequency and 2) quality of collaboration. Frequency ratings ranged from 1- very infrequent to 5- very frequent. Quality of collaboration ratings ranged from 1-very one-sided to 5-very collaborative. Example rating forms are included in Appendix N.

### **Measures of acceptability.**

#### ***Behavior Intervention Rating Scale-Revised (BIRS-R; Elliott & Von Brock Treuting, 1991).***

The Behavior Intervention Rating Scale- Revised (BIRS-R; Elliott & Von Brock Treuting, 1991) was used to assess the participants' (i.e. parents and teachers) beliefs regarding the acceptability and effectiveness of the intervention package (CBC with parent, teacher and clinician). This instrument is commonly used in consultation research, with psychometric research yielding three factors: Acceptability, Effectiveness and Time to Effect. This study will specifically look at the factors of Acceptability and Effectiveness. There are 15 items that make up the Acceptability factor and 7 items that make up the Effectiveness factor. These items utilize a 6-point Likert scale, 1 indicating that the reporter *strongly disagrees* with the statement and 6 indicating that the reporter *strongly agrees* with the statement.

The internal consistency of the BIRS-R can be considered very strong, as coefficient alpha for the total scale is .97 (Elliott and Von Brock Treuting, 1991). In addition, the alpha coefficients for Acceptability and Effectiveness factors have been reported to be .97 and .92, respectively, which are also considered very strong (Elliott and Von Brock Treuting, 1991). In a large CBC sample, Sheridan et al. (2001) reported alpha coefficients of .95 for teachers and .93 for parents.



### **Measures of treatment integrity and reliability.**

#### ***CBC Objectives Checklist.***

In order to assess the fidelity of the CBC process, the current study used the CBC Objectives Checklists. For each CBC interview, the CBC objective checklists includes interview objectives that commensurate with the CBC structured interview forms (Sheridan, Kratochwill, & Bergan, 1996). For the CNII, the CNAI, and the CPEI stages of the study, the checklists were used to assess the integrity of the CBC process. The researcher completed a checklist after each interview and indicated if each CBC objective was met. In addition, the interviews were audio-taped and an independent coder listened to each session and completed the CBC checklist. The CBC objective checklists completed by the consultant/clinician and the independent coder were compared for inter-rater reliability. Some of the CBC objectives included on the checklists include 1) defining the problem in behavioral terms (CNII), identifying setting events and ecological conditions that could impact the behavior (CNAI), and determining the effectiveness of the intervention plan (CPEI).

#### ***Intervention checklists.***

Based on the intervention developed during the CNAI, intervention checklists were developed for each individual behavior plan. Parents and teachers were asked to complete these intervention checklists daily and turn them in at the end of each week. Intervention checklists served as a reminder to implement the intervention with fidelity. They also served as a way for the consultant/ clinician to discuss intervention implementation and fidelity with the participants. However, these checklists did not serve as formal fidelity assessments because not all intervention components were appropriate to implement each day. Therefore, a percentage

would not serve as a representation of actual fidelity. Intervention checklists for each participant are included in Appendix I.

***Inter-rater reliability.***

Inter-rater reliability was calculated for on-task data. Before conducting an in-person observation or video coding observation, all researchers were required to demonstrate 90% inter-rater reliability. In order to calculate reliability, researchers simultaneously observed the same routine with synchronized stopwatches. At the end of the observation, each interval recording was compared. Intervals were considered reliable if both researchers coded compliant or if both researchers coded non-compliant. If the interval codes did not match, the interval was not counted as reliable. After comparing each interval, the number of reliable intervals was divided by the total number of intervals coded. The resulting quotient translated into the reliability percentage. For example, if there were 180 total intervals in a 30-minute observation and 150 of them were reliable, the resulting reliability was 83.3%. In order to spot check for reliability, inter-rater reliability was calculated more than 10% of the in-person and video recorded observation sessions. In these cases, the consultant clinician calculated the on-task percentage along with another observer. Both on-task data collection sheets were compared to obtain a reliability percentage.

## **Chapter 4**

### **Results**

#### **Process Results**

The current study used Conjoint Behavioral Consultation to facilitate the development and implementation of a collaborative intervention plans for three participants. Parents, teachers and an outside mental health provider worked together to create and support a behavioral intervention that was used at home and school. Using a multiple baseline design across three participants, the researcher evaluated the effectiveness of collaborative interventions developed and implemented through CBC as a means to improve behavioral outcomes at home and school. In addition, the current study investigated whether the CBC process increased perceived collaboration and improved the quality of parent-teacher relationships.

Conjoint Behavioral Consultation (CBC; Sheridan & Kratochwill, 1992) is an empirically supported process (Sheridan, Eagle, Cowen & Mickelson, 2001; Wilkinson, 2005) that consists of three structured consultation meetings, intervention implementation and follow-up. The current study was unique, as it involved families and teachers, but was facilitated by a pediatric mental provider consultant. Therefore, parents and teachers worked together with an outside mental health provider to collaboratively support the participants across settings. The three participating families progressed through six phases including Pre-Consultation, Conjoint Needs Identification Interview (CNII), Conjoint Needs Analysis Interview (CNAI), Conjoint Plan Implementation (CPI), Conjoint Plan Evaluation Interview (CPEI) and Follow-up. Detailed descriptions of these phases are presented in the Method section. During the CNII, the parents, teacher and outside mental health provider identified behavioral priorities, problematic routines and data collection plans. At the CNAI, parents, teachers and the outside mental health provider

analyzed the data collected and created a collaborative intervention plan to address the behavioral priorities and needs. Collaborative intervention plans were implemented and supported during the CPI. Lastly, intervention plans were evaluated and maintenance plans were created during the CPEI.

Each participant's collaborative intervention was uniquely suited to his behavioral priorities, needs, environmental factors and strengths. The collaborative intervention plans are included in Appendices P, Q, and R. A summary of the collaborative interventions as they relate to the process results of the study is listed below.

#### **Target behaviors for Participant 1.**

The CNII for CR lasted 62 minutes. During the CNII, CR's parents, school team and outside mental health provider identified non-compliance, socially inappropriate behavior and off-task behavior as the target behaviors that they wanted to focus on during intervention. Specifically, they defined non-compliance as not following directions on the first or second time they were asked. Socially inappropriate behavior included saying inappropriate things, making inappropriate noises, throwing things, poking other children and blurting out. Lastly, off-task behavior included behaviors such as not engaging in the appropriate activity, leaving the room and making inappropriate body movements.

Family 1 identified homework time as the routine in which the target behaviors were most likely to occur at home. Therefore, the intervention focused on his homework routine and it was video recorded for data collection purposes.

Teacher 1 identified the daily math lesson as the routine in which the target behaviors were most likely to occur at school. The intervention targeted this specific routine and data collection observations were conducted during this time.

### **Collaborative intervention plan for participant 1.**

In order to address the target behaviors for CR, a collaborative intervention plan was created during the Conjoint Needs Analysis Interview (CNAI). The CNAI for CR lasted 88 minutes. After evaluating the data collected during baseline, along with the identified settings, antecedents and consequences, intervention ideas were brainstormed and discussed. While the complete collaborative intervention plan for CR is included in Appendix P, a summary is presented as it relates to the process results of the study.

CR's intervention consisted of positive reinforcement for displaying the appropriate behaviors such as following directions, being socially appropriate, and showing on-task behavior. Specifically, parents and teachers were encouraged to provide specific, labeled praise for displaying these behaviors. In addition, parents developed a token economy (chip) system, in which CR could earn a chip each time he was caught displaying socially appropriate or on-task behavior. CR was allowed to trade these chips in for house privileges and fun activities with his family. During homework time, the inclusion of structured sensory breaks (cartwheels, running up and down stairs) and the use of a timer were encouraged.

Because CR seemed to enjoy peer attention, CR's teacher attempted to provide labeled praise in front of classmates three times a day. In addition, a self-monitoring system was developed in which CR would reinforce his own appropriate behavior during math time. The self-monitoring portion of the intervention involved a vibrating timer that went off at random intervals

throughout the math lesson. Each time the timer vibrated, CR indicated if he was on or off task by placing a tally in the “yes” or “no” column of his self-monitoring sheet. In order to increase communication and consistency between home and school, CR was rewarded with chips for bringing his tally sheet home. If the tally sheet indicated that CR met his pre-determined goal for the day, he would receive bonus chips.

Additional components of the intervention included providing additional structure and guidance during transition and unstructured times with peers. For example, CR’s teacher assigned partners during math instead of letting the students choose their own partners. CR’s parents and teacher also came up with ways for CR to get social attention for positive behaviors. Specifically, CR brought a plant to share with the school and got to care for it. In order to increase positive peer interactions, CR was to be allowed to bring a friend to water the plant if appropriate. In order to address inappropriate lunchroom behavior, CR’s father offered to bring him home for lunch as a consequence for inappropriate lunchroom behavior. Lastly, CR’s parents and teacher were encouraged to provide choices when possible and give effective commands.

### **Plan modifications during implementation.**

During the course of plan implementation, certain modifications were made to make the plan more feasible and effective. A math self-monitoring notebook was created for CR to tally his behavior. In addition, CR’s teacher would tally in CR’s notebook with a different colored pen whenever she noticed that he was on or off-task. While she tried to provide as much positive reinforcement as possible with this system, this served as a check and balance for CR’s tallies. In addition, CR’s teacher would write notes to his parents in this notebook. This notebook was

sent home daily for his parents to review. Another slight change was that CR never had a friend accompany him to water his plant. According to his teacher, his behavior was never good enough to warrant bringing a friend. However, he did get to water his plant daily and he received lots of positive social feedback about his flowers from faculty and students. Lastly, CR's father did not bring him home for lunch as a consequence for inappropriate lunchroom behavior. According to his teacher and parents, there was never an occasion where this was necessary

### **Target behaviors for Participant 2.**

During the Conjoint Needs Identification Interview (CNII), DW's parents, teacher and outside mental health provider identified non-compliance and self-control as the main behaviors that they wanted to focus on during intervention. For DW, non-compliance often looked like needing to be asked 6 or more times before following the direction. Lack of self-control was defined as engaging in inappropriate behaviors such as flapping, shaking, making inappropriate noises, touching others and blurting out. The CNII for DW lasted 61 minutes.

Family 2 chose dinnertime as the routine in which the target behaviors were most likely to occur at home. Therefore, the collaborative intervention focused on dinnertime and the family's dinnertime routine was video recorded for data collection purposes.

Teacher 2 identified the daily reading instruction time as the routine in which the target behaviors were most likely to occur at school. The intervention developed was largely focused on this school routine and data collection observations were conducted during this time. A complete collaborative intervention plan for DW is included in Appendix Q.

**Collaborative intervention for Participant 2.**

In order to address the target behaviors for DW, a collaborative intervention plan was created during the Conjoint Needs Analysis Interview (CNAI). The CNAI meeting for DW lasted 71 minutes. After evaluating the data collected during baseline, along with the identified settings, antecedents and consequences, intervention ideas were brainstormed and discussed. While the complete collaborative intervention plan for DW is included in Appendix Q, a summary is presented as it relates to the process results of the study.

Because DW appeared to need prompts and guidance to complete multi-step routines, visual schedules were created for problematic routines at home and school. Specifically, pictures of DW properly completing each step of the reading and mealtime routine were displayed on a handheld schedule. When DW arrived for reading, a peer was to give him his visual schedule to get him started. The steps of the school routine included coming into the classroom, walking to his desk, picking up his wiggle seat, placing it on his spot on the rug, sitting on his wiggle seat, watching the blending lesson, bringing his wiggle seat to his desk, starting to work on his assignment and getting a reward (i.e. lego time). At home, DW's parents were to give DW his laminated mealtime visual schedule before beginning the meal. DW's visual schedule included pictures of DW displaying appropriate mealtime behaviors such as sitting the right way, taking a good bite, using his utensils, and putting his plate in the sink. The visual schedule also included examples of nice things to say at the table.

Similar to CR, A large component of DW's intervention was positive reinforcement for displaying appropriate behaviors. Parents and teachers were encouraged to use specific, labeled praise for appropriate behaviors such as following directions and showing self-control. More



specifically, DW's parents accompanied labeled praise with immediate concrete token economy rewards for appropriate mealtime behavior. At mealtime, DW's parents were supposed to catch DW displaying appropriate mealtime behavior such as sitting in his chair, taking good bites and saying nice things. Each time they caught him being good, they were to give him a small candy that accompanied labeled praise. DW was then allowed to eat the number of candies that he earned for dessert. Parents were also encouraged to ignore inappropriate mealtime behavior. The use of a timer to provide boundaries at mealtime was also included in the original intervention.

In order to encourage DW to attempt academic work independently without relying completely on his teacher or parents, DW was given a pre-determined number of help-cards that he could use to ask for additional help. These help cards could be used to gain help from an adult or a peer. During independent work time, DW was only to be given help when traded for a help card.

In order to address many of DW's sensory needs, DW was to be given a wiggle seat to sit on at his desk, on the rug, and at the dinner table. In addition, DW was to be given fidgets, such as squish balls, to hold when sitting on the rug, working at his desk or sitting at the table. In addition, parents agreed to get some of DW's sensory needs met before mealtime by having him jump on the trampoline or doing a family "hokey-pokey" activity.

Lastly, DW was to be given a coping strategy key-ring to use when he was frustrated. When DW's parents or teacher noticed that he was frustrated, they were encouraged to show him the key-ring and ask him to choose a coping strategy that he would like to use. In order to increase compliance, DW's parents and teachers were encouraged to use the steps of giving effective commands.

**Plan modifications during implementation.**

During the course of intervention implementation, certain changes were made to improve convenience, feasibility and efficiency. Modifications were typically suggested by parents and teachers and supported by the outside mental health provider. For DW, one of the first changes was the addition of a footstool for DW to use at the dinner table. DW's parents read about the idea and asked if they could try it. Therefore, it was incorporated into the mealtime intervention. This seemed to be a very effective addition, as it gave him a replacement behavior for squatting and wiggling in his seat. Another important modification came after implementing the token reinforcement system at mealtime. While the original token system involved rewarding DW with small candies, parents reported that the candy created hyperactive behavior after dinner. Therefore, the candies were replaced with pennies. When parents noticed DW displaying an appropriate mealtime behavior, they accompanied the labeled praise with a penny. DW was able to trade in the pennies that he earned for computer/ video game time after dinner. Parents also reported that a wiggle seat and fidgets were not used at home. In addition, they reported that they did not engage in a sensory activity before dinner. They also reported that they did not utilize a timer because it was not necessary and they were worried that DW would perseverate on the timer.

At school, most components of the intervention were implemented as described in the plan. However, the teacher reported that a peer did not help him with his visual schedule as she chose to assist him daily. A change that may have influenced the intervention was a schedule change. Near the beginning of implementation, DW's educational team decided to have DW leave the general education room and complete his work in the resource room at 10:30 am each

day. Therefore, the intervention was only implemented and monitored between 10:00 and 10:30. Lastly, the help cards were used inconsistently as the para-professional who assisted him often provided help without taking a help card. However, the teacher consistently used the help cards.

The coping strategy key-ring was never developed or used, as it seemed that DW's parents and teacher were focusing on the other aspects of the intervention.

### **Target behaviors for Participant 3.**

During the Conjoint Needs Identification Interview (CNII), LM's parents and school team identified non-compliance, lack of self-control, socially inappropriate behavior, and lack of independent problem solving as the behaviors that they wanted to focus on during intervention. Non-compliance was defined as not following directions after the first or second time they were asked. Lack of self-control looked like wandering around the room, focusing on distracting objects and making inappropriate noises and verbalizations. Socially inappropriate behavior was defined as saying inappropriate things, using baby talk, poking other children, and blurting out. Lastly, lack of independent problem solving looked like frequently relying on direction from an adult before attempting to solve a problem. For LM, the CNII meeting lasted 87 minutes.

Family 3 identified homework time as the routine in which the target behaviors were most likely to occur. Homework sessions were video-recorded for data collection purposes.

Teacher 3 chose the guided reading and reading workstations as the time in which the target behaviors were most likely to occur. Therefore, data collection observations were conducted during this specified time.

**Collaborative intervention for Participant 3.**

In order to address the target behaviors for LM, a collaborative intervention plan was created during the Conjoint Needs Analysis Interview (CNAI). The CNAI for LM lasted 81 minutes. After evaluating the data collected during baseline, along with the identified settings, antecedents and consequences, intervention ideas were brainstormed and discussed. While the complete collaborative intervention plan for LM is included in Appendix R, a summary is presented as it relates to the process results of the study.

Because LM was more successful when he had clear boundaries and expectations, visual checklists were developed to support him during guided reading and homework time. These checklists described the steps and expectations of each activity. After LM completed each expectation or step, he was to check the box to indicate that it had been completed. The use of social stories was also encouraged to expand upon the expectations of routines. In addition, LM's parents and teacher were encouraged to review the expectation of problematic routines before starting the routine.

In order to encourage independent problem solving, help cards were developed for use at home and school. LM was to be given a pre-determined number of help cards that could be used to ask for additional help during guided reading and homework time. Extra help-cards could be traded in for a reward. In addition, a problem solving rating scale was developed for use in the classroom. This rating scale listed the steps of problem solving including trying to think of other ways to solve the problem, skipping and coming back to it, using available resources, asking a friend and finally asking an adult.

In order to provide positive reinforcement for appropriate behavior, LM's parents and teacher tried to provide non-verbal praise such as a thumbs-up, pat on the back or high-five. During the CNII and CNAI, it was decided that LM responded better to subtle praise than loud and overt praise. In addition, non-verbal cues and prompts, including eye contact, pointing, gestures and physical guidance were to be used instead of verbal prompts.

Opportunities for structured peer interaction were also encouraged and incorporated into the intervention plan. Specifically, the plan included the addition of the peer problem solver at school and peer buddies during difficult times of the day. LM's parents were also going to look into additional opportunities for social interaction such as Cub Scouts. LM's classmates were also encouraged to provide positive feedback for appropriate social behavior.

Another aspect of LM's intervention was to try to increase opportunities for movement as often as possible. For example, LM was supposed to be allowed to change workstations more frequently during guided reading. Lastly, the steps of effective commands were given to LM's parents and teacher.

### **Plan modifications during implementation.**

A few changes were made throughout the implementation of the intervention for LM (Participant 3). Most changes were based on teacher input and ideas. The biggest change to the intervention plan was the extension of intervention components such as the task checklist and problem-solving rating scale to include the whole class. Instead of introducing the problem-solving rating scale to LM, the rating scale was introduced to the whole class. The outside mental health provider/ clinician/ consultant presented a problem-solving lesson to LM's entire class. Then, LM's teacher asked all of the students to use the problem-solving rating scale. LM's teacher believed that all of her students could benefit from these supports and she did not

want to single out LM. The last small change was that “help-cards” were not used during guided reading because the problem-solving rating scale seemed to fill the same purpose. However, “help cards” were consistently used during homework time.

## **Measures of Treatment Integrity and Reliability**

### **CBC Objectives Checklist.**

In order to assess the fidelity of the Conjoint Behavioral Consultation process, CBC Objective Checklists were completed for each interview. The researcher completed the CBC Objectives Checklists immediately after conducting each of the CNIIs, CNAIs and CPEIs. In addition, 5 out of the 9 (55.56%) interviews were audio-taped and coded by an independent coder. The checklists completed by the consultant/ clinician indicated that 100% of the objectives were met for each interview. The checklists completed by the independent coder also indicated that 100% of the objectives were met for the coded interviews. Therefore, 100% inter-rater reliability was obtained for the CBC Objectives Checklists.

### **Intervention checklists.**

Intervention checklists summarized the collaborative intervention plan created during the Conjoint Needs Analysis Interview (CNAI). During intervention, families and teachers were asked to complete weekly intervention checklists to evaluate treatment fidelity. Intervention checklists for each participant are included in Appendix I. These checklists were completed weekly and served as valuable reminders and measures of what aspects of the intervention were actually being implemented. However, they were not a good numerical representation of treatment fidelity as not every component was necessary or appropriate each day. Therefore, no fidelity percentage was calculated.

### **Inter-rater reliability.**

Inter-rater reliability was calculated for 14 out of the 124 (11.3%) routine compliance observations conducted during the baseline and intervention phases. In order to assess inter-rater reliability, two independent observers coded the same observation. Each interval coding was compared for reliability, and the total number of matching intervals was divided by the total number of intervals observed. All 14 observations yielded inter-rater reliability of 80% or greater. 12 out of 14 (85.7%) observations yielded inter-rater reliability of 85% or greater. 8 out of the 14 (57.1%) observations yielded inter-rater reliability of 90% or greater. 10 out of the 14 (71.4%) reliability observations were conducted using the video recordings of home routines, while 4 out of the 14 (28.6%) were conducted during in-person school routine observations. Secondary observers had to obtain 85% reliability with the researcher before conducting independent observations.

### **Within Subjects Analysis**

The dependent variable of child behavior was measured continuously by the percentage of routine compliance that a child displayed during specific problematic routines at home and school. The routine compliance data were analyzed visually, statistically and qualitatively for each participant at home and school. After the study was completed, the data were visually analyzed using level, trend direction (slope), and the percentage of overlapping data points (Tawney & Gast, 1984; Kazdin, 1982). In order to determine the interdependence of the continuous data collected, auto-correlations were calculated using the Durbin-Watson statistical test (Durbin & Watson, 1950). Calculating the correlation coefficient between adjacent data points, or autocorrelation, revealed if the data was correlated over time. This calculation helps verify an important assumption when using  $t$  and  $F$  tests, namely that data points are independent

of one another. If the data are found to be serially dependent, then  $t$  and  $F$  tests are not appropriate (Kazdin, 1982). However, if the autocorrelation calculation confirms that the data points are independent ( $d \geq 2$ ), then mean differences will also be calculated.

Effect size was calculated as another way to statistically evaluate the impact that the collaboratively developed intervention had on routine compliance. Cohen's  $d$  was calculated for each participant's home and school data. According to Cohen, effect sizes are considered large if they are greater than 0.8.

#### **Home routine compliance-statistical analysis.**

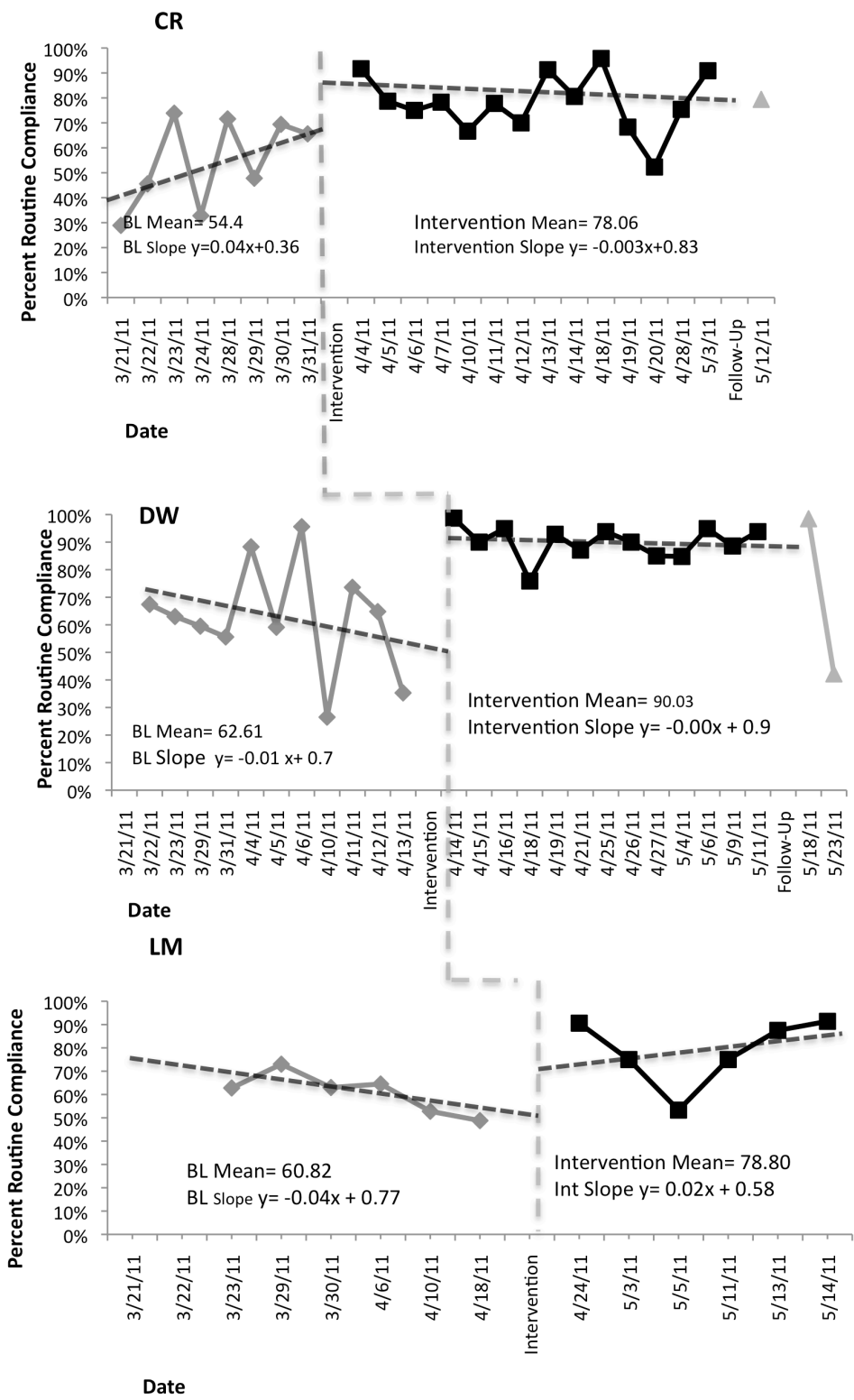
A Durbin-Watson statistic was calculated for each participant's data with a lag of 1. All participants' Durbin-Watson statistic values fell between 1.5 and 2.5, indicating that autocorrelation was not present. (Participant 1= 1.99; Participant 2=2.08; Participant 3= 2.103). Because the data were not auto-correlated, independent-sample  $t$ -tests were conducted for each participant. Baseline and intervention data points were compared for each participant. A  $p$ -value of less than .05 was required to consider the  $t$ -score significant and thus yield a statistically significant mean change from baseline to intervention. All three participants had significant  $p$ -values for the home routine compliance data, indicating that the mean change from baseline to intervention was statistically significant. Specific statistical test results are presented within each participant's analysis section.

#### **Home routine compliance-visual analysis.**

A summary of the home routine compliance data for all three participants is visually represented in figure 1. The individual results are discussed separately for each participant below. *Figure 1.* Baseline and intervention home routine compliance for all 3 participants.



Figure 1. Baseline and Intervention home routine compliance for all 3 participants.



***Participant 1.***

Baseline data for CR (Participant 1) showed an increasing trend with moderately high variability (50% of data points falling within 30% of the mean level of all data points in the baseline condition). While intervention data for CR showed a slightly decreasing trend, the intervention data was much more stable with 100% of the data points falling within 30% (Kazdin, 1982) of the mean level of all data points in the intervention conditions (described above in process results).

During baseline, CR had a routine compliance mean of 54%. In other words, CR complied with the expectations and commands given during his homework routine an average of 54% of the time. After intervention, CR had a routine compliance mean of 78% of the time, meaning that he complied with routine expectations and commands an average of 78% of the time. This represents an improvement (+24%) in overall home routine compliance for CR.

The level of change within the baseline condition for CR was +36.4, indicating an improvement in level before beginning intervention. The level of routine compliance during intervention remained at a consistently higher and fairly stable level throughout intervention, as the level change in intervention was -0.8.

The level of change between adjacent conditions was calculated to provide information about the immediate impact that the intervention had on routine compliance. The level of change between baseline and intervention for CR showed an increase of 26 percentage points indicating a large positive change occurred immediately after the intervention was introduced.

The percentage of data points in intervention that overlapped with data points in baseline was also calculated. The calculation of overlapping data points between the baseline and

intervention served as another way to evaluate the impact of the intervention, as lower percentage of overlapping data points indicate more effective interventions. Specifically, the percentage of overlapping data points is a way to measure how different the intervention data were from the baseline data. Bigger differences with lower variability within each condition (less overlapping data points) indicate a bigger change after implementing the intervention (Tawney & Gast, 1894). Four out the fifteen (27%) intervention data points overlapped with baseline data points. Follow-up data was collected 1 week after the intervention had formally ended. At follow-up, CR had complied with routine directions and expectations 79% of the time.

For CR, an independent samples *t*-test revealed that the intervention home routine compliance mean ( $M=78.06$ ,  $SD=11.82$ ) was significantly different from the baseline mean ( $M=54.44$ ,  $SD=17.99$ ),  $t(10.54) = -3.325$ ,  $p < .001$ . Data for CR violated the assumption of homogeneity of variance, therefore the *t*-test was calculated with equal variances not assumed.

The effect size for CR's home routine compliance data was considered large, as routine compliance increased by 1.31 standard deviations during intervention (Cohen's  $d=1.31$ )

### ***Participant 2.***

Baseline data for DW (Participant 2) showed a decreasing trend with moderate variability (73% of data points falling within 30% of the mean level of all data points) in the baseline condition. Intervention data for DW showed a nearly flat and highly stable trend, with 100% of the data points falling within 30% (Kazdin, 1982) of the mean level of all data points in the intervention condition (described above in process results).

During baseline, DW had a routine compliance mean of 63%. In other words, DW complied with the expectations and commands given during his dinner routine an average of

63% of the time. After intervention, DW had a mean home routine compliance of 90%, representing an improvement (+27%) in overall home routine compliance for DW.

The level of change within the baseline condition for participant 2 was -32.1, indicating a decrease in level during the baseline phase. The level of routine compliance during intervention showed only a slight decrease of 4.9%.

The level of change between adjacent conditions was calculated to provide information about the immediate impact that the intervention had on routine compliance. The level of change between baseline and intervention for DW showed a large improvement of 63 percentage points.

The researcher also calculated the percentage of data points in intervention that overlapped with data points in baseline for DW. Because DW displayed routine compliance above 85% on two occasions during baseline, 92% (12/13) of the intervention data points overlapped with baseline data points. After the intervention had formally ended, follow-up data points were collected at 1 and 2 weeks post-intervention. One week after intervention, DW complied with the routine expectations and directions 99% of the time. Two weeks after intervention, DW's routine compliance dropped significantly to 42%.

According to an independent samples *t*-test, DW's (Participant 2) intervention home routine compliance mean ( $M=90.03$ ,  $SD=5.93$ ) was significantly different from the baseline routine compliance mean ( $M=62.61$ ,  $SD=20.04$ ),  $t(11.48)=-4.378$ ,  $p=.001$ . Data for DW violated the assumption of homogeneity of variance, therefore the *t*-test was calculated with equal variances not assumed.

For DW, the home routine compliance data yielded an effect size of 1.37, which is considered large (Cohen's  $d= 1.37$ ).

***Participant 3.***

LM (Participant 3) showed a stable, decreasing trend during baseline. LM's baseline trend can be considered stable because 100% of the data points fell within 30% of the mean level of all data points in the baseline condition (Kazdin, 1982). During intervention, LM displayed an increasing trend with low variability, as 17% of the data points fell within 30% of the mean level of all data points in the intervention condition (described above in process results).

During baseline, LM complied with the expectations and commands given during his homework routine an average of 61% of the time. After intervention, LM had a routine compliance mean of 78%, meaning that he complied with routine expectations and commands an average of 79% of the time. This represents a 17% increase in overall home routine compliance for LM.

The level of change within the baseline condition for Participant 3 was -14%, indicating a decrease in level during baseline. During intervention, the level of routine compliance changed only slightly in a positive direction (0.78%).

As with participants 1 and 2, the level of change between adjacent conditions was calculated to provide information about the immediate impact that the intervention had on routine compliance for LM (Participant 3). The level of change between baseline and intervention for LM showed an increase of 41 percentage points. The percentage of data points in intervention that overlapped with data points in baseline for LM was one out the six or 17%. Because LM ended intervention at the end of the school year, no homework routines could be coded for follow-up data.

For LM, an independent samples t-test revealed that the routine compliance during intervention ( $M=78.80$ ,  $14.51$ ) was significantly different from the routine compliance mean

during baseline ( $M=60.82$ ,  $SD=8.71$ ),  $t(10) = -2.603$ ,  $p=.026$  level. LM's data did not violate the assumption of homogeneity of variance, so the  $t$ -test was calculated with equal variances assumed.

The calculated effect size for home routine compliance for LM was considered large, as home routine compliance increased by 2.06 standard deviations during intervention (Cohen's  $d=2.06$ )

### **School routine compliance**

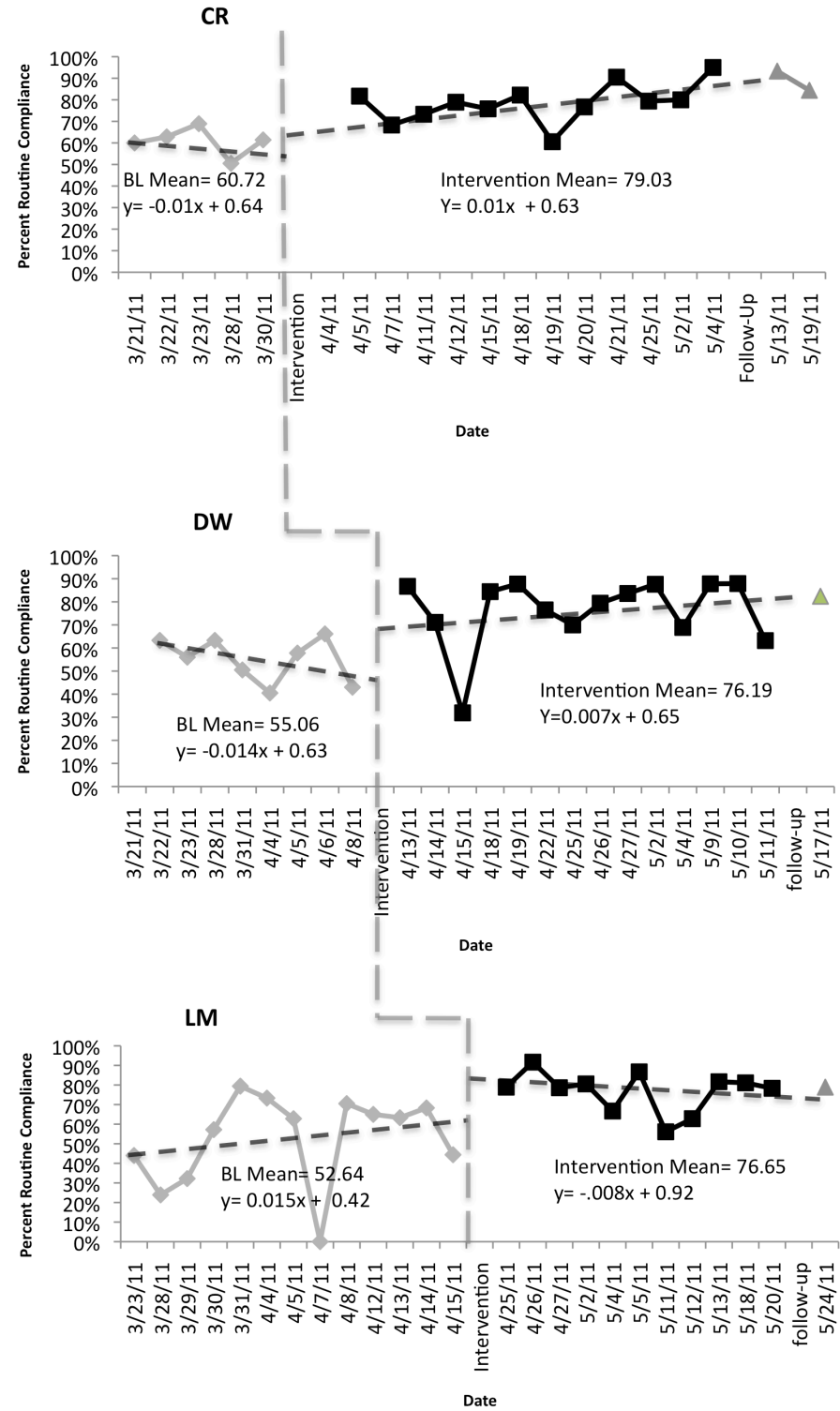
#### **School routine compliance-statistical analysis.**

A Durbin-Watson statistic was calculated for each participant's data with a lag of 1. All participants' Durbin-Watson statistic values fell between 1.5 and 2.5, indicating that autocorrelation was not present (Participant 1= 1.90; Participant 2=1.89; Participant 3=2.001). Because the data were not auto-correlated, independent-sample  $t$ -tests were conducted to compare intervention and baseline data points for each participant. A  $p$ -value of less than .05 was required to consider the  $t$ -score significant and thus yield a statistically significant mean change from baseline to intervention. All three participants had significant  $p$ -values for the school routine compliance data, indicating that the mean change from baseline to intervention was statistically significant.

#### **School routine compliance visual analysis.**

Figure 2 depicts a summary of school routine compliance for all three participants. Individual results are discussed for each participant below.

Figure 2. Baseline and intervention school routine compliance for all 3 participants.



***Participant 1.***

For the school routine, baseline data for CR (Participant 1) showed a stable, decreasing trend (100% of the data points falling within 30% of the mean of all data points in the baseline condition; Kazdin, 1982). During intervention, CR's school routine data showed a slight but stable increasing trend, with 100% of the data points falling within 30% of the mean of all data points in the intervention condition (described in detail in process results section above).

In terms of the mean level for school routine compliance, CR showed an 18% increase from baseline to intervention. During baseline, CR complied with school routine expectations and commands an average of 61% of the time. After the CBC intervention was implemented, CR complied with school routine expectations and commands an average of 79% of the time.

During the baseline condition, the level only changed a small amount (+1.4), further supporting the stability of the school routine data during baseline. The level of school routine compliance during intervention increased from 85% to 95%, yielding a +10% improvement.

As with home routine compliance, the level of change between adjacent conditions was calculated to provide information about the immediate impact that the intervention had on school routine compliance. The level of change between baseline and intervention for CR's school routine compliance showed an increase of 24 percentage points.

The percentage of overlapping data points served as another way to evaluate the impact of the intervention. In order to calculate this, the researcher calculated the percentage of data points in intervention that overlapped with data points in baseline condition. Looking specifically at school routine compliance data for CR, 2 of the 13 intervention data points (15%) overlapped with baseline data points. Because this percentage is relatively low, it provides



additional support for the effectiveness of the school intervention developed through CBC (Tawny & Gast, 1984).

In order to evaluate maintenance of the intervention effects, follow-up data were collected for two weeks following intervention. One week after the final CPEI interview, CR (Participant 1) displayed 93% routine compliance during his school routine. At the 2-week follow-up observation, CR complied with routine expectations and directions 84% of the time.

In order to statistically evaluate mean differences, *t*-tests and effect sizes were calculated. For CR, the school routine compliance mean during intervention ( $M=79.03$ ,  $SD=6.65$ ) was significantly different from the school routine compliance mean during baseline ( $M=60.72$ ,  $SD=8.88$ ),  $t(16)=-4.154$ ,  $p=.001$ . CR's school routine compliance data yielded a large effect size, as the intervention mean was 2.76 standard deviations higher than the baseline mean. (Cohen's  $d=2.76$ ).

### ***Participant 2.***

For the school routine, baseline data for DW (Participant 2) showed a stable, decreasing trend, with 100% of the data points falling within 30% of the mean of all data points in the baseline condition (Kazdin, 1982). During intervention (described in detail in process results section above), DW's school routine data showed a slight increasing trend. This trend was moderately stable, with 93% of the data points falling within 30% of the mean of all data points in the intervention condition. It is important to note that a data point was thrown out of the intervention condition because the DW could only be observed for less than 10 minutes before he was sent out of the room.

The mean level for school routine compliance for DW increased 21% from baseline to intervention. During baseline, DW complied with school routine expectations and commands an

average of 55% of the time. After the CBC intervention was implemented, DW complied with school routine expectations and commands an average of 76% of the time.

DW's level of compliance decreased by 20 percentage points during the baseline condition. The level of school routine compliance during intervention also significantly decreased from 87% to 63%. However the last data point in intervention appeared to be a low outlier, as it was only one of two intervention data points that overlapped with baseline data points.

As with home routine compliance, the level of change between adjacent conditions was calculated to provide information about the immediate impact that the intervention had on school routine compliance. The level of change between baseline and intervention for DW's school routine compliance showed an increase of 44 percentage points.

The percentage of overlapping data points served as another way to evaluate the impact of the intervention. In order to calculate this, the researcher calculated the percentage of data points in intervention that overlapped with data points in baseline condition. Looking specifically at school routine compliance data for DW, 2 of the 14 intervention data points (14%) overlapped with baseline data points. Because this percentage is relatively low, it provides additional support for the effectiveness of the school intervention developed through CBC (Tawney & Gast, 1984).

A follow-up observation was conducted one week after the CPEI to evaluate maintenance. At follow-up, DW (Participant 2) demonstrated 82% routine compliance. Additional follow-up data points could not be collected due to the end of the school year.

In order to statistically evaluate mean differences, *t*-tests and effect sizes were calculated. According to the independent samples *t*-test, DW's intervention school compliance mean

( $M=76.19$ ,  $SD=15.26$ ) was significantly higher than the baseline mean ( $M=55.06$ ,  $SD=9.59$ ),  $t(20) = -3.520$ ,  $p=.002$ . In terms of effect size, DW's effect size was considered large as his school routine compliance increased by 2.22 standard deviations during intervention (Cohen's  $d=2.22$ ).

### ***Participant 3.***

For the school routine, baseline data for LM (Participant 3) showed an increasing trend. However, this trend had moderately high variability, with only 54% of the data points falling within 30% of the mean of all data points in the baseline condition (Kazdin, 1982). During intervention, LM's school routine data showed a slight decreasing trend. Although the intervention trend was decreasing, it was much more stable than the trend during baseline, with 100% of the data points falling within 30% of the mean of all data points in the intervention condition (described in detail in process results section above).

In terms of the mean level for school routine compliance, LM showed an overall increase of 24% from baseline to intervention. During baseline, LM complied with school routine expectations and commands an average of 53% of the time. After the CBC intervention was implemented, LM complied with school routine expectations and commands an average of 77% of the time.

From the beginning to the end of the baseline condition, LM's level stayed nearly the same, with only a 0.4% increase. However, this is not very representative of the high variability present during this condition. The level of school routine compliance during intervention also remained fairly stable with only a slight decrease of 0.6%.

As with home routine compliance, the level of change between adjacent conditions was calculated to provide information about the immediate impact that the intervention had on school

routine compliance. The level of change between baseline and intervention for LM's school routine compliance showed an increase of 35 percentage points.

The percentage of data points in intervention that overlapped with data points in baseline were also calculated. This calculation served as another way to evaluate the impact of the intervention school routine compliance for LM, as lower percentage of overlapping data points indicate more effective interventions. 5 out of 11 or 45% of data points in intervention overlapped with data points in intervention. Almost half of the intervention data points overlapped with baseline data points for LM (Participant 3). Due to this high degree of variability, this indicator does not strongly support intervention effectiveness (Tawney & Gast, 1984).

In order to evaluate the maintenance of the intervention effect, follow-up data was collected one week after the final CPEI interview. At follow-up, LM complied with routine expectations and directions 79% of the time.

In order to statistically evaluate mean differences, *t*-tests and effect sizes were calculated. Data for LM (Participant 3) violated the assumption of homogeneity of variance, therefore the *t*-test was calculated with equal variances not assumed. For LM, the school routine compliance during intervention ( $M=76.65$ ,  $SD=10.54$ ) was significantly higher than the school routine compliance during baseline ( $M=52.64$ ,  $SD=22.83$ ),  $t(17.48) = -3.388$ ,  $p=.003$ . CR's school routine compliance yielded a relatively smaller, yet still considered large, effect size of 1.05 (Cohen's  $d=1.05$ ).

### **Goal attainment scaling- qualitative analysis.**

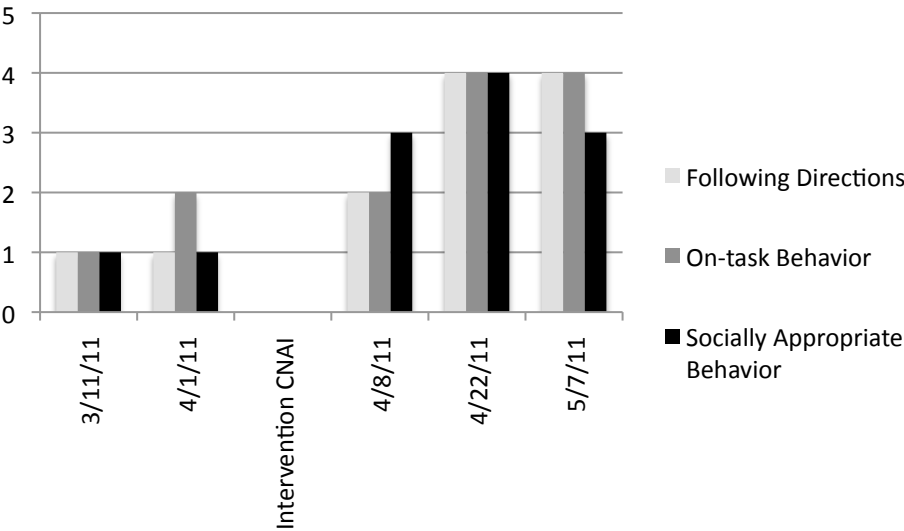
Each participant's parents and teacher completed Goal Attainment Scales weekly. Parents and teachers rated their perception of the participant's behavior on specific behavioral

goals that were created in the Conjoint Needs Identification Interviews. Although ratings were rated on a Likert scale ranging from -2 (much less progress than expected) to +2 (much more progress than expected), these numbers were translated into +1-+5 scale to better facilitate analysis. All participants began at a -2 (1) in each setting. Each participant's Goal Attainment Scale data will be displayed visually and discussed qualitatively.

***Participant 1.***

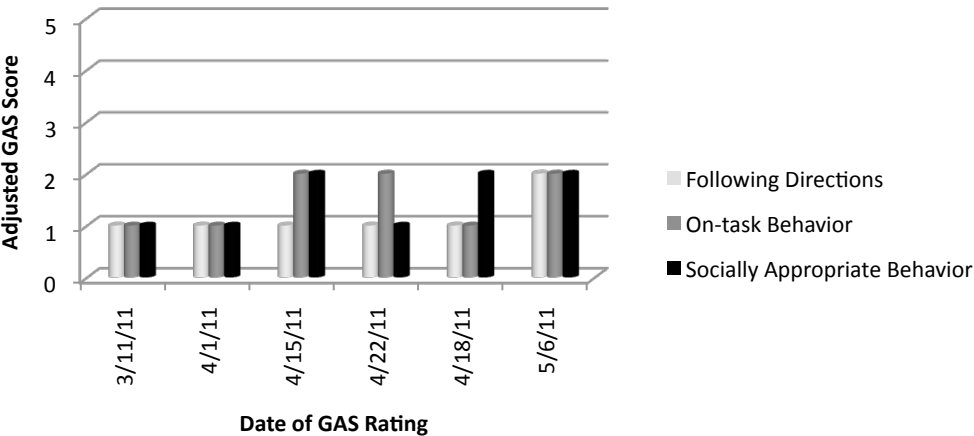
CR (Participant 1) had 3 goals that targeted following directions, on-task behavior and socially appropriate behavior. A copy of CR's goal attainment scale is included in Appendix M. During baseline, parents rated the following directions and socially appropriate behavior goal 1. However, parents indicated a slightly higher rating of on-task behavior before the intervention began (2). Upon beginning intervention, parents reported an immediate increase in following directions and socially appropriate behavior, as their scores increased from 1 to 2 and 3 respectively. At the end of intervention parent ratings indicated an overall improvement in following directions (4) and on-task behavior (4). Socially appropriate behavior remained relatively stable at 3. After intervention, CR's parents rated on-task and socially appropriate behavior as far exceeding expectations (5). In addition, they rated following directions as exceeding expectations (4). Figure 3 shows a visual representation of CR's parent GAS data.

Figure 3. CR parent Goal Attainment Scale (GAS) ratings.



During baseline, CR’s teacher rated all three behaviors at 1. When the intervention was introduced, Teacher 1’s ratings of on-task and socially appropriate behavior increased to 2. While the ratings fluctuated a little throughout the interventions, post-intervention ratings remained at the 2 level, indicating some improvement from baseline but not up to the expected level of success. Figure 4 shows a visual representation of CR’s teacher GAS data.

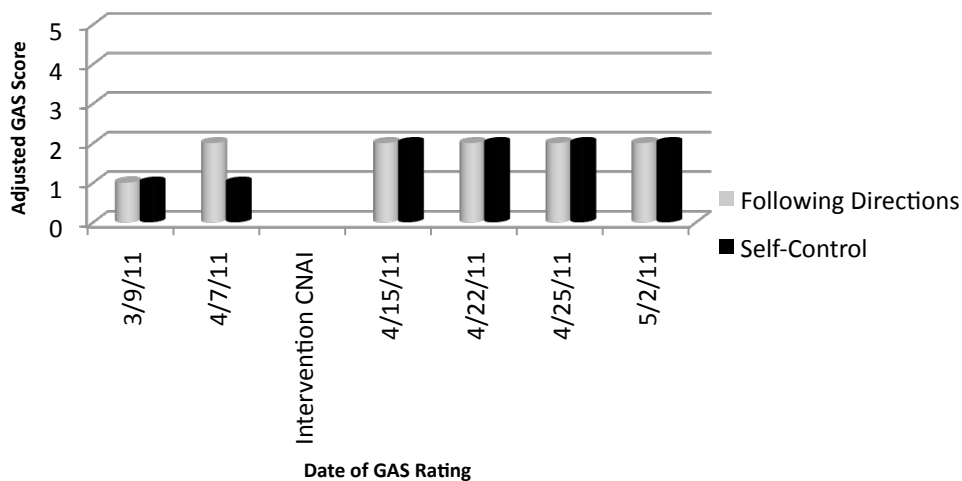
Figure 4. CR teacher GAS ratings.



### ***Participant 2.***

DW (Participant 2) had 2 goals that targeted following directions and self-control. A copy of DW's Goal Attainment Scale is included in Appendix M. During baseline, DW's parents rated his self-control as 1. While they also rated following directions as 1 at the beginning of baseline, their ratings indicated a slight improvement before beginning intervention 2. After beginning intervention, Parent GAS ratings of self-control improved from 1 to 2 and stayed at that level throughout the intervention. Parent ratings of following directions stayed at the elevated level present at the end of baseline 2. A visual representation of DW's parent Goal Attainment Scale ratings is displayed in figure 5.

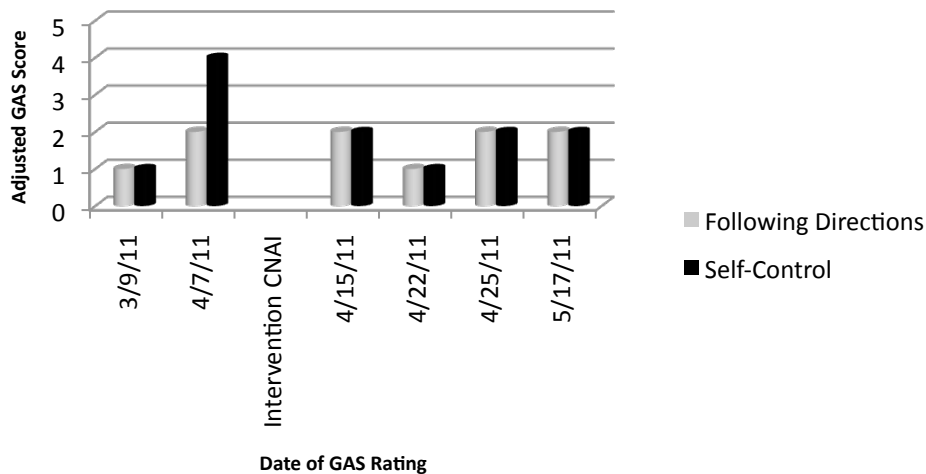
*Figure 5.* DW parent GAS ratings.



During baseline, DW's teacher ratings of following directions and self-control both began at 1 but improved before the intervention began. Specifically, Teacher 2's rating of following directions had increased to 2 and Teacher 2's rating of self-control had increased to 4. After beginning intervention, Teacher 2's ratings of following directions remained relatively stable at

2. Teacher 2's ratings of self-control dropped back to 2 and remained at that level throughout intervention. DW's teacher GAS data are displayed visually in Figure 6.

*Figure 6.* DW teacher GAS ratings.

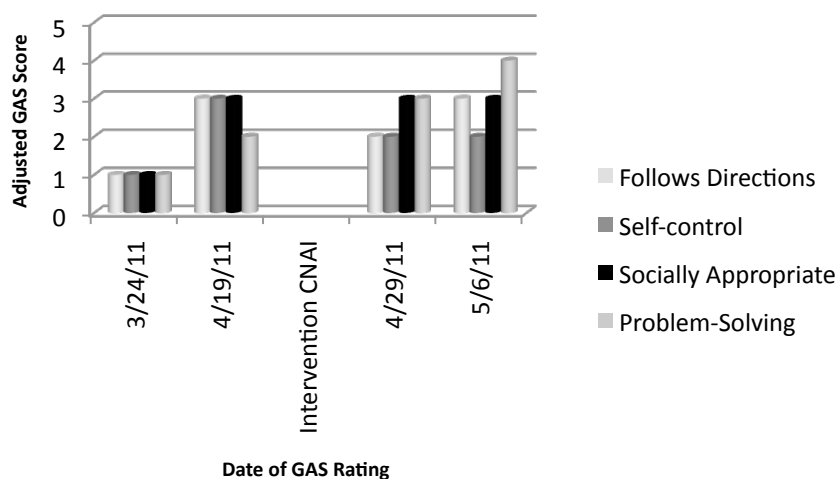


### ***Participant 3.***

LM (Participant 3) had 4 goals targeting following directions, self-control, socially appropriate behavior and independent problem-solving. LM's actual Goal Attainment Scale is included in Appendix M. While LM's parent GAS ratings began at 1 for all behaviors, they quickly improved before the intervention began. Following directions, self-control and socially appropriate behavior all increased to 3. In addition, problem solving increased to 2. After beginning intervention, socially appropriate behavior remained at the elevated level, following directions and self-control went down to 2, which represents an increase from the beginning of baseline but a decrease from the end of baseline. By the end of intervention, parents rated following directions, self-control, and problem solving as more than expected level of success (4). Parents rated socially appropriate behavior as attaining expected level of treatment success (3).

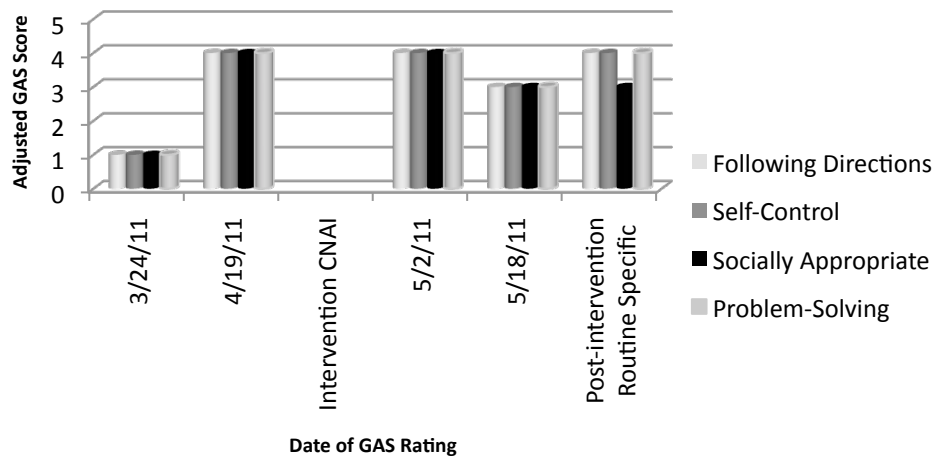


Figure 7. LM parent GAS ratings.



Similar to the parent ratings, Teacher 3's ratings began at 1 but quickly improved to 4 before beginning the actual intervention. After beginning the intervention, Teacher 3's ratings stayed high and then dropped a little. At the end of intervention, Teacher 3's GAS ratings decreased to 3, indicating that the goal had been met but not exceeded. However, when asked to rate LM's post-intervention behavior during the specific targeted routine, almost all ratings returned to 4, indicating that his behavior during the targeted routine had exceeded the set goal. Teacher GAS ratings are displayed in Figure 8.

Figure 8. LM teacher GAS ratings.



### Collaboration interview data- qualitative analysis.

Teachers and parents participating in the study completed weekly collaboration interviews, in which they rated the frequency of their communication and quality of their contacts with one another. Teachers and parents rated frequency on a scale of 1-5 (1= Very Infrequent and 5=Very Frequent). Quality was also rated on a scale from 1-5 (1=Very One-sided and 5=Very Collaborative). Teacher and parent collaboration ratings for each participant are discussed below.

#### *Participant 1.*

During baseline, CR's parents rated the frequency of contact as "3-occasional" and the quality of contacts as "4-collaborative." At the end of the CBC intervention, the frequency had increased to "4-somewhat frequent" and the quality had increased to "5-very collaborative."

CR's teacher rated the initial frequency as "2-infrequent." In addition, she rated the quality as "3-neutral." Teacher 1's frequency and quality did not increase during or after intervention. In fact, Teacher 1 rated the frequency of contact as "1-very infrequent" at the end

of intervention.” The quality of the contacts remained at a “3-neutral” throughout the intervention.

In summary, CR’s parents reported that the frequency and quality of their contacts with their child’s teacher improved after engaging in the CBC process. In contrast, CR’s teacher reported that the frequency of contacts decreased after participating in the CBC process, while the quality of the contacts remained neutral. Collaboration data for CR are visually displayed in Figures 9 & 10.

Figure 9. CR parent ratings of school-home collaboration.

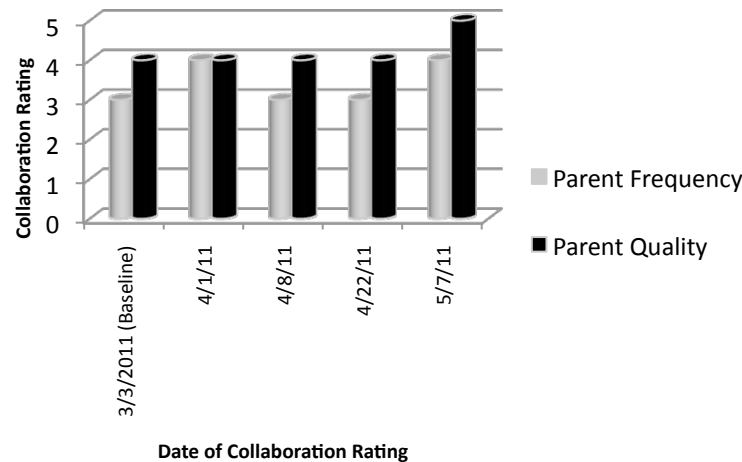
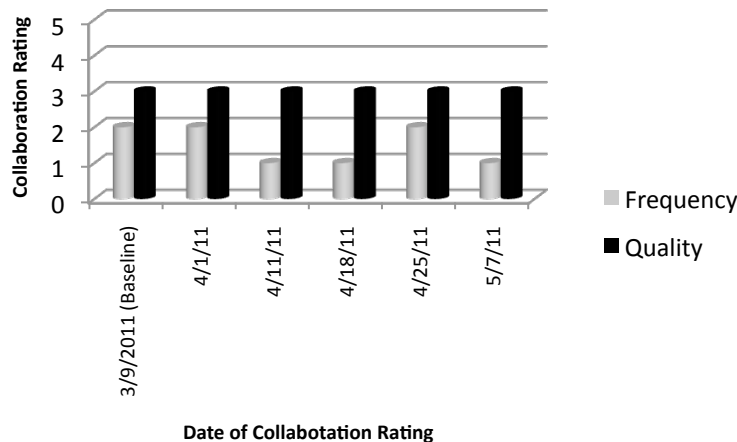


Figure 10. CR teacher ratings of school-home collaboration.



***Participant 2.***

During baseline, DW’s parents rated the frequency of contact as “4-somewhat frequent” and the quality of contact as “3-neutral.” By the end of the intervention, Participant 2’s parents rated the quality of contact as “4-collaborative,” while the frequency remained the same at “4-somewhat frequent.”

DW’s teacher rated the initial frequency as “3-occasional.” This rating remained the same during and after intervention. In terms of the quality of contact, Teacher 2’s rating improved from “3-neutral” before beginning intervention to “4-collaborative” at the end of intervention.

In summary, DW’s parents and teacher reported that frequency of contacts with one another remained the same after engaging in the CBC process. However, they both reported that the quality of their contacts improved from neutral to collaborative. DW’s parent and teacher collaboration data are represented in figures 11 & 12.

*Figure 11.* DW parent ratings of school-home collaboration.

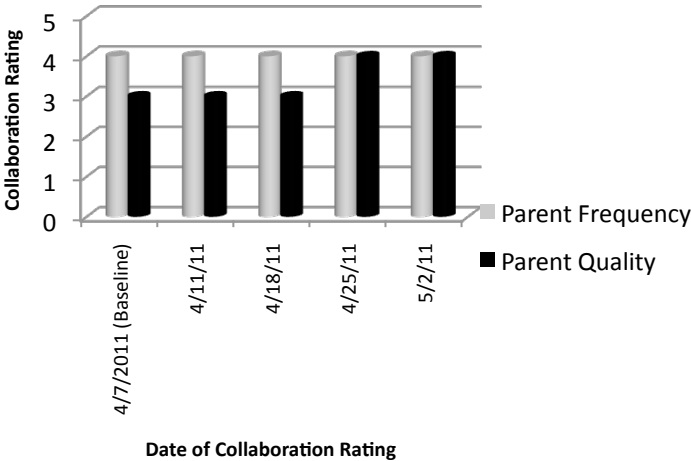
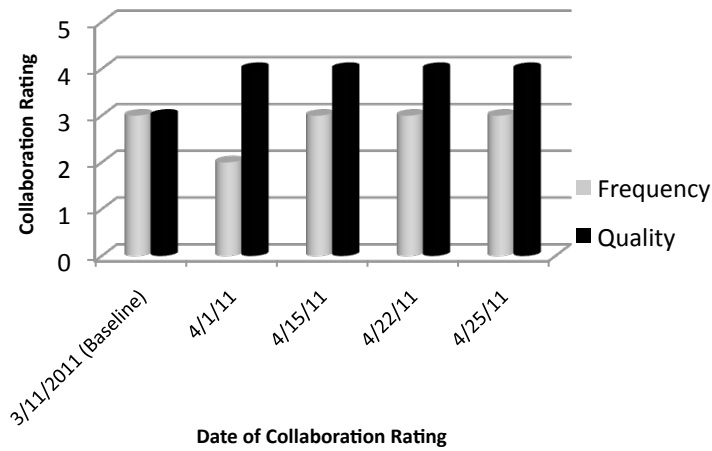


Figure 12. DW teacher ratings of school-home collaboration.



### ***Participant 3.***

Before beginning the CBC process, LM's parents rated the frequency as "5-very frequent" and the quality as "5-very collaborative". At the end of the CBC process, LM's parent ratings of quality remained at the "5-very collaborative" level. However, parent ratings of frequency decreased to "4-somewhat frequent" after intervention.

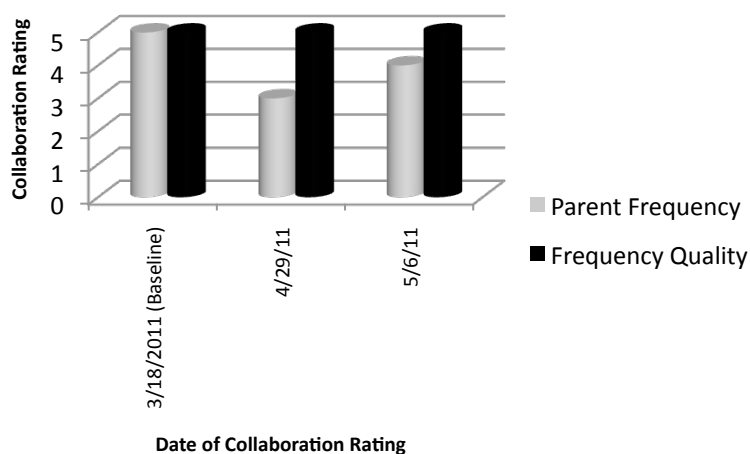
At baseline, LM's teacher rated the frequency of contact as "3-occasional" and the quality of contacts as "4-collaborative." Teacher 2's frequency rating remained the same throughout baseline and intervention. At the beginning of the CBC process, Teacher 2's quality rating increased to "5-very collaborative," however, this rating returned to "4-collaborative" at the end of the intervention.

In summary, LM's parents and teachers rated their relationship as collaborative before beginning the CBC process. These quality ratings remained fairly consistent throughout the CBC process. In terms of frequency, LM's teacher reported that it remained the same throughout the process. LM's parents reported that the frequency of contact decreased

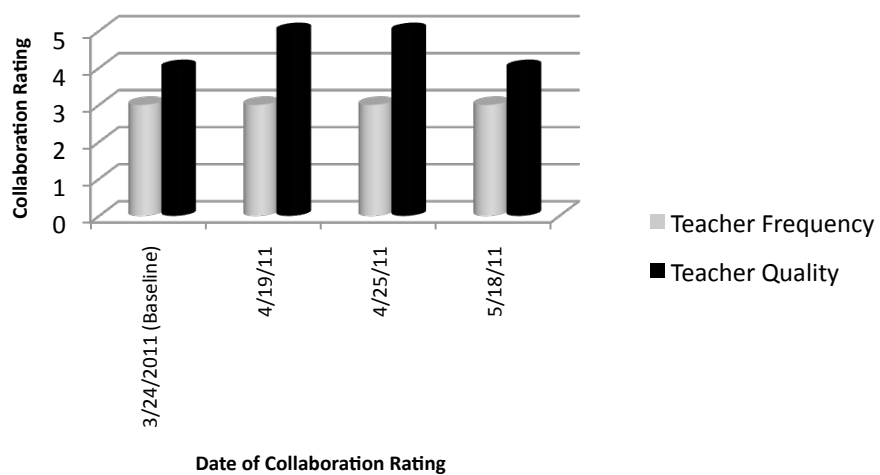
somewhat, as it went from “very frequent” to “frequent” after engaging in the CBC process.

Parent and teacher collaboration data are visually displayed in figures 13 & 14.

*Figure 13.* LM parent ratings of school-home collaboration.



*Figure 14.* LM teacher school-home collaboration ratings.



## Static Measures

### **Behavior Assessment Scale for Children- Second Edition (BASC-2; Reynolds & Kamhaus, 2006).**

The BASC-2 (Reynolds & Kamphaus, 2006) is standardized, norm-referenced tool that will be used to measure the child's behavioral functioning, as perceived by parents and teachers. The BASC-2 is a questionnaire that will be individually completed by all participants. The Parent Rating Scale (PRS) was administered to parents before and after the intervention was implemented. Teachers completed the Teacher Rating Scale (TRS) before and after the intervention was implemented. Each participant completed a rating scale, with a myriad of items presented on a four-point response scale (*Never, Sometimes, Often, Almost Always*). The broad domains assessed on the PRS are Adaptive Skills, Externalizing Problems and Internalizing Problems. The broad domains assessed on the TRS are Adaptive Skills, Externalizing Problems, Internalizing Problems and School Problems. More specific scale areas such as hyperactivity, aggression, conduct problems, withdrawal, inattention, depression, and anxiety were also assessed. (Reynolds & Kamphaus, 2006). Scores in the At-risk range indicate elevation when compared to same age peers and should be closely monitored. Scores in the Clinically Significant range indicate significant maladjustment and indicate the need for targeted intervention.

### ***Participant 1.***

CR's parents completed the Behavior Assessment Scale for Children-Second Edition (BASC-2). Parent Rating Scale before and after participating in the Conjoint Behavioral Consultation process. The only noteworthy change in the results of these rating scales was that

the Behavioral Symptoms Index improved from the Clinically Significant range to the Average range after intervention.

Teacher 1 completed the Behavior Assessment Scale for Children-Teacher Rating Scale before and after engaging in the CBC process. Noteworthy changes from pre-intervention to post-intervention include several scales changing from the Clinically Significant to the At-Risk range. Specifically, Aggression, Attention Problems, Learning Problems, School Problems, Atypicality and Behavioral Symptoms were all rated as Clinically Significant before starting CBC but improved to the At-Risk range after intervention. Hyperactivity, Conduct Problems, and Externalizing Problems remained in the Clinically Significant range. None of the elevated scales improved to sub-clinical levels following intervention. Table 4 shows a visual representation of CR's pre and post intervention scores. A complete BASC-2 profile is included in Appendix S.



Table 4

*CR Pre and Post Intervention BASC-2 Scores*

	<b>Pre-Intervention Parent Scales</b>	<b>Post-Intervention Parent Scales</b>	<b>Pre-Intervention Teacher Scales</b>	<b>Post-Intervention Teacher Scales</b>
<b>Clinically Significant</b>	Hyperactivity Aggression Conduct Problems Externalizing Behavioral Symptoms	Hyperactivity Aggression Conduct Problems Externalizing Problems	Hyperactivity Aggression Conduct Problems Externalizing Attention Problems Learning Problems School Problems Atypicality Behavioral Symptoms	Hyperactivity Conduct Problems Externalizing Problems
<b>At-Risk</b>	Attention Problems Social Skills Activities of Daily Living	Attention Problems Social Skills, Activities of Daily Living	Withdrawal Adaptability Social Skills Adaptive Skills	Aggression Attention Problems Learning Problems School Problems Atypicality Withdrawal Behavioral Symptoms Adaptability Social Skills Study Skills Adaptive Skills

***Participant 2.***

DW's parents completed the Behavior Assessment Scale for Children- Parent Rating Scale (BASC-PRS) before and after participating in the Conjoint Behavioral Consultation process. While Aggression, Conduct Problems and Withdrawal were rated in the At-Risk range before intervention, they were rated as Clinically Significant after intervention. It may be important to note that DW's father completed the pre-intervention BASC, while DW's mother completed the post-intervention BASC. In addition, other environmental changes were present

toward the end of intervention including the end of the school year and the father being away on business for 3 weeks.

Teacher 2 completed the Behavior Assessment Scale for Children-Teacher Rating Scale before and after engaging in the CBC process. The only positive change reported on this rating scale was that Participant 2's hyperactivity improved from the Clinically Significant to the At-Risk range after intervention. Aggression and Behavioral Symptoms worsened, as they changed from the At-Risk to the Clinically Significant range. In addition, Teacher 2's post-intervention BASC-2 rating scale indicated new concerns in the areas of Conduct Problems and Functional Communication, as they were rated as At-Risk on the post-intervention BASC questionnaire. Table 5 shows a visual representation of CR's pre and post intervention scores. A complete BASC-2 profile is included in Appendix T.

Table 5

*DW Pre and Post Intervention BASC Scores*

	<b>Pre-Intervention Parent Scales</b>	<b>Post-Intervention Parent Scales</b>	<b>Pre-Intervention Teacher Scales</b>	<b>Post-Intervention Teacher Scales</b>
<b>Clinically Significant</b>	Hyperactivity Atypicality Attention Problems Behavioral Symptoms Adaptability Social Skills Leadership Activities of Daily Living Functional Communication Adaptive Skills	Hyperactivity Aggression Conduct Problems, Atypicality Withdrawal Attention Problems Behavioral Symptoms, Adaptability Social Skills Leadership Activities of Daily Living Functional Commun Adaptive Skills	Hyperactivity	Aggression Behavioral Symptoms
<b>At-Risk</b>	Aggression Conduct Problems Withdrawal	None	Aggression Externalizing Depression Atypicality Withdrawal Attention Problems Behavioral Symptoms Learning Problems School Problems Adaptability Adaptive Skills	Hyperactivity Conduct Problems Externalizing Problems Depression Attention Problems Learning Problems School Problems, Atypicality Withdrawal Adaptability Leadership Functional Commun Adaptive Skills

***Participant 3.***

LM's parents completed the Behavior Assessment Scale for Children- Parent Rating Scale before and after participating in the Conjoint Behavioral Consultation process. Several significant improvements were reported. Before intervention, Family 3's responses on the scales that measure Withdrawal, Attention Problems, Externalizing Problems, Adaptability, Leadership

and Activities of Daily Living fell in the At-Risk range. In addition, responses on the scales that measure Hyperactivity, Anxiety, Depression, Internalizing Problems and Behavioral Symptoms fell in the Clinically Significant range. After intervention, Depression was the only elevated scale, falling the At-Risk range. All other areas improved to sub-clinical levels.

Teacher 2 completed a BASC-2- Teacher Rating Scale after the CBC intervention was completed. Because no pre-intervention rating scale was completed, noteworthy changes cannot be discussed. Table 6 shows a visual representation of CR's pre and post intervention scores. A complete BASC-2 profile is included in Appendix U.

Table 6

*LM Pre and Post Intervention BASC-2 Scores*

	<b>Pre-Intervention Parent Scales</b>	<b>Post-Intervention Parent Scales</b>	<b>Pre-Intervention Teacher Scales</b>	<b>Post-Intervention Teacher Scales</b>
<b>Clinically Significant</b>	Hyperactivity Anxiety Depression Internalizing Problems Behavioral Symptoms	None	No data available	Hyperactivity Depression Internalizing Problems Behavioral Symptoms
<b>At-Risk</b>	Externalizing Problems Withdrawal Attention Problems Adaptability Leadership Activities of Daily Living	Depression	No data available	Anxiety Somatization Attention Problems Atypicality Withdrawal

### **Eyberg Child Behavior Inventory (ECBI).**

Developed to measure disruptive behavior in children ages 2-16, the ECBI is a 36 item parent rating scale. This measure consists of two scales, including the Intensity Scale and the Problem Scale. On the Intensity Scale, the frequency of each behavior is measured using a 7-point Likert scale. A raw score of 131 on the Intensity Scale indicates clinically significant behavior problems. On the Problem Scale, the parent indicates the extent to which behavior is problematic by endorsing a yes or no response. A raw score of 15 on the Problem Scale suggests that the behavior is significantly problematic for this child's parents. According to Eyberg & Robinson (1983), the ECBI is an appropriate measure for monitoring treatment effects, as its 7-point intensity scale makes it sensitive to change and its focus on "current" behavior allows for continuous monitoring.

#### ***Participant 1.***

In order to assess pre and post intervention behavior, CR's parents completed the Eyeberg Child Behavior Inventory before and after engaging in the CBC process. This measure not only measures the frequency of a myriad of problem behaviors, it also measures the degree to which they are a problem for this parent. While both the Intensity and Problem scale were Clinically Significant before and after intervention, there was a decrease in reported Intensity and Problems after intervention. Specifically, the Intensity scale decreased from a T-score of 68 to a T-Score of 61, nearing the cut-off for the normal range. In addition, the Problem scale decreased from a T-score of 69 to a T-score of 67.

#### ***Participant 2.***

DW's parents completed the Eyeberg Child Behavior Inventory (ECBI) before and after intervention in order to assess behavior before and after participating in the CBC process.

Responses on both scales (Intensity and Problem) of the ECBI scales indicated that DW's behavior was in the Clinically Significant range before and after intervention. While the Problem T-score stayed the same, the Intensity T-score increased from 68 to 72 after intervention.

***Participant 3.***

LM's parents completed the Eyberg Child Behavior Inventory (ECBI) before and after engaging in the CBC process. Before intervention, LM's Intensity T-score of 53 was within the normal range. However, LM's Problem T-Score fell in the Clinically Significant range. After intervention, LM's Intensity T-score of 42 remained in the normal range and represented a decrease from the pre-intervention level. In terms of the Problem Scale, LM's post-intervention T-score decreased to 52, which is within normal range.

**Sutter-Eyberg Student Behavior Inventory (SESBI).**

The SESBI-R is a 38-item rating scale completed by teachers to assess the severity of disruptive behavior and the extent to which teachers find these behaviors problematic. These items were partially developed from chart reviews of the problem behaviors most frequently reported by teachers. Because the SESBI-R was developed as a companion to the ECBI, the SESBI-R also contains a 7-point Intensity Scale and a Yes-No formatted Problem Scale.

***Participant 1.***

Teacher 1 completed the Sutter-Eyberg Behavior Inventory (SESBI) before and after participating in the CBC process. Like the ECBI, the SESBI measures the frequency of a myriad of problem behaviors (Intensity scale) and the extent to which those behaviors are a problem for the teacher (Problem scale). Before intervention, Teacher 1's responses on both scales yielded T-scores in the Clinically Significant range. After intervention, T-scores remained in the

Clinically Significant range. While the Intensity scale T-score decreased from 68 to 64, the Problem T-score increased from 62 to 67.

***Participant 2.***

In order to assess behavior pre and post intervention, Teacher 2 completed the Sutter-Eyberg Behavior Inventory (SESBI) before and after participating in the CBC process. Before and after intervention, Teacher 2's responses on both scales yielded T-scores in the Clinically Significant range. In addition, T-scores on both scales increased from pre to post intervention.

***Participant 3.***

Teacher 3 completed the SESBI after participating in the CBC process. Because a SESBI was not completed before participating in the intervention, no comparisons can be made.

**Parent-Teacher Relationship Scale (PTRS).**

The Parent-Teacher Relationship Scale (PTRS-II) contains 24 items that are rated on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). A factor analysis revealed that the items measure 2 factors including "Joining" and "Communication to Other."

Participating parents and teachers completed the Parent-Teacher Relationship Scale before and after engaging in the CBC intervention process. The PTRS is a 24-item Likert rating scale that measures perceived "Joining" between parents and teachers "Communication-to-Other." Pre and post PTRS scores are listed in tables 7 & 8.

Table 7

*PTRS Pre and Post Intervention Joining Scores*

<b>PTRS-Joining</b>	<b>Parent</b>		<b>Teacher</b>	
	<i>Pre</i>	<i>Post</i>	<i>Pre</i>	<i>Post</i>
Participant 1	4.42	4.37	3	2.79
Participant 2	4.05	4.42	3.47	4.58
Participant 3	4.89	5	4.16	4.74

Table 8

*PTRS Pre and Post Intervention Communication to Other Scores*

<b>PTRS-Communication to Other</b>	<b>Parent</b>		<b>Teacher</b>	
	<i>Pre</i>	<i>Post</i>	<i>Pre</i>	<i>Post</i>
Participant 1	4	4.4	4.4	3.8
Participant 2	4	4	3.2	3.8
Participant 3	4.6	5	3.2	5

***Participant 1.***

CR's parents and teacher completed the PTRS before and after participating in the CBC intervention process. CR's parent responses indicated a slight increase in Communication-to-Other after engaging in the CBC process. However, Teacher 1 reported a decrease in



Communication- to-other after intervention. In addition, CR's parent and teacher Joining scores decreased after intervention.

### ***Participant 2.***

In order to measure the perceived parent-teacher relationship before and after engaging in CBC, DW's parents and teacher also completed a pre and post PTRS. According to both parent and teacher scores, "Joining" increased after participating in the CBC process. In addition, Teacher 2 reported that Communication-to-Other increased after intervention. Parent 2 reported that Communication-to-Other stayed the same.

### ***Participant 3.***

LM's (Participant 3's) parents and teacher completed the PTRS before and after engaging in the CBC process. Parent and teacher scores increased for "Joining" and "Communication-To-Other", indicating that all measured aspects of the relationship improved after participating in CBC.

## **Acceptability**

### **Behavior Intervention Rating Scale-Revised (BIRS-R).**

The Behavior Intervention Rating Scale- Revised (BIRS-R; Elliott & Von Brock Treuting, 1991) was used to assess the participants' (i.e. parents and teachers) beliefs regarding the acceptability and effectiveness of the intervention package (CBC with parent, teacher and clinician). This instrument is commonly used in consultation research, with psychometric research yielding three factors: Acceptability, Effectiveness and Time to Effect. This study looked specifically at the factors of Acceptability and Effectiveness. There are 15 items that make up the Acceptability factor and 7 items that make up the Effectiveness factor. These items

utilize a 6-point Likert scale, 1 indicating that the reporter *strongly disagrees* with the statement and 6 indicating that the reporter *strongly agrees* with the statement.

### ***Participant 1.***

In order to assess the acceptability of the CBC intervention, CR's teacher completed the Behavior Intervention Rating Scale-Revised (BIRS-R). The BIRS-R is a questionnaire that asks respondents to rate statements on a Likert scale from 1-6, 1 meaning that they strongly disagree and 6 meaning that they strongly agree. Teacher 1 rated the acceptability of the intervention as 57 out of possible 90 points or 63.3 %. The average overall rating for acceptability was 3.8 (slightly agree). The BIRS-R also assesses other factors such as the effectiveness of the intervention and the time to effect. In terms of effectiveness, the overall teacher rating was 2.14 (Disagree). On the time to effect scale, the overall teacher rating was 2.5 (Disagree to Slightly Disagree).

CR's (Participant 1) parents completed a modified version of the Behavior Intervention Rating Scale for Children-Revised (BIRS-R). Because the BIRS-R is worded specifically for teachers, the wording was modified to be appropriate for parents. Elliott and Treuting (1991) suggest that "although the wording of the scale items are in terms of a classroom setting, a minor modification of wording would provide for easy adaptation to other setting." (p. 50). CR's overall parent acceptability rating was 5 (Agree). The overall parent effectiveness rating was 3.71 (Slightly Agree). Lastly, the overall parent rating for time to effect was 4.5 (Slightly Agree to Agree).

### ***Participant 2.***

In order to assess the acceptability of the CBC intervention, Teacher 2 also completed the Behavior Intervention Rating Scale-Revised (BIRS-R). The BIRS-R is a questionnaire that asks

respondents to rate statements on a Likert scale from 1-6, 1 meaning that they strongly disagree and 6 meaning that they strongly agree. Teacher 2 rated the acceptability of the intervention as 90 out of a possible 90 points or 100%. The average overall rating for acceptability was 6 (Strongly Agree). The BIRS-R also assesses other factors such as the effectiveness of the intervention and the time to effect. In terms of effectiveness, the overall teacher rating was 3.86 (Slightly Agree). On the time to effect scale, the overall teacher rating was 5.5 (Agree to Strongly Agree).

DW's (Participant 2) parents completed a modified version of the Behavior Intervention Rating Scale for Children-Revised (BIRS-R). DW's overall parent acceptability rating was 4.87 (Agree). The overall parent effectiveness rating was 4 (Slightly Agree). Lastly, the overall parent rating for time to effect was 4.5 (Slightly Agree to Agree).

### ***Participant 3.***

Teacher 3 completed the Behavior Intervention Rating Scale-Revised (BIRS-R) to assess the acceptability of the CBC intervention. The BIRS-R is a questionnaire that asks respondents to rate statements on a Likert scale from 1-6, 1 meaning that they strongly disagree and 6 meaning that they strongly agree. Teacher 3 rated the acceptability of the intervention as 86 out of a possible 90 points or 95.56%. The overall teacher acceptability rating was 5.73 (Strongly Agree). In addition, to acceptability, the BIRS-R also measures effectiveness and time to effect. In terms of effectiveness, the overall teacher rating was 5.57 (Strongly Agree). The overall teacher rating for time to effect was 6 (Strongly Agree).

LM's (Participant 3) parents completed a modified version of the Behavior Intervention Rating Scale-Revised. LM's overall parent acceptability average was 5.93 out 6, indicating that they strongly agreed with most of the acceptability statements. In terms of time to effect, the

overall parent rating was 5.5 out of 6 (Agree to Strongly Agree). Lastly, the overall parent effectiveness rating for parent 3 was 6 out of 6, indicating that they strongly agree with all effectiveness statements.

In summary, all participating teachers rated the acceptability as better than neutral. Teacher 2 and 3 reported very high acceptability, as they strongly agreed with most of the acceptability statements. Teachers perceptions of effectiveness and time to effect ratings varied as they ranged from disagree to strongly agree. All three participating parents indicated that they agreed or strongly agreed with most of the acceptability statements. In terms of the effectiveness of the CBC intervention, all participating parents indicated that they slightly agreed to strongly agreed with most of the effectiveness items. Similarly, all parents' time to effect ratings fell between slightly agree to strongly agree.

## **Chapter Five**

### **Discussion**

In order to address the need for coordination between service providers, educational professionals and parents (Blue-Banning, Summers, Frankland, Nelson & Beegle, 2004; Power, DuPaul, Shapiro & Kazak, 2003), the current study used an empirically supported process, Conjoint Behavioral Consultation (CBC; Sheridan & Kratochwill, 1992), to facilitate the development of collaborative intervention plans that were implemented at home and school.

Developed for use in the school setting to build problem-solving partnerships between parents and teachers, the traditional CBC model has been shown to be effective in addressing many behavioral issues (Sheridan, Eagle, Cowen & Mickelson, 2001; Wilkinson, 2005). Specifically, CBC has been effectively utilized to address many of the behaviors targeted in this study, such as homework completion (Galloway & Sheridan, 1994; Weiner, Sheridan & Jenson, 1998), externalizing behavior problems (Illsey & Sladeczek, 2001), social skill development (Colton & Sheridan, 1998), compliance (Ray, Skinner & Watson, 1999) and behavioral control (Wilkinson, 2005; Garbacz, 2008). However, the current study is one of the first to experimentally evaluate the effectiveness of CBC as a means to improve behavioral outcomes at home and school by involving teachers, parents and outside mental health providers in the process.

Burt et al. (2008) and Sheridan et al. (2009) found promising acceptability ratings, perceptions of goal attainment and effect sizes when outside pediatric mental health providers were involved in the CBC process. The current study is the first to provide experimental data for this model. The results of this study build upon the encouraging results found in Sheridan et al. (2009) and suggest that CBC can be an effective way to involve parents, teachers and outside

mental health providers in the development and implementation of collaborative intervention plans.

Using a multiple baseline design across three participants, this study evaluated the effectiveness of collaborative interventions developed through CBC as a means to improve behavioral outcomes at home and school. This study was unique because the consultant also served as the pediatric mental healthcare provider for the participants. Parents, teachers and the pediatric mental health care provider worked together to create and support behavioral interventions at home and school. Because an outside clinician facilitated the process, this study has major implications for future uses of CBC as a means to effectively link systems of care for children. In addition, the current study investigated whether the CBC process increased perceived collaboration and improved the quality of parent-teacher relationships. Because the strength of multiple baseline designs lies in the ability to replicate results and repeatedly show the impact of interventions with different subjects, the results are discussed in relation to the specific circumstances of each participant.

### **Participant 1 (CR)**

Overall, the collaboratively developed intervention for CR (Appendix S) appeared to be effective in increasing routine compliance during problematic home (homework) and school (math lesson) routines. At both home and school, the mean of routine compliance increased significantly after the collaboratively developed intervention was introduced. The large effect sizes further supported the significant change in behavior after implementing the intervention. In addition, the collaboratively developed intervention appeared to have an immediate impact at home and school as the percentage of routine compliance increased immediately after

introducing the intervention. This supports the power of the collaboratively developed intervention to quickly improve CR's behavior.

Similar to the findings of Galloway & Sheridan (1994) and Weiner, Sheridan & Jenson (1998), the intervention developed through CBC was effective in improving homework completion for CR. One indicator of behavioral improvement at home that was not directly measured in the study was the duration of homework time. During baseline, CR's and his parents would often spend more than one hour on homework. After intervention, homework often took 15-30 minutes. This change positively impacted the family and their perception of the intervention. While parents were initially skeptical of the token economy, labeled praise and ignoring of negative behaviors, they were able to successfully implement this during homework time. CR's mother appeared to be more comfortable implementing these components than his father. This was very apparent as one of the low outliers during the intervention phase occurred when CR's mother was gone and his father was supervising homework time.

While the routine compliance showed significant improvement at both home and school, other behavioral indicators and reports suggested that some of CR's ADHD symptoms, such as impulsivity, were not improved by the intervention. For example, CR's on-task behavior seemed to increase but impulsive and socially inappropriate behaviors were still present. These types of behaviors continued to impact CR's peer interaction and teacher perception.

In order to measure parent and teacher perceptions of behavior, Goal Attainment Scales were completed weekly. After intervention, CR's parents indicated that his compliance and on-task behavior had shown more progress than expected. They also indicated that his socially appropriate behavior had shown an expected level of improvement. In contrast, CR's teacher indicated that all three behavioral goals had shown less than the expected level of treatment

success. This finding is consistent with other measures for CR, as his teacher's perceptions of behavior and improvement were frequently more negative than parent perceptions.

In addition to measures of behavior, the current study also aimed to measure changes in collaboration and parent-teacher relationships. According to CR's parents, the frequency of contacts and quality of collaboration with his teacher improved after participating in the CBC process. However, CR's teacher reported that frequency of her contacts with CR's parents decreased and the quality of collaboration remained the same. Once again, this demonstrates the different perceptions of CR's parents and teacher. On the measure designed to assess parent teacher relationship, CR's parents and teacher reported that their perceived joining together actually decreased after participating in the CBC process. While CR's parents reported that their communication increased after participating in the CBC process, CR's teacher also reported a decrease in communication after participating in the CBC process.

Interestingly, CR's teacher reported noteworthy behavioral improvements on the BASC-2. Specifically, she indicated that aggression, attention problems, learning problems, school problems atypicality and behavioral symptoms improved from the clinically significant range to the at-risk range after implementing the CBC intervention. In addition, CR's teacher SESBI scores indicated that while the intensity of problem behaviors slightly improved, she reported that more behaviors were a problem for her after intervention. CR's parents only reported one noteworthy improvement on the BASC-2 (Behavioral Symptoms from Clinically Significant to Average). On the ECBI, CR's parent T-scores improved after intervention but remained in the clinically significant range.

In terms of intervention acceptability, a similar discrepancy was present between CR's parents and teacher. CR's parents reported that they agreed with the acceptability of the



intervention. In addition, they reported that they slightly agreed that the intervention was effective. CR's teacher reported that she slightly agreed that the intervention was acceptable. However, she reported that she disagreed with effectiveness of the intervention.

It is interesting to note that while CR's teacher reports were consistently more negative, she had very positive things to say about the intervention during the post-intervention qualitative interview. Specifically, she reported that she communicated with CR's parents much more often and had a better relationship with them. She also reported that she greatly enjoyed participating in the process. The reason for these discrepancies is not clear.

### **Participant 2 (DW)**

The collaboratively developed intervention for DW (Appendix T) appeared to be effective in increasing routine compliance during problematic routines at home (mealtime) and school (reading). The mean routine compliance in both settings increased significantly when the collaboratively developed interventions were introduced. In addition, the effect sizes for home and school routine compliance are considered to be large. In addition, to significant mean changes, DW showed large improvements immediately after the intervention was implemented in both settings. These immediate changes support the power of the collaboratively developed intervention. While the immediate impact of the intervention was large for the school condition, (+44%), it was even more dramatic for the home condition (+63%). This difference could have been due to the environmental conditions present before beginning intervention. For example, DW's teacher already had an established behavioral system that provided some structure during the school routine. DW's family did not have an established system to address behavior at mealtime until the collaborative intervention was introduced.

While the home intervention (token reinforcement for appropriate mealtime behavior) was very effective in improving routine compliance, the parents had difficulty with certain aspects of the intervention such as ignoring inappropriate behavior. DW's father voiced concern about "bribing" him to act the way he should. In addition, DW's father frequently gave negative attention for inappropriate behavior by reprimanding and correcting. Despite all these difficulties, the intervention was implemented with acceptable fidelity and appeared to significantly improve DW's behavior. At the end of the intervention, DW's family mentioned that they were going to start using the reinforcement system during other problematic routines. According to his teacher, the impact of the intervention on school behavior was variable. On some days, DW's behavior seemed to improve greatly with the intervention. However, DW continued to have very difficult days where nothing seemed to work. Even with the intervention, there were occasions where DW's behavior was so disruptive that he was sent out of the room before the observation was complete.

Even with the challenges, DW's routine compliance data showed significant improvement at both home and school. However, other behavioral indicators and reports suggested that many of DW's behaviors stayed the same or worsened after intervention. Many of DW's BASC-2, ECBI and SESBI scores worsened after intervention. Specifically, parent reports of aggression, conduct problems, and withdrawal changed from the at-risk to the clinically significant range from pre to post intervention. For the parent BASC-2, it is important to note that DW's father completed the pre-intervention BASC, while his mother completed the post-intervention BASC. In addition, new behavioral problems arose on the teacher BASC-2 ratings. Both ECBI and SESBI scores remained in the clinically significant range before and after the intervention.

The lack of change reflected on the behavioral screeners was somewhat expected as general screeners are not typically as sensitive to change as observational data. In addition, perceived behavior often does not match direct observations (Schroeder, Rojah & Reese, 1997). There are several possible reasons why the static measures did not show the change represented in the routine compliance data. One plausible reason is that the routine compliance data were only focused on one routine that was the focal point of intervention. The screeners ask questions about more general behavior. Therefore, perhaps the change noticed during the routine does not overpower the child's behavior throughout the entire day.

For DW, one possible reason for these negative changes is the fact that the intervention wrapped up at the end of the school year. This seemed to be a very difficult time for DW because of all the schedule changes and new routines that happen at the end of the year (assemblies, field day, special activities). Because DW had difficulty with routine changes, these issues could have contributed to spikes in behavioral symptoms. In addition, DW may have been anticipating the end of the school year and the changes coming with the summer. Another environmental change that occurred toward the end of intervention was the absence of DW's father. DW's father had to leave for a three-week business trip, which greatly impacted the whole family. This type of large environmental change can be difficult for any child, but DW's Pervasive Developmental Disorder may have intensified his response.

In order to measure parent and teacher perceptions of behavior, Goal Attainment Scales were completed weekly. After intervention, DW's parents and teacher indicated that his compliance and self-control had improved but the progress was less than expected with treatment. Once again, many of the environmental changes may have influenced to their

perception of DW's behavior. Had the intervention ended at a more stable time for DW, these ratings may have been different.

In addition to measures of behavior, the current study also aimed to measure changes in collaboration and parent-teacher relationships. DW's parents and teacher agreed that the quality of their contacts improved from neutral to collaborative after participating in the CBC process. However, no changes in the frequency of contact were reported after participating in the CBC process. On the measure designed to assess parent teacher relationship, DW's parents and teacher both reported that their perceived joining together increased after participating in the CBC process. While DW's teacher reported that her communication to parents increased, DW's parents reported that communication remained the same.

DW's parents and teacher agreed that the CBC intervention was acceptable and slightly effective. In the post intervention qualitative interview, DW's parents and teachers both expressed their appreciation of the process. DW's teacher said that she "really enjoyed getting to know DW's mother and finally feels they are on the same page." DW's parents reported that the mealtime intervention made a positive difference for their whole family and would participate in a similar process in the future.

### **Participant 3 (LM)**

Overall, the collaboratively developed intervention for LM (Appendix U) appeared to be effective in increasing routine compliance during problematic routines at home (homework) and school (reading workstations). The mean routine compliance in both settings increased significantly after the collaboratively developed interventions were introduced. In addition, the large effect sizes found for routine compliance at home and school further support the significant change in behavior after implementing the intervention. In addition to significant mean changes,

LM showed large improvements immediately after the intervention was implemented in both settings. These immediate changes support the power of the collaboratively developed intervention.

It is important to note the high variability present during LM's baseline. One possible reason for this variability was that a new school intervention was implemented during baseline without the permission of the researcher. LM's behavior was so difficult during the first week of baseline, which also happened to be the first week after spring break, that the teacher and principal decided to implement a new "three strikes you're out" system. With this new system, LM received 2 warnings or behavioral corrections throughout the day. If LM's teacher needed to give a third correction, he was sent to the office to work for the remainder of the day. With the use of this system, LM's behavior seemed to improve the day immediately following being sent to the office. However, his behavior gradually declined and he was sent to the office again. Once again, his behavior seemed to immediately improve but the impact was not lasting. The implementation of this system before starting the collaborative intervention developed through CBC could have greatly impacted the study. LM's parents and school team seemed to think that the three strikes you're out system was extremely effective. Therefore, they reported positive changes even before beginning the collaborative intervention. In addition, the three strikes you're out system did increase school-home communication because the principal called the parents each time he was sent to the office and the teacher more frequently communicated with the parents. While this system was still in place when the collaborative intervention was being implemented, LM never needed to be sent to the office once the collaborative intervention plan was implemented.

At the beginning of the process, LM's school team expressed concern about the consistency of consequences at home. Therefore, consistency was stressed during baseline and intervention development. According to intervention checklists, parent report and video observations, the collaboratively developed intervention seemed to be implemented with appropriate fidelity. Similar to the dynamic of Participant 1's (CR's) family. LM's mother appeared to be more comfortable implementing the intervention than his father.

Parent and teacher perceptions of LM's behavior were measured by weekly Goal Attainment Scales. According to his parents, LM's self-control improved but the progress was less than expected with treatment. Parent ratings of compliance and socially appropriate behavior improved to the expected level of progress with treatment. Finally, LM's independent problem solving showed the most improvement, as it improved to more than expected levels of treatment success.

LM's teacher also reported improved perceptions of behavior, as all of target behaviors improved to expected levels of treatment success. It was interesting to note that many of the goal attainment ratings improved during baseline. While no intervention had been implemented yet, the parents and teachers had engaged in the collaborative Conjoint Needs Identification Interview and they were collecting baseline data. Perhaps the increased ratings were due to starting the collaborative process and feeling like they were actively addressing the issues. Another possible explanation is that parents and teachers had a more accurate picture of the behavior after actively collecting anecdotal data and paying closer attention to actual behavior. In addition to LM's case, this finding was consistent for many of the participating parents and teachers. Therefore, the variability of the GAS ratings throughout baseline and intervention

make it difficult to identify what components actually improved their perceived ratings of goal attainment.

Parent ratings on the behavioral screeners such as the BASC and the ECBI, further supported the positive behavioral improvements. While the parent BASC filled out before intervention yielded 11 scales in the At-Risk of Clinically Significant range, all but one of these areas dropped to sub-clinical levels after implementing the collaborative intervention.

In the area of collaboration and parent-teacher relationships, LM's parents and teacher reported a collaborative relationship with very frequent communication before engaging in the CBC process. Therefore, there was not much room to measure improvement due to CBC. After intervention, LM's parents and teacher reported that the relationship continued to be collaborative. In terms of frequency, while LM's teacher reported no changes, LM's parents reported a slight decrease from very frequent to frequent. Therefore, it can be concluded that LM's parents and teacher perceived their contacts as collaborative and frequent before and after engaging in the CBC process.

On the measure designed to assess parent teacher relationship, LM's teacher and parents both reported an increase in perceived joining and communication to one-another after engaging in the CBC process. This could be indicative the CBC process contributing to an improved parent-teacher relationship for this particular participant.

LM's parents and teacher agreed that the CBC intervention very acceptable and very effective. In fact, the majority of items on both respondents' acceptability measures indicated that they strongly agreed with most of the statements measuring acceptability and effectiveness. Thus, it can be concluded that LM's parents and teacher found the CBC process to be highly acceptable and effective.

## **The Big Picture**

The results of this multiple baseline study indicate that collaborative interventions developed by parents, teachers and an outside mental health clinician through the CBC process were effective in improving routine compliance during problematic routines at home and school. The observed improvements in routine compliance are especially meaningful because non-compliance is “one of the most common problems faced by educators and parents of children with and without disabilities” (Ray, Skinner & Watson, 1999, p.622) and it is considered to be a precursor to conditions such as oppositional defiant disorder and conduct disorder (March & Mulle, 1998). In addition, improving compliance and other disruptive behaviors can lead to more positive outcomes for children, families, schools and communities (LeFever et al., 1999; Offord, Boyle & Racine, 1991; Shinn, Ramsey, Walker, Stieber, & O'Neill, 1987; Wentzel, 1993; Jenson, Olympia, Farley & Clark, 2004). Consistent with the findings of Burt et al. (2008) & Sheridan et al. (2009), the current study also found encouraging perceptions of goal attainment. The parents and teachers who participated in the CBC process with an outside pediatric mental health provider reported that most behaviors achieved an expected level of success as measured by goal attainment scales. These promising results provide support for the use of CBC by pediatric mental health clinicians. Further, these results seem to suggest that CBC is an effective way for parents and teachers to collaboratively work with additional systems in a child's life.

Collaborative parent-educator partnerships have documented benefits for families, teachers and schools (Christenson, 1995) and are considered to be “primary protective factors” for children (Christenson & Sheridan, 2001; Weissberg & Greenberg, 1998). Therefore, the current study investigated the changes in parent-teacher relationships and perceived collaboration



that occurred when the CBC process was used. In terms of parent-teacher relationships, the majority of participants reported an increased sense of joining and communication to one another. In addition, the current study seemed to suggest that while the quality of the contacts may stay the same or become more collaborative when the CBC process is used, the frequency of contact between parents and teachers does not necessarily increase during the CBC process. While it seems strange that a structured process aimed at increasing collaboration between educators and families would actually lead to less frequent contact, a study by Izzo et al. (1999) provides a possible explanation. Izzo et al. (1999) found that the sheer quantity of parent-teacher interactions was positively correlated to worsened classroom behavior. They suggested that contacts are often associated with a child's behavior problems, especially when other positive aspects of parent involvement are controlled for (e.g. attending school activities, positive interactions with the teacher. In addition, Leitch and Tangri (1988) found that children's behavior problems were one of the most common reasons for parent-teacher contacts. Epstein & Jacobsen (1994) further support this theory, as they suggested that families may have more contact with the school as they try to discuss behavioral problems. Perhaps the decrease in frequency of communication found in the current study is related to the lower number of behavioral problems present when the collaboratively developed intervention was implemented.

### **Limitations**

While the majority of this study results support the use of Conjoint Behavior Consultation in developing collaborative interventions between parents, teachers and outside clinicians, certain limitations exist. Because this study used a collaborative consultation process, it is difficult to control the types of interventions that result from the process. Central to the CBC process is the flexibility to incorporate multiple interventions suggested by multiple

people to be implemented in multiple settings. Therefore, fidelity of the collaborative interventions was difficult to assess. The lack of more formal information about the fidelity of each intervention could be perceived as a limitation. In addition, some of the participants had existing interventions that may have interfered with the collaborative CBC interventions. Because the school teams chose to continue or introduce additional strategies, there is always the possibility that the data were influenced by external factors.

The researcher served as the consultant and outside mental health clinician. The researcher worked as a mental health clinician in a pediatric setting that served children with developmental disabilities. Therefore, the researcher served as the consultant and the pediatric mental health clinician that supported the intervention through clinic sessions. The presence of multiple roles may have interfered with objectivity. While process fidelity checks and inter-rater reliability were conducted, there is always a possibility of experimenter bias in the implementation and evaluation of the study. Because the researcher also served as the consultant/ clinician and an observer who collected routine compliance data, there is a possibility that the data could be biased toward the results the researcher wanted to see. While this is a limitation, it is somewhat controlled by the fact that inter-rater reliability checks were conducted with two other observers.

It is also important to note the limitations of the measures used to assess change from pre to post intervention. Specifically, the Parent Teacher Relationship Scale (PTRS) has very little evidence supporting its reliability and validity after its development in 1995 (Vickers & Minke, 1995). While further studies were recommended, extensive database searches found no additional empirical studies of this measure. Another limitation is associated with the use of the Behavior Intervention Scale- Revised (BIRS-R) to measure intervention acceptability and

perceived effectiveness. Elliott & Von Brock Treuting (1991) found strong internal consistency but there is little information about other types of reliability and validity. In addition, the BIRS-R was developed for use with teachers. The current study modified the questions in order to be more appropriate for parent completion. While this is a recommended use of the BIRS-R (Elliott & Treuting, 1991), there is no published evidence on how these modifications affect the reliability and validity of the instrument.

### **Hawthorne Effect**

In addition, parents and teachers may have felt an obligation to report positive results because they were aware that that consultant/ clinician was also the researcher. Therefore, they may have felt a need or desire to produce positive results for someone with whom they had built a relationship. This limitation may also be related to the Hawthorne Effect (Landsberger, 1958), which suggests that participants may change their behavior simply because they are being studied, not necessarily because of the intervention. In the original Hawthorne effect study, it was suggested that increased worker productivity was due to the fact that people (researchers) were showing additional interest in the workers (Adair, 1984). This phenomenon could have contributed to some of the positive reports obtained in this study, as many of the participants reported improved behavior before the intervention even began. They seemed to notice an improvement just after meeting with the teacher and consultant to discuss the problems and goals.

### **Feasibility**

The feasibility of replication is another limitation of the current study. First of all, the researcher held the CBC meetings at the child's school in the interest of convenience for teachers and families. While this worked well in the study, it may not be realistic to assume that outside

mental health clinicians could feasibly travel to schools to participate in these meetings. First of all, this becomes a large time commitment when travel time is added to meeting time. In addition, insurance companies may not pay providers to travel to a school and provide community services. These two previously existing barriers to collaboration may still present a challenge when CBC is used to develop collaborative intervention plans.

### **Generalizability**

Generalizability is always a concern, however it should be noted that the results of this study will likely be more replicable with participants that have the same demographic, ecological and behavioral profiles. That is why exhaustive attempts were made to fully explain the personal situations and factors that may have contributed to the success of CBC or the lack thereof for each participant. Some specific issues with generalization follow.

In this study, several possible problems with generalizability exist. First of all, the parents and teachers who agreed to participate were highly motivated to support the participants at home and school. Parents who agreed to participate were extremely supportive and willing to go above and beyond for data collection and intervention implementation. Teachers who agreed were very interested in helping the child and family. The participating teachers also agreed to give up plan time and work after-hours to accommodate parent schedules. Time is a well-documented barrier to collaboration and coordination of services (Ouellette, Briscoe & Tyson, 2004; Park & Turnbull, 2003; Weist et al., 2001). The fact that parents and teachers who volunteered to participate in this study were able to successfully overcome this obstacle may indicate something unique about the nature of these participants.

Another participant characteristic that may impact generalizability was the generally positive relationships between parents and teachers that existed prior to engaging in CBC.

Perhaps the parents and teachers who agreed to participate had a higher level of mutual trust before starting the process than parents and teachers who did not agree to participate. While this was beneficial for the study, it is not necessarily representative of most parent-teacher relationships. In fact, previous literature suggests that collaborative partnerships between schools and families are rarely developed and maintained with success (Blue-Banning et al., 2004; Bruder, 2000; Rainforth, York & MacDonald, 1992).

It appeared that people who wanted to participate in the study had children who still spent a large amount of time in the general education classroom. One parent who was screened for participation said that she was not interested because her child was in a self-contained behavior disorder classroom, and while she wanted help at home, she thought the school had everything under control. This aspect of the study may also be an asset to the current study as it demonstrates that the intervention can serve as a preventive technique that can be used while children are still spending most of their time in the general education classroom. Because of all of these participant characteristics, the results of this study can only be generalized to similar teachers, parents and children. However, future research might demonstrate similar results with more diverse participants.

### **Future Research**

Future research could address the stated limitations and provide additional support for the use of conjoint behavioral consultation to develop and implement collaborative behavior intervention plans at home and school. First of all, the use of a single-subject design was a valuable way to collect empirical data about the effectiveness of the process. However, a larger study with more participants would provide greater statistical support for the effectiveness of the intervention and the possibility of generalizing the results to different populations.

In addition, subsequent single subject designs conducted with diverse populations would also provide information about the generalizability of the results to different types of families, teachers and children. Specifically, it would be interesting to conduct a similar study with children, parents and teachers from urban and rural areas. If possible, it would also be interesting to conduct the study with teacher-parent dyads that have more challenging existing relationships.

The current study showed that the CBC process could be an effective way to involve parents, teachers and an outside mental health clinician in developing and implementing collaborative interventions for children meeting criteria for ADHD and Pervasive Developmental Disorder-Not Otherwise Specified. However, it would very helpful to evaluate the effectiveness of the CBC process for children with other diagnoses, such as oppositional defiant disorder, conduct disorder, intellectual disability and other types of autism spectrum disorders. It would also be interesting to investigate the effects of the intervention when children spend the majority of their time in self-contained resource rooms, as opposed to the general education classroom.

The importance of collaboration between key stakeholders in a child's life is well documented in the literature. According to Power (2003) children must be understood in the multiple systems in which they exist (i.e. educational, recreational, healthcare, mental healthcare, faith-based institutions and child welfare); therefore the integration of services is crucial to enhance the development of children and quality of life for their families (Bailey, 1998). Because "no one agency or service provider has all the knowledge and skills necessary to meet the multiple needs of children and families" (Park & Turnbull, 2003, p.48), it would also be valuable to attempt to involve additional professionals in this process. For example, a similar study could be conducted with pediatricians involved in each of the CBC interviews. This might

be a valuable place to start because the American Academy of Pediatrics (2000; 2001) recognizes the importance of systems collaboration and recommends that physicians involve parents and school personnel when they are treating children for medical and psychological disorders. According to the AAP (1993), this type of collaboration could reduce costs and improve detection, prevention and management of health conditions affecting children.

Lastly, one of the greatest reported barriers to collaboration is time. While the results of this study indicate that the additional time involved in participating in collaborative meetings leads to behavioral improvements across settings, it may not be financially feasible for outside mental health clinicians and/ or teachers to travel large distances to attend. Ouellete et al. (2004) recommend the use of cutting edge communication and networking strategies that can address the barriers of time and distance. One possible way to meet this challenge is to conduct CBC meetings using interactive television or telemedicine. This type of technology is already used to provide medical services all over the country and would greatly reduce the amount of time and travel costs associated with in-person meetings. In addition, there is evidence to suggest that equal care can be provided using video-conferencing (Jarvis-Selinger et al. (2008). Further, children, adolescents and their families have reported high levels of satisfaction when telehealth services were used (Nelson & Bui, 2010; Rabinowitz, 2008). Therefore, future research should evaluate the CBC process conducted via interactive television as compared to in-person interviews. According to Miller (2006), the world of consultation is moving toward a more consumer-focused model in which a team of providers and specialists collaboratively plan treatment, integrate intervention development and jointly evaluate outcomes and these new trends complement the multidisciplinary and client-focused nature of telemedicine. A future study that integrated a well-established consultation model (CBC) with cutting edge technology

(video conferencing) could improve treatment outcomes by advancing collaboration, increasing continuity, and more effectively linking systems of care for children with behavior problems.

This type of study would be particularly beneficial to families in rural areas, as the use of telemedicine would allow families to access this service, regardless of location or socioeconomic status.



## References

- Adair, G. (1984). The Hawthorne effect: A reconsideration of the methodological artifact. *Journal of Applied Psychology* 69 (2), 334-345.
- Adelman, H.S. & Taylor, L. (1997). Addressing Barriers to learning: Beyond School-Linked Services and Full-Service Schools. *American Journal of Orthopsychiatry*, 67(3), 408-421. [doi:10.1037/h0080243](https://doi.org/10.1037/h0080243)
- Adelman, H.S. & Taylor, L. (1999). Mental health in schools and systems restructuring. *Clinical Psychology Review*, 19(2), 137-163. [doi:10.1016/S0272-7358\(98\)00071-3](https://doi.org/10.1016/S0272-7358(98)00071-3)
- Alexander, K.L. & Entwisle, D.R. (1988). Achievement in the first two years of school: Patterns and processes. *Monographs of the Society for Research in Child Development*, 53(2), 5-157. [doi:10.2307/1166081](https://doi.org/10.2307/1166081)
- American Academy of Pediatrics. (2000). Clinical practice guideline: Diagnosis and evaluation of the child with Attention-Deficit/Hyperactivity Disorder. *Pediatrics*, 95, 301–304.
- American Academy of Pediatrics. (2001). Clinical practice guidelines: Treatment of the school-aged child with Attention-Deficit/Hyperactivity Disorder. *Pediatrics*, 108, 1033–1044.
- American Academy of Pediatrics Committee on Psychosocial Aspects of Child and Family Health. (1993). The pediatrician and the “new” morbidity. *Pediatrics*, 92, 731–733.
- Arredondo, P., Shealy, C., Neale, M., & Winfrey, L.L. (2004). Consultation and inter-professional collaboration: Modeling for the future. *Journal of Clinical Psychology*, 60(7), 787-800. [doi:10.1002/jclp.20015](https://doi.org/10.1002/jclp.20015)
- Auster, E.R., Feeney-Kettler, K.A. & Kratochwill, T.R. (2006). Conjoint behavioral consultation: Application to school-based treatment of anxiety disorders. *Educational and Treatment of Children*, 29(2), 243-256.

- Bailey, D.B., McWilliam, R.A., Darkes, L.A., Hebbeler, K., Simeonsson, R.J., Spiker, D., & Wagner, M. (1998). Family outcomes to early intervention: A framework for program evaluation and efficacy research. *Exceptional Children*, 64, 313-328.
- Birch, S.H. & Ladd, G.W. (1998). Children' interpersonal behaviors and the teacher-child relationship. *Developmental Psychology*, 34(5), 934-946.  
[doi:10.1037/0012-1649.34.5.934](https://doi.org/10.1037/0012-1649.34.5.934)
- Blue-Banning, M., Summers, J.A., Frankland, H.C., Nelson, L.L., Beegle, G. (2004). Dimensions of family and professional partnerships: Constructive guidelines for collaboration. *Exceptional Children*, 70(2), 167-184.
- Brestan, E.V., Eyeberg, S.M., Boggs, S.R., & Algina, J. (1997). Parent-Child Interaction Therapy: Parents' perceptions of untreated siblings. *Child and Family Behavior Therapy*, 19(3), 13-28. [doi:10.1300/J019v19n03\\_02](https://doi.org/10.1300/J019v19n03_02)
- Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist*, 32(7), 513-531. [doi:10.1037/0003-066X.32.7.513](https://doi.org/10.1037/0003-066X.32.7.513)
- Bruder, M.B. (2000). Family centered early intervention: Clarifying our values for the new millennium. *Topics in Early Childhood Special Education*, 20(2), 105-115.  
[doi:10.1177/027112140002000206](https://doi.org/10.1177/027112140002000206)
- Burt, J.D., Clarke, B.L., Dowd-Eagle, S. & Sheridan, S. (2008). Conjoint behavioral consultation in unique practice contexts. In S.M. Sheridan & Kratochwill, T.R. (Eds.), *Conjoint behavioral consultation: Promoting family-school connections and Interventions (2nd ed.)*. (pp). New York: Springer Science.
- Christenson, S.L (1995). Families and schools: What is the role of the school psychologists. *School Psychology Quarterly*. 10(2), 118-132. [doi:10.1037/h0088315](https://doi.org/10.1037/h0088315)

- Christenson, S.L. (2004). The family-school partnership: An opportunity to promote the learning competence of all students. *School Psychology Review*, 33(1), 83-104.
- Christenson, S.L. & Sheridan, S.M. (2001). *Schools and families: Creating essential connections for learning*. New York: Guilford.
- Colton, D.L. & Sheridan, S.M. (1998). Conjoint behavioral consultation and social skills training: Enhancing the play behaviors of boys with attention deficit hyperactivity disorder. *Journal of educational and psychological consultation*, 9(1), 3-28.  
[doi:10.1207/s1532768xjepc0901\\_1](https://doi.org/10.1207/s1532768xjepc0901_1)
- Durbin, J., and Watson, G. S. (1950). Testing for Serial Correlation in Least Squares Regression, I. *Biometrika*, 37, 409–428.
- Elliott, S.N. & Von Brock Truting, M. (1991). The Behavior Intervention Rating Scale: Development and Validation of a Pretreatment Acceptability and Effectiveness Measure. *The Journal of School Psychology*, 29, 43-51. [doi:10.1016/0022-4405\(91\)90014-I](https://doi.org/10.1016/0022-4405(91)90014-I)
- Franklin, C., & Streeter, C.L. (1995). School reform: Linking public schools with human services, *Social Work*, 40, 773-782.
- Galloway, J. & Sheridan, S. (1994). Implementing scientific practices through case studies: Examples using home-school interventions and consultation. *Journal of School Psychology*, 32(4), 385-413. [doi:10.1016/0022-4405\(94\)90035-3](https://doi.org/10.1016/0022-4405(94)90035-3)
- Garbacz, S.A., Woods, K.E., Swanger-Gagne, M.S., Taylor, A.M., Black, K.A.& Sheridan, S.M. (2008). The effectiveness of a partnership-centered approach in conjoint behavioral consultation. *School Psychology Quarterly*, 23(3), 313-326.  
[doi:10.1037/1045-3830.23.3.313](https://doi.org/10.1037/1045-3830.23.3.313)

- Gortmaker, V., Warnes, E.D. & Sheridan, S.M. (2004). Conjoint behavioral consultation: Involving parents and teachers in the treatment of a child with selective mutism. *Proven Practice*, 5, 66-72
- Guli, L.A. (2005). Evidence-based parent consultation with school-related outcomes. *School Psychology Review*, 20(4), 455-472. [doi:10.1521/scpq.2005.20.4.455](https://doi.org/10.1521/scpq.2005.20.4.455)
- Hastings, R.P. & Bham, M.S. (2003). The relationship between student behavior patterns and teacher burnout. *School Psychology International*, 24(1), 115-127. [doi:10.1177/0143034303024001905](https://doi.org/10.1177/0143034303024001905)
- Horner, R.H., Carr, E.G., Strain, P.S., Todd, A., & Reed, H.K. (2002). Problem behavior interventions for young children with autism: A research synthesis. *Journal of Autism and Developmental Disorders*, 32, 423-446. [doi:10.1023/A:1020593922901](https://doi.org/10.1023/A:1020593922901)
- Illsely, S.D. & Sladeczek, I.E. (2001). Conjoint behavioral consultation: Outcome measures beyond the client level. *Journal of Educational and Psychological Consultation*, 12(4), 397-404. [doi:10.1207/S1532768XJEPC1204\\_06](https://doi.org/10.1207/S1532768XJEPC1204_06)
- Individuals with Disabilities Education Act (IDEA), 20 U.S.C. Sec 1400 et seq., 34 C.F.R. 300 et seq.
- Izzo, C.V. & Weissberg, R.P. (1999). A longitudinal assessment of teacher perceptions of parent involvement in children's education and school performance. *American Journal of Community Psychology*, 27 (6), 817-839.
- Jenson, W.R., Olympia, D., Farley, M. & Clark, E. (2004). Positive psychology and externalizing students in a sea of negativity. *Psychology in the Schools*, 41(1), 143-153. [doi:10.1002/pits.10139](https://doi.org/10.1002/pits.10139)

- Kagan, S.L., Goffin, S.G., Goulub, S.A., & Pritchard, E. (1995). *Toward systemic service integration for young children and their families*. Falls Church, VA: National Center for Service Integration.
- Kazdin, A. (1982). *Single-case research designs: Methods for clinical and applied settings*. Oxford, NY: Oxford University Press.
- Konrad, E. L. (1996). A multidimensional framework for conceptualizing human services integration initiatives. In J. M. Marquart & E. L. Konrad (Eds.), *Evaluating initiatives to integrate human services* (pp. 5–20). San Francisco: Jossey-Bass.
- Koocher, G.P. (2007). Twenty-first century ethical challenges for psychology. *American Psychologist*, 62(5), 375-384. [doi:10.1037/0003-066X.62.5.375](https://doi.org/10.1037/0003-066X.62.5.375)
- Kratochwill, T.R. & Bergan, J.R. (1990). *Behavioral Consultation in Applied Settings: An Individual Guide. Applied Clinical Psychology*. New York: Plenum Press.
- Kratochwill, T. R., & Stoiber, K. C. (2002). *Outcomes: Planning, monitoring, and evaluating*. San Antonio, TX: Psychological Corporation.
- Kiresuk, T.J., Smith, A. & Cardillo, J.E. (Eds.). (1994). *Goal attainment scaling: Applications, theory, and measurement*. Hillsdale, NJ: Erlbaum.
- Ladd, G.W. & Price, J.M. (1987). Predicting children's school adjustment following the transition from preschool to kindergarten. *Child Development*, 58(5), 1168-1189. [doi:10.2307/1130613](https://doi.org/10.2307/1130613)
- Landsberger, H.A. (1958). *Hawthorne Revisited. Ithaca*.

- LeFever, G.B., Butterfoss, F.D. & Vislocky, N.F. (1999). High prevalence of attention deficit hyperactivity disorder: Catalyst for development of a school health coalition. *Family & Community Health: The Journal of Health Promotion & Maintenance*, 22(1), 38-49.
- LeFever, G.B., Villers, M.S. & Morrow, A.L. (2002). Parental perceptions of adverse educational outcomes among children diagnosed and treated for ADHD: A call for improved school/ provider collaboration. *Psychology in the Schools*, 39(1), 63-71.  
[doi:10.1002/pits.10000](https://doi.org/10.1002/pits.10000)
- Leitch, M.L. & Tangri, S.S. (1988). Barriers to home-school collaboration. *Educational Horizons*, 67, 70-84.
- Lyon, A.R., Grshenson, R.A., Farahmand, F., Thaxter, P.J., Behling, S. & Budd, K. (2009). Effectiveness of Teacher-Child Interaction Training (TCIT) in a preschool setting. *Behavior Modification*, 33(6), 855-884. [doi:10.1177/0145445509344215](https://doi.org/10.1177/0145445509344215)
- March, J.S. & Mulle, K. (1998). *OCD in children and adolescents: A cognitive-behavioral treatment manual*. New York: Guilford.
- McKnight, J. (1995). *The careless society: Community and its counterfeits*. New York: Basic Books.
- Nelson, E., Peacock, G., Bui, T. & Duncan, A.B. (2010). *School-based telemedicine and ADHD guidelines adherence*. Manuscript submitted for publication.
- Offord, D.R., Boyle, M.C. & Racine, Y.A. (1991). The epidemiology of antisocial behavior in childhood and adolescence. In D.J. Pepler & K.H. Rubin (Eds.), *The Development and Treatment of Childhood Aggression* (pp.31-54). Hillsdale, New Jersey: Erlbaum.

- Ouellette, P.M., Briscoe, R. & Tyson, C. (2004). Parent-school and community partnerships in children's mental health: Networking challenges, dilemmas, and solutions. *Journal of Child and Family Studies*, 13(3), 295-308. [doi:10.1023/B:JCFS.0000022036.44808.ad](https://doi.org/10.1023/B:JCFS.0000022036.44808.ad)
- Park, J. & Turnbull, A.P. (2003). Service integration in early intervention: Determining interpersonal and structural factors for its success. *Infants and Young Children*, 16(11), 48-58. [doi:10.1097/00001163-200301000-00006](https://doi.org/10.1097/00001163-200301000-00006)
- Phelan, P., Davidson, A.L. & Yu, H.C. (1998). *Adolescents' Worlds: Negotiating Family, Peers and School*. New York: Teachers College Press.
- Power, T.J. (2003). Promoting children's mental health: Reform through interdisciplinary and community partnerships. *School Psychology Review*, 32(1), 3-16.
- Power, T.J., DuPaul, G.J., Shapiro, E.S. & Kazak, A.E. (2003). *Promoting Children's Health: Integrating School, Family and Community*. New York: The Guilford Press.
- Power, T.J., DuPaul, G.J., Shapiro, E.S. & Parrish, J.M. (1995). Pediatric school psychology: The emergence of subspecialty. *School Psychology Review*, 24(2), 244-257.
- Rabinowitz, T., Brennan, D.M., Chumbler, N.R., Kobb, R. & Yellowlees, P. (2008). New directions for telemental health research. *Telemedicine and e-HEALTH*, 14(9), 972-976.
- Rainforth, B., York, J. & MacDonald, C.(1992). *Collaborative Teams for Students with Severe Disabilities: Integrating Therapy and Educational Services*. Baltimore, MD, England: Paul H. Brookes Publishing.
- Ray, K.P., Skinner, C.H. & Watson, T.S. (1999). Transferring stimulus control via momentum to increase compliance in a student with autism: A demonstration of collaborative consultation. *School Psychology Review*, 28(4), 622-628.

- Reynolds, A. J. (1991). Early schooling of children at risk. *American Educational Research Journal*, 28, 392–422.
- Reynolds, C.R. and Kamphaus, R.W. 2006. BASC-2: Behavior Assessment System for Children, Second Edition. Upper Saddle River, NJ: Pearson Education, Inc.
- Rimm-Kaufman, S.E. & Pianta, R.C. (2000). An ecological perspective on the transition to kindergarten: A theoretical framework to guide empirical research. *Journal of Applied Developmental Psychology*, 21(5), 491-511.  
[doi:10.1016/S0193-3973\(00\)00051-4](https://doi.org/10.1016/S0193-3973(00)00051-4)
- Rimm-Kaufman, S. E., & Sawyer, B. E. (2004). Primary teachers' self-efficacy beliefs, attitudes toward teaching, and discipline and teaching practice priorities in relation to the "Responsive Classroom" approach. *Elementary School Journal*, 104, 321-341. [doi:10.1086/499756](https://doi.org/10.1086/499756)
- Roberts, R.N., Rule, S. & Innocenti, M.S. (1998). *Strengthening the Family-Professional Partnerships in Services for Young Children*. Baltimore, MD: Paul H Brookes Publishing.
- Rutter, M. (1985). The treatment of autistic children. *Journal of Child Psychology and Psychiatry*, 26, 193-214. [doi:10.1111/j.1469-7610.1985.tb02260.x](https://doi.org/10.1111/j.1469-7610.1985.tb02260.x) PMID:3884641
- Schroeder, S.R., Rojah, J. & Reese, R.M. (1997). Brief Report: Reliability and validity of instruments for assessing psychotropic medication effects on self-injurious behavior with mental retardation. *Journal of Autism & Developmental Disabilities* 27, 89-102.
- Shaffer, D., Gould, M.S., Fisher, P. & Trautman, P. (1996). Psychiatric diagnosis in child and adolescent suicide. *Archives of General Psychiatry*, 53(4), 339-348.



- Sheridan, S.M. (1997). Conceptual and empirical bases of conjoint behavioral consultation. *School Psychology Quarterly*, 12(2), 119-133. [doi:10.1037/h0088954](https://doi.org/10.1037/h0088954)
- Sheridan, S.M., Clarke, B.L., & Burt, J.D. (2008). Conjoint behavioral consultation: What do we know and what do we need to know? In W.P. Erchul & S.M. Sheridan (Eds.), *Handbook of Research in School Consultation: Empirical Foundations for the Field* (pp.). Mahwah, NJ: Lawrence Erlbaum.
- Sheridan, S.M., Clarke, B.L., Knoche, L.L. & Pope Edwards, C. (2006). The effects of conjoint behavioral consultation in early childhood settings. *Early Education and Development*, 17(4), 593-617. [doi:10.1207/s15566935eed1704\\_5](https://doi.org/10.1207/s15566935eed1704_5)
- Sheridan, S.M. & Colton, D.L. (1994). Conjoint behavioral consultation: A review and case study. *Journal of Educational and Psychological Consultation*, 5(3), 211- 228. [doi:10.1207/s1532768xjepc0503\\_2](https://doi.org/10.1207/s1532768xjepc0503_2)
- Sheridan, S.M., Cowan, R.J. & Eagle, J.W. (2000). Partnering with parents in educational programming for students with special needs. In C. Telzrow & M. Tankersley (Eds.), *IDEA Amendments of 1997: Practice guidelines for school- based teams* (pp.307-349). Silver Spring, MD: National Association of School Psychologists.
- Sheridan, S.M., Eagle, J.W., Cowan, R.J. & Mickelson, W. (2001). The effects of Conjoint Behavioral Consultation: Results of a 4-year investigation. *Journal of School Psychology*, 39(5), 61-385. [doi:10.1016/S0022-4405\(01\)00079-6](https://doi.org/10.1016/S0022-4405(01)00079-6)
- Sheridan, S.M., Erchul, W.P., Brown, M.S., Dowd, S.E., Warnes, E.D., Marti, D.C., Schemm, A.V. & Eagle, J.W. (2004). Perceptions of helpfulness in conjoint behavioral consultation: Congruence and agreement between teachers and parents. *School Psychology Quarterly*, 19(2), 121-140. [doi:10.1521/scpq.19.2.121.33308](https://doi.org/10.1521/scpq.19.2.121.33308)

Sheridan, S. M., & Kratochwill, T. R. (1992). Behavioral parent-teacher consultation: Conceptual and research considerations. *Journal of School Psychology, 30*, 117-139.

[doi:10.1016/0022-4405\(92\)90025-Z](https://doi.org/10.1016/0022-4405(92)90025-Z)

Sheridan, S.M., Warnes, E.D., Cowan, R. J., Schemm, A.V. & Clarke, B.L. (2004).

Family-centered positive psychology: Focusing on strengths to build student success.

*Psychology in the Schools, 41*(1), 7-17. [doi:10.1002/pits.10134](https://doi.org/10.1002/pits.10134)

Sheridan, S.M., Warnes, E.D., Woods, K.E., Blevins, C.A. Magee, K.L. & Ellis C. (2009).

An exploratory evaluation of conjoint behavioral consultation to promote collaboration among family, school and pediatric systems: A role for pediatric school psychologists.

*Journal of Educational and Psychological Consultation, 19*, 106-129.

[doi:10.1080/10474410902888566](https://doi.org/10.1080/10474410902888566)

Shernoff, E.S., Krotchwill, T.R. & Stoiber, K.C. (2002). Evidence-based interventions in

school psychology: An illustration of task force coding criteria using single-participant design. *School Psychology Quarterly, 17*(4), 390-422. [doi:10.1521/scpq.17.4.390.20863](https://doi.org/10.1521/scpq.17.4.390.20863)

Shinn, M.R., Ramsey, E., Walker, H.M., Stieber, S. & O'Neill, R.E. (1987). Antisocial

behavior in school settings: Initial differences in an at-risk and normal population.

*The Journal of Special Education, 21*(2), 69-84. [doi:10.1177/002246698702100207](https://doi.org/10.1177/002246698702100207)

Sladeczek, I.E., Elliott, S.N., Kratochwill, T.R., Robertson-Mjaanes, S. & Stoiber, K.C. (2001).

Application of Goal Attainment Scaling to a conjoint behavioral consultation case.

*Journal of Educational and Psychological Consultation, 12*(1), 45-58.

[doi:10.1207/S1532768XJEPC1201\\_03](https://doi.org/10.1207/S1532768XJEPC1201_03)

- Stage, S.A. & Quiroz, D.R.(1997). A meta-analysis of interventions to decrease disruptive classroom behavior in public education settings. *School Psychology Review*, 26(3), 333-368.
- Tawney, J.W. & Gast, D.L.(1984). *Single Subject Research in Special Education*. New York: Macmillan Publishing Company.
- Turnbull, A.P., Turnbull, H.R., Erwin, E. & Soodak, L. (2006). *Families, professionals and exceptionality*, 5<sup>th</sup> edition. Upper Saddle River, NJ: Pearson.
- U.S. Department of Health and Human Services (1999). *Mental Health: A report of the Surgeon General*. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services, National Institutes of Health & National Institute of Mental Health.
- Vickers, H.S. & Minke, K.M. (1995). Exploring parent-teacher relationships: Joining and communication to others. *School Psychology Quarterly*, 10(2), 133-150.  
[doi:10.1037/h0088300](https://doi.org/10.1037/h0088300)
- Vitelli, R. (1997), Comparison of early and late start models of delinquency in adult offenders. *International Journal of Offender Therapy and Comparative Criminology*, 41(4), 351-357. [doi:10.1177/0306624X97414005](https://doi.org/10.1177/0306624X97414005)
- Volmer, L. (1995). Best practices in working with students with autism. In A. Thomas & J. Grimes (Eds.), *Best practices in school psychology* (3<sup>rd</sup> ed., pp. 1031-1038). Washington, DC: National Association of School Psychologists.
- Weiner, R.K., Sheridan, S.M. & Jenson, W.R. (1998). The effects of conjoint behavioral consultation and a structured homework program on math completion and accuracy in junior high students. *School Psychology Review*, 13(4), 281-309.

- Weissberg R.P. & Greenberg M (1998). School and community competence enhancement and prevention programs. In Damon, W., Sigel, I.E. & Renninger, K.A. (Eds.), *Handbook of Child Psychology 5, Child Psychology in Practice*. New York: Wiley.
- Weist, M.D., Axelrod Lowie, J., Flaherty, L.T. & Pruitt, D. (2001). Collaboration among the education, mental health and public health systems to promote youth mental health. *Psychiatric Services*, 52(10), 1348-1351. [doi:10.1176/appi.ps.52.10.1348](https://doi.org/10.1176/appi.ps.52.10.1348)
- Wentzel, K.R. (1993). Does being good make the grade? Social behavior and academic competence in middle school. *Journal of Educational Psychology*, 85(2), 357-364. [doi:10.1037/0022-0663.85.2.357](https://doi.org/10.1037/0022-0663.85.2.357)
- White, O.R. & Haring, N.G. (1980). *Exceptional teaching (2<sup>nd</sup> ed)*. Columbus, Ohio: Charles E. Merrill.
- Wilkinson, L.A. (2005). Bridging the research-to-practice gap in school-based consultation: An example using case studies. *Journal of Educational and Psychological Consultation*, 16(3), 175-200. [doi:10.1207/s1532768xjepcl603\\_3](https://doi.org/10.1207/s1532768xjepcl603_3)
- Wymbs, B.T., Pelham, W.E., Molina, B.S.G., Gnagy, E.M., Wilson, T.K., Greenhouse, J.B. (2008). Rate and predictors of divorce among parents of youths with ADHD. *Journal of Consulting and Clinical Psychology*, 76(5), 735-744. [doi:10.1037/a0012719](https://doi.org/10.1037/a0012719)

*Appendix A*  
**Participant Screening Questionnaire**

**Phase 1**

**Participant Screening Questionnaire**

**Child Name:** \_\_\_\_\_ **Age:** \_\_\_\_\_ **Grade:** \_\_\_\_\_

**School:** \_\_\_\_\_ **Race:** \_\_\_\_\_ **Gender:** \_\_\_\_\_

**Parent Name:** \_\_\_\_\_ **Age:** \_\_\_\_\_ **Years Education:** \_\_\_\_\_

**Home Phone Number:** \_\_\_\_\_ **Cell Phone Number:** \_\_\_\_\_

**Address:** \_\_\_\_\_ **City:** \_\_\_\_\_ **State:** \_\_\_\_\_

**Parent Name:** \_\_\_\_\_ **Age:** \_\_\_\_\_ **Years Education:** \_\_\_\_\_

**Home Phone Number:** \_\_\_\_\_ **Cell Phone Number:** \_\_\_\_\_

**Address:** \_\_\_\_\_ **City:** \_\_\_\_\_ **State:** \_\_\_\_\_

**Marital Status:** \_\_\_\_\_ **If divorced, where does child reside?** \_\_\_\_\_

What are your main behavioral concerns at home and school? How often does each occur (times per day/ week)?

1.

2.

3.

When is your child most likely to be non-compliant at home (i.e. morning routine, bedtime etc...)?

Out of 10 directions given during this time, how many does your child usually follow on the first or second time you ask (i.e put on your shoes)?

**9-10 out of 10      7-8 out of 10      5-6 out of 10      4-5 out of 10      Less than 3 out of 10**

When is your child most likely to be non-compliant at school (i.e. lunch time, math, writing, recess)?

Out of 10 directions given during this time, how many does your child usually follow on the first or second time you ask (i.e put on your shoes)? Although you may not know the exact number, please give your best estimate.

**9-10 out of 10      7-8 out of 10      5-6 out of 10      4-5 out of 10      Less than 3 out of 10**

Is your child currently on medication? Yes/ No If yes please list names and dosage:

Has this medication been effective and stable for at least 1 month?      Yes/No  
Are you planning on changing this medication in the next 6 months?      Yes/No

Is your child currently receiving any additional treatments or therapies? Yes/No  
If yes, please list:

Besides the current intervention at the KU Problem Behavior Clinic, are you planning on starting any additional treatments/ therapies in the next 6 months?

Does your child have an IEP, 504 plan, or general education intervention plan? Please specify:

How would you describe your relationship with your child's school?

Very Good      Good      Average      Poor      Very Poor

How long does it take for you to drive to KU Medical Center?

*Appendix B*  
***Informed Consent Form***

**Study Title: Increasing Collaboration between Families, School, and Outside Mental Health Providers through the Use of Conjoint Behavioral Consultation.**

You are being asked to consider a research study for your child. Participating in research is different from getting standard medical care. The main purpose of research is to create new knowledge for the benefit of future patients and society in general. Research studies may or may not benefit the people who participate.

Research is voluntary, and you or your child may change your mind at any time. There will be no penalty to you or your child if your child decides not to participate, or if they start the study and decide to stop early. Either way, they can still get medical care and services at the University of Kansas Medical Center (KUMC).

This consent form explains what your child will have to do if they are in the study. It also describes the possible risks and benefits. Please read it carefully and ask as many questions as you or your child need to, before deciding about this research.

You or your child can ask questions now or anytime during the study. The researchers will tell you and your child if they receive any new information that might cause you or your child to change your mind about participating.

This research study will take place at the University of Kansas Medical Center (KUMC) with Rene Jamison, PhD and Skylar Bellinger, Ed.S as the researchers. Three families will participate in the study at KUMC.

**Why is my child being asked to take part in this study?**

Your child is being asked to take part in this study because he/she experiences behavioral difficulties at home and school. Children whose families seek behavioral services through the Developmental Problem Behavior Clinic at the Center for Child Health and Development (CCHD) are eligible to participate in this study.

**Why is this study being done?**

- Research has shown that behavior problems can be harmful to children, families, schools and communities. Children with behavioral problems need their families, teachers, psychologists and doctors to work together to achieve the best possible results. Unfortunately, this type of collaboration is not usually happening, despite best intentions and efforts.
- In order to address behavioral problems, parents often obtain services from community mental health agencies, physicians and private mental health providers (e.g. psychologists, psychiatrists, social workers, counselors etc.). At the same time, separate behavior support plans are being developed at school.

Most of the time, the school and the therapist do not discuss their plans with each other or work together. In addition, parents are often put in the middle and asked to communicate information between the therapist and the school.

- By doing this study, we hope to learn how to help families, schools and therapists work together more effectively. We want to see the effects of having parents, teachers and therapists work together to develop plans to help the child. Specifically, we want to see if working together improves the child's behavior at home and school.

### **What is being tested in this study?**

In order to help families, schools and mental health providers (KUMC psychologists) work together, this study will use a well-researched consultation model called conjoint behavioral consultation (CBC). CBC is a model that has the potential to address barriers, improve communication, build partnerships and increase collaboration between educators, families and healthcare providers. A lot of research has shown that CBC helps parents and teachers work together to solve behavior problems. Many doctors and psychologists recommend that CBC be used in pediatric medical settings. In fact, some preliminary studies have found good results when it is used. However, we need more information. With this study, we hope to gain CBC's effectiveness in improving behavior at home and school and its ability to help families, educators and healthcare providers work together.

### **How long will my child be in the study?**

You and your child will be asked to commit to participate for approximately 8-12 weeks. Intervention will last approximately 5 weeks. Preparation and follow-up will last approximately 4 weeks.

### **What will my child be asked to do?**

You and your child's teacher will be asked to participate in 3-4 problem solving meetings that will last approximately 90 minutes each. These meetings will be audio/video taped. The tapes will be stored in a locked file cabinet in a secure KUMC office for the duration of the study. Only the researchers will have access to these recordings. The tapes, along other research records, will be retained by the Principal Investigator at the University of Kansas Medical Center for 6 years following the completion of the study." During these meetings, you and your child's teacher, along with the KUMC psychologist, will identify your child's strengths and areas of need. In addition, you will collaboratively develop a plan to improve their behavior. These meetings will occur at your child's school or at KUMC, whichever is most convenient. Once the intervention is developed, you and your child's teacher will implement the intervention at home and school. In addition, you will be asked to record information about your child's behavior during one previously identified routine. For example, if your child has difficulty getting ready for school, you might be asked to record how often they complied with your requests.



On certain occasions, the researcher will come to your home during the identified routine to observe and record information. The researcher will also observe at your child's school on several occasions. During these home and school observations, the researcher will not interfere with typical interactions and will try to go unnoticed. Home and school visits can be scheduled or re-scheduled for your convenience.

Your child will only be asked to participate in regular daily routines. The plan developed in the problem-solving meeting may require your child's participation in some way. For example, they may be asked to monitor their own behavior or choose rewards that they would like to earn.

### **What are the possible risks or discomforts?**

The risks in participating in this study are minimal. The time commitment required by parents and teachers may be a potential discomfort. In addition, the presence of the researcher in the child's home and classroom may be an unintended discomfort. As with any research, there is a risk of your personal information being seen or heard by unintended people. However, the researchers will take maximum precautions to protect your confidentiality including:

- 1) Participant names will only be discussed with the project coordinator, principal investigator, project supervisors and office staff involved in scheduling appointments.
- 2) No personal information will be released without written permission.
- 3) Emails will be sent securely.
- 4) Phone calls will be directed to the project coordinators private line.
- 5) Data will be stored in a locked file cabinet in the project coordinator's office, which requires a specific key to enter.
- 6) Electronic data will be stored in a secure computer file on the KUMC secure network.
- 7) Only the project coordinator, project supervisors, and principal investigator will have access to the data.

### **Are there benefits to being in this study?**

Your child may or may not benefit from this study. If the model is effective then;

- 1) Your child's behavior may improve at home and school.
- 2) Improved behavior may provide increased opportunities to learn and participate in the classroom.
- 3) Your child's behavior support plan may be more consistent at home and school.
- 4) The relationship between you, your child's teacher, and your child's therapist may be improved.
- 5) Behavioral improvements may be observed in more environments and last longer than would occur if parents, teachers and therapists were not working together.

Reserchers hope that the information from this study will help us learn more about how schools and therapists can work together and have better results for families.

**Will it cost anything to be in the study?**

You will not be charged for your child's participation in the study.

**Will my child get paid to participate in the study?**

There is no payment for this study. However, participants will receive free behavior therapy. In addition participants will receive a \$50 target gift as a "thank you" for your participation.

*The KUMC Research Institute will be given your name, address, social security number, and the title of this study to allow them to write checks for the study payments. Study payments are taxable income. A Form 1099 will be sent to you and to the Internal Revenue Service if the payments are \$600 or more in a calendar year.*

**Will the researchers get paid for doing the study?**

The researchers will not get paid above and beyond their yearly salary for doing this study. This study will be used for the project coordinators dissertation.

**What happens if my child gets hurt or sick during the study?**

There is no risk of getting hurt or sick during the study. However, you can discontinue treatment at any time if any perceived negative consequences occur.

**How will my child's privacy be protected?**

The researchers will protect your child's information, as required by law. Absolute confidentiality cannot be guaranteed because persons outside the study team may need to look at your child's study records. Your child's health information is protected by a federal privacy law called HIPAA. By signing this consent form, you and your child are giving permission for KUMC to use and share your child's health information. If you decide not to sign the form, your child cannot be in the study.

The researchers will only use and share information that is needed for the study. To do the study, they will collect health information from the study activities. Your child may be identified by information such as name, address, phone, date of birth, social security number, psychiatric diagnosis or other identifiers. Your child's health information will be used at KUMC by Dr. Jamison, and members of the research team, The University of Kansas Hospital Medical Record Department, the KUMC Research Institute and officials at KUMC who oversee research, including members of the KUMC Human Subjects Committee and other committees and offices that review and monitor research studies.

By signing this form, you are giving Dr. Jamison and the research team permission to share information about your child with persons or groups outside KUMC.

The HIPAA privacy law may not apply to everyone who receives your child's health

information. Your child's information might not be protected by HIPAA if persons outside KUMC disclose it. In some cases, there may be other laws that protect your child's information from improper use.

Your permission to use and share your child's health information will not expire unless you cancel it. Dr. Jamison will share your information with researchers on the University of Kansas Lawrence campus and U.S. agencies that govern human research (if and when regulatory compliance issues arise). Any research information that is placed in your child's medical record will be kept indefinitely.

While your child is participating in this study, you may see and copy any study information that is placed in your child's KUMC medical record. However, some study information is kept only by the researcher. The records kept only by the researcher may not be available to you or your child until the end of the study.

The researchers may publish the results of the study. If they do, they will only discuss group results. Your child's name will not be used in any publication or presentation about the study.

### **Can my child stop being in the study?**

Your child may stop being in the study at any time. You or your child's decision to stop will not prevent your child from getting treatment or services at KUMC. You or your child have the right to cancel your child's permission for researchers to use your child's health information. If you want to cancel your child's permission, please write to Dr. Rene Jamison. The mailing address is Rene Jamison, University of Kansas Medical Center, 3901 Rainbow Boulevard, Kansas City, KS 66160. If you cancel permission to use your child's health information, your child will be withdrawn from the study. The researchers will stop collecting any additional information about your child.

### **Could my child's participation be stopped early?**

This study might be stopped, without your or your child's consent, by the investigator. Your child's participation also might be stopped by the investigator if it is in your child's best interest or if you or your child do not follow the study requirements.

### **Who can I or my child talk to about the study?**

Before you sign this form, Dr. Rene Jamison or other members of the study team should answer all your or your child's questions. You or your child can talk to the researchers if you have any more questions, suggestions, concerns or complaints after signing this form. If you or your child have any questions about your child's rights as a research subject, or if you want to talk with someone who is not involved in the study, you may call the Human Subjects Committee at (913) 588-1240. You may also write the Human Subjects Committee at Mail Stop #1032, University of Kansas Medical Center, 3901 Rainbow Blvd., Kansas City, KS 66160.

## CONSENT

Dr. Rene Jamison or the research team has given you and your child information about this research study. They have explained what will be done and how long it will take. They explained any inconvenience, discomfort or risks that your child may experience during this study.

By signing this form, you say that your child is freely and voluntarily consenting to participate in this research study. You have read the information and had your questions answered.

***You will be given a signed copy of the consent form to keep for your records.***

Date \_\_\_\_/\_\_\_\_/\_\_\_\_

Child's Name: \_\_\_\_\_

Child's Age: \_\_\_\_\_

Parent's Name: \_\_\_\_\_  
(please print)

Parent's Signature: \_\_\_\_\_

Name of Person Obtaining Consent: \_\_\_\_\_  
(please print)

Signature of Person Obtaining Consent: \_\_\_\_\_

*Appendix C*  
*Release of Confidential Information*

The University of Kansas Medical Center  
**CONSENT FOR THE RELEASE OF CONFIDENTIAL INFORMATION**

I, (child name) \_\_\_\_\_ born \_\_\_\_\_ with KUMC hospital  
number \_\_\_\_\_ hereby authorize (school name) \_\_\_\_\_  
(school address) \_\_\_\_\_

Phone: \_\_\_\_\_ Fax #: \_\_\_\_\_

**to disclose the most recent IEP and educational testing to:**

University of Kansas Medical Center  
Developmental Disabilities Center  
3901 Rainbow Boulevard  
Kansas City, Kansas 66160

***Please return a copy of this consent with requested information***

I understand that my medical records (including any alcohol or drug abuse information) may be protected by federal regulations. I also understand that I may revoke this consent at any time except to the extent that action has been taken in reliance on it (e.g., probation, parole, etc.) and that in any event this consent expires automatically as described below.

*Specification of the date, event, or condition upon which this consent expires* (if left blank, this consent expires in one year). \_\_\_\_\_

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_

\_\_\_\_\_  
(Witness)

\_\_\_\_\_  
(Signature of patient)

\_\_\_\_\_  
(Signature of parent, guardian, or authorized representative)

\_\_\_\_\_  
(Witness)

\_\_\_\_\_  
(Nature of Relationship)

Prohibition on re-disclosure: This information has been disclosed to you from records whose confidentiality is protected by federal law. Federal regulations (42 CFR Part 2) prohibit you from making any further disclosure of this information except with the specific written consent of the person to whom it pertains. A general authorization for the release of medical or other information, if held by another party, is not sufficient for this purpose. Federal regulations state that any person who violates any provision of this law shall be fined not more than \$500 in the case of a first offense and not more than \$5,000 in the case of each subsequent offense.

Drug Abuse Office and Treatment Act of 1972 (21 USC 1175) Comprehensive Alcohol Abuse and Alcoholism Prevention Treatment and Rehabilitation Act of 1970 (42 USC 4582)

The University of Kansas Medical Center  
**CONSENT FOR THE RELEASE OF CONFIDENTIAL INFORMATION**

I, (child name) \_\_\_\_\_ born on \_\_\_\_\_ with  
KUMC hospital number \_\_\_\_\_ hereby authorize the University of Kansas  
Medical Center at 3901 Rainbow Boulevard, Kansas City, Kansas 66160 to disclose to:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

the following information: \_\_\_\_\_  
\_\_\_\_\_

I understand that my medical records (including any alcohol or drug abuse information) may be protected by federal regulations. I also understand that I may revoke this consent at any time except to the extent that action has been taken in reliance on it (e.g., probation, parole, etc.) and that in any event this consent expires automatically as described below.

*Specification of the date, event, or condition upon which this consent expires* (if left blank, this consent expires in one year). \_\_\_\_\_

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

\_\_\_\_\_  
(Witness)

\_\_\_\_\_  
(Signature of patient)

\_\_\_\_\_  
(Signature of parent, guardian, or authorized representative)

\_\_\_\_\_  
(Witness)

\_\_\_\_\_  
(Nature of Relationship)

Prohibition on re-disclosure: This information has been disclosed to you from records whose confidentiality is protected by federal law. Federal regulations (42 CFR Part 2) prohibit you from making any further disclosure of this information except with the specific written consent of the person to whom it pertains. A general authorization for the release of medical or other information, if held by another party, is not sufficient for this purpose. Federal regulations state that any person who violates any provision of this law shall be fined not more than \$500 in the case of a first offense and not more than \$5,000 in the case of each subsequent offense.

*Appendix D*

**PRECONSULTATION INTERVIEW  
AND WORKSHEET**

Teacher's Name: \_\_\_\_\_ Date: \_\_\_\_\_

Parent's Name: \_\_\_\_\_ Child's Name: \_\_\_\_\_

School: \_\_\_\_\_ Grade: \_\_\_\_\_

Special Education Classification: \_\_\_\_\_ Known Diagnosis: \_\_\_\_\_

The goals of the preconsultation interview are to:

- Begin to develop positive working relationship with consultees.
- Explain CBC process and procedures to consultees and obtain informed consent.
- Obtain demographic information about the client and consultees that is relevant to beginning the case and conducting preliminary observations.
- Gather preliminary information about the difficulties that the child is experiencing by gathering information from **both** sources simultaneously or independently.\*
- Determine a time to conduct observations of the environment, including the client, others, classroom, instructional and disciplinary procedures, etc.
- Schedule the CNIL.

*\* It is strongly recommended that this information be gathered in person, with all participants present. This will provide an opportunity to establish rapport and begin establishing a trusting, supportive relationship with parents and teachers, which is one of the most important objectives at this early stage.*

## Pre-consultation Interview and Worksheet

### Introduction to Conjoint Behavioral Consultation

*I'd like to start by telling you a little about Conjoint Behavioral Consultation and what to expect. Generally, consultation involves teachers, parents, and a consultant putting their heads together to figure out how to best help a particular child. To do this we use a structured problem solving approach. This approach requires about 3 or 4 meetings lasting between 45 and 90 minutes each. It is important that each participant be present at each meeting, including parents, teachers, and anyone else who knows the child well and can help develop and implement a plan. In this way we all share in the plan and maximize the chances that the child can be successful.*

*During the first meeting we spend time deciding what the main concern is, and then we make plans to watch more closely so that we can better understand it. Often there will be several concerns that could be addressed, but we will need to focus in on one to get started and make the process more manageable. If you agree, we'd also like an observer to come in and observe the child to provide more information to us. After we have all had a chance to observe the primary concerns for about a week, we have a second meeting which focuses on discussing what we have observed until think we have a good understanding of the problem and what might be causing it. At our second meeting we also create a plan to help the child. This plan is developed collaboratively with input from all involved because all participants have important information and ideas to share. Then, we put the plan into place. The third interview is a chance for us to get together to decide how the plan is working and make any changes. All the way through the process it will be important for all of us to carefully monitor and keep track of how things are going so that we can be sure that progress is being made. As you can see this process requires somewhat of a time commitment and we won't be creating a plan until the second meeting.*

*Does this sound like something that would be helpful? If so, there is an informed consent form that needs to be signed. The form reviews information that I just shared, as well as ensures that all information will be completely confidential and that your participation is voluntary. Please take a few moments to read the form, ask questions, and sign if everything is agreeable.*

### Strengths

*Let's start off by discussing some of the child's strengths. What are some of the child's strengths?*

Home

|

School



**Concerns**

*What are the general concerns you have for "child's name":*

Home

School

**Prereferral Procedures**

*What has been tried previously to address your concerns? What was the outcome?*

Home

School

**General Observations**

*I'd like to schedule a time to come in before our first meeting and have an opportunity to observe in the classroom and other appropriate settings. This will help me get a good sense for the concerns that you have expressed. Does this sound O.K. to you? When would be a good time to do that?*

Settings: \_\_\_\_\_

Date(s): \_\_\_\_\_ Time(s): \_\_\_\_\_

**Schedule PII**

*I'd also like to schedule the first interview. The first one will be an opportunity to get together and talk about specific concerns. Let's decide on a few good times now. Is there anyone who is not here who should be involved in the interviews (e.g., other teachers, counselors, care providers)? If so, I'll call you to confirm a time after I talk to him/her/them.*

Date(s): \_\_\_\_\_ Time(s): \_\_\_\_\_

**Additional Questions**

*Before we leave or hang up, do you have any questions for me?*

*Appendix E*  
*Conjoint Needs Identification Forms*



**Agenda for Participants:**  
**Conjoint Needs Identification Interview (CNII)**



What are the steps of this meeting?



What does \_\_\_\_\_ do well, what does he/she like?



What are our goals and desires (short and long term) for  
\_\_\_\_\_?



What is getting in the way of him/her doing well?



What behavior do we want to focus on?



Let's define exactly what we mean by \_\_\_\_\_.



What time and place do we want to focus on first?



What works and what doesn't? What has been tried?



How will we gather information?



When can we meet again?

## Conjoint Needs Identification Interview (CNII)

Child's Name: \_\_\_\_\_

Date: \_\_\_\_\_

Parent's Name: \_\_\_\_\_

Age: \_\_\_\_\_

Teacher's Name: \_\_\_\_\_

Grade: \_\_\_\_\_

School: \_\_\_\_\_

Consultant's Name: \_\_\_\_\_

Consultant Note: The goals of the CNII are to:

*Behavioral goals:*

- Jointly identify and define child's priorities in behavioral terms.
- Jointly establish a procedure to collect baseline data across setting.

*Relationship building goals:*

- Identify strengths of the child, family, and school.
- Establish joint responsibility in goal setting and decision making.
- Establish/improve working relationships between parents and teacher, and between the consultant and consultees.
- Validate shared goals of supporting the child.
- Increase communication and knowledge regarding the child, goals, concerns, and culture of family and school.

Consultant and Case Goals for Interview:

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## Conjoint Needs Identification Interview (CNII)

### **SOCIAL OPENING**

*Establish a friendly supportive atmosphere (e.g., position of the chairs, nonverbal communication); demonstrate interest for the consultee (e.g., ask about past events)*

Notes:

### **OPEN UP DIALOGUE**

*Establish the attitude that everyone's information is vital; use inclusive language; emphasize the expertise of everyone involved; discuss the importance and roles of each participant (i.e., provide information, collect/set-up assessment and observations); discuss steps of the meeting*

Notes:

### **DISCUSS CHILD, FAMILY, AND TEACHER STRENGTHS**

*Discuss things that are going well; discuss likes and dislikes; establish importance of building upon strengths of all when addressing priorities*

Notes:

Home

School

## **DISCUSS GOALS AND DESIRES**

*Discuss goals, aspirations, and desires for the child in the short and long term; emphasize importance of consultees' identified goals and sharing of information regarding developmental appropriateness of expectations*

Notes:

Home

School

## **SELECT NEEDS**

*Discuss what might get in the way of the goals and desires; explore general concerns*

Notes:

Home

School

***SUMMARIZE/Validate Goals and Needs. Begin building a bridge for shared goals and cross-setting similarities.***

**SELECT/DEFINE THE PRIORITY**

*Discuss importance of selecting one priority; select a priority based on goals and desires; define the priority in concrete, observable terms*

Notes:

Home

School

***SUMMARIZE/Validate the definition of the priority***

**SELECT A FOCUS/SETTING**

*Discuss importance of focus; answer where and when the priority behavior occurs in specific terms; select a focus or a place to start*

Notes:

Home

School



## **WHAT WORKS/WHAT DOESN'T?**

*Discuss what has already been tried; point out strengths from what has already worked to be used later in coming up with a plan; emphasize strengths of consultees*

Notes:

Home

School

## **COLLECT INFORMATION**

*Discuss the rationale for collecting information; select a specific time, place and procedure; provide consultees with charts to record information; discuss rationale of watching what happens before and after the priority behavior, as well as specific patterns that occur; establish times for consultant to observe*

Notes:

	Home	School
What will be observed?		
Where will observation occur?		
How will it be recorded?		
When will observation begin?		

*Provide parents and teachers with data collection forms*

*SUMMARIZE/Validate Data Collection Procedures*

### **MEET AGAIN**

*Discuss steps of the next meeting, establish time and place to meet*

### **CLOSING**

*Summarize what was accomplished at the meeting, emphasizing consultees' expertise, strengths, and how this information will help the child to be successful; exchange phone numbers and e-mail addresses; let parents and teachers know they are free to contact you with questions and concerns and remind them you will check in to see how information gathering is going*

Notes:

**Consultant's Name:** \_\_\_\_\_

*Appendix F*  
*Conjoint Needs Analysis Interview Forms*

**Agenda for Participants:**  
**Conjoint Needs Analysis Interview (CNAI)**



What are the steps of this meeting?



What information did we collect?



What are our goals for \_\_\_\_\_ ?



What is happening before, during, and after the behavior?

BEFORE:

DURING:

AFTER:



Why is the behavior happening?



What can we do to help \_\_\_\_\_ be more successful?



How will we gather information?



When can we meet again?

## Conjoint Needs Analysis Interview (CNAI)

Child's Name: \_\_\_\_\_

Date: \_\_\_\_\_

Parent's Name: \_\_\_\_\_

Age: \_\_\_\_\_

Teacher's Name: \_\_\_\_\_

Grade: \_\_\_\_\_

School: \_\_\_\_\_

Consultant's Name: \_\_\_\_\_

Consultant Note: The goals of the CNAI are to:

*Behavioral goals:*

- Evaluate information collected across home and school.
- Collaboratively develop developmentally appropriate goals for priority behavior across home and school.
- Discuss what is happening before and after the priority behavior, as well as specific patterns that occur, during the focused time/setting.
- Collaboratively develop a plan built upon strengths and competencies to address the priority behavior across home and school.
- Reaffirm information collection procedures.

*Relationship building goals:*

- Use inclusive language to strengthen partnerships between home and school
- Encourage and validate sharing of parents' and teachers' perspectives of the priority behavior
- Foster an environment that facilitates "give-and-take" communication across settings.
- Promote collaborative decision-making and shared responsibility for plan development.

Consultant and Case Goals for Interview:

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## Conjoint Needs Analysis Interview (CNAI)

### **SOCIAL OPENING**

*Establish a friendly supportive atmosphere (e.g., position of the chairs, nonverbal communication); demonstrate interest for the consultee (e.g., ask about past events)*

Notes:

### **OPEN UP DIALOGUE**

*Re-emphasize the attitude that everyone's input is vital; continue to use inclusive language; discuss steps of the meeting*

Notes:

### **DISCUSS INFORMATION COLLECTED/SET GOALS**

*Restate the definition of the priority; discuss information collected; set jointly determined, developmentally appropriate goals based on information collected*

Notes:

Home

School

***SUMMARIZE*** information collected and connect to goals set

## **WHAT'S HAPPENING?**

*Discuss what is happening before and after the priority behavior, as well as specific patterns that occur, during the focused time/setting; emphasize this information will help to understand why this behavior is happening and how changes can be made*

### ***Before***

Notes :

Home

School

### ***After***

Notes :

Home

School

### ***Other Patterns***

Notes :

Home

School



**WHY IS IT HAPPENING?**

*Summarize information gathered, as well as what's happening during the focused time/setting (organize and summarize relevant information such as attention that is given, key people that affect the occurrence of the priority behavior, skills needed to perform the desired behavior); discuss reasons why the priority behavior is happening*

Notes:

Home

School

**WHAT TO DO?**

*Select a focus for change based on why the priority behavior is happening; restate child, teacher and family strengths; jointly develop a plan across home and school, building on these strengths; write down a summary of steps of the plan for parents and teachers; provide an opportunity for parents and teachers to ask questions; model plan procedures if necessary*

Notes:

Home

School

***Summarize plan; Provide parents and teachers with Plan Worksheet***

## **COLLECT INFORMATION**

*Re-emphasize the rationale for collecting information; select a specific time, place and procedure; provide parents and teachers with charts to record information*

Notes:

	Home	School
What will be observed?		
Where will observation occur?		
How will it be recorded?		
When will observation begin?		

***SUMMARIZE/Validate Data Collection Procedures***  
***Provide parents and teachers with data collection form***

## **MEET AGAIN**

*Discuss steps of the next meeting; establish time and place to meet*

## **CLOSING**

*Summarize what was accomplished at the meeting, emphasizing consultees' expertise, strengths, and how this information will help the child to be successful; let consultees know they are free to contact you with questions and concerns and remind them you will communicate frequently to see how the plan is going*

Notes:

## Guidelines for Consultation Plan Handout:

- 1) Write in the behavioral goal (the goal you developed in the CNII).
- 2) Write in the plan developed in the CNAI (in the plan summary area).
- 3) List each specific step of the plan on the lines.
  - For example: If the plan is to praise positive behaviors and ignore interruptions and use a reward system and home note the list would look as follows:
    - 1) Praise positive behaviors
    - 2) Ignore interruptions
    - 3) Give a reward with reward menu if the child meets his behavioral goal
    - 4) Send home-school note home.
- 4) When the consultee (parent or teacher) completes each step each day they cross out the corresponding box for that day and step.
- 5) The consultee completes the goal rating at the end of each week by rating the behavioral goal.

### NOTES:

- The consultee should receive this form during the CNAI.
- The consultee should complete the form weekly. It will give the consultant information about the integrity of intervention implementation. The form will also give the consultant information about the effectiveness of the intervention and need to modify the plan.

## Guidelines for the Plan Summary Handout:

- 1) Write each step of the behavioral plan next the numbers provided. (See example above)
- 2) On the bottom of the page note the data collection procedure (frequency, duration, interval recording, etc).
- 3) The consultee will cross off each box when they complete the corresponding step to the plan each day.

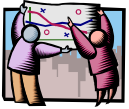
### NOTES:

- The consultee should receive this form during the CNAI and complete it each day.
- This form gives the consultant information about the integrity of the intervention implementation.

**\*The consultant should pick ONE of these forms to give to the consultee during the CNAI. It should be used as an integrity check form.**

*Appendix G*  
*Conjoint Plan Evaluation Interview Forms*

## Agenda for Participants: Conjoint Plan Evaluation Interview (CPEI)



How did the plan work? (review plan summary sheets and information given)



What worked and what didn't work with the plan?



Did \_\_\_\_\_ meet his/her goals?



What should we do next?

A) Change plan

B) Continue plan

C) Pick new focus



Do we need to meet again?



Identify ways to keep in touch

## Conjoint Plan Evaluation Interview (CPEI)

Child's Name: \_\_\_\_\_

Date: \_\_\_\_\_

Parent's Name: \_\_\_\_\_

Age: \_\_\_\_\_

Teacher's Name: \_\_\_\_\_

Grade: \_\_\_\_\_

School: \_\_\_\_\_

Consultant's Name: \_\_\_\_\_

Consultant Note: The goals of the CPEI are to:

Behavioral goals:

- Determine if the goals for the priority behavior have been met.
- Evaluate what worked and what didn't.
- Discuss continuation or termination of plan.
- Schedule additional interview if necessary, or terminate consultation.

Relationship building goals:

- Continue to promote open communication and collaborative decision-making across the home and school settings
- Reinforce joint efforts in addressing needs
- Discuss caregivers' and teachers' perceptions of the plan and process
- Reinforce caregivers' and teachers' strengths and competencies for addressing future needs for the child
- Establish means for caregivers and teachers to continue to partner in the future

Consultant and Case Goals for Interview:

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## Conjoint Plan Evaluation Interview (CPEI)

### **SOCIAL OPENING**

*Establish a friendly supportive atmosphere (e.g., position of the chairs, nonverbal communication); demonstrate interest for the consultee (e.g., ask about past events)*

Notes:

### **OPEN UP DIALOGUE**

*Re-emphasize the attitude that everyone's input is vital; continue to use inclusive language; discuss steps of the meeting*

Notes:

### **HOW DID IT WORK/WHAT HAPPENED?**

*Restate the plan and the goals; discuss how the plan worked and if the goals were met; decide where to go from here (e.g., modify plan, set a new goal, use plan in another setting, end consultation)*

Notes:

Home

School

## **CHANGE PLAN**

*Discuss what worked and what didn't, emphasizing strengths of the plan; it may be necessary to re-evaluate what is happening before and after, as well as specific patterns, and why the priority behavior is occurring; refer to previous interview forms*

Notes:

Home

School

## **CONTINUE THE PLAN**

*Discuss how to continue positive changes over time; discuss continuing the plan (e.g., other times and settings) OR gradually removing the plan*

Notes:

Home

School



## **DISCUSS NEED FOR FUTURE MEETING**

*Discuss if a formal meeting is necessary; discuss informal methods (e.g., e-mail, phone calls, home school notes), emphasizing the value of continued communication; discuss plan for follow-up and provide caregivers and teachers with extra plan worksheets and data collection forms*

Notes:	
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Home

School

## **WHAT WORKED/WHAT DIDN'T**

*Summarize the plan and the partnership building process, emphasizing collaborative decision making, strengths, expertise, and home school communication; discuss what caregivers and teachers thought about why the behavior changed, as well as what worked and what didn't with the plan and the process; discuss how you might use similar ideas to address future needs, emphasizing specific plans to address priorities, as well as the collaborative decision-making process; discuss if caregivers and teachers were satisfied with the results*

Notes:	
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Home

School

## **END CONSULTATION**

*Discuss ways to keep in touch with the consultant and with each other*

## Appendix H

### CBC Objectives Checklists

**Consultant's Name:** \_\_\_\_\_

**Observer's Name:** \_\_\_\_\_

Date: \_\_\_\_\_

## CBC Objectives Checklist

### Conjoint Needs Identification Interview (CNII)

**Instructions:**

Listen to the audiotaped CNII provided. Place a checkmark on the line to the left of each item that you believe is addressed by the consultant. If information is obtained from the parent, place a check in the “home” column. If information is obtained from the teacher, place a check in the “school” column. In some cases, the information will be provided by the consultee without the consultant asking for it. In these cases, the consultant should summarize or repeat the information to the consultee.

<u>Home</u>	<u>School</u>	<u>Objective</u>
_____	_____	1. Discuss Strengths
_____	_____	2. Discuss Goals and Desires
_____	_____	3. Select Needs
_____	_____	4. Select/Define the Priority
_____	_____	5. Select a Focus/Setting
_____	_____	6. Discuss What Works/What Doesn't
_____	_____	7. Collect Assessment Information to Increase
Understanding		
_____	_____	8. Discuss a Time to Meet Again
_____	_____	
Total home	Total school	

Divide each by 8

PERCENT OF OBJECTIVES MET:

% Home	% School
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**Consultant's Name:** \_\_\_\_\_

**Observer's Name:** \_\_\_\_\_

**Date:** \_\_\_\_\_

## CBC Objectives Checklist

### Conjoint Needs Analysis Interview (CNAI)

**Instructions:**

Listen to the audiotaped CNAI provided. Place a checkmark on the line to the left of each item that you believe is addressed by the consultant. If information is obtained from the parent, place a check in the “home” column. If information is obtained from the teacher, place a check in the “school” column. In some cases, the information will be provided by the consultee without the consultant asking for it. IN these cases, the consultant should summarize or repeat the information to the consultee.

<u>Home</u>	<u>School</u>	<u>Objective</u>
_____	_____	1. Discuss Information Collected and Set Goals
for Child		
_____	_____	2. Determine What May be Contributing
_____	_____	3. Develop a Shared Understanding of Child
_____	_____	4. Use Observations and Shared Understanding
to Brainstorm		Ideas for a Home-School Plan
_____	_____	5. Develop Agreed-upon Strategies to Use at
Home and		School
_____	_____	6. Continue to Collect Information to Monitor
Child's		Progress toward Meeting Goal
_____	_____	
Total	Total	
home	school	

Divide each by 6

PERCENT OF OBJECTIVES MET:

% Home	% School
--------	----------

**Consultant's Name:** \_\_\_\_\_

**Observer's Name:** \_\_\_\_\_

**Date:** \_\_\_\_\_

## CBC Objectives Checklist

### Conjoint Plan Evaluation Interview (CPEI)

**Instructions:**

Listen to the audiotaped CPEI provided. Place a checkmark on the line to the left of each item that you believe is addressed by the consultant. If information is obtained from the parent, place a check in the “home” column. If information is obtained from the teacher, place a check in the “school” column. In some cases, the information will be provided by the consultee without the consultant asking for it. IN these cases, the consultant should summarize or repeat the information to the consultee.

Home

School

### Objective

Worked at Home

## 1. Discuss What Happened/How the Plan and School

\_\_\_\_\_

## 2. Identify What Worked and What Didn't

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## Plan

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### 3. Determine Need to Continue or Change the

\_\_\_\_\_

#### 4. Discuss the Need for Future Meetings

\_\_\_\_\_

## 5. Identify Ways to Continue to Keep in Touch

\_\_\_\_\_ Total home      \_\_\_\_\_ Total school

Divide each by 5

PERCENT OF OBJECTIVES MET:

% Home	% School
0	0
10	10
20	20
30	30
40	40
50	50
60	60
70	70
80	80
90	90
100	100

*Appendix I*  
*Intervention Fidelity Checklists*

**CR Intervention Checklist- School**

*Goal: Increase on-task and socially appropriate behavior.*

Week of:	Monday	Tuesday	Wednesday	Thursday	Friday
Provide specific, labeled praise for on-task and socially appropriate behavior. <i>Praise appropriate social behavior in front if class or peers at least 3 times per day.</i>					
<i>Assign partners during math activities.</i>					
Provide special time for CR to <i>water plant daily.</i>					
Allow CR to <i>choose friend to water the plant with him</i> if he displays appropriate behavior during a specific transition time.					
<i>Self-monitoring intervention during math time.</i> -Give CR timer before math begins. -Quickly review rules/expectations when necessary. -Review CR's goal for the math period (i.e. 14-20 yes tallies) 0Monitor and compare on-task tallies. -Communicate results to parents daily.					

**CR Intervention Checklist- Home***Goal: Increase on-task and socially appropriate behavior.*

Week of:	Monday	Tuesday	Wednesday	Thursday	Friday
Provide specific, labeled praise for on-task and socially appropriate behavior.					
<i>Give Chips for:</i> 1. <i>Following Directions</i> 2. <i>Good Homework behavior</i> 3. <i>Socially appropriate behavior with brother.</i> Calmly take a chip if CR_____. Allow CR opportunity to cash in chips daily.					
Reward CR with chips for showing you school tally chart. Bonus chip for meeting tally goal.					
Increase structured opportunities for positive peer interactions.					
Incorporate activity breaks before and during homework time.					
Provide choices whenever possible.					

**Reminders**

- \*Send plant to school
- \* Lunch at home with negative lunch report

**DW Intervention Checklist- School***Goal: Increase self-control, compliance, work completion and appropriate behavior*

<b>Week of:</b>	<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>
Provide <b>specific, labeled praise</b> for following directions and appropriate behavior.					
Provide <b>visual schedule</b> when DW walks into classroom at 10:00. A peer helper can help with this. Praise DW for demonstrating behaviors on the visual schedule.					
Give DW a specific number of <b>help cards</b> during independent work during reading. If DW is out of help cards, he will have to attempt on his own.					
Encourage DW to sit on <b>wiggle seat</b> at desk and on rug.					
Allow DW to hold a <b>fidget</b> , such as a squish ball while working or listening.					
Whenever possible, try to give DW <b>simple, one-step commands</b> using the steps listed in the report.					

**DW Intervention Checklist- Home***Goal: Increase self-control, compliance, work completion and appropriate behavior*

<b>Week of:</b>	<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>
Provide specific, labeled praise for following directions and appropriate behavior.					
Incorporate sensory before meal-time. This could include jumping on trampoline for 2-3 minutes or doing a family "hokey-pokey."					
Provide visual schedule and appropriate meal behavior reminder sheet at each meal. Allow him to hold fidget or sit on wiggle seat if helpful.					
Set timer at dinner for 15-20 minutes. DW can be excused after that time period.					
<i>Give DW candies in dinner jar for:</i> <ol style="list-style-type: none"> <li>1. Sitting appropriately in his chair</li> <li>2. Using appropriate words</li> <li>3. Eating the right way.</li> </ol>					
Use help cards during homework time.					
Give simple, one-step commands using the steps listed in the report when possible.					



**LM Intervention Checklist- Home**

*Goal: Increase self-control, self-confidence, and independent work completion and problem solving, work completion and socially appropriate behavior*

<b>Week of:</b>	<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>
Provide visual checklist to support LM during homework time.					
Provide help cards to use during homework time. LM can only receive help if he uses a help card. If he has help cards left over, he can trade them in for a privilege (1 minute past bedtime etc...).					
Provide LM with his problem solving rating scale during homework time. Encourage LM to use the rating scale. If LM approaches about a question/ problem, visually prompt him to use his rating scale (1, 2 or 3?).					
Try to catch LM being good as often as possible. *Use calm and quiet labeled praise, along with non-verbal praise (thumbs-up, pat on back) to reinforce appropriate behavior.					
Provide structured opportunities for positive peer interaction.					
Continue to be consistent and follow through with consequences.					

**Collaborative Intervention Plan- School**

*Goal: Increase self-control, self-confidence, and independent work completion and problem solving, work completion and socially appropriate behavior*

<b>Week of:</b>	<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>
Provide visual checklist to support LM during guided reading time.					
Provide problem solving rating scale during guided reading. Encourage LM to use the rating scale. If LM approaches about a question/ problem, visually prompt him to use his rating scale (1, 2 or 3?).					
Whenever possible, use non-verbal cues, prompts and praise will be used. * <i>Try to catch LM being good as often as possible-</i> Thumbs up, pat on the back, quiet verbal praise to reinforce appropriate behavior.					
Review expectations of a routine or activity before beginning it.					
Designate a peer problem solver to answer questions and provide support. LM will also get to serve as the peer problem solver to encourage appropriate social behavior and attention.					
Continue to encourage peers to provide support and positive feedback.					

*Appendix J*  
*Routine Compliance Observation and Data Collection Form*

[illegible]

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**Date:**

Time:

Observer:

Total +'s \_\_\_\_\_ Total Intervals \_\_\_\_\_ Total % On-Task \_\_\_\_\_

+ Engaged in expected activity and following current adult directions.

- Not looking at, working on or participating in expected activity/ not following current adult directions.

*Appendix K*  
*Parent-Teacher Relationship Scale*

**Parent-Teacher Relationship Scale: Parent**

The following statements are about your relationship with this child's parent. For each one, please circle the number that best indicates how much you agree with the statements.

	Strongly disagree	Mildly disagree	Not sure	Mildly agree	Strongly agree
1. We trust each other.	1	2	3	4	5
2. It is difficult for us to work together.	1	2	3	4	5
3. We cooperate with each other.	1	2	3	4	5
4. Communication is difficult between us.	1	2	3	4	5
5. I respect this parent.	1	2	3	4	5
6. This parent respects me.	1	2	3	4	5
7. We are sensitive to each other's feelings.	1	2	3	4	5
8. We have different views of right and wrong.	1	2	3	4	5
9. When there is a problem with my child, the parent is all talk and no action.	1	2	3	4	5
10. This parent keeps his/her promises to me.	1	2	3	4	5
11. When there is a behavior problem, I have to solve it without help from this parent.	1	2	3	4	5
12. When things aren't going well, it takes too long to work them out.	1	2	3	4	5
13. We understand each other.	1	2	3	4	5
14. We see this child differently.	1	2	3	4	5
15. We agree about who should do what regarding this child.	1	2	3	4	5
16. I expect more from this parent than I get.	1	2	3	4	5
17. We have similar expectations of this child.	1	2	3	4	5
18. This parent tells me when s/he is pleased.	1	2	3	4	5
19. I don't like the way this parent talks to me.	1	2	3	4	5
20. I tell this parent when I am pleased.	1	2	3	4	5

	Strongly disagree	Mildly disagree	Not sure	Mildly agree	Strongly agree
21. I tell this parent when I am concerned.	1	2	3	4	5
22. I tell this parent when I am worried.	1	2	3	4	5
23. I ask this parent's opinion about this child's progress.	1	2	3	4	5
24. I ask this parent for suggestions.	1	2	3	4	5

**Parent-Teacher Relationship Scale: Teacher**

The following statements are about your relationship with your child's teacher. For each one, please circle the number that best indicates how much you agree with the statements.

	Strongly disagree	Mildly disagree	Not sure	Mildly agree	Strongly agree
1. We trust each other.	1	2	3	4	5
2. It is difficult for us to work together.	1	2	3	4	5
3. We cooperate with each other.	1	2	3	4	5
4. Communication is difficult between us.	1	2	3	4	5
5. I respect this teacher.	1	2	3	4	5
6. This teacher respects me.	1	2	3	4	5
7. We are sensitive to each other's feelings.	1	2	3	4	5
8. We have different views of right and wrong.	1	2	3	4	5
9. When there is a problem with my child, this teacher is all talk and no action.	1	2	3	4	5
10. This teacher keeps his/her promises to me.	1	2	3	4	5
11. When there is a behavior problem, I have to solve it without help from this teacher.	1	2	3	4	5
12. When things aren't going well, it takes too long to work them out.	1	2	3	4	5
13. We understand each other.	1	2	3	4	5
14. We see my child differently.	1	2	3	4	5
15. We agree about who should do what regarding my child.	1	2	3	4	5
16. I expect more from this teacher than I get.	1	2	3	4	5
17. We have similar expectations of my child.	1	2	3	4	5
18. This teacher tells me when s/he is pleased.	1	2	3	4	5
19. I don't like the way this teacher talks to me.	1	2	3	4	5
20. I tell this teacher when I am pleased.	1	2	3	4	5

	Strongly disagree	Mildly disagree	Not sure	Mildly agree	Strongly agree
21. I tell this teacher when I am concerned	1	2	3	4	5
22. I tell this teacher when I am worried.	1	2	3	4	5
23. I ask this teacher's opinion about my child's progress.	1	2	3	4	5
24. I ask this teacher for suggestions.	1	2	3	4	5

*Appendix L*  
*Behavior Intervention Rating Scale*

**Behavior Intervention Rating Scale - Teacher Version**

To be completed by the Teacher: Please evaluate the intervention by circling the number which best describes your agreement or disagreement with each statement. Please circle only one number for each item. Use 1 indicating you strongly disagree with the statement, 3 indicating a neutral response, and 6 indicating you strongly agree with the statement.

	Strong ; Disagree			Neutral			Strongly Agree
1. This would be an acceptable intervention for the child's problem behavior.	1	2	3	4	5	6	
2. Most teachers would find this intervention appropriate for challenging behaviors	1	2	3	4	5	6	
3. The intervention should prove effective in changing the child's problem behavior.	1	2	3	4	5	6	
4. I would suggest the use of this intervention to other teachers.	1	2	3	4	5	6	
5. The child's behavior problem is severe enough to warrant the use of this intervention.	1	2	3	4	5	6	
6. Most teachers would find this intervention suitable for the behavior problem described.	1	2	3	4	5	6	
7. I would be willing to use this in the classroom setting.	1	2	3	4	5	6	
8. The intervention would not result in negative side effects for the child.	1	2	3	4	5	6	
9. The intervention would be an appropriate intervention for a variety of children.	1	2	3	4	5	6	
10. The intervention is consistent with those I have used in classroom settings.	1	2	3	4	5	6	
11. The intervention was a fair way to handle the child's problem behavior.	1	2	3	4	5	6	
12. The intervention is reasonable for the behavior problem described.	1	2	3	4	5	6	
13. I like the procedures used in the intervention.	1	2	3	4	5	6	
14. This intervention was a good way to handle the child's challenging behaviors.	1	2	3	4	5	6	
15. Overall, the intervention would be beneficial for the child.	1	2	3	4	5	6	
16. The intervention would quickly improve the child's behavior.	1	2	3	4	5	6	
17. The intervention would produce a lasting improvement in the child's behavior.	1	2	3	4	5	6	
18. The intervention would improve the child's behavior to the point that it would not noticeably deviate from other classmates' behavior.	1	2	3	4	5	6	
19. Soon after using the intervention, the teacher would notice a positive change in the problem behavior.	1	2	3	4	5	6	
20. The child's behavior will remain at an improved level even after the intervention is discontinued.	1	2	3	4	5	6	
21. Using the intervention should not only improve the child's behavior in the classroom, but also in other settings (e.g., other classrooms, home).	1	2	3	4	5	6	
22. When comparing this child with a well-behaved peer before and after use of the intervention, the child's and the peer's behavior would be more alike after using the intervention.	1	2	3	4	5	6	

(over to page 2)



*Appendix M*  
*Participant Goal Attainment Scales*

**CR Goal Attainment Scale**

**Date:** \_\_\_\_\_

<b>Goal Attainment Levels</b>	<b>Goal 1 Following Directions</b>	<b>Goal 2 On-task behavior</b>	<b>Goal 3 Socially Appropriate Behavior</b>	<b>Goal 4 3<sup>rd</sup> behavioral priority after compliance</b>
Most unfavorable treatment outcome thought likely (-2)	Follows directions first or second they are given less than 60% of the time	On-task less than 50% of the time	Socially appropriate 50-60% of the time	
Less than expected success with treatment (-1)	Follows directions first or second they are given 60-70% of the time	On task less than 50-60% of the time	Socially appropriate less than 60-70% of the time	
Expected level of treatment success (0)	Follows directions first or second they are given 70-80% of the time	On-task 70-80% of the time	Socially appropriate 70-80% of the time	
More than expected level of treatment success (1)	Follows directions first or second they are given more than 80-90% of the time	On-task 80-90% of the time	Socially appropriate 80-90% of the time	
Best anticipated success with treatment (2)	Follows directions first or second they are given more than 90% of the time	On-task more than 90% of the time	Socially appropriate more than 90% of the time	
Comments				

**Person completing form:** \_\_\_\_\_

**DW Goal Attainment Scale**

<b>Goal Attainment Levels</b>	<b>Goal 1 Following Directions</b>	<b>Goal 2 Self-Control</b>	<b>Goal 3 2<sup>nd</sup> behavioral priority after compliance</b>	<b>Goal 4 3<sup>rd</sup> behavioral priority after compliance</b>
Most unfavorable treatment outcome thought likely (-2)	DW needs direction given more than <b>6 times</b> before he follows the.	Showing self-control 30-40% of the time		
Less than expected success with treatment (-1)	DW needs directions given <b>4-5 times</b> before he follows them.	Showing self-control less than 40-60% of the time		
Expected level of treatment success (0)	DW needs directions given <b>3 times</b> before he follows them.	Showing self-control 60-70% of the time		
More than expected level of treatment success (1)	DW needs directions given <b>2 times</b> before he follows them.	Showing self-control 70-80% of the time		
Best anticipated success with treatment (2)	DW needs directions <b>one time</b> before he follows them.	Showing self-control more than 80% of the time		
Comments				

Date: \_\_\_\_\_

Person completing form: \_\_\_\_\_

**LM Goal Attainment Scale**

<b>Goal Attainment Levels</b>	<b>Goal 1 Follows Directions</b>	<b>Goal 2 Self-Control</b>	<b>Goal 3 Socially Appropriate Behavior</b>	<b>Goal 4 Problem Solving</b>
Most unfavorable treatment outcome thought likely (-2)	Follows directions first or second they are given 50% of the time	Shows self-control less than 50% of the time	Socially appropriate less than 50% of the time	Demonstrates independent problem solving less than 50% of the time
Less than expected success with treatment (-1)	Follows directions first or second they are given less than 60% of the time	Shows self-control less than 60% of the time	Socially appropriate less than 60% of the time	. Demonstrates independent problem solving between 50-60% of the time.
Expected level of treatment success (0)	Follows directions first or second they are given 70% of the time	Shows self control 70% of time	Socially appropriate 75% of the time	Demonstrates independent problem solving between 60-70% of the time.
More than expected level of treatment success (1)	Follows directions first or second they are given 80% of the time	Shows self-control 70-80% of the time	Socially appropriate more than 80% of the time.	Demonstrates independent problem solving 70-80% of the time.
Best anticipated success with treatment (2)	Follows directions first or second they are given more than 80% of the time	Shows self-control more than 80% of the time	Socially appropriate more than 85% of the time	Demonstrates independent problem solving more than 80% of the time.
Comments				

Date: \_\_\_\_\_

Person completing form: \_\_\_\_\_

*Appendix N*  
*Collaboration Interview Form*

**Collaboration Interview**

1. In the last week, how many times have been in contact with the teacher/ parent?  
  
0            1-2            3-4            5-6            7 +
2. One a scale of one to five, how would you rate the frequency of your contact with the team?  
1-Very infrequent  
2- Infrequent  
3-Occasional  
4-Somewhat Frequent  
5- Very Frequent
3. On a scale of one to five, how would you rate the quality of your contacts with the team?  
1- Very One-sided  
2- One-sided  
3- 3-Neutral  
4- Collaborative  
5- Very Collaborative
4. Comments:

*Appendix O*  
*Post-Intervention Qualitative Interview*

1. What aspect of the intervention was most helpful for you?
2. What aspect of the intervention was most challenging for you?
3. What were the greatest benefits of collaboration between family, school and outside clinician?
4. What were the greatest barriers to improved collaboration?
5. Would you engage in a similar collaboration process in the future? Why or why not?
6. How could the collaboration process (CBC) be improved?
7. If faced with a similar behavior problem in the future, how would you address it?
8. If giving advice to another family/teacher, how would you describe the importance of collaboration?
9. In your opinion, who should be involved in treatment/ intervention planning? What individuals/ agencies?

*Appendix P*  
*Collaborative Intervention Plan for Participant 1 (CR)*

**COLLABORATIVE CONSULTATION REPORT FOR CR**

**Date of Meetings:** March 3<sup>rd</sup>, 2011 & April 1<sup>st</sup>, 2011

**NAME:** CR  
**PARENTS:** K. & R. R  
**TEACHER:** Lisa Baker  
**CONSULTANT** Skylar Bellinger, Ed.S.

**BACKGROUND**

CR is a happy, energetic, and creative 7 year-old boy who lives at home with his mother, father and older brother, Ethan. CR is currently a second grader at XXX Elementary. CR's parents and teacher sought services to address his off-task and socially inappropriate behavior.

**BEHAVIOR ASSESSMENT PROCEDURES**

Conjoint Behavior Consultation Interviews with parents and school team  
Consultant Observations  
Parent and teacher ABC data collection forms

**FINDINGS**

**STRENGTHS DEFINED**

Parents and teachers report that CR is a happy and energetic child who likes to experiment, build things and problem-solve. According to his parents and teacher, CR is athletic and enjoys sports and games. In addition, CR has a good sense of humor, is able to quickly bounce back from challenges and is excited about future plans.

**SHARED LONG-TERM GOALS**

1. CR will become an independent worker.
2. CR's strengths and good qualities will become his assets in the future.
3. CR will develop increased intrinsic motivation.
4. CR wants to go to college and be a banker.

***Shared Short-Term Goals***

1. CR will be able to stay focused for longer periods of time.
2. CR will become more independent.
3. CR's parents and teachers will find strategies that consistently work over time.
4. CR will develop increased confidence.

### ***Behavioral Priorities Defined***

*Socially Inappropriate Behavior:* CR often engages in socially inappropriate behaviors such as saying inappropriate things or making inappropriate noises, throwing things, poking other kids, and blurting out. This type of behavior typically happens during transitions and unstructured activities. Parents and teachers report that CR is socially inappropriate about 40-50% of the time.

*Compliance:* When asked to follow directions at home school, CR does not follow them on the first or second time they are asked about 40% of the time.

*Off-Task Behavior:* When CR is supposed to work on academic tasks, CR demonstrates off-task behavior 40-50% of the time. Off-task behavior includes behaviors such as not engaging in appropriate activity, leaving the room, and making inappropriate body movements and noises.

### **ENVIRONMENTAL SETTING CONDITIONS**

CR is MOST likely to engage in **socially inappropriate behavior** under these conditions:

- During transitions
- During unstructured times
- In the evenings
- At lunch
- When he wants to be funny
- After distractions or interruptions
- When more people are around

CR is LEAST likely to engage in **socially inappropriate behavior** under these conditions:

- During structured activities
- When he has a job or something to do
- In the morning
- When he is one-on-one

CR is MOST likely to **be non-compliant** under these conditions:

- When asked to transition
- During academic activities
- During homework time

CR is LEAST likely to be **non-compliant** under these conditions:

- One-on-one
- When he is interested in the task or it is relevant to him

CR is MOST likely to **engage in the off-task behavior** under these conditions:

- During non-preferred academic tasks
- During homework time
- When the subject is not relevant to him
- In the afternoon
- In the evening
- When he frustrated
- When he is interrupted or distracted

CR is LEAST likely to **engage in the off-task behavior** under these conditions:

- In the morning
- When he is interested in topic or subject
- When he is working one-on-one with an adult.

### **FUNCTIONS OF THE INAPPROPRIATE BEHAVIORS**

From the information collected during the collaborative interviews, it appears that CR exhibits socially inappropriate behaviors to gain attention from peers and adults. In addition, it appears that CR exhibits off-task and non-complaint behavior to escape boring and non-preferred tasks and due to a lack of self-control.

### **IMPRESSIONS**

CR is a happy and energetic 7 year-old boy who enjoys games, building things and gardening. CR displays socially inappropriate behaviors during unstructured times in the afternoons and evenings. CR is more likely to display socially inappropriate behavior during transitions and when he is in bigger groups of people. CR displays off-task and non-compliant behavior during non-preferred academic tasks at school and home. A collaborative intervention plan was developed by his parents, school team and clinician.

### **COLLABORATIVE INTERVENTION PLAN**

1. Try to catch CR being good as often as possible. This will help CR learn the types of appropriate behavior for which he will receive positive attention. Specifically, whenever CR displays socially appropriate, complaint or on-task behavior, labeled praise will be used to reinforce these positive behaviors. Labeled praise involves telling him EXACTLY what he did that you liked or that he did well with the hope to see more that behavior. For example, "Thank you for following my direction to get out a pencil," or "Good job playing nicely with your brother," instead of just saying, "Thank you," or "Good job." Think to yourself – thank you for WHAT? Good job for WHAT?



- a. CR's parents will develop and implement a chip based reward system to reinforce CR's socially appropriate and on-task behavior. CR will earn chips if he is caught being good. However, CR will not be allowed to ask for chips. A goal might be for CR to earn 15-20 chips per day. Therefore, the reward menu should be adjusted accordingly.
  - b. Mrs. Baker will attempt to praise CR's socially appropriate and on-task behavior at least 3 times per day. In order to increase the social benefit and positive peer attention, Mrs. Baker will try to give praise in front of the class and/or a group of CR's peers.
2. When possible, CR's parents and teacher will attempt to provide structure and guidance during transition times and unstructured times with peers. For example, CR could be given a special job during to do while in line or at baseball practice.
  - a. CR's class will be assigned partners during math partner time so that he can quickly begin to display appropriate behavior with his assigned peer.
  - b. CR will have special transition time during the day to go care for his plant.
  - c. Consequences can be provided to motivate CR to demonstrate socially appropriate behavior. For example, if CR displays extremely inappropriate behavior during lunch, his father will take him home for lunch the next day. This will also show CR that there are consistent and seamless consequences at school and home.
3. Encourage opportunities for positive peer interactions and home and school.
  - a. CR will get to pick a peer to water his plant with him.
  - b. CR could have other opportunities to include peers in his reward activities.
  - c. Incorporate appropriate peers models into groups as often as possible,
  - d. When CR invites friends over to play, provide structured activities and supervision as often as possible. For example, CR and his friend could go bowling or miniature golfing. These types of activities provide structure, movement and the ability for a parent to intervene and guide the interactions.
4. In order to increase on-task behavior and independent work habits at school, a self-monitoring intervention will be implemented. During math time, CR will have a vibrating timer that vibrates at varying intervals. These vibrations will serve as cues for CR to check his own behavior. Each time the timer vibrates, CR will indicate if he was on or off task by placing a tally in the "yes" or "no" column.
  - a. In order to teach CR how to use the system, the school counselor will review and practice what type of behavior he should mark "yes" for.
  - b. Mrs. Baker will review the rules with CR before he begins the self-monitoring during math time.
  - c. CR will set a realistic goal before each math session. If the timer is set to go off approximately once every three minutes during a 60 minute time period, an appropriate goal might be 15.
  - d. Mrs. Baker will also keep tallies of CR's behavior when the timer goes off. This way, she and CR can review the tallies to make sure that he is

being as honest as possible. In addition, Mrs. Baker will share her tally sheet with CR's parents each day so they can compare.

- e. If CR brings home his tally sheet to show his parents, he will earn a set number of chips. If CR meets his pre-determined goal for the day, he can earn bonus chips.
5. In order to increase on-task behavior during homework time, CR's parents will provide chips and praise for on-task behavior. In addition, frequent activity breaks could be incorporated into homework time. For example, CR could choose between 10 cartwheels or running up and down the stairs twice during his activity break. A timer might also be beneficial to use during homework time. It could be set for specific amounts of work time before an activity break. CR and his parents could set a goal together of how much work he should get done before the timer goes off.
  6. CR will bring a special plant to care for and share with his classmates. CR's parents will send the plant and he will keep it the principal's/ Dixie's office. CR will have the opportunity to care for it each day. In addition, if he demonstrates an appropriate transition or line behavior, he will have the opportunity to bring a friend to care for the plant.
  7. In order to decrease non-compliance and empower CR during non-preferred activities such as homework and difficult school-work, provide CR with choices as often as possible. For example, you could ask CR if he would rather do math or reading first. In addition, you could let CR choose what he would like to do during his homework breaks (cartwheels or jumping jacks).
  8. In order to increase compliance, try to give directions using the following steps:
    1. Determine if we NEED to give it as a command, if we can follow through, and if we have time to follow through. Can we give it as a choice instead?
    2. Make sure we have CR's complete attention (eye contact and physical proximity).
    3. Give 1-step directions using simple language.
    4. Give directions/ commands in statement form (i.e. "Sit in the chair" instead of "will you sit in the chair?")
    5. Tell CR what we want him TO DO, rather than what we DON'T want him to do (i.e. "Come sit next to me", rather than "stop running around.") Avoid using "stop", "don't", "quit", "no", unless he is in danger.
    6. Use grand gestures to help communicate what we want CR to do (i.e. show him).
    7. Give specific, labeled praise when CR follows the direction.

*Appendix Q*  
*Collaborative Intervention plan for Participant 2 (DW)*

**COLLABORATIVE INTERVENTION PLAN**  
**Date of Evaluation:** March 9<sup>th</sup> and April 7<sup>th</sup>, 2011

<b>NAME:</b>	DW
<b>DOB:</b>	08/20/2004
<b>CHRONOLOGICAL AGE:</b>	6 years, 5 months, 20 days
<b>FOSTER PARENTS:</b>	M. & A. Black
<b>TEACHER</b>	Janice Campbell First Grade Teacher
<b>CONSULTANT</b>	Skylar Bellinger, Ed.S.

**BACKGROUND**

DW is a happy 6-year-old boy who lives with his foster parents, Misty and Adam Brown. DW's biological sister, Alisha, also lives with the Brown's and their infant twins. DW has lived with the Black's for 2 years. Currently, Mr. and Mrs. Brown are going through the adoption process with DW and his sister. According to his foster parents, DW is a friendly and happy child who enjoys going to the park, swimming, and playing soccer. DW is a first grader at XXXX Elementary in the XXXX School District. Recently, DW began receiving special education services to support his behavior. DW's foster parents, along with his teacher Janice Campbell, sought services to address his non-compliant, off-task and inappropriate behavior.

**FUNCTIONAL BEHAVIOR ASSESSMENT PROCEDURES**

Conjoint Behavior Consultation Interviews with parents and school team  
Consultant Observations

**FINDINGS**

**STRENGTHS DEFINED**

DW's parents and teacher report that he is a thoughtful, smart, friendly and kind-hearted boy who enjoys a variety of activities. In addition, DW is happy, cares about others and has a good sense of humor. Currently, DW already has many effective supports and services in place at home and school and has made great progress in over the past year. DW has a very supportive and loving family and a very supportive teacher and peers.

***Shared Long-Term Goals***

1. DW will be successful in society and be recognized for his good qualities instead of his behavioral challenges.
2. DW will gain maturity.
3. DW will be successful at school.
4. DW will have success with peers.

***Shared Short-Term Goals***

1. DW will follow directions within three times of being asked.
2. DW will gain self-control and improve independent work completion.
3. DW's family will be able to eat a dinner without getting frustrated.
4. DW's parents and teachers will learn how to better redirect DW and respond to his meltdowns.

**CHALLENGING BEHAVIORS DEFINED**

*Non-compliance/ Task Completion:* When given a direction, DW will ignore the direction, verbally say "no" or ask "why" and attempt to provide reasons why he should not have to complete the task. For example, if DW's father tells DW to put on his shoes, DW will ask "why." If DW's father tells him that he needs to put on his shoes so they can go to the store, DW will look through the cupboard to try to provide evidence that they have food and do not need to go to the store. DW's parents usually make DW complete the original direction, but this sometimes leads to yelling and physical aggression. According to his parents, DW is non-compliant with original directions 90% of the time. At school, DW's teachers reports that he needs to be asked approximately 6 times before completing a direction.

To address the non-compliance, DW's parents have tried giving positive reinforcement and rewards for complying. Rewards seem to work, however DW always wants a reward and will often not comply without one. For example, DW sometimes says "what are you going to give me for doing it?" DW's parents have also tried using visual schedules to show DW what needs to be done. According to his mother, the visual schedules are helpful in the mornings but "hit or miss" at other times of the day. At school, DW's teacher has tried using a reward system, guiding DW through the directions, and giving him frequent reminders.

*Self- Control:* DW often has difficulty maintaining self-control with his mouth and body. DW engages in inappropriate behaviors such as body flapping, shaking, making inappropriate noises, touching others, and blurting out. DW is most likely to engage in this behavior from 10:00-11:30 at school and during meal times at home. During meal times, DW plays with his fork, makes disruptive noises and refuses to eat. DW engages in this behavior at every meal (breakfast, lunch and dinner), regardless of the food being served or the setting (restaurant vs. home). It typically takes him 20-30 minutes to start eating.

To address the self-control, DW's teacher has tried using a reward system that reinforces keeping a quiet mouth and keeping his hands, feet, and objects to himself. To address difficult meal-time behavior, DW's parents have tried using a social narrative describing appropriate meal time behavior and how to keep loud noises to himself. In addition, DW's mom reported that they verbally remind DW to keep the noises to himself. DW's parents report that this strategy is not working.

*Verbal and Physical Aggression:* When DW gets angry or frustrated, he will begin yelling or become physically aggressive. Verbal aggression occurs 2-3 times per week and includes yelling, arguing, saying disrespectful things, and using bad language. Physical aggression occurs every 1 out of 10 days and includes behaviors such as shoving and punching. Specific examples include punching his cousin in the face and pushing a child down on the playground. According to his parents, the intensity of DW's behavior is a 5 or 6 on a 10-point scale. In recent weeks, DW's parents and teacher report that this behavior has decreased in frequency

To address the verbal aggression, DW's parents have tried putting DW on the bottom step for "chill out" time and ignoring the behavior. According to DW's parents, the aggression and frustration has gotten better and the duration of melt-downs has reduced since they began ignoring him. DW's parents report that they try to prevent physical aggression by avoiding situations that might lead to it.

### ***Biological Variables***

**DW HAS BEEN DIAGNOSED WITH ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD) PERVASIVE DEVELOPMENTAL DISORDER- NOT OTHERWISE SPECIFIED (PDD-NOS) AND IS CURRENTLY TAKING RISPERDAL, INTUNIV, AND FOCALIN. HIS MEDICATION IS MANAGED BY JOHNSON COUNTY MENTAL HEALTH. ACCORDING TO HIS PARENTS, THIS COMBINATION OF MEDICATION APPEARS TO BE VERY EFFECTIVE AND THEY HAVE NOTICED BEHAVIORAL IMPROVEMENTS.**

DW's parents report that he goes to bed at 8:00pm and sleeps through the night. DW typically wakes up at 7:15am. Parents report that DW listens to classical music while going to sleep and has difficulty falling asleep without the music. DW's sleep has improved since his recent medication change; however, they have also noticed that bedwetting has become more of a problem. Meal-time is difficult for DW and he sometimes refuses to eat altogether. According to his parents, DW has a taste/ sensory aversion to meat. Therefore, it takes him several minutes to chew a piece of meat.

### **ENVIRONMENTAL SETTING CONDITIONS**

DW is MOST likely to engage in **non-compliance** under these conditions:

- During reading routine at school
- Between 10-11:30 AM
- At meal time
- When he is asked to do something that he does not want to do

- When he is frustrated with a task
- When leaving the house
- When given multi-step directions

DW is LEAST likely to engage in **non-compliance** under these conditions:

- When he is given a one-step direction.
- When he is doing something that he wants to do.
- When he gets a reward for doing the behavior (i.e. gets to play video games with dad)
- When he knows that they will be doing something he enjoys, such as going out to eat.
- When he is working one-on-one with someone.

DW is MOST likely to **have difficulty with self-control** under these conditions:

- Between 10-11:30 AM
- When he is in a group
- When he is bored
- When he needs a sensory release or break
- When using utensils
- Almost all meals
- At home and restaurants

DW is LEAST likely to **have difficulty with self-control** under these conditions:

- When he is working with someone one-on-one.
- First thing in the morning
- After lunch at school
- When they are eating finger foods like chicken fingers and French fries

DW is MOST likely to **be verbally and physically aggressive** under these conditions:

- When he does not get his way
- When he loses a game
- When he is forced to do something that he does not want to do

DW is LEAST likely to **be verbally and physically aggressive** under these conditions:

- When he is doing exactly what he wants to do
- When is somewhere that he wants to be (i.e. Chuck E. Cheese)
- In the morning, right after breakfast

## **FUNCTIONS OF THE INAPPROPRIATE BEHAVIORS**

From the information collected during the collaborative interviews, it appears that DW exhibits challenging behaviors for a variety of reasons including to gain attention and to escape non-preferred tasks/ situations. In addition, it appears that DW needs some additional skills and guidance to complete certain tasks. DW also appears to engage in inappropriate movements and noises in order to gain sensory input and get a sensory release.

## **IMPRESSIONS**

DW is a friendly and happy 6 year-old boy who enjoys swimming and soccer. DW frequently has difficulty following directions at school and home, especially when given multi-step directions. In addition, DW displays disruptive and inappropriate behavior in the late morning (10-11:30 AM) at school and during meal times. DW often refuses to eat for 20-30 minutes during meal time. Occasionally, DW displays verbally and physically aggressive behaviors when is angry or frustrated or when things fail to go his way. These behaviors appear to be maintained by gaining attention, escaping difficult tasks, and gaining sensory input. In addition, DW appears to need additional skills and guidance to complete certain tasks.

## **COLLABORATIVE INTERVENTION PLAN**

8. Because many of DW's behaviors appear to be maintained by attention, DW should be learning the types of appropriate behavior for which he will receive positive attention. The use of labeled praise was recommended and discussed. Labeled praise should be used to reinforce DW's positive behaviors. Labeled praise involves telling your child EXACTLY what he did that you liked or that he did well with the hope to see that behavior more. For example, "Thank you for putting your shoes on," or "Good job eating a bite of chicken," instead of just saying, "Thank you," or "Good job." Think to yourself - thank you for WHAT? Good job for WHAT?
  - a. In order to increase the amount of labeled praise and positive attention for appropriate behaviors at meal time, DW's parents will put candies in a jar when they notice the following good behaviors:
    - i. Sitting appropriately in his chair
    - ii. Using appropriate words
    - iii. Eating the right way
 After dinner, DW will get to eat the candies that he has earned for dessert. DW will not be allowed to ask for candies, parents will have to catch him being good. If DW does ask for a candy, you can praise him for the behavior but remind him that he cannot ask for them.
9. In addition to giving attention for positive behaviors, DW should learn that he will not gain attention for inappropriate behaviors such as arguing, yelling, or making disruptive noises at meal time. It would be beneficial for DW's family and teacher to choose specific non-aggressive behaviors that they will ignore. With planned ignoring, parents choose specific behaviors that they will try to ignore so as not to

provide reinforcement for those behaviors. This means not talking to him, touching him or looking at him when he engages in these behaviors.

10. Because DW appears to need guidance and prompts to successfully complete multi-step routines, visual schedules will be created and used to support DW during difficult routines such as reading and meal-time.
  - a. DW will have a visual schedule for his 10-11:30 routine at school. Pictures will be taken of DW completing each step of the routine. These pictures, along with a written direction will be listed on the schedule. DW will be able to move the pictures as he completes the task. When DW comes in the room at 10:00 AM, a peer will help DW get his visual schedule and begin completing the steps. The steps on the schedule will include:
    - i. Coming in the classroom
    - ii. Walking to his desk
    - iii. Picking up his wiggle seat
    - iv. Placing it on his assigned spot on the rug
    - v. Getting a book??
    - vi. Sitting on his wiggle seat
    - vii. Watching the teachers blending lesson
    - viii. Bringing his seat to his desk
    - ix. Starting to work on the assignment
    - x. Reward
    - xi. Working in other room- more details???
    - xii. Lunch

Mrs. Campbell will attempt to provide specific labeled praise for properly completing the steps of the schedule.
  - b. DW will have a visual support for appropriate meal time behavior. Pictures of DW completing appropriate meal time behaviors will be listed on a sheet that he can keep at the table. DW's parents will provide labeled praise and/or candies for demonstrating the appropriate behaviors shown on the visual support. Appropriate behaviors listed will include;
    - i. Getting your plate
    - ii. Putting your plate on the table
    - iii. Sitting right in your chair
    - iv. Eating bites of food
    - v. Using appropriate words-
      1. List examples of appropriate conversation topics for meal time.
    - vi. Taking your plate into the kitchen when you are finished.
11. In order to encourage DW to attempt academic work independently without relying completely on his teacher or parents, DW will be given a pre-determined number of help-cards that he can use to ask for additional help. These help cards could be used to gain help from an adult or a peer. In addition, they will include steps about how to appropriately request help. DW will be given a certain number of help cards depending on the length of the assignment. At first, DW should be given an ample



amount of help cards so that he experiences success using them. Once he gets used to the system, the number of help cards can be reduced.

12. In order to address many of DW's sensory needs, DW will have a wiggle seat to sit on at his desk, on the rug, and at the dinner table. In addition, DW will be given fidgets, such as squish balls, to hold when sitting on the rug, working at his desk or sitting at the table.
13. Before dinner, DW will be given the opportunity to get some of his sensory needs met and energy released. Some possibilities include having him jump on the trampoline for 2-3 minutes or doing a family "hokey-pokey" activity before dinner.
14. A timer will be used to provide meal time boundaries. DW will be challenged to finish his meal before the timer runs out (15-20 minutes). The time on the timer will represent how long the family will be eating at the table. If DW wants to continue eating after the timer is up, he may. However, DW will be excused from the table after the timer is up.
15. In order to prevent melt-downs and help DW learn coping strategies to use when he is frustrated, a coping strategy choice key-ring will be created. This ring will include choices of things he can do to calm down. When DW's parents or teachers notice that he is getting frustrated or upset, they could show him the key-ring and ask him to choose which one he would like to do. If he would rather, DW can just point to the activity he would like to do. Choices will include:
  - a. Squeezing a fidget
  - b. Taking a deep breath
  - c. Jumping on trampoline/ jumping up and down
  - d. Asking someone to scratch or rub his back
  - e. Other ideas???
9. In order to increase compliance, try to give directions using the following steps:
  - f. Determine if we NEED to give it as a command, if we can follow through, and if we have time to follow through. Can we give it as a choice instead?
  - g. Make sure we have DW's complete attention (eye contact and physical proximity).
  - h. Give 1-step directions using simple language.
  - i. Give directions/ commands in statement form (i.e. "Sit in the chair" instead of "will you sit in the chair?")
  - j. Tell DW what we want him TO DO, rather than what we DON'T want him to do (i.e. "Come sit next to me", rather than "stop running around.") Avoid using "stop", "don't", "quit", "no", unless he is in danger.
  - k. Use grand gestures to help communicate what we want DW to do (i.e. show him).
  - l. Give specific, labeled praise when DW follows the direction.

*Appendix R*  
*Collaborative Intervention Plan for Participant 3 (LM)*

**COLLABORATIVE CONSULTATION REPORT**  
**Date of Meetings:** March 24<sup>th</sup>, 2011 & April 19<sup>th</sup>, 2011

**NAME:** LM  
**PARENTS:** K. & D. M  
**TEACHER:** Leanne Garden  
**CONSULTANT** Skylar Bellinger, Ed.S.

**BACKGROUND**

LM is a sweet, bright and compassionate 7 year-old boy who lives at home with his mother, father and older sister Madison. Currently, LM is a first grader at Stillwell Elementary. LM's parents and teacher sought services to improve his ability to follow directions, work independently and appropriately interact socially with peers.

**BEHAVIOR ASSESSMENT PROCEDURES**

Conjoint Behavior Consultation Interviews with parents and school team  
Consultant Observations  
Parent and teacher ABC data collection forms

**FINDINGS**

**STRENGTHS DEFINED**

Parents and teachers report that LM is a sweet and bright child who wants to do well. In addition, they report that LM is "an academic sponge" and a good reader who responds well to consequences and structure. Socially, LM is very compassionate and has two good friends that he plays with at home. LM enjoys reading, playing video games and playing outside.

**SHARED LONG-TERM GOALS**

1. LM will become an independent problem-solver.
2. LM will thrive in school.
3. LM will be socially accepted and have friends.
4. LM will take on leadership roles in the future.

### ***Shared Short-Term Goals***

1. LM will develop increased self-control.
2. LM will improve his ability to work independently.
3. LM will improve his social skills and ability to interact appropriately with peers.
4. LM will develop increased self-confidence.
5. LM will follow directions on the first or second time 75-80% of the time.

### ***Behavioral Priorities Defined***

*Lack of Self-Control:* During transitions and unstructured work times, LM is not able to show self-control about 50% of the time. When LM is not showing self-control, he often wanders around the room, focuses on distracting objects, and makes inappropriate noises and verbalizations.

*Socially Inappropriate Behavior:* LM engages in socially inappropriate behaviors such as saying inappropriate things, using “baby talk,” poking other kids, and blurting out. This type of behavior typically happens during unstructured activities and in response to changes in routine. In addition, LM often has socially inappropriate responses to upsetting situations. For example, LM will cry or have a “melt-down” if things don’t go his way or if he gets criticized. Parents and teachers report that LM is socially inappropriate about 50% of the time.

*Non-compliance:* When asked to follow directions at home school, LM does not follow them on the first or second time they are asked about 30-50% of the time.

*Lack of Independent Problem-Solving:* When LM is confused or does not immediately know an answer, he frequently relies on direction from adults to solve the problem. Currently, LM demonstrates independent problem solving skills less than 50% of the time.

### **ENVIRONMENTAL SETTING CONDITIONS**

LM is MOST likely to **demonstrate a lack of self-control** under these conditions:

- When he does not have clearly defined boundaries and expectations
- When he does not have clearly defined consequences
- During independent work time
- During independent reading work stations
- During homework time
- During transitions
- Later in the evening/ when he is tired
- When he is distracted by peers/ sister

LM is LEAST likely to **demonstrate a lack of self-control** under these conditions:

- When he has clearly defined boundaries and expectations

- When he has clearly defined consequences
- When he receives subtle and non-verbal praise.
- When working 1:1 or in a small group
- Earlier in the evening
- When distractions are limited

LM is MOST likely to engage in **socially inappropriate behavior** under these conditions:

- During transitions
- When there are unexpected changes to his routine
- When he gets upset or feels criticized
- When he gets in trouble
- When he is looking for attention from peers
- After a verbal exchange/ power struggle

LM is LEAST likely to engage in **socially inappropriate behavior** under these conditions:

- When he has clear boundaries and expectations
- When peers are being kind and helping him
- When he understands why it is important to do the appropriate thing

LM is MOST likely to be **non-compliant** under these conditions:

- When he does not have clearly defined boundaries and expectations.
- When he does not have clearly defined consequences.
- During independent work time
- During independent reading work stations
- During homework time
- During transitions
- Working on math at home
- When he is tired (later in the evening)

LM is LEAST likely to be **non-compliant** under these conditions:

- When he has clearly defined boundaries and expectations
- When he has clearly defined consequences
- When he receives subtle and non-verbal praise.
- Working on reading and writing at home.

LM is MOST likely to have **difficulty problem-solving independently** under these conditions:

- When he does not have clearly defined boundaries and expectations.
- When he does not have clearly defined consequences.
- During independent work time
- During independent reading work stations
- During homework time
- Working on math at home

- When he is tired

LM is LEAST likely to have **difficulty problem-solving independently** under these conditions:

- When he has clearly defined boundaries and expectations
- When he has clearly defined consequences
- When he receives subtle and non-verbal prompts, cues and praise.
- Working on reading and writing at home
- When distractions are limited

### **FUNCTIONS OF THE INAPPROPRIATE BEHAVIORS**

#### **IMPRESSIONS**

LM is a bright and compassionate 7 year-old boy who enjoys video games, reading and playing outside. LM has difficulty showing self-control and independent problem solving during unstructured, independent work time and transitions. In addition, LM displays socially inappropriate behavior when he is criticized or upset and when things do not go his way. LM also appears to engage in some socially inappropriate behavior to gain peer attention. Lastly, LM has difficulty demonstrating independent problem solving skills during independent work time and unstructured activities. He often whines, wanders and asks for help in order to gain guidance and adult attention. Overall, LM appears to be much more successful when he has clear expectations and well-defined boundaries. In addition, LM responds well to subtle non-verbal praise, physical prompts and reinforcers (i.e. pat on the back), and positive peer attention. A collaborative intervention plan was developed by his parents, school team and clinician.

#### **COLLABORATIVE INTERVENTION PLAN**

16. Because LM is more successful when he has clear boundaries and expectations, visual checklists will be developed to support him during guided reading and homework time. These checklists will describe the steps and expectations of each activity. After LM completes each expectation or step, he will get to check the box to indicate that it has been completed.
  - Mrs. Garden will develop a checklist for LM and his classmates to use during guided reading time.
  - LM's parents will develop a checklist for LM to use during homework time.
  - Social stories can be developed to expand upon the expectations or routines such as waiting for the bus.
17. In order to encourage independent problem solving, help cards will be used at home and school. LM will be given a pre-determined number of help cards that can be used to ask for additional help during guided reading and homework time.

- The steps of problem solving and a problem rating scale will be listed on the back of the help cards. LM can use these steps/ rating scale to determine how to best solve his problem or get help. For example:
    1. Can I do it on my own?
      - a. Try to think of different ways to solve the problem.
      - b. Skip it and come back to it.
    2. Can a friend help me? Ask the peer problem solver.
    3. Do I need a teacher/ parent to help? Use a help card.
  - LM can trade the help cards that he has left over for privileges/ rewards
    - Each help card earns 1 minute of reading on the rug
    - Each help card at home earns 5 extra minutes of TV/ video game time.
  - The school psychologist will review the help cards and problem rating scale with LM and his teacher before starting the intervention.
3. Whenever possible, non-verbal cues, prompts and praise will be used.
- Non-verbal cues and prompts include eye-contact, pointing, gestures, and physical guidance (i.e. hand on shoulder in line etc...).
  - Because LM responds well to non-verbal praise, a thumbs-up, pat on the back, or high five could be used to subtly praise and reinforce the good behavior that we would like to see more of (i.e. self-control, following directions, demonstrating socially appropriate behavior and independent problem solving).
4. Whenever possible, LM's parents and teacher will quickly review the expectations of a routine or activity before beginning the activity. For example, LM's parents will review the expectations for school before dropping him off. In addition, Mrs. Garden could review the expectations before beginning guided reading activities (sit at the table quietly, get out your book etc...). LM's parents and teacher should also review the expectations of how to use the help cards before each guided reading and homework session.
5. In order to improve social skills and social behavior, LM's parents and teacher will attempt to provide structured opportunities for positive peer interactions.
- LM will have the opportunity to get help from a peer problem solver. LM will also get the opportunity to help others by serving as the peer problem solver.
  - LM will be assigned a peer mentor or peer buddy during difficult times of the day (i.e. after school). LM will also have the opportunity to serve as peer buddy or mentor for the activities in which he is successful (i.e. reading).
  - LM's parents will pursue additional opportunities for structured, social interaction. Cub Scouts would be a great way to get more involved with his classmates and peers in a fun a structured setting.
6. Increase opportunities for appropriate movement whenever possible. For example, LM's group could move stations more often or LM could be given a job on his checklist that requires movement.
7. Continue to be consistent and follow through with consequences.

8. Continue to encourage peers to provide support and positive feedback. In addition, peers could be encouraged to ignore inappropriate behavior.

9. Try to catch LM being good as often as possible. This will help LM learn the types of appropriate behavior for which he will receive positive attention. Specifically, whenever LM displays self-control, independent problem solving, socially appropriate or complaint behavior, labeled praise will be used to reinforce these positive behaviors. Labeled praise involves telling him EXACTLY what he did that you liked or that he did well with the hope to see more of that behavior. For example, "Thank you for following my direction to get out a pencil," or "Good job playing nicely with your sister," instead of just saying, "Thank you," or "Good job." Think to yourself - thank you for WHAT? Good job for WHAT?

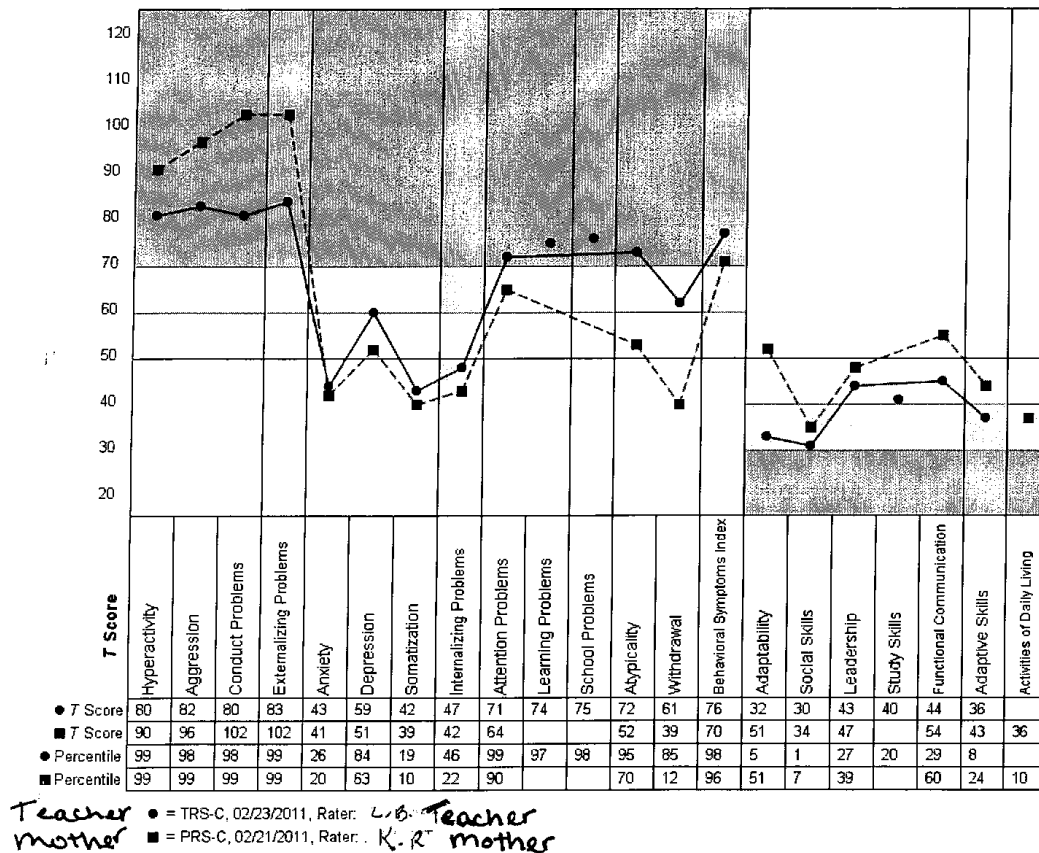
10. In order to increase compliance, try to give directions using the following steps:

8. Determine if we NEED to give it as a command, if we can follow through, and if we have time to follow through. Can we give it as a choice instead?
9. Make sure we have LM's complete attention (eye contact and physical proximity).
10. Give 1-step directions using simple language.
11. Give directions/ commands in statement form (i.e. "Sit in the chair" instead of "will you sit in the chair?")
12. Tell LM what we want him TO DO, rather than what we DON'T want him to do (i.e. "Come sit next to me", rather than "stop running around.") Avoid using "stop", "don't", "quit", "no", unless he is in danger.
13. Use grand gestures to help communicate what we want LM to do (i.e. show him).
14. Give specific, labeled praise when LM follows the direction.

*Appendix S*  
*Participant 1 (CR) Pre & Post BASC-2 Profiles*

C.R. Pre

**Multirater T Score Profile**

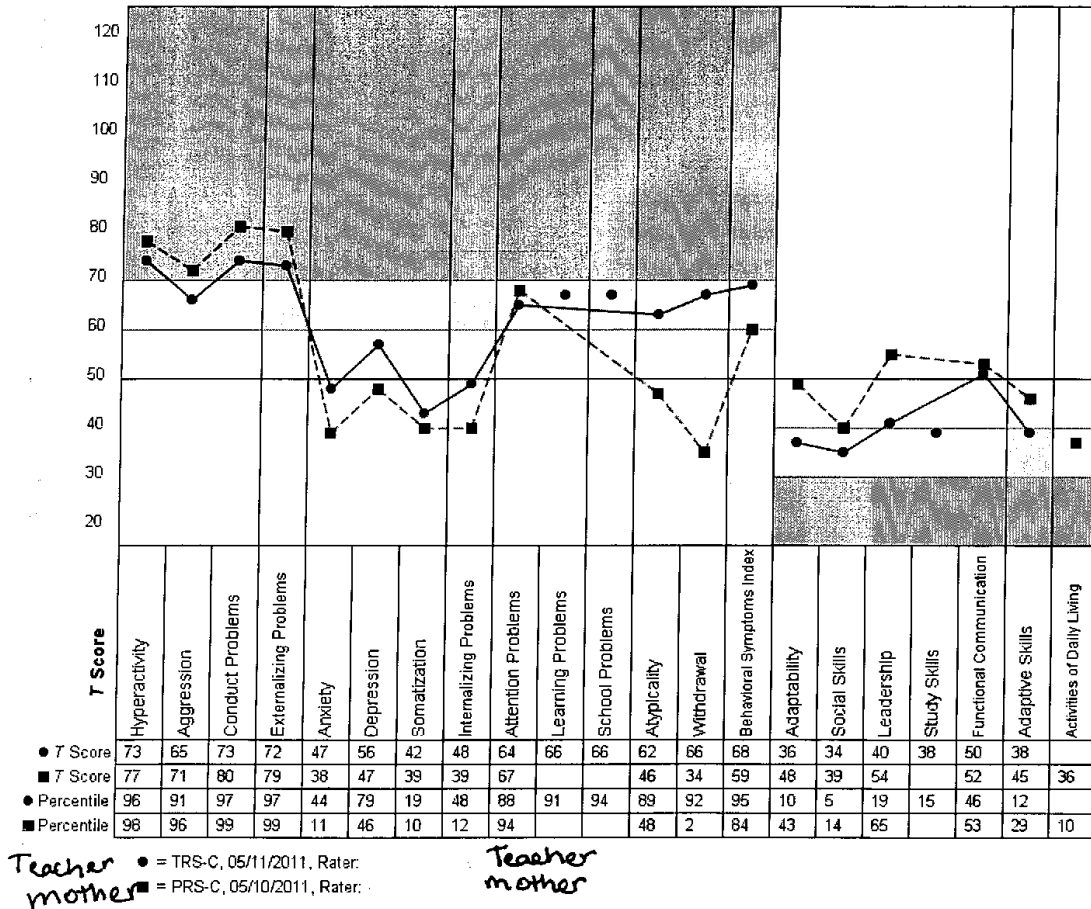




C.R.

Post

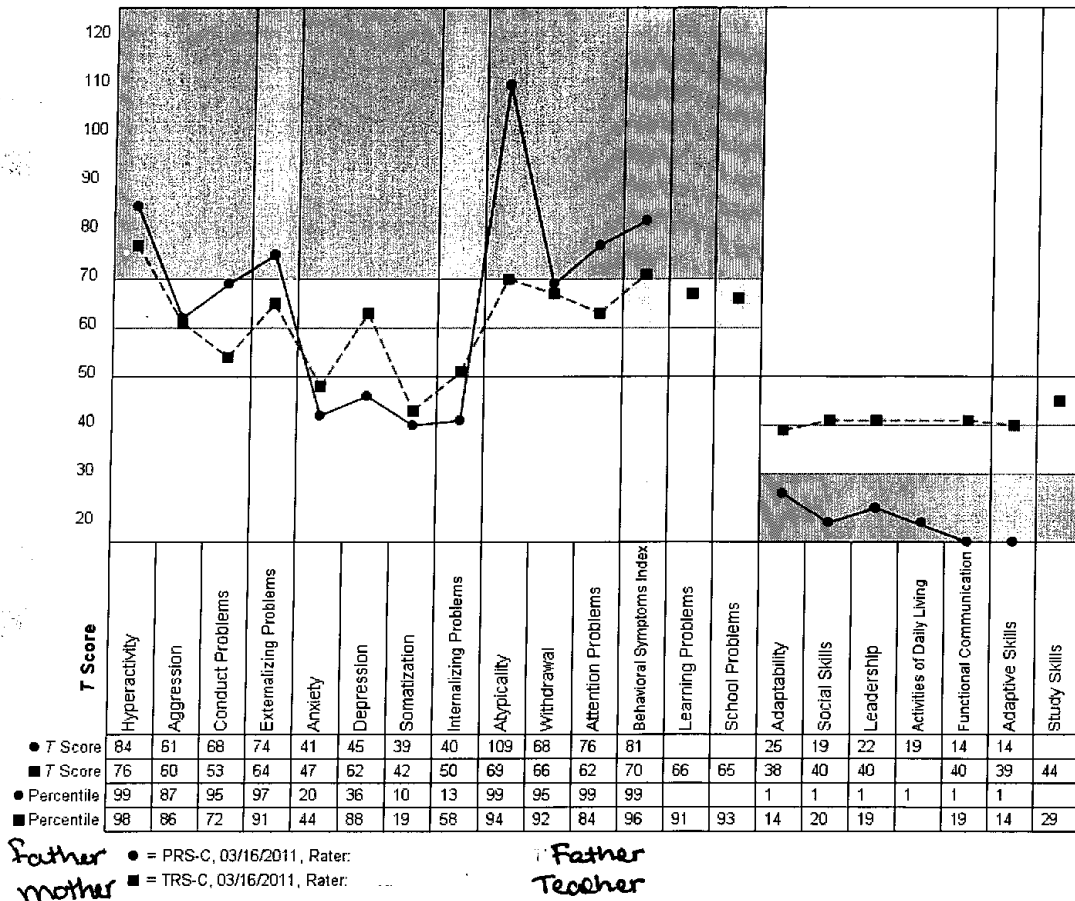
## Multirater T Score Profile



Appendix T  
Participant 2 (DW) Pre & Post BASC-2 Profiles

D.W. Pre Test Date: 03/16/2011

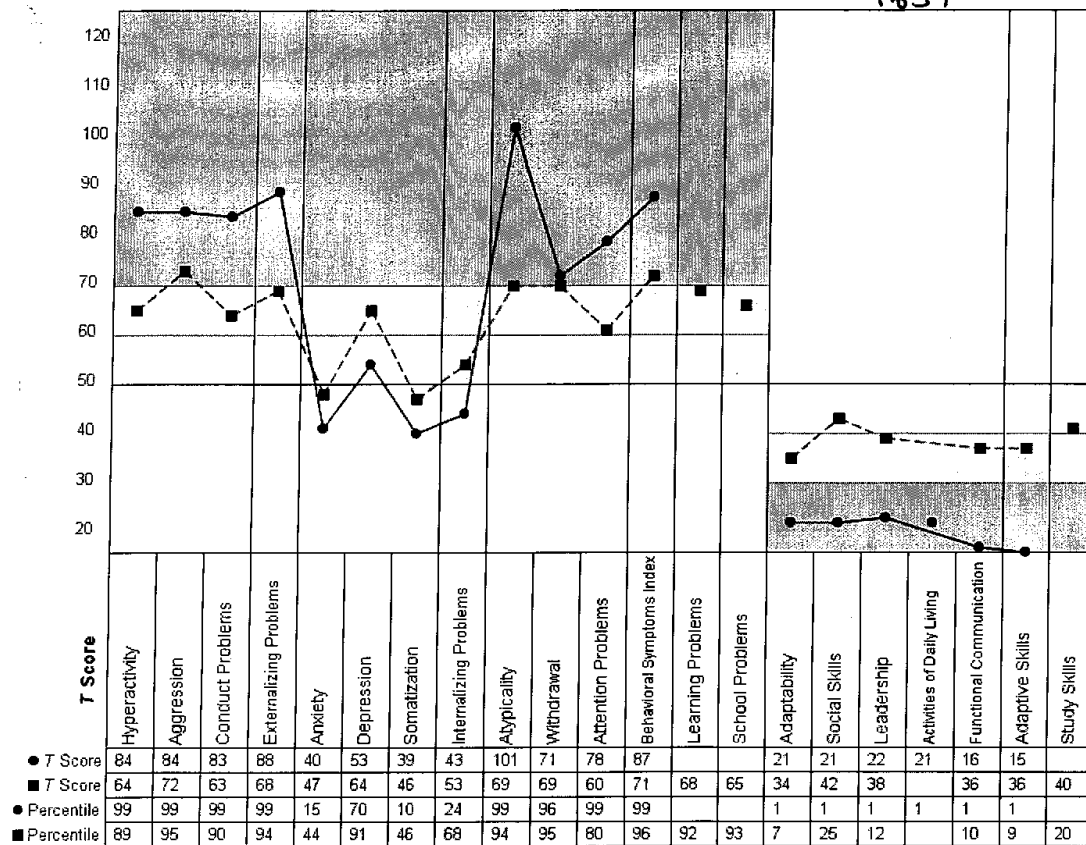
**Multirater T Score Profile**



D.W.

## Multirater T Score Profile

Post



Mother • = PRS-C, 05/23/2011, Rater: Mother  
 Teacher ■ = TRS-C, 05/17/2011, Rater: Teacher

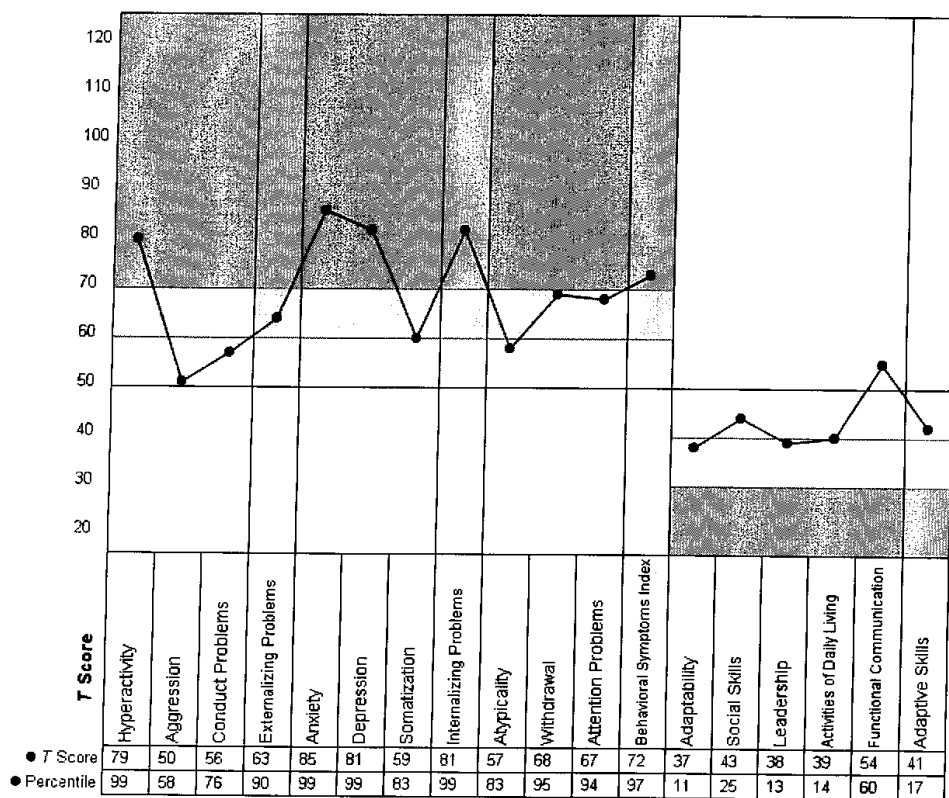
Appendix U  
Participant 3 (LM) Pre and Post BASC-2 Profiles

L.m. Pre

**Validity Index Summary**

<i>F</i>	Response Pattern	Consistency
Acceptable	Acceptable	Acceptable
Raw Score: 2	Raw Score: 109	Raw Score: 4

**PRS T Score Profile**



mother • = General - Combined Sex

L.m,

Post

## Multirater T Score Profile

