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TEACHER RATINGS OF INTERVENTION ACCEPTABILITY IN THE
INSTRUCTIONAL SUPPORT TEAM PROCESS

A Thesis in

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by

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ABSTRACT

Since the late 1970's there has been significant growth in school-based pre referral intervention programs that now play a prominent role in many school systems across the country. Such programs are primarily regular education initiatives and are intended to assist students who are experiencing difficulty with school. Many team formats exist but most are characterized by interaction among professionals in the school who seek to develop effective intervention strategies in an effort to reduce the number of inappropriate special education referrals and help students remain in the least restrictive environment; one such approach is the Instructional Support Team (IST) which was the format used in the present investigation.

IST was implemented in the Baltimore County, Maryland Public School System in 1998. The model in place parallels that developed for use in Pennsylvania in the early 1990s. The IST is intended to assist teachers in finding solutions to their challenges through classroom-based assessment and collaborative problem-solving to develop interventions. If IST is to be successful, teachers must be willing to accept the interventions. However, it is often not known how teachers view the interventions they are asked to implement. If teachers do not like the interventions, they are likely to implement them improperly or avoid them all together.

The purposes of the present study were to examine teacher ratings of intervention acceptability for interventions generated and then implemented as part of the IST process, determine what variables may affect acceptability ratings, and finally determine the best model to predict teacher ratings of intervention acceptability.

The participants in this investigation were regular education classroom teachers from kindergarten through fifth grade in Baltimore County, Maryland Schools that have been designated as IST schools. Teachers referred students for instructional support services via the established procedures at each school. IST meetings were held during which the presenting problem was reviewed, initial assessment data were presented, and interventions to address the problem were selected. Teachers were asked to implement interventions for a period of at least 30 days. At or around the time of a review meeting held after the 30-day intervention period, teachers were asked to rate the intervention selected at the initial meeting using the Intervention Rating Profile-20 (IRP-20). Supplemental questions were asked to allow teachers to rate additional variables related to providing the intervention. Teachers rated the presenting problem for level of severity, skill, and the effectiveness of the intervention on six point scales. Teachers also indicated the level of support they received to carry out interventions, the amount of time spent implementing the intervention each day, completed a demographic survey, indicated years teaching, and completed a scale to rate the level of implementation of the IST process in their school.

Ratings for academic and behavioral referrals were analyzed separately. There was not a significant difference in teacher acceptability ratings for academic referrals compared to behavior referrals. For academic referrals, statistically significant relationships were found between the variable effectiveness, support, skill, and level of implementation with the IST process and intervention acceptability. For behavior referrals, statistically significant relationships were found between the variables effectiveness, skill, support and intervention acceptability. Multiple regression analysis was used to compare a series of increasingly complex prediction models with compact models to identify the model that was most parsimonious. For both academic and behavior referrals, the best model to predict intervention acceptability included the variables effectiveness of the intervention, support, and skill. Relationships between other variables and ratings of acceptability were less salient.

Given the current emphasis on pre referral services through the provisions of the No Child Left Behind legislation and the reauthorization of IDEA, it is important for schools to have effective and efficient models with which to service children who experience difficulty. If school-based teams are to be successful in addressing these needs, they must use effective models that are implemented correctly and provide interventions that teachers find acceptable and that are used with fidelity. Data from ecologically valid studies can guide schools in selecting and developing effective models and can identify variables that are

related to high ratings of acceptability on the part of personnel who must implement them.

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Chapter 1

INTRODUCTION

Overview of pre-referral intervention

Since the late 1970s there has been significant growth of school pre-referral programs and intervention assistance teams that emphasize collaborative consultation (Kratochwill, Elliott, & Callan-Stoiber, 2002; Safran & Safran, 1996; Whitten & Dieker, 1995; Bahr, Whitten, Dieker, Kocarek, & Manson, 1999). In fact, consultation-based service delivery has become a primary function of many school psychologists (Reschly & Wilson, 1995; Zins & Erchul, 2002). Pre-referral intervention is defined as the modification of instruction or classroom management to accommodate students who are experiencing difficulty prior to referral for special education placement. This activity is frequently initiated by one or more support staff (i.e., school psychologist, special educator) that work directly with the referred student through consultation with the classroom teacher (Fuchs, Fuchs, Harris, & Roberts, 1996).

Expanded consultation and pre-referral intervention services have been designed to reduce the need for special education services by providing assistance to students in the general education classroom (Adelman & Taylor,

1998; Graden, Casey, & Christenson, 1985; Whitten & Dieker, 1995; Safran & Safran, 1996), decrease the over-identification of students for special education (Bahr, Fuchs, et al., 1999; Fuchs, Fuchs, Bahr, Fernstrom, & Stecker, 1990; Graden, Casey, & Christenson, 1985; Kovaleski, 2002), facilitate the integration of students with handicaps into the general education setting (Adelman & Taylor, 1998; Evans, 1990), increase the ability of teachers to educate “difficult to teach” students (Pugach & Johnson, 1989; Myles, Simpson, & Ormsbee, 1996; Ingalls & Hammond, 1996), and improve teachers’ attitudes toward students demonstrating problems (Nelson, Smith, Taylor, Dodd, & Reavis, 1991).

Pre-referral intervention provides immediate assistance to the student and teachers, since support is given when the teacher contemplates referral (Fuchs, 1991). Finally, pre-referral intervention supports use of an ecological perspective that challenges educators to investigate teacher, physical setting, and instructional variables as well as the individual learner’s characteristics as possible causes of student difficulties (Fuchs, 1991).

Pre-referral intervention has a relatively short history; however, it has begun to play a prominent role in many school systems across the country. It is primarily used within the milieu of regular education programs to assist students who are experiencing difficulties with school. Within the literature, there is strong support for the use of pre-referral intervention (Ingalls & Hammond, 1996). First, the Individuals with Disabilities Education Act (IDEA) includes a least restrictive environment clause that states that schools must attempt to provide a student

with disabilities a program in the regular education classroom. Teachers should implement pre-referral interventions, collect data, and document the success of the interventions prior to implementing a more restrictive learning environment for the student (Ingalls & Hammond, 1996). This system assures that the least restrictive classroom setting is identified for the student.

A second point to support the establishment of school-based pre-referral teams is the current state of referral, evaluation, and placement procedures (Carter & Sugai, 1989). In the past, too many students were likely to be referred for assessments and possible identification for special education programs. There has been a sharp increase in special education enrollment since the passage of Public Law 94-142 (e.g., U.S. Department of Education, 1988). Recent estimates (Ayers, 1994) indicate that slightly under five million students have a diagnosed disability, and this constitutes 10% of the overall school population. This number represents a significant increase in comparison to 1975 when only 7.8% of the population was categorized as disabled. Special education programs tend to attract students who are difficult to teach but are not necessarily individuals with disabilities.

A third supportive issue regarding pre-referral teams is the high numbers of children with mild disabilities who do not meet criteria for special education services. Through the use of pre-referral teams, educators within the regular classroom can assist students who are experiencing social, behavioral, and

academic problems at the initial stages of concern (Nelson, Smith, Taylor, Dodd, & Reavis, 1991).

A fourth concern is the growing evidence suggesting that teachers often make referrals in a hasty, rather than a deliberate, manner. Twenty years ago, classroom teachers made few significant programmatic changes before initiating a formal referral (Ysseldyke, Christenson, Pianta, Thurlow, & Algozzine, 1983). A frequently observed result is the increasing number of children who are referred and assessed for special education that do not meet eligibility criteria (Chalfant & Pysh, 1989; Fuchs, Fuchs, & Bahr, 1990). School personnel could more effectively use their time and resources completing assessments that result from careful evaluation of a pre-referral team. Further, accurate identification of certain categories, such as learning disabilities, can be problematic (Bahr, Fuchs, & Fuchs, 1999).

A fifth and serious concern related to the identification of educational disabilities is the overrepresentation of students of color (Macmillan, Gresham, & Siperstein, 1993). According to data presented in the 2000 Annual Report on the Implementation of the Individual's with Disabilities Education Act (IDEA), African American students were 2.9 times as likely as Caucasian students to be labeled mentally retarded, 1.9 times as likely to be labeled emotionally disturbed, and 1.3 times as likely to be labeled as having a learning disability. Further, African American students ages 6-21 accounted for 14.8% of the general population yet they accounted for 20.2% of the special education population in 1999 (Council for

Exceptional Children, 2002). A final factor supporting the pre-referral process is that the information collected during pre-referral intervention can be a great benefit to the assessment team (Salvia & Ysseldyke, 1995). Data collected may include a summary of skills and behaviors of the student, a list of variables that influence a student's behavior or academic performance, and information about the modifications implemented and their effectiveness (Ingalls & Hammond, 1996).

Pre-referral intervention has grown in popularity. Fuchs and Fuchs (1989) found that in a survey from 49 state directors of special education, 34 directors reported that they required or recommended local education agency personnel to implement pre-referral intervention. Carter and Sugai (1989) surveyed state directors of education and found that of the 49 responses received, 23 (45%) required and 11 (22%) recommended pre-referral intervention processes. Buck, Polloway, Smith-Thomas, and Cook (2003) replicated the research reported by Carter and Sugai and similarly found that 22 of the 51 states (including the District of Columbia(43%) required pre-referral intervention, and 15 (29%) said they recommended a pre-referral process. Schools that use interventions effectively tend to have fewer referrals to special education. In cases where students are referred, these schools have a greater percentage of students actually qualify for services than schools that do not implement productive interventions (Graden, Casey, & Bonstrom, 1985). A more recent study showed that pre-referral interventions reduce referrals to special education, improve

student performance, increase teachers' skills for managing students with academic and behavior difficulties, and improve teachers' attitudes toward students demonstrating difficulty (Nelson et al., 1991).

The proliferation of pre-referral intervention teams has allowed psychologists, through consultation, to step out of their test and place/not place roles as gatekeepers to help teachers assist challenging students. Empirical support for the efficacy of consultation is central to the argument that consultation is and should remain a primary job responsibility of psychologists (Sheridan, Welch, & Orme, 1996). School psychologists are becoming increasingly involved in collaborative consultation in an effort to provide services to students who are experiencing difficulty in school (Kratochwill et al., 2002). A significant factor essential for positive outcomes is developing effective working collaborative relationships in which teachers and other team members are empowered to intervene successfully to assist a student. A number of pre-referral service models have been proposed.

Pre-referral Intervention Formats

Although team formats vary somewhat among school districts, intervention assistance teams do share commonalities. They are generally characterized by professional interaction/collaboration among the adults in a school who meet for the purpose of providing support to students experiencing difficulty in the general

education setting (Rosenfield, 2002; Safran & Safran, 1996; Whitten & Dieker, 1995). Pre-referral intervention involves a re-conceptualization of how general and special education services are delivered (Pugach & Johnson, 1989). It supports increasing the use of more indirect special education services as well as the integration of general and special education services (Graden, 1989; Graden, Casey, & Christenson, 1985). Further, scholars have related pre-referral intervention with the Regular Education Initiative and with efforts to promote mainstreaming (Evans, 1990).

Intervention assistance programs and pre-referral teams have primarily evolved from Teacher Assistance Teams and pre-referral programs (Sindelar et al., 1992). Teacher Assistance teams, which evolved in the 1970s, emphasized collaborative problem solving, general education teacher ownership, and immediate classroom assistance by placing the power for action in the hands of the classroom teacher (Chalfant, Pysh, & Moultrie, 1979; Chalfant & Pysh, 1989). Proponents of Teacher Assistance Teams prefer a less formalized system in which teachers help one another, bringing in administrators and specialists only when necessary (Chalfant et al., 1979; Hayek, 1987).

In contrast, pre-referral intervention teams, instituted in the early 1980s, concentrated on more formalized, data-driven, behavioral consultation to reduce large numbers of inappropriate referrals to special education (Graden, Casey, & Christenson, 1985). In fact, Graden, Casey, and Christenson (1985) were the first researchers to use the term pre-referral intervention in the special education

literature. A primary goal of a pre-referral intervention model is to identify successful interventions to help students remain in the least restrictive environment (Graden, Casey, & Christenson, 1985). Supporters of pre-referral programs began to increase awareness of the need for greater levels of indirect services for general education teachers (Graden, 1989). Pre-referral intervention programs, more recently coined “intervention assistance process,” incorporate pre-referral intervention as a mandatory step in the eligibility process for special education (Curtis, Zins, & Graden, 1987).

Other models use specialists with particular types of expertise as adjuncts to the team of teachers (Batsche & Knoff, 1995; Fuchs, Fuchs, & Bahr, 1990; Graden, Casey, & Christenson, 1985). In 1985, Fuchs and Fuchs incorporated a pre-referral intervention model named Mainstream Assistance Teams (MATs) into a larger process of teacher consultation. This model of teacher consultation, often referred to as behavioral consultation, encourages consultants to change students' behavior by working with teachers. Behavioral consultation supports the exploration of antecedents and consequences of behavior in naturalistic settings to identify variables influencing problematic behaviors (Fuchs, Fuchs, & Bahr, 1990). Distinctive features of the MATs include a comparatively large number of school staff as teacher consultants, multi-disciplinary team meetings with various consultants, and the use of written scripts to increase fidelity of the consultation process (Bahr, Fuchs, & Fuchs, 1999; Fuchs & Fuchs, 1989).

During the 1990s several states including Pennsylvania, Iowa, Kansas, Vermont, and Ohio mandated pre-referral teams that utilized teachers and specialists through a problem-solving process. Outcome studies on pre-referral intervention have consistently revealed a decrease in the number of special education referrals and placements (Chalfant & Pysh, 1989; Fuchs, Fuchs, Bahr, Fernstrom, et al., 1990, Graden, Casey, & Bronston, 1985; Ingalls & Hammond, 1996). This reduction indicated that a significant number of students were able to receive assistance in the regular education setting through instructional strategies and modifications (Ingalls & Hammond, 1996). Rosenfield and Gravois (1996) incorporated teachers and specialists in an instructional consultation team format that served as a catalyst for including instructional strategies into a teacher-consultation process (Kovaleski, 2002). Horry County Schools in Myrtle Beach, South Carolina developed an alternative approach to the pre-referral model, referred to as the Student Study Team (SST), based on a problem-solving model (Barbour & Schwanz, 2002). The problem-solving model incorporated aspects from systems used in other states (i.e., Pennsylvania, Iowa, Ohio) and share three basic components including defining the problem, generating potential solutions, and testing selected alternatives. The SST is defined as a collaborative model in which educators in a school share information and expertise to improve student learning. The use of this problem-solving model incorporates databased systematic assessment and decision-making. It is

intended to service children without the need to label them as a student in need of special education services.

In Pennsylvania, pre-referral intervention is referred to as Instructional Support Team (IST). It was mandated for at-risk students in the Commonwealth's more than 500 school districts because of high overall rates of identifying students as eligible for special education, an overrepresentation of minority students in special education, and massive cost overruns to fund special education programs ("Brainstorming Helps," 1996; Conway & Kovaleski, 1998; Kovaleski, Gickling, Morrow, & Swank, 1999; Kovaleski, Tucker, & Stevens, 1996; Rock & Zigmond, 2001). Pennsylvania standards describe the intent of IST as providing a systematic and data based evaluation. This evaluation serves to guide instruction and to review data collected through curriculum-based assessment to ensure success. Inherent in the IST process is the hypothesis that the adverse effects of curricula, inadequate instruction, and lack of prior knowledge should be ruled out as causes of problems before a student is deemed a candidate for special education (Long, 1995).

Since 1990, educators in the IST process developed in Pennsylvania have worked to shift the focus of special education from categorizing the services delivered to providing improved instruction (Kovaleski et al., 1996). The program was phased in statewide during a five-year period, beginning in 1990 to assist elementary-age (K-6) students who experience academic or behavioral difficulties. The instructional support process assists school-based teams in

developing a seamless system of support within buildings for students and teachers in which assistance for the referred student is provided in the classroom (Kovaleski, Lowery, & Gickling, 1995).

IST is a process in which a working group of teachers and other school personnel convene in an effort to brainstorm interventions for students referred because of academic, behavioral, social, or emotional problems. One trainer described the IST process as “a systematic search for what works” (Kovaleski et al., 1996). The team usually includes the building principal, the student’s classroom teacher, the IST support teacher, the child’s parent, and the school psychologist. Depending on the needs of the student, other participants may include remedial math and reading specialists, guidance counselors, speech therapists, school nurses, or other classroom teachers.

The IST is intended to assist teachers in finding solutions to their instructional challenges through classroom-based assessment and collaborative problem solving. The IST works together to identify the student’s problems, formulate goals, and develop interventions. Team members work with the classroom teacher to search for what will work for the student by systematically manipulating instructional variables and measuring the student’s reactions to these changes (Kovaleski, Tucker, & Duffy, 1995). After interventions are selected, the team assists the classroom teacher to incorporate the strategies into the classroom instruction through modeling and guided practice. As part of the process of generating interventions, teams determine who on the team or in

the school building is primarily responsible for implementing the intervention, monitoring the results, and then reporting its effectiveness to the team at a later date.

Since the beginning of the IST project, a goal of the program has been to decrease referrals for multidisciplinary evaluation and placements in special education (Kovaleski, Tucker, et al., 1995). Referral and placement figures collected on students referred for evaluation during the 1992-1993 school year indicated a decrease in multidisciplinary referrals and placements when comparing IST schools to non-IST schools (Kovaleski, Tucker, et al., 1995). Specifically, schools that utilized the IST approach experienced referral rates that were one-third to one-half those of schools that had not yet implemented the IST process. Kovaleski, Lowery, and Gickling (1995) reported that data from Pennsylvania's IST project indicated that at least 85% of the students who were screened for IST were successful within the regular education setting and were not referred for multi-disciplinary evaluation. In addition, compared to data collected from years prior to IST, schools saw as much as a 67% decrease in the use of grade retention (Kovaleski et al., 1996).

Hartman and Fay (1996), in a comprehensive study of data from participating schools, noted decreases in the numbers of students referred for multidisciplinary evaluations and those placed in special education. In addition, the study found significant reductions in the number of student grade retentions. A cost-benefit analysis concluded that IST was as effective as the previous

practice of refer-test-place/not place and served approximately eight to nine percent more students each year. Kovaleksi et al. (1999) studied the impact of the IST program on students' time on task, task completion, and task comprehension. The results indicated that students supported by the IST process had greater levels of academic performance when their schools implemented the IST program at high levels of fidelity. However, schools that had IST in place but had low IST implementation did not demonstrate differences in academic performance from those that had not yet adopted the program. Conway (1997) studied the level of long-term program implementation across 167 schools in 127 districts. She found program implementation to be sustained with no significant changes more than three and a half years following validation at instructional support team sites.

Baltimore County Public Schools implemented IST in 1998 to reduce the number of children inappropriately referred for special education services. The model began to assist parents and teachers in addressing the barriers that interfere with student learning and development. Further, the IST process - sought to establish collaborative school-based structures in which team-building, shared academic and behavioral expertise, and teacher empowerment occur to assist children in reaching their potential as responsible, productive citizens and life-long learners.

Preliminary data for the seventeen Baltimore County schools implementing IST showed a 54% reduction in referrals to IEP teams. In addition,

76% of those referred to IST teams were able to remain in the regular education setting (McGowan, personal communication, April 9, 2002). Data collected during the 2001-2002 school year compared the 17 IST schools to 16 non-IST schools matched on minority enrollment, percentage of students provided with free and reduced lunch, and total enrollment. On average, non-IST schools referred more students to the Individual Education Program (IEP) team, qualified more students for special education services, and referred more children for an initial assessment who did not ultimately qualify for special education services. In addition, comparison schools identified more students per school with learning disabilities. Additional data summarized from 1999-2003 indicated that non-IST schools qualified an average of 2% more children for special education services than IST schools.

Treatment Acceptability

IST is a consultation-based pre-referral system that is structured and is intended to give teachers support. It is not intended to be a system in which teachers are left to implement interventions independently and then report back at a later date. Teachers are provided with support in implementing interventions and monitoring assistance. However, it is not known how teachers in IST schools view the interventions they are asked to implement. If IST is to be successful, teachers must be willing to implement the interventions. If teachers do not view interventions as acceptable, they are likely to implement them improperly or not

at all (Witt, Marten, & Elliott, 1984).

Wolf (1978), in addressing the idea of social validity noted, “If the participants don’t like the treatment then they may avoid it, or run away, or complain loudly” (p. 206). Social validity refers to the assessment of the social significance of the goals of an intervention, the social acceptability of intervention procedures to achieve those goals, and the evaluation of social importance of the impact of intervention procedures (Gresham & Lopez, 1996; Kazdin, 1977; Wolf, 1978). In describing social validity Kazdin (1977), underscored the importance of assessing the acceptability of procedures used in the interventions for those implementing and receiving the intervention.

Foster and Mash (1999) reported that the American Psychological Association Task Force on Psychological Intervention Guidelines has emphasized the significance of intervention acceptability. The APA Task Force has asked for evaluations of clinical utility that assess the willingness and ability of practitioners to implement and accept a specific intervention and how related that intervention is to the target behavior. These APA guidelines are supported by Cross-Calvert and Johnston (1990) and Hawkins (1991), who state that a consumer, clinician, or service provider who does not think that an intervention is acceptable or effective to use in a particular situation will be less likely to implement that intervention faithfully or maintain its use over time. Therefore, the intervention effort is rendered less effective. Lentz, Allen and Ehrhardt (1996) argue that an effective intervention must be socially valid from one or more

perspectives. Social validity is significant as it relates to strong interventions because it avoids rejection by people critical of the intervention or the importance of the outcomes.

In theory, any treatment can be implemented consistently and with good fidelity. Witt (1997) argues that there is not necessarily a correspondence between saying and doing. Teachers who participate in meetings with other professionals are often under pressure to yield to decisions to conduct interventions that the team has worked tirelessly to conduct (Duffy, 1983). The fact that some apparently effective treatments are never attempted or are rejected after only a day or two of use is perhaps a sign that the treatment agent dislikes or has some problem with the treatment (Elliott, Witt, & Kratochwill, 1991). A combination of variables associated with the intervention and its implementation must be present in order to obtain maximum positive results for children's academic and behavioral functioning (Telzrow & Beebe, 2002). One consideration is to design high probability interventions, that focus on keystone behaviors, have been empirically supported, and contain characteristics that cause them to be acceptable to interventionists and, therefore, are more likely to be used (Telzrow & Beebe).

Research has suggested several variables that influence teachers' decisions about the interventions they implement (Allinder & Oats, 1997; Detrich, 1999; Elliott, 1988; Gajria, Salend, & Hemrick, 1994; Hall & Didier, 1987; King, 1994; Kutsick, Gutkin, & Witt, 1991; Odom, McConnell, & Chandler, 1993; Witt,

1986; Witt & Martens, 1983). In these studies, researchers have discovered relationships between acceptability and the perceived effectiveness of the intervention (Shapiro, 1987; Von Brock & Elliott, 1987; Whinnery, Fuchs, & Fuchs, 1991; Polloway, Bursuck, Jayanthi, Epstein, & Nelson, 1996), teacher time and effort required to conduct the intervention (Elliott, Witt, Galvin, & Peterson, 1984; Martins & Meller, 1989; Miltenberger, 1990; Odom et al., 1993; Polloway et al., 1996; Reimers, Wacker, & Koepl, 1987; Von Brock & Elliott, 1987; Witt, Elliott, & Martens, 1984; Witt & Martens, 1983; Witt, Martens, & Elliott, 1984), skills needed to implement the intervention (Elliott et al., 1984; Martens & Meller, 1989), theoretical orientation or nature of the intervention procedure (Hall & Wahrman, 1988; Reimers et al., 1987; Shapiro, 1987), severity of the behavior problem (Elliott et al., 1984; Frentz & Kelley, 1986; Kazdin, 1980a; Martens, Witt, Elliott, & Darveaux, 1985; Miltenberger, 1990; Reimers et al., 1987; Witt, Moe, Gutkin, & Andrews, 1984; Witt & Robbins, 1985), side effects (Kazdin, 1981), and the positive versus negative nature of the intervention approach (Elliott, Witt, Galvin, & Peterson, 1984; Fairbanks & Stinnett, 1997; Kazdin, 1980a; Witt, Elliott, and Martens, 1984).

Elliott (1988) conducted a review of the research on treatment acceptability. He offered the following general conclusions based on his review of the literature: (1) there is a meaningful methodology for quantifying clients' and consumers' evaluations of treatments. (2) Treatment acceptability is a construct that is influenced by several child, teacher, and psychologist variables. (3)

Educational consumers typically evaluate positive treatments as more acceptable than reductive treatments. (4) A moderate to strong positive relationship exists between ratings of pretreatment acceptability and perceived treatment effectiveness. Treatment procedures were underscored as necessary for successful consultation in education. Future research was recommended that would contribute to treatment acceptability by investigating it naturalistically within a consultative context.

Assessment of treatment acceptability in pre-referral intervention, (i.e., IST), is important because of the presumption that an intervention that is liked will be used to a greater extent, and will affect its impact positively (Witt & Elliott, 1985). To evaluate the impact of pre-referral interventions, identifying strategies that teachers judge as acceptable is important. The IST literature, and pre-referral intervention studies in general, lack ecologically based research on treatment acceptability of interventions developed. To date, most research on treatment acceptability has been limited to hypothetical scenarios and analog conditions (Eckert & Hintze, 2000). Research based on hypothetical scenarios compromises generalizability to field-based practice (Eckert & Hintze). Further, much of the treatment acceptability research focuses on behavior interventions with limited studies that address only academic interventions.

In this study, teachers were asked to rate the acceptability of different treatments proposed by Instructional Support Teams for academic and behavior referrals, after implementing them for at least 30 days. This study was designed

to identify variables that influence teachers' views of treatment acceptability. Specifically, this study addressed the relationship between treatment acceptability and the following variables: problem severity, time (Graham, 1998), years of teaching experience (Elliott, 1988; Witt, Moe, et al., 1984), support from staff (Martens, Witt, Elliott, & Darveaux, 1985), skill in implementation, perceived effectiveness, and level of implementation of the IST process.

In the chapter that follows, a more extensive review of the literature is presented. Studies that examine IST and variables that affect intervention acceptability are reviewed. General research questions for this investigation are posed at the conclusion of the chapter.

CHAPTER 2

REVIEW OF THE LITERATURE

In this chapter, articles, documents, and studies that address intervention acceptability ratings will be reviewed. The chapter concludes with a statement of purpose for this investigation. IST, as well as any other system of providing service to children, has intervention development and implementation as major components. Any team member may be assigned the responsibility of implementing an intervention. The success of interventions, in part, appears to be related to how acceptable they are to the people who must implement them. While the instructional support process is designed to help teachers and there can be a division of labor in intervention implementation, often the regular classroom teacher is the one responsible for the interventions. The success of the interventions is then likely to be dependent upon the teachers' perceptions of the acceptability of the intervention and their willingness to implement them (Allinder & Oats, 1997; Telzrow & Beebe, 2002).

Treatment Acceptability Research

Kazdin (1980a) was the first to define treatment acceptability as the judgments about the treatment procedures by nonprofessionals, laypersons,

clients, and other possible consumers of treatments. Further, Kazdin argued that a treatment is acceptable when it is appropriate to the problem, fair, reasonable, non-intrusive, and meets with conventional perceptions about what treatment should be. Kazdin (1977) and Wolf (1978) suggested that behavioral procedures themselves need to be more than just effective; the individuals responsible for implementing the interventions must also accept them. If participants do not like the treatments generated, then they are not likely to implement the plan (Wolf, 1978).

In his studies, Kazdin used a problem-treatment vignette with questions assessing treatment ratings after the presentation of the vignette. Treatment acceptability research initially focused on clinical populations; however, it has extended into the school setting within the past few decades. Consumers such as children, parents, teachers, and school administrators have been surveyed about their perceived acceptance of school-based practices (Eckert & Hintze, 2000). Despite the vast amount of information regarding treatment acceptability and behavior interventions, little attention has been paid to treatment acceptability of academic interventions (Allinder & Oats, 1997; Marcoe, 2001). Even fewer studies have addressed variables that affect teachers' view of treatment acceptability within the context of IST (King, 1994).

While the independent variable in treatment acceptability studies has varied, the framework has remained relatively consistent (Elliott, 1988; Marcoe, 2001). The dependent variable has largely been raters' (i.e., teacher,

psychologist, parent, child) evaluations of the treatments as defined by treatment acceptability measures. Research on treatment acceptability has primarily been analog in nature in that raters are provided with a written case scenario of a child exhibiting a problem, followed by a written description of a treatment to address the problem behavior (Elliott, 1988). Raters are then asked to rate their acceptability of the treatment problem. The most consistent finding across the treatment acceptability literature has been that teacher acceptance is not based on one factor, but instead on a combination of variables (Whinnery, Fuchs, & Fuchs, 1991). However, few raters implemented the interventions that they were to rate.

Overview of Variables Related to Treatment Acceptability

Through IST, students with academic, behavior, and social emotional concerns are targeted for intervention. Teams seek to identify and define referring problems, develop goals, select interventions, and monitor the success of those interventions. Many variables affect the success of such a program. Among these factors is teacher willingness to implement interventions (Detrich, 1999; Kratochwill et al., 2002; Telzrow & Beebe, 2002). While IST is designed to be a team effort, often the classroom teacher is expected to implement the bulk of the interventions. Therefore, teachers' acceptability of these interventions is of great importance to their implementation. Variables such as type of treatment (behavior vs. academic concerns), time, cost, materials needed, ease of

implementation, benefits to the child, level of teacher experience, teacher knowledge, fairness of the intervention, consistency with the intervention setting, “positiveness” of the intervention, schedules, a clearly specified plan, a match between intervention and problem, characteristics of the environment, school philosophy with respect to discipline, and available support structures have been identified as key factors that affect a teacher’s evaluation of the acceptability of an intervention (Detrich, 1999; Elliott, 1988; Elliott et al., 1991; Gajria, Salend, & Hemrick, 1994; Kovalski, 2002; Lentz, Allen, & Ehrhardt, 1996; Marten et al., 1985; McDougal, Clonan, & Martens, 2000; Miltenberger, 1990; Mortenson & Witt, 1998; Polloway et al., 1996; Reimers et al., 1987; Telzrow, 1995; Telzrow & Beebe, 2002). In the sections that follow, the variables that have been shown to influence teacher ratings of treatment acceptability are reviewed.

Type of Intervention

Most of the treatment acceptability research to date has concentrated on acceptability of behavioral interventions addressing behavior problems, with limited focus on academic interventions and problems (Allinder & Oats, 1997; Marcoe, 2001). What is not clear from the research is whether findings from behavioral interventions studies will generalize to academic interventions (Allinder & Oats, 1997). Few studies have included both academic and behavioral problems and/or interventions (Martens, Peterson, Witt, & Cirone,

1986; Marcoe; 2001). The following section will discuss previous research conducted on the acceptability of behavioral and academic interventions for addressing problems in the educational setting.

Behavioral Interventions

Much of the acceptability research within the context of treating behavioral problems has generally focused on positive interventions (defined as those treatments which increase incompatible behaviors with the problem behavior) or reductive types of treatments (those which try to decrease the problem behavior) (Marcoe, 2001). Findings have indicated higher acceptability ratings for positive (e.g., praise, privileges, token economy) rather than reductive interventions (e.g., response cost, time-out, over correction) interventions. (Elliott et al., 1984; Fairbanks & Stinnett, 1997; Kutsick, Gutkin, & Witt, 1991; Martens & Meller, 1989; Martens, Peterson, Witt, & Cirone 1986; Tingstrom, 1990; Witt, Elliott, & Martens, 1984; Witt & Robbins, 1985).

Kazdin (1980a, 1980b) pioneered some of the early empirical investigations of treatment acceptability using undergraduate college students. Acceptability research by Kazdin and his colleagues (Kazdin, 1980a, 1980b; Kazdin, French, & Sherick, 1981) supported the finding that people usually rated positive treatments as more acceptable than negative treatments. Kazdin (1980a) presented audiotaped case descriptions to undergraduate students and

asked them to rate acceptability of four treatment methods (reinforcement of incompatible behavior, time-out from reinforcement, drug treatment, and electric shock) to improve one of two severities of child misbehavior. Kazdin found that acceptability of treatments varied significantly with differential reinforcement of incompatible behavior (DRI) being rated as more acceptable than other methods including time-out, drug therapy and, finally, electric shock therapy, which was rated as least acceptable. Further, all interventions were rated as more acceptable for more severe behavior problems.

In another study, Kazdin (1980b) examined the acceptability of time-out and reinforcement as applied to disruptive child behavior in two experiments. In the first experiment, acceptability ratings distinguished between treatments, with reinforcement being rated as more acceptable than timeout. In addition, nonexclusionary forms of timeout (contingent observation and withdrawal of attention) were rated as more acceptable than exclusionary time out (isolation). In the second experiment, Kazdin examined whether altering the manner in which it was presented could increase the acceptability of isolation. The results showed that acceptability ratings for isolation were significantly more acceptable when included in a contingency contract and when used to back up another reinforcer than when used by itself. One criticism and limitation of these studies is the use of undergraduate students' perceptions rather than professional classroom teachers actually involved in the treatment (McMahon & Forehand, 1983).

Researchers attempted to correct this problem by investigating both teachers' and parents' ratings of behavioral treatments. Norton, Austen, Allen, and Hilton (1983) found that reinforcement, isolation, and contractual agreement were rated as more acceptable and effective than other behavioral strategies. Further, teachers and parents rated contingent observation as least acceptable, while it was rated as highly acceptable in the Kazdin 1980b study. Conflicting findings may be due to different acceptability measures and the restricted range and magnitude of the various procedures (Marcoe, 2001).

Other studies have continued to use teachers as participants to explore various combinations of positive and reductive interventions. For example, Witt, Elliott and Martens (1984) explored student teachers' acceptability of positive and reductive treatments within the classroom. They asked pre-service teachers to rate the acceptability of positive (praise, home reinforcement, token economy) and negative treatments (ignoring, response cost, seclusion time-out) for changing target behavior. Positive interventions and those that required less time to implement were viewed as more acceptable than negative interventions or interventions that punish negative behavior for the same problems. Overall, positive interventions were rated as more acceptable and less risky than negative interventions.

In a replication of this study, Witt, Martens, and Elliott (1984) used teachers as subjects. No significant main effect was found for the type of intervention (i.e., positive or negative). However, an interaction between type of

intervention and time involved for the intervention was found. Higher levels of time involvement were less acceptable to teachers.

Elliott, Witt, Galvin, and Peterson (1984) replicated and extended the Witt, Elliott, and Martens' (1984) study and provided empirical support for the hypothesis that acceptability varies as a function of treatment type. In this study, teachers' acceptance for the same six interventions as the Witt, Elliott, and Martens studied were assessed. The interventions included positive (praise, home reinforcement, token economy) and negative treatments (ignoring, response cost, seclusion time-out). As in previous studies, the average acceptability ratings for the positive treatments were higher than for the reductive treatments. Further, there was an interaction between the variables of problem severity and treatment type. The least complex positive and negative treatments (i.e., praise and ignoring) were rated as most acceptable for the mild problems (i.e., daydreaming) and the most complex treatments (i.e., token economy and seclusion time-out) were rated as most acceptable for the severe problems (i.e., destroying others' property).

Additional findings also support previous research that positive interventions were more acceptable than reductive ones (Broughton & Hester, 1993; Kutsick et al., 1991; Martens Peterson, et al., 1986; Martens & Meller, 1989; Fairbanks & Stinnett, 1997; Tingstrom, 1990). For example, Martens, Peterson, et al. found that teachers gave higher ratings to interventions that required redirecting students towards more appropriate behavior or that did not

involve reductive interventions. Martens and Meller (1989) found that the positive intervention (home-based reinforcement) was more acceptable and practical than the reductive intervention (response cost). Kutsick et al. supported this research position that positive interventions were found to be more acceptable than those that were reductive in nature.

In addition, teachers found interventions developed by a collaborative model to be more acceptable than those developed by either a teacher or a school psychologist working separately. Powers, Hess, and Bennett (1995) indicated that positive interventions (daily reports) were rated as more acceptable than negative interventions, including response cost and stimulant medication to treat ADHD. Furthermore, interventionists appear to prefer positive treatments and to consider these as more effective than other methods, even when provided with data suggesting comparable outcomes across various treatments (Bihm, Sigelman, & Westbrook, 1997).

While reductive interventions appear to be less desirable than positive interventions, Witt and Robbins (1985) attempted to investigate the differences among various reductive interventions. A significant main effect was found for type of intervention, with differential reinforcement of other behavior (DRO) evaluated as most acceptable, while corporal punishment was unacceptable. The remaining four interventions ranged from mildly acceptable to mildly unacceptable in the following sequence: differential reinforcement of low rates of behavior (DRL), reprimands, time-out, and detention.

Although a few studies reported results that do not support teacher preference for positive interventions (Whinnery, Fuchs & Fuchs, 1991; Pearson & Argulewicz, 1987), a preponderance of the literature does, in fact, confirm that teachers prefer positive interventions. Discrepancies in results are explained by the use of different procedures and measurement tools. In addition to behavioral interventions, a review of the research on academic interventions was explored in relationship to acceptability. At this point what is not clear is whether or not the treatment acceptability variables found in the literature that are related to behavior treatments will generalize to academic treatments.

Academic Treatments

Treatment acceptability literature has been limited with regard to academic interventions. Overall, teachers appear to be more accepting of interventions that are practical, easy to implement, effective, and consistent with the goals and philosophy of their classroom (Witt, 1986). The existing research on acceptability of academic interventions will be reviewed in the sections that follow.

Shapiro and Goldberg (1986) were the first to examine the acceptability of strategies for academic problems. They evaluated differences in acceptability between independent, interdependent, and dependent group contingencies for improving spelling performance. No significant differences in effectiveness were found among the contingencies. According to results, the independent

contingency was rated as significantly more acceptable than the other two. However, the children who participated in the study rated the acceptability of interventions rather than the teacher. Furthermore, the investigators cited the size of the group and the differences in reinforcement density as potential problems in the study.

In a follow-up study, Shapiro and Goldberg (1990) examined the acceptability of the intervention at various times (before, during, and after) and of the effect of group size on acceptability ratings for interventions focusing on spelling performance. A significant main effect for time intervals was obtained, with students rating all of the group contingencies as more acceptable after implementation of the intervention. However, no correlation was obtained between acceptability ratings and student spelling performance. These results are different from behavioral research that supports a strong relationship between acceptability and effectiveness. However, the authors emphasize that most previous research had focused on treatment acceptability of interventions pertaining to nonacademic issues. Thus, generalization of the findings from this study to behavioral research may be limited.

In a similar study, Turco and Elliott (1990) explored different task structures (individual vs. group) and incentives (interdependent, dependent, and no incentive) on students' acceptability of interventions developed to increase spelling performance. The present study supported previous findings that there are significant differences between incentive structures in relation to treatment

acceptability. (Shapiro & Goldberg, 1986). Specifically, interdependent group contingencies were more acceptable than dependent group contingencies.

The first few studies evaluating treatment acceptability and academic interventions used children as raters rather than teachers. However, the teachers are often the ones who need to embrace the interventions prior to agreeing to implement them in the classroom (Marcoe, 2001). Whinnery, Fuchs, and Fuchs (1991) evaluated teachers' acceptability of eight instructional strategies: school grouping, grade regrouping, staff in class, student partners, structured lessons, mastery learning, computer practice, and progress monitoring. Acceptability of academic strategies varied according to type of teacher (general, remedial, or special educator). Further, teachers were willing to implement interventions that they perceived as effective. Overall acceptability ratings of these eight instructional strategies did not yield significant findings across the variables of familiarity, effectiveness, difficulty implementing, and willingness to implement.

Gajria, Salend, and Hemrick (1994) also studied the acceptability of different instructional strategies. They examined general education teachers' judgments concerning the acceptability of testing modifications for mainstreamed students. Teachers from grades 7 through 12 were given information related to awareness use, integrity, effectiveness, and ease of use for 32 test modifications. Results suggested that, although teachers may have familiarity with a variety of testing modifications, they may not be willing to implement them because they consider them ineffective, difficult to use, or a threat to the integrity of the tests.

Further, teachers preferred to use adaptations that they perceived as maintaining academic integrity, were effective, and required limited individualization related to planning, resources, and extra time.

Billingsley and Kelley (1994) asked direct and indirect service providers to complete a survey of 51 instructional methods designed for use with children with disabilities. According to research findings, the majority of participants judged all methods both sound and appropriate. The main reason for treatments to be considered unacceptable and inappropriate was logistical in nature, i.e., application might require unacceptable levels of effort, personnel, time, or resources.

deMesquita and Zollman (1995) surveyed primary school teachers to investigate their preferences for three approaches (cognitive, behavioral, and cooperative learning) to academic interventions when assisting students experiencing difficulty in mathematics. For each problem identified, teachers rated their preferences for three intervention approaches (cognitive, behavioral, and cooperative learning). Teachers indicated significant preferences for cooperative and cognitive learning approaches over the behavioral approach.

Polloway, Bursuck, Jayanthi, Epstein, and Nelson (1996) discussed treatment acceptability issues in the areas of homework, grading, and testing. The authors relied heavily on information gathered from teachers, parents, and students in several qualitative and quantitative studies on homework and performance assessment. Specifically, they focused on acceptability of various

interventions --- with emphasis in the areas of homework, grading, and testing --- for adapting instruction and accommodating students with disabilities in the general education settings. Variables such as helpfulness, ease of implementation, fairness, and preference governed acceptability and use of modifications by teachers and students. Results of the survey research indicated that effectiveness, in terms of enhancing student performance, was the most important consideration in selecting an intervention.

Allinder and Oats (1997) examined the construct of treatment acceptability with regard to Curriculum Based Measurement (CBM). In CBM, students are required to complete frequent, short, equivalent forms of tests that include end-of-year goals in an academic subject such as reading, math, or spelling. Scores for each student are graphed and teachers apply a set of decision rules to determine if the rate of progress meets the end-of-year goal. Teachers raise or lower the goals according to student progress.

Respondents were divided into two groups on the basis of their scores on CBM Acceptability Scale. Groups were compared on each item of the scale and differed significantly on six of them (a) degree to which CBM was acceptable for their student's academic problem; (b) their likeliness to suggest CBM to other teachers; (c) appropriateness of CBM for a variety of students; (d) practicality of amount of time needed for record keeping; (e) degree to which CBM was beneficial; and (f) their willingness to use CBM in the classroom (p.116). Results further indicated that teachers who rated CBM as being highly acceptable

implemented at least some portions of it with greater fidelity than did teachers from the low acceptability group. Teachers who reported higher ratings of acceptability of CBM had their students complete CBM probes with greater frequency and set more ambitious goals for their students.

In the studies reviewed above, specific treatments and/or types of treatments for behavior and academic concerns were examined in terms of their relationship with acceptability ratings. In the sections that follow, specific variables are discussed that have also been shown in the literature to demonstrate strong relationships to acceptability.

Problem Severity

The severity of a problem can influence the complexity of an acceptable treatment. Overall, most of the studies have indicated that the more severe the presenting problem, the higher the ratings of acceptability for all treatments (Reimers et al., 1987; Kutsick, Gutkin, & Witt, 1991). Kazdin (1980a, 1980b, 1981) conducted a series of analogue studies in which cases were presented to participants who were asked to rate the descriptions on a number of measures. All interventions were rated more acceptable when the problem behavior was more severe. Other studies have found that in the absence of a main effect for severity and acceptability ratings, the severity of the behavior problem has yielded interaction effects with treatment variables such as time and complexity of the intervention (Elliott et al., 1984; Witt, Martens, & Elliott, 1984; Witt, Elliott, &

Martens, 1984).

As problems increase in severity, teachers are more willing to spend more time and are also willing to implement more complex interventions. Witt and Robbins (1985) investigated the acceptability of reductive interventions for inappropriate child behavior. Overall, interventions implemented for the severe clinical cases were viewed as more acceptable than those interventions applied to mild cases. Martens, Witt, Elliott, and Darveaux (1985) asked regular and special education teachers to rate all possible combinations of two interventions applied to two behavioral problems. Teachers rated interventions as more acceptable when applied to behavioral problems of greater severity. Frenz and Kelley (1986) asked mothers to rate their perceptions of different reductive procedures applied to written case scenarios of children experiencing different behavior difficulties. Results indicated that parents rated all proposed treatments as more acceptable when applied to a severe behavior problem. Similarly, Witt, Moe, Gutkin, and Andrews (1984) examined the degree to which various types of jargon used in describing treatments affected acceptability ratings when applied to mild and severe behavior problems. Results showed that all proposed interventions were rated as more acceptable when applied to a severe problem.

In a two-study experiment, Elliott, Witt, Galvin, and Peterson (1984) investigated the acceptability ratings for behavioral interventions as judged by experienced teachers. In part one of the study, regular and special education teachers were asked to read one of three possible case descriptions of an

elementary school child whose inappropriate behaviors were of a low (daydreaming), moderate (obscene language), or severe (destruction of others' property) nature and to rate the acceptability of one of three positive intervention methods that were either low in complexity (praise), of moderate complexity (home reinforcement), or highly complex (token economy). According to the results, the least complex intervention (praise) was the most acceptable treatment for the least severe problem (daydreaming). Further, the most complex treatment (token economy) was rated the most acceptable intervention for the most severe behavior problem (destruction of property) (Elliott et al., 1984).

In part two of the Elliott et al. (1984) study, all of the variables remained constant except that teachers were asked to rate the acceptability of one of three reductive (as opposed to positive) interventions that were either low (ignoring), medium (response cost lottery), or high (seclusionary time-out) in complexity. The findings indicated that the intervention of least complexity (ignoring) was the most acceptable treatment for the least severe behavior problem.

Cowan and Sheridan (2003) investigated parent, teacher, and child treatment acceptability ratings obtained from field-based conjoint behavioral consultation (CBC) cases. Students were referred for CBC due to academic or behavioral difficulties. Each consultation case selected a specific, relevant intervention to be implemented across home and school settings. For teachers,

there was a positive relationship between problem severity and treatment acceptability.

Time and Involvement by Teacher

Teachers are given the responsibility of educating approximately 25 children in their classroom, and therefore, time is a valuable asset to teachers. The research on treatment acceptability has indicated that time involved in implementing interventions is a very significant variable in teachers' pretreatment acceptability ratings of treatment procedures (Elliott et al., 1984; Gresham, 1989; Lentz et al., 1996; Witt, Elliott, & Martens, 1984; Witt & Martens, 1983; Witt, Martens, & Elliott, 1984). Witt, Elliott, and Martens (1984) were the first to examine the influence of amount of teacher time required to implement an intervention on treatment acceptability. They asked pre-service teachers to read a case description and an intervention as well as to complete an intervention rating scale to quantify acceptability levels. Interventions requiring less teacher time were rated as more acceptable than interventions involving greater amounts of teacher time for implementation.

Witt, Martens, and Elliott (1984) replicated this study using teachers as participants. They again explored the influence of teacher time involvement, intervention type, and problem severity on teachers' judgments related to the acceptability of behavioral interventions. Teachers were presented with written case scenarios of problems and a section describing an intervention that was

applied to that situation. Descriptions of the treatments provided the reader with estimates of the amount of time required to implement the intervention. An intervention was classified as requiring low amounts of teacher time if less than 30 minutes per day was required to maintain the intervention. An intervention was described as requiring moderate amounts of teacher time if it required one to two hours of preparation to initiate the program and 30 minutes per day to maintain the intervention. An intervention was classified as requiring high amounts of teacher time if it required more than two hours of start-up time and more than one hour per day to monitor and maintain the strategy.

The findings were that the amount of teacher time required significantly affected teacher judgments of intervention acceptability. Further, time interacted significantly with problem severity and treatment type. Overall, teachers had a preference for treatments that were more time-efficient; however, when confronted with a severe problem, they appeared to adjust their time expectations to strengthen the treatment. Similarly, in a study by Northup, Wacker, Berg, Kelly, Sasso, and DeRaad (1994), teachers appeared willing to implement complex interventions for severe problems.

Gajria, Salend, and Hemrick (1994) evaluated perceived ease of implementation and awareness, integrity, and use of 32 testing modifications. According to the study, teachers were more likely to use interventions perceived as easy to implement, that is, interventions that required less time needed for planning, utilizing, and gathering resources. In addition, modifications used by

90% or more of the teachers were those that were easiest to use and required fewer resources. Less than 50% reported using complex adaptations in their classroom. Similar findings were found in other acceptability studies (Whinnery et al., 1991).

Although teachers prefer interventions that are less time consuming and complex, research has shown that teachers accept high demand treatments if they can maintain control over the intervention. Witt and Robbins (1985) investigated the relationship between teacher acceptability and the intervention agent (teacher vs. principal). Teachers read a case description with an intervention and then completed the Intervention Rating Profile-20. Two conditions of the intervention were used: one in which the teacher was the treatment agent, and the other condition in which the principal implemented the intervention. Overall, interventions were rated as more acceptable if the teacher was the primary treatment agent. Similarly, Algozzine, Ysseldyke, Christenson, and Thurlow (1983) had teachers rate the acceptability of 40 interventions for children experiencing social, behavioral, or perceptual difficulties. Of the 15 interventions ranked most acceptable to teachers, seven were directly implemented by the teacher. Further, teacher-directed actions were rated as more acceptable than consultative actions and placement outside of the classroom. The least acceptable interventions were those thought to be non-teacher directed.

Martens, Witt, Elliott, and Darveaux (1985) studied the extent to which behavioral problem severity, interventionist, and modality of case presentation affected ratings of acceptability. Teachers rated two interventions that had different intervention agents. The principal-implemented intervention consisted of sending a child to the office where he or she had to remain inside for recess. The teacher-implemented intervention was a response-cost procedure. A main effect was found for the interventionist, because the response-cost intervention was rated as more acceptable than the principal-implemented strategy. Results were similar to the Witt and Robbins (1985) research, indicating that teachers rated treatments under their control as more acceptable regardless of the time demands. DeForest and Hughes (1992) asked elementary teachers to view one of two videotapes of consultation. The videotapes were identical with the exception of teacher involvement in consultation. In contrast to the studies described above, teacher involvement was not significantly related to intervention acceptability.

Overall, findings appear supportive of a strong relationship between time required in intervention implementation and its subsequent acceptability or unacceptability. Interventions that are too complex and/or too time-consuming are not likely to be implemented by classroom teachers unless it is under their control (Gresham, 1989; Lentz et al., 1996).

Skill and Understanding of the Intervention

Researchers have suggested that knowledge or skill required for intervention implementation has an impact on acceptability (Witt & Elliott, 1985; Witt, Elliott, & Martens, 1984; Witt & Martens, 1983; Witt, Martens, & Elliott, 1984). Several research studies have implied that improving the implementers' understanding of the treatment can modify a treatment's acceptability. For example, Kazdin (1980b) found that when participants were provided with knowledge of treatment, either through participation or warning of additional consequences, acceptability increased. He first evaluated undergraduate students' perceptions of timeout and reinforcement methods for addressing a child's deviant behavior using the procedure of isolation, which was identified as being a less acceptable alternative for treatment. He subsequently took the procedure of isolation and examined treatment acceptability ratings when participants were actively involved in participating in the procedure (i.e., isolation and contractual arrangement) and when participants were instructed that a harsher consequence would be used if isolation were found ineffective (i.e., withdrawal of attention backed by isolation). According to results, both variations of isolation were evaluated as more acceptable than isolation alone was in the first study. It was therefore suggested that increasing the role of participants and educating them about future consequences could help to increase treatment acceptability.

Singh and Katz (1985) performed a study to examine the impact of knowledge of learning principles and interventions on treatment acceptability ratings. They discovered that acceptability of three behavior interventions (DRI, positive practice, time-out) improved when followed by lectures to the teachers regarding learning principles and interventions suggesting that acceptability ratings could be improved through education. Tingstrom (1990) replicated the Singh and Katz (1985) investigation by including a non-treated control group, a naturalistic setting, and a group consisting primarily of prospective teachers. Tingstrom found an increase in acceptability of all behavior procedures evaluated, including reductive interventions, following a series of lectures. No changes in acceptability ratings were found with the control group.

Other studies have demonstrated that greater knowledge of social learning principles is associated with greater acceptability of behavioral interventions. McKee (1984) asked regular education teachers to rate the acceptability of four classroom interventions. Teachers in a high-knowledge group rated the four interventions as more acceptable than teachers in the low-knowledge group. Clark and Elliott (1988) found similar findings. Significant correlations were discovered between teachers' knowledge of behavioral principles and ratings of acceptability for two social-skills training procedures.

Years of Teaching Experience

Researchers have also intentionally measured, controlled, or manipulated characteristics of the rater such as teaching experience, teacher involvement, and education or understanding of treatments. Witt, Moe, Gutkin, and Andrews (1984) studied the variable of teaching experience. Teachers were asked to rate one of three interventions after reading a case description of a child experiencing either a mild or moderate problem. Specifically, they found an inverse relationship between years of teaching experience and treatment acceptability. Overall, teachers with more experience seemed to find all treatments (i.e., behavioral, pragmatic, humanistic) as less acceptable. Similarly, interventions were rated as less acceptable by highly experienced teachers than those newer to the teaching profession in a study by Witt and Robbins (1985). In this study, teacher experience was defined as being either low (below the median of eight years) or high (above the median of eight years). There was a significant main effect for the amount of teacher experience. Specifically, teachers with less experience rated all interventions as more acceptable. Witt and Robbins (1985) replicated this study using one intervention but varying the intervention implementation agent. Similar to the first study, less experienced teachers rated interventions as more acceptable than teachers with greater experience.

Powers, Hess, and Bennett (1995) explored teacher experience on acceptability ratings for treating children with ADHD. Results of this study do not

show significant correlations between treatment acceptability and years of teaching experience. These results were in contrast to previous findings suggesting a strong relationship between years teaching and acceptability ratings. Differences in results may be due to different interventions and problems studied (Powers et al., 1995). Overall, findings suggest that as years of teaching experience increase, acceptability ratings are likely to decrease. Several hypotheses have been suggested to account for this trend including changes in teacher training, changes in societal expectations about appropriate interventions for teacher use, and/or teachers' prior experience with interventions (Elliott, 1988).

Effectiveness of the Intervention

Acceptability has been hypothesized as an important criterion prior to selecting and implementing a treatment plan. In addition, following the implementation of a treatment, effectiveness is the ultimate criterion for evaluating any treatment. In other words, "Did the treatment change the target behavior in the desired direction and to the desired amount?" Given that the importance of these two treatment evaluation criteria has been established, the relationship between them requires investigation. Researchers have explored the impact of treatment effectiveness information on consumers' ratings of treatment acceptability (Clark & Elliott, 1988; Kazdin, 1981; Von Brock & Elliott, 1987).

Kazdin (1981) examined the relationship between effectiveness of treatment on acceptability ratings. Undergraduate students were asked to complete the Treatment Evaluation Inventory (TEI) and Semantic Differential Scale for each of four treatments. Two scenarios of treatment efficacy were presented. One description included a treatment that produced a strong treatment effect, while the other scenario provided a weak treatment effect. While treatment efficacy did not influence perceptions of treatment acceptability, acceptability information did affect perceptions about the strength of the treatment.

Kazdin's research was conducted with undergraduate students. However, Von Brock and Elliott (1987) examined the impact of outcome information on teachers' ratings of treatment acceptability. Experienced teachers rated one of three treatments for modifying a mild or severe behavior problem. Results indicated that effectiveness information influenced ratings when the problem severity was taken into account. The researchers used three levels of effectiveness information: no information, consumer satisfaction information, and research-based outcome information. No main effect for effectiveness information was found; however, there was a significant interaction between effectiveness data and severity of the problem. When there was a milder problem, information about an intervention's effectiveness from research-based sources increased ratings of acceptability more than if no information was provided. However, information did not affect treatment acceptability for more

severe problems. Results, according to the authors, support a strong relationship between acceptability and effectiveness. In addition to contributing information about the relationship between outcome information and acceptability ratings, Von Brock and Elliott (1987) found that when teachers viewed an intervention as less acceptable, they also rated it as less effective.

In a follow-up study to the Von Brock and Elliott (1987) research, Clark and Elliott (1988) investigated the influence of treatment effectiveness information on pretreatment acceptability ratings of coaching procedures (i.e., over correction and modeling) for social behavioral deficits. In an analog study, two variables of treatment strength, strong and weak, were presented in a treatment description narrative in combination with a graph displaying the target child's and a typical peer's behavior over a 12-week period. These findings were consistent with the hypothesis of a strong positive relationship between acceptability and effectiveness posited by Witt and Elliott (1985). Teachers rated treatments described as strong and successful higher than treatments described as weak and relatively unsuccessful. In addition, for interventions perceived as effective, high ratings have been associated with willingness to implement (Martens et al., 1986; Whinnery et al., 1991; Witt, 1986).

Tingstrom (1990) investigated effectiveness data of a time-out technique on teacher acceptability ratings using a strength and speed of change manipulation. Participants read a scenario and rated their acceptability of a time-out intervention when information was given which supported the effectiveness of

the procedure or no effectiveness information was given. A significant main effect was found for treatment effectiveness data. For example, mean acceptability ratings for the time-out procedure were significantly higher when effectiveness information was provided. Results imply that information detailing the benefits of the intervention may help increase treatment acceptability ratings. Results contradict Kazdin (1981) and Von Brock and Elliott (1987), who failed to find a main effect for effectiveness data. However, Tingstrom used a strong manipulation (70% reduction in problematic behavior within a week). Other researchers have not used the same type or strength of manipulation. Further, Tingstrom (1990) noted that results were confounded because consumer satisfaction and effectiveness information were manipulated at the same time.

Whinnery, Fuchs, and Fuchs (1991) explored the relationship between treatment effectiveness and acceptability of academic and behavioral interventions. Teachers from K through 6th grade rated strategies based on their familiarity, effectiveness, ease of implementation, and willingness to attempt intervention implementation. Perceived effectiveness of an intervention and willingness to implement the intervention were rated higher than familiarity and ease of implementation. In the conclusion, the authors noted that perceived effectiveness plays a key role in whether or not an intervention will be implemented. Gajria et al. (1994) evaluated effectiveness of instructional strategies on treatment acceptability for mainstreamed students. Modifications were presented through a questionnaire and participants described the

effectiveness of the intervention, awareness, use, integrity, and perception of ease of use for 32 adaptations. Effectiveness of a modification influenced its selections and use by teachers. For example, modifications used by 90% of the teachers surveyed were rated as highly effective and easy to use. Further, modifications that were rated as the 10 least effective and more difficult to use were adopted by less than 50% of the teachers (Marcoe, 2001).

King (1994) explored the impact of the IST process on teachers' attitudes concerning the acceptability of classroom interventions. This study compared the willingness of teachers receiving support through the IST process to use a variety of interventions to teachers who did not receive formal support. Teachers responded to a questionnaire detailing the problems of a hypothetical fourth grade student with six possible interventions. No significant differences were found between the willingness of teachers receiving support through the IST team and those who did not receive support services. All teachers indicated a willingness to attempt at least one intervention. When reasons for their unwillingness to try interventions was given, a concern about the effectiveness of the intervention appeared to be more salient to the teachers than lack of time, help, or training.

Support

Providing classroom teachers with support from personnel, administration, and/or the school community in implementing recommended interventions are essential components of the IST process and have been found to have an impact on intervention acceptability ratings and teachers willingness to implement interventions (Broughten & Hester, 1993; Detrich, 1999; Kovaleski, 2002; Odom, McConnell, & Chandler, 1993). Broughten and Hester (1993), using a hypothetical case study scenario, manipulated the level of support that teachers received in the process of implementing an intervention. Teachers read scenarios that contained descriptions of a student experiencing both academic and behavioral problems and intervention strategies proposed to address these difficulties. Additional information regarding the level of support provided to the teacher was also included. Half of the rating packets described a scenario in which the teacher received a high level of support; half described a scenario in which the teacher received a low level of support. Teachers completed a rating scale to assess acceptability. Results indicated that high levels of support led to significantly higher levels of acceptability than did low levels of support.

IST is not intended to be a system in which teachers are left to implement interventions independently and then report back at a later date (Kovaleski, 2002). Within IST, teachers are supposed to be provided with support to implement interventions and to monitor their effectiveness. Support for classroom

teachers either directly and/or in a collaborative relationship is also a key element of other pre-referral models such as instructional consultation (Rosenfield & Gravois, 1996). Furthermore, the availability of supports has been identified as a factor that may enhance teachers' willingness to implement interventions and to increase intervention integrity. Teachers are, as a rule, concerned about the resources (including personnel) that are required to implement an intervention (Elliott, Witt, Galvin, & Peterson, 1984). Since support is a key element of IST, researchers concluded that it would likely be a salient variable that would relate to intervention acceptability within the context of IST.

Implementation with the IST Process

The degree to which the essential components of programs are implemented has been demonstrated by their impact on intervention outcomes (Fullan, 1983; Kovalski et al., 1999; Leithwood & Montgomery, 1980). Kovalski et al. (1999) designed a study in which variables associated with academic learning time (ALT) were measured before, during, and after interventions were implemented as part of the IST process. A measure of ALT was quantified by observing and measuring time on task, task completion, and task comprehension. Measures of ALT for students from schools in which IST was implemented at high levels was compared with measures of ALT for students in which IST was implemented at low levels and with measures of ALT for students

from non IST control schools. Each condition included students identified as having academic or behavior problems and comparison students who were identified as performing at an average level. Results showed that students in high implementation schools performed significantly better over time on ALT variables than did students in low implementation and non-IST schools. There were no differences in student performance on ALT variables over time between students in low implementation and non-IST schools. The authors also found that over time, the performance of students in high IST implementation schools began to approximate the performance of average performing comparison peers. The authors believed that the results did support their contention that fidelity with process is linked to intervention success. No studies were found to link implementation with intervention acceptability. King (1994) did suggest that implementation with the basic IST processes should be examined in relation to factors that may impact on teachers' willingness to use IST interventions.

Characteristics of the child and environment

Additional variables including influence of the child and environment, group membership of rater, modality of case presentation, and cost/side effects of the intervention have also been explored in relationship to treatment acceptability, but were not included in the present study. Although these variables have been related to treatment acceptability in some studies, they were

not believed to be the most salient variables related to IST. A brief review will follow.

Child and Classroom Characteristics

The influence of child and classroom characteristics (Gajria et al., 1994; Martens & Meller, 1989; Rhoades and Kratochwill, 1992) on acceptability of interventions has also been investigated. Participants in a study developed by Martens and Meller (1989) were presented with vignettes with a specifically defined behavior problem and an intervention applied to that behavior. Intelligence and popularity of the child, as well as the duration of the problem described in the vignette, significantly influenced ratings of acceptability. Further, participants rated both interventions as more acceptable when applied to students of average intelligence. Interventions were rated as less acceptable for popular children who exhibited below average intelligence. Teacher ratings of intervention acceptability did not differ by type (i.e., regular or self-contained) and size (i.e., large or small) of the classroom described in a vignette.

Group Membership of Raters

Kazdin, French, and Sherick (1981) conducted the first investigation exploring the influence of the relationship of the rater to the treatment agent and

the acceptability of the treatment. Overall, children showed a tendency to rate the treatments as less acceptable than parents or staff. Norton, Austen, Allen, and Hilton (1983) asked teachers and parents to rate the acceptability of five different behavioral techniques developed to reduce disruptive behavior in children.

Teachers rated the behavioral methods as being more acceptable and effective than parents.

Fairbanks and Stinnett (1997) explored the differences in teachers, school psychologists, and school social workers' acceptability ratings of interventions. A significant relationship between group and type of intervention was found. For the reductive interventions, teachers rated the intervention as more acceptable than did school psychologists. School social workers rated the interventions as least acceptable. Overall, various groups of raters appear to differ in what they find acceptable. Teachers are reported to prefer interventions more so than parents, school psychologists, social workers, and children.

Cost/Side Effects

Reimers et al. (1992) suggested that cost and side effects might be correlated with treatment acceptability. In addition to financial responsibility, there is a need to examine the personal resources required to implement certain treatments. Noell and Gresham (1993) have argued for the incorporation of cost and benefit data into consultation and pre-referral intervention to provide a more

complete documentation of consultation effects. Witt and Elliott (1985) reported that expensive backup reinforcers, significant changes in the classroom ecology, and unusual privileges were not likely to be readily available or acceptable in the majority of classrooms. Further, expensive procedures would limit the use of several types of behavioral interventions. Kazdin (1981) explored the relationship between adverse side effects and treatment acceptability. Results demonstrated that the presence of adverse side effects had a negative effect on acceptability ratings. Further research addressing the relationship between acceptability, side effects, and cost is needed.

Modality of Case Presentation

The relationship between modality of case presentation and acceptability ratings has also been investigated (Foxy, Bremer, Shultz, Valdez, & Johndrow, 1996; Martens et al., 1985). Martens et al. evaluated acceptability according to behavior problem severity, interventionist, and modality of case presentation (i.e., written versus videotaped). Regular and special education teachers were presented with information concerning the behavior problems through one of two modalities (written vs. videotaped). Following each presentation, participants completed questionnaires assessing various aspects of the intervention. Mode of case presentation was not significantly related to intervention acceptability. However, in a separate study, Foxy et al. evaluated the effects of a video

vignette on the treatment acceptability ratings of four behavior interventions. The experimental group watched a video vignette of a self-abusive individual and the control group did not. Ratings analyzed after the video was viewed indicated significant increases in acceptability for physical restraint for the experimental group. The results of this study, in contrast to the Martens et al. study, showed that treatment acceptability is modified through the use of video.

Proposed Model of Acceptability

Researchers have also attempted to provide a meaningful framework through which the relationship of variables potentially influencing treatment acceptability may be better understood (Cowan & Sheridan, 2003). Witt and Elliott (1985) constructed a “working model” of treatment acceptability that emphasized the interrelations among four elements: treatment acceptability, treatment use, treatment integrity, and treatment effectiveness. Further, the researchers hypothesized that the relationships among these four elements is sequential and reciprocal. If the individual implementing the intervention does not approve of and accept the intervention, then treatment use and integrity may suffer. When treatment integrity is compromised, poor treatment outcomes may occur.

Purpose of the Present Investigation

This study was intended to have teacher's rate intervention acceptability and to identify variables that may have an impact on treatment acceptability. This study expanded upon a dissertation completed by King (1994), in which treatment acceptability was rated in terms of how teachers with and without experience with IST were willing to implement interventions. This study differed from previous research on treatment acceptability in several important ways. First, the majority of past research utilized behavioral interventions and it is not clear if the findings generalize to academic interventions (Allinder & Oats, 1997; Odom et al., 1993; Ingalls & Hammond, 1996). This study investigated academic and behavioral interventions. Second, research on treatment acceptability focused largely on acceptability of single pre-selected interventions. In this study, many different interventions, suggested at actual team meetings, were examined and rated with regard to acceptability. Third, past research on treatment acceptability has largely occurred through analog research in which one or more hypothetical case studies were presented (Ingalls and Hammond, 1996). Raters were asked to read these studies and rate the acceptability of interventions. The analog method lacks ecological validity. The rater does not experience the treatment or problem and may not completely understand it as it is written (Miltenberger, 1990). What is not clear is whether acceptability findings from analog studies are consistent with the views of actual consumers using the same

treatments in a natural (e.g., pre-referral intervention) setting (Wickstrom et al., 1998). This study addressed the issue of ecological validity by providing an authentic case and following up with a rating scale after at least a 30-day time period. If IST is to be used successfully, what is necessary for us to understand is how teachers view the process and to understand the variables that may affect the implementation of interventions.

The purposes of this study were to determine what variables may affect teacher acceptability ratings of interventions generated through the IST process and also to determine the best model for the prediction of teacher ratings of acceptability for interventions developed within the Instructional Support Team process. Additionally, comparisons of intervention acceptability were made between interventions that were used for behavior referrals and those used for academic referrals.

As mentioned previously, numerous variables that may impact acceptability ratings have been studied. For this study, the variables were: effectiveness of the intervention, time, support, problem severity, skill, and years teaching. These variables were selected because of their saliency in previous studies. In addition, the variable implementation of the IST process was also examined in terms of its relationship to intervention acceptability.

Treatment acceptability is not a unitary concept. According to the research literature, a teacher's decision to accept or reject an intervention does not appear to be based on one single factor, but rather the decision is influenced by a

complex array of factors (Witt, Elliott, & Martens, 1984). Therefore, these variables were examined both in terms of how each was related to intervention acceptability and how each fit into a model to predict treatment acceptability.

Given these purposes, the objectives delineated for this study were as follows:

- 1.) to determine whether or not ratings of intervention acceptability and the influence of variables that may affect intervention acceptability differ for academic and behavior referrals;
- 2.) to determine the relationship between the variables of perceived effectiveness of the intervention, time, support, problem severity, skill, years teaching, and implementation and teacher ratings of IST intervention acceptability for academic referrals;
- 3.) to determine the relationship between the variables of perceived effectiveness of the intervention, time, support, problem severity, skill, years teaching, and implementation and teacher ratings of IST intervention acceptability for behavioral referrals;
- 4.) to determine the best model of prediction with regard to IST intervention acceptability for academic referrals;
- 5.) to determine the best model of prediction with regard to IST intervention acceptability for behavioral referrals.

Given these goals, the following questions relate to the subsequent goals of finding the best predictive model for teacher acceptability. Their ratings were addressed separately: IST referrals as a result of academic concerns and IST referrals as a result of behavioral concerns:

1. Does the addition of the variable “perceived effectiveness of the intervention” to a compact model improve upon the prediction of teacher ratings of intervention acceptability on the Intervention Rating Profile (IRP)?
2. Does the addition of the variable “time spent implementing the intervention” to a compact model improve upon the prediction of teacher ratings of intervention acceptability on the Intervention Rating Profile (IRP)?
3. Does the addition of the variable “support from personnel” to a compact model improve upon the prediction of teacher ratings of intervention acceptability on the Intervention Rating Profile (IRP)?
4. Does the addition of the variable “problem severity” to a compact model improve upon the prediction of teacher ratings of intervention acceptability on the Intervention Rating Profile (IRP)?

5. Does the addition of the variable “skill involved in intervention implementation” to a compact model improve upon the prediction of teacher ratings of intervention acceptability on the Intervention Rating Profile (IRP)?

6. Does the addition of the variable “years teaching” to a compact model improve upon the prediction of teacher ratings of intervention acceptability on the Intervention Rating Profile (IRP)?

7. Does the addition of the variable “the implementation with the IST process” to a compact model improve upon the prediction of teacher ratings of intervention acceptability on the Intervention Rating Profile (IRP)?

Chapter 3

METHODS

In this chapter, descriptions of the participants, instrumentation, and procedures used in this study are provided. Additionally, data collection and procedures are outlined and statistical analyses are presented for each of the study objectives.

Participants

The participants in this investigation were regular education classroom teachers of kindergarten through the fifth grade in Baltimore County, Maryland Public Schools that have been designated as IST schools and have a half-time IST teacher assigned to them. IST schools are located in each of the five geographic areas of the county. IST is present in schools with a history of high referrals to an Individualized Education Plan (IEP) team and where principals consented to have the program in their buildings. Each packet consisted of an informed consent letter explaining the purpose of the study and that participation was voluntary.

Materials

The Intervention Rating Profile (IRP)-20, developed by Witt and Martens (1983), is a rating scale that has been used in previous treatment acceptability research. The IRP has been used primarily to evaluate teachers' perceptions of the acceptability of school-based interventions. The Intervention Rating Profile (IRP) consists of 20 items, with each statement presented on a 6-point Likert-type scale (1 = strongly disagree, 2 = disagree, 3 = slightly disagree, 4 = slightly agree, 5 = agree, 6 = strongly agree) for a maximum acceptability score of 120. Higher scores suggest greater acceptability. Known technical characteristics were published in articles in which the scale was used for research purposes (Martens, March 2002, personal communication). Results of a factor analysis showed the IRP yielded one primary factor (general acceptability) and four secondary factors (risk, time, effects on other children, and teacher skill). Witt and Martens showed that the IRP had excellent internal consistency (alpha coefficient = .91).

Criterion-related validity for the IRP-20 has also been cited. In a study of 216 teachers who completed the IRP-20 and the Semantic Differential (SD; Osgood, Suci, & Tannenbaum, 1957), a correlation of .86 was reported between the total IRP-20 score and the Evaluative scale of the SD (Elliott & Treuting, 1991). Witt and Martens (1983) demonstrated that ratings on the IRP-20 discriminated between the various treatments. In a recent review of treatment

acceptability measures, Finn and Sladeczek (2001) concluded that the IRP-20 has documented psychometric evidence and is featured prominently in acceptability research.

Two versions of the IRP-20 were used. The IRP-20 for behavior interventions was included in its original form (e.g. “Most teachers would find the use of this intervention appropriate for behavior problems such as the one experienced by this child”). Questions from IRP-20 were minimally adapted to apply to academic interventions (e.g. “Most teachers would find the use of this intervention appropriate for academic problems such as the one experienced by this child”). Teachers were asked to use a Likert-type scale to indicate the acceptability of the interventions attempted in their classrooms. In addition, several demographic questions including grade taught, gender, level of education, years of experience, and class size followed the questionnaires.

An additional rating scale was used to assess the level of implementation of the essential elements of the IST process. This rating scale used selected items from the original form developed by Joseph Kovalski, which was used to evaluate practices in the IST process in Pennsylvania. Items related to the IST training component that were specific to the Pennsylvania training module and, therefore, did not apply to implementation in Baltimore County, were eliminated (e.g., The principal has attended the Pennsylvania Principals' Training Model, and has received training on the processes and components of IST). This rating scale was composed of items related to implementation that were developed as

part of the validation process in Pennsylvania to ensure the integrity of the program. The 25-question instrument was completed by teachers in each school to assess the level of implementation of the essential elements of the IST process in Baltimore County. The instrument is a rating sheet on which the components of the IST process were rated on a three point scale where 0= absent, 1= sometimes present, and 2= usually present for a maximum score of 50.

Procedures

Students were referred for instructional support services via the established referral procedures at each school. IST meetings were held during which the presenting problem was reviewed, initial assessment data were presented, goals were set, and interventions to address the presenting problem(s) were selected through a brainstorming procedure. Interventions for each case were developed by school-based Instructional Support Teams and implemented for at least 30 days. At or around the time of the IST review meeting, the classroom teacher was asked to rate each behavior or academic intervention selected at the initial meeting, using the IRP-20 (for behavior interventions) and a modified IRP-20 adapted for academic interventions on a six-point Likert-type scale (See Appendices A and B).

Supplemental questions were asked to allow teachers to rate additional variables related to providing the interventions. The teacher rated the presenting

problem for level of severity on a six-point Likert-type scale. Further, teachers were asked how much time each day (on average) was spent maintaining each intervention. Also, teachers were asked to rate their skill (experience) with the intervention on a six-point Likert-type scale. The variable of perceived effectiveness was rated with a question (# 14) that was incorporated within the IRP-20 (See Appendices A and B). The Level of Implementation of the Instructional Support Process (see Appendix C) was included with the other rating scales for each teacher to complete. Teachers were asked to complete a short demographic questionnaire (See Appendix D). Confidentiality was maintained for all identifying information.

Packets consisting of an informed consent letter, questionnaires (IRP-20 for behavior problems; modified IRP-20 for academic problems; implementation scale; demographic questionnaire) and return envelopes were sent to the IST teacher within each selected school for distribution to classroom teachers. Completed questionnaires were returned to the IST teacher within each building, who then returned them via inter-office mail in a sealed envelope.

A letter indicating approval of this project was sent by the Director of Research of the Baltimore County School System to the building principal of each IST school. The purpose of the study and a brief description of the approved data collection process were included in this letter. Each principal was aware that he or she had the option whether or not to have his or her teachers participate in the study.

Monitoring was established by visiting the participating schools and by calling IST teachers to answer questions and to ascertain progress in the return of the questionnaires. In addition, the coordinator of the IST program contacted each IST teacher via phone and e-mail to monitor data collection and request the return of surveys. A total of 250 packets were distributed and 200 packets were returned via the established procedures. Thirteen were not useable due to errors in completing them and were not included in data analysis. Of the 187 packets that were usable, 97 were for academic referrals while 90 were for behavior referrals. Data from the questionnaires were summarized on a spread- sheet and analyzed. A summary of findings was sent to the coordinator of the IST program, Coordinator of Psychological Services, and to the Director of Research for the Baltimore County Public Schools for review.

Statistical Analyses

As mentioned above, this study was designed to explore the relationship between several variables and teacher ratings of intervention acceptability in the IST process and also to determine the best model to predict acceptability ratings. In order to investigate the impact of these variables on the dependent variable, multiple linear regressions were used to adjust for potential confounding and to examine the independent effects of each covariate controlling for the others. To examine the statistical significance of the covariates and build parsimonious prediction models, variables were entered into the model sequentially and

models were compared using F-tests. Model comparisons were also used. Model comparison is a technique in which a compact model is compared systematically to more complex (augmented models) to determine the combination of variables that form the best prediction of a criterion (acceptability ratings) (Borg & Gall, 1989).

Under hypothesis testing, the null hypothesis is that the compact model fits the data as well as the more complex model. Increasingly complex models were compared with simpler models to examine if the addition of additional parameters in a specified order improves the predictive value of the simpler model by determining the percent reduction in error (PRE) that results from adding a variable. Before models were compared, descriptive statistics for this sample were compiled and Pearson correlations were computed to examine the bi-variate relationships between the independent and dependent variables. T-tests were used to test for differences between mean values of the covariates across referral types.

Chapter 4

RESULTS AND DISCUSSION

In this chapter, the objectives of this study are reviewed. Thereafter, descriptive statistics and the results of specific statistical analysis used to examine each objective are presented. In the discussion sections, results are interpreted with respect to each objective and also in relation to existing research and theory. Finally, limitations of and implications for this study are discussed.

As mentioned previously, the purposes of this study were to examine teacher ratings of intervention acceptability for interventions generated and then implemented as part of the IST process, determine what variables may affect acceptability ratings, determine if ratings differ between academic and behavior referrals, and finally determine the best model to predict teacher ratings of IST intervention acceptability.

Objectives

The objectives delineated for this study were as follows:

1. to determine whether or not ratings of intervention acceptability and the influence of variables that may affect intervention acceptability differ for academic and behavior referrals;
2. to investigate the relationship between measures of the implementation with the IST process, time spent implementing interventions, problem severity, years teaching, support, effectiveness, and skill and teacher ratings of IST intervention acceptability for academic referrals;
3. to investigate the relationship between measures of the implementation with the IST process, time spent implementing interventions, problem severity, years teaching, support, effectiveness and skill and teacher ratings of IST intervention acceptability for behavior referrals;
4. to estimate the best model of prediction with regard to IST intervention acceptability for academic referrals and;
5. to estimate the best model of prediction with regard to IST intervention acceptability for behavior referrals.

Objective 1

Results of Preliminary Data Analyses

In order to address the first objective of this study, preliminary analyses were conducted. First, descriptive statistics including means and standard deviations were calculated for academic and behavior referrals for the IRP 20 and Implementation Scales as well as for demographic data. Second, independent sample t-tests were used to compare means obtained for academic referrals with those obtained for behavior referrals.

Descriptive Statistics for Academic and Behavior Referrals

Means and standard deviations for academic and behavior referrals for the IRP 20, Implementation Scale, and the variables effectiveness, time, support, severity, skill, years teaching, and implementation are presented in Table 4.1. Independent sample t-tests were conducted to determine if the means obtained for academic referrals were significantly different from those obtained for behavior referrals. The only variable for which a significant difference was found between academic and behavior referrals was effectiveness ($p < .05$) (See table 4.1).

Table 4.1

Comparison of Means and Standard Deviations for Academic and Behavior Referrals

	Academic Referrals		Behavior Referrals	
	Mean	Standard Deviation	Mean	Standard Deviation
IRP Score	99.7	16	96.9	18.8
Effectiveness*	4.3	1.4	3.7	1.6
Time	16	17.8	12.4	17.9
Support	5.0	1.3	5.2	1.5
Problem Severity	4.7	.88	4.8	1.0
Skill	5.1	1.2	5.2	1.2
Years Teaching	8.1	7.0	7.3	8.0
Implementation	44.2	5.7	44.7	6.4

* $p < .05$

Objectives 2 and 3

Correlations Between Predictor Variables and Criterion Variable

Objectives two and three of this study were to examine the relationships between a number of predictor variables and teacher ratings of IST intervention acceptability made, using the IRP-20 for academic referrals and for behavioral referrals. Pearson correlations were calculated to look at the relationship between the predictor variables (effectiveness, time, support, problem severity, skill, years teaching, and implementation) and the criterion variable (IRP score). Correlations were calculated separately for academic referrals and behavior referrals. Results for academic referrals show that there were statistically significant relationships at the Type I error = 0.05 level between the variables effectiveness, support, skill, and implementation, and teacher ratings of acceptability (See Table 4.2).

Results for behavior show that there were statistically significant relationships between the variables effectiveness, support, and skill and teacher ratings of acceptability (See Table 4.3). The magnitude of most correlations was quite small. Moderate correlations were present between the variables effectiveness, support, and skill, and IRP scores for both academic and behavior referrals. A statistically significant, but small in magnitude, correlation was found

between the level of implementation of the IST process and teacher ratings of acceptability for academic referrals.

Correlations between the predictors were also examined. Most correlations were less than 0.4 (results not shown). This lack of strong correlation indicates that each of the variables represents an independent construct. Further, the variables had independent effects when evaluated in regression models. Therefore, variables were not combined into summary measures.

Table 4.2**Correlations Between Teacher Ratings of Intervention Acceptability Using the IRP-20 and Predictor Variables for Academic Referrals**

IRP Score	1.0
Effectiveness	.5309*
Time	.0428
Support	.6187*
Severity	.0080
Skill	.6308*
Years Teaching	.0265
Implementation	.3128*

* $p < .05$

Table 4.3**Correlations Between Teacher Ratings of Intervention Acceptability Using the IRP-20 and Predictor Variables for Behavior Referrals**

IRP Score	1.0
Effectiveness	.5996*
Time	-.0283
Support	.5386*
Severity	-.1806
Skill	.7432*
Years Teaching	-.1218
Implementation	.1314

* p < .05

Objectives 4 and 5

Objectives four and five of this study were to estimate the best model of prediction with regard to IST intervention acceptability for academic and behavior referrals. These goals were accomplished through multiple regression analysis in which the variables effectiveness, time spent implementing the intervention, support, problem severity, skill, years of teaching experience, and ratings of implementation with the IST process were the independent variables used to predict ratings of IST intervention acceptability. Variables were added one at a time to the model in an effort to determine the significance of each after controlling for the previous variables. In this way, it was possible to account for confounding that could have masked significant relationships in the bi-variate analyses.

The order in which variables were added to the model was determined by a review of existing literature. Variables that were found in the literature to have the most significant relationship with ratings of acceptability or that were viewed as essential elements of the IST process were included before variables that seemed to have less impact. The variable implementation was added last because there was not any research pertaining to its relationship with IST intervention acceptability.

Model comparisons were then used to compare models at each step to investigate the level of reduction in error achieved by the addition of each

variable. In so doing, increasingly complex models were compared with simpler models to examine if augmentation of the model with additional parameters in a specified order significantly improved the predictive value over the simpler model. F-tests were used to test whether the proportional reduction in error (PRE) that resulted from adding a variable was statistically significant. By evaluating the PRE at each step, a researcher could later use the results to build a more parsimonious model.

The reason for building as parsimonious a predictive model as possible was to reduce the associated variance of any future predictions that might be made using the model. Modeling and model comparisons were repeated for interventions developed for academic concerns, and for interventions developed for behavior concerns.

Model Comparisons for Academic Referrals

A series of increasingly complex models were compared to develop the best model to predict intervention acceptability ratings for academic referrals. At each step, augmented models were compared with more compact models to identify the most suitable regression model to predict teacher ratings of intervention acceptability for academic referrals. In so doing, the following questions, related to the goal of finding the best predictive model, were addressed.

1. Does the addition of the variable Intervention Effectiveness to a compact model improve upon the prediction of teacher ratings of intervention acceptability on the Intervention Rating Profile (IRP)? Model comparisons were used to determine if the addition of this variable to augment a compact model resulted in a statistically significant proportional reduction in error in predicting acceptability scores on the IRP. When an augmented model which included the variable effectiveness was compared to the intercept only model to predict intervention acceptability ratings, the resulting PRE was $.2819$ $F(1, 95) = 37.28$; $p < .0005$. This value indicated that the addition of the variable effectiveness to the compact model, in this case the Intercept Only model, reduced error by 28% (See table 4.4). This error reduction was statistically significant at the Type 1 error=0.05 level indicating that effectiveness should be kept in a predictive model.

2. Does the addition of the variable Time spent implementing the intervention to a compact model improve upon the prediction of teacher ratings of intervention acceptability on the Intervention Rating Profile (IRP)? When time was added to augment the model with effectiveness, the resulting PRE was $.005$ $F(1, 94) = 0.48$; $p = 0.49$. This value indicated that the addition of the variable Time to the compact model reduced error by less

than 1% (See table 4.4). This error reduction was not significant, indicating that the variable Time should be eliminated from a predictive model.

Further, the qualitative results did not change when Time was included as a categorical (0-10, 11-20, 20+ minutes) variable in the model.

3. Does the addition of the variable Support to a compact model improve upon the prediction of teacher ratings of intervention acceptability on the Intervention Rating Profile (IRP)? When the augmented model, which included the variables Effectiveness, and Support, was compared to the compact model to predict intervention acceptability ratings, the resulting PRE was $.3081 F(1, 94) = 41.85; p = <.0005$ value indicated that the addition of the variable Support to the compact model reduced error by 31% (See table 4.4). This error reduction was significant indicating that the variable support should be kept in a regression model.

4. Does the addition of the variable Severity to a compact model improve upon the prediction of teacher ratings of intervention acceptability on the Intervention Rating Profile (IRP)? When the augmented model which included the variables Effectiveness, Support, and Severity was compared to the compact model to predict intervention acceptability ratings, the resulting PRE was $.0029 F(1, 93) = 0.27; p = 0.6034$ This value indicated that the addition of the variable Severity to the compact model reduced

error by less than one percent (See table 4.4). This error reduction was not significant, indicating that the variable Severity should be eliminated from the regression model.

5. Does the addition of the variable Skill to a compact model improve upon the prediction of teacher ratings of intervention acceptability on the Intervention Rating Profile (IRP)? When the augmented model which included the variables Effectiveness, Support, and Skill was compared to the compact model to predict intervention acceptability ratings, the resulting PRE was $.1975 F(1, 93) = 22.89; p < .0005$. This value indicated that the addition of the variable Skill to the compact model reduced error by 20 percent (See table 4.4). This error reduction was significant, indicating that the variable support should be kept in a regression model.

6. Does the addition the variable Years Teaching to a compact model improve upon the prediction of teacher ratings of intervention acceptability on the Intervention Rating Profile (IRP)? When the augmented model which included the variables Effectiveness, Support, Skill, and Years Teaching was compared to the compact model to predict intervention acceptability ratings, the resulting PRE was $.0009 F(1, 92) = 0.08; p = 0.7785$. This value indicated that the addition of the variable Years

Teaching to the compact model reduced error by less than one percent (See table 4.4). This error reduction was not significant, indicating that the variable Years Teaching should be eliminated from the regression model. Further, the qualitative results did not change when Years Teaching was included as a categorical (0-5, 6-10, 11+ years) variable in the model.

7. Does the addition of Implementation with the IST process to a compact model improve upon the prediction of teacher ratings of intervention acceptability on the Intervention Rating Profile (IRP)? When the augmented model, which included the variables Effectiveness, Support, Skill, and Implementation, was compared to the compact model to predict intervention acceptability ratings, the resulting PRE was $.0049$ $F(1, 92) = 0.46$; $p = 0.5008$. This value indicated that the variable Implementation to the compact model reduced error by less than one percent (See table 4.4). This error reduction was not significant, indicating that the variable Implementation should be eliminated from the regression model.

By comparing models and evaluating the PRE at each step, the researcher was able to develop as parsimonious a model as possible to predict teacher ratings of intervention acceptability for academic referrals. On the basis of these comparisons, the best prediction model would include the variables Effectiveness, Support, and Skill. The estimate of the best model suggests that

conditional on the variables in the model, a one unit change in the Effectiveness rating is associated with a 2.95 change in expected IRP 20 scores, a one unit change in the Support rating was associated with a 4.57 change in expected IRP scores, and a one unit change in Skill was associated with a 5.06 change in expected IRP score. Based on mean scores on the variables effectiveness, skill, and support, the the mean IRP score = 99.7 which is highly acceptable. The other variables reduced error so little that they could be eliminated from the prediction model. Analysis of Variance tables for each model appear in Table 4.5.

Table 4.4

Summary of Models for the Prediction of Teacher Ratings of Intervention Acceptability for Academic Referrals

Model 1: $IRP\ 20 = \beta_0 + \beta_1 \text{ Effectiveness} + \text{Error}$

SSE = 17780.14

PRE = .2819 $F(1, 95) = 37.28; p < .0005$

Model 2: $IRP\ 20 = \beta_0 + \beta_1 \text{ Effectiveness} + \beta_2 \text{ Time} + \text{Error}$

SSE = 17690.16

PRE = .0051 $F(1, 94) = 0.48; p = 0.4910$

Model 3: $IRP\ 20 = \beta_0 + \beta_1 \text{ Effectiveness} + \beta_2 \text{ Support} + \text{Error}$

SSE = 12302.88

PRE = .3081 $F(1, 94) = 41.85; p < .0005$

Model 4: $IRP\ 20 = \beta_0 + \beta_1 \text{ Effectiveness} + \beta_2 \text{ Support} + \beta_3 \text{ Severity} + \text{Error}$

SSE = 12267.04

PRE = .0029 $F(1, 93) = 0.2717; p = 0.6304$

Model 5: $IRP\ 20 = \beta_0 + \beta_1 \text{ Effectiveness} + \beta_2 \text{ Support} + \beta_3 \text{ Skill} + \text{Error}$

SSE = 9872.74

PRE = .1975 $F(1, 93) = 22.89; p = .0005$

Model 6: $IRP\ 20 = \beta_0 + \beta_1 \text{ Effectiveness} + \beta_2 \text{ Support} + \beta_3 \text{ Skill} + \beta_4 \text{ Years Teaching} + \text{Error}$

SSE = 9864.21

PRE = .0009 $F(1, 92) = 0.08; p = .7785$

Model 7: $IRP\ 20 = \beta_0 + \beta_1 \text{ Effectiveness} + \beta_2 \text{ Support} + \beta_3 \text{ Skill} + \beta_4 \text{ Implementation} + \text{Error}$

SSE = 9823.97

PRE = .0049 $F(1, 92) = 0.46; p = .5008$

Best Predictive Model:

$IRP\ 20 = 38.20 + 2.95 * \text{Effectiveness} + 4.57 * \text{Support} + 5.06 * \text{Skill} +$

Error

SEs: (5.34) (0.85) (0.88) (1.06)

Mean IRP 20 Score Based on Best Prediction Model = 99.7 (SE =1.05)

Table 4.5

Analysis of Variance Tables for Model Comparisons for Academic Referrals**Model 1: Effectiveness**

Number of Observations = 97
 Root MSE = 13.681

R-Squared = 0.2819
 Adjusted R- Squared = 0.2743

Source	SS	df	MS	F	Prob > F
Model	6978.191	1	6978.191	37.28	.0000
Effectiveness	6978.191	1	6978.191	37.28	.0000
Residual	17780.139	95	187.159		
Total	24758.323	96			

Model 2: Effectiveness + Time

Number of Observations = 97
 Root MSE = 13.718

R-Squared = 0.2855
 Adjusted R- Squared = 0.2703

Source	SS	df	MS	F	Prob > F
Model	7068.171	2	3534.086	18.78	.0000
Effectiveness	6978.191	1	6978.191	53.32	.0000
Time	89.106	1	89.106	.47	.4910
Residual	17690.159	94	188.193		
Total	24758.323	96	25.899		

Model 3: Effectiveness + Support

Number of Observations = 97

R-Squared = 0.5031

Root MSE = 11.440

Adjusted R- Squared = 0.4925

Source	SS	df	MS	F	Prob > F
Model	12455.450	2	6227.725	47.58	.0000
Effectiveness	6978.191	1	6978.191	53.32	.0000
Support	5477.259	1	5477.259	41.85	.0000
Residual	12302.880	94	130.882		
Total	24758.323	96	257.899		

Model 4: Effectiveness + Support + Severity

Number of Observations = 97

R-Squared = 0.5045

Root MSE = 11.4849

Adjusted R- Squared = 0.4885

Source	SS	df	MS	F	Prob > F
Model	12491.294	3	4163.765	31.57	.0000
Effectiveness	6978.191	1	6978.191	52.90	.0000
Support	5477.259	1	5477.259	41.52	.0000
Severity	35.844	1	35.844	0.27	.6034
Residual	9872.744	93	106.159		
Total	24758.323	96	257.899		

Model 5: Effectiveness + Support + Skill

Number of Observations = 97

R-Squared = 0.6012

Root MSE = 10.3033

Adjusted R- Squared = 0.5884

Source	SS	df	MS	F	Prob > F
Model	14885.586	3	4961.862	46.74	.0000
Effectiveness	6978.191	1	6978.191	65.73	.0000
Support	5477.259	1	5477.259	51.60	.0000
Skill	2430.137	1	2430.137	22.89	.0000
Residual	9872.744	93	106.159		
Total	24758.323	96	257.899		

Model 6: Effectiveness + Support + Skill + Years Teaching

Number of Observations = 97

R-Squared = 0.6016

Root MSE = 10.3547

Adjusted R- Squared = 0.5843

Source	SS	df	MS	F	Prob > F
Model	14885.586	4	3723.529	34.73	.0000
Effectiveness	6978.191	1	6978.191	65.08	.0000
Support	5477.259	1	5477.259	51.08	.0000
Skill	2430.137	1	2430.137	22.67	.0000
Years Teaching	8.529	1	8.529	0.08	.7785
Residual	9869.215	92	107.220		
Total	24758.323	96	257.899		

Model 7: Effectiveness + Support + Skill + Implementation

Number of Observations = 97

R-Squared = 0.6032

Root MSE = 10.334

Adjusted R- Squared = 0.5860

Source	SS	df	MS	F	Prob > F
Model	14934.362	4	3733.590	34.96	.0000
Effectiveness	6978.191	1	6978.191	65.35	.0000
Support	5477.259	1	5477.259	51.29	.0000
Skill	2430.137	1	2430.137	22.76	.0000
Implementation	48.775	1	48.775	0.46	.5008
Residual	9823.968	92	106.782		
Total	24758.323	96	257.899		

Model Comparisons for Behavior Referrals

A series of increasingly complex models were compared to develop the best model to predict intervention acceptability ratings for behavior referrals. At each step, augmented models were compared with compact models to identify the most suitable regression model to predict teacher ratings of intervention acceptability for behavior referrals. In so doing, the following questions related to the goal of finding the best predictive model were addressed.

1. Does the addition of the variable intervention Effectiveness to a compact model improve upon the prediction of teacher ratings of intervention acceptability on the Intervention Rating Profile (IRP)? Model comparisons were used to determine if the addition of this variable to augment a compact model resulted in a statistically significant proportional reduction in error in predicting acceptability scores on the IRP. When an augmented model which included the variable Effectiveness was compared to the intercept only model to predict intervention acceptability ratings, the resulting PRE was $.3595$ $F(1, 88) = 49.38$; $p = <.0005$. This value indicated that the addition of the variable Effectiveness to the compact model, in this case the intercept only model, reduced error by 36% (See table 4.6). This error reduction was statistically significant at the Type 1

error=0.05 level, indicating that effectiveness should be kept in a predictive model.

2. Does the addition of the variable Time spent implementing the intervention to a compact model improve upon the prediction of teacher ratings of intervention acceptability on the Intervention Rating Profile (IRP)? When the augmented model, which included the variables Effectiveness and Time, was compared to the compact model to predict intervention acceptability ratings, the resulting PRE was .0006 $F(1, 87) = 0.05$; $p = 0.8210$. This value indicated that the addition of the variable time to the compact model reduced error by less than 1% (See table 4.6). This error reduction was not significant, indicating that the variable Time should be eliminated from a regression model. Further, the qualitative results did not change when Time was included as a categorical (0-10, 11-20, 20+ minutes) variable in the model.

3. Does the addition of the variable Support to a compact model improve upon the prediction of teacher ratings of intervention acceptability on the Intervention Rating Profile (IRP)? When the augmented model, which included the variables Effectiveness and Support was compared to the compact model to predict intervention acceptability ratings, the resulting PRE was .2830 $F(1, 87) = 34.3403$; $p = <.0005$ value indicated that the

addition of the variable Support to the compact model reduced error by 28% (See table 4.6). This error reduction was significant, indicating that the variable Support should be kept in a regression model.

4. Does the addition of the variable Problem Severity to compact model improve upon the prediction of teacher ratings of intervention acceptability on the Intervention Rating Profile (IRP)? When the augmented model, which included the variables Effectiveness, Support, and Severity, was compared to the compact model to predict intervention acceptability ratings, the resulting PRE was $.0034 F(1, 86) = 0.30; p = 0.5868$. This value indicated that the addition of the variable Severity to the compact model reduced error by less than one percent (See table 4.6). This error reduction was not significant, indicating that the variable problem severity should be eliminated from the regression model.

5. Does the addition the variable Skill to a compact model improve upon the prediction of teacher ratings of intervention acceptability on the Intervention Rating Profile (IRP)? When the augmented model, which included the variables Effectiveness, Support, and Skill, was compared to the compact model to predict intervention acceptability ratings, the resulting PRE was $.3233 F(1, 86) = 41.08; p = <.0005$ This value indicated that the addition of the variable Skill to the compact model

reduced error by 32 percent (See table 4.6). This error reduction was significant, indicating that the variable Skill should be kept in a regression model.

6. Does the addition of the variable Years Teaching to a compact model improve upon the prediction of teacher ratings of intervention acceptability on the Intervention Rating Profile (IRP)? When the augmented model, which included the variables Effectiveness, Support, Skill, and Years Teaching, was compared to the compact model to predict intervention acceptability ratings, the resulting PRE was .0001 $F(1, 85) = 0.02$; $p = 0.8934$. This value indicated that the addition of the variable Years Teaching to the compact model reduced error by less than one percent (See table 4.6). This error reduction was not significant, indicating that the variable years teaching should be eliminated from the regression model. Further, the qualitative results did not change when Years Teaching was included as a categorical (0-5, 6-10, 11+ years teaching) variable in the model.
7. Does the addition of Implementation with the IST process to a compact model improve upon the prediction of teacher ratings of intervention acceptability on the Intervention Rating Profile (IRP)? When the augmented model, which included the variables Effectiveness, Support,

Skill and Implementation was compared to the compact model to predict intervention acceptability ratings, the resulting PRE was .0002 $F(1, 85) = 0.04$; $p = 0.8372$. This value indicated that the addition of the variable Implementation to the compact model reduced error by less than one percent (See table 4.6). This error reduction was not significant, indicating that the variable Implementation should be eliminated from the regression model.

By comparing models and evaluating the PRE at each step, the researcher was able to develop as parsimonious a model as possible to predict teacher ratings of intervention acceptability for behavior referrals. On the basis of these comparisons, that best prediction model would include the variables Effectiveness, Support, and Skill. The estimate of the best model suggests that conditional on the variables in the model, a one unit change in the effectiveness rating is associated with a 4.32 change in expected IRP 20 scores, a one unit change in the support rating was associated with a 2.66 change in expected IRP scores, and a one unit change in skill was associated with an 8.12 change in expected IRP scores. Based on mean scores on the variables effectiveness, skill, and support, the the mean IRP score = 96.9 which is highly acceptable. The other variables reduced error insignificantly and could be eliminated from the prediction model. Analysis of Variance tables for each model appear in Table 4.7.

Table 4.6

Summary of Models for the Prediction of Teacher Ratings of Intervention Acceptability for Behavior Referrals

Model 1: $IRP\ 20 = \beta_0 + \beta_1 \text{ Effectiveness} + \text{Error}$

SSE = 20233.60

PRE = .3595 $F(1, 88) = 49.38; p = <.0005$

Model 2: $IRP\ 20 = \beta_0 + \beta_1 \text{ Effectiveness} + \beta_2 \text{ Time} + \text{Error}$

SSE = 20221.63

PRE = .0006 $F(1, 87) = 0.05; p = 0.8210$

Model 3: $IRP\ 20 = \beta_0 + \beta_1 \text{ Effectiveness} + \beta_2 \text{ Support} + \text{Error}$

SSE = 14507.32

PRE = .2830 $F(1, 87) = 34.34; p = .0005$

Model 4: $IRP\ 20 = \beta_0 + \beta_1 \text{ Effectiveness} + \beta_2 \text{ Support} + \beta_3 \text{ Severity} + \text{Error}$

SSE = 14457.29

PRE = .0034 $F(1, 86) = 0.30; p = 0.5868$

Model 5: $IRP\ 20 = \beta_0 + \beta_1 \text{ Effectiveness} + \beta_2 \text{ Support} + \beta_3 \text{ Skill} + \text{Error}$

SSE = 9817.30

PRE = .3233 $F(1, 86) = 41.08; p < .0005$

Model 6: $IRP\ 20 = \beta_0 + \beta_1 \text{ Effectiveness} + \beta_2 \text{ Support} + \beta_3 \text{ Skill} + \beta_4 \text{ Years}$

Teaching + Error

SSE = 9815.21

PRE = .0001 $F(1, 85) = 0.02; p = .8934$

Model 7: $IRP\ 20 = \beta_0 + \beta_1 \text{ Effectiveness} + \beta_2 \text{ Support} + \beta_3 \text{ Skill} + \beta_4$

Implementation + Error

SSE = 9812.39

PRE = .0002 $F(1, 85) = 0.04; p = .8372$

Best Prediction Model:

$IRP\ 20 = 25.01 + 4.32 * \text{Effectiveness} + 2.66 * \text{Support} + 8.12 * \text{Skill} +$

Error

SEs: (5.82) (0.74) (1.22) (1.27)

Mean IRP 20 Score Based on Best Prediction Model = 96.9 (SE =1.12)

Table 4.7

Analysis of Variance Tables for Statistically Significant Model Comparisons for Behavior Referrals

Model 1: Effectiveness

Number of Observations = 90
Root MSE = 15.163

R-Squared = 0.3595
Adjusted R- Squared = 0.3522

Source	SS	df	MS	F	Prob > F
Model	11354.858	1	11354.858	49.38	.0000
Effectiveness	11354.858	1	11354.858	49.38	.0000
Residual	20233.598	88	229.927		
Total	31588.456	89	354.927		

Model 2: Effectiveness + Time

Number of Observations = 90
Root MSE = 15.246

R-Squared = 0.3598
Adjusted R- Squared = 0.3451

Source	SS	df	MS	F	Prob > F
Model	11366.823	2	5683.412	24.453	.0000
Effectiveness	11354.858	1	11354.858	48.854	.0000
Time	11.965	1	11.965	0.052	.8210
Residual	20221.632	87	232.423		
Total	31588.456	89	354.927		

Model 3: Effectiveness + Support

Number of Observations = 90
Root MSE = 12.913

R-Squared = 0.5407
Adjusted R- Squared = 0.5302

Source	SS	df	MS	F	Prob > F
Model	17081.137	2	8540.569	51.22	.0000
Effectiveness	11354.858	1	11354.858	68.09	.0000
Support	5726.280	1	5726.280	34.34	.0000
Residual	14507.318	87	166.751		
Total	31588.456	89	354.927		

Model 4: Effectiveness + Support + Severity

Number of Observations = 90
 Root MSE = 12.9656

R-Squared = 0.5423
 Adjusted R- Squared = 0.5264

Source	SS	df	MS	F	Prob > F
Model	17131.169	3	5710.390	33.97	.0000
Effectiveness	11354.858	1	11354.858	67.55	.0000
Support	5726.280	1	5726.280	34.06	.0000
Severity	50.032	1	50.032	0.30	.5868
Residual	14457.287	86	168.108		
Total	31588.456	89	354.927		

Model 5: Effectiveness + Support + Skill

Number of Observations = 90
 Root MSE = 10.684

R-Squared = 0.6892
 Adjusted R- Squared = 0.6784

Source	SS	df	MS	F	Prob > F
Model	21771.160	3	7257.053	63.57	.0000
Effectiveness	11354.858	1	11354.858	99.47	.0000
Support	5726.280	1	5726.280	50.16	.0000
Skill	4690.022	1	4690.022	41.08	.0000
Residual	9817.296	86	114.55		
Total	31588.456	89	354.927		

Model 6: Effectiveness + Support + Skill + Years Teaching

Number of Observations = 90
 Root MSE = 10.7458

R-Squared = 0.6893
 Adjusted R- Squared = 0.6747

Source	SS	df	MS	F	Prob > F
Model	21773.245	4	5443.311	47.14	.0000
Effectiveness	11354.858	1	11354.858	98.33	.0000
Support	5726.280	1	5726.280	49.59	.0000
Skill	4690.022	1	4690.022	40.62	.0000
Years Teaching	2.085	1	2.085	0.02	.8934
Residual	9815.215	85	115.473		
Total	31588.456	89	354.927		

Model 7: Effectiveness + Support + Skill + Implementation

Number of Observations = 90
 Root MSE = 10.7443

R-Squared = 0.6894
 Adjusted R- Squared = 0.6747

Source	SS	df	MS	F	Prob > F
Model	21776.062	4	5444.016	47.16	.0000
Effectiveness	11354.858	1	11354.858	98.36	.0000
Support	5726.280	1	5726.280	49.60	.0000
Skill	4690.022	1	4690.022	40.63	.0000
Implementation	4.903	1	4.903	0.04	.8372
Residual	9812.323	85	115.440		
Total	31588.456	89	354.927		

DISCUSSION

Assessment of treatment acceptability in pre-referral intervention, specifically IST, is important because the presumption that an intervention that has social validity will be used to a greater extent and subsequently will affect its impact positively (Witt & Elliott, 1985). Further, interventions that are accepted are more likely to be implemented as intended. The IST literature, and pre-referral intervention studies in general, lack ecologically based research on treatment acceptability of interventions. The majority of studies have presented raters with descriptions of presenting problems followed by hypothetical interventions and outcomes. Few studies have investigated acceptability ratings for interventions that teachers (raters) actually implement for a period of time prior to rating their acceptability.

Additionally, most of the research has been conducted on the treatment acceptability of behavioral interventions, while relatively little research has investigated the acceptability of academic interventions. The degree to which research on acceptability of behavior interventions will generalize to academic interventions is unknown. The purposes of this study were to determine what variables may affect teacher acceptability ratings of interventions generated through the IST process, and also to determine the best model for the prediction of teacher ratings of acceptability for interventions developed within the Instructional Support Team process. Additionally, comparisons of intervention

acceptability were made between those that were used for behavior referrals and those used for academic referrals.

Mean Group Differences

As mentioned above, teachers were asked to rate intervention acceptability, level of implementation with the IST process, perceived effectiveness of interventions, problem severity, support from personnel, skill involved in implementation, and to report on variables including time spent implementing the intervention and years of teaching experience. Findings from this study suggested that there was not a significance difference between overall acceptability ratings made for academic interventions and those made for behavior interventions. Additionally, there were no differences in ratings of time spent implementing interventions, support to plan and maintain interventions, problem severity, skill needed to implement interventions, years of teaching experience, and implementation with the IST process.

However, a mean group difference was found for ratings of perceived effectiveness of the intervention. The mean rating of perceived effectiveness was significantly higher for teacher ratings of academic interventions than it was for teacher ratings of behavioral interventions. Perhaps teachers are more impressed by even small changes in academic performance than they are by similar size changes in behavior. What appears from this preliminary information

is that acceptability ratings of academic interventions are similar to those obtained from behavior interventions and that ratings can be reliably made in a similar manner.

Correlations

Results for academic referrals show that there were statistically significant relationships between the variables Effectiveness, Support, Skill involved in Intervention implementation, and Implementation of the IST process and teacher ratings of acceptability. Results for behavioral referrals show that there were statistically significant relationships between the variables Effectiveness, Support, and Skill, and teacher ratings of acceptability. The magnitude of these correlations, though they were statistically significant, was moderate at best. The variables of Time, Years Teaching, and Severity did not correlate significantly with acceptability. This finding is different from previous research. This may be attributable to the highly supportive system of IST that provides teachers with intervention support so that the impact of variables such as time may be limited. Further, teachers of differing years of experience may feel equally supported in IST due to the systematic level of intervention assistance provided.

The level of implementation of the IST process was investigated in this study due to the importance of following the procedures and guidelines for the success of IST. Perhaps teachers find that maintaining strict adherence to IST is

stronger in relationship to IST for academic referrals, because they generally require more technical assistance and precision. It would be important in future studies to investigate this further, as research on pre-referral interventions support the notion that in order for students to succeed with interventions, the process must be followed with integrity (Kovaleski, 1999; Rosenfield, 1992).

Finally, the relationship between severity and acceptability may have been insignificant because the teachers in the IST process are required to show documentation of interventions attempted prior to formal referral. By the time children are referred to the process, perhaps the severity has reached a high level with little variability in ratings. However, important to note is that previous research must be interpreted with the caveat that specific procedures may be highly acceptable but not actually implemented. Naturalistic studies pertaining to treatment acceptability have primarily addressed behavioral problems within clinical settings. Few studies have attempted to assess treatment variables of interventions naturally within an educational setting.

Prediction Models

Variables to test for fit in prediction model for behavioral and academic interventions were selected based upon previous acceptability research. Effectiveness, Support, and Skill were estimated to be the best variables to predict intervention acceptability for both academic and behavioral referrals. The

finding that these three variables would be included in a prediction model is not surprising when previous research is considered (Kazdin, 1980b; Kazdin, 1981; King, 1994; Singh & Katz, 1985; Tingstrom, 1989; Von Brock & Elliott, 1987; Whinnery, Fuchs, & Fuchs, 1991). The expectation is that other variables, including Time, Severity, and Years Teaching, would also contribute to the prediction model. However, underscoring this statement is that previous research was analog in nature. Therefore, previous results may not be generalized to naturalistic settings, as they were concluded based on reading case scenarios and not actually implementing the intervention.

In looking at the variables, perhaps Time may not have been significant due to the nature of the instructional support process. Past research on treatment acceptability has indicated that time involved in implementing interventions is a very significant variable in teachers' acceptability ratings of treatment procedures (Elliott et al., 1984; Gresham, 1989; Lentz et al., 1996; Witt, Elliott, & Martens, 1984; Witt & Martens, 1983; Witt, Martens, & Elliott, 1984). Within the context of IST, the IST teacher attempts to assist the classroom teacher by making efforts to reduce preparation and classroom time involved in implementation of interventions. Perhaps time would render significant results in less structured pre-referral processes. Further, time has been demonstrated to have less significance when problems were rated as being severe. In this study, teachers tended to rate the presenting problems as being severe. These severity ratings, therefore, may have mitigated the impact of the variable Time.

Ratings of severity were restricted in this study. Prior to referral to IST, teachers are required to implement accommodations in the classroom. By the time that children are referred to IST, perhaps teachers feel that the problem has reached a high level of severity. Therefore, the range of severity may have been restricted, thus influencing the ratings.

In previous research, years experience was significantly related to acceptability. More experienced teachers found all interventions less acceptable than less experienced teachers. Perhaps all teachers, regardless of years of experience, feel supported through the structured pre-referral intervention process.

Much of the previous research related to treatment acceptability has been conducted using behavioral interventions. One of the reasons for studying academic interventions was to expand upon and see if previous acceptability research could be applied to academic interventions. What appears from this research is that academic and behavioral referrals yielded similar findings.

Interesting to note is that previous research manipulated and controlled variables to examine treatment acceptability. In previous studies, researchers selected referring problems and interventions for teachers to rate. They were able to provide a range related to the variables selected. For example, types of interventions, severity, and teacher time were represented across levels. In a naturalistic study, many variables are unable to be controlled. For example, the researcher was unable to predict the types of interventions the team selected.

The interventions may be much more limited than those that a researcher selects in a contrived study. Therefore, results may be influenced by the restricted control within a naturalistic study.

Chapter 5

SUMMARY, CONCLUSIONS, AND RECOMENDATIONS

Summary

Since the late 1970s there has been sustantial growth of school pre-referral programs and intervention assistance teams that emphasize collaborative consultation (Kratochwill at al., 2002; Safran & Safran, 1996; Whitten & Dieker, 1995; Bahr, Whitten, Dieker, Kocarek, & Manson, 1999). In fact, consultation-based service delivery has become a primary function of many school psychologists (Reschly & Wilson, 1995; Zins & Erchul, 2002). Such programs are primarily regular education initiatives and are intended to assist students who are experiencing difficulty with school. Many team formats exist, but most are characterized by interaction amongst professionals in the schools. These professionals seek to develop effective intervention strategies in an effort to reduce the number of inappropriate special education referrals and help students remain in the least restrictive environment. One such approach is the Instructional Support Team (IST) and was the format used in the present investigation.

IST was implemented in the Baltimore County, Maryland Public School System in 1998. The model in place parallels that developed for use in

Pennsylvania in the early 1990s. In this model, IST is a process in which a working group that includes the classroom teacher, instructional support teacher, building administrator, school psychologist, and any other personnel who may assist with a particular case, is convened in an effort to “brainstorm” interventions for students referred because of academic, behavioral, or social/emotional problems (Kovaleski, et al., 1996). The IST is intended to assist teachers in finding solutions to their challenges through classroom-based assessment and collaborative problem solving. Team members work with the classroom teacher to search for what will work for the student by systematically manipulating instructional/environmental variables and measuring the student’s reactions to those changes. After the intervention is selected, the team assists the classroom teacher to implement them in the classroom.

This study was designed to determine which variables might affect teacher acceptability ratings of interventions generated through the instructional support team process and also to determine the best model for prediction of those ratings. Additionally, comparisons were made between academic interventions and behavioral interventions.

Much of the previous research that has examined intervention acceptability has been analog in nature. Raters were presented with a written scenario and hypothetical interventions and findings and then asked to rate intervention acceptability. In this study, teachers (raters) actually implemented the interventions for approximately 30 days prior to rating them. Students were

referred for IST via the established procedures in their schools and interventions were developed and put in place for each referred student. After 30 days, teachers completed a packet that contained the IRP 20, ratings of Implementation with the IST process, a rating of problem severity, a rating of success, and a demographic questionnaire.

There was not a significant difference in teacher acceptability ratings for academic referrals compared to behavioral referrals. For academic referrals, statistically significant relationships were found between the variables Effectiveness, Support, and Level of Implementation with the IST process and Intervention Acceptability. For behavioral referrals, statistically significant relationships were found between the same variables except for Level of Implementation.

Multiple regression analysis was used to compare a series of increasingly complex prediction models with more compact models to identify the model that was most parsimonious. For both academic and behavioral referrals, the best model to predict intervention acceptability included the variables Effectiveness, Support, and Skill.

Limitations

This study contributed to the literature by providing a natural context in which to evaluate acceptability of IST interventions as rated by classroom teachers. This study was exploratory in nature and should be viewed as

preliminary information that necessitates further exploration of the same or similar variables. However, some limitations should be discussed in order to make suggestions and changes for future research. First, IST is a system that possesses characteristics that differ from other pre-referral processes. For example, IST is a collaborative pre-referral structure, whereas other models - rely on “experts” to assist in solving problems. Therefore, what is not certain is whether generalizations from this study can be made to other pre-referral contexts or to non pre-referral team contexts.

Further, a control group that included non-IST teachers was not selected for this study to indicate whether acceptability results were reflective of the data-driven, consultative, supportive, team-based approach of IST. As previously mentioned, in a naturalistic study, there is limited control over many variables including the referral problems, scope of interventions selected, and the range of variables (i.e., problem severity, time).

Also, a great deal of information was obtained via teacher report. Therefore, as is true with self-reporting measures, the extent to which the data are accurately reported is unknown. IST teachers are expected to monitor the integrity of the intervention implementation. However, teachers are responsible for their daily maintenance.

Reactivity is also a concern with this type of study. Teachers are asked to rate students already in the process of receiving regular support and maintenance from them. Teacher ratings may be reflective of high emotions

rather than objective data. Further, principals are often present at IST meetings. As such, teachers may feel obligated to respond in a socially acceptable manner, which may not be accurate.

Finally, multiple regression with model comparisons was used to analyze data. Variables were added one at a time to a regression the model in an effort to determine the significance of each after controlling for the previous variables. The order in which variables were added to the model was determined by a review of existing literature. The variable Implementation was added last because there was not any research pertaining to its relationship with IST intervention acceptability. The effects of Implementation, when it was added last to the model, were not significant and it was not included in the best prediction model. However, had Implementation been the first variable added to the model, its impact would have been significant and the best prediction model would be different.

Conclusions and Recommendations

IST differs from other systems of pre-referral intervention in that it is structured and is intended to give teachers support. It is not intended to be a system in which teachers are left to implement interventions independently and then report back at a later date. The argument can be made that teachers who participate in meetings with other professionals may be under pressure to agree

with interventions that they may actually wish to reject. If IST is to be successful, teachers must be willing to accept the interventions. However, what is often unknown is how teachers in IST schools view the interventions they are asked to implement. If teachers do not like the interventions, they are likely to implement them improperly or avoid them altogether (Witt, Marten, et al., 1984).

Assessment of treatment acceptability in pre-referral intervention, specifically IST, is important because what is presumed is that an intervention that is liked (viewed as acceptable) will be used to a greater extent and thus have a greater impact (Witt & Elliott, 1985). Thus, important to this program is identifying strategies that teachers judge as acceptable and also identifying variables that relate to acceptability ratings. The IST literature, and pre-referral intervention studies in general, lack ecologically based research on treatment acceptability.

Future studies should incorporate provisions to insure that they have ecological validity. Within the context of pre-referral intervention, acceptability ratings of interventions using different models should be compared. In so doing, researchers will be able to identify variables that have significant impact for each model and also determine if one of the models leads to higher levels of acceptability than do others. Additionally, pre-referral models should be compared with no service control groups.

Given the current emphasis on pre-referral services through the provisions of the No Child Left Behind legislation and the reauthorization of IDEA, schools

need to have effective and efficient models with which to service children who experience difficulty. If school-based teams are to be successful in addressing these needs, they must use effective models that are implemented correctly and provide interventions that teachers find acceptable and that are used with fidelity. Data from ecologically valid studies can guide schools in selecting and developing effective models and can identify variables that are related to high ratings of acceptability on the part of personnel who must implement them.

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Appendix A

IRP for Academic Referrals

The purpose of this questionnaire is to obtain information that will aid in the selection of classroom interventions. Teachers of children referred due to academic concerns may rate this intervention. Please circle the number which best describes your agreement or disagreement with each statement. You are rating the following intervention _____

which was suggested for your use by the Instructional Support Team.

- | | 1 | 2 | 3 | 4 | 5 | 6 |
|---|----------------------|---|-------|---|---|-------------------|
| | Strongly
Disagree | | Agree | | | Strongly
Agree |
| 1. Teachers are likely to use this intervention because it requires little technical skill. | 1 | 2 | 3 | 4 | 5 | 6 |
| 2. Teachers are likely to use this intervention because it requires little training to implement effectively. | 1 | 2 | 3 | 4 | 5 | 6 |
| 3. Most teachers would find the intervention suitable for the academic problem described. | 1 | 2 | 3 | 4 | 5 | 6 |
| 4. Most teachers would find the use of this intervention appropriate for academic problems such as the one experienced by this child. | 1 | 2 | 3 | 4 | 5 | 6 |
| 5. The child's academic problem is severe enough to warrant the use of this intervention. | 1 | 2 | 3 | 4 | 5 | 6 |
| 6. This intervention would be appropriate for use <i>before</i> making a referral. | 1 | 2 | 3 | 4 | 5 | 6 |
| 7. This intervention would not be difficult to implement in a classroom with 30 other students. | 1 | 2 | 3 | 4 | 5 | 6 |
| 8. This intervention is practical in the amount of time required for parent contact. | 1 | 2 | 3 | 4 | 5 | 6 |
| 9. This intervention is practical in the amount of time required for contact with school staff. | 1 | 2 | 3 | 4 | 5 | 6 |

10. This intervention is practical in the amount of time required for record keeping.

1 2 3 4 5 6

11. This intervention is practical in the amount of out-of-school time required for implementation.

1 2 3 4 5 6

12. It would not be difficult to use this intervention and still meet the needs of other children in a classroom.

1 2 3 4 5 6

13. This was an acceptable intervention for the child's academic problem.

1 2 3 4 5 6

14. This intervention proved effective in changing the child's academic problem.

1 2 3 4 5 6

15. The use of this intervention did not result in negative side effects for the child.

1 2 3 4 5 6

16. This intervention was not disruptive to other students.

1 2 3 4 5 6

17. I would suggest the use of this intervention to other teachers.

1 2 3 4 5 6

18. This intervention would not be considered a "last resort."

1 2 3 4 5 6

19. Overall, this intervention was beneficial for the child.

1 2 3 4 5 6

20. I would be willing to use this intervention in the classroom setting.

1 2 3 4 5 6

Appendix B

Intervention Rating Profile (IRP)-20 for Behavior referrals

The purpose of this questionnaire is to obtain information that will aid in the selection of classroom interventions. Teachers of children referred due to behavioral concerns may rate this intervention. Please circle the number which best describes your agreement or disagreement with each statement. You are rating the following intervention _____

which was suggested for your use by the Instructional Support Team.

1	2	3	4	5	6
Strongly Disagree		Agree			Strongly Agree
1. Teachers are likely to use this intervention because it requires little technical skills.					
1	2	3	4	5	6
2. Teachers are likely to use this intervention because it requires little training to implement effectively.					
1	2	3	4	5	6
3. Most teachers would find the intervention suitable for the behavior problem described.					
1	2	3	4	5	6
4. Most teachers would find the use of this intervention appropriate for behavior problems such as the one experienced by this child.					
1	2	3	4	5	6
5. The child's behavior problem is severe enough to warrant use of this intervention.					
1	2	3	4	5	6
6. This intervention would be appropriate for use <i>before</i> making a referral.					
1	2	3	4	5	6
7. This intervention would not be difficult to implement in a classroom with 30 other children.					
1	2	3	4	5	6
8. This intervention is practical in the amount of time required for parent contact.					
1	2	3	4	5	6
9. This intervention is practical in the amount of time required for contact with school staff.					
1	2	3	4	5	6

10. This intervention is practical in the amount of time required for record keeping.

1 2 3 4 5 6

11. This intervention is practical in the amount of out-of-school time required for implementation.

1 2 3 4 5 6

12. This intervention was not disruptive to other students.

1 2 3 4 5 6

13. It would not be difficult to use this intervention and still meet the needs of other children in a classroom.

1 2 3 4 5 6

14. This intervention proved effective in changing the child's problem behavior.

1 2 3 4 5 6

15. This intervention was an acceptable intervention for the child's behavior problem.

1 2 3 4 5 6

16. This intervention did not result in negative side effects for this child.

1 2 3 4 5 6

17. This intervention did not result in risk to the child.

1 2 3 4 5 6

18. This intervention would not be considered a "last resort."

1 2 3 4 5 6

19. Overall, this intervention would be beneficial for the child.

1 2 3 4 5 6

20. I would be willing to use this intervention in the classroom setting.

1 2 3 4 5 6

Additional questions

1	2	3	4	5	6
Strongly Disagree			Agree		Strongly Agree

I have sufficient assistance from support personnel to implement this intervention

1 2 3 4 5 6

I have had sufficient experience with this type of intervention

1 2 3 4 5 6

How much time each day, on average is spent maintaining this intervention? _____

How would you rate the severity of this problem?

1	2	3	4	5	6
Mild					Severe

Appendix C**LEVEL OF IMPLEMENTATION OF THE INSTRUCTIONAL SUPPORT PROCESS**

Please rate each item as absent (0), Sometimes Present (1), or Usually Present (2).

1. The Principal or designee participates in IST meetings, supports IST services, and has an active role in the IST process.

0 1 2

2. A staff member is assigned to contact the student's parents about the IST process.

0 1 2

3. The parent(s) are interviewed regarding their perceptions of the student's school problems and possible life stressors.

0 1 2

4. The support teacher or other team member meets with the classroom teacher to gather information about the concern.

0 1 2

5. The assessment procedures used provide information about curricular variables, such as instructional tasks used, and instructional level (i.e., level of difficulty of the material).

0 1 2

6. The composition of the IST includes the principal or designee, the support teacher, and the student's teacher in all cases, and other school personnel as needed.

0 1 2

7. There is a procedure in place for students to be identified to IST by teachers and other professional staff.

0 1 2

8. The assessment procedures used provide information about the student's life stressors and coping skills (e.g., self-concept, decision-making, social interaction and identification/communication of feelings).

0 1 2

9. The assessment procedures used provide information about the student's classroom behavior as compared to classroom expectations.

0 1 2

10. Based on all available information, the support teacher or other team member(s) and the classroom teacher work together to identify a specific problem(s) and set a measurable goal(s).

0 1 2

11. The identified problem(s) is based on an analysis of the data collected.

0 1 2

12. A goal(s) is set that is based on the identified problem and the student's current level of performance

0 1 2

13. Strategies are developed based on their match with the stated goal(s) .

0 1 2

14. One or more strategies are selected by consensus for implementation during the 30-day intervention period.

0 1 2

15. The team decides which team member(s) will work with the teacher and/or student to establish the selected intervention(s) in the classroom and in other appropriate settings.

0 1 2

16. The intervention is implemented by having the support teacher or other team member(s) visit the classroom one or more times to demonstrate the strategy and to give the teacher guided practice in implementing the strategy.

0 1 2

17. For academic problems, the student is taught at the instructional level for the duration of the intervention period.

0 1 2

18. For academic problems, instructional materials, texts, and classroom tests are adapted as needed.

0 1 2

19. For behavior problems, social, and/or affective problems, interventions focus on the development of appropriate replacement behaviors using positive approaches.

0 1 2

20. The support teacher or other team member(s) assist the teacher to modify the intervention(s) as necessary based on the student's response.

0 1 2

21. As the classroom teacher and/or other educators take more responsibility for the implementation of the intervention, the support teacher shifts to a monitoring and technical assistance role.

0 1 2

22. The support teacher or other team member(s) assures that data are collected on the student's response to the intervention on a frequent basis throughout the intervention period.

0 1 2

23. IST member(s) provide training for parents and other educators who are involved in the intervention.

0 1 2

24. Students who are found to be in need of further evaluation are referred for evaluation through the IEP process.

0 1 2

25. The IST adheres to timelines required for instructional support activities.

0 1 2

Appendix D**Teacher information questionnaire**

1. Circle the grade that you currently teach:

Pre-kindergarten

Kindergarten

1st

2nd

3rd

4th

5th

2. Circle gender:

Female

Male

3. How many years have you been teaching? _____

4. Circle highest level of education attained:

Bachelors

Master's

Master's + 30

Master's + 60

Doctorate

5. How many students are currently enrolled in your classroom? _____

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Education

Ph.D.	2004	Penn State University	School Psychology
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Professional Experience

August, 1996-Present	School Psychologist, Baltimore County Public Schools, Baltimore, MD
1994-1995	School Psychology Intern, Sarah Reed Children's Center, Erie, PA
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Professional Affiliations

National Association of School Psychologists