Consultation for Children with Developmental Delays

Nicole Saros

Department of Educational and Counseling Psychology

A Thesis

Submitted to the Office of Graduate and Postdoctoral Studies

in Partial Fulfillment of the Requirements for the

Degree of Doctor of Philosophy

in Educational Psychology

McGill University

Montréal, Québec, Canada

October, 2008

Acknowledgements

I would like to thank my children, Joshua, and Michael for their enduring encouragement and patience, my parents for instilling values which made the pursuit of higher education meaningful, and my thesis advisor, Dr. Ingrid Sladeczek for her supervision and support during the implementation of the present study, from inception to completion. The guidance of Professors Bruce M. Shore and Frank Dumont through drafts and revisions was kind, efficient, and greatly appreciated. Thanks to Robert Faludy, Lisa Madden, and Lisa French for their help with formatting and editing, and the graduate students who devoted their time to assist with data collection (Terry Viola, Lisa Steinbach, and Anastasia Karagiannakis). Appreciation is extended to the families who participated in the training program.

Table of Contents

List of Tables and Figures

Abstract

The primary objective of the present study was to examine the effectiveness of problem-solving consultation and videotape therapy in reducing externalizing behavior problems in children with developmental delays. Multiple measures were used to determine intervention efficacy (e.g., observations of parent-child interactions, recorded frequency of childrens' behavior, and ratings from responses on standardized parent questionnaires). A second objective was to explore the relationship between parent and child behavior. The researcher evaluated the quality of parent-child interactions, in terms of childrens' behavior problems (e.g., compliance) and parents' skills (e.g., praise), prior to and following participation in the intervention program. The relationships between parent adjustment variables (e.g., parent stress and depressive symptoms), externalizing behavior problems in children, and the quality of parent-child interactions were assessed. Parent adjustment was measured by self-report with standardized questionnaires that evaluated parent stress and depression. The twelve-week intervention program was provided to 22 children, parents, and teachers. A multiple-baseline research design was used and standardized measures were completed by parents at pre- and postintervention.

There was a significant improvement in childrens' targeted behavior problems, and parents showed an increase in positive parenting skills (e.g., more frequent use of praise and fewer critical statements) following participation in the intervention program. The relationships among parent adjustment, parent-child interactions, and childrens' behavior problems were less apparent. High levels of parent depressive symptomatology were significantly related to lower levels of praise at preintervention, and high levels of parent stress were positively related to childrens' reported problem behaviors at postintervention.

Résumé

Le premier objectif de la présente étude était d'examiner l'efficacité de la consultation utilisant un système de résolution des problèmes avec la thérapie basé sur des vidéos pour la réduction des problèmes de comportement chez les enfants avec un retard développemental. Des mesures multiples ont été utilisées pour déterminer l'efficacité d'intervention (par exemple, observations des interactions de parent-enfant, la fréquence enregistrée du comportement des enfants et les estimations des réponses de parent sur les questionnaires normalisés). L'investigateur a évalué la qualité des interactions de parent-enfant, spécifiquement en termes de problèmes du comportement des enfants (par exemple : conformité) et les compétences de parents' (par exemple, éloge), avant et après la participation au programme d'intervention. Le rapport entre les variables d'ajustement émotionnel de parent (par exemple, effort de parent et symptômes dépressifs), les problèmes de comportement chez les enfants et la qualité des interactions de parent-enfant ont été évalués. L'ajustement émotionnel de parent a été mesuré par rapport individuel avec des questionnaires normalisés qui a permis d'évaluer la dépression et l'angoisse de parent. Le programme d'intervention de douze semaines a été fourni à 22 enfants, parents, et professeurs. Un protocole expérimental de multiple ligne de base a été employé et des questionnaires normalisés ont été utilisés avant et après l'intervention, les questionnaires ont été remplis par les parents.

Il y avait une amélioration significative des problèmes du comportement des enfants et les parents ont montré une augmentation des qualifications positives (par exemple, une utilisation plus fréquente de l'éloge et moins rapports critiques) après participation dans le programme d'intervention. Les rapports parmi l'ajustement émotionnel de parent, les interactions de parent-enfant et les problèmes du comportement

des enfants étaient moins évidents. Des niveaux élevés de la symptomatologie dépressive de parent ont été notablement liés aux niveaux plus bas de l'éloge avant l'intervention et des niveaux élevés de l'angoisse de parent ont été directement liés aux problèmes de comportements des enfants après l'intervention.

Statement of Original Contribution

Developmental delays are characterized by functional limitations in several major life activities such as self-care, mobility, learning, language, and economic self-sufficiency (Larson, Laki, Anderson, Kwak, Hak-Lee, & Anderson, 2001). The daily life challenges that accompany these chronic deficits are associated with an increased risk of social-emotional and behavioral difficulties (Baker, Blacher, & Olsson, 2005; Paczkowki & Baker, 2007). In the absence of intervention, early-onset behavior problems often increase in severity, resulting in difficulties that persist throughout the life span (Emerson, 2003; Feldman, Hancock, Rielly, Minnes, & Cairns, 2000; Hebert, 2000; Hellings & Schroeder, 1999).

Parents of children with developmental delays experience stressors which are beyond the typical parenting role (Hodapp & Zigler, 1993; Hudson, Matthews, Gavidia-Payne; Cameron, Mildon, Radler, & Nankervis, 2003; Oelofsen & Richardson 2006; Pelchat, Bisson, Ricard, Perreault, & Bouchard, 1999). The presence of behavior problems in children with developmental delays compounds the challenges of parenting a special needs child (Feldman et al., 2000; Floyd & Gallagher, 1997; Hancock, Rielly, Minnes, & Cairns, 2000; Roberts, Mazzuchelli, Taylor, & Reid, 2003). In fact, researchers have shown that behavior problems in children were perceived by parents as more stressful than the diagnosis of the developmental delay (Baker, Blacher, Crnic, & Edelbrock, 2001; Baker, McIntyre, Blacher, Crnic, Edelbrock, & Low, 2003; Fidler & Hodapp, 2000; Floyd & Gallagher, 1997). Due to disruptive behavior problems, families may require respite-care to cope with increased care-giving demands (Roberts et al., 2003), the support of mental health care professionals to assist with behavior-management (Hudson et al., 2003; Matthews, Gavidia-Payne; Cameron, Mildon, Radler, & Nankervis,

2003), and specialized remedial services to address deficits in developmental skills (Eisenhower, Baker, & Blacher, 2005). These additional needs result in increased time and financial demands. Unlike parents of typically developing children who can envision their child becoming self-sufficient and independent in adulthood, these parents are faced with an adjustment of developmental expectations for their children that accompanies an on-going grieving process (Seligman & Darling, 1997; Pelchat et al., 1999). In adulthood, their child will likely require some external support and supervision to function effectively in daily life (Hudson et al., 2003), and many parents experience uncertainty about the care of their adult child when they are no longer able to oversee their needs (Knowlton & Mulanax, 2001).

In view of the challenges which accompany the dual diagnosis of developmental delays and behavior problems, providing supportive services to these children, their families and educators is an integral component of the mental health care role. An important area of investigation in the realm of family intervention literature is the evaluation of various intervention approaches designed to remediate childrens' behavior problems and to provide parents with behavior-management skills. Researchers have consistently demonstrated the merits of problem-solving consultation (Guli, 2005; Sheridan, Clarke, Koche & Edwards, 2006; Sheridan, Eagle, & Doll, 2006; Wilkinson, 2005) and videotape therapy (Webster-Stratton, 1981, 1982a, 1989, 1990a, 1990b, 1990c, 1994, 1996; Webster-Stratton, Kolpacoff, & Hollinsworth, 1988; Webster-Stratton & Hammond, 1988, 1997; Webster-Stratton & Reid, 2003; Webster-Stratton, Reid, & Hammond, 2004) as effective interventions for the reduction of behaviour problems in children. Few studies have combined problem-solving consultation with videotape therapy as an intervention for children with developmental disabilities and concomitant

behavioral problems (Sladeczek, Saros, Steinbach, Viola, & Blidner, 2002; Viola & Sladeczek, 2002). A primary purpose of the present study was to expand on the limited research regarding the efficacy of conjoint problem-solving consultation and videotape therapy for parents of children with developmental delays and behavior difficulties. Secondly, it was of interest to determine whether the intervention program would successfully reduce targeted externalizing behavior problems at home and increase positive parenting behaviors (e.g., praise).

Traditionally, the gains associated with interventions have been evaluated by a reduction of child symptoms (Fenning, Baker, Baker, & Crnic, 2007; Kazdin & Wassell, 2000) rather than by multiple outcome measures which include parent variables. There are many psycho-social systems which influence development in children, the most significant of which is the interplay between parent-child behaviors. Researchers and theorists view the parent-child relationship as a dynamic, reciprocal process which can be understood through the framework of a transactional model, rooted in ecological theory (Bronfenbrenner, 1977, 1979; Minuchin, 1974; Minde & Minde, 2002). Of interest in this study were the relationships between children's externalizing behavior problems and parent adjustment (e.g., stress and depressive symptomatology). Parent stress often contributes to an increase in child behavior problems, and child behavior problems escalate parenting stress (Baker et al., 2001, 2003; Coplan, Boker, & Cooper, 2003; Friedrich, Wilturner, & Cohen, 1985). Few studies have examined the relationships between parenting behaviors and child behaviors when the child has a developmental disability (Fenning et al., 2007; Paczkowski & Baker, 2007). The relationship between developmental disabilities and increased risk for psychopathology are not clearly understood and family functioning in this population has been informed by the literature

on families with typically developing children (Fenning et al., 2007). Further research is necessary to gain a better understanding of the mutual influence of parent-child behavior in an effort to identify effective intervention programs for children with behavior disorders and developmental delays, and their families.

In sum, by addressing the interrelationships between children's behavior, parent adjustment, and the quality of parent-child interactions this study extends beyond the traditional focus of consultation researchers. Their efforts have typically concentrated on evaluating child-outcome variables with typically developing children (Noell et al., 1996; Paczkowski & Baker, 2007). Although Webster-Stratton has considered parent-child interactions and parent adjustment in relation to childrens' behavior problems, her intervention programs have not targeted children with developmental delays (Webster-Stratton, 1990, 1992). This study uniquely contributes to the intervention literature by examining parent adjustment variables in relation to behavior problems in children with developmental delays following participation in a conjoint problem-solving intervention program with videotape therapy.

Chapter I

Introduction

Introduction and Statement of the Problem

The primary objective of the present study was to examine the effectiveness of problem-solving consultation and videotape therapy for parents with children with developmental delays and behavior difficulties, and specifically for reducing externalizing behavior problems. A second objective was to examine the relationships between parent adjustment (stress and depressive symptoms), children's externalizing behavior problems, and the quality of parent-child interactions following participation in the proposed intervention.

Children with developmental delays have functional limitations in areas of major life activity such as self-care, mobility, learning, language, and economic self-sufficiency (Larson, Lakin, Anderson, Kwak, Hak-Lee, & Anderson; 2001). Children with developmental delays evidence elevated risk of behaviour and social-emotional problems (Emerson, 2003; Feldman et al., 2000; Herring, Gray, Taffe, Tonge, Sweeney, & Einfeld, 2006; Paczkowski & Baker, 2007; Tonge, 1999) in comparison with children of normal intellectual functioning. Mental health problems among individuals with developmental delays have been observed to increase in severity over time in the absence of treatment (Borthwick-Duffy, 1994; Borthwick-Duffy & Eyman, 1990; Epstein, Cullinan, & Polloway, 1986; Myers, 1987; Reese, Hellings, & Schroeder, 1999; Roberts et al., 2003; Russell & Forness, 1985). In fact, behavior problems in childhood have been associated with adjustment problems in adulthood, suggesting that there are long-term implications throughout the life span. In a longitudinal study of 976 children with behavior problems such as conduct disorder and oppositional disorder, approximately 60% developed

chronic or additional psychiatric disorders in adulthood (Kim-Cohen, Caspi, Moffitt, Harrington, Milne, & Poulton; 2003). These findings emphasize the need to develop effective intervention programs to remediate behavior problems in children.

There are inherent challenges associated with parenting children with developmental delays related to issues such as the chronic burden of care, family adjustment, social stigma or isolation, specialized educational needs, increased financial demands, and in some cases, concerns regarding physical health (Roberts et al., 2003; Seligman & Darling, 1997). The presence of behavior problems in children has been perceived by parents as more stressful for them than the developmental delay (Baker et al., 2001, 2003; Fidler & Hodapp, 2000; Floyd & Gallagher, 1997).

The relationship between parenting and children's behavior is interactive and complex (Baker et al., 2003; Coplan et al., 2003; Hastings & Taunt, 2002). Parents of behaviorally challenging children have been identified as experiencing significant adjustment problems, including elevated stress and depressive symptomatology (Civic & Holt, 2000; Elgar et al., 2003; Herring et al., 2006; Podolski & Nigg, 2001). Conversely, stress and depressive symptoms among parents have been identified as contributing factors to the development of behavior problems in children (Baker et al., 2005; McLoyd, 1990; Webster-Stratton, 1998; Paczkowski & Baker, 2007).

Our knowledge of the mutual influences between parenting and children's behavior (Bowen, 1978; Minuchin, 1974) underscores the importance of developing comprehensive and effective intervention programs which target the remediation of behavioral and social-emotional problems in children with developmental delays. Parents need specialized mental health services to assist them to effectively manage their children's behavior problems and to cope with ensuing stressors. Despite this necessity,

children with developmental delays and their families are relatively underserved by professional and community resources, in part, due to limited resources in the health care and educational systems (Baker, Blacher, Crnic, & Edelbrock; 2002; Tonge, 1999).

Developmental delays refer to deficits which are significantly below the normative average in cognitive functioning, social-emotional development and communication skills (Larson et al., 2001; Merrell & Holland, 1997). The characteristics of developmental delays tend to overshadow identification of emotional and behavior problems, thus complicating the diagnostic process (Jopp & Keys, 2001). During the past decade, there has been greater recognition of social-emotional and behavior problems among individuals with developmental delays (Dykens, 1998; Emerson, 2003; Glick, 1998; Roberts et al., 2003; Roberts et al., 2006; Stavrakaki, 1999; Tonge, 1999). Depression, anxiety, adjustment disorder, and behavior problems are more commonly diagnosed in individuals with developmental disabilities than in earlier decades (Baker et al., 2002; Emerson, 2003; Stavrakaki, 1999). The consequences of psychiatric and behavioral problems among youth with developmental disabilities exacerbate personal challenges for the individual and have serious implications for parents and school staff (Baker et al., 2002; Tonge, 1999; Paczkowski & Baker, 2007). Parents of children with developmental delays are challenged by the difficulties related to managing daily life activities, time constraints, and long-term care considerations for their children (Mandelco, 2002) and given that disabilities generally last a lifetime, deal with an ongoing process of adaptation (Roberts et al., 2003; Seligman & Darling, 1997; Olsson & Hwang, 2001). In school settings, behavior problems among children with developmental delays are associated with limited learning capacity (Carr, Taylor, & Robinson, 1991; Roberts et al., 2006), increased demands for teacher attention, and disruption in class routines (Brigham,

Bakken, Scruggs, & Mastropieri, 1992; Hudson et al., 2003; Janzen, Cormack-Centre, Wilgosh, & McDonald, 1995). Externalizing behaviors such as aggression and interpersonal social-emotional difficulties in children with developmental delays prompt caregivers to seek professional help due to behavior management problems (Borthwick-Duffy & Eyman, 1990; Roberts et al., 2006). In the field of psychology there has been an increasing recognition of the importance of developing intervention programs that support youth, parents, and educators. Nonetheless, there is a scarcity of intervention literature which fully addresses behavioral and emotional difficulties among children with special needs (Baker et al., 2002; Feldman et al., 2000; Feldman & Werner, 2002; Fenning et al., 2007; Merrell & Holland, 1997; Roberts et al., 2003). The advantages of indirect service delivery models such as consultation are underscored by shortages in mental health resources in community-based settings, and budgetary cuts in the public education system (Cole, 1997).

The American Psychological Association recently outlined three areas of critical need for school psychologists: to provide comprehensive services with specific goals to improve students' social-emotional functioning, to increase parenting skills, and to promote mental health services in schools (Short & Palomares, 2003). Problem-solving consultation is an applied and empirically based collaborative intervention which responds to these priorities by providing a method for assisting parents and teachers to evaluate and remediate behavior problems among youth (Reddy, Tiles, & Rubel, 2000; Sheridan & Kratochwill, 1992). Consultation is defined as an indirect or direct service in which parents, school psychologists, and teachers engage in a collaborative problem-solving process to improve the emotional, behavioral, academic, and medical needs of school-age children (Reddy et al., 2000).

The evolution of problem-solving consultation originated from a mental health consultation model developed by Gerald Caplan in 1949 (Caplan, 1995; Caplan, Caplan, & Erchul, 1995) as a process of interaction between a consultant, who is a specialist, and a consultee, who is the person seeking assistance, to deal with a problem in which the specialist has expertise. Consultation originated as a cost-efficient and effective intervention to provide parents and teachers with a method of improving care-giving abilities through a proactive approach to problem-solving with clinic-referred children. Mental health consultation provides greater outreach of services than traditional direct models of service delivery and offers consultees the opportunity to improve their knowledge and skills to deal with a range of home and school related problems in children (Cox, 2005; Guli, 2005; Sheridan, 1993; Sladeczek & Illsley, 2001).

Caplan broadened the scope of mental health consultation to include four categories that differentiated demands placed on the consultant within the framework of a didactic behavioral approach rather than a predominantly psychodynamic approach (Caplan, Caplan, & Erchul, 1995). The four types of consultation are: client-centered case consultation, program-centered administrative consultation, consultee-centered case consultation, and consultee-centered administrative consultation. The major focus of client-centered case consultation is to assist the consultee to determine the most effective treatment for the client. Program-centered administrative consultation is a type of consultation in which the consultant is requested to solve problems in the administration of programs or policies. The main objective of consultee-centered case consultation is to identify the nature of the consultee work related difficulty and to develop strategies to resolve these issues. Finally, consultee-centered administrative consultation is most often designed to provide professional development to groups of consultees in the work place.

In Caplan's mental health consultation model, the consultant shared responsibility for client outcome and had a direct role in intervention (Kerwin, 1995). A primary goal of the consultant was to increase the consultee's understanding of the presenting problems in a non-hierarchical relationship which improved the consultee's knowledge and skills regarding problem behaviors (Caplan, 1963). Mental health consultation was the foundation for behavior consultation, conjoint behavior consultation, and problem-solving consultation.

Initially, behavior consultation efforts focused on assisting teachers to respond to the academic and social-emotional challenges of students. Consultation intervention enabled children with learning and behavioral difficulties to integrate more successfully in educational settings and avoid placement in specialized settings (Bergan, 1995). As such, behavioral consultation aims to assist both the consultee and the client to deal with specific problems by developing a plan for behavioral change (Reddy et al., 2000). Behavioral consultation is a systematic approach encompassing four specific stages of intervention. The four stages are: problem identification, problem analysis, plan implementation, and problem evaluation. The clear delineation of stages of intervention is a methodologically advantageous paradigm for conducting efficacy studies. The guidelines for assessment and intervention planning also provide a clinical paradigm that can be used by mental-health practitioners to address complex child and family issues (Kerwin, 1995).

Behavioral consultation has been implemented to remediate a wide range of social-emotional and behavioral problems among children, with teachers (Dunson, Hughes, & Jackson, 1994; Wheeler & Redinius, 1994; Wilkinson, 1997), parents (Gmeinder & Kratochwill, 1998; Sheridan & Colton, 1994), and conjointly with teachers

and parents (Cowan & Sheridan, 2003; Kratochwill, Elliot, & Carrington-Rotto, 1995; Sheridan, 1997; Sheridan, Kratochwill, & Elliot, 1990; Sladeczek, 1996). Researchers examining the effectiveness of consultation have demonstrated that behavioral consultation has been successful in reducing disruptive and maladaptive behavior (Cavell & Hughes, 2000; Dunson et al., 1994; Wilkinson, 1997), promoting skills in children who are socially withdrawn (Sheridan, Eagle, Cowan, & Mickelson, 2001; Sheridan et al., 1990; Wayland & Sladeczek, 1999), and alleviating aggression and tantrums at home and school (Sladeczek, 1996; Sladeczek, Elliott, Kratochwill, Robertson-Majannes, & Stoiber, 2001). A meta-analytic investigation of the outcomes in 29 behavioral consultation studies over the past 11 years demonstrated significant positive results following behavioral consultation with children and adolescents in school, home, and community settings (Reddy et al., 2000).

The main goals of problem-solving consultation are to provide the consultee with strategies for improving a child's social-emotional, behavioral, and academic functioning, and to enhance the consultee's skills to respond to future problems in the identified client or other children (Kratochwill et al., 1995). Problem-solving consultation is concerned with primary prevention (e.g., preventing problems from occurring), and secondary prevention (e.g., preventing existing difficulties from becoming more serious) (Gutkin, 1996). To accomplish these objectives, problem-solving consultation encompasses a diverse range of assessment and intervention modalities rather than relying exclusively on behavioral methodology (Guli, 2005; Gutkin, 1996; Gutkin, 2002; Kratochwill, Elliot, & Stoiber, 1995; Sheridan & Gutkin, 2000). Consultation practice has been combined with empirically supported interventions to represent this broad methodological approach in which specific interventions are matched with particular problems (Egan, Zlomke, &

Bush, 1993; Gmeinder & Kratochwill, 1998; Kratochwill, Elliott, Loitz, Sladeczek, & Carlson, 2001, 2003; Sladeczek, 1996; Sladeczek, Saros, Viola, & Blidner, 2002; Viola & Sladeczek, 2002).

Bearing similarities to consultation, Webster-Stratton's parent and teacher training program is a mediator-based intervention; that is, an intervention designed to provide clients with specific strategies to address different behavioral concerns through problem-solving and modeling (e.g., videotapes depicting effective and less effective management strategies). Mediator-based intervention has effectively provided parents and teachers with strategies to decrease behavioral difficulties while promoting the development of social skills in children (Webster-Stratton, 1997, 1998, 1999; Webster-Stratton, Reid, & Hammond, 2004). Webster-Stratton's videotape modeling intervention for children with conduct disorders was recognized by the American Psychological Association as one of two interventions, among approximately 80 studies, that meet the criteria for well-established programs with empirically based evidence (Brestan & Eyberg, 1998). Mediator- based interventions and problem-solving consultation share common principles, such as problem identification, problem analysis, and goal-directed interventions. However, researchers have not recognized the similarities between these two approaches (Kazdin, 1997). Recent studies have successfully combined videotape modeling with problem-solving consultation to address challenging behaviors in Head Start children (Kratochwill et. al, 2001; Kratochwill et al., 2003) and children with developmental delays (Sladeczek et al., 2002; Viola & Sladeczek, 2002).

Traditional parent-training programs (Baker, Heifetz, & Murphy, 1980; Baker, Landen, & Kashima, 1991; Clark, Baker, & Heifetz, 1982; Feldman & Werner, 2002; Kashima, Baker, & Landen, 1988; Pelchat, Bisson, Ricard, Perreault, & Bouchard, 1999)

and social skills training programs for children with behavior problems (Guglielmo & Shick-Tryon, 2001) are limited in their scope. Intervention efforts are typically implemented in only one setting, either home or school, and improvement is often evaluated on the basis of child-outcome measures alone rather than also considering intervention effects on parents and teachers. Although researchers and practitioners acknowledge the importance of recognizing the interdependent influences between children and caregiver behavior, there are disproportionately few comprehensive intervention programs for this particular population (Fenning et al. 2007; Knowlton & Mulanax, 2001; Merrell & Holland, 1997; Seligman & Darling, 1997).

The triadic nature of consultation services for children (consultant, consultee and child) is a defining feature of consultation, imbued within a social ecology systems model (Kratochwill et. al, 2003; Maital & Scher, 2003). Within this framework, a child's problem behavior is viewed within a wider context of family, community, and social factors rather than occurring in isolation (Kazdin & Wassell, 1999; Kazdin & Whitely, 2003; Rothbaum & Weisz, 1994; Webster-Stratton et al., 2004). Likewise, parenting is influenced by multiple factors including child variables such as behavior, developmental status, and parenting behavior (Minde & Minde, 2002). Mitchell (1983) integrated aspects of social ecology theory (Bronfenbrenner, 1979) to explain the reciprocal nature of the impact of childrens' disabilities on family functioning. Influences on child-parent relationships extend beyond the immediate family to include schools, government agencies, socio-economic status, culture, and religion.

Of interest in this study was the relationship between the quality of parenting and children's behavior problems. Patterson, Reid, and Dishion (1992) described a coercive process by which children learn to avoid parental criticism through negative behavior that

leads to aversive parenting resulting in cyclical behavior problems. This pattern was identified in a meta-analysis of 47 studies investigating the association between parental caregiving and externalizing behavior problems in children (Rothbaum & Weisz, 1994). Caregiving qualities such as approval, absence of coercive control, guidance, and motivational strategies were negatively correlated with children's externalizing behavior. Furthermore, externalizing behavior problems in children influenced negative parental responses expressing anger and disapproval. These findings emphasized the need to develop programs designed to reduce behavior problems in children and assist parents to develop effective management strategies.

A second area of interest in this study was the relationship between parental adjustment variables (i.e., parent stress and depressive symptoms) and children's behavior problems. Researchers have identified significantly high levels of stress (Baker, Blacher, Crnic, & Edelbrock, 2002; Baker, McIntyre, Blacher, Crnic, Edelbrock, & Low, 2003; Floyd & Gallagher 1997; Webster-Stratton, 1988, 1990, 1998; Webster-Stratton & Hebert, 1994) and depressive symptoms (Baker et al., 2002; Floyd & Gallagher, 1997; Hastings, 2002) among parents with children who have significant behavior problems. Parents with high levels of stress exhibit highly critical interactions rather than positive behaviors towards their children (Webster-Stratton, 1998). In addition, they perceive their children's behavior to be more deviant than they actually are according to independent observers (Webster-Stratton, 1988, 1998). Investigators have shown that family intervention programs for children with behavior problems resulted in reduced parent stress (Kazdin & Whitely, 2003) and maternal depression (Webster-Stratton, 1994), improvements in children's behavioral and social-emotional functioning, (Kazdin &

Whitely, 2003; Webster-Stratton, 1988, 1998, 2003), as well as enhancement of the quality of parent-child interactions (Webster-Stratton, 1998, 2003).

Problem-solving consultation (Kratochwill et al., 1995) and videotape modeling (Webster-Stratton, 1997, 1998, 1999) have been shown to improve children's behavior and development of pro-social skills (Webster-Stratton, 1998, 2004; Kratochwill et al., 1999, 2003; Sladeczek, 1996) and, elicit more positive parenting practices (Webster-Stratton, 1998, 2004). However, researchers have not evaluated the merits of problem-solving consultation conjointly with videotape modeling for children with combined developmental delays and behavior problems. In fact, few researchers have investigated comprehensive interventions for children with developmental delays and ensuing significant behavior problems.

Consultation provides a framework in which therapeutic interventions such as cognitive-behavior therapy (Kazdin, Siegel, & Bass, 1992; Kazdin & Whitely, 2003; Kazdin & Wassell, 2000) and videotape modeling (Webster-Stratton, 1988, 1990, 1997, 1998; Webster-Stratton et al., 2004) can be implemented. The objective of this study is to investigate the efficacy of a problem-solving consultation approach combined with videotape modeling for parents and teachers of children with developmental delays and significant behavioral problems.

Few clinical researchers have examined the impact of parent-training with multiple outcome measures, for example, parent adjustment (Kazdin & Whitely, 2003; Webster-Stratton 1988, 1998) and the quality of parent-child interactions (Webster-Stratton 1988, 1998; Webster-Stratton, Reid, & Hammond, 2004) in families with children who have problematic behaviors. There are no known existing studies evaluating the impact of conjoint problem- solving consultation combined with Webster-Stratton's

consultant-led videotape therapy for children with both developmental delays and behavior problems and the effects on parent stress, depressive symptoms, and the quality of parent-child interactions. Therefore, a second objective of this study was to examine the reciprocal relationship between children's functioning (e.g., externalizing behavior problems and social skills deficits), parent adjustment (e.g., parent stress and depression) and, parent-child interactions. This goal was evaluated via child-outcome variables (i.e., improvement in behavioral problems) and parent variables such as stress and depressive symptoms as well as observations of parent-child interactions. In sum, the present study contributes to our understanding of children with developmental delays with the goals of improving children's behavior/social-emotional functioning, examining parent stress and depressive symptoms, and enhancing the quality of parent-child interactions.

Chapter 2

Literature Review

This chapter will provide an overview of the evolution of mental health consultation during the past two decades with a focus on models of behavioral consultation, conjoint behavioral consultation, and problem-solving consultation. Second, a summary of the literature focusing on parental stress and depressive symptoms in parents of children with developmental delays and behavior problems will be examined. Third, the effectiveness of parent-teacher videotape therapy for the treatment of conduct problems in children and adolescents will be reviewed. Finally, the existing literature on parent-training programs for the remediation of behavior problems in children with developmental delays will be explored. Each section of the literature review will be followed by a summary and critique.

Consultation

Behavioral consultation. Caplan's seminal work on mental health consultation provided a blueprint for the evolution of behavior consultation (teacher consultation, parent consultation, conjoint behavior consultation, and problem-solving consultation). In 1949, while working with a small clinical staff, Gerald Caplan coordinated the mental health services for 16,000 immigrant children in residential institutions (Caplan, Caplan, & Erchul, 1995). A traditional client-therapist format for service delivery was not feasible due to the excessively high number of referrals, leading to the genesis of a consultation approach. The consultant's primary goal was to help clients by increasing the consultee's understanding of the problem and teaching the consultee skills that could be generalized across situations with other clients (Kerwin, 1995). This indirect service delivery model was a cost effective way of providing consultees of clinic-referred children with the

opportunity to develop strategies to accurately identify and manage children's behavior problems. The basic principles of Caplan's model of mental health consultation have endured over time serving as a foundation for current behavioral consultation practice. Mental health consultation and behavioral consultation are distinguished by the former's emphasis on changing feelings, attitudes, and perceptions of the consultee to improve interactions with clients. Behavioral consultation applies social learning principles to understand environmental influences on the consultee and the client with the goal of assessment and the implementation of a behavior change plan (Reddy et al., 2000).

Over the past two decades family involvement has not been a key focus of consultation practice or research. With increasing recognition of the importance of families in promoting the development of children there has been a major change in consultation to emphasize working with families (Bergan, 1995; Reddy et al., 2000; Sheridan et al., 2006; Wilkinson, 2005). Prioritizing the training of educators and families and establishing intervention plans through joint decision-making ultimately bridges the gap between psychology and education by providing educators and caregivers with the tools to deal with behavior problems (Wilkinson, 2005). These collaborative efforts enable parents and teachers to obtain the professional support and guidance necessary to maintain children in the least restrictive environment, providing an important adjunct to special education placements.

Bergan and Kratochwill (1990) developed four phases of the behavioral consultation process with the goals of promoting social, emotional and intellectual development and to remediate behavior and learning problems in children and adolescents. The theoretical framework of this four-stage format rests on the principles of behavior therapy, cognitive problem-solving, applied behavior analysis, and social

learning theory. The four phases consist of problem identification, problem analysis, intervention implementation, and intervention evaluation; these stages will be summarized in the next section.

The first phase in behavioral consultation begins with the Problem Identification Interview (PII) which is designed to identify the goals to be accomplished through consultation. During this interview, the consultant meets with the consultee to specify the nature of a child's behavioral problems and to gain an understanding of the antecedent, sequential, and consequent conditions which may elicit or maintain the behavior. The goal of consultation may be to increase or decrease the desired frequency of a behavior. A method for recording baseline data to obtain an objective measurement of the severity and frequency of the behavior, as well as the conditions in which the behavior occurs, is determined by the consultant and consultee (Bergan & Kratochwill, 1990).

Following a review of the information obtained from the Problem Identification Phase, the objective of the second phase of behavioral consultation, the Problem Analysis Interview (PAI), is to establish a well devised intervention plan. During this interview, the baseline data, observations, and the conditions surrounding the child's behavior problems (e.g., antecedents and consequences) are analyzed in more depth. The skills and conditions needed for the client and consultee to achieve the consultation goals are specified during this interview to develop an intervention plan. Lastly, a method for evaluating the effectiveness of the designed plan is determined during this phase (Bergan & Kratochwill, 1990).

Implementation of the intervention is the third phase, during which the consultant and consultee jointly agree as to which is responsible for organizing and assigning specific tasks to carry out the agreed-upon intervention plan. The on-going collection of

data allows for periodic review of the effectiveness of the plan through weekly contact with the consultee, and modifications to the intervention plan may be provided as needed (Bergan & Kratochwill, 1990; Sheridan et al., 2006; Wilkinson, 2006). During the fourth phase of the consultation process, the Problem-Evaluation Interview (PEI), the effectiveness of the intervention plan is evaluated. Data collected during the intervention implementation process is compared to baseline data obtained to evaluate improvement. There are three possible outcomes of the problem-evaluation phase: the desired behavioral outcomes have been achieved and consultation is terminated, the intervention plan is modified if goals have not been attained, and a new problem may be identified leading to the development of a new course of action (Bergan & Kratochwill, 1990; Sheridan et al., 2006).

Within the framework of behavioral consultation, several models have emerged, specifically, parent consultation, teacher consultation, parent and teacher consultation (conjoint BC), and problem-solving consultation. These models will be reviewed and critically examined, beginning with parent consultation.

Parent consultation. The goal of behavioral consultation with parents is to promote behavior change by modifying the child's environment through an understanding of the antecedent, sequential, and consequent events that influence behavior. Highly diverse consultation services are often necessary to assist parents with home support, life cycle needs, obtaining community resources, and with everyday routines (Handleman, 1990; Sladeczek et al., 2001; Sladeczek & Viola, 2002). Although there has been a long standing recognition of the need to expand services to children with developmental delays (Dumas, 1984; Wilker, 1981; Sheridan et al., 2006), to date, consultation research with

parents has not targeted this population, focusing more exclusively on behavioral problems than children with developmental delays.

The benefits of parent consultation to remediate children's behavior problems have been documented by numerous researchers (Carrington-Rotto & Kratochwill, 1994; Gmeinder & Kratochwill, 1998; Rhoades & Kratochwill, 1994). For example, Gmeinder and Kratochwill (1998) implemented a short-term, home-based intervention for child noncompliance using behavioral consultation and a self-help manual. Training was provided for four families of children between the ages of 7 and 12. A consultation model providing parent-training on behavior-management techniques, derived from a program outlining a step-by-step approach to decrease noncompliance, was implemented to standardize and augment the intervention process. The participants were screened and selected through parent interviews and ratings from behavior checklists. Each family met with a consultant for one hour on three occasions. Independent observers visited the homes twice weekly for the duration of the program to monitor the intervention and to ensure treatment integrity. Baseline data was recorded by parents during the intervention. A multiple-baseline design across participants was used to evaluate intervention effectiveness. Following completion of the program, a 20-week follow-up phase was conducted. According to behavior-checklist ratings and independent observer ratings, three out of the four children demonstrated a significant increase in compliant behavior that was maintained at follow-up.

Parent-only behavior consultation and competency-based parent-training to remediate behavior problems in children were evaluated in a study that included four children aged 6 to 9 and six parents ranging in age from 33 to 40 (Carrington-Rotto & Kratochwill, 1994). Parents received training in a variety of behavioral strategies such as

time-out, differential attending, and giving instructions. Direct observations were obtained at home observations and independent observers at different stages of intervention: baseline, postintervention, and follow-up. Parents successfully acquired skills to manage their children's behavior problems and the children showed an improvement in compliance both at home and in clinic settings. Follow-up ratings indicated that gains were maintained after four weeks.

Rhoades and Kratochwill (1994) examined the effectiveness of a homework intervention program for children in grades 4 and 6 ($N = 4$) exhibiting severe problems with homework completion. Children were selected on the basis of criteria which reflected failure to complete two or more assignments per week for at least four weeks due to poor work habits, rather than problems with their abilities. A multiple-baseline design was used in which new participants began treatment once initial students demonstrated homework completion rates of at least 80% over a three week time period. Parents received training in a manual-based homework intervention program combined with behavior-management techniques within a consultation framework. Consultation training focused on positive reinforcement techniques, use of regular study times, and communication between home and school. Efficacy was evaluated by four parameters: intervention outcome, intervention integrity, intervention acceptability and social validity. Intervention integrity was monitored by parent completion of daily logs and weekly telephone contact with the consultant. High ratings of intervention acceptability and intervention integrity were obtained from both teachers and parents. According to parent and teacher ratings following the intervention, student work completion rates were comparable with typical peers.

Although parent-only consultation research has focused on addressing a range of difficulties among children, thus far children with developmental delays have not typically been a focus of empirical study. One study has examined parent behavioral consultation as a means of ameliorating problems with children and adults who have developmental disabilities and thereby reducing consultee stress associated with these problems (Hundert, 1997). Participants in the study were 41 individuals (20 children and 21 adults) with developmental disabilities and behaviors that included aggression, delays in adaptive functioning and self-injurious behavior. Participants were randomly assigned to a control group ($N = 20$) and a behavioral consultation group ($N = 21$). The consultants met with consultees during three sessions (problem identification, intervention planning, and intervention evaluation and review). There was a substantial reduction in problem behaviors as well as in consultee stress associated with these problems. Gains were maintained after 18 months. There is a need to further investigate problem-solving approaches with parents to improve behavioral functioning and to teach parents effective management skills. Intervention efforts may help to prevent last-resort options such as placement of children in residential community settings (Seligman & Darling, 1997; Short & Palomares, 2003).

Teacher consultation. Aggressive and maladaptive behavior problems in children generate significant disruption of classroom routine and negatively impact on the learning process (Arco, 2003; Mottram, Bray, Kehle, Broudy, & Jenson, 2002; Wilkinson, 1997). Behavioral consultation with teachers has shown to be an effective intervention as well as a method of providing educators with the necessary skills to address a range of student difficulties (Egan, Zlomke, & Bush, 1993; Dunson, Hughes, & Jackson, 1994; Wilkinson, 1997). In a study that utilized functional assessment, behavioral consultation, and

videotape review, Egan, Zlomke, and Bush (1994) demonstrated that aggressive behavior in an eight-year-old child with mental retardation and autism could be significantly reduced. Aggressive behavior was identified as attention seeking and communicative, rather than avoidant. The objectives of the study were to evaluate the efficacy of a school psychologist as a behavioral consultant, to document the utility of videotape review to improve intervention integrity, and to examine the use of functional assessment rather than clinical diagnosis as a basis for developing intervention strategies. Information was gathered through frequency counts of behavior at baseline and during interviews with staff. Target behaviors were monitored throughout the school day and a reliability assessment was conducted with the use of videotape review of the child's behavior at baseline and during intervention periods. A multiple baseline design was used and treatment integrity was monitored weekly. The results of frequency data showed that aggressive episodes decreased from 72 to 8 episodes per day.

Wilkinson (1997) examined the benefits of school-based consultation as an intervention approach for children exhibiting clinically significant externalizing behavior problems in the classroom. The four-stage consultation process (Problem Identification, Problem Analysis, Treatment Implementation and Treatment Evaluation) was carried out during three formal consultation sessions with teachers of three students between the ages of 6 and 9. Target behaviors were observed and teacher checklists were obtained at baseline, at the termination of consultation, and at a four-week follow-up. A multiple-baseline design was used to analyze the efficacy of the intervention. Direct observation ratings by teachers indicated that all of the students showed significant mean decreases in disruptive behavior from baseline to intervention and two of the three children demonstrated a significant reduction in externalizing behavior.

Dunson, Hughes, and Jackson (1994) evaluated the effect of behavioral consultation on student and teacher behavior with children exhibiting attention deficit-hyperactivity disorder. Twenty teachers and 20 students were randomly assigned to participate in a behavioral consultation group ($N = 10$) and a no-treatment control group ($N = 10$). Teacher ratings of students on standardized hyperactivity scales and target behavior severity ratings were obtained prior to and following intervention. Significant improvement was evidenced among students in the intervention group compared with control group students on standardized measures of hyperactivity and on ratings of target behavior severity. The consultation process was evaluated less positively by teachers with high self-efficacy ratings (measured by self-perception checklists) in comparison with teachers with low self-efficacy ratings. There were no changes observed in teachers' skills (i.e., group instruction, individual instruction, rewarding, neutral, and disapproving) following the consultation process.

Studies examining the effectiveness of behavioral consultation with parents (Carrington-Rotto & Kratochwill, 1994; Gmeinder & Kratochwill, 1998; Rhoades & Kratochwill, 1994) and teachers (Egan et al., 1994; Dunson et al., 1994; Wilkinson, 1997) have shown promising results in the remediation of children's behavior problems. However, there are limitations in scope associated with intervention efforts which target children's behavior problems in a single setting rather than multiple settings because this focus fails to address the larger context within which behavior problems occur (Kratochwill, Elliott, & Russo, 1995). However, conjoint behavioral consultation addresses some of these limitations by considering the broader social setting in which the child functions.

Conjoint behavioral consultation (CBC). Conjoint behavioral consultation (CBC) practice has evolved from both social ecology (Bronfenbrenner, 1977, 1979) and family-systems theories (Bowen, 1978; Minuchin, 1974) and has utilized the basic principles of cognitive-behavior therapy (Cowan & Sheridan, 2003; Sheridan, 1997). Children's behavior is seen as complex and variable within and across different settings such as home, school, and community (Bergan, 1995; Cowan & Sheridan, 2003; Kazdin, 1997; Kratochwill, Elliot, & Carrington-Rotto, 1995; Maital & Scher, 2003; Rothbaum & Weisz, 1994; Sheridan, 1997; Sheridan, Kratochwill, & Elliot, 1990; Sladeczek, 1996; Webster-Stratton & Hebert, 1994). Parent-teacher collaboration has been linked with children's success (Handleman, 1990; Matthews & Hudson, 2001; Sheridan, 1997) and conjoint consultation encourages a climate of cooperation and support among parents and teachers (Reddy et al., 2000; Sheridan & Kratochwill, 1992; Wilkinson, 2005). Interventions which are carried out in the home and school setting increase the potential for generalized gains (Sheridan, 1997; Sheridan & Kratochwill, 1992). Collaborative interventions are perceived as helpful to parents and teachers as evidenced by high ratings of treatment acceptability following involvement in conjoint behavioral intervention (Cowan & Sheridan, 2003). Since treatment acceptability refers to the opinion of consumers regarding the fairness, reasonability or acceptability of the intervention; consumer satisfaction is an integral component of the intervention process (Cowan & Sheridan, 2003; Kazdin, 1980, 1981).

CBC practice integrates the basic principles of cognitive behavior therapy, family-systems and ecology theory (Bowen, 1978; Cowan & Sheridan, 2003; Minuchin, 1974; Seligman & Darling, 1997; Sheridan, 1997; Turnbull & Turnbull, 1986). Individuals are influenced by the systems in which they live and these influences are

reciprocal and interdependent (Sheridan, 1997). More specifically, children and their behavior are viewed as part of several systems which include the family, school, and the larger community which, in turn, are interrelated (Kratochwill et al., 1995).

Family-systems theory, for example, is concerned with communication and boundary issues within families and the effects these have on maintaining or changing behavior (Minuchin, 1974). Studies have shown increased levels of parent stress in families with children exhibiting behavior problems (Hastings, 2002) and have linked parenting styles (inconsistency, critical, disengaged) with the development of conduct disorders in children (Minde & Minde, 2002; Ogbu, 1978). Patterns of parental overprotection in families with children with disabilities (Seligman & Darling, 1997) further exemplify the reciprocal nature of parent-child relationships. Overprotection may inadvertently limit the child's capacity for autonomy while simultaneously creating an added parental burden of care. The evaluation of parent-child interactions is a crucial component in the development of interventions. For example, a reinforcement program with clearly defined independent responsibilities allowing and encouraging the child to carry out tasks may serve to increase his/her autonomy and ease parental care giving demands.

Ecological theory (Bronfenbrenner, 1977) provides a theoretical framework for examining the relationship between individuals and the environment and extends beyond the family to systems such as the larger societal context. Within this model, family relationships are perceived to be influenced by characteristics such as membership (e.g., single parent, two parent families), ideological style (e.g., values and coping behavior), employment status and cultural beliefs (Fox et al., 2002; Seligman & Darling, 1997). The effect of social and economic systems on parent-child relationships is substantiated by

investigations which have reported a high prevalence of children with behavioral disorders in single parent and low-income families (Webster-Stratton, 1990, Webster-Stratton & Hancock, 1998). In the next section, empirical evidence for the efficacy of CBC practice in the remediation of a range of children's difficulties will be presented.

CBC has successfully been utilized to address children's internalizing-behavior problems (Sheridan et al., 1990; Wayland & Sladeczek, 1999). Sheridan et al. (1990) evaluated the effectiveness of a two-phase intervention with behavioral consultation services for withdrawn children; a comparison of conjoint behavioral consultation and teacher consultation were evaluated. Participants in the study were four elementary students (ranging from 9 to 12 years of age) with average cognitive functioning with socially withdrawn behavior evidenced by difficulties with initiating peer interaction. Two parents (each 31 years of age) and four teachers (mean age of 27.5 years) received either conjoint consultation (condition 1) or teacher-only consultation (condition 2). In both conditions, the behavioral consultation method followed the four-stage consultation process (Bergan & Kratochwill, 1990). In the conjoint consultation intervention, parents and teachers jointly met to obtain information regarding the child's behavior across home and school settings. In the teacher behavioral consultation intervention, information focused on school-related concerns. Goal setting, self-report (students monitored their own social behaviors), and positive reinforcement procedures were used. In both conditions parents and teachers were provided with intervention manuals outlining procedures. On-going assessment data was collected at baseline, intervention implementation, intervention evaluation, and follow-up. Child-outcome measures were obtained by parent, teacher, and child observations, independent school observers, and multiple assessment measures (behavioral interviews, direct observations, checklists, and

rating scales). Intervention integrity was assessed by parent and teacher self monitoring to the degree to which they followed the components of the program. A combined series multiple-baseline design allowed for comparisons within and between participants. Following intervention, parent and teacher ratings of social withdrawal decreased by one or more standard deviations and children's social initiation behaviors increased significantly. Intervention-integrity ratings indicated that the intervention participants followed the program effectively. Both conjoint behavioral consultation and teacher-only consultation were successful in the remediation of socially withdrawn behavior problems among elementary school age children.

In a preliminary investigation of the use of CBC as a framework for treating children with socially withdrawn behaviors, Wayland and Sladeczek (1999) implemented a single-subject experimental AB multiple-baseline design to evaluate the efficacy of consultation with five children. Eligibility criteria were based on significant behavioral or social emotional difficulties as reported by either parent or teacher. Problem behaviors were monitored throughout the intervention; data was collected during baseline and intervention phases on measures of social-emotional functioning and observations of target behaviors (e.g., temper tantrums). Regular weekly contact with parents and teachers was initiated to monitor progress during the intervention. The children demonstrated an improvement in the presenting problems; specifically there was a reduction in their behavioral difficulties and an increase in their social initiations.

CBC has been successfully implemented to remediate externalizing behavioral difficulties in children. In a case study of Ken, a three-year-old male with aggressive and territorial behavior, Sladeczek (1996) used conjoint behavioral practice to target home problems such as cooperation, assertion, and self-control and school problems which

involved social skills deficits (e.g., the ability to play with peers and territorial behavior). Ken responded to a charting system with stickers and positive attention; overall there was a significant reduction in his aggressive behavior, and an improvement in his social skills.

In a second case study, Robertson (1996) utilized CBC as an intervention to address externalizing behavior problems in a four-year-old child exhibiting physical aggression. Although the teachers did not report severe behavior problems in the school setting, CBC combined with a manual-based treatment program was implemented at school, as well as at home, which resulted in an overall reduction of externalizing behavior problems. In another case study, CBC was combined with fading and extinction procedures as an intervention for a six-year-old boy with an inability to sleep in his own bed at night due to irrational fears of monsters and spiders and exaggerated story telling which became disruptive at school (Sheridan & Colton, 1994). An AB design with follow-up was used to evaluate the effects of intervention with direct observations from his teacher and parent, and information obtained from consultation interviews. At a one-month follow-up with teacher and parent, the intervention objectives had been maintained both at home and at school (e.g., the child was sleeping in his own bed and not telling stories at school).

During a four-year investigation (Sheridan, Eagle, Cowan, & Mickelson, 2001) the effects of CBC were evaluated with 52 students (Kindergarten to grade nine) with a range of disabilities and all were identified at risk for academic failure. The objective of the researchers was to evaluate the efficacy of CBC across home and school settings in view of variables such as age and severity of the problem. Thirty graduate students were extensively trained in consultation methods and followed the four stage problem-solving model with parents and teachers. The assessment methods consisted of direct observation

of target behaviors at both home and school. Effect sizes and multiple regression analyses indicated that older clients with less severe symptoms and younger clients with more severe symptoms demonstrated significant improvements following CBC at school but not at home. According to ratings from teachers and parents, intervention acceptability and integrity ratings were favorable.

In the first large-scale, extended program to evaluate CBC, Kratochwill et al. (2003) implemented a self-administered manual and videotape parent-teacher training program to address children's behavioral difficulties over a five-year period. Participants involved in the study were 125 preschool children attending a Head Start program, having been previously identified as exhibiting significant externalizing or internalizing behavior problems. During the first two years of the project, consultation was combined with a manual-based intervention program and for the last three years of the project consultation was combined with a videotape based intervention. A total of 21 participants comprised the no-treatment control group of the two-phase intervention over the five-year period.

Different data collection methods were used to reliably evaluate children's problem behaviors. Each child's target behaviors and social interactions were measured by direct observations from parents, teachers, and independent observers. Multi-method evaluations were obtained through behavioral interviews, rating scales, checklists, and observations. To measure each child's progress with respect to target behaviors, goal attainment scaling (GAS) was completed on a weekly basis during the intervention phase. Data regarding intervention integrity were collected partially during the first two years of the study and for all cases during the last three years of the study. The consultation interviews followed the four-phase model outlined by Bergan and Kratochwill (1990) and were conducted with the teacher and parent conjointly. The results indicated that there

were only marginal improvements between the videotape groups in comparison with the control group. Despite this, intervention acceptability by both parents and teachers was high. The children in the control group may have benefitted from involvement in the Head Start program and the support staff available to assist them to manage behavior problems which may partly explain the findings. As well, single case analyses were not conducted, thus small yet significant or socially valid changes may have been overlooked.

Thus far, investigations of CBC have primarily focussed on child-outcome variables, with the exception of Illsley and Sladeczek (2001) who examined the effects of CBC on both children's behavior as well as on parents' interactions with their children. Following an intervention comprised of CBC with videotape therapy, parents demonstrated an improvement in skills such as, increased use of praise and decreased commands and critical statements toward their children with associated gains in behavioral functioning.

Although there have been many studies examining CBC with children exhibiting externalizing behavior problems, few have targeted the remediation of externalizing behavioral difficulties and social skills deficits in children with developmental delays. One study to date has implemented a combined intervention approach using CBC and a self-help manual program for children with developmental delays and behavior problems (Viola & Sladeczek, 2002). Parents and teachers of six children attending a school for students with developmental disabilities participated in the consultation intervention. Target behaviors such as noncompliance and aggression were observed by parents and teachers at baseline and during intervention. Outcome measures consisted of behavior checklists, parent and teacher observations and direct observations of parent-child interactions. Participation in the intervention program resulted in improvements in the

children's social skills, externalizing behavior problems, as well as observed benefits in parent interactions (e.g., parents used more praise and made fewer critical statements).

In summary, a review of the conjoint behavior consultation literature and research strongly supports the feasibility of implementing this approach with children exhibiting a range of difficulties as well as to assist parents and teachers to respond to these challenges. The framework of conjoint behavior consultation theory and practice has continued to evolve, leading to the refinement of the consultative problem-solving model. The goals of both CBC and problem-solving consultation are to promote the social-emotional progress and educational success of children. Problem-solving consultation draws upon a variety of intervention approaches which extend beyond traditional cognitive-behavior principles thus differentiating somewhat from CBC (Bergan & Kratochwill, 1990; Kratochwill, Ellliot, & Stoiber, 2002; Sladeczek, Kratochwill, Steinbach, Kumke, & Hagermoser, 2003).

Problem-solving consultation. Gutkin (1996) described problem-solving consultation as a dynamic process between the consultant and the consultee; establishing a positive working relationship through good communication is considered an integral component of the consultation intervention. Sheridan and Gutkin (2000), provide a conceptual model for consultation practice that rests on the principles of ecological theory. Departing from the medical model's focus on child pathology, problem-solving consultation views behavior within the context of the family, school, and community. Bergan and Kratochwill (1990) outlined several distinctive features of the consultative problem-solving model. Firstly, the consultee is viewed as an active participant in the consultation process; parents or teachers are involved in defining the problems, designing intervention plans, and evaluating intervention effectiveness. A second feature of the

model encourages consultees to acquire problem-solving skills through their active involvement in the consultative process. Third, it provides a wide range of psychological principles that guide interventions to promote socialization among youth, with an increasing emphasis on teaching social and academic skills. Fourth, consultative problem-solving decisions are based on direct observation of client behavior, thus allowing decision making to rely on empirical evidence. Fifth, behavior is perceived as a function of interactions between the client and the environment (parents and teachers) within an ecological framework. As such, achieving behavior change in both the consultee and the client are important goals of the intervention plan. Last, evaluation is focused on goal attainment and the effectiveness of the intervention plan rather than exclusively on individual characteristics of the client.

Consultative problem-solving maintains the conventional four phases of the consultation process in conjoint behavioral consultation outlined by Bergan and Kratochwill (1990). An initial stage of establishing a good working relationship with the consultee and client is an added component of problem-solving consultation resulting in five formal phases (Sladeczek et al., 2003). In contrast to working with teachers and parents individually, problem-solving consultation incorporates working with teachers and parents conjointly in groups. This provides greater opportunities to share information and exchange ideas within a supportive milieu, as well as to increase the potential for consistency in approaches across home and school settings.

Summary and critique. CBC has proven to be a successful and cost-effective intervention for the alleviation of a wide array of difficulties in youth ranging from internalizing behavior problems (Sheridan et al., 1990; Wayland & Sladeczek, 1999) to externalizing behavior problems (Illsley & Sladeczek, 2001; Kratochwill et al., 2003;

Robertson, 1996; Sheridan et al., 2001; Sladeczek, 1996). Critical reviews of empirical consultation research have reported significant positive changes at the level of the consultee, client and system level (Mannino & Shore, 1975; Medway, 1979; Medway & Updyke, 1985; Reddy et al., 2000).

Consistent with current advances in the intervention literature (Rothbaum & Weisz, 1994; Sheridan, 1997) consultation applies both social ecological and family-systems approaches to working with children (Bronfenbrenner, 1979; Hartman, 1978; Minuchin, 1977). Social-emotional and behavior problems are examined within the context of home, school, and community settings and the relationship between individuals in these setting are considered influential, mutually reciprocal, and interdependent. The consultation process recognizes parents as active participants in the intervention process, gives parents and teachers the opportunity to acquire problem-solving skills, and provides a variety of proactive strategies to effectively manage children's behavior problems. Furthermore, there is increasing empirical evidence linking involvement in parent-training with the reduction of parent stress (Kazdin & Wassell, 2000; Webster-Stratton et al., 2004). In addition, a link was identified between remediation of problem behaviors with an improvement of the quality of parent-child interactions (Illsley & Sladeczek, 2001; Kazdin & Wassell, 2000; Webster-Stratton et al., 2004).

The goals of education are to improve students' social-emotional and academic competence, lessen stigmatization of students with disabilities, and ultimately lead to greater acceptance of individuals with disabilities in the community (Andrews & Lupart, 1993; Stainbach & Stainbach, 1985). School-based consultation services fulfils these objectives by providing educators with methods of delivering successful classroom interventions, subsequently reducing teacher referrals to special education programs

(Wilkinson, 1997). Educational reform encourages inclusion of all students in regular classes through individualized educational objectives (Friend, Bursuck, & Hutchinson, 1998) therefore, providing teachers with specialized skills to respond to children's behavior problems is of high importance. Unfortunately, consultation research has not been used extensively with children with developmental delays and behavior problems despite the higher prevalence of behavioral challenges in this population (Baker et al., 2003).

Although showing promising results, studies with small sample sizes limit generalization in parent consultation (Carrington et al., 1994; Gmeinder & Kratochwill, 1998; Rhoades & Kratochwill, 1994) and teacher-only consultation research (Egan et al., 1993; Wilkinson, 1997). Furthermore, consultation studies have targeted changes in children's behavior as single outcome measures (Jones, Wickstrom, & Friman, 1997) rather than considering other important variables such as parent adjustment and changes in interaction between children and caregivers.

Behavioral consultation intervention has been used in conjunction with a variety of intervention modalities (e.g., consultation combined with video-therapy, parent-training manuals), different types of dependent and independent variables (single versus multiple outcome measures), and a wide range of presenting problems across studies (Reddy et al., 2000). Because of this diversity, it has been difficult to evaluate the efficacy of different types of consultation (Noell & Witt, 1996; Noell, Grisham, & Witt, 1998; Witt, Grisham, & Noell, 1996).

Researchers such as Witt et al. (1996) have criticized the validity of consultation research, specifically, the reliability of consultee verbal descriptions of behavior in the assessment and problem identification stages. Direct observation provides objective

information which is a more reliable measure of intervention outcome as well as the integrity with which it is implemented (Wickstrom, Jones, LaFleur, & Witt, 1998). Improvements in children's behavior problems measured with direct observation postintervention can then be more directly attributed to changes in consultee skills and problem-solving abilities acquired during the consultation process. In a large-scale study of CBC, high client satisfaction was reflected by favorable perceptions among teachers and parents following participation in the CBC intervention (Sheridan & Colton 1994). However, in that study, only 70% of consultees reported adhering strictly to the treatment protocol, raising concerns regarding treatment integrity. Other variables identified as confounding treatment effects include varying amounts of consultation time with parents to directly guide program implementation and utilizing only one consultant to provide services (Gmeinder & Kratochwill, 1998; Rhoades & Kratochwill, 1994).

Comparative studies can evaluate varying methods of service delivery such as direct intervention, child behavior therapy and behavior analytic approaches (Noell & Witt, 1996). The efficacy of consultation research has been challenged due to the absence of such studies. Comparisons of this type are necessary given that there have been an increase in efforts to combine consultation with well-established intervention programs to maximize benefits (Kratochwill et al., 2003; Sladeczek et al., 2002). Consultation methodology (e.g., formal stages of the consultation process) provides an excellent framework for the systematic implementation of a variety of indirect and direct service delivery interventions (Bergan & Kratochwill, 1990; Kratochwill, Sladeczek & Plunge, 1995). Webster-Stratton's parent-training program is an example of a recognized mediator-based training program for parents and teachers. In the present study the combined interventions of problem-solving consultation and Webster-Stratton's videotape

therapy program were implemented to remediate children's behavior problems. The program was offered conjointly to parents and teachers in an effort to maximize the benefits of the intervention within an ecological framework. This perspective views the child as part of a larger social system; parents are primary caregivers to children and the relationship between children and parents are mutually influential. In the next section, parent adjustment variables will be reviewed in relation to the development and maintenance of behavioral challenges in children.

Parent Stress and Depressive Symptomatology

Researchers have investigated the reciprocal relationship between parenting adjustment variables and problematic behavior in children (Baker, Blacher, Crnic, & Edelbrock, 2002; Baker, McIntyre, Blacher, Crnic, Edelbrock, & Low, 2003; Bell & Chapman, 1986; Floyd & Gallagher 1997; Hastings, 2002; Rothbaum & Weisz, 1994; Seligman & Darling, 1997). Parent stress and depressive symptomology have been identified as having a significant impact on childrens' behavior (Baydar, Reid, & Webster-Stratton, 2003; McLoyd, 1990; Webster-Stratton, 1998). Such variables have been associated with an increased risk in the development of conduct problems in children (McLoyd, 1990; Webster-Stratton, 1998). Furthermore, negative parenting practices such as harsh and ineffective discipline, as well as nonsupportive and nonresponsive parenting behaviors, have been identified as risk factors for antisocial tendencies and social skills deficits in children (Baydar et al., 2003). Conversely, problematic behavior in children has been associated with increased parent stress and dissatisfaction in parenting (Podolski & Nigg, 2001). These studies are illustrative of the reciprocal influence between parent and child behavior, consistent with the ecological framework that guides the present study.

Researchers investigating parent adjustment have focussed primarily on two target populations: parents of children with behavior problems (Carter, & Schwab-Stone, 1996; Floyd, & Gallagher, 1997; Hutchings, Appleton, Smith, Lane, & Nash, 2002; Kazdin & Whitley, 2003; Webster-Stratton & Hammond, 1988; Webster-Stratton & Hammond, 1990; Webster-Stratton, 1992), and parents of children with developmental delays and concomitant behavior problems (Baker, Blacher, Crnic, & Edelbrock, 2001; Baker, McIntyre, Blacher, Crnic, Edelbrock, & Low, 2003; Bisson, Ricard, Perreault, & Bouchard, 1999; Briggs-Gowan, Bristol, Gallagher, & Schopler, 1988; Dyson, 1997; Feldman, Hancock, Rielly, Minnes, & Cairns, 2000; Feldman & Werner, 2002; Flynt, Wood, & Scott, 1992; Friedrich, 1979; Glidden & Schoolcraft, 2003; Gowen, Johnson-Martin, Goldman, & Appelbaum, 1989; Hermann & Marcenko, 1997; Kobe & Hammer, 1994; Olsson & Hwang, 2001; Orr, Cameron, & Day, 1991; Pelchat et al., 1999; Roach, Orsmond, Barratt, 1999; Saloviita, Italinna, & Leinonen, 2003; Shapiro, 1989).

Although researchers have addressed depressive symptomatology and stress simultaneously (Feldman & Werner, 2002; Webster-Stratton & Hammond, 1988; Kobe & Hammer, 1994; Olsson & Hwang, 2002; Pelchat et al., 1999; Shapiro, 1989; Webster-Stratton, 1992; Webster-Stratton & Hammond, 1990) others have examined stress (Baker, McIntyre, Blacher, Crnic, Edelbrock, & Low, 2003; Baker, Blacher, Crnic, & Edelbrock, 2001; Dyson, 1997; Floyd & Gallagher, 1997; Flynt, Wood, Scott, 1992; Kazdin & Whitley, 2003; Orr, Cameron, & Day, 1991; Roach, Orsmond, Barratt, 1999; Saloviita, Italinna, & Leinonen, 2003), and depression (Briggs-Gowan, Carter, & Schwab-Stone, 1996; Bristol, Gallagher, & Schopler, 1988; Feldman, Hancock, Rielly, Minnes, & Cairns, 2000; Friedrich, 1979; Glidden & Schoolcraft, 2003; Gowen, Johnson-Martin, Goldman, & Appelbaum, 1989; Hermann & Marcenko, 1997; Hutchings et al., 2002; Olsson &

Hwang, 2001) separately. In the next section depressive symptomatology and stress will be reviewed separately.

Depressive symptomatology and childrens' behavior problems. Depression is often considered to be a normative response to certain life situations, and symptomatology may vary considerably in both intensity and duration from one individual to another (Glidden & Schoolcraft, 2003). The prevalence of depression in the general population has been estimated to be as high as 10% in men and women with characteristics such as poverty and lack of education increasing the risk for depression (Riolo, Guyen, Greden, & King, 2005). Among women, incidence rates have been cited to be as high as 10% to 20% at any given time (Kringlen, Torgersen, & Cramer, 2001), and approximately one third of all women have experienced depression at some point in their lives (Kendler & Prescott 1999). Researchers have identified a mutually influencing interaction between problem behaviors in children and depressive symptomatology in parents. The effects of depression on parenting and the impact of children's behavior problems on depression in parents are of empirical and clinical relevance for family intervention researchers and mental-health practitioners.

Depressive symptomatology in parents has been associated with behavior problems in children (Briggs-Gowan, Carter, & Schwab-Stone, 1996; Civic & Holt, 2000; Elgar et al., 2003; Elgar, Mills, McGrath, Waschbusch, & Brownridge, 2007; Langrock, Compas, Keller, Merchant, & Copeland, 2002; Lee & Gotlib, 1991). In Civic and Holt's (2000) study, depressed mothers reported a high frequency of adjustment problems in their children (e.g., temper tantrums and social problems). Typical behaviors of depressed parents such as negativity, unpredictability, and low levels of support have contributed to the development of externalizing and internalizing behavior problems in children

(Langrock et al., 2002). In their study of clinically depressed parents of typically developing children ($N = 101$) parent depression was associated with frequent stressors for the child, resulting in high rates of anxiety, aggression, and depressive symptomatology in the children. Depression compromises parental capacity (e.g., ability to praise and set limits) and the ability to accurately assess children's behavior. For example, maternal depression has been implicated in generating elevated perceptions of children's behavior problems (Briggs-Gowan et al., 1996; Webster-Stratton & Hammond, 1988, 1990). Briggs-Gowan et al. (1996) found that this relationship was limited to mothers' reports of their daughters' externalizing problems. The effects of maternal depression on children's adjustment may become chronic and persistent, as suggested in a follow-up study of clinically depressed mothers ($N = 12$) who had participated in a treatment program (Lee & Gotlib, 1991). Even with an improvement in the mothers' depressive symptomatology, the children continued to exhibit internalizing behavior problems, although externalizing behavior problems had improved significantly.

The evidence that depression in mothers and emotional-behavioral problems in children are often concurrent (Elgar et al., 2003, 2007; Reid et al., 2007) is an important concern for family practitioners and researchers. The causal nature of this relationship remains somewhat unclear, indicating the need for further research to examine the specific factors which contribute to and alleviate depression among mothers with children who have difficult behaviors.

Parent stress and childrens' behavior problems. Stress has been associated with increasing vulnerability to illness and contributing to a greater risk in the development of disease (Suinn, 2001). Elevated stress levels have been identified among parents of children who exhibit challenging behavior (Webster-Stratton & Hammond, 1988, 1990;

Podolski & Nigg, 2001). In their study of children aged 7 to 11 years ($N = 66$) with Attention Deficit Hyperactivity Disorder, Podolski and Nigg (2001) found that oppositional conduct problems and aggressive behavior problems significantly increased parent role distress (i.e., dissatisfaction related to parenting or parenting performance) among mothers and fathers. Hyperactivity did not contribute to parent-role distress and inattention contributed to maternal stress only.

Stress and depressive symptomatology often coexist in parents of children displaying behavior problems and have therefore often been addressed simultaneously as measures of parental adjustment. Theorists such as Patterson (1982) have proposed that the effects of maternal depression on children's behavior are cumulative; depression leads to negative perceptions of child behavior, followed by increased criticism and commands, and resulting in heightened levels of child deviance. Webster-Stratton and Hammond (1988, 1990) found that elevated maternal stress was a predictor of depression in mothers. Furthermore, in their study of 46 depressed and 49 nondepressed mothers, they concluded that depression and life stress contributed significantly to parental reports of child deviance (Webster-Stratton & Hammond, 1990).

In summary, parents of children exhibiting behavior difficulties often experience high levels of stress and depressive symptomatology which are associated with, and may be precipitated by the development of behavior problems in children. Maternal parenting is compromised by depressed mood, leading to or exacerbating child maladjustment. In the following section, factors mediating parent adjustment variables will be examined.

Factors mediating parent adjustment. Researchers have investigated mediating variables which impact on parent adjustment (i.e., stress and depressive symptomatology) in families with children who have behavior disorders. Webster-Stratton (1990)

categorized stressful factors which can disrupt parental functioning and subsequently influence children's adjustment by creating negative parent-child interactions and increased stress. These factors are extrafamilial stressors (e.g., low socio-economic status, unemployment, stressful life events, daily hassles), intraparental stressors (e.g., marital status, marital conflict), and child stressors (e.g., conduct problems, difficult temperament). Their impact on parents may be exacerbated by factors such as community isolation, a non-supportive family system, mental health problems, and childhood history of abuse or neglect. Conversely, certain factors such as community support, supportive family systems, psychological well-being and nurturing childhood experiences may buffer the effects of stress (Judge 1998; Suarez & Baker, 1997). Many of these variables have been examined simultaneously due to their coexistence and cumulative effects.

Extrafamilial and intraparental stressors such as low socioeconomic status or marital status, substance abuse, and other mental health problems place parents at higher risk for depression (Baydar et al., 2003). In a study by Webster-Stratton and Hammond (1990), the combined effects of low socio-economic status and single-mother status contributed significantly to mothers' critical and negative behaviors with their children at posttreatment, indicating the potential long-term implications of these variables. Feldman et al. (2000) also found that parent unemployment was correlated with behavior and socio-emotional problems in children.

Researchers investigating the impact of marital status on parent adjustment have documented the benefits of spousal support in mediating stress, depression, and the stressors associated with managing behavioral problems in children. Beckman (1983) found that single mothers experienced more stress than mothers in two-parent families, and spousal support has been identified as a mediating factor in decreasing stress and

depression among mothers and, to a lesser extent, among fathers (Krauss, 1993; McKinney & Peterson, 1987). The combined effects of single mother status and depression in mothers both correlated with negative perceptions of child adjustment as well as with teacher reports of increased child behavior problems (Webster-Stratton, 1992). Suarez and Baker (1997) found that the impact of children's behavioral difficulties was perceived as less stressful among parents with supportive spousal versus non-supportive spousal relationships. In sum, supportive marital relationships have been identified as an important resource for parents of children with behavior problems.

Social support has mediated the effects of parent adjustment (Scorgie, Wilgosh, & McDonald, 1996). Mothers of preschool children with disabilities utilized social support more than mothers of children without disabilities, and relied more on their spouses for support (Flynt, Wood, & Scott, 1992). Judge (1998) found that the use of social supports (informational and emotional) was highly associated with family strengths. In contrast, wishful thinking, self-blame, distancing, and self-control were negatively related to family strengths. Hermann and Marcenko (1997) determined that the amount and quality of respite indirectly affected parental depression via parents' perceptions of the adequacy of baby-sitting and the time the parent had to him or herself. Both quality and frequency of respite use were related to the perceived helpfulness of the parent social network. The strongest predictor of depression was the parents' perception of time resources, which was influenced by the amount of care the child required, the adequacy of money, and baby-sitting resources. Similarly, Feldman, Hancock, Rielly, Minnes, and Cairns (2000) found that behavior problems were negatively correlated with family social support (e.g., spousal support, respite).

Models of stress and coping have proposed that positive perceptions may serve as a mediating variable to moderate the impact of stress (Dyson, 1997; Folkman & Moskowitz, 2000; Hastings, Allen, McDermott, & Still, 2002; Orr, Cameron, & Day, 1991; Suarez & Baker, 1997). For example, a parent may perceive that certain discipline strategies will improve his or her child's behavior problems, thus enabling a positive attitude and feelings of control (Hastings & Taunt, 2002). Positive reframing (thinking about problems as challenges that might be overcome) was associated with lower levels of parent distress and lower levels of child misbehavior among parents of 66 children exhibiting oppositional and aggressive behavior problems (Poldolski & Nigg, 2001). Saloviita, Italinna, and Leinonen (2003) reported that the single most important predictor of parental stress was a negative definition of the situation (e.g., seeing the situation as catastrophic). In mothers, the negative definition was associated with the behavior problems of the child while, in fathers, it was connected with the perceived social acceptance of the child. Problem-solving coping, in comparison with emotion-focused coping was associated with decreased psychological distress (depressive symptomatology) among 69 mothers of physically disabled children (Miller, Gordon, Daniele, & Diller, 1992). These studies are consistent with a cognitive-behavioral model of stress (Lazarus & Folkman, 1984) which explains that coping is a function of the interaction of a stressor, personal resources for coping, cognitive appraisal of the stressor and coping responses.

Children with behavior problems, developmental delays and parent adjustment. Stressors experienced by parents with children who exhibit challenging behaviors and factors which mediate stress were discussed in the previous section. Although there are common themes, it is important to devote a separate section of the literature review to

address the implications of this combined diagnosis for children and their families. Families with children who exhibit challenging behaviors experience numerous challenges beyond the normative tasks that are typically associated with parenting (Oelofsen & Richardson, 2006). Dually diagnosed children with developmental delays have not been a primary focus of investigation or remedial efforts by family intervention researchers (Roberts et al, 2003) and much of our understanding of family process in this population has been informed by the literature which deals with typically developing children (Fenning et al., 2007). These parents are faced with unique stressors related to the chronic burden of care, concerns regarding the child's capacity for future independence and self-fulfillment, an increased need to develop social networks and community resources, repercussions related to social stigma, and negotiating care-taking tasks within the family (Baker et al., 2002; Eisenhower et al., 2005; Feldman et al., 2000; Fenning et al., 2007; Fox et al., 2002; Hastings & Beck, 2004; Herring et al., 2006; Hudson et al., 2003).

Beyond the functional limitations in adaptive skills that accompany a diagnosis of a developmental delay, children are at an increased risk for developing behavioral and social-emotional difficulties (Emerson, 2003; Feldman et al., 2000; Roberts et al., 2006). Clinically significant internalizing and externalizing behavior problems in preschool age children with developmental delays were reported to be three times higher than non-delayed peers (Baker et al., 2003). The high prevalence of behavior difficulties among children with developmental disabilities is likely the result of a complex interaction between biological and environmental factors (Feldman et al., 2000).

Challenging behaviors can impede progress at school and limit opportunities for effective participation in the community. Difficulties at school and within community

contexts create additional stresses for families by exacerbating existing concerns for the child's capacity to function effectively outside of the home and relations between parents and the school or community may become strained (Pearson et al., 2000). As a last resort, when behavior becomes unmanageable, there is an increased risk for placement outside of the home for the child (Borthwick-Duffy & Eyman, 1990; Roberts et al., 2003). Behavior problems have a pervasive impact on the entire family system involving accommodations of roles, routines, and activities, all of which have been associated with compromised parenting skills, and diminished parent adjustment (Fox et al., 2002). Elevated stress and depressive symptomatology are often associated with dependency and management issues for both mothers and fathers (Feldman et al., 2000; Herring et al., 2006). Parents have concerns regarding long-term care due to their child's chronic limitations and on-going need for supervision (Dyson, 1997; Floyd & Gallagher, 1997), while simultaneously dealing with the challenges of carrying out daily life routines that can be met with noncompliance, oppositional behavior, and in some cases aggression (Fox et al., 2002) on the part of the child.

Our knowledge of the causal nature influencing the interaction between parent-adjustment and child behavior problems in this population is limited by an absence of empirical research (Paczkowski & Baker, 2007; Roberts et al., 2003). Parent stress (Baker et al., 2002; Hastings & Beck, 2004; Lloyd & Hastings, 2008) and depressive symtomatology in parents (Baker et al., 2005; Feldman et al., 2000) have often been identified among these parents. Investigators have provided a transactional model to explain the mutually escalating relationship between parent stress and children's behavior problems (Baker et al., 2001, 2003; Friedrich, Wilturner, & Cohen, 1985). In a study of 205 preschool children with and without developmental delays, Baker et al. (2003) found

that high parenting stress contributed to an increase in child behavior problems over time, and frequent behavior problems contributed to an increase in parent stress. Hassall, Rose, and McDonald (2005) investigated the relationship between parental cognitions, child characteristics, family support, and parenting stress. Parent stress in mothers was associated with children's behavior problems and mothers with greater social support experienced less stress.

Cognitive theories of depression (Clarke & Beck, 1999) implicate chronic stress as a contributing factor in the development of depression, which raises concern regarding the cumulative effects of stress on parent adjustment. Depressive symptomatology in parents has been linked to the stress associated with care-giving demands. In a study comprised of young children with or at risk for developmental delay, maternal depression and perceived burden of care were positively correlated to children's behavior problems (Feldman et al., 2000). Similarly, researchers have indicated that parental perceptions of time resources and the burden of carrying out care-giving tasks were strong predictors of depression (Gowen, Johnson-Martin, Goldman, & Appelbaum, 1989; Hermann & Marcenko, 1997).

Family resources such as social support, financial income, and marital status may buffer the effects of child behavior problems. Feldman et al. (2000) examined the prevalence of behavior problems and their relationship to child, parent, and family factors in 76 children with or at risk for developmental delay. The participants consisted of 49 boys and 27 girls who ranged from 2 to 3-years in age. Three questionnaires were used to evaluate child behavior problems (Child Behavior Checklist, Reiss Scales for Children's Dual Diagnosis, and Child Behavior Management Survey). Parent characteristics were measured by self-report questionnaires that assessed parent stress, social support, parental coping strategies, parental depression, parental knowledge of behavioral principles and

techniques, parental self-efficacy, and the quality of the home environment and mother-child interactions. The results reflected significant positive correlations between child behavior problems and the mother's perceived burden of care, maternal depression, paternal illness, family disharmony, and financial stress. Child behavior problems were negatively correlated with family social support and income, two-parent family, maternal employment, and paternal education. The causal nature of these interactions remains unclear given that the data was analyzed exclusively through an examination of correlations.

Parent adjustment among mothers and fathers has been shown to vary across studies. Researchers have suggested that maternal stress was associated with care-giving demands and paternal stress was associated with the diagnosis of developmental disabilities in children with Down's syndrome (Roach, Orsmond, & Barratt, 1999). Similarly, Floyd and Gallahgher, (1997) reported stress in mothers related to dependency and management issues and stress in fathers related to the child's difficult behavior, and concerns about the future. Parent stress was more consistent across both parents when the child demonstrated significant behavior problems. In contrast, Dyson (1997) reported no differences between mothers and fathers in stress responses to developmental disabilities (Dyson, 1997). Mothers are often the primary participants in research studies and it is therefore difficult to make definitive statements regarding differences in parent adjustment (Fenning et al., 2007). Marital status may be a mediating factor in parent adjustment as single mothers of children with disabilities were found to have a higher risk for depression than mothers living with a partner (Olsson & Hwang, 2001).

Parent adjustment may also vary as a function of the nature of the child's disability and behavior problems. Characteristics such as distractibility, and demandingness were

associated with parent related factors such as competence, depression, health problems, and role restriction (Roach, Orsmond & Barratt, 1999). In a study comparing mothers of children with developmental delays to mothers of children with spinal bifida, Singh (2000) found that mothers of children with developmentally delays perceived that they experienced more mental health difficulties and worried more about their children. These mothers also perceived their children to have more behavioral and emotional difficulties than mothers of children with spinal bifida. Eisenhower et al. (2005) studied the syndrome-specific behavior problems in 215 preschool children who were diagnosed with Down's syndrome, autism, cerebral palsy, or developmental delays. Mothers of children with autism reported more parenting stress than mothers in any other group even after accounting for differences in cognitive level and severity of behavior problems. Fidler and Hodapp (2000) examined whether stress levels differed in sixty families with Down's syndrome, Williams syndrome, and Smith-Magenis syndrome. The children ranged in age from 3 to 10 years. The strongest predictor of family stress was child behavior problems in Smith Magenis syndrome, age in Down's syndrome, and both variables were significant predictors in Williams syndrome. The observed differences in family stress can serve as a diagnostic tool for practitioners by assisting them to anticipate various family situations based on specific syndromes, and to identify parents in need of interventions aimed at stress reduction.

Three main themes, relating to the ways that problem behaviors affected families, were outlined in a qualitative investigation with a culturally diverse group of 20 families (Fox et al., 2002). These themes related to the difficulty of coming to terms with the child's disability, the importance of familial and social support, and the pervasive impact that problem behavior had on all areas of family functioning. Parents expressed feeling

overwhelmed by their child's constant need for supervision and the frustration that they experienced in response to the ineffectiveness of traditional discipline techniques (e.g., time-out, spanking, reprimanding). This study emphasized the need to provide families with comprehensive, effective problem-solving strategies which address behavior problems in home and school environments, the importance of developing intervention plans that are individualized for each child, and the benefits of social support (e.g., parent to parent and professional support). Problem-solving consultation and videotape therapy are able to meet these needs.

Summary and critique. The nature of the interaction between children's behavior problems and parent adjustment is complex and bidirectional (Baker, Blacher, Crnic, & Edelbrock, 2002; Baker, McIntyre, Blacher, Crnic, Edelbrock, & Low, 2003; Bell & Chapman, 1986; Floyd & Gallagher 1997; Hastings, 2002; Rothbaum & Weisz, 1994; Seligman & Darling, 1997). The stressors associated with parenting tend to increase significantly among parents of children with developmental delays (Dyson, 1997; Roach et al., 1999) and more so among parents of children with concomitant behavior problems and developmental delays (Baker et al., 2001, 2003). Higher levels of parent stress have also been associated with syndrome-specific diagnoses such as autism in comparison with developmental delays and Down's syndrome (Eisenhower et al., 2005).

Although the literature on parent adjustment has been informative, the majority of studies have methodological flaws which limit their generalizability and reliability. One limitation is the issue of representativeness of the sample due to recruitment as self-selection bias is a potential issue inherent in studies utilizing surveys for recruitment (Olsson & Hwang, 2001). Researchers have often drawn from narrow sectors of the population, such as middle-class families (Dyson, 1997; Gowen, Johnson-Martin,

Goldman, & Appelbaum, 1989), two parent families (Dyson,1997; Flynt, Wood, Scott, 1992; Gowen et al., 1989; Roach, Orsmond, & Barratt, 1999), Caucasian families (Bristol, Gallagher, & Schopler, 1988), male children (Bristol et al., 1988), and clinic referred children (Kazdin & Whitley, 2003). Studies have focussed predominantly on mothers (Elgar, Curtis, McGrath, Waschbusch, & Stewart, 2003; Gowen et al., 1989; Singh, 2000) rather than fathers or both parents. An important limitation of the aforementioned studies rests on the absence of a careful analysis of parent and family relations. For example, marital conflict in a two-parent family may create more stress than in a single parent family with support from extended family or community services.

A second important methodological limitation in the investigative literature is a reliance on single informant measures such as parent report (Elgar et al., 2003; Fidler, & Hodapp, 2000; Langrock et al., 2002; Kazdin, & Whitley, 2003; Singh, 2000) rather than multiple ratings, and objective measures such as direct observation (Dyson, 1997; Judge, 1998; Langrock et al., 2002; Lee & Gotlib, 1991; Saloviita, Italinna, & Leinonen, 2003). Many of the studies are also limited in generalizability by small sample size (Fidler & Hodapp, 2000; Lee & Gotlib, 1991; Pelchat et al., 1999; Podolski & Nigg, 2001). In addition, evaluation measures have often been administered at a single point of time in the absence of follow-up measures (Olsson & Hwang, 2001; Roach et al., 1999; Saloviita et al., 2003). A final limitation of the literature which addresses stress and depressive symptomatology is the use of cross-sectional research designs (Flynt et al., 1992; Hermann & Marcenko, 1997; Langrock et al., 2002; Podolski & Nigg, 2001) rather than longitudinal studies. As a result, it is difficult to monitor the long-term effects of parent adjustment on children's development and the course of their behavioral difficulties.

This study examined the relationship between parenting behavior, children's behavior and parent adjustment following participation in an intervention program which was designed to remediate problem behavior and promote positive parenting. The scope of the study extends beyond the focus of traditional family intervention research by examining parent and child behaviors, and examining improvement on the basis of multiple ratings and direct observations, providing greater reliability than single instrument measures alone.

Parent-Training

The prevalence of preschool-aged children with mild-to-moderate behavior problems has been estimated to be as high as 10% to 15% (Barlow & Stewart-Brown, 2000). Externalizing problems comprise approximately one third or more of all clinic referrals for children and adolescents. Disruptive behavior in children is the single most common reason for referral to child mental health services (Neary & Eyberg, 2002). In the absence of intervention programs, behavior problems may become chronic, within individuals, within families, and across generations (Barlow & Stewart-Brown, 2000). The high prevalence of behavior problems in children with developmental delays, and the persistence of these difficulties underscore the need to develop and evaluate effective treatment programs which provide mental health services to families and children with challenging behavior.

Parent-training researchers have focussed predominantly on families with typically developing children (Hastings, 2002; Kazdin, 1997; Kazdin & Wassell, 2000; Minde & Minde, 2002; Neary & Eyberg, 2002; Russell & Matson, 1998). Therefore, this review will begin with an examination of existing parent-training programs for children without developmental disabilities, followed by a review of specialized parent-training programs.

Parenting behavior plays an important role in the development and maintenance of children's behavior problems (Barlow & Stewart-Brown, 2000; Minde & Minde, 2002; Patterson, 1982). The relationship between children's behavior and parenting is considered to be interrelated and multifactorial (Minde & Minde, 2002). For example, child disorders are often influenced by parent, family, and contextual factors such as parent stress, family conflict and lack of parent nurturing (Kazdin & Wassell, 2000). Recent investigations have demonstrated that parenting behaviors accounted for 30% to 40% of the variance in child anti-social behavior (Barlow & Stewart-Brown, 2000). Specifically, family factors such as depression, parent-conflict and anger are risk factors in the development of externalizing behavior problems in children (Neary & Eyberg, 2002). These may influence parenting behavior which, in turn, has a direct impact on children's behavior. For example, parents of children with conduct disorder tend to engage in ineffective child-rearing practices that sustain and escalate child dysfunction (Kazdin, Siegel, & Bass, 1992).

Since the 1960s, researchers have reported a myriad of child problems that can be modified by parents who have been trained to use behavior-modification techniques (Barlow & Stewart-Brown, 2000). Problems such as tantrums, noncompliance, hyperactivity, inattentive behavior, and disruptive behavior have been targeted by intervention programs (e.g., Baker, 1996; Barlow & Stewart-Brown, 2000; Harris, Alessandri, & Gill, 1991; Kazdin, 1997; Lutzer & Steed, 1998). In general, behavioral strategies are based on two main principles, reducing positive reinforcement for inappropriate behavior while increasing reinforcement for appropriate behavior, and making punishment contingent on inappropriate behavior, while using consequences that are more predictable and immediate such as token economies, and time-out procedures

(Barkley, 2000). Training may be administered in group or individual formats, although researchers have often regarded the group format as more advantageous due to the greater time and cost efficiency as well as the therapeutic potential for establishing a support for parents, many of whom may feel stigmatized and isolated.

Parent-management training (PMT) is an example of a group-format parent-training program which has been utilized to address conduct problems in children and adolescents (Kazdin, 1997; Kazdin & Wassell, 2000; Kazdin & Whitley, 2003). PMT is based on the principles of social learning theory that have been adopted to develop prosocial behavior and to decrease conduct problems. Identification of antecedents, behaviors, and consequences (ABCs) are considered primary components of PMT, bearing similarity to the problem identification phase of the consultation model (Bergan & Kratochwill, 1990). The goal of PMT is to assist parents and children to acquire skills in a progressive manner, building on more complex interactions when simple skills have been mastered. The intervention is typically offered to the parent, through a consultative approach; parents are trained to identify problem behaviors and address issues such as homework completion and rule following behavior through role-playing techniques. Videotaped materials (Webster-Stratton, 1996) have facilitated the dissemination of social-learning and behavioral principles and procedures to groups of parents. Kazdin (1997) advocates multimodal interventions such as PMT combined with problem-solving skills training (Webster-Stratton, 1996) for youth with conduct problems as these children and their families often present multiple difficulties, and no single method of intervention adequately addresses the scope and range of their challenges.

PMT alone and PMT combined with cognitive problem-solving skills training (PSST) for the child were utilized in a study comprised of 250 children (aged 2 to 14

years) with conduct problems (Kazdin & Wassell, 2000). Parents were trained individually in the PMT- alone format for approximately 16 sessions; practice, feedback, and shaping were used to develop parent skills. In the PMT and PSST combined format, parents received the same training as in the PMT alone with the added component of children receiving individual sessions which focused on the acquisition of problem-solving skills through practice, modeling, role-playing, and social reinforcement techniques. Although the two approaches were not compared, overall, the results indicated that children in both groups demonstrated large improvements in more appropriate behaviors at home. Parent functioning also improved in both groups, as reflected by decreases in depressive symptomatology and stress.

Kazdin and Whitley (2003) evaluated a problem-solving (PPS) intervention designed to augment the effects of combined PMT and PSST for 127 children (aged 6 to 14 years) with aggressive and antisocial behavior. The PPS intervention focused on decreasing specific stressors which were identified by parents. During approximately five PPS sessions, parents were trained to find adaptive solutions, coping strategies, and use of resources to assist with stressful situations (e.g., relationship with a partner). Role-playing, shaping, feedback, praise, and practice were used to develop effective parent skills. The researchers randomly assigned families to groups (PMT-PSST-PPS combined or PMT-PSST combined). Children in both groups showed significant improvement; however, the added component of PPS resulted in even greater improvements on child-outcome measures. Parents in both groups showed improvement however, a significantly greater reduction of stress and depressive symptomatology was observed among parents who received the added component of PPS. The aforementioned research programs have

yielded encouraging results, yet have not specifically focussed on special populations such as children with developmental delays.

The emergence of parent-training programs for special populations began in the 1980s, complementing public education laws in North America by mandating services for children with special needs. This development resulted in increased funding for educational and clinical research to establish empirical documentation of efficacy of these services (Baker, Heifetz, & Murphy, 1980; Baker, Landen, & Kashima, 1991; Clark, Baker, & Heifetz, 1982; Feldman, & Werner, 2002; Kashima, Baker, & Landen, 1988; Knowlton & Mulanax, 2000; Marcus, Swanson & Vollmer, 2001; Roberts, Mazzucchelli, Taylor, & Reid, 2003; Russell & Matson, 1998).

Baker (1980, 1982, 1988, 1991) pioneered investigative studies in the area of parent-training for parents of children with developmental delays. *Parents as Teachers*, developed by Baker, Landen, and Kashima (1989) was based on behavioral principles designed to increase skills among children aged 3 to 13 and to provide parents with applied behavior-analysis techniques. The program provided parent-training sessions (10 sessions) covering a range of topics which included self-care and behavior-management issues. These research intervention programs consisted of parent-training in group and individual formats as well as home based settings through behavioral training with manual-based, media-video, and lecture methods (Baker, Heifetz, & Murphy, 1980; Baker, Landen, & Kashima, 1991; Clark, Baker, & Heifetz, 1982; Kashima, Baker, & Landen, 1988). Parents reported a preference for group training formats, and indicated the need for ongoing outside support to maintain improvement over time (Baker et al., 1980). Consistent with consultation-research principles, Baker (1991) obtained information from

parents to define problems behaviors as well as implementing assessment interviews at the beginning, middle and end of treatment to evaluate gains and adjust treatment plans.

More recently, Marcus et al. (2001) evaluated the effects of parent-training for four children between the ages of 3 and 5 with developmental delays and severe externalizing behavior problems such as tantrums and aggression. Individualized intervention procedures based on behavioral principles were evaluated by the experimenters for each child (e.g., differential negative reinforcement, differential reinforcement of alternative behavior). Baseline data were gathered from interviews, direct observation, and functional analysis. Parents were trained using role-play techniques, modeling and written protocols. The children's behavior improved as a function of the parents' appropriate use of behavioral strategies; follow-up indicated that children's inappropriate behavior increased in direct relation to a breakdown in treatment integrity.

Parent-training has also been offered to families with school-age children with developmental delays. Feldman and Werner (2002) evaluated the effects of behavioral parent-training (BPT) on families with children with developmental delays and behavior disorders. The participants comprised 36 children; the mean age of the children in the treatment group was 11.33, and the mean age for the wait-list groups was 10.76. Informants were 34 mothers, one father, and one grandmother. BPT consisted of 1 to 2 hour weekly home visits with a behavior consultant for a period of time which ranged from 3 to 6 months. The consultants conducted comprehensive functional assessments (care-giver interviews, descriptive analyses) and prepared individual treatment plans. Parents who had participated in BPT reported fewer child behavior problems, less stress

related to care-giving demands, and greater child and family quality of life compared to wait-list parents.

The aforementioned studies investigated the benefits of parent-training with mothers, however, the role of fathers as intervention agents for children with developmental delays has not been typically targeted for research. Russell and Matson (1998) implemented a parent-training program in a study with three fathers and their developmentally delayed children, ranging in age from 2 to 4 years. A multiple-baseline across fathers' behaviors was utilized for participants to evaluate effects of parent-training on fathers' target behaviors. Target skills consisted of appropriate consequences (e.g., time out and ignoring), correct positive action, and clear instructions. The child behaviors of interest were compliance and inappropriate behavior. Specific skills targeted for the children consisted of learning simple commands such as coming when called and adaptive skills such as dressing and toileting. Parent-training resulted in an increase in target behaviors and concurrent positive changes in child compliance and appropriate behavior.

Summary and critique. A review of the literature on parent-training highlights the success of intervention programs for the reduction of children's behavioral difficulties and associated gains in the development of prosocial skills. This section shall summarize some of the methodological limitations associated with parent-training studies. Traditionally, PMT and PSST research (Kazdin & Wassell, 2000; Kazdin & Whitley, 2003) have targeted typically developing children, therefore limiting generalization of effects to children with developmental delays. Furthermore, the absence of control groups in these studies raises concerns regarding treatment efficacy (Kazdin & Wassell, 2000; Kazdin & Whitley, 2003). Many important child-outcome variables have also been neglected in PMT programs (e.g., peer relations, social competency, and academic

functioning) and outcomes have been evaluated on the basis of subjective measures with single informants such as parent report rather than objective measures (e.g., direct observation) with multiple informants (Kazdin, 1997; Kazdin & Whitley, 2003). Finally, small sample sizes (Marcus, Swanson & Vollmer, 2001; Russell, & Matson, 1998) have limited the generalization of findings.

In spite of these limitations, the literature on parenting training highlights the benefits of working with families to develop behavior management skills and to remediate behavior problems in children. Programs that target parents and children conjointly are consistent with an interactional perspective on family relations (Bronfenbrenner, 1997). The reciprocal nature of parent-child interactions in the maintenance of challenging behaviors in children (Hastings, 2002, Kazdin, 1997; Kazdin & Wassell, 2000; Minde & Minde, 2002; Neary & Eyberg, 2002) exemplifies the need to provide parents with effective management strategies. Clinicians have advocated for treatments that address both parent and child functioning since child focused interventions overlook parenting practices that may contribute to child dysfunction (Kazdin et al., 1992). Combined interventions are considered to have greater therapeutic benefits because single treatment modalities may be insufficient to address the multiple factors associated with externalizing behavior problems (Kazdin, 1997).

Webster-Stratton has developed a parent mediated intervention program which has been both empirically supported and recognized as a form of consultation which provides indirect service delivery to parents combined with social skills training for children with conduct difficulties (Kratochwill, Bergan, Sheridan, & Elliot, 1998). The next section shall provide an overview of her intervention program.

Webster-Stratton's Approach to Parent and Teacher Training

The Incredible Years Training Series (Webster-Stratton, 1982b, 1992, 1998, 1999) received accreditation as the 1997 winner of the United States Leila Rowland National Mental Health Award for outstanding prevention programs (Webster-Stratton, 2000). This multicultural intervention program uses video-cassette vignettes, group discussion, and rehearsal techniques for parents living with children with behavioral difficulties. The program has been adapted for children ages 2 to10 and is designed to reduce, prevent, and treat conduct problems and increase prosocial behaviors. The basic parent-training program is a series of 10 videotaped programs (BASIC), consisting of over 250 vignettes (1-2 minutes in length) which model parenting skills, and are shown by a group leader to groups of parents (8 to12 parents per group). After each vignette, the group leader animates a discussion of the themes illustrated in the video, and encourages parents to problem-solve, role-play, and rehearse parenting skills (Webster-Stratton, 1991, Reid, Webster-Stratton, & Hammond, 2007). Parents are provided with homework exercises to use at home with their children. The videotapes illustrate examples of both positive and negative parent-child interactions to create a therapeutic environment in which parents are given permission to make mistakes and to reinforce the view that parenting is a learned skill. The ADVANCE parent-training series contains thirty new videotape vignettes that represent families from a broader range of cultural backgrounds (Reid et al., 2007).

The specific content of the basic parenting program includes play skills, praise, incentives, limit-setting, ignoring skills, time-out, and natural and logical consequences (Webster-Stratton & Hancock, 1993). The program begins with an emphasis on the importance of regular play with children as a way of creating a positive home environment and helping children to feel loved. As Webster-Stratton and Herbert (1993)

explained, children's misbehavior creates negativity in the parent-child relationship and positive experiences in play serve to build relationships and reduce conflict. Second, parents of children with behavior problems find it difficult to praise as a result of stress and anger towards their children, thus the importance of teaching parents a variety of ways to acknowledge appropriate behavior in their children (Webster-Stratton & Hancock, 1993). Incentives or tangible rewards motivate children and can be used to encourage positive behavior. In the BASIC program, parents are taught to define the desired behavior, choose effective rewards, and carefully monitor the behavior. The third parenting skill, limit-setting, is particularly relevant since children with externalizing behavior problems are noncompliant approximately two thirds of the time, creating power struggles and negative interactions between parents and children (Webster-Stratton & Herbert, 1993). Limit-setting strategies help parents to learn effective methods of discipline (e.g., warnings, following through on consequences), to establish age-appropriate expectations, and to balance the need for parent authority and autonomy in the child. Webster-Stratton and Hancock (1993) noted that one of the most difficult skills for parents to implement is ignoring because children with challenging behavior exhibit irritating behaviors such as whining and tantrums at a higher frequency than same-aged peers. During the training sessions, parents learn that ignoring is a skill and a form of discipline that often reduces the frequency of irritating behaviors. Time-out is the next skill which parents are taught to implement in response to extreme behaviors such as hitting and fighting. Many parents use ineffective methods of discipline such as spanking, yelling, and criticizing when their children behave in an aggressive or noncompliant manner (Webster-Stratton & Herbert, 1993). The authors explained that parents inadvertently reinforce negative behavior when they use ineffective disciplinary measures

that increase the likelihood that the behaviors will re-occur. In contrast, time-out removes the child for a short period of time from all sources of reinforcement, thereby reducing the probability that the behavior will re-occur. Finally, the skill of providing natural and logical consequences in response to misbehavior is explained with the rationale that children learn from mistakes when they become accountable for their actions. Parents tend to overreact to behavioral problems when they are experiencing stress, anger or depression in their own lives (Webster-Stratton & Hancock, 1993). Natural and logical consequences help parents to avoid negative, punitive, and ineffective patterns while teaching children to become more independent and autonomous (Reid et al., 2007; Webster-Stratton & Herbert, 1993).

The efficacy of Webster-Stratton's training program has been documented by the results of over 25 years of applied research with parents, teachers, and children with challenging behaviors (e.g., Reid et al., 2007; Webster-Stratton, 1981, 1982a, 1989, 1990a, 1990b, 1990c, 1994, 1996; Webster-Stratton, Kolpacoff, & Hollinsworth, 1988; Webster-Stratton & Hammond, 1997; Webster-Stratton & Hammond, 1988; Webster-Stratton & Reid, 2003; Webster-Stratton, Reid, & Hammond, 2004). Outcome studies conducted with over 600 children, whose parents participated in the BASIC program, have demonstrated the effectiveness of the program in significantly reducing children's behavior problems, enhancing parent-child interactions, and improving parents' attitudes (Webster-Stratton & Hancock, 1993). The BASIC program was implemented with over 500 Head Start families (Webster-Stratton, 1998). Parents who received the training showed significant improvement in their parenting skills as did the social competency of their children when compared with a control group. In a similar study, following a 12-week parent-training program, mothers had significantly lower negative parenting (e.g.,

critical statements) and higher positive parenting (e.g., praise) than control mothers. In addition, their children showed fewer conduct problems at home than control-group children. The format of parent-training programs has ranged from self-administered videotape therapy to group-discussion videotape therapy, and group discussion without videotape therapy (Webster-Stratton, Kolpacoff, & Hollinsworth, 1988; Webster-Stratton, 1989). In a 2-year study, Reid et al. (2007) implemented the *Incredible Years Program* with approximately 500 elementary school children. Mothers in the combined parent and classroom condition showed more nurturing behavior, and significant reductions in critical parenting than mothers in the classroom intervention alone condition. Children in the combined intervention program showed significant improvement in externalizing behaviour problems compared with children in the classroom intervention alone condition. Teacher reports indicated that children in both intervention programs showed fewer externalizing behaviour problems; interestingly, there were no differences between the classroom intervention and combined program according to teacher reports. In sum, these comparative studies have shown that all intervention modalities resulted in a reduction of behavior problems, and improved parenting skills in comparison with the control groups. However, combined parent and teacher training programs may produce more significant changes for mothers and children than classroom intervention programs alone.

Summary and critique. Parent-training is particularly useful for families with children who exhibit challenging behaviors (Webster-Stratton, 1981, 1982a, 1989, 1990a, 1990b, 1990c, 1994, 1996, Webster-Stratton, Kolpacoff, & Hollinsworth, 1988; Webster-Stratton & Hammond, 1997, 1988; Webster-Stratton & Reid, 2003; Webster-Stratton, Reid, & Hammond, 2004). Webster-Stratton's intervention program provided parents with

a widened repertoire of skills and gives them an opportunity to respond effectively to their children. This program has been implemented primarily with children exhibiting conduct problems, rather than developmental delays.

In spite of the overall success of parent-training programs in producing significant changes in parent and child behaviors, there is evidence that some families do not respond to intervention. In long-term follow-up studies, 30% to 40% of treated parents have reported that their children continue to have behavior problems in the clinical range, as have 25% to 50% of their teachers (Webster-Stratton, 1990a). Parent and family characteristics such as marital distress, spouse abuse, lack of a supportive partner, maternal depression, and high life stress are associated with relapses and fewer intervention gains (Webster-Stratton & Hammond, 1988, 1990). The present study extends beyond Webster-Stratton's target population of at risk, and typically developing children by including children with diagnosed developmental delays.

Research Questions

The basic components of this study were derived from the conceptual framework of problem-solving consultation and videotape therapy. The primary objective of this study was to determine whether participation in the intervention program would result in an improvement in childrens' externalizing behavior problems at home. A second goal of this study was to examine the relationship between parent adjustment (e.g., parent stress and depressive symptomatology) and children's externalizing behavior problems. A third goal of this study was to evaluate whether parent stress and depressive symptomatology were associated with the quality of parent-child interactions. In order to address these objectives, this study explored the following questions.

Question 1

Will there be an improvement in each child's target behaviors following participation in the conjoint problem-solving consultation and videotape therapy intervention program, as measured by the frequency of behavior problems reported by parents from baseline to intervention?

Question 2

Will parent and child participation in the intervention program have a positive impact on parent-child interactions (e.g., more praise, fewer critical statements, more compliance) from preintervention to postintervention?

Question 3

Will there be an association between parent adjustment (i.e., depressive symptomatology, parent stress) and parent-child interactions (e.g., praise, critical statements, compliance) from preintervention to postintervention?

Question 4

Will there be an association between depressive symptomatology in parents, children's externalizing behavior problems, and children's social competency at baseline and following participation in the intervention program.

Question 5

Will there be an association between parent stress levels, children's externalizing behavior problems, and children's social competency at baseline and following participation in the intervention program.

Chapter 3

Method

The data examined in the present research are part of a larger project being conducted at the Problem-Solving Consultation Laboratory at McGill University. This larger study has examined the effectiveness of conjoint behavioral consultation and group videotape therapy as an indirect service delivery model for children with developmental disabilities and behavioral problems. An integral component of the present study was to examine not only the effectiveness of conjoint behavioral consultation and group videotape therapy on improvement of children's behavior problems, but the quality of parent-child interactions, and both parent stress and depressive symptomatology prior to and following parent-training. This study focused on parent and child-outcomes, while the larger study addresses teacher as well as parent and child-outcomes.

Participants

Children. Twenty-seven children, ranging in age from 4 to 10 participated in the present study (see Appendix E for further information regarding the diagnosis of developmental delays in each child). The eligibility criteria for children to be included in the intervention program were mild to moderate cognitive disabilities (indicated by IQ levels between 55 and 70) and associated delays in adaptive functioning (e.g., self-care, community skills). The children demonstrated externalizing behavior problems as identified by parents using standardized rating scales such as the Child Behavior Checklist (CBCL, 4-18; Achenbach, 1991) and Social Skills Rating System (SSRS; Gresham & Elliott, 1990). Eligibility was determined on the basis of a child receiving (a) a standard deviation or more (15 points) below the mean (i.e., a score less than 85) for social skills on the SSRS (Gresham & Elliott, 1990), or (b) a standard deviation or more (15 points) above the mean

(i.e., a score greater than 115) for problem behavior on the SSRS, or (c) a score within the Clinical Range on the Externalizing or Total Problem scales of the Child Behavior Checklist (CBCL; Achenbach, 1991). Descriptions of these measures will be provided below.

Parent and teacher consultees. Children were identified by parents or teachers (sometimes both) as well as the school psychologist as demonstrating behavioral problems at the beginning of the school year. In addition, information sessions were provided by the researchers at school-team meetings for the recruitment of teachers and children selected on the basis of teacher referral. The school psychologist initiated referrals of children who were functioning within the mild-moderate range of disability, and exhibiting behavior problems at home and at school. The parents of prospective children candidates were contacted by the school psychologist, the principal investigator of the larger study, and graduate students from the McGill Problem-solving Consultation Laboratory to provide information regarding the nature of the study. These parents were also sent a screening package that included measures such as the CBCL in order to determine their eligibility for the study.

In total, 28 parents participated in the intervention over a period of 3 years, with 19 mothers and 9 fathers acting as consultees. The average duration of the intervention program was approximately 12-weeks. The majority of parents were married and had two children, and the ethnic composition was predominantly Caucasian. A summary of this demographic information can be found in Table 2.

Within a few weeks of intervention, five parents withdrew; the intervention program was provided only to the teachers in these cases. The five parents who discontinued participation did so for a variety of reasons; for example, one mother was unable to attend

the group sessions due to scheduling conflicts with her academic courses. The remaining four families were experiencing considerable stressors such as marital discord and caretaking demands. In the end, children participating in this study included 17 boys and 5 girls, aged 5 to 11 years (with a mean age of 7.8 years) , the breakdown of which is consistent with investigations citing a higher frequency of externalizing behavior problems in boys than in girls (Beernink, Swinkels, & Buitelaar, 2007; Epstein, Cullinan, Bursuck, 1985). Demographic information on this sample was gathered from a background questionnaire (see Appendix A) and is presented in Table 1. Nine of the children had been previously diagnosed with a medical or psychiatric disorder. Additionally, 11 of the children were taking medication on a daily basis at the time of intervention.

Consultants. Consultants for the present study consisted of six graduate students (5 female; 1 male) from the Problem-solving Consultation Laboratory at McGill University. The consultants had all been trained and had previous experience in providing consultation to parents of children with behavioral difficulties. Their training included (a) graduate-level coursework in the theory and practical applications of consultation, (b) individualized readings of relevant literature in the areas of consultation and parent-training, (c) study of the videotape parent-training series and manuals (Webster-Stratton, 1989a), (d) conducting mock interviews (Conjoint Problem Identification Interviews) until a criterion of 85% proficiency was reached based on the Consultation Objective Checklist (COC; Kratochwill & Bergan, 1990), and (e) actual clinical experience providing consultation services to parents of children with behavior problems.

The consultants conducted three behavioral interviews, developed intervention plans collaboratively with the parents, oversaw the implementation of the intervention plan, and administered standardized measures. Interviews were audio-taped, and all components

of the intervention process were reviewed and supervised by the principal investigator of the larger study, in order to ensure intervention integrity. See Table 3 for more detail on the assessment methods used in each phase of the study.

Measures

A variety of assessment measures and procedures were employed in this study. Several forms of assessment (e.g., self-report questionnaires, behaviour-rating scales, interviews, and direct observations) were completed at different phases of the process across multiple raters (e.g., parents, teachers, researchers). These instruments and procedures are the following.

Social Skills Rating System (SSRS). The SSRS (parent version; Gresham & Elliott, 1990) was administered to evaluate children's social competency and problem behaviors at home. The SSRS is a 55-item questionnaire which comprises two primary scales: Social Skills and Problem Behaviors. The SSRS was standardized on 4,170 children and adolescents on the basis of self-report and by ratings of 1,027 parents. The internal consistency reliability coefficient for the Scale is .73 and the correlations between the SSRS and other behaviour-rating measures such as the Child Behavior Checklist Achenbach & Edelbrock, 1989) ranges between .59 and .77 showing adequate criterion-related validity (Gresham & Elliott, 1990).

Parent forms are available for three different age groups: preschool (ages 3 to 5), elementary (grades K to 6), and secondary (grades 7 to 12). The parent version of the elementary form was administered because the age range of children was 4 to 10. The SSRS was completed by parents prior to and after intervention to evaluate children's social skills and problem behaviors.

Table 1
Child Demographic Data

Demographic Measures	Number	Percentage of Sample
Average Age of Sample (in months)	94	
Child's Gender:		
Male	17	77%
Female	5	23%
Previous/Comorbid Diagnoses:		
Allergies	4	18%
Asthma	2	9%
Attention Deficit Hyperactivity Disorder	3	13.6%
Encephalitis	1	4%
Epilepsy	1	4%
Obsessive Compulsive Disorder	1	4%
Tourette Syndrome	1	4%
Seizures	1	4%

Table 2

Parent Demographic Data

Demographic Measures	Number	Percentage of Sample
Participants		
Mother Only	13	59%
Father Only	3	13.6%
Mother and Father	6	27.2%
Marital Status		
Married	16	72.72%
Divorced or Separated	6	27.27%
Number of Children		
1	2	9%
2	15	68.1%
3	3	13.6%
4	2	9%
Ethnicity		
Caucasian	18	82%
African-American	4	18%

The Social Skills scale of the SSRS consists of five subscales: Cooperation, Assertion, Self-control, Responsibility, and Empathy; the Problem Behaviors scale of the SSRS consists of two subscales: Internalizing and Externalizing. On the Social Skills scale, parents rate their children's behavior across these domains using a 3-point Likert scale (1 = never, 2 = sometimes, 3 = very often) and perceived importance (1 = not important, 2 = important, 3 = critical). The Social Skills scale contains questions such as *Cooperates with family members without being asked to do so* and *Asks permission before using another family members' property*. On the Behavior Problems scale, ratings are based on the frequency of occurrence of a range of behaviors (1 = never, 2 = sometimes, 3 = very often), for example, *Fights with others* and *Acts sad or depressed*.

Results on the SSRS are reported in terms of percentiles and standard scores with a mean of 100 and a standard deviation of 15. Frequency scores on both scales are also categorized in comparison to the normative group. The categories include Fewer, Average, and More, and indicate how the child compares to same age peers with respect to social skills deficits and problem behaviors. Thus, a child whose score on the social skills scale falls one standard deviation below the normative group would be classified as having *more* social skills deficits than an average child of the same age.

Child Behavior Checklist (CBCL). In order to assess the behavioral and emotional functioning of the children, parents were also asked to complete the Child Behavior Checklist (CBCL/4-18; Achenbach, 1991) at pre- and postintervention. The CBCL is a questionnaire which is divided into two main scales, Competence and Problem Behaviors. The Competence items pertain to children's involvement in leisure activities (e.g., sports or hobbies), peer interactions (e.g., number of close friends), and academic performance (e.g., reading). The Problem Behavior scale consists of 113 items in eight subscales: Withdrawn

(e.g., *would rather be alone than with others*), Somatic Complaints (e.g., *stomach aches or cramps*), Anxious/Depressed (e.g., *nervous, highstrung, or tense*), Social Problems (e.g., *not liked by other kids*), Thought Problems (e.g., *confused or seems to be in a fog*), Attention Problems (e.g., *can't sit still, restless,* or *hyperactive*), Delinquent (e.g., *sets fires*), and Aggressive Behavior (e.g., *cruelty, bullying, or meanness to others*). Groups of these subscales form two broader cluster scores: Externalizing (Aggressive and Delinquent) and Internalizing (Withdrawn, Somatic complaints, and Anxious/Depressed). Parents rate their children's behavior on a 3-point Likert scale (0 = not true, 1 = somewhat true or sometimes true, 3 = very true or often true) based on behavior during the last six months.

Results obtained from ratings on the CBCL are reported in percentiles and *T*-scores (mean of 50; SD of 10). On the broad Problem Behaviors scales (Total, Externalizing, and Internalizing), scores above 63 are considered to be in the Clinical range. On the eight subscales, scores above 70 are considered to be in the Clinical range.

The CBCL was standardized on over 2,000 children and adolescents, separately for males and females, and for two different age groupings (4 to 11 years and 12 to 18 years). The manual (Achenbach, 1991) indicates that test-retest reliability following one week was .89 across all samples. Inter-parent (mothers compared to fathers) reliability ranged from .44 to .91, while inter-rater reliability (parents compared to interviewer) ranged from .93 to .96. Construct validity was demonstrated by comparing the CBCL to other behavioral measures, with correlations ranging from .52 to .88. The CBCL has also been used to discriminate referred from nonreferred children, demonstrating content validity.

Parenting Stress Index. The Parenting Stress Index--Short Form (PSI/SF; Abidin, 1995) was completed by parents to evaluate the magnitude of stress in the parent-child system before and after participation in the intervention. The PSI/SF is a 36 item, 5-point,

self-report rating scale developed for parents of children 12 years old or younger. The PSI/SF is a direct modification of the full length PSI, and can be completed in less than 10 minutes. All of the items on the short form are also on the long form, and are worded identically. The majority of items are rated on a Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Not Sure, 4 = Agree, 5 = Strongly Agree), although there are a few items that prompt the respondent to use a different response format (e.g., For the next statement, choose your response from the choices "1" to "5" below). Examples of items include: *I feel trapped by my responsibilities as a parent* and *My child seems to cry or fuss more often than most children.*

The PSI yields three subscales: Parental Distress (PD), Parent-Child Dysfunctional Interaction (P-CDI), and Difficult Child (DC), as well as a Total Stress score, and a Defensive Responding score. The Defensive Responding scale evaluates the degree to which respondents attempt to minimize indications of problems or stress in the parent-child system and present themselves in a favorable light. The Total Stress score provides a measure of the overall level of parenting stress experienced by the respondent. The Parental Distress scale (PD) provides a measure of the distress that the respondent is experiencing in their parental role. The Parent-Child Dysfunctional Interaction scale (P-CDI) examines perceptions of the respondents regarding the extent to which their child does not meet their expectations as a parent, and the extent to which their interactions with their child is not reinforcing to them as a parent. The Difficult Child (DC) scale contains items pertaining to behavioral characteristics of the child that can make them easier or more difficult to manage.

Raw scores on the scales are converted into percentile scores. Percentile scores at or above 85 are considered to be Clinically Significant. Defensive Responding raw scores

below 10 are considered Clinically Significant. The test-retest reliability of the PSI is estimated to be between .68 and .84; while the internal consistency reliability is estimated to be between .80 and .91. In terms of validity, the Total Stress scale on the full length PSI is correlated at .94 with the Total stress scale on the PSI/SF. Abidin (1995) indicated that there is not yet an independent body of research supporting the validity of the PSI/SF, but because it is a direct derivative of the long form of the PSI, it is probable that it will share in the established validity of the full-length version.

Beck Depression Inventory. In order to assess depressive symptomatology in parents, the Beck Depression Inventory (BDI-II; Beck, Steer, & Brown, 1996) was administered before and after intervention. The BDI-II is a 21-item self-administered measure designed to evaluate the severity of depression in adults and adolescents. It was developed on the basis of criteria for depressive disorders outlined in the DSM-IV and requires approximately 5 to 10 minutes to complete. Items are rated on a 4-point scale ranging from 0 to 3 in terms of severity of symptoms. Respondents are asked to rate items based on how they have been feeling during the past 2 weeks. An example of an item is *Past Failure*. For this item, respondents would choose "0" (*I do not feel like a failure*) to "3" (*I feel I am a complete failure as a person*). The BDI-II yields a total score, which can be divided into 4 categories: minimal range (0 to 13), mild depression (14 to 19), moderate depression (20 to 28), and severe depression (29 to 63). The 21 depressive symptoms evaluated on the BDI-II comprise the following: negative mood, pessimism, sense of failure, self-dissatisfaction, guilt, punishment, self-dislike, self-accusations, suicidal ideas, crying, irritability social withdrawal, indecisiveness, body image change, work difficulty, insomnia, fatigability, loss of appetite, weight loss, somatic preoccupation, and loss of libido.

The internal consistency of the BDI-II is high in both clinical (.92) and nonclinical (.93) populations (Beck, Steer, & Brown, 1996). The BDI-II has been found to discriminate between outpatients and college students, and the scores of the clinical sample were also differentiated according to diagnosis, with individuals who had more serious depressive disorders (e.g., major depression) obtaining higher scores than those with less serious disorders (e.g., dysthymia), (Beck, Steer, & Brown, 1996). The test-retest reliability of the BDI-II was determined on the basis of a subsample of outpatients who completed the questionnaire approximately one week apart. The initial mean BDI-II total score of 20.27 (SD = 10.46) and the second mean BDI-II total score of 19.42 (SD = 10.38) were comparable.

Dyadic Parent-Child Interaction Coding System (DPICS). To evaluate parenting variables through direct observation, the Dyadic Parent-Child Interaction Coding System (DPICS; Eyberg & Robinson, 1992) was used. Observational data were collected before and after intervention through videotaped recordings of parent-child interactions.

The DPICS was standardized on 42 families, and was found to have good reliability (Eyberg & Robinson, 1992). Interrater reliability was measured by correlating the frequency of each behavior coded over 244 observations by two coders. The mean reliability for parent behaviors was .91, and for child behaviors was .92. In terms of validity, the DPICS was used to correctly discriminate between 94% of normal and conduct-problem families (Eyberg & Robinson, 1992).

The DPICS consists of 29 target behaviors for parents and children occurring during three standard situations, each of which lasts for five minutes, and they are structured around play and cleaning up. These situations took place in a room containing a toy box filled with developmentally appropriate toys (e.g., Mr. Potato Head, building blocks,

crayons), as well as a table and chairs. During the first five minutes (Child-Directed Interaction), children were able to choose the activity and the parent was instructed to follow the child's lead. In the second five minutes (Parent-Directed Interaction), parents chose the activity and were instructed to have their child play along with them according to the parent's rules. In the third five minutes (Clean Up), the parents were instructed to tell their child to clean up without any help from the parent. For the purpose of this study, five summary variables from the parent categories (Total Praise, Total Critical Statements, Total No-Opportunity Commands, Total Warnings, and Total Grandma's rule), and one child summary variable (Total Child Deviance) were examined.

Graduate students from the Problem-solving consultation Laboratory at McGill University were trained to use the DPICS to code the videotapes of parent-child interactions. Coders were required to attain at least 80% interrater reliability on practice tapes prior to coding the actual data used in this study.

Procedure

The present study consisted of four phases: Screening, Preintervention, Intervention, and Postintervention.

Screening phase. Children experiencing behavioral difficulties were initially referred by teachers, the school social worker, or the school psychologist. Parents of these children were then sent a screening package consisting of a description of the study, a consent form, the CBCL, and the SSRS. Following the return of the consent form and behavioral measures, teachers were asked to complete the teacher versions of the CBCL, the Teacher Report Form (TRF; Achenbach, 1991), and SSRS (Gresham & Elliott, 1990). Selection criteria were as follows: (a) a score of at least one standard deviation below the mean on the Social Skills subscale of the SSRS on either the parent or teacher version of

the SSRS, (b) a score of at least one standard deviation above the mean on the Problem Behaviors subscale of either the parent or teacher version of the SSRS, (c) a score that was within the "Clinical Range" on the CBCL or TRF. Once eligibility was determined, children were randomly assigned to the experimental condition or a wait-list control condition. These criteria are consistent with Webster-Stratton's screening method for *The Incredible Years* parent-training program (videotape therapy), and continue to be used in her recent research (e.g., Reid et al., 2007).

Written consent for intervention was obtained from all parents, and parents of children assigned to the control condition were informed as to the approximate length of time they would wait prior to receiving services. The parents in the wait-list control condition were asked to collect data on their children's target behaviors until they began the intervention. A multiple-baseline design was utilized (Kazdin & Tuma, 1982). Intervention was provided to the wait-list control group after positive changes in the behavior of children in the experimental group were observed. Improvement in the behavior of children in the experimental group was identified by the frequency data provided by parents. The wait-list group collected data during the baseline phase, prior to participating in the intervention program.

Preintervention phase. Parents were asked to complete the PSI and BDI-II during this phase in order to evaluate their levels of stress and depressive symptomatology prior to intervention. They were also asked to participate in the DPICS along with their child to directly assess parent-child interactions before participating in the intervention. The first interview (CPII) was conducted with the parent, teacher, and behavioral consultant to identify the behavior problem to be targeted for modification and to determine an

appropriate method for collecting data (e.g., frequency) on target behaviors (e.g., temper tantrums).

Parents and teachers were then asked to collect and record baseline data on the target behavior for approximately one to two weeks. At least five data points were required during baseline in order to ensure statistical reliability. Following this period of baseline data collection, the second interview (CPAI) took place. During this interview, the baseline data were reviewed, and conditions that may have been precipitating, maintaining, or contributing to the behavior were examined. Once the consultant and consultees had a better understanding of the target behavior, they worked collaboratively to develop an intervention plan.

Intervention phase. Parents and teachers simultaneously implemented the intervention in both the home and classroom. The intervention was based on the individualized plan determined through the interviews, as well as skills taught through manuals and a group-based videotape therapy program, both of which are described below. Parents were asked to continue to collect observational data on the target behavior throughout the intervention phase. Consultants also contacted the consultees on a weekly basis to monitor progress, collected observational data, and discussed modifications of the plan when deemed necessary. Additionally, treatment integrity was evaluated during these contacts. Parents were asked to rate on a scale from 1 (never) to 10 (always) the extent to which they had implemented the interventions and techniques as agreed upon or taught.

Behavioral interviews. Consultation with parents occurred during three behavioral interviews, the Conjoint Problem Identification Interview (CPII), the Conjoint Problem Analysis Interview (CPAI), and the Conjoint Treatment Evaluation Interview (CTEI), as outlined by Sheridan, Kratochwill, and Bergan (1993). During the first interview (CPII), the

consultant and consultees identified and operationalized the problematic behavior and collaborated on the development of a procedure to record the frequency of the child's problematic behavior (e.g., temper tantrums). During this interview, the child's behavior was explored in terms of antecedent situation and consequences; the severity and frequency of the problem behavior and goals for behavioral change were discussed. As suggested by Sheridan, Kratochwill, and Bergan (1996) an agreed-upon method of collecting baseline data was determined during this interview. Shortly after the CPII, a second interview (CPAI) was held which involved assessment of the problem through analysis of the baseline data. Specifically, the problem behavior was explored using the baseline data in order to determine the frequency of the behavior and to identify the nature of the behavior (i.e., events occurring prior to, during, or following the behavior, and the setting in which the behavior occurred). The information gathered from this interview provided a guideline to establish intervention recommendations which were developed collaboratively by the consultant and consultees. The measurement of the frequency of the target behavior was an ongoing process of the preintervention and intervention phases, which represented an empirical measure of the severity of the behavior and the success of the intervention.

Treatment integrity. Regular weekly telephone contact between the consultant and the consultee was maintained to monitor behavioral changes and to modify the intervention as needed. During the telephone follow-up with parents and teachers, the implementation of the intervention was assessed to ascertain treatment integrity. On a scale of 1 (never) to 10 (always), parents and teachers were asked to rate the degree to which they implemented the intervention strategies. Treatment integrity was 87% during the course of the intervention, which indicated close monitoring and proper implementation of the program.

Following intervention, the Conjoint Treatment Evaluation Interview (CTEI) was held to assess the outcome of the intervention and to determine whether or not the child's behavior had improved sufficiently to terminate treatment or whether continued interventions or modifications were necessary. In the present study, the intervention was terminated for all of the parents and children in the intervention program during this final phase.

Intervention manuals. Intervention manuals designed and used by Kratochwill and Elliott (1992a, 1992b) were used to supplement the individualized intervention plans. Relevant sections or skills from the manuals were selected by the consultant and consultees during the CPAI based on the nature of the child's difficulties and the behavior selected to be targeted for change. The consultant then reviewed or taught the selected skills during the same interview. The manuals consist of four sections: Skill Selection and Goal Setting, Peer Activities, Child Management, and Positive Reinforcement. The Skill Selection and Goal Setting section is designed to assist with the selection of the target behavior, and to help the child develop appropriate behaviors or skills by using a four-step model: *Tell* (the child is told about the skill and why it is important), *Show* (the skill is modelled for the child by the group leader), *Do* (the child is encouraged to practice the skill), *Goal-setting and practice* (goals are set to have the child practice the skill on a regular basis in different settings). The purpose of the Peer Activities section is to teach parents strategies to help their children increase positive interactions with peers at home and school through structured play time. The Child Management section outlines behavioral techniques, such as instruction giving, differential attending, positive reinforcement of appropriate behavior, ignoring inappropriate behavior, and time-out procedures. The Positive Reinforcement

section is designed to teach parents how to reward children for positive behavior, and parents are encouraged to include their child in the reward selection.

Videotape therapy. Parents met in groups on a weekly basis along with a consultant to view and discuss videos from Webster-Stratton's (1982b) *Parent and Child Series*. Consultants facilitated a discussion, and answered questions during and following the videotape viewing. The series encompasses four programs (a) Play, (b) Praise and Rewards, (c) Effective Limit-Setting, and (d) Handling Misbehavior. Each videotape is approximately 25 minutes in length and the whole series took just under four hours to view. Vignettes were utilized to demonstrate to parents models of both effective and ineffective interactions between parents and children.

The Play program consists of two videotapes. The first is entitled *How to Play with a Child* and it shows 25 vignettes of parents and children interacting in play situations. This tape covers important issues for successfully playing with children, such as recognizing children's abilities and needs, encouraging creativity, nurturing self-esteem, and dealing with children's boredom. The second videotape builds on the skills taught in the first, and is entitled *Helping Children Learn*. It consists of 22 vignettes, and focuses on how parents can teach children to problem solve and handle frustration, as well as how parents can build self-esteem and promote language development through play situations.

The Praise and Rewards program also consists of two videotapes. The title of the first is *The Art of Effective Praising* and consists of 26 vignettes. This videotape teaches parents how to successfully use praise to motivate their children, and also deals with related topics such as how to handle children who reject praise. The second is entitled *Tangible Rewards* and consists of 15 vignettes. It builds on the first and teaches parents about tangible reward systems, such as sticker or token systems.

The Effective Limit-setting program comprises three videotapes. The first, *How to Set Limits* contains 34 vignettes. This videotape focuses on establishing clear rules, and avoiding unnecessary or unclear demands. The second is entitled *Helping Children Learn to Accept Limits* and consists of 19 vignettes. This tape covers issues related to children who test rules or limits, and teaches parents when and how to respond to these situations. The third videotape in this program is *Dealing with Noncompliance* and has 9 vignettes. It covers time-out and ignoring procedures.

The fourth program, Handling Misbehavior, includes 3 sections divided onto 2 videotapes. The first section, "Avoiding and Ignoring Misbehavior" contains 14 vignettes. It builds on the previous program, reviewing ignoring and limit-setting, and presents strategies for handling difficult behaviors, such as hitting or temper-tantrums. The title of the second section is "Time out and other penalties" and consists of 31 vignettes. This tape reviews time-out procedures and losing privileges, and instructs parents on how and when to use these strategies. The final section, "Preventative Approaches" contains 7 vignettes. These demonstrated to parents how to model or teach appropriate prosocial behaviors, as well as how to encourage cooperation and the use of assertive language in their children. The intervention phase was approximately three months in duration.

Postintervention phase. Following intervention, parents completed the same measures that were obtained at the screening or preintervention phase. These included the CBCL, SSRS, PSI, BDI; they also participated in a postintervention DPICS. In addition, a final interview was held to examine the effectiveness of the intervention, and to decide whether the individualized plan should continue, end, or be modified.

Table 3

Assessment Methods Used During Each Phase of the Investigation

Screening	Preintervention	Intervention	Postintervention
Social Skills Rating Form (SSRS)	Conjoint Problem Identification Interview (CPII)	Direct Observations Weekly Telephone Contact	Social Skills Rating Form (SSRS)
Child Behavior Checklist (CBCL)	Conjoint Problem Analysis Interview (CPAI)		Child Behavior Checklist (CBCL)
	Direct Observations		Beck Depression Inventory (BDI-II)
	Dyadic Parent-Child Interaction Coding System (DPICS)		Dyadic Parent-Child Interaction Coding System (DPICS)
	Direct Observations (Baseline)		Parenting Stress Index (PSI)
	Parenting Stress Index (PSI)		Conjoint Treatment Evaluation Interview (CTEI)
	Beck Depression Inventory (BDI)		

Table 4

Parent DPICS Variables

Summary Variables	Description
Total Praise	The total number of times a parent expresses a favorable judgment on an activity, product or attitude of the child. These judgment can be nonspecific verbalizations, unlabelled praise (e.g., great!), specific verbalizations, or labelled praise (e.g., that's a terrific house you made).
Total Critical Statements	The total number of verbalizations that find fault with the activities, products, or attitudes of the child (e.g., you're being naughty, that's a sloppy picture.)
Total No-Opportunity Commands	The total number of commands that the child is given no opportunity to comply with a command (e.g., command is vague, behavior requested is not within the child's competence, parent quickly repeats the command, parent issues the command while child is already doing requested action, parent does the requested behavior for child).
Total Warnings	The total number of statements that include a command accompanied by a negative consequence for non-compliance (e.g., If you do that one more time, I'm going to take that toy away).
Total Grandma's Rule	The total number of commands that specifies a positive consequence if the child complies (e.g., if you clean up the toys, then you can have a chocolate).

Note. Adapted from Eyberg, S. M. & Robinson, E. A. (1992, September). *Dyadic parent-child interaction coding system: A manual.*

Table 5

Child DPICS Variables

Summary Variables	Description
Total Child Deviance	The sum of the frequency of whine/cry/yell, physical negative, smart talk, destructive and noncompliance ratings.
Cry	Inarticulate utterance of distress at or below the loudness of normal conversation (e.g., fake crying, whimpering, sniffling).
Whine	Words uttered by the child in a slurring, nasal, high-pitched, falsetto voice
Yell	A loud screech, scream, shout, or loud crying
Smart Talk	Impudent or disrespectful speech (e.g., you're stupid, why should I?)
Destructive	Destroys, damages, or attempts to damage any object (e.g., throws ball at wall, bangs head against the wall, attempts to remove a non-removable part from a toy)
Physical negative	Bodily attack or attempt to attack another person, such as hitting, pinching, biting, and kicking
Noncompliance	Child does not obey a direct or indirect command (e.g., ignoring the parent, engaging in an incompatible, refusing to obey)
Compliance	Child obeys, begins to obey, or attempts to obey a direct or indirect parental command within three seconds

Note. Adapted from Eyberg, S. M. & Robinson, E. A. (1992, September). *Dyadic parent-child interaction coding system: A manual.*

Chapter 4

Results

This study provided a comprehensive intervention with individualized consultation, group teaching formats for parents and teachers, and social skills training for children. The basic components of this program were derived from the conceptual framework of problem-solving consultation and videotape therapy. Multiple indices of children's behavior with objective measures (e.g., direct observations from parents of children's behavior, combined with empirically based measures) were examined to evaluate the clinical impact of the intervention.

The efficacy of the intervention program was determined on the basis of both single-n and group methodology. An evaluation of single-participant data was conducted through the use of a multiple baseline research design, each child served as his own control subject (Richards, Taylor, Ramasamy, & Richards, 1999). A multiple baseline design has clinical advantages in comparison with a control group design. All participants were able to benefit from participation in the intervention program, and involvement in the study was particularly important for the referred families because of the inclusion criteria (significant externalizing behavior problems). Baseline data were collected and the intervention phase was initiated only when there were a sufficient number of measurements obtained to reflect stability of a pattern of behavior for each child (Richards et al., 1999). Comparison of each child's behavior at baseline and during intervention provides an index of the effectiveness of the intervention. Consistent with a multiple baseline across participants design (Richards et al., 1999), baseline data for the intervention group and the wait-list control group were collected simultaneously. When stable improvement was observed in the target behavior for the experimental group, the

intervention with the wait-list control group was implemented. Following is an explicit delineation of the research questions addressed by the current study.

Question 1

Will there be an improvement in each child's target behaviors following participation in the conjoint problem-solving consultation and videotape therapy intervention program, as measured by the frequency of behavior problems reported by parents from baseline to intervention?

This question was addressed by examining changes in the child's problem behavior as measured by parent frequency data (recording the frequency of behavior problems). The effectiveness of the consultation-intervention program was assessed first by a significance test (*t*-test) and then calculated through the use of effect size (ES) statistic at the level of each individual participant. Data for the baseline and intervention phases are presented graphically for each child.

For each child, a *t*-test was performed on the frequency of the observed target behavior at both the baseline and postintervention phase. Because the number of observations tended to be much smaller at baseline compared to the postintervention phase, the number of baseline observations was compared to the same number of observations collected at the end of intervention (Cohen, 1988). For example, if eight observations were collected at baseline, the last eight observations after the interventions were chosen. These two sets of numbers were then compared in a *t*-test unique to each child.

The ES statistic (Cohen, 1988) is a quantitative means of evaluating intervention effectiveness in consultation research (Busk & Serlin, 1992; Busse, Kratchowill, & Elliot, 1995; Gresham & Noell, 1993). The ES takes into account the lack of independence in the

data, typical of successive observations of the same participant. There are different ways to calculate effect size and various methods are more appropriate for some data sets than for others. One method, called mean baseline reduction (or MBLR) is calculated by subtracting the mean of the treatment observations from the mean of baseline observations and then divided by the mean of the baseline observations, and multiplying the result by 100 (e.g., Lundervold & Bourland, 1988). A second method, called percentage of nonoverlapping data (PND), is measured by calculating the percentage of intervention data points that do not overlap with the highest or lowest baseline data point. The percentage of zero data (PZD) is a third method which is measured by locating the first treatment data point that reaches zero and calculating the percentage of treatment data points that remain at zero including the first one. The PZD method measures the degree of behavior suppression and was not the most suitable method of data analysis for the current investigation. The primary objective of the consultation intervention program was a reduction of some problem behaviors (e.g., whining, not listening to commands). Complete suppression of problem behaviors was not expected and rarely occurred. In addition, the PND and PZD methods tend to be overly sensitive to the effect of outliers in the data. A fourth approach is the use of linear-regression methods. These techniques generally remove the trend from repeated observation by calculating predicted values (or a trend) based on the data collected at baseline. Predicted values are then subtracted from observed data and the results saved as "detrended" data which are then regressed on treatment data and time factors (e.g., Allison, Faith, & Franklin, 1995). Regression methods, although more statistically sophisticated, are not appropriate when dealing with small number of data points (as is the case with some participants in the current

investigation) because the results either cannot be calculated because of insufficient data or are unreliable.

The method utilized most extensively to calculate effect size in unrelated data sets (i.e., the assumption is made that each data point is independent of the others) is Cohen's *d* (Cohen, 1988). The effect size is computed by dividing the difference between the baseline and intervention phase means by the standard deviation of the baseline phase. This approach has also been widely used for single-case research (Busk & Serlin, 1992; Glass, 1976) in parent and family intervention research (Carlson & Christenson, 2005), and was the method chosen for the current study. This method overlaps considerably with the MBLR method mentioned above but it additionally takes into account the variance of the observations, not just their mean difference.

Thus, the effect size used in the current study is expressed in the following formula:

$$ES = \frac{M_{\text{intervention}} - M_{\text{baseline}}}{\text{SD}_{\text{baseline}}}$$

Where

$$SD = \sqrt{\frac{N\sum X^2 - (\sum X)^2}{N(N-1)}}$$

However in circumstances where the standard deviation of baseline cannot be computed due to the lack of variance during the baseline phase, an aggregate measure of the standard deviation is recommended by pooling the data from baseline and intervention phases (Busk & Serlin, 1992). The ES used in this situation is expressed by:

$$ES = \frac{M_{\text{intervention}} - M_{\text{baseline}}}{SD_{\text{pooled}}}$$

Separate effect sizes evaluating the change in target behavior at home were computed for each child who showed a statistically significant *t*-test value between baseline and intervention observations (see Table 6). Effect sizes were not calculated for children whose *t*-tests were not significant. The advantage of using an effect size measure is that effect size can be interpreted as standard deviation units expressed in *z*-scores (Gresham & Noell, 1993). In the current study, effect sizes are negative when there has been a reduction in the target behavior (e.g., noncompliance, hitting, swearing) and the effect sizes are positive when there has been an increase in a specific behavior (e.g., social interactions). According to Cohen (1988), effect sizes can be labelled as "small" effect sizes if $d = .20$, "medium" if d falls around at or above $d = .50$ and "high" if d fell at .80 or above.

The results of the *t*-test are presented in the first four columns of Table 6. The second column presents the *t*-statistic, followed by the number of observations for that particular child and the p value of the *t*-statistic. Sixteen out of the 22 students (73%) had statistically significant *t*-tests, meaning that there was a significant difference between the baseline observations and the corresponding number of observations prior at the end of the postintervention period.

The second last column of Table 6 shows the effect size calculated for each child with a significant *t*-test and the last column shows the effect size label according to Cohen's criteria. As can be seen, for many participants, effect sizes show large improvements in the behavior from baseline to intervention phases. According to the criteria, 14 out of all 22 students (64%) showed large effect sizes (d fell at .80 or above), and were therefore considered to have shown significant improvements in their behaviors from baseline to intervention phases. Furthermore, 1 out of 22 students (4.5%)

demonstrated moderate improvements and only 1 student showed a minimal degree of improvement. Figures 1 to 22 shows data for the baseline and intervention phase presented graphically for each child. The effect size is not provided for children for whom the *t* value was not significant at $p < .05$.

Table 6

Significance Test and Effect sizes of Target Behaviors and their Label according to Cohen's (1988) Classification

Child	*t* value	Number of Observations	*p* value	Effect Size	Labelled
1	2.50	7	.047	- 1.0812	High
2	1.53	8	.170		
3	3.24	7	.018	- 1.1621	High
4	3.21	8	.015	- .9977	High
5	5.61	8	.001	- 1.5029	High
6	3.09	20	.006	- 1.0944	High
7	8.33	14	< .001	- 1.8060	High
8	10.75	21	< .001	- 1.7720	High
9	5.98	21	< .001	- 1.0537	High
10	2.34	11	.041	- .7436	Medium
11	2.58	17	.020	- .4296	Small
12	0.89	7	.407		
13	4.77	14	< .001	- 1.1886	High
14	10.00	6	< .001	- 3.6742	High
15	11.50	5	< .001	- 3.6610	High
16	8.10	18	< .001	- 1.0268	High
17	2.21	6	.078		
18	4.00	5	.016	- 2.3935	High
19	-4.36	15	.001	1.2403	High
20	-2.00	3	.184		
21	-0.35	26	.729		
22	1.43	16	.173		

Note: Effect sizes are indicated only for children for whom *t*-test values were significant at $p < .05$.

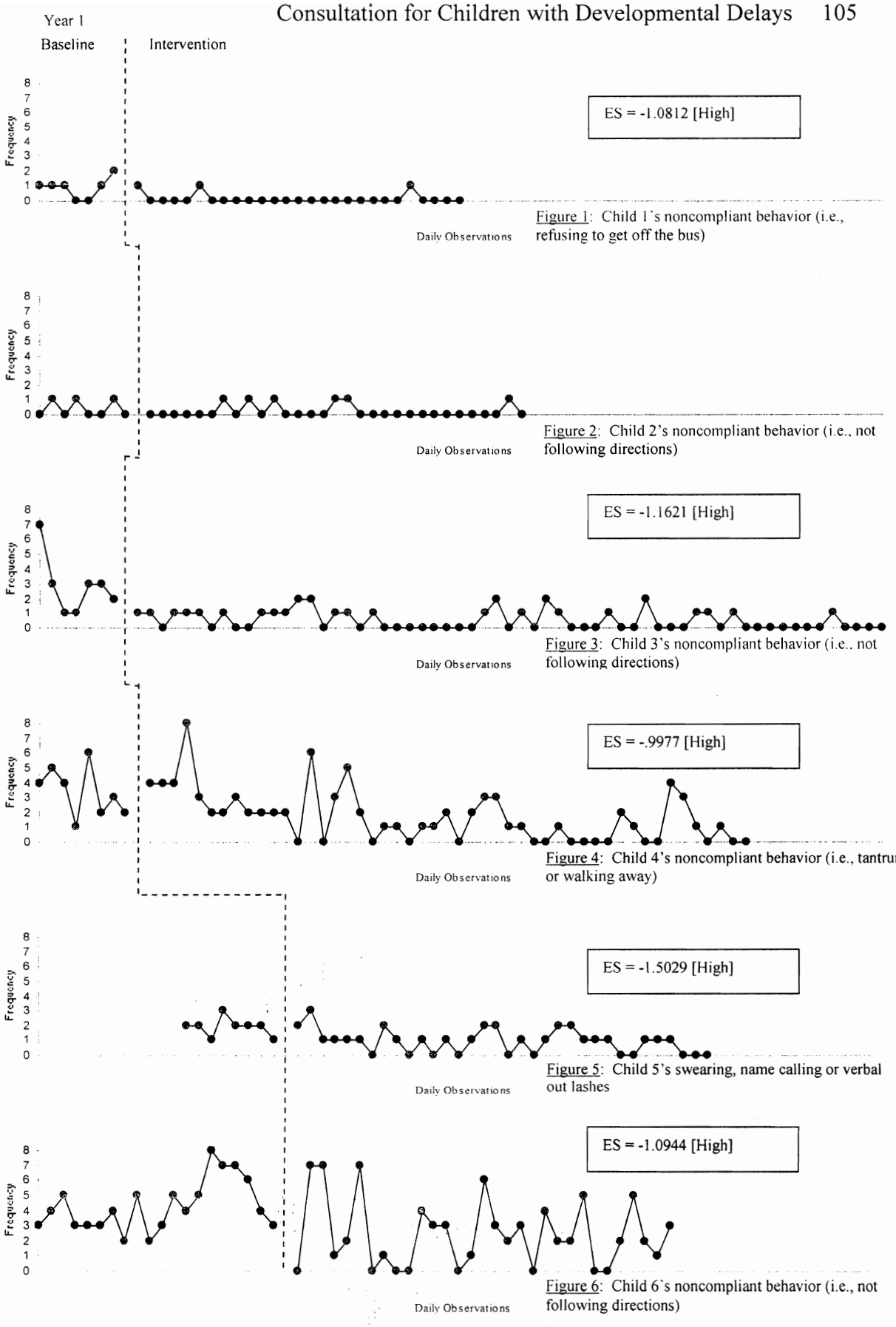

Figure 1: Child 1's noncompliant behavior (i.e., refusing to get off the bus)

Figure 2: Child 2's noncompliant behavior (i.e., not following directions)

Figure 3: Child 3's noncompliant behavior (i.e.. not following directions)

Figure 4: Child 4's noncompliant behavior (i.e., tantrum or walking away)

Figure 5: Child 5's swearing, name calling or verbal out lashes

Figure 6: Child 6's noncompliant behavior (i.e., not following directions)

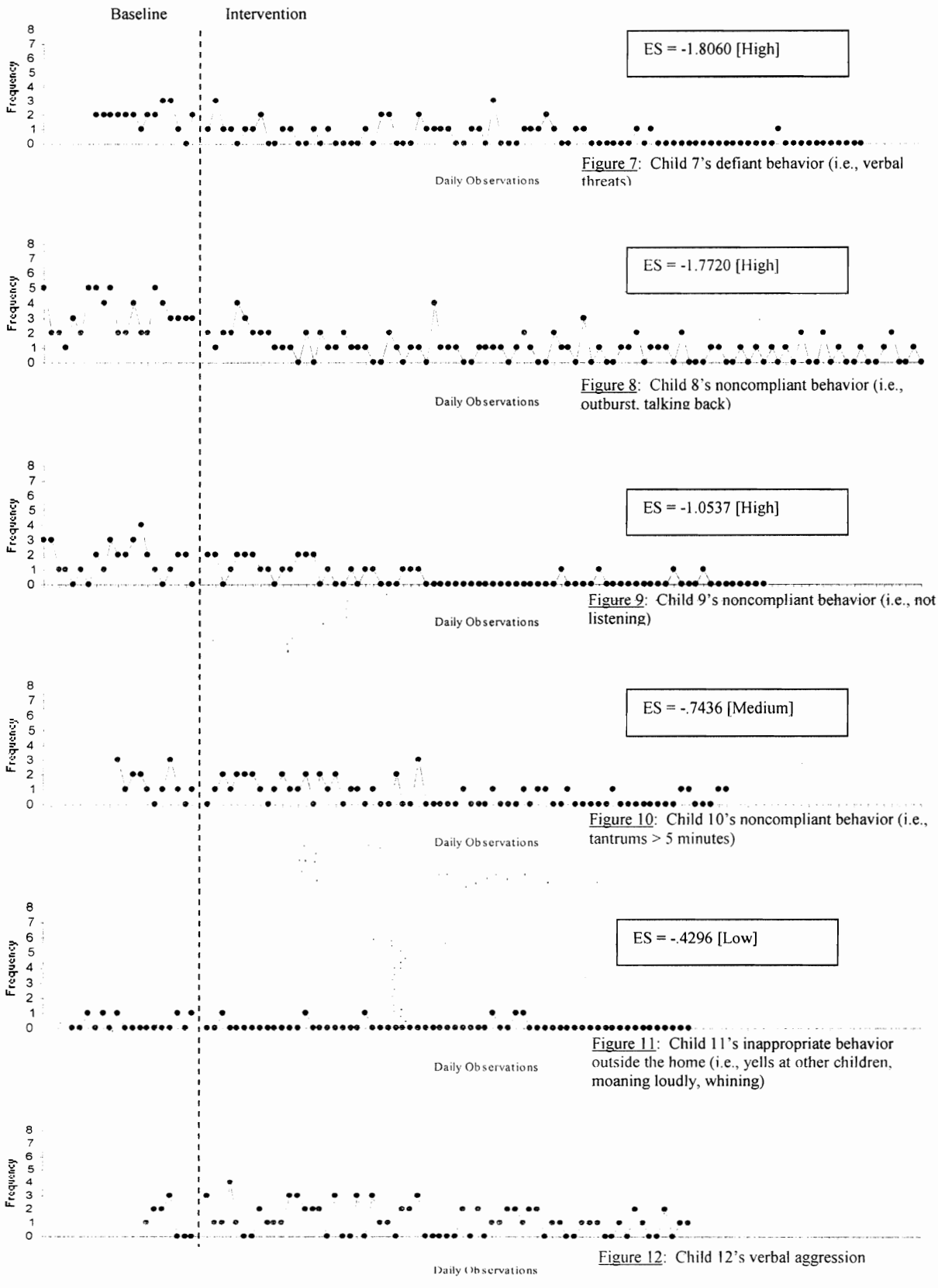

Figure 7: Child 7's defiant behavior (i.e., verbal threats)

Figure 8: Child 8's noncompliant behavior (i.e., outburst, talking back)

Figure 9: Child 9's noncompliant behavior (i.e., not listening)

Figure 10: Child 10's noncompliant behavior (i.e., tantrums > 5 minutes)

Figure 11: Child 11's inappropriate behavior outside the home (i.e., yells at other children, moaning loudly, whining)

Figure 12: Child 12's verbal aggression

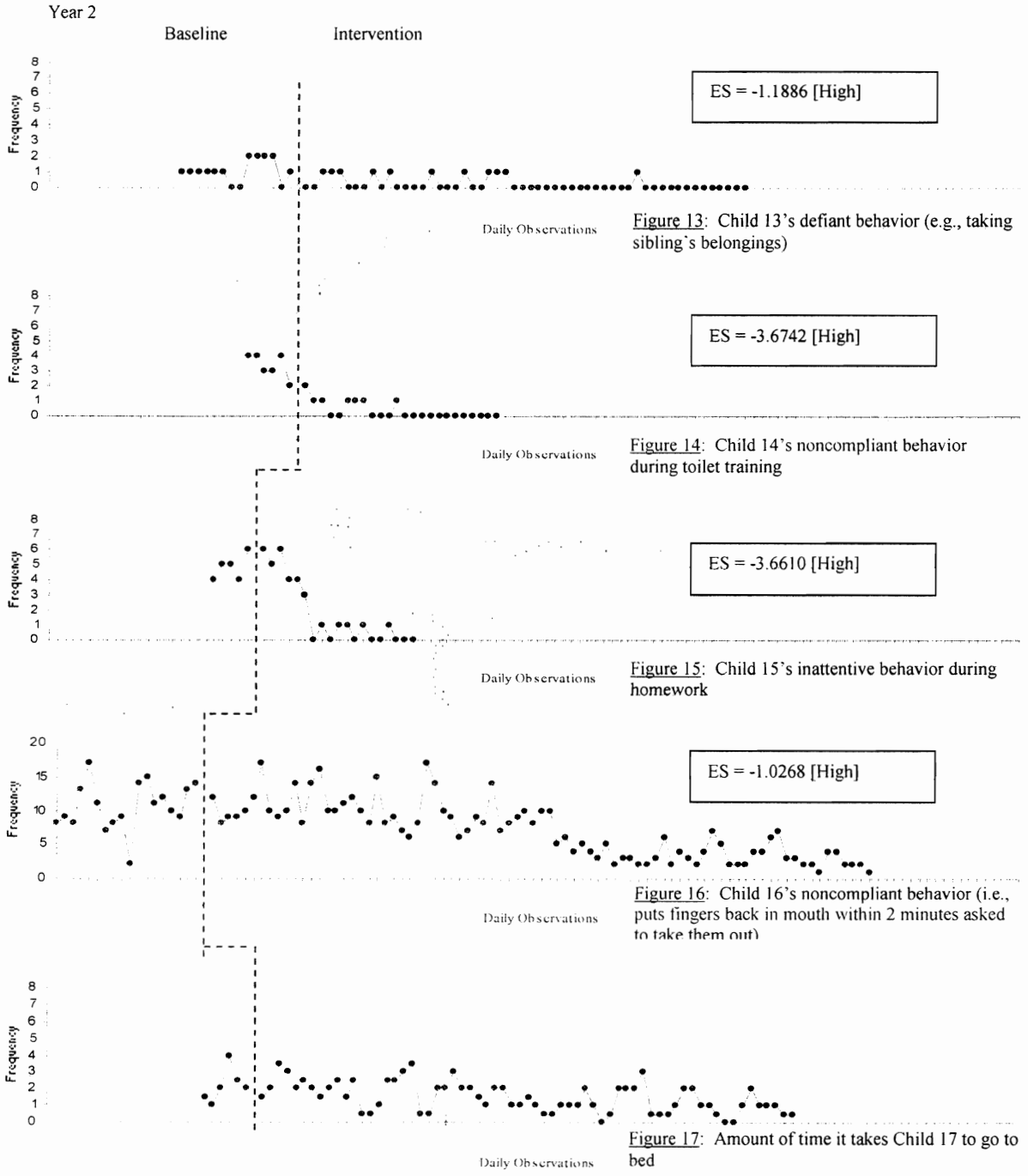

Figure 13: Child 13's defiant behavior (e.g., taking sibling's belongings)

Figure 14: Child 14's noncompliant behavior during toilet training

Figure 15: Child 15's inattentive behavior during homework

Figure 16: Child 16's noncompliant behavior (i.e., puts fingers back in mouth within 2 minutes asked to take them out)

Figure 17: Amount of time it takes Child 17 to go to bed

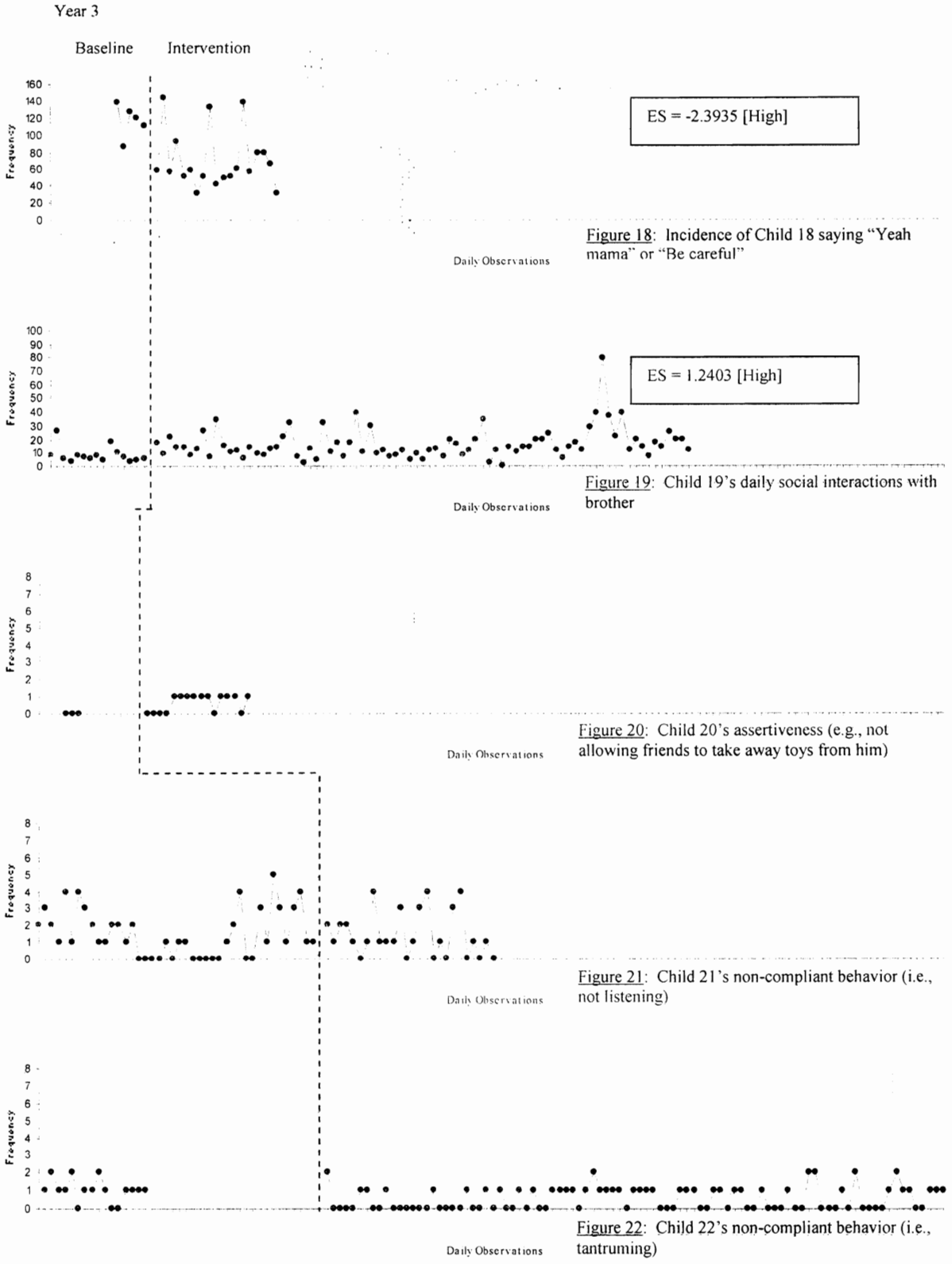

Figure 18: Incidence of Child 18 saying "Yeah mama" or "Be careful"

Figure 19: Child 19's daily social interactions with brother

Figure 20: Child 20's assertiveness (e.g., not allowing friends to take away toys from him)

Figure 21: Child 21's non-compliant behavior (i.e., not listening)

Figure 22: Child 22's non-compliant behavior (i.e., tantruming)

Question 2

Will parent and child participation in the intervention program have a positive impact on parent-child interactions (e.g., more praise, fewer critical statements, more compliance) from pretreatment to posttreatment?

To address this question, two strategies were used. First, change scores were calculated on the DPICS variables previously specified and the percentage of participants showing improvements were tallied (see Table 7). Second, the pre- and postintervention scores were analyzed via *t*-tests to determine whether there were significant changes in the frequency of behaviors from pre- to postintervention.

Change score analysis for parent variables. For the Praise variable, preintervention scores (frequency of parents' use of Praise) were subtracted from the postintervention scores (frequency of parents' use of Praise). As can be seen in the results presented in Table 7, the majority of parents, approximately 85%, showed an increase in the frequency of Praise from preintervention levels to postintervention levels during videotaped observations in play with their children. Approximately 15% of parents showed a decrease in the frequency of Praise from preintervention levels to postintervention levels during videotaped observations of play with their children.

For the use of Critical Statements, the postintervention score was subtracted from the preintervention score. Approximately 54% of parents showed a decrease in the frequency of their use of Critical Statements from pre- intervention to postintervention. Approximately 38% of parents did not exhibit any change in their use of Critical Statements from preintervention to postintervention. Eight percent of parents showed an increase in their use of Critical Statements from preintervention to postintervention.

Table 7

Percentage of Parents Showing Change in the Frequency of DPICS Observed Parent and Child Variables following Intervention.

DPICS	Improvement	No change	Deterioration
Parent variables			
Praise	84.6	0	15.4
Critical Statements	53.8	38.5	7.7
No-Opportunity Commands	61.5	15.4	23.1
Warnings	0	100	0
Grandma's Rule	0	100	0
Child variables			
Total Deviance	53.8	30.8	15.4
Compliance	53.8	0	46.2
Noncompliance	53.8	7.7	38.5

Note. $N = 13$.

For the use of No-Opportunity Commands, the postintervention score was subtracted from the preintervention score. Approximately 62% of parents showed a decrease in the frequency of their use of No-Opportunity Commands from preintervention to postintervention. Approximately 15% of parents did not exhibit any change in their use of No-Opportunity Commands from preintervention to postintervention. Approximately 23% of parents showed an increase in the frequency of their use of No-Opportunity Commands from preintervention to postintervention.

For the use of Warnings and Grandma's Rule commands, the postintervention score was subtracted from the preintervention score. An absence of observed incidences in the parents' use of Warnings or Grandma's Rule commands either in the preintervention or postintervention phase, resulted in a value of zero for all of the parents.

Change score analysis for the child variables. To examine whether participation in the consultation intervention program would reduce children's deviant behavior and increase children's compliant behavior, change scores were calculated for each of the three child variables observed: Total Deviance, Compliance, and Noncompliance.

For the child's Total Deviance behavior, including behaviors such as, whining, crying, yelling, and destructive actions, approximately 54% of children showed a decrease in the frequency of their deviant behavior from preintervention to postintervention. Approximately 31% of children did not exhibit any change in the frequency of deviant behavior from preintervention to postintervention. Approximately 15% of children showed an increase in the frequency of their deviant behavior from preintervention to postintervention

For the child's compliant behavior (Compliance), the preintervention score was subtracted from the postintervention score. Approximately 54% of children showed an

increase in the frequency of their compliant behavior from preintervention to postintervention, whereas 46% of children showed a decrease in the frequency of their compliant behavior from preintervention to postintervention.

For the child's noncompliant behavior (Noncompliance), the postintervention score was subtracted from the preintervention score. Approximately 54% of children showed a decrease in the frequency of their noncompliant behavior from preintervention to postintervention. Approximately 8% of children did not exhibit any change in the frequency of their non-compliant behavior from preintervention to postintervention. Approximately 38% of children showed an increase in the frequency of their noncompliant behavior from preintervention to postintervention.

T-test analyses on the parent and child variables. To determine whether the consultation intervention program had a significant impact on the observed frequency of behavior of parents and children during the videotaped interactions, a series of paired *t*-tests were performed on the pre- and postintervention scores.

Table 8 presents the average values for the parent and child variables pre- and postintervention. There were no observed incidences of Warnings and Grandma's Rules commands either in the pre- or postintervention period. Although these two variables were included in Table 8, no *t*-test analyses were performed. As can be seen in Table 8, apart from the variable of Compliance, all other variables showed a change in the hypothesized direction between pre- and postintervention.

For the parents' use of Praise, *t*-test analyses indicated a significant difference in the frequency of this behavior from the pre- to the postintervention period (t (12) = -2.76; p = .017). The postintervention means showed that parents increased the frequency of Praise given to their children compared to the preintervention period.

For the parents' use of Critical Statements, *t*-test analyses did not indicate a significant difference from pre- to postintervention in the frequency of Critical Statements (t (12) = 1.82, p = .094), No-Opportunity Commands (t (12) = 1.76, p = .104). From pre- to postintervention *t*-test analyses did not indicate a significant difference in the frequency of child deviance (t (12) = 1.56, p = .144), child Compliance from pre- to postintervention (t (12) = 0.36, p = .725), and child Noncompliance from pre- to postintervention (t (12) = 0.21, p = .835).

Table 8

Average Mean Values for the Observed Frequency of DPICS Variables for Parents and Child at Pre- and Postintervention.

	Preintervention	Postintervention
Parent variables		
Praise	10.23*	14.08*
Critical Statements	1.23	0.38
No-Opportunity Commands	3.15	1.46
Child variables		
Total Deviance	5.92	4.23
Compliance	20.23	19.15
Noncompliance	6.31	6.08

Note. $N = 13$. *This pair of means is significantly different at $p < .05$.

Question 3

Will there be an association between parent adjustment (i.e., depressive symptomatology, parent stress) and parent-child interactions (e.g., praise, critical statements, compliance) from preintervention to postintervention?

Two sets of correlations were performed in order to address this question. The first set of correlations were performed between parent adjustment measures (Beck Depression Inventory and the Parenting Stress Index) and the parent and child variables of the DPICS at preintervention. The second set of correlations were performed between parent adjustment measures (Beck Depression Inventory and the Parenting Stress Index) and the parent and child variables of the DPICS at postintervention.

Preintervention correlations. Results on the preintervention scores are presented in Table 9 for the parent adjustment measures (Beck Depression Inventory and the Parenting Stress Index) and the parent-child interaction measures (DPICS). As indicated in the previous section, there were no observed incidences in parents' use of Warnings or Grandma's Rule commands; thus, there was no variance and correlations could not be computed. Significant correlations are indicated by an asterix.

Higher levels of parent depressive symptomatology were associated with lower levels of the observed frequency of parent use of Praise at preintervention. Parent stress levels were not significantly correlated with the quality of parent-child interactions at preintervention. As can be seen in Table 9, other correlations between variables such as No-Opportunity Commands were not statistically significant.

Table 9

Pearson's correlations between scores on the depression (BDI) and the parenting stress scales (PSI) and scores on the DPICS at preintervention.

	BDI [a]	PSI [b]		
DPICS Subscales	BDI	PD [c]	P-CDI [d]	DC [e]
Parent variables				
Praise	-.81*	-.63	-.13	.14
	$p = .050$	$p = .132$	$p = .778$	$p = .769$
Critical Statements	.49	.63	.20	-.67
	$p = .326$	$p = .127$	$p = .664$	$p = .097$
No-opportunity Commands	.75	.74	-.09	-.62
	$p = .089$	$p = .059$	$p = .849$	$p = .137$
Child variables				
Total Deviance	.31	.02	.36	.44
	$p = .556$	$p = .974$	$p = .420$	$p = .317$
Compliance	-.10	.20	.44	-.22
	$p = .856$	$p = .674$	$p = .321$	$p = .631$
Noncompliance	.76	.60	.02	-.10
	$p = .077$	$p = .151$	$p = .967$	$p = .825$

Note. [a] $N = 6$. [b] $N = 7$. [c] Parental Distress. [d] Parent-Child Dysfunctional Interaction. [e] Difficult Child.
*$p < .05$.

The results in Table 10 indicate that there was a positive correlation between the scores on the Parental Distress scale of the PSI and the children's observed Total Deviance (i.e. sum of the frequency of crying, whining, noncompliance) at postintervention. Interestingly, this correlation was close to zero at preintervention. Depressive symptomatology in parents was not significantly correlated with the quality of parent-child interactions at postintervention.

Table 10

Pearson's correlations between scores on the depression (BDI) and the parenting stress scales (PSI) and scores on the DPICS at postintervention.

	BDI [a]	PSI [b]		
DPICS Subscales	BDI	PD [c]	P-CDI [d]	DC [e]
Parent variables				
Praise	-.70 $p = .123$	-.11 $p = .858$	.14 $p = .822$	.47 $p = .422$
Critical Statements	NA [f]	NA [f]	NA [f]	NA [f]
No-Opportunity Commands	-.30 $p = .559$	NA [f]	NA [f]	NA [f]
Child variables				
Total Deviance	.23 $p = .657$	.88* $p = .051$	.63 $p = .258$	-.32 $p = .597$
Compliance	-.51 $p = .299$	.08 $p = .893$	.25 $p = .679$	.68 $p = .208$
Noncompliance	.31 $p = .545$	.36 $p = .552$	.09 $p = .887$	-.34 $p = 577$

Note: [a] $N = 6$. [b] $N = 5$. [c] Parental Distress. [d] Parent-Child Dysfunctional Interaction. [e] Difficult Child. [f] Not Applicable; correlation could not be computed due to a lack of variance in at least one of the variables.
*$p < .05$.

Question 4

Will there be an association between depressive symptomatology in parents, children's externalizing behavior problems, and children's social competency at baseline and following participation in the intervention program?

This question was measured by the following instruments: CBCL, SSRS, and BDI. A series of correlations were performed between the parent's score on the BDI and Externalizing domain score of the CBCL and the Problem Behavior subscales score on the SSRS. Two sets of correlations were performed. The first set of correlations was performed with scores collected prior to the consultation intervention program, and the second set of correlations was performed with the second set of scores collected following participation in the consultation intervention program (see Tables 11 and 12). Results on the preintervention scores showed no statistically significant correlations between the parents' scores on the BDI and the Externalizing scales of the CBCL or Problem Behavior subscales of the SSRS at pre- or postintervention.

Question 5

Will there be an association between parent stress levels, children's externalizing behavior problems, and children's social competency at baseline and following participation in the intervention program?

This question was measured by the following instruments: CBCL, SSRS, and PSI. A series of correlations were performed between the parent's score on the PSI and Externalizing domain score of the CBCL and the Problem Behavior subscales score on the SSRS. Two sets of correlations were calculated. Two sets of correlations were calculated. The first set of correlations was calculated with scores collected prior to the consultation intervention program, and the second set of correlations was performed with the second set of scores

collected following participation in the consultation intervention program (see Tables 11 and 12). Results on the preintervention scores indicated that there were no statistically significant correlations between the parents' scores on the PSI and the Externalizing scales of the CBCL or the Problem Behavior subscales of the SSRS at preintervention. However, parent stress on the Difficult Child subscale of the PSI was positively correlated with parent's perception of their child having problem behaviors, as measured by the SSRS. The other two scales of the PSI, Parental Distress and Parent-Child Dysfunctional Interaction were not significantly correlated with any other subscales of the CBCL or SSRS.

Table 11

Pearson's correlations between scores on the BDI, PSI, CBCL and SSRS at preintervention.

	BDI [a]	PSI [b]		
		PD [c]	P-CDI [d]	DC [e]
CBCL Scales				
Externalizing	-.27 $p = .395$	-.24 $p = .438$	-.21 $p = .491$	-.23 $p = .445$
SSRS scales				
Social Skills	.31 $p = .323$	.53 $p = .062$	.24 $p = .430$	-.05 $p = .871$
Problem Behaviors	-.38 $p = .225$	-.36 $p = .231$	-.22 $p = .477$	.07 $p = .826$

Note. [a] $N = 12$. [b] $N = 13$. [c] Parental Distress. [d] Parent-Child Dysfunctional Interaction. [e] Difficult Child.
*$p < .05$.

Table 12

Pearson's correlation between scores on the BDI, PSI, CBCL and SSRS at postintervention.

	BDI [a]	PSI [b]		
		PD [c]	P-CDI [d]	DC [e]
CBCL scales				
Externalizing	.12 $p = .710$	.27 $p = .446$	.22 $p = .533$	.60 $p = .064$
SSRS scales				
Social Skills	-.36 $p = .257$	-.08 $p = .835$	-.41 $p = .238$	-.48 $p = .158$
Problem Behaviors	.31 $p = .331$	.50 $p = .141$	.23 $p = .523$	.69* $p = .029$

Note. [a] $N = 12$. [b] $N = 10$. [c] Parental Distress. [d] Parent-Child Dysfunctional Interaction. [e] Difficult Child.
*$p < .05$.

Chapter 5

Discussion

The purpose of this study was to evaluate the efficacy of problem-solving consultation and videotape therapy for parents of children with developmental delays and externalizing behavior difficulties. A primary objective of the study was to ascertain whether participation in the intervention program would result in an improvement in target behaviors that were identified by parents as problematic at the assessment phase. A second goal of the study was to examine more complex relationships between parent-child interactions, parent adjustment, and children's externalizing behavior problems.

The next section will focus on a discussion of the following areas (a) children's targeted behavior problems, (b) parent-child interactions, and (c) the relationship between parent adjustment (i.e., parent stress and depressive symptomatology) and parent-child interactions. An examination of the limitations of the study, directions for future research, and implications for mental health providers will follow.

Childrens' Targeted Behavior Problems

In the present study, the majority of children (73%) demonstrated a significant improvement in externalizing behavior problems according to parent observations of the frequency of target behaviors at pre- and posttreatment. The remaining six children showed a change in the frequency of their target behavior in the desired direction. These results provide support for previous research documenting the effectiveness of problem-solving consultation (Guli, 2005; Kratochwill et al., 2003; Sheridan, Clarke, Koche, & Edwards, 2006; Sheridan, Eagle, & Doll, 2006), and videotape therapy (Reid et al., 2007; Webster-Stratton et al., 2004) in the remediation of behavior problems among typically developing children. More importantly, the findings are consistent with results of the few investigations that have examined the benefits

of this combined intervention among children with developmental delays and behavior problems (Illsley & Sladeczek, 2001; Viola & Sladeczek, 2002). The reduction of children's targeted behavior problems can be understood within the social-ecological framework that guides consultation research and practice (e.g., Bronfenbrenner, 1979). This perspective views child's behaviors as embedded within the context of their environment (e.g., home, school, and community), thus relationships between individuals in these settings are considered mutual and interdependent. Following the tenets of social-ecological theory, the four phases of the problem-solving format used in this study provided a highly individualized assessment and intervention plan in collaboration with parents to promote positive behavior change in children. Parents were active participants in selecting target behaviors, establishing goals, implementing an agreed-upon intervention plan, collecting data to monitor the intervention effectiveness, and problem-solving as necessary to address additional needs (Sheridan et al., 2006).

Consistent with the ecological approach underlying problem-solving consultation, researchers have shown that children demonstrate greater behavioral gains when interventions are applied across both the home and school setting (Wilkinson, 2005). Evidence for the effectiveness of interventions that are offered conjointly has been conveyed by the findings of Webster-Stratton's videotape therapy program. In a study with at-risk children, greater improvements in externalizing behavior problems were evidenced among children in the parent and teacher condition in comparison with classroom intervention alone (Reid et al., 2007). In this study, similar behavioral improvements were demonstrated in children's classroom behavior (Karagiannakis, Sladeczek, Madden, & Saros, 2004).

Measures of children's behavior problems were obtained from multiple sources of information. In addition to the recorded frequency of target behaviors at home, parents completed standardized behavioral checklists that measured externalizing behavior problems

and social competency at pre- and postintervention. Webster-Stratton has consistently reported significant behavioral improvements on the CBCL following videotape therapy (e.g., Reid et al., 2007; Webster-Stratton & Hammond, 1997; Webster-Stratton et al., 2001). Contrary to expectations based on her findings, the children in this study did not evidence significant changes in their behavior on these outcome measures. One explanation for this finding is related to sample differences characterized by the diagnosed developmental disabilities of the children in this study in comparison with the typically developing children in Webster-Stratton's research programs. As measures of behavioral change, the CBCL and SSRS may not have been sensitive enough to detect small improvements in the children's behavior.

Developmental delays are often accompanied by a myriad of social-emotional and behavioral difficulties (Baker et al., 2002; Feldman et al., 2000; Larson et al., 2001). These delays are represented by deficits in the development of adaptive skills such as self-direction, social skills, and academic progress (Larson et al., 2001). Given the numerous areas of functioning affected by developmental disabilities, it is possible that some difficulties persisted beyond those which were targeted by parents prior to the intervention. Furthermore, developmental disabilities are characterized by deficits in cognitive functioning which impede learning potential. In the present study children may have required a longer duration of training to integrate the skills provided by the 12-week, once-a-week intervention program. An extended training period may have resulted in significant generalized behavioral improvement on standardized rating scales. The present study indicated that following participation in the intervention program, children showed a significant reduction in the externalizing behavior problems that were targeted by parents for remediation; in this way, demonstrating the effectiveness of the combined consultation and videotape therapy process. A second area of

examination in this study extended beyond the focus of children's behavior problems to the more complex relationship between parent and child interactions.

Parent-Child Interactions

Social-learning and ecological theories conceptualize parent and child behavior as mutually influential and interactive (Bronfenbrenner, 1979; Patterson et al., 1992). Problem-solving consultation researchers emphasize the importance of this relationship by involving parents directly in behavioral evaluation, intervention planning, and intervention (Sheridan et al., 2006). However, investigations have focussed primarily on child-outcome measures to examine intervention efficacy. In contrast, Webster-Stratton's research on videotape therapy has consistently examined parent-child interactions with respect to behaviors such as praise, criticism, noncompliance, and compliance as measures of treatment outcome (Webster-Stratton & Hammond, 1997; Reid et al., 2007). The present study explored the impact of the intervention program on the quality of parent-child interactions through an analysis of direct observations at pre- and postintervention using a 15-minute, semi-structured play observation. A range of positive and negative parent and child behaviors was evaluated during the three 5-minute intervals of parent directed play, child directed play, and clean-up (e.g., praise, critical statements, compliance, tantrums). Based on Webster-Stratton's extensive research on videotape therapy with behaviorally difficult, typically developing children, it was expected that parents and children would demonstrate an increase in positive interactions following participation in the intervention program.

In this study parents were observed to demonstrate significantly more frequent use of praise at posttreatment than at pretreatment. These findings are only partially consistent with Webster-Stratton's results. Following her comprehensive parent-training programs, increased positive parenting behavior such as praise, appropriate limit setting, and significant reductions

in critical parenting were associated with behavioral improvements in children, such as less noncompliance (Reid et al., 2007; Webster-Stratton et al., 2004; Webster-Stratton & Hammond, 1997). In the current study, gains in positive parenting were not associated with an increased frequency of children's compliance during observed interactions with parents following intervention. Children's target behavior problems significantly improved on measures of daily recorded frequency data though these changes were not reflected during the brief observation period. It is expected that parent's increased use of praise was related to these more cumulative changes. Understood within the framework of social-learning theory, this suggests that parents acquired skills to relate more positively to their children, thus generalizing a key component of Webster-Stratton's training program.

Parents often use ineffective methods of discipline such as criticizing and yelling when their children are noncompliant (Webster-Stratton & Hammond, 1993). Patterson et al. (1992) described a coercive process by which children learn to avoid parental criticism through negative behavior that leads to aversive parenting resulting in cyclical behavior problems. This pattern was identified in a meta-analysis of 47 studies investigating the association between parental caregiving and externalizing behavior problems in children (Rothbaum & Weisz, 1994). Caregiving qualities such as approval, absence of coercive control, guidance, and motivational strategies were negatively correlated with children's externalizing behavior. In this study parents showed an increase in the frequency of praise and there was a trend towards using fewer critical statements even though their children's observed compliance did not statistically improve during these observed interactions.

The nature of the measure used to evaluate parent-child interactions in the present study may have contributed to this finding. There was a discrepancy in the results obtained from child-outcome measures collected over an extended period of time, in comparison with

observational data that were collected during two scheduled sessions at baseline and intervention phases of the program. The formal setting in which the observations were conducted (e.g., a playroom at a university laboratory), was likely a difficult transition for the children as it was unfamiliar environment. In Webster-Stratton's studies (e.g., Reid et al., 2007) parent-child interactions were evaluated with a home observation rating. Children were observed interacting with their parents at home and asked to engage in their normal routine rather than assigned structured intervals of time with their children, as was the case in this investigation. Naturalistic observations may have led to a more informative assessment of the children's behavior. In addition, a control group with typically developing children may have led to more definitive results regarding parent-child interactions.

By conceptualizing parent-child interactions as mutually reciprocal and interdependent, ecological theory provides a basis for further exploration of the parent-child relationship. The association between parent adjustment and parent-child interactions exemplifies the influence that family members have on each other's behavior and will be discussed in the next section.

Parent-child interactions and parent adjustment

There is a considerable body of research indicating that parents of children with developmental delays and behavior difficulties experience compromised adjustment. The most commonly identified problems among these parents are elevated stress (Baker et al., 2002; Hastings & Beck, 2004; Lloyd & Hastings, 2008) and depressive symptomatology (Baker et al., 2005; Feldman et al., 2000).

Depressive symptomatology and parent-child interactions. Researchers have shown that parent well-being has an impact on the quality of parenting. Depressed, stressed, and unsupported parents are less likely to provide nurturing, and develop strong positive bonds with behaviorally difficult children (Reid et al., 2007). In turn, negative parenting practices such as

harsh and ineffective discipline, and nonresponsive parenting behaviors, have been identified as risk factors for antisocial tendencies and social skills deficits in children (Baydar et al., 2003). Family coping theorists (e.g., Patterson, 1982) proposed that the effects of maternal depression on children's behavior are cumulative; depression leads to negative perceptions of child behavior, followed by increased criticism and commands, and resulting in heightened levels of child deviance. In the present study, there was an inverse relationship between depressive symptomatology and the quality of parent-child interactions at preintervention. Specifically, higher levels of parent depressive symptomatology were associated with lower levels of parent praise. This finding is consistent with previous investigations that have shown an association between depressive symptomatology and less positive parenting behavior (Elgar et al., 2003; Floyd & Phillippe, 1993; Langrock et al., 2002).

The nature of the sample in this study may have contributed to an absence of a more salient association between depressive symptomatology and parent-child interactions. Prior to participation in the intervention program the majority of parents did not exhibit clinically elevated levels of depressive symptomatology, with the exception of two parents who reported experiencing mild depression. Following participation in the intervention program all parents scored within the minimal to mild range (i.e., below the clinical cut-off for depression), with the exception of one parent who scored within the mild range. The nature of the educational setting attended by the children in this study may have contributed to relatively better parent adjustment than commonly identified among parents with similar life circumstances. The specialized school provided individualized instruction with a low student-teacher ratio and on-site support services (e.g., social workers, psychologists, speech therapists, occupational therapists). There was an accessibility of resources within the school setting that provided parents with professional support, availability of specialized therapy for their child, a long-term

educational program from the age of 4 to 21, and vocational training including outreach programs to prepare them for the transition to adulthood.

Social and professional support has been instrumental in alleviating the burden of care associated with parenting a child with disabilities (Fox et al., 2002), while child care-giving demands and parent perceptions of limited time resources have been identified as strong predictors of depression (Hermann & Marcenko, 1997). Furthermore, Crnic, Friedrich, and Greenberg, (1983) proposed that family stress due to a child's disability is influenced by ecological resources such as social support. In the present study, depressive symptomatology may have been mediated by social support and the professional resources provided by the specialized school that their children attended.

A second characteristic of the parents which distinguished them from parents at higher risk for depression was marital status. Single mothers have been identified as more vulnerable to severe depression than mothers living with a partner due to the extra stress of caring for a child with disabilities (Feldman et al., 2000; Olsson & Hwang, 2001). The majority of parents of parents in this study were married (72%), and therefore marital status may have served as a mediating variable to buffer the effects of depression. Definitive statements regarding depressive symptomatology are not possible given the correlational nature of the data analyses. However, researchers have reported differential ratings of depression ranging from clinically significant to nonsignificant on varying measures (Glidden & Schoolcraft, 2003). A closer examination of the complex nature of depressive symtpomatology with multiple measures of parent depression may have provided additional information regarding this variable. Lastly, a control group would have helped to ascertain the influence of mediating variables (e.g., children in a different school setting). In addition to depressive symptomatology, the presence

of stress among parents has been considered to be an important indicator of adjustment in parents.

Parent stress and parent-child interactions. Elevated stress has been identified as a common characteristic in parents of children with developmental delays and behavior problems due to the increased care-giving demands associated with managing challenging behaviors (Baker et al., 2001, 2003). Consistent with these findings, 70% of parents in the current study exhibited clinically elevated stress levels prior to participating in the intervention program. The primary source of stress among parents was related to perceptions of their child's difficult behavior, followed by stress in relation to the quality of the interactions with their child. Following participation in the intervention program, there was a reduction in all sources of stress measured by the parent stress scale with the exception of stress derived from parent-child interactions (e.g., the child does not meet the parent's expectations). The majority of parents continued to evidence stress levels which were in the clinically significant range. The presence of persistent stress among parents of children with developmental disabilities and behavior problems following family intervention has been previously documented. For example, in an intervention program designed to increase parenting skills, decrease child-behavior problems, and reduce parent stress, Roberts et al. (2006) found that changes in parent stress were quite limited in spite of improvements in children's behavior and increased positive parenting. Lloyd & Hastings (2008) examined the nature of parent stress among mothers of a group of children with intellectual disabilities (i.e. Down 's syndrome, Autism, Developmental delays, Cerebral Palsy). Among the psychological variables assessed, only acceptance was negatively associated with maternal stress and depression; avoidant coping and mindfulness were not associated with either stress or depression.

In the current study, there were no significant associations between parent stress and parent-child interactions at the preintervention phase of the program. Following intervention elevated parent stress in relation to children's difficult behavior was significantly related to parent ratings of children's problem behavior. It is possible that following intervention parents continued to experience stress due to a greater awareness of the chronic nature of their child's disability and accompanying behavior problems. This is supported by previous researchers who have identified behavior problems as generating more stress among parents than the functional limitations associated with the developmental delay (Baker et al., 2002, 2003, 2005; Herring, Gray, Taffe, Tonge, Sweeny, & Einfeld, 2006). Due to the correlational nature of the analyses it is not possible to determine causality, and the small sample size further constrained the interpretation of the correlational data. However, the association evidenced between parent stress and parent-child interactions points to the need for further investigation of this relationship.

Researchers have implicated stress as a precursor to the development of depression. Webster-Stratton and Hammond (1988, 1990) found that elevated maternal stress was a predictor of depression, and stress contributed significantly to parental reports of child deviance (Webster-Stratton & Hammond, 1990). Highly stressed parents have relatively poor outcomes for intervention such as fewer gains in parenting skills (Baker et al., 1991), all of which highlight the importance of addressing parent stress when planning intervention programs.

Conclusion

The diagnosis of developmental delays is characterized by functional limitations in several major life activities such as self-direction, self-care, and language (Larson et al., 2001). Families with developmentally delayed children experience numerous challenges beyond the normative tasks that are typically associated with parenting. There are stressors related to

chronic burden of care, concerns regarding the child's capacity for future independence and autonomy, an increased need to develop social networks and community resources, repercussions related to social stigma, and negotiating care-taking tasks within the family (Baker et al., 2002; Eisenhower et al., 2005; Feldman et al., 2000; Fenning et al., 2007; Fox et al., 2002; Hastings & Beck, 2004; Herring et al., 2006; Hudson et al., 2003).

In the absence of behavior problems, parenting challenges can be met with an increased sense of purpose and tolerance, family unity and closeness, expanded personal and social networks, and personal growth (Stainton & Bessner, 1998). However, as a result of the complex interaction between biological and environmental factors (Feldman et al., 2000), children with developmental delays are at an increased risk for developing behavioral and social-emotional difficulties (Emerson, 2003; Roberts et al., 2006). Researchers have shown that a dual diagnosis of behavioral and social-emotional problems in this population has serious implications for children, parents, and educators (Baker et al., 2002; Paczkowski & Baker, 2007; Tonge, 1999). In the absence of intervention, early-onset behavior problems often increase in severity, resulting in difficulties that persist throughout the life span (Emerson, 2003; Feldman, Hancock, Rielly, Minnes, & Cairns, 2000; Hebert, 2000; Hellings & Schroeder, 1999). Children with developmental delays and their families have traditionally not been a focus of the research in family intervention literature, and these families remain relatively underserved by professional and community resources due to limited resources in the health care and educational systems (Baker et al., 2002; Roberts et al., 2003; Tonge, 1999).

The present investigation was initiated to further our knowledge of child and parent functioning, to expand on the limited intervention literature currently available, and to provide supportive services to an underserviced population in need. The intervention successfully remediated children's targeted externalizing behavior problems and thereby underscores the

effectiveness of the structured four-phase process that is central to problem-solving consultation (Sheridan et al., 2006). Through an analysis of problem behavior, the development of an intervention plan, and careful monitoring of the behavior, all of the children in this study improved with respect to target behaviors. The comprehensive nature of the consultation process, the active involvement of parents, and the application of the intervention across home and school contributed to the reduction of target behavior problems.

Children's externalizing behavior problems were evaluated on the basis of multiple-outcome measures. In contrast with the significant improvements identified by the frequency data recorded by parents, the standardized rating scales did not reflect considerable changes in children's problematic behavior. Children with developmental delays present numerous behavioral and social-emotional problems (Eisenhower et al., 2005), and therefore it is likely that some of these difficulties persisted following termination of the intervention program. In Webster-Stratton's research, standardized rating scales consistently reflected behavioral gains following intervention with typically developing children rather than children with developmental delays. In sum, the intervention program was successful in remediating targeted behavior problems; however, information obtained from the remaining outcome measures showed limited results. The implications of these findings suggest that behavioral difficulties among children with developmental delays are more effectively evaluated and remediated by the structured behavioral analysis and intervention planning process provided by problem-solving consultation than the group format of videotape therapy (e.g., individualized intervention planning vs. group social skills training).

The relationships between children's externalizing behavior problems, parent-adjustment (e.g., stress and depressive symptomatology), and parent-child interactions was a second area of examination in the present study. The nature of the relationship between

parenting and children's behavioral difficulties is complex and influenced by both parent characteristics and child characteristics (Coplan, Bowker, & Cooper, 2003). Parents of children with developmental delays evidence a heightened risk for adjustment problems which are associated with the presence of childrens' behavioral problems (Baker et al, 2005; Feldman et al., 2000). Conversely, children with developmental delays are at an increased risk for social-emotional and behavioral problems which are beyond the functional limitations associated with the diagnosis (Baker et al., 2005; Paczkowski & Baker, 2007).

Depressive symptomatology in parents was negatively associated with positive parent skills such as praise at preintervention, not at postintervention. This finding was confirmed by previous investigators linking depressive symptomatology in parents of children with developmental delays and behavior problems with diminished parenting skills (Feldman et al., 2000; Glidden & Schoolcraft, 2003; Olsson & Hwang, 2001). Family stress theorists such as, Patterson (1982) explained that the presence of a disability generates challenges that expend family resources. These efforts weaken the family's capacity to engage in positive behavior due to a focus on dealing with child misbehavior. In sum, parent stress often contributes to an increase in child behavior problems, and child behavior problems escalate parenting stress (Baker et al., 2001, 2003; Coplan, Boker, & Cooper, 2003; Friedrich, Wilturner, & Cohen, 1985). In the current study, parents demonstrated a significant improvement in the frequency of praise and the targeted externalizing behavior problems of children were significantly reduced.

Problem-solving consultation and videotape therapy have independently shown to be effective interventions for promoting parent skills and ameliorating behavior problems in children. There have been very few investigations with conjoint problem-solving consultation and videotape therapy for families with developmentally delayed children. Preliminary studies

have shown that this intervention has been beneficial for parents and children (Sladeczek et al., 2002; Viola & Sladeczek, 2002). The findings of the current study are promising and highlight the clinical benefits of implementing this approach with a special needs population.

Limitations

This study extends beyond the focus of consultation and videotape therapy intervention literature by addressing the relationship between parent-child interactions and parent adjustment among families with dually diagnosed special needs children. The uniqueness of the intervention model is a strength of the present study, however there are some limitations that are worthy of mention.

Conducting the clinical research required extensive time, staffing, and financial resources. Each family was provided with an individualized intervention program involving several weekly hours of combined telephone contacts, parent-teacher meetings, and parent group sessions. The sample size was relatively small as a consequence of the professional time and resources that were required to provide services to each family and further reduced by the number of respondents who did not complete the measures at post-intervention. This resulted in fewer data sets for parents and the interpretation of results was effected by missing data. Furthermore, the small sample size reduced the statistical power of the quantitative data analyses, particularly the results that were obtained from the correlational data.

The majority of participants in this study were from two-parent Caucasian families which limited the generalizability of results to diverse cultures. The interactions between family dynamics and culture have been addressed by Cole through consultation research with immigrant and refugee students (Cole, 1992; Siegel & Cole, 2003). Though efforts were made to enlist the participation of fathers in the intervention program, over half of the respondents were mothers and therefore the findings represent a more limited sample. Follow-up data were

not obtained and it was therefore not possible to examine the long-term maintenance of gains or changes in child and parent behavior after the intervention program was terminated. Children with developmental delays have deficits in several areas of functioning, including learning potential (Roberts et al., 2006). Although parents and children demonstrated behavioral gains following the intervention, it is plausible that a longer period of training time may have resulted in more significant changes for children and parents. Webster-Stratton's 12-week training program was designed for typically developing children with behavior problems rather than children with developmental delays. Inconsistent with Webster-Stratton's research (Reid et al., 2007; Webster-Stratton et al., 2001), improvement in child target behaviors were not reflected on specific outcome measures such as standardized rating scales (CBCL and SSRS). It is likely that these measures were not sensitive enough to identify small behavioral changes within the three-month period that approximated the time between baseline and postintervention.

Parent adjustment was examined on the basis of information obtained from self-report measures with single instruments (e.g., BDI and short form PSI) rather than multiple measures. An association between parent stress and child behavior problems was evidenced following intervention rather than prior to intervention. A consideration of major life changes, marital satisfaction, and extended family and community support (Feldman et al., 2000; Glidden & Schoolcraft, 2003; Herring et al., 2006; Olsson & Hwang, 2001; Pelchat et al., 1999) would contribute to a more comprehensive assessment of parent adjustment and parent-child behavior. Continued efforts should be focussed towards an ecological understanding of the complex relationship between parent adjustment and child behavior problems. Parent-child interactions were assessed by information obtained from the DPICS during two observation periods at pre- and postintervention. In addition to structured observations, multiple observations in a naturalistic setting (e.g., home) of longer duration may have yielded a wider spectrum of

parent-child interactions permitting a more informed analysis of intervention effects (e.g., Reid et al., 2007).

Directions for Future Research

Despite the high prevalence of social-emotional problems among children with developmental delays, relatively little is known about this dual diagnosis (Baker et al., 2005; Paczkowski & Baker, 2007). Moreover, family functioning in this population has been understood within the context of literature which has targeted families with typically developing children (Fenning et al., 2007). In view of the unique challenges experienced by parents and their children, future research is needed to more fully explore family functioning (e.g., replication of results, long term follow-up).

Parent-adjustment is compromised in families with developmentally delayed children when behavior problems are present. Although parent stress decreased following participation in the intervention program, significantly elevated stress levels persisted in relation to children's behavior problems. The results underscore the merits of expanding research efforts to examine parent-adjustment more closely (e.g. multiple measures of parent-adjustment, the effects of social support). Parent stress is difficult to treat even when targeted as a focus of intervention (Hastings & Beck, 2004). Future research should evaluate the benefits of multi-element family intervention that include: stress reduction, marital therapy, and problem-solving consultation.

It is necessary to remediate behavior problems on referral to mental health professionals. In the absence of intervention, early-onset behavior problems often increase in severity, resulting in difficulties that persist throughout the life span (Emerson, 2003; Feldman, Hancock, Rielly, Minnes, & Cairns, 2000; Hebert, 2000; Hellings & Schroeder, 1999). However, preventing behavior problems from escalating through early identification is an important area for future research. Feldman et al. (2000) identified two-year-old children with

or at-risk for developmental delays relative to peers without delays who were observed to show signs of increased risk for behavior problems. Increased risk was associated with family characteristics such as burden of care, maternal depression, financial stress, and family disharmony. Efforts to reduce the severity of behavioral difficulties among children with developmental delays can be accomplished through identifying these families prior to referral.

Huebner and Gilman (2003) contended that there has been a trend in clinical practice to focus primarily on pathology rather than mental health, and that certain aspects of family functioning (e.g., spirituality, cohesiveness) may help to cope with life stressors. Additional factors included a sense of optimism (Baker et al., 2005), and the presence of adequate social support networks such as a supportive partner, social support and professional help (Suarez & Baker, 1997). Investigations which equally represent fathers and mothers are warranted in view of the high prevalence of single parent families and the increasingly participatory or primary role of fathers in parenting (Feldman et al., 2000). Fathers and mothers have been shown to respond differentially to the stress associated with parenting a child with developmental delays. For example, fathers reported a greater sense of well-being than mothers irrespective of whether or not their child had developmental delays (Baker et al., 2005). Further research to identify factors that mediate stress and improve psychological well-being in mothers and fathers would assist us to establish intervention goals which facilitate coping and adjustment among parents.

Parent stress levels at postintervention, and the persistence of children's behavior problems that were not directly addressed during the 12 week intervention program were indicative of the need to provide parents with on-going specialized mental health services to effectively manage their children's behavior problems. Developing comprehensive and effective intervention programs which target the remediation of behavioral and social-

emotional problems, promote positive parenting, and improve parent-adjustment are a priority for mental-health care providers.

Implications for Health-Care Providers

Parent involvement in the education of students with developmental disabilities has become an integral component of service delivery through participation, information sharing and parent training (Knowlton & Mulanax, 2001; Sheridan & Gutkin, 2000). Children with behavior problems present a major challenge for school psychologists, educators, and health-care providers in terms of assuring educational, social-emotional, and behavioral needs in the least restrictive environment. Behavior support plans are implemented through functional behavior assessment according to educational policies across North America (IDEA, 1997) however, there are no clear guidelines to qualify the meaning of a valid assessment plan (Sabourin-Ward & Erchul, 2006). This study offers health-care providers with specific guidelines to implement a functional analysis of behavior, a behavioral assessment plan, and a comprehensive intervention program for parents and children with developmental delays and behavior problems. The goals of education are to improve students' social-emotional and academic competence, lessen stigmatization of students with disabilities, and ultimately lead to greater acceptance of individuals with disabilities in the community (Andrews & Lupart, 1993; Sheridan & Gutkin, 2000). School psychologists can assist with developing necessary community support services through an integrative consultation model that coordinates involvement between home and school, and long-range planning, however they are often faced with the role of crisis intervention (Cole, 1997). The consultation process empowers parents, teachers, and professionals with the opportunity to strategically plan interventions as a collaborative team.

Turnbull and Ruef (1996) interviewed families to identify aspects of service delivery that parents perceived helpful for improving family functioning and coping with the on-going challenges of raising a child with developmental delays. The key components of service delivery were incorporated in the present study. They included a functional assessment of problem behaviors (e.g., understanding the antecedents and consequences of problem behavior), a multi-component support approach (e.g., structuring home routines, enhancing communication), and positive behavioral management techniques in nontechnical language (e.g., videotapes that demonstrate parent skills).

This study exemplifies the clinical value of working closely with parents to remediate specific behavior problems with empirical methods (e.g., assessing the frequency of behavior through collecting baseline data, observing behavioral changes during the intervention phase and monitoring improvement throughout the intervention). Collaborating with parents and carefully monitoring progress increases the likelihood of achieving successful outcomes while ensuring accountability and treatment integrity (Carlson, & Christenson, 2005).

Consistent with an ecological systems perspective (Bronfenbrenner, 1979) is the view that the experience of one family member can have an impact on the whole family system, just as families can be influenced by the larger macrosystem (e.g., school and community). In this study there was a reduction in child behavior problems along with more positive parenting behavior. This study supports the findings of previous researchers who have indicated that parents of children with behavioral difficulties and developmental delays experience significant adjustment problems, such as stress (Baker et al, 2002: Eisenhower et al., 2005). Although parents reported considerably less stress following intervention, these parents continued to experience stress in relation to their child's difficult behavior even with the resources available in the milieu of a specialized school, The focus of mental health professionals needs to expand

beyond child outcome to the family system and to address parent adjustment as an intervention objective (e.g., developing constructive coping strategies, utilizing a supportive social network). Previous researchers have identified the effectiveness of psychological variables such as acceptance in comparison with other strategies such as avoidant coping and mindfulness in reducing maternal stress and depression (Lloyd & Hastings, 2008). It is important to continue to fine tune clinical interventions to target specific coping strategies that may be of benefit to parents.

In school settings, teacher-only consultation has commonly been the focus of intervention for children with behavior problems (Egan, Zlomke, & Bush, 1993; Dunson, Hughes, & Jackson, 1994; Wilkinson, 1997). However, teachers, parents, and children demonstrate greater benefits when intervention is offered through a comprehensive approach (Reid et al., 2007). Consultation bridges the gap between home and school by addressing behavior problems across multiple settings, creating links between teachers and parents, and combining resources. Such collaboration increases the likelihood of generalizing gains, consistency, and continuity (Wilkinson, 2005). This study resulted in a reduction of children's behavior problems, and an increase in positive parenting, thereby demonstrating the value of using problem-solving consultation within community settings.

In sum, problem-solving consultation is an effective, highly individualized intervention that fosters collaboration among parents and teachers. When combined with videotape therapy this intervention approach is a beneficial service delivery method for health-care providers working with teachers, parents, and children with behavior problems and developmental delays.

Bibliography

Abidin, R. (1995). *Parenting Stress Index: Professional manual* (3rd ed.). Lutz, FL: Psychological Assessment Resources.

Allison, D. B., Faith, M. S., & Franklin, R. D. (1995). Antecedent exercise in the treatment of disruptive behavior: A meta-analytic review. *Clinical Psychology: Science and Practice, 2,* 279-303.

Achenbach, T. M., & Edelbrock, L. S. (1991). *Manual for the Child Behavior Checklist/4-18 and 1001 Profile.* Burlington, VT: Department of Psychiatry, University of Vermont.

Andrews, J., & Lupart, J. (1993). *The inclusive classroom: Educating exceptional children.* Scarborough, ON: Nelson Canada.

Arco, L. (2003). Positive behavioral support in the classroom: principles and practices. *Behavior Change, 20,* 233-234.

Baker, B. L., Blacher, J., Crnic, K. A., & Edelbrock, C. (2002). Behavior problems and parenting stress in families of three-year-old children with and without developmental delays. *American Association on Mental Retardation, 107,* 433-444.

Baker, B. L., Blacher, J., & Olsson, M. B. (2005). Preschool children with and without developmental delay: behavior problems, parents' optimism and well-being. *Journal of Intellectual Disability Research, 49,* 575-590.

Baker, B. L., Heifetz, L. J., & Murphy, D. M. (1980). Behavioral training for parents of mentally retarded children: One year follow-up. *American Journal of Mental Deficiency, 85,* 31-38.

Baker, B. L., Landen, S. J., & Kashima, K. J. (1991). Effects of parent-training on families of children with mental retardation: Increased burden or benefit? *American Journal of Mental Retardation, 96,* 127-136.

Baker, B. L., McIntyre, L., Blacher, J., Crnic, K., Edelbrock, C., & Low, C. (2003). Pre-school children with and without developmental delay: behavior problems and parenting stress over time. *Journal of Intellectual Disability Research, 47,* 217-230.

Barlow, J. & Stewart-Brown, S. (2000). Behavior problems and group-based parent education programs. *Developmental and Behavioral Pediatrics, 21,* 356-370.

Baumrind, D. (1993). The average expectable environment is not good enough: A response to Scarr. *Child Development, 64,* 1299-1317.

Baydar, N., Reid, J., & Webster-Stratton, C. (2003). The role of mental health factors and program engagement in the effectiveness of a preventative parenting program for Head Start mothers. *Child Development, 74,* 1433-1453.

Beernink, A.C. E., Swinkels, S. H. N., & Buitelaar, J. N. (2007). Problem behaviour in a community sample of 14- and 19-month-old children: Common versus uncommon behaviors, structure, and stability. *European Child & Adolescent Psychiatry, 16,* 271-280.

Bell, R. Q., & Chapman, M. (1986). Child effects in studies using experimental or brief longitudinal approaches to socialization. *Developmental Psychology, 22.* 595-603.

Beck, A., Steer, R., & Brown, G. (1996). *BDI-II Manual* (2nd ed.). San Antonio, TX: The Psychological Corporation.

Beckman, P. J. (1983). Influence of selected child characteristics on stress in families of handicapped infants. *American Journal of Mental Deficiency, 88,* 150-156.

Bergan, J. R. (1995). Evolution of a problem-solving model of consultation. *Journal of Educational and Psychological Consultation, 6,* 111-123.

Bergan, J. R., & Kratochwill, T. R. (1990). *Behavioral consultation and therapy,* New York: Plenum.

Borthwick-Duffy, S. A. (1994). Epidemiology and prevalence of psychopathology in people with mental retardation. *Journal of Consulting and Clinical Psychology, 62,* 17-27.

Borthwick-Duffy, S. A., & Eyman, R. K. (1990). Who are the dually diagnosed? *American Journal on Mental Retardation, 94,* 586-595.

Bowen, M. (1978). *Family therapy in clinical practice.* New York: Jason Aronson.

Brigham, F.J., Bakken, J. P., Scruggs, T. E., & Mastropieri, M. M. (1992). Cooperative behavior-management: Strategies for promoting a positive classroom environment. *Cooperative Behavior-management, 3,* 3-12.

Bristol, M. M., Gallagher, J. J., & Schopler, E. (1988). Mothers and fathers of young developmentally disabled and nondisabled boys: Adaptation and spousal support. *Developmental Psychology, 24,* 441-451.

Brock, G. W., Oertwein, M., & Coufal, M. (1993). Parent education: Theory, research, and practice. In M. E., Schvaneveldt, J., D., & J. J. Moss (Eds.), *Handbook of family life education: The practice of family life education* (vol. 2, pp. 87-114). London: Sage.

Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist, 32,* 513-530.

Bronfenbrenner, U. (1979). *The ecology of human development.* Cambridge, MA: Harvard University Press.

Bubolz, M. M., & Whiren, A. P. (1984). The family of the handicapped. An ecological model for policy and practice. *Family Relations, 33,* 5-12.

Busk, P. S., & Serlin, R. C. (1992). Meta-analysis for single-case research. In T. R. Kratochwill & J. R. Levin (Eds.), *Single-case research design and analysis: New directions for psychology and education* (pp. 187-212). Hillsdale, NJ: Erlbaum.

Busse, R. T., Kratochwill, T. R., & Elliot, S. N. (1995). Meta-analysis for single-case consultation outcomes: Applications for research and practice. *Journal of School Psychology, 33,* 269-285.

Campbell, J. M. (2004). Statistical comparison of four effect sizes for single-subject designs. *Behavior Modification, 28,* 234-246.

Campbell, S. (1979). Mother-infant interaction as a function of maternal ratings of temperament. *Child Psychiatry and Human Development, 10,* 67-76.

Carlson, C., & Christenson, S. L. (2005). Evidence-based parent and family interventions in school psychology: overview and procedures. *School Psychology Quarterly, 20,* 345-351.

Carr, E. G., Taylor, J. C., & Robinson, S. (1991). The effects of severe behavior problems in children on the teaching behavior of adults. *Journal of Applied Behavior Analysis, 3,* 523-535.

Carrington-Rotto, P., & Kratochwill, T. R. (1994). Behavioral consultation with parents: Using competency-based training to modify child noncompliance. *School Psychology Review, 23,* 669-693.

Cavell, T. A., & Hughes, J. N. (2000). Secondary prevention as context for assessing change processes in aggressive children. *Journal of School Psychology, 38,* 199-235.

Caplan, G. (1995). Types of mental health consultation. *Journal of Educational and Psychological Consultation, 6,* 7-21.

Caplan, G., Caplan, R. B., & Erchul, W. P. (1995). A contemporary view of mental health consultation: Comments on "Types of Mental Health Consultation" by G. Caplan (1963). *Journal of Educational and Psychological Consultation, 6,* 23-30.

Chang, Y. Fine, M. A., Ispa, J., Thornburg, K. A., Sharp, E., & Wolfstein, M. (2004). Understanding parenting stress among young, low-income, African American, first-time mothers. *Early Education & Development, 15,* 265-282.

Civic, D., & Holt, V. L. (2000). Maternal depressive symptoms and child behavior problems in a nationally representative normal birthweight sample. *Maternal and Child Health Journal, 4,* 215-221.

Clarke, D., & Beck, A. (1999). Scientific foundations of cognitive theory and therapy of depression. (1st ed.) Chichester, UK: Wiley.

Clark, D. B., Baker, B. L., & Heifetz, L. J. (1982). Behavioral training for parents of mentally retarded children: Prediction of outcome. *American Journal of Mental Deficiency, 87,* 14-19.

Cohen, J., & Cohen, P. (1983). *Multiple regression/Correlation for the behavioral sciences,* (2nd ed.). Hillsdale, NJ: Erlbaum.

Cole, E. (1992). Characteristics of students referred to school teams: Implications for preventive psychological services. *Canadian Journal of School Psychology, 8,* 23-26.

Cole, E. (1997). An integrative perspective on school psychology. *Canadian Journal of School Psychology, 12,* 115-121.

Cole, E., & Siegel, J. A. (2003). School psychology in multicultural communities. In E. Cole & J. A. Siegel (Eds.), Effective consultation in school psychology (pp. 222-258). (2nd Ed.). Toronto, ON: Hogrefe & Huber.

Coplan, R. J., Bowker, A., & Cooper, S. M. (2003). Parenting daily hassles, child temperament, and social adjustment in preschool. *Early Childhood Research Quarterly, 18,* 376-395.

Cox, D. D. (2005). Evidence-based interventions using home-school collaboration, *School Psychology Quarterly, 20,* 473-497.

Cox, M. J., & Paley, B. (1997). Families as systems. *Annual Review of Psychology, 48,* 243-267.

Crnic, K. A., Friedrich, W. N., & Greenber, M. A. (1983). Adaptation of families with mentally retarded children A model of stress coping and family ecology. *American Journal of Mental Deficiency, 88,* 209-217.

Derogatis, L. R. (1977). *SCL-90R Manual-I.* Baltimore, MD: Clinical Psychometric Research.

Dumas, J. E. (1984). Interactional correlates of treatment outcomes with in behavioral parent-training. *Journal of Consulting and Clinical Psychology, 52,* 946-954.

Dunson, R. M., Hughes, J. N., & Jackson, T. W. (1994). Effect of behavioral consultation on student and teacher behavior. *Journal of School Psychology, 12,* 247-266.

Durand, V. M. (2006, August). *Positive family intervention: Hope and help for parents with challenging children.* Paper presented at the annual meeting of the American Psychological Association, New Orleans, LA.

Dykens, E. M. (1998). Maladaptive behavior and dual diagnosis in persons with genetic syndromes. In J. A. Burack, R. M. Hodapp, & E. Zigler (Eds.), *Handbook of mental retardation and development* (pp. 542-562). New York: Cambridge University Press.

Dyson, L. (1997). Fathers and Mothers of school-age children with developmental disabilities: Parental Stress, family functioning, and social support. *American Journal on Mental Retardation, 102,* 267-279.

Dyson, L., Edgar, E., & Crnic, K. (1989). Psychological predictors of adjustment by siblings of developmentally disabled children. *American Journal on Mental Retardation, 94,* 292-302.

Egan, P. J., Zlomke, L.C., & Bush, B. R. (1993). Utilizing functional assessment, behavioral consultation and videotape review of treatment to reduce aggression: A case study. *Special Services in the Schools, 7,* 27-37.

Eisenhower, A. S., Baker, B. L., & Blacher, J. (2005). Preschool children with intellectual disability: syndrome specificity, behavior problems, and maternal well-being. *Journal of Intellectual Disability Research, 49,* 657-671.

Elgar, F. J., Curtis, L. J., McGrath, P. J., Waschbusch, D. A., & Stewart, S. (2003). Antecedent-Consequence conditions in maternal mood and child adjustment: A four-year cross-lagged study. *Journal of Clinical Child and Adolescent Psychology, 32,* 362-374.

Elgar, F. J., Curtis, L. J., McGrath, P. J., Waschbusch, D. A., & Stewart, S. (2007). Maternal and paternal depressive symptoms and child maladjustment: The mediating role of parental behavior. *Journal of Abnormal Child Psychology, 35,* 943-955.

Emerson, E., (2003). Prevalence of psychiatric disorders in children and adolescents with and without intellectual disability. *Journal of Intellectual Disability Research, 47,* 51-58.

Epstein, M. H., Cullinan, D, & Bursuck, W. D. (1986). Prevalence of behavior problems among learning disabled and nonhandicapped students. *Mental Retardation & Learning Disability Bulletin, 13,* 30-39.

Epstein, M. H., Cullinan, D., & Polloway, E. A. (1986). Patterns of maladjustment among mentally retarded children and youth. *American Journal of Mental Deficiency, 91,* 127-134.

Eyberg, S. M., & Robinson, E. A. (1992, September). *Dyadic Parent-Child Interaction Coding System: A manual.* (Available from the Parenting Clinic, Department of Parent and Child Nursing, School of Nursing, University of Washington). Seattle.

Feinfield, K. A., & Baker, B. L. (2004). Empirical support for a treatment program for families of young children with externalizing problems. *Journal of Clinical Child and Adolescent Psychology, 33,* 182-195.

Feldman, M. A., Hancock, C. L., Rielly, N., Minnes, P., & Cairns, C. (2000). Behavior problems in young children with or at risk for developmental delay. *Journal of Child and Family Studies, 9,* 247-261.

Feldman, A. I., & Werner, S. E. (2002). Collateral effects of behavioral parent-training on families of children with developmental disabilities and behavior disorders. *Behavioral Interventions, 17,* 75-83.

Fenning, R. M., Baker J. K., Baker, B. L., Crnic, K. A. (2007). Parenting children with borderline intellectual functioning: a unique risk population. *American Journal on Mental Retardation, 112,* 107-121.

Fidler, D. J. & Hodapp, R. M. (2000). Stress in families of young children with Down syndrome, William's syndrome, and Smith-magenis syndrome. *Early Education and Development, 11*, 395-406.

Floyd, F. J., & Gallagher, E. M. (1997). Parental stress, care demands, and use of support services for school-age children with disabilities and behavior problems. *Family Relations, 46,* 359-371.

Floyd, F. J., & Phillippe, K. A. (1993). Parental interactions with children with and without mental retardation: Behavior management, coerciveness and positive exchange. *American Journal on Mental Retardation, 97,*673-684.

Flynt, S. W., Wood, T. A., Scott, R. L. (1992). Social Support of mothers of children with mental retardation. *Mental Retardation, 30,* 233-236.

Folkman, S., & Moskowitz, J. T. (2000). Positive affect and the other side of coping. *American Psychologist, 55,* 647-654.

Folkman, S., & Lazarus, R. S. (1986). Coping as a mediator of emotion. *Journal of Personality and Social Psychology, 54,* 466-475.

Friend, M., Bursuck, W., & Hutchinson, N. (1998). *Including exceptional students: A practical guide for classroom teachers.* Toronto, ON: Allyn and Bacon.

Gallagher, J. J., Beckman, P., & Cross, A. H. (1983). Families of handicapped children: Sources of stress and its amelioration. *Exceptional Children, 50,* 10-19.

Glick, M. (1998). A developmental approach to psychopathology in people with mild mental retardation. In J. A. Burack, R. M. Hodapp, & E. Zigler (Eds.), *Handbook of mental retardation and development* (pp. 563-580). New York, NY: Cambridge University Press.

Gmeinder, K. L., & Kratochwill, T. R. (1998). Short term, home-based intervention for child noncompliance using behavioral consultation and a self-help manual. *Journal of Educational and Psychological Consultation, 9,* 91-117.

Goss, S., Noltemeyer, A., & Devore, H. (2007). Treatment integrity: a necessary component of response to intervention. *The School Psychologist, 61,* 34-38.

Gowen, J. W., Johnson-Martin, N., Goldman, B. D., & Appelbaum, M. (1989). Feelings of depression and parenting competence of mothers of handicapped and nonhandicapped infants: A longitudinal study. *American Journal on Mental Retardation, 94,* 259-271.

Gresham, F. M., & Elliot, S. N. (1990). *Social Skills Rating System: Manual.* Circle Pines, MN: American Guidance Service.

Gresham, F. M., & Noell, G. H. (1993). Documenting the effectiveness of consultation outcomes. In J. E. Zins, T. R. Kratochwill, S. N. Elliott (Eds.), *Handbook of consultation services for children: Applications in educational and clinical settings* (pp. 249-273). San Francisco, CA: Jossey-Bass.

Gross, D., Fogg, L., Webster-Stratton, C., Garvey, C., Julion, W., Grady, J. (2003). Parent-training of toddlers in daycare in low-income urban communities. *Journal of Consulting and Clinical Psychology, 71,* 261-278.

Guli, L. A. (2005). Evidence-based parent consultation with school-related outcomes. *School Psychology Quarterly, 20,* 455-472.

Guglielmo, H. M., & Shick-Tryon, G. (2001). Social skill training in an integrated preschool program. *School Psychology Quarterly, 16,* 158-175.

Gutkin, T. B. (1996). Core elements of consultation service delivery for special service personnel. *Remedial and Special Education, 17,* 229-241.

Gutkin, T. B. (2002). Evidence-based interventions in school psychology: state of the art and directions for the future. *School Psychology Quarterly, 17,* 339-340.

Halpern, E. (1964). Mental health consultation. *The Canadian Psychologist, 5,* 149-153.

Handleman, J. S. (1990). Providing effective consultation to students with severe developmental disabilities and their families. *Journal of Educational and Psychological Consultation, 1,* 137-147.

Hartman, A. (1978). Diagrammatic assessment of family relationships. *Social Casework, 10,* 465-476.

Hassall, R., Rose, J., & McDonald, J. (2005). Parenting stress in mothers of children with an intellectual disability: the effects of parental cognitions in relation to child characteristics and family support. *Journal of Intellectual Disability Research, 49,* 405-418.

Hastings, R. P. (2002). Parental stress and behavior problems of children with developmental disability. *Journal of Intellectual and Developmental Disability, 27,* 149-160.

Hastings, R. P., & Beck, A. (2004). Practitioner review Stress intervention for parents of children with intellectual disabilities. *Journal of Child Psychology 45,* 1338-1349.

Hastings, R. P., Allen, R., McDermott, K., & Still, D. (2002). Factors related to positive perceptions in mothers of children with intellectual disabilities. *Journal of Applied Research in Intellectual Disabilities, 15,* 269-275.

Hastings, R. P., & Taunt, H. M. (2002). Positive perceptions in families of children with developmental disabilities. *American Journal on Mental Retardation, 107,* 116-127.

Hermann, S. E., & Marcenko, M. O. (1997). Perceptions of services and resources as mediators of depression among parents of children with developmental disabilities. *Mental Retardation, 35,* 458-467.

Herring, S., Gray, K., Taffe, J., Tonge, B., Sweeney, D., & Einfeld, S. (2006). Behavior and emotional problems in toddlers with pervasive developmental disorders and developmental delay: associations with parental mental health and family functioning. *Journal of Intellectual Disability Research, 50,* 874-882.

Hudson, A. M., Matthews, J. M., Gavidia-Payne, S. T., Cameron, C. A., Mildon, R. L., Radler, G. A., & Nankkervis, K. L. (2003). Evaluation of an intervention system for parents of children with intellectual disability and challenging behaviour. *Journal of Intellectual Disability Research, 47,* 238-249.

Huebner, E. S., & Gilman, R. (2003). Toward a focus on positive psychology in school psychology. *School Psychology Quarterly, 18,* 99-102.

Hundert, J. (1997). The effectiveness of three-session, brief behavioral consultation for caregivers of children and adults with developmental disabilities. *Journal on Developmental Disabilities, 5,* 24-46.

Hutchings, J., Appleton, P., Smith, M., Lane, E., & Nash, S. (2002). Evaluation of two treatmets for children with severe behavior problems: Child behavior and maternal mental health outcomes. *Behavioral & Cognitive Psychotherapy, 30,* 279-295.

Illsley, S. D., & Sladeczek, I. E. (2001). Conjoint behavioral consultation: Outcome measures beyond the client. *Journal of Educational and Psychological Consultation, 12,* 397-404.

Janzen, L., Cormack-Centre, E., Wilgosh, L., & McDonald, L. (1995). Experiences of classroom teachers integrating students with moderate and severe disabilities. *Developmental Disabilities Bulletin, 23,* 41-57.

Judge, S. L. (1998). Parental coping strategies and strengths in families of young children with disabilities. *Family Relations, 47,* 263-268.

Karagiannakis, A., Sladeczek, i. E., Madden, L., & Saros, N. (2004, April). *Problem-solving consultation for children with developmental delays and behavior problems.* Poster session presented at the annual meeting of the National Association of School Psychologists, Toronto, ON.

Kashima, K. J., Baker, B. L., & Landen, S. J. (1988). Media-based versus professionally led training for parents of mentally retarded children. *American Journal on Mental Retardation, 93,* 209-217.

Kazdin, A. E. (1980). Acceptability of alternative treatments for deviant child behavior. *Journal of Applied Behavior Analysis, 13,* 259-274.

Kazdin, A. E. (1981). Acceptability of child treatment techniques: The influence of treatment efficacy and adverse side effects. *Behavior Therapy, 12,* 493-506.

Kazdin, A. E. (1997). Parent management training: Evidence, outcomes, and issues. *American Academy of Child and Adolescent Psychiatry, 36,* 1349-1356.

Kazdin, A. E., & Tuma, A. H. (1982). *Single-case research designs.* San Francisco: Jossey-Bass.

Kazdin, A. E., & Wassell, G. (1999). Barriers to treatment participation and therapeutic change among children referred for conduct disorder. *Journal of Clinical Child Psychology, 28,* 160-172.

Kazdin, A. E., Siegel, T. C., & Bass, D. (1992). Cognitive problem-solving skills training and parent management training in the treatment of antisocial behavior in children. *Journal of Consulting and Clinical Psychology, 60,* 733-747.

Kazdin, A. E., & Wassell, G. (2000). Predictors of barriers to treatment and therapeutic change in outpatient therapy for antisocial children and their families. *Mental Health Services Research, 2,* 27-40.

Kazdin, A. E., & Wassell, G. (2000). Therapeutic changes in children, parents, and families resulting from treatment of children with conduct problems. *American Academy of Child and Adolescent Psychiatry, 39,* 414-420.

Kazdin, A. E., & Whitley, M. K. (2003). Treatment of parental stress to enhance therapeutic change among children referred for aggressive and antisocial behavior. *Journal of Consulting and Clinical Psychology, 71,* 504-515.

Kendler, K. S., & Prescott, C. A. (1999). A population-based twin study of lifetime major depression in men and women. *Archives of General Psychiatry, 50,* 789-796.

Kerwin, C. (1995). Consultation models revisited: A practitioner's perspective. *Journal of Educational and Psychological Consultation, 6,* 373-383.

Kim-Cohen, J., Caspi, A., Moffitt, T. E., Harrington, H., Milne, B. J., & Poulton, R. (2003). Prior juvenile diagnoses in adults with mental disorder: Developmental follow-back of a prospective-longitudinal cohort. *Archives of General Psychiatry, 60,* 709-717.

Knowlton, E., & Mulanax, D. (2001). Education programs for parents and families of children and youth with developmental disabilities. In M. J. Fine & S. W. Lee (Eds.), *Handbook of diversity in parent education* (pp. 299-314). San Diego, CA: Academic Press.

Kobe, F.H., & Hammer, D. (1994). Parenting stress and depression in children with mental retardation and developmental disabilities. *Research in developmental disabilities, 15,* 209-221.

Kratochwill, T. R., & Bergan, J. R. (1990). *Behavioral Consultation in applied settings: An individual guide*. New York: Plenum.

Kratochwill, T. R., Bergan, J. R., Sheridan, S. M., & Elliott, S. N. (1998). Assumptions of behavioral consultation: After all is said and done more has been done than said. *School Psychology Quarterly, 13,* 63-80.

Kratochwill, T. R., & Elliott, S. N. (1992a). *Behavior Program for children: An unpublished manual*. (Available from the Wisconsin Center for Educational Research, School of Education, University of Wisconsin-Madison).

Kratochwill, T. R., & Elliott, S. N. (1992b). *Social Program for children: An unpublished manual.* (Available from the Wisconsin Center for Educational Research, School of Education, University of Wisconsin-Madison).

Kratochwill, T. R., Elliot, S. N., & Carrington-Rotto, P. (1995). Best practices in school-based behavioral consultation. In A. Thomas & J. Grimes (Eds.), *Best practices in school psychology III* (pp. 519-537). Washington, D.C.: National Association of School Psychologists.

Kratochwill, T. R., Elliot, S. N., & Callan-Stoiber, K. (2002). Best practices in school-based problem-solving consultation. In A. Thomas & J. Grimes (Eds.), *Best practices in school psychology IV* (pp. 583-607). Washington, D.C.: National Association of School Psychologists.

Kratochwill, T. R., Elliot, S. N., Loitz, P.A., Sladeczek, I., & Carlson, J. S. (2003). Conjoint consultation using self-administered manual and videotape parent-teacher training: Effects on children's behavioral difficulties. *School Psychology Quarterly, 18,* 269-302.

Kratochwill, T. R., Sladeczek, I., & Plunge, M. (1995). The evolution of behavior consultation. *Journal of Educational and Psychological Consultation, 6,* 145-157.

Krauss, M. W. (1993). Child-related and parenting stress: Similarities and differences between mothers and fathers of children with disabilities. *American Journal on Mental Retardation, 97,* 393-404.

Kringlen, E., Torgersen, S., & Cramer, V. (2001). A Norwegian psychiatric epidemiological study. *American Journal of Psychiatry, 158,* 1091-1098.

Langrock, A. M., Compas, B. E., Keller, G., Merchant, M. J., & Copeland, M. E. (2002). Coping with the stress of parental depression: Parent's reports of children's coping, emotional, and behavioral problems. *Journal of Clinical Child and Adolescent Psychology, 31,* 312-324.

Larson, S. A., Lakin, C., Anderson, L., Kwak, N., Hak-Lee, J., & Anderson, D. (2001). Prevalence of mental retardation and developmental disabilities: Estimates from the 1994/1995 National health interview survey disability supplements. *American Journal on Mental Retardation, 106,* 231-252.

Lazarus, R. L., & Folkman, S. (1984). *Stress, appraisal, and coping.* New York: Springer.

Lee, C. M., & Gotlib, I. H. (1991). Adjustment of children of depressed mothers: A 10-month follow-up. *Journal of Abnormal Psychology, 100,* 473-477.

Lloyd, T., & Hastings, R. P. (2008). Psychological variables as correlates of adjustment in mothers of children with intellectual disabilities: Cross sectional and longitudinal relationships. *Journal of Intellectual Disability Research, 52,* 37-48.

Luchyshyn, J. M., Albin, R. W., & Nixon, C. D. (1997). Embedding comprehensive behavioral support in family ecology : an experimental, single-case analysis. *Journal of Consulting and Clinical Psychology, 65,* 241-251.

Lundervold, D., & Bourland, G. (1988). Quantitative analysis of treatment of aggression, self-injury, and property destruction. *Behavior Modification, 12,* 590-617.

Maital, S., & Scher, A. (2003). Consulting about young children: An ecosystemic developmental perspective. In E. Cole & J.A. Siegel (Eds.), *Effective Consultation in School Psychology* (pp. 336-364). Cambridge, MA: Hogrefe & Huber Publishers.

Mandelco, B. (2002, November). *Family caregiving: Children with special health needs.* Paper presented at the 64th annual conference of the National Council on Family Relations, Houston, TX.

Marcus, B. A., Swanson, V., & Vollmer, T. R. (2001). Effects of parent-training on parent and child behavior using procedures based on functional analyses. *Behavioral Interventions, 16,* 87-104.

Manino, F. V., & Shore, M. F. (1975). The effects of consultation. A review of empirical studies. *American Journal of Community Psychology, 3,* 1-21.

Matthews, J. M., & Hudson, A. M. (2001). Guidelines for evaluating parent-training programs. *Family Relations, 50,* 77-86.

McKinney, B., & Peterson, R. A. (1987). Predictors of stress in parents of developmentally delayed children. *Journal of Pediatric Psychology, 12,* 133-150.

McLoyd, V. C. (1990). The impact of economic hardship on black families and children: Psychological distress, parenting, and socioemotional development. *Child Development, 61,* 311-346.

Medway, F. J. (1975). How effective is school consultation?: A review of recent research. *Journal of School Psychology, 17,* 275-281.

Medway, F. J., & Updyke, J. F. (1985). Meta-analysis of consultation outcome studies. *American Journal of Community Psychology, 13,* 489-505.

Merrell, K.W., & Holland, M. L. (1997). Social-emotional behavior of preschool-age children with and without developmental delays. *Research in Developmental Disabilities, 18,* 393-405.

Miller, A. C., Gordon, R. M., Daniele, R. J., & Diller, L. (1992). Stress, appraisal, and coping in mothers of disabled and nondisabled children. *Journal of Pediatric Psychology, 17,* 587-605.

Minde, K., & Minde, R. (2002). Effect of disordered parenting on the development of children. In M. Lewis (Ed.), *Child and adolescent psychiatry: A comprehensive textbook* (3rd ed.) (pp. 477-493). Philadelphia, PA: Lippincott Williams & Wilkins.

Minuchin, S. (1974). *Families and family therapy.* Cambridge, Massachusetts: Harvard University Press.

Mitchell, D. (1983). Guidance needs and counseling of parents of persons with intellectual handicaps. In N. N. Singh & K. M. Wilton (Eds.), *Mental retardation and research services in New Zealand* (pp. 136-156). Auckland, New Zealand: Whitcoulls.

Mottram, L. M., Bray, M. A., Kehle, T. J., Broudy, M., Jenson, W. R. (2002). A Classroom-Based Intervention to Reduce Disruptive Behaviors. *Journal of Applied School Psychology, 19,* 65-74.

Myers, B. A. (1987). Conduct disorders of adolescents with developmental disabilities. *Mental Retardation, 25,* 335-340.

Neary E. M., & Eyberg, S. M. (2002). Management of disruptive behavior in young children. *Infants and Young Children, 14,* 53-67.

Noell, G. H., & Witt, J.C. (1996). A critical re-evaluation of five fundamental assumptions underlying behavioral consultation. *School Psychology Quarterly, 11,* 189-201.

Noell, G. H., Gresham, F. M., & Duhon, G. (1998). Fundamental agreements and epistemological differences in differentiating what was said from what was done in behavioral consultation. *School Psychology Quarterly, 13,* 81-88.

Oelofsen, N., & Richardson, P. (2006). Sense of coherence and parenting stress in mothers and fathers of preschool children with developmental disability. *Journal of Intellectual and Developmental Disability 31,* 1-12.

Ogbu, J. (1978). *Minority education and caste: The American system in cross-cultural perspective.* New York, NY: Academic Press.

Olsson, M. B., & Hwang, C. P. (2002). Sense of coherence in parents with different developmental disabilities. *Journal of Intellectual Disability Research, 46,* 548-559.

Orr, R. R., Cameron, S. J., & Day, D. M. (1991). Coping with stress in families with children who have mental retardation: An evaluation of the double ABCX model. *American Journal on Mental Retardation, 95,* 444-450.

Paczkowski, E., & Baker, B. L. (2007). Parenting children with and without developmental delay: the role of self-mastery. *Journal of Intellectual Disability Research, 51,* 435-446.

Patterson, G. (1982). *Coercive family process.* Eugene, OR: Castalia Press.

Patterson, G., Reid, J., & Dishion, T. (1992). *Antisocial Boys: A Social Interactional Approach,* (Vol. 4). Eugene, OR: Castalia.

Pearson, D. A., Lachar, D., Loveland, K.A., Santos, C. W., Faria, L. P., Azzam, P. N., Hentges, B. A., & Cleveland, L. A. (2000). Patterns of behavioral adjustment and maladjustment in

mental retardation: Comparison of children with and without ADHD. *American Journal on Mental Retardation, 105,* 236-251.

Pelchat, D., Bisson, J., Ricard, N., Perreault, M., & Bouchard, J.M. (1999). Longitudinal effects of an early family intervention programme on the adaptation of parents of children with a disability. *International Journal of Nursing Studies, 36,* 465-477.

Podolski, C. & Nigg, J. T. (2001). Parent stress and coping in relation to child ADHD severity and associated child disruptive behavior problems. *Journal of Clinical Child Psychology, 30,* 503-513.

Reddy, L. A., Files, T., & Rubel, E. (2000). Clinical focus of consultation outcome research with children and adolescents. *Special Services in the Schools, 16,* 1-22.

Reese, R. M., Hellings, J. A., & Schroeder, S. R. (1999). Treatment methods for destructive and aggressive behavior in people with severe mental retardation/developmental disabilities. In N. Bouras (Ed.), *Psychiatric and behavioral disorders in developmental disabilities and mental retardation* (pp. 249-261). New York, NY: Cambridge University Press.

Reid, M. J., Webster-Stratton, C., & Hammond, M. (2007). Enhancing a classroom social competency and problem-solving curriculum by offering parent-training to families of moderate-to high-risk elementary school children. *Journal of Clinical Child and Adolescent Psychology, 36,* 605-620.

Rhoades, M. M., & Kratochwill, T. R. (1994). Parent-training and consultation: An analysis of a homework intervention program. *Journal of School Psychology, 32,* 241-261.

Richardson, S. A., Taylor, R L., Ramasamy R, & Richards, R. Y. (1999). Single subject research: Applications in educational and clinical settings. San Diego Dingular Publishing Group.

Riolo. S., Nguyen, T. A., Greden, J. F., & King, C. A. (2005). Prevalence of depression by race/ethnicity: Findings from the national health and nutritional examination survey III. *American Journal of Public Health, 95,* 998-1000.

Roach, M.A., Orsmond, G.I., & Barratt, M.S. (1999). Mothers and fathers of children with Down Syndrome: Parental stress and involvement in childcare. *American Journal on Mental Retardation, 104,* 422-436.

Roberts, C., Mazzucchelli, T., Studman, L., & Sanders, M. R. (2006). Behavioral family intervention for children with developmental disabilities and behavioral problems. *Journal of Clinical Child and Adolescent Psychology, 35,* 180-193.

Roberts, C., Mazzucchelli, T., Taylor, K., & Reid, R. (2003). Early intervention for behavior problems in young children with developmental disabilities. *International Journal of Disability, Development, and Education, 50,* 275-292.

Robertson, S. (1996). Failing to follow directions and tantrumming: The case of Suzanne. In S. M. Sheridan, T. R. Kratochwill, & J. R. Bergan (Eds.), *Conjoint behavioral consultation: A procedural manual* (pp. 138-147). New York, NY: Plenum.

Robinson, E. A., & Eyberg, S. M. (1981). The dyadic parent-child interaction coding system: Standardization and validation. *Journal of Consulting and Clinical Psychology, 49,* 245-250.

Rothbaum, F., & Weisz, J. R. (1994). Parental caregiving and child externalizing behavior in nonclinical samples: A meta-analysis. *Psychological Bulletin, 116,* 55-74.

Russell, A., & Forness, S. (1985). Behavioral disturbance in mentally retarded children in TMR and EMR classrooms. *American Journal of Mental Deficiency, 89,* 338-344.

Russell, D., & Matson, J. (1998). Fathers as intervention agents for their children with developmental disabilities. *Child and Family Behavior Therapy, 20,* 29-49.

Sabourin-Ward, C., & Erchul, W. P. (2006). Linking assessment to intervention in the 21st century. *School Psychology Quarterly, 21,* 233-239.

Saloviita, T., Italinna, M., & Leinonen, E. (2003). Explaining the parental stress of fathers and mothers caring for a child with intellectual disability: A double ABCX model. *Journal of Intellectual Disability Research, 47,* 300-312.

Seligman, M., & Darling, R. B. (1997). *Ordinary families: Special children.* (2nd ed.). New York: Guilford Press.

Scorgie, K., Wilgosh, L., & McDonald, L. (1996). A qualitative study of managing life when a child has a disability. *Developmental Disabilities Bulletin, 24,* 68-90.

Shapiro, J. (1989). Stress, depression, and support group participation in mothers of developmentally delayed children. *Family Relations, 38,* 169-173.

Sheridan, M. S. (1997). Conceptual and empirical bases of conjoint behavioral consultation. *School Psychology Quarterly, 12,* 119-133.

Sheridan, M. S., Clarke, B. L., Knoche, L. L., & Edwards, C. P. (2006). The effects of conjoint behavioral consultation in early childhood settings. *Early education and development, 17,* 593-617.

Sheridan, M. S., & Colton, D. L. (1994). Conjoint behavioral consultation: A review and case study. *Journal of Educational and Psychological Consultation, 5,* 211-228.

Sheridan, S. M., & Gutkin, T. B. (2000). The ecology of school psychology: Examining and changing our paradigm for the 21st century. *School Psychology Quarterly, 29,* 485-502.

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,* 361-385.

Sheridan, S. M., Eagle, J. W., & Doll, B. (2006). An examination of the efficacy of conjoint behavioral consultation with diverse clients. *School Psychology Quarterly, 21,* 396-417.

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

Sheridan, S. M., Kratochwill, T. R., & Bergan, J. R. (1996). *Conjoint behavioral consultation: a procedural manual.* New York: Plenum.

Sheridan, S. M., Kratochwill, T. R., & Elliott, S. N. (1990). Behavioral consultation with parents and teachers: Delivering treatment for socially withdrawn children at home and school. *School Psychology Review, 19,* 33-52.

Short, R. J., & Palomares, R. S. (2003). The future of school psychology. *The School Psychologist, 57,* 6-7.

Singh, D. K. (2000, October). *Families of children with mental retardation: Effective collaboration.* Paper presented at the Biennial Meeting of the Division on Mental Retardation and Developmental Disabilities, Baltimore, MD.

Sladeczek, I. E. (1996). Aggressive and territorial behaviors: The case of Ken. In S. M. Sheridan, T.R. Kratochwill, & J. R. Bergan (Eds.), *Conjoint behavioral consultation: A procedural manual* (pp. 147-156). New York: Plenum.

Sladeczek, I., Elliott, S. N., Kratochwill, T. R., Robertson-Majannes, S., & Stoiber, K. C. (2001). Application of goal attainment scaling to a conjoint behavioral consultation case: *Journal of Educational and Psychoogical Consultation, 12,* 45-58.

Sladeczek, I. E., Kratochwill, T. R., Steinbach, C. L., & Hagermoser, L. (2003). Problem-solving consultation in the new millennium. In E. Cole & J. A. Siegel (Eds.), *Effective Consultation in School Psychology* (pp. 60-86). Toronto, ON: Hogrefe & Huber.

Sladeczek, I. E., & Heath, N. L. (1997). Consultation in Canada. *Canadian Journal of School Psychology, 13,* 1-14.

Sladeczek, I. E., Saros, N., Steinbach, L, Viola, T., & Blidner, A. (in preparation). *Evaluation of behavioral consultation with videotape therapies for children with developmental delays.*

Spitzer, A., Webster-Stratton, C., & Hollinsworth, T. (1988). Coping with conduct-problem children: Parents gaining knowledge and control. *Journal of Clinical Child Psychology, 20,* 413-427.

Stainbach, S., & Stainbach, W. (1995). The merger of special and regular education: Can it be done? A response to Lieberman and Mesinger. *Exceptional Children, 51,* 517-521.

Stainton, T., & Besser, H. (1998). The positive impact of children with an intellectual disability on the family. *Journal of intellectual and developmental disability, 23,* 57-71.

Stavrakaki, C. (1999). Depression, anxiety and adjustment disorders in people with developmental disabilities. In N. Bouras (Ed.), *Psychiatric and behavioral disorders in developmental disabilities and mental retardation* (pp. 175-187). New York: Cambridge University Press.

Suarez, L. M. & Baker, B. L. (1997). Child externalizing behavior and parents' stress: The role of social support. *Family Relations, 47,* 373-381.

Suinn, R. M. (2001). The terrible twos--Anger and anxiety: Hazardous to your health. *American Psychologist, January,* 27-36.

Turnbull, A. P., Brotherson, M. J., & Summers, J. (1985). The impact of deinstitutionalization on families: A family-systems approach. In R. H. Bruininks (Ed.). *Living and learning in the least restrictive environment* (pp. 115-152). Baltimore, MD: Paul Brookes.

Turnbull, A. P., & Ruef, M. (1996). Family perpectives on problem behavior. *Mental Retardation, 34,* 280-293.

Turnbull, A. P., & Turnbull, H. R. (1986). *Families, professionals and exceptionality.* Toronto, ON: Merrill Publishing Company.

Tonge, B. J. (1999). Psychopathology of children with developmental disabilities. In N. Bouras (Ed.), *Psychiatric and behavioral disorders in developmental disabilities and mental retardation* (pp. 157-174). New York: Cambridge University Press.

Viola, T., & Sladeczek, I. E. (2002). *Remediating behavior problems in children with cognitive disabilities.* Unpublished doctoral thesis. McGill University: Montreal, Quebec.

Wayland, L.A., & Sladeczek, I. E.,(1999). Work in progress: Conjoint behavioral consultation with children who are socially withdrawn. *Canadian Journal of School Psychology, 14,* 45-50.

Webster-Stratton, C. (1981). Videotape modeling: A method of parent education. *Journal of Clinical Child Psychology, 10,* 93-98.

Webster-Stratton, C. (1982a). The long-term effects of a videotape modelling parent-training program: Comparison of immediate and 1-year follow-up results. *Behavior Therapy, 13,* 702-714.

Webster-Stratton, C. (1982b). *Parent and Child Video Series: Basic Programs.* Seattle, WA: Seth Enterprises.

Webster-Stratton, C. (1985a). Comparison of abusive and nonabusive families with conduct-disordered children. *American Journal of Orthopsychiatry, 55, 59-69.*

Webster-Stratton, C. (1985b). Comparisons of behavior transactions between conduct-disordered children and their mothers in the clinic and at home. *Journal of Abnormal Child Psychology, 13,* 169-184.

Webster-Stratton, C. (1985c). Predictors of treatment outcome in parent-training for conduct disordered children. *Behavior Therapy, 16,* 223-243.

Webster-Stratton, C. (1988). Mothers' and fathers' perceptions of child deviance: Roles of parent and child behaviors and parent adjustment. *Journal of Consulting and Clinical Psychology, 56,* 909-915.

Webster-Stratton, C. (1989a). *The parents and children's series.* Eugene, OR: Castalia.

Webster-Stratton, C. (1989b). Systematic comparison of consumer satisfaction of three cost-effective parent-training programs for conduct problem children. *Behavior Therapy, 20,* 103-115.

Webster-Stratton, C. (1990a). Enhancing the effectiveness of self-administered videotape parent-training for families with conduct-problem children. *Journal of Abnormal Child Psychology, 18,* 479-492.

Webster-Stratton, C. (1990b). Long-term follow-up of families with young conduct problem children: From preschool to grade school. *Journal of Clinical Child Psychology, 19,* 144-149.

Webster-Stratton, C. (1990c). Stress: A potential disruptor of parent perceptions and family interactions. *Journal of Clinical Child Psychology, 19,* 302-312.

Webster-Stratton, C. (1991a). Annotation: Strategies for helping families with conduct disordered children. *Journal of Child Psychology and Psychiatry, 32,* 1047-1062.

Webster-Stratton, C. (1991b). The effects of father involvement in parent-training for conduct problem children. *Journal of Child Psychology and Psychiatry, 26,* 801-810.

Webster-Stratton, C. (1992a). *The incredible years: A trouble-shooting guide for parents of children aged 3-8.* Toronto: Umbrella Press.

Webster-Stratton, C. (1992b). Individually administered videotape parent-training: "Who benefits?" *Cognitive Therapy and Research, 16,* 31-35.

Webster-Stratton, C. (1993). Strategies for helping early school-aged children with oppositional defiant and conduct disorders: The importance of home-school partnerships. *School Psychology Review, 22,* 437-457.

Webster-Stratton, C. (1994). Advancing videotape parent-training: A comparison study. *Journal of Consulting and Clinical psychology, 62,* 583-593.

Webster-Stratton, C. (1996). Early intervention with videotape modelling: Programs for families of children with oppositional defiant disorder or conduct disorder. In E. Hibbs & P. Jenson (Eds.), *Psychosocial treatments for child and adolescent disorders: Empirically based strategies for clinical practice* (pp. 435-474). Washington, DC: American Psychological Association.

Webster-Stratton, C. (1997). Early intervention for families of preschool children with conduct problems. In M. J. Guralnick (Ed.). *The effectiveness of early intervention* (pp.429-453). Baltimore, MD: Paul Brookes.

Webster-Stratton, C. (1998). Preventing conduct problems in head start children: Strengthening parenting competencies. *Journal of Consulting and Clinical Psychology, 66,* 715-730.

Webster-Stratton, C. (1999). *How to promote children's social-emotional competence.* Thousand Oaks, CA: Sage.

Webster-Stratton, C. (June, 2000). The incredible years training series. *Juvenile Justice Bulletin.* Washington, DC: U.S. Department of Justice.

Webster-Stratton, C. (2001). The incredible years: Parents, teachers, and children training series. *Residential Treatment for Children and Youth, 18,* 31-45.

Webster-Stratton, C., & Hammond, M. (1988). Maternal depression and its relationship to life stress, perceptions of child behavior problems, parenting behaviors, and child conduct problems. *Journal of Abnormal Child Psychology, 16,* 299-315.

Webster-Stratton, C., & Hammond, M. (1990). Predictors of treatment outcome in parent-training for families with conduct problems in children. *Behavior Therapy, 21,* 319-337.

Webster-Stratton, C., & Hammond, M. (1997). Treating children with early-onset conduct problems: A comparison of child and parent-training interventions. *Journal of Consulting and Clinical Psychology, 65,* 93-109.

Webster-Stratton, C., & Hancock, L. (1998). Training for parents of young children with conduct problems: Content, methods, and therapeutic processes. In B. Shaefer (Ed.), *Handbook of parent-training.* (2nd Ed.). (pp. 98-152). Toronto, ON: Wiley.

Webster-Stratton, C., & Herbert, M (1993). "What really happens in parent-training?" *Behavior Modification, 17,* 407-456.

Webster-Stratton, C., & Herbert, M (1994). Strategies for helping parents of children with conduct disorders. In M. Hersen, R. M. Eisler, & P. Miller (Eds.), *Progress in behavior modification* (pp. 121-142). Pacific Grove, CA: Brooks/Cole.

Webster-Stratton, C., & Herbert, M. (1994). *Troubled families-problem children, working with parents: A collaborative process.* Toronto, ON: Wiley.

Webster-Stratton, C., Hollinsworth, T., & Kolpacoff, M. (1989). The long-term effectiveness and clinical significance of three cost-effective training programs for families with conduct-problem children. *Journal of Consulting and Clinical Psychology, 57,* 550-553.

Webster-Stratton, C., Kolpacoff, M., & Hollinsworth, T. (1988). Self-administered videotape therapy for families with conduct-problem children: Comparison with two cost-effective treatments and a control group. *Journal of Consulting and Clinical Psychology, 56,* 558-566.

Webster-Stratton, C., & Reid, M. J. (2003). Treating conduct problems and strengthening social and emotional competence in young children: The Dina dinosaur treatment program. *Journal of Emotional and Behavioral Disorders, 11,* 130-143.

Webster-Stratton, C., Reid, M. J., & Hammond, M. (2001a). Preventing conduct problems, promoting social competency: A parent and teacher training partnership in Head Start. *Journal of Clinical Child Psychology, 30,* 283-302.

Webster-Stratton, C., Reid, M. J., & Hammond, M. (2001b). Social skills and problem-solving training for children with early-onset conduct problems: Who benefits? *Journal of Child Psychology and Psychiatry, 42,* 943-952.

Webster-Stratton, C., Reid, M. J., & Hammond, M. (2004). Treating children with early-onset conduct problems: Intervention outcomes for parent, child and teacher training. *Journal of Clinical Child and Adolescent Psychology, 33,* 105-124.

Webster-Stratton, C., & Spitzer, A. (1991). Development, reliability, and validity of the daily telephone discipline interview. *Behavioral Assessment, 13,* 221-239.

Wheeler, J. J., & Redinius, P. (1994, October). *A consultative model for providing behavioral supports to children with challenging behavior.* Presented at the Transitions Toward New Horizons Conference, Winnipeg, MB.

Wickstrom, K. F., Jones, K. M., LaFleur, L. H., & Witt, J. C. (1998). An analysis of treatment integrity in school-based behavioral consultation. *School Psychology Quarterly, 13,* 141-154.

Wilker, L. (1981). Chronic stresses of families of mentally retarded children. *Family Relations, 30,* 281-288.

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,* 175-20.

Wilkinson, L. A. (1997). School-based behavioral consultation: Delivering treatment for children's externalizing behavior in the classroom. *Journal of Educational and Psychological Consultation, 8,* 255-276.

Witt, J. C., Gresham, F. M., & Noell, G. H. (1996). What's behavioral about behavioral consultation? *Journal of Educational and Psychological Consultation, 7,* 327-344.

Appendices

Appendix A: Background Questionnaire

BACKGROUND QUESTIONNAIRE

FAMILY DATA

Child's Name: _____

Birth Date:_____ Age: _____ Sex (circle): M F

Home Address: _____ Tel:_(_____)

_____

_____

Person filling out this form (circle): Mother Father Other (Specify):_____

Mother's name: _____ Age:_____ Education:_____

_____

Occupation:_____ Tel (work): (___)_____

Father's name: _____Age:_____ Education:_____

Occupation:_____ Tel (work): (___)_____

Other 's name): _____ Age:_____ Education:_____

Occupation:_____ Tel (work): (___)_____

Relationship to the child: _____

Marital status of parents:_____

If separated or divorced, how old was your childe when the separation occurred:_____

_____

List all people living in your household:

Name	Relationship to the child	Age
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

How would you describe your child's relationship with you, your spouse, and your other children?

_____

_____

_____

Primary language spoken in the home:_____

Other languages spoken in the home:_____

Any significant changes at home in the last year?: _____

_____

_____

_____

_____

_____

EDUCATIONAL HISTORY

Name of current school/School Board: _____ Current Grade: _____

List all previous school attended (if applicable):
School:_____ When: _____
School:_____ When: _____
School:_____ When: _____
School:_____ When: _____

Place a check next to any educational problems that your child currently exhibits.
Has difficulty with: reading__ arithmetic:___ spelling:____ writing: ____
Has difficulty with other subjects (please list): _____

Does not like school:_____
Is your child in a special education class? ___
If yes, what type of class? _____
Has your child been held back a grade? _____
If yes, what grade and why? _____
Has your child ever received special tutoring or therapy in school?
If yes, please describe? _____

SOCIAL AND BEHAVIORAL CHECKLIST

Place a check next to any behavior or problem that your child currently exhibits.

._____Has difficulty with speech
._____Has difficulty with hearing
._____Has difficulty with language
._____Has difficulty with vision
_____._____Has difficulty with coordination
._____Prefers to be alone
._____Does not get along with siblings
._____Is aggressive
._____Is shy or timid
._____Is more interested in things than people
._____Engages in dangerous or self-injurious behavior
_____
._____Has Special fears, habits, mannerisms
_____
._____Has blank spells
._____Is impulsive
._____Has daredevil behavior

_____ Has frequent tantrums
_____ Has frequent nightmares
_____ Has trouble sleeping (describe)_____
_____
_____ Rocks back and forth
_____ Bangs head
_____ Holds breath
_____ Eats poorly
_____ Is stubborn
_____ Has poor bowel movements
_____ Is much too active
_____ Gives up easily
_____ Is clumsy
_____ Wets bed
_____Bites nails
_____ Sucks Thumb
_____ Other (describe): _____

DEVELOPMEANTAL MILESTONES

The following is a list of infant behaviors. Please indicate the age at which your child demonstrated each behavior. If you are uncertain about the age, place a ? beside the age. If you do not remember the age, place a ? next to the item.

._____Showed a response to mother
_____Crawled
_____Put several words together
_____Stayed dry at night
_____ Rolled over
_____ Walked alone
_____ Dressed self
_____ Fed self
_____ Sat alone
_____ Spoke first words
_____ Toilet trained
_____ Rode tricycle

DEVELOPMENTAL HISTORY

Prenatal: How many pregnancies?___ For this child, which pregnancy was it? _____Full-term or Premature

Is this child adopted? _____ If yes, when? _____

Medical issues during the pregnancy? _____ If yes, please specify: _____

Complications during labor or delivery? _____If yes, please specify: _____

Child's health at birth? Breathing problems, need for oxygen, jaundice, medications, hospitalizations, feeding or sleeping difficulties, other (specify): _____

Child's current health: Any significant illnesses? _____

Does the family have a pediatrician, if yes, who? _____

Any major accidents?_____

Is your child currently on any medication? If yes, please specify type and dosage. _____

MEDICAL HISTORY

Place a check next to any illness or condition that your child has had. When you check an item, also note the approximate date of the illness.

__ Measles_____ ___ High Fever_____ ___ Severe headache_____
__ German Measles_____ ___ Convulsions_____ ___ Difficulty Concentrating_____
__ Mumps_____ ___ Allergies_____ ___ Memory problems_____
__Chicken Pox_____ ___ Hay Fever_____ ___Broken Bones _____
__ Whooping Cough_____ ___ Head Injuries_____ ___Visual Problems_____
__ Diphtheria_____ ___ Paralysis_____ ___ Loss of consciousness_____
__Scarlet Fever_____ ___ Asthma_____ ___ Extreme tiredness/weakness_____
__Meningitis_____ ___ Tuberculosis_____ ___Rheumatic Fever_____
__Encephalitis_____ ___ Dizziness_____ ___ Bone/joint disease_____
__Fainting spells_____ ___ Heart disease_____ ___Ezema or hives_____
__Cancer_____ ___ Diabetes_____ ___Bleeding problems_____
__Anemia_____ ___ Jaundice_____ ___ High blood pressure_____
__Hepatitis_____ ___Ear infections_____
__Hospitalization_____
__Other: _____

FAMILY MEDICAL HISTORY

Place a check next to any illness or condition that any member of the immediate family (sibling, aunts, uncles, cousins, grand-parents) has had. When you check an item, please note the member's relationship to the child.

Condition	Relationship	Condition	Relationship
_____ Alcoholism	_____	_____Nervous/Psychological Problems	_____
_____ Cancer	_____	_____Depression	_____
_____Diabetes	_____	_____Suicide Attempt	_____
_____Heart Trouble	_____	_____Other	_____

Thank you
For taking the time to fill out this questionnaire

Appendix B: DPICS Data Recording Sheet

DATA RECORDING SHEET

Observer: _____ **Participant #:** _____

Date: _____

___ **CDI**

___ **PDI**

___ **CLEAN-UP**

Parent Behaviors	**Total**	**Child Behaviors**			**Total**
Labeled Praise		Whine	Responded to	Ignored	
Unlabeled Praise		Cry			
TOTAL PRAISE (Labeled/Unlabeled)		Yell			
Critical Statement		Smart Talk			
No-Opportunity		Physical Negative			
Warnings		**TOTAL CHILD DEVIANCE** (Whine/Cry/Yell/Smart Talk/Physical Negative)			
Grandma's Rule		**Noncompliance** (Child's Response to Commands)			
Direct Commands		**Compliance** (Child's Response to Commands)			
Indirect Commands					
TOTAL COMMANDS (Direct/Indirect)					

Appendix C: Ethics Approval Certificate

McGill University – Faculty of Education
Research Ethics Board
ETHICS REVIEW - AMENDMENT REQUEST FORM

This form can be used to submit any changes/updates to be made to your currently approved research project. Explain what these changes are, and attach any relevant documentation that has been revised. Significant changes that have ethical implications must be reviewed and approved by the REB before they can be implemented. This form is also to be used for indicating changes to funding and personnel.

REB File #: _____

Project Title: Problem Solving Consultation for Children with Developmental Delays
Principal Investigator: Niki Saros

Department/Phone/Email: Department of Educational and Counselling Psychology (514) 488-1968
nikiss@videotron.ca

Faculty Supervisor (for student PI): Dr. Ingrid Sladeczek

This study is part of a larger study being conducted by Dr. Ingrid Sladeczek and her students from the Behavioral Consultation Laboratory at McGill University. The larger study entitled conjoint Behavioral Consultation and Group Videotape therapy for Children with Developmental Disabilities has received approval from the McGill University Ethics Committee in 1999. The methodology of the proposed research project remains the same as the research project that received approval in 1999. However, two additional measures will be added. The Parenting Stress Index (PSI; Abidin, 1995) and the Beck Depression Inventory (BDI-II; Beck, Steer, & Brown, 1996). The PSI is a self-report measure designed to assess parenting stress for parents of children 12 years of younger. The total questionnaire consists of 36 items which are rated on a likert scale (1= Strongly Disagree, 2=Disagree, 3= Not Sure, 4= Agree, 5=Strongly Agree). The BDI is a 21 item self-administered measure designed to evaluate the severity of depression in adults and adolescents. Items are rated on a 4 point scale ranging from 0-3 in terms of severity of symptoms. Respondents are asked to rate items based on how they have been feeling during the past 2 weeks.

Principal Investigator Signature: _____ Date: November 15, 2005

Faculty Supervisor Signature: Ingrid E. Sladeczek Date: November 15, 2005
(for student PI)

For Administrative Use

✓ Expedited Review ____ Full Review

✓ This amendment request has been approved.

Signature of REB Chair/ designate: _____ Date: Dec 6, 2005

Submit to Carole Grossman, Education Ethics Coordinator, Education Bldg., rm 230, tel:398-7039 fax:398-1527

(version January/05)

MCGILL UNIVERSITY
FACULTY OF EDUCATION

CERTIFICATE OF ETHICAL ACCEPTABILITY FOR FUNDED AND NON FUNDED RESEARCH INVOLVING HUMANS

The Faculty of Education Ethics Review Committee consists of 6 members appointed by the Faculty of Education Nomina appointed member from the community and the Associate Dean (Academic Programs, Graduate Studies and Research) v Ethics Review Board .

The undersigned considered the application for certification of the ethical acceptability of the project entitled:

Conjoint Behavioural Consultation and Group Videotape Therapy for Children with Developmental Disabilities

as proposed by:

Applicant's Name Ingrid E. Sladeczek, Ph.D.

Applicant's Signature Ingrid E Sladeczek

Supervisor's Name _____

Supervisor's Signature _____

Degree / Program / Course _____

Granting Agency _____

The application is considered to be:

A Full Review _____

An Expedited Review X

A Renewal for an Approved Project _____

A Departmental Level Review _____
Signature of Chair / Designate

The review committee considers the research procedures and practices as explained by the applicant in this application, t ethical grounds.

1. Prof. Evelyn Lusthaus
Department of Educational and Counselling Psychology

_____
Signature / date

2. Prof. John Leide
Graduate School of Library and Information Studies

_____
Signature / date

3. Prof. Margaret Downey
Department of Physical Education

_____
Signature / date

4. Prof. Lise Winer
Department of Second Language Education

Lise Weir 12 Aug. 1999
Signature / date

5. Prof. Claudia Mitchell
Department of Educational Studies

Claudia Mitchell Aug 28/99
Signature / date

6. Prof. Kevin McDonough
Department of Culture and Values in Education

Kevin McDonough Sept. 7/99
Signature / date

7. Member of the Community – To be determined

_____
Signature / date

Mary H. Maguire Ph. D.
Chair of the Faculty of Education Ethics Review Committee
Associate Dean (Academic Programs, Graduate Studies and Research)
Faculty of Education, Room 230
Tel: (514) 398-7039/2183 Fax: (514) 398-1527

Mary H. Maguire Sept 8/99
Signature / date

Revised May, 1998

Appendix D: Consent Form

PARENT CONSENT FOR PARTICIPATION

Dear Parent,

The purpose of this document is to review the responsibilities of the parent(s) participating in the Parent-Teacher Intervention Project. The project is designed to assist parents and teachers who have specific behavioural concerns with children at home or in the classroom. The project is specifically designed to serve children with behaviour problems

This program is being conducted by Dr. Ingrid Sladeczek and a group of advanced graduate students in School Psychology, from the Department of Educational and Counselling Psychology, at McGill University. The research has received approval from the McGill University Ethics Committee and involves minimal risk to participants.

The specific goals of the project are: (a) to provide consultation services to parents and teachers, thereby encouraging a cooperative problem-solving venture between the two; (b) to work collaboratively with parents and teachers to address specific behavioural difficulties of children; and (c) to implement an effective behavioural program to remediate the difficulties exhibited by the children. Participating parents will be asked to assist in program implementation at various levels. Among the responsibilities of the parents are the following.

1. Assist in monitoring your child's progress by completing questionnaires, prior to and at the conclusion of treatment. This will require approximately an hour and a half of your time.

2. Meet with the consultant to discuss your child's inclusion in the program, review the program procedures in greater detail.

3. Meet with other parents and a consultant for weekly sessions wherein a video-based program serves as a vehicle for discussion of dealing effectively with children's problem behaviours. More specifically, the program includes handouts and nine videocassettes divided into four programs: (1) Play, (2) Praise and Rewards, (3) Effective Limit Setting, and (4) Handling Misbehaviour. The handouts contain a summary of points to remember, while the videotapes illustrate essential child management concepts by displaying brief scenes of parents interacting with children in various situations. Parents should have access to a VCR to facilitate the treatment program.

If you agree to participate, please sign the attached form. Parents should be aware that not all children *nominated* for services will qualify. However, all who qualify will receive services, but some at a later date. If you have any questions regarding the project, please contact one of our consultants at (514) 398-4908.

Sincerely,

Ingrid E. Sladeczek

Ingrid Sladeczek, Ph.D.
Project Director

PARENT CONSENT FOR PARTICIPATION

Ingrid E. Sladeczek, Project Director

I acknowledge being informed to my satisfaction of the goals, benefits, risks, and procedures of the Parent-Teacher Intervention Project. It is my understanding that the procedures will involve:

1. Interviews and meetings with myself, the consultant, and my child's teacher(s);

2. The completion of various questionnaires prior and following treatment to provide information about my child's progress and my involvement in the treatment program;

3. The teaching of skills using a videotape program that contains four main techniques including: (a) Play, (b) Praise and Rewards, (c) Effective Limit Setting, and (d) Handling Misbehaviour;

4. Having access to a VCR to facilitate involvement in treatment implementation

I understand that confidentiality of my child's identity is assured, and will not be reported in any formal discussion or publication of the project. I also understand that my child or myself may withdraw from the program at any time without penalty to my child or me.

_____
Child's Name

_____ _____
Parent Signature Date

Audio/Video Recording

Audio or video recordings are made of the sessions with the consultant. The recordings are used for training and research purposes. It is my understanding that the recordings and the information therein, shall be held in strict confidence. It is further understood that the tapes will be erased as soon as their usefulness for research or supervision purposes is completed.

I have read and had explained to me the above description of video-taping and audio-taping that might occur during the sessions with the consultant. I give my consent for recording of the sessions.

_____ _____
Signature of teacher Date

Appendix E: Child Sample

Child Sample

Child 1

The target behavior for this chid was noncompliant behavior (i.e., refusing to get off the bus). His difficulty with transitions extended to following routines such as getting dressed in the morning and leaving for school on time. He was diagnosed with adaptive deficits in communication skills, specifically, oral language, functional academics, and self-care skills. He required visual cues to improve comprehension and to reduce tantrums and crying during daily living activities.

Child 2

The target behavior for this child was noncompliant behavior (i.e., not following directions). She demonstrated noncompliance when asked to take her medication and was observed to run away, tantrum, and cry. This child was diagnosed with seizure disorder and adaptive deficits in the areas of self-direction, self-care, home living skills, socialization, and functional academics.

Child 3

The target behavior for this child was noncompliant behavior (i.e., not following directions). His behavior was increasingly noncompliant during unstructured periods of time during which he would disturb siblings, and provoke arguments. His behaviors included spitting, swearing, and yelling. This child was diagnosed with ADHD and adaptive deficits in functional academics, socialization, leisure skills, and communication.

Child 4

The target behavior for this child was noncompliant behavior (i.e., tantrums or walking away). She was unmotivated to complete homework, had difficulty with transitions (e.g., getting dressed and then brushing her teeth). Her appetite was poor and she often refused to eat. She was diagnosed with epilepsy, encephalitis, and adaptive deficits in functional academics, home living, and self-direction.

Child 5

The target behavior for this child was swearing and name calling. He demonstrated impulsive behavior, exposed his private parts, and was aggressive towards peers (i.e., hitting). He was diagnosed with ADHD and adaptive deficits in socialization, functional academics, community skills, home living, and self-direction.

Child 6

The target behavior for this child was noncompliant behavior (i.e., not following directions). He had difficulty interacting with peers (e.g., taking turns and teasing). He required frequent repetition of instructions. He was diagnosed with ADHD and adaptive deficits in self-direction, socialization, functional academics, and home living skills.

Child 7

The target behavior for this child was defiant behavior (i.e., verbal threats). He had difficulty following directions, interacting cooperatively with peers, and often talked to himself. He had adaptive deficits in functional academics, communication, and socialization.

Child 8

The target behavior for this child was noncompliant behavior (i.e., outbursts, talking back). He demonstrated an inability to control his anger and frequently had temper tantrums, and weak expressive language skills to communicate his feelings. He had adaptive deficits in communication, socialization, self-care, functional academics, and self-care.

Child 9

The target behavior for this child was noncompliant behavior (i.e., not listening). She argued with her parents, demanded attention, and did not follow directions. She was diagnosed with allergies and had adaptive deficits in self-direction community use, and functional academics.

Child 10

The target behavior for this child was noncompliant behavior (i.e., tantrums). She demonstrated behavior such as screaming, crying, tantrums, and was disruptive at home. She had difficulty concentrating and was unable to express her feeling when angry. She had adaptive deficits in home-living, communication, functional academics, and socialization.

Child 11

The target behavior for this child was inappropriate behavior outside the home (i.e., yelling at other children, moaning loudly, whining). She often had emotional outbursts, was easily frustrated, and had difficulty completing basic routines at home. She had adaptive deficits in communication, socialization, self-direction, and functional academics.

Child 12

The target behavior for this child was verbal aggression (i.e. swearing). He was argumentative with his parents, used name calling, and was unable to follow basic routines in the absence of conflict (e.g., brushing his teeth and getting dressed). He had adaptive deficits in home living, communication, functional academics, socialization, self-care, and self-direction.

Child 13

The target behavior for this child was defiant behavior (i.e. taking siblings belongings). He stole food, had difficulty following directions, and frequently teased his siblings. He had adaptive deficits in home-living, functional academics, and self-direction.

Child 14

The target behavior for this child was noncompliant behavior during toilet training. He demonstrated impulsivity and complained during completion of basic home routines such as dressing. He had deficits in home-living, self-care, self-direction, and functional academics.

Child 15

The target behavior for this child was inattentive behavior during homework. He required prompts to complete written work, yelled and screamed during homework completion, teased other children, and had communication difficulties (i.e. spoke inaudibly). He was diagnosed with Tourette syndrome and had adaptive deficits in communication, socialization, functional academics, and self-direction.

Child 16

The target behavior for this child was noncompliance (i.e. putting fingers in his mouth). He frequently clapped inappropriately in the community, screamed on the metro, and had prolems following a bedtime routine (i.e., stayed up late at night). He had deficits in home living, self-care, functional academics, and community use.

Child 17

The target behavior for this child was the amount of time required to go to bed. He stayed up past 10:30 pm nightly. He often provoked his siblings by taking their toys and destroying their property. He had adaptive deficits in self-care, self-direction, home living, socialization, and functional academics.

Child 18

The target behavior for this child was the frequency of incidences of saying "yeah Mama" or "be careful". This child had obsessive behaviors including verbal repetition, and touching light switches. He was aggressive towards his siblings at home (e.g., hitting and swearing). He was diagnosed with Obsessive Compulsive Disorder and had adaptive deficits in home living, self-care, self-direction, socialization, communication, and functional academics.

Child 19

The target behavior for this child was daily social interaction with his brother. He had difficulty engaging in associative play, sharing with peers, and often had temper tantrums (i.e. throwing toys). He had adaptive deficits in socialization, functional academics, self-care, and communication.

Child 20

The target behavior for this child was assertiveness (i.e., not allowing friends to take toys away from him). He frequently demanded attention from adults, had tantrums, and difficulty with peer relations. He had adaptive deficits in socialization, functional academics, communication, and use of leisure time.

Child 21

The target behavior for this child was noncompliance (i.e., not listening). He had difficulty following routines at home, and required frequent repetition of instructions. He had adaptive deficits in home-living, socialization, self-care, and functional academics.

Child 22

The target behavior for this child was noncompliance (i.e., tantrums). He screamed, refused to wait his turn, hit siblings, and had difficulty verbally communicating his needs. He had adaptive deficits in functional academics, socialization, self-direction, and communication.