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THE IDENTIFICATION OF CONTEXTUAL FACTORS INFLUENCING TEACHER IMPLEMENTATION OF INTERVENTIONS RELATED TO STUDENTS' INDIVIDUAL EDUCATION PLANS

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THE IDENTIFICATION OF CONTEXTUAL FACTORS INFLUENCING TEACHER IMPLEMENTATION OF INTERVENTIONS RELATED TO STUDENTS' INDIVIDUAL EDUCATION PLANS

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ABSTRACT

This study evaluated the relationship between the availability of so-called contextual factors in schools and teachers' implementation fidelity of IEP related interventions. It also analyzed which of these factors teachers reported as being important to intervention implementation. General education elementary school teachers (N = 91) were recruited for this study from schools throughout New England. Participants were randomly assigned to one of two groups, a group that answered study questions based on an IEP related intervention they were having difficulty implementing or a group that answered questions based on an intervention for which they were not experiencing difficulty with implementation. Both groups completed a survey for this study, the Self-Assessment of Contextual Fit of Students' IEPs for Individual Teachers, which asked them to rate the availability and importance of 20 different contextual factors identified in research as influencing intervention implementation. After completing the survey, participants were also categorized as belonging to a low fidelity group and a high fidelity group based on a self-report measure used by the study to determine teachers' level of implementation fidelity.

Mann-Whitney U tests were used to evaluate if there were group differences in teachers' ratings of the contextual factors available to them and the importance of specific contextual factors in relation to implementing interventions. Results revealed a relationship between how stressful an intervention was to implement for a teacher and whether they identified an intervention as difficult to implement. Analyses also revealed a correlation between intervention fidelity and the number of students with IEPs for whom a teacher was responsible, the number of special education classes a

teacher has completed, teachers ratings of their skill at implementing the intervention, their overall skill level, and the level of stress experienced by a teacher when implementing an intervention. Mann-Whitney U tests only revealed one significant group difference in the contextual factors teachers reported as being important to intervention implementation. That is, teachers reported significantly different levels of importance for being made aware that a student entering their classroom is provided educational services through an IEP. This study not only serves to further support current research into the relationship between contextual factors and intervention fidelity, it also provides administrators in schools and school districts with insight into the best methods for supporting teachers' different levels of intervention fidelity.

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PREFACE

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MANUSCRIPT – 1

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The Identification of Contextual Factors Influencing Teacher Implementation of Interventions Related to Students' Individual Education Plans

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CHAPTER 1

INTRODUCTION

There are a variety of interventions that assist students in succeeding in school- academically, socially and emotionally, and behaviorally. In recent years increasing attention has been given to identifying factors that influence intervention implementation within a variety of settings (Agran, Alper, Wehmeyer, 2002; Johns et. al., 2002; Han & Weiss, 2005; Roach & Elliot, 2008; Durlak, 2010; Cho, 2010; Azano et. al., 2011; Mcintosh et. al., 2013; Robinson, Bursuck, and Sinclair, 2013). Much of the research conducted in schools has been focused on interventions connected to Response to Intervention (RTI), behavior management programs, or evidence-based programs (Agran, Alper, Wehmeyer, 2002; Johns et. al., 2002; Han & Weiss, 2005; Roach & Elliot, 2008; Durlak, 2010; Cho, 2010; Azano et. al., 2011; Mcintosh et. al., 2013; Robinson, Bursuck, and Sinclair, 2013). Evidence-based interventions administered through RTI, as well as RTI itself, have become key factors in helping to determine students' eligibility for special education. Behavior management programs are important in fostering the success of students experiencing behavioral difficulties. Little research, however, has been aimed at evaluating factors that assist or hinder the successful implementation of interventions related to students' Individual Education Plans (hereafter, IEPs) in schools. IEPs are the only legal form of support for students in special education and are therefore instrumental to their success in school. Due to the importance of IEP-related interventions for students in special education, the focus

of this study will be to explore what factors are related to the fidelity with which teachers are able to implement these interventions in schools.

Individual Education Plans

An individual education plan (IEP) is a personalized legal document, first mandated in the 1975 Education for All Handicapped Children Act, created for a student who qualifies for special education services. IEPs are highly customizable and are developed by a team from the school with extensive knowledge of the student, her/his strengths and weaknesses, and her/his specific needs. By law, this team includes the student's parents and if the family wishes, other family members. The IEP document outlines the student's individual academic and/or behavioral goals based on the student's current profile of strengths and needs. Additionally, the IEP specifies what services, supports, and interventions the student will require in order to reach these goals in the opinion of the committee. Once the plan is agreed upon by the committee and family members, the school is then legally obligated to provide these services. In this way, the accommodations contained in an IEP directly inform the instruction the student receives.

A student's IEP assists in creating appropriate academic programming for the student, provides a framework for the program's implementation (Savage, Pearson, McDonald, Potoczny-Gray, & Marchese, 2001), and helps facilitate the success of the student. By law, IEP goals and student progress are to be reviewed at least annually. IEPs are subject to federal and state review (Waters, 2008). The IEP, therefore, is a protection for students and families as it enables schools to recognize students' needs and specifies that students with disabilities will receive the necessary supports to

receive opportunities in education equal to those of students without disabilities.

According to the Individuals with Disabilities Education Improvement Act (IDEA) of 2004, IEPs must include students' disability classifications, their current level of performance, recommended program placement, a description of all additional services/interventions to be provided, annual student goals, short-term instructional objectives, a projected timeline to accomplish goals, and evaluation methods to assess student progress.

The IDEA indicates that, in order to have any sustainable impact on the student's education, IEP goals must be measurable, functional, observable, meaningful, and comprehensive. Further, they should mirror the IEP team's determination of what is important for the student's education. The goals laid out in an IEP should be representative of what the IEP team believes the individual student is capable of achieving in a specific area (e.g., phonemic awareness or math computation) within a year's time. Individual Education Plan goals should also be linked with state and national standards and reflect generally what students could reasonably be expected to accomplish within the timeframe of the document.

The Individual Education Plan is important as it is one of the only compulsory documents that will accompany each student with disabilities who qualifies for special education services from year to year. Though teachers are able to access additional types of student information, such as assessment reports, information provided by previous teachers, progress reports, etc., the IEP can be considered a key document in describing a student's individualized learning program and evolving services. The IEP provides a mechanism through which a student's needs and educational programming

are articulated across all persons who work with the student, such as teachers, teachers' assistants, other school specialists, and parents (Ruble, McGrew, Dalrymple, & Jung, 2010). It represents the final outcome of the referral process and is a legal document that outlines the services and process by which they are to be delivered to a student in special education (Smith, Slattery, & Knopp, 1993).

In 2000, 12.8% of all students in the United States were utilizing individual education programs (Educational Vital Signs, 2003). In that same year a total of approximately $50 billion dollars was spent on special education services, almost double the expenditure for general education services, with an estimated expenditure of $12,639 per special education student vs. about $4,394 per general education student (Presidents Commission on Excellence in Special Education, 2002). Because of the extensive resources used by schools to support students in special education and the large number of students relying on IEPs, it is imperative that the services detailed in these documents be delivered with fidelity and benefit students and their educational attainment.

Effectiveness of Individual Education Plans

Unfortunately, research related to IEPs has revealed concerning findings regarding the IEP process and documentation. Researchers focusing on IEP quality, adherence to recommended practice, and how closely IEPs match the requirements and suggestions laid out by law have found less than acceptable practices that have led to inferior services for students (Smith & Simpson, 1989; Smith, 1990; Reiher, 1992; Catone & Brady, 2005; Gartin and Murdick, 2005; Ketterlin-Geller, Alonzo, Braun-Monegan, & Tindal, 2007; Ruble, McGrew, Dalrymple, & Jung, 2010). Further,

research assessing IEP-related instruction provided to students shows a disconnect between the IEP's stated objectives, instruction, and the curriculum as well as a lack of instructional implementation in classrooms (Fisher & Frey, 2001; Ruble, McGrew, Dalrymple, & Jung, 2010).

A study conducted by Ruble, McGrew, Dalrymple, and Jung (2010), assessing IEPs created for students with autism, found that in general, the quality of the IEPs they assessed was poor and the descriptions regarding students' objectives were inadequate. The teaching methods laid out in the IEPs were not adequately linked to IEP objectives, did not sufficiently address students' specific needs, and were not individualized sufficiently. They also identified that the IEPs often did not meet the requirements outlined in the IDEA (2008).

A study by Michnowicz, McConnell, Peterson, & Odom (1995) reviewing the social goals in the IEPs of preschoolers found that frequently IEPs contained goals that lacked specificity and were not measurable. Katterlin-Geller et. al. (2007) argued that a lack of clearly identified accommodations promotes the likelihood of inconsistency in program implementation. In an article describing changes a revision of the IDEA recently made to the required components of IEPs, Gartin and Murdick (2005) suggested that IEPs often include inadequate descriptions of students' current performance. Given that the goals and objectives of the IEP should be matched with students level of performance these findings call into question the accuracy of the students goals. In a similar article by Johns, Crowley, and Guetzloe (2002) and a study by Smith (1990), researchers found IEP objectives containing expectations that were unrealistic and misaligned with children's actual abilities. Finally, a study by Catone

and Brady (2005) assessing IEPs of students with reading disabilities echoes the previously discussed finding that goals in IEPs are not adequately linked to student skill deficits. This could lead to interventions being used that are not targeting the skills the student needs to have supported.

Research assessing the implementation of IEP-related instruction has also garnered poor results. Fisher and Frey (2001) found a lack of connection between the IEP, the curriculum, and the instruction students with special needs were receiving. Nevin, McCann, and Semmel (1983) reported limited implementation of Individual Education Plan (IEP) related instruction occurring in general education classrooms. In an article discussing limitations of IEP implementation and ways to increase implementation, Johns et. al. (2002) found that accommodations frequently were not being implemented as described in the IEP. Pearl and Miller (2007) and King-Sears and Bowman-Kruhm (2011) found that teachers reported accommodations from IEPs were being used adequately but the required specialized instruction was not being provided to students at all or not happening when and as often as they should have been in both math and reading.

The findings related to the incompleteness of instructional implementation by teachers are particularly problematic as general education teachers are being asked more and more to implement IEP related interventions and programs in their classrooms. Equally concerning is the large number of these interventions teachers are expected to implement at one time. Research shows that an individual teacher is not able to conduct more than one or two simultaneous interventions with integrity and effectively teaching the rest of the class (Tilly, 2008).

In the past, IEP-related interventions for students with special needs were implemented by specialists and special education teachers who were trained to conduct these programs. Currently, the No Child Left Behind Act of 2001 and the Individuals with Disabilities Education Improvement Act of 2004 both require that students with disabilities be educated in the least restrictive environment, have access to the general curriculum, participate in accountability assessments, and eventually reach the same academic benchmarks as peers without disabilities (Eisenman, Pleet, Wandry, & McGinley, 2011). Although these are positive objectives for students with special needs as they promote inclusion, the teachers now being asked to conduct this programming are not always well trained to do so. If it is not possible for programming to be implemented with fidelity, research indicates that interventions will decrease in effectiveness even with teachers' continued implementation (Han & Weiss, 2005).

Intervention Fidelity

Early literature defines intervention fidelity as an intervention being implemented as intended. Researchers are now looking more critically at the issue of treatment fidelity and trying to create consensus for a more specific definition. Most recently the term treatment fidelity has been used to refer not only to whether a specific intervention is implemented as often as planned (Tucker & Blythe, 2008) but also takes into account the degree to which the intervention is delivered in the way it was designed to be implemented. Power, Bloom-Hoffman, Clarke, Riley-Tillman, Kelleher, and Manz (2005) referred to treatment fidelity as encompassing how much of an intervention was implemented and how completely it was being implemented.

Along with evaluating the definition of treatment fidelity, researchers are striving to develop a more comprehensive model of fidelity (Tucker & Blythe, 2008). An article by Nelson, Cordray, Hulleman, Darrow, and Sommer (2012), referencing an article by Fixsen, Naoom, Blasé, Friedmann, and Wallace (2005), identified two types of fidelity: personnel fidelity, which is the implementation of the actual intervention, and organizational fidelity meaning the implement of the intervention supports. Dane and Schneider (1998) identified five dimensions of fidelity. These dimensions include: adherence (the intervention being implemented as expected), exposure (participants receiving the expected dose), quality of delivery (activities being performed in the expected manner), participant responsiveness (participants follow through as expected), and program differentiation (did the treatment group receive different instruction than the control condition).

Regardless of the fidelity model used, the effectiveness of the interventions students receive has been found to be significantly related to whether a treatment is implemented with fidelity (Han & Weiss, 2005). That is, the greater the fidelity, the more effective the intervention has been shown to be. In a review of literature on the importance of implementation fidelity, Durlak and Dupre (2008) found fidelity positively predicted student outcome and that only when interventions are implemented as intended will they produce favorable outcomes for students. In a study by Azano et al, (2011) evaluating treatment fidelity and academic achievement for gifted students, results demonstrated that achievement scores are positively correlated to the level of fidelity with which an intervention is implemented. In a study looking at the effects of positive behavioral supports and interventions on discipline referrals in a

high school, Flannery, Fenning, McGarth Kato, and McIntosh (2014) found that there was a significant inverse relationship between fidelity and referrals. That is, as fidelity increased student behavioral referrals decreased. Further they found the degree of reduction of referrals was related to degree of fidelity and that intervention outcome and fidelity were related. Meaning, that referrals decreased in proportion to the increase in intervention fidelity.

The most basic assumption regarding interventions is that they are being implemented as planned or with high levels of fidelity (Gresham, 1989). Unfortunately, this assumption is not always supported with actual evidence of fidelity. Often treatment fidelity is assumed rather than actually and empirically demonstrated (Gresham, 1989). Failure to implement treatments with fidelity can lead to non-significant, erroneous, or unanticipated findings that are mistakenly attributed to the effectiveness of the treatment rather than the way it was delivered (Robbins, Pfeiffer, Maier, LaDrig, & Berg-Smith, 2011). Raudenbush, (2008) supports the Robbins et al. (2011) conclusion that intervention failure could be related to either program or implementation failure. Poor implementation or failure to achieve treatment fidelity has often been cited as a major factor underlying the failure of a treatment program to produce desired effects (Han & Weiss, 2005).

Contextual Factors Influencing Intervention Implementation

Research has made it clear that for an intervention to work it must be implemented with adequate fidelity. Sandler, Albin, Horner, & Yovanoff (2002) found that "contextual fit" may affect the fidelity with which an intervention is implemented. Contextual fit is defined as the magnitude to which an intervention matches the

“values, skills, resources, and administrative support” of the person implementing the intervention (O'Neill, Horner, Albin, Sprague, Storey, & Newton, 1997; Horner, 2000; Sandler, Albin, Homer, & Yovanorr, 2002). Further, it has been shown that improving the contextual fit of an intervention improves the fidelity of an intervention as well as the feasibility and acceptability of the program (Albin, Lucyshyn, Horner, & Flannery, 1996; Moes & Frea, 2000; Benazzi, Horner, & Good, 2006; Mildon, Wade, & Matthews, 2008).

Flannery, Fenning, McGarth Kato, and McIntosh (2014) provided additional support that contextual fit of standard practices is important for the fidelity and sustainability of an intervention. They also found that the outcome of an intervention is improved the more closely aligned an intervention is with its context. In a review of literature, Fixsen et al. (2005) identified a number of resources indicating that context matters when implementing interventions and that matching the intervention to the context or environment is a key to successful program implementation. In their review of school-based interventions, Elliot, Witt, Kratochwill, & Callan-Stoiber (2002) highlighted the impact of contextual fit on the effectiveness and fidelity of behavior supports.

It has become commonly accepted that a number of factors in students’ environments affect their educational outcome, and that student success is not solely tied to their abilities (Ysseldyke, McConnell, Peterson, & Odom, 2012). This principle also holds true for teachers. That is, there are a number of system level factors that influence a teacher’s implementation of interventions in addition to the teacher's own abilities. Thus, it is important to investigate not only teacher-level factors related to the

likelihood that teachers will maintain a high level of implementation fidelity but also district and school level factors that influence implementation fidelity (Han & Weiss, 2005).

In an article by Johns et. al. (2002), describing changes the IDEA had at that time recently made to the required components of IEPs, the authors cited a number of barriers to teacher implementation of IEPs. These barriers included teachers' lack of knowledge and skill for implementing elements of IEPs, lack of support from the school, a large number of students requiring services in their classroom, and assessment information that is inaccurate or inadequate. Further, teachers are also faced with large numbers of students in their classes, students from increasingly diverse backgrounds, lack of training, and inadequate supports to maintain students with special needs in their classrooms (Agran, Alper, & Wehmeyer, 2002).

Research has indicated that teachers need supports above and beyond just attending professional development sessions, but unfortunately little research has identified specific amounts, types of, or the qualities of supports that will facilitate effective service delivery (Domitrovich, Bradshaw, Poduska, Hoagwood, Buckley, Olin, Romanelli, Leaf, Greenberg, & Ialongo, 2008; Landsverk, Brown, Rolls, Palinkas, & Horwitz, 2011). That said, research does show that providing teachers with intervention supports, like coaching, helps teachers implement interventions more effectively, as well as helping them to feel increased self-efficacy (Forman, Olin, Hoagwood, Crowe, & Saka, 2009, Ransford, Greenberg, Domitrovich, Small, & Jacobson, 2009; Wenz-Gross & Upshur, 2012). Findings from the literature also have indicated that on-site consultation and mentoring increased teacher implementation of

interventions being conducted in their classroom (Noell, Witt, Gilbertson, Ranier, & Freeland, 1997; Mortenson & Witt, 1998; Noell, Duhon, Gatti, & Connell, 2002; Han, Catron, Weiss, & Marciel, 2005). These findings further indicated that students are more able to successfully cope with the general education curriculum when their teachers are aware of each student's IEP goals, plays a significant role in creating those goals, and provides the instruction that helps the student reach those goals (Beckham, 2001).

Teachers' opinions and instructional philosophy have also been found to influence fidelity levels (Durlak, 2010). A study by Azano et al. (2011) that included 1260 students across 10 states assessed the effectiveness of a language arts curriculum for gifted third-graders. The results demonstrated that teachers' beliefs and expectations about their capabilities and their students' capabilities, their beliefs about their own autonomy, and time needed for implementation of the intervention all influenced the teachers' level of implementation fidelity along with quality of service delivery. Further, Azano et al. (2011) found that student achievement test scores were correlated to teacher's level of fidelity

In research conducted by Cho (2010) that assessed the teaching of self-determination by teachers in elementary schools, the barriers most often cited were as follows: the student had greater instructional needs in other areas than the ones being serviced, the teacher lacked training and time, the teacher was not familiar with the materials needed for the programming, the teacher lacked the skills to conduct the intervention, student communication difficulties, and student disabilities. A literature review by Han & Weiss (2005) describing factors related to teachers' implementation

of interventions in schools, identified factors relating to the interventionist as well as the school. These factors included school principals supporting the program, teachers' belief in their abilities, and professional burnout. Additional factors were teachers' feelings regarding acceptability of the intervention, and whether they felt the intervention matched with and would benefit the student's behavior. Teachers' motivation to implement a program was also related to their beliefs in how effective the program would be.

Gresham (1989) looked at factors related to treatment integrity in school settings, and discussed a number of factors related to the intervention itself that could influence treatment implementation. These factors included treatment complexity, time and resources necessary to implement interventions, the number of interventionists required, perceived and actual treatment effectiveness, and interventionist motivation. Roach & Elliot (2008) found that a number of characteristics facilitated integrity related to the intervention and the interventionist. These characteristics include the acceptability of the intervention, the speed at which behaviors change under the influence of the intervention, the amount of training and education teachers received, interventionist motivation, student motivation, and student cooperation. They also described characteristics that decreased integrity including intervention complexity, amount of time and resources being required, interventionist resistance, diversity of students, familiarity of the interventionist with other interventions used for the same disorder, students displaying more difficult behaviors such as anger and hostility, severity of student difficulties, and duration of student difficulties.

Other investigators have identified factors related to the particular school a teacher works in. For example, school leadership that is knowledgeable and supportive of program implementation is instrumental in programming becoming a priority within schools. This is due to the amount of time, resources, incentives, and training the school is willing to contribute to the implementation of the program and the accountability that is expected. Specifically, Kam, Greenberg, and Walls (2003) reviewed information from an intervention study to determine which factors facilitated intervention success. Their analysis showed that both a supportive principal and high teacher fidelity to a program appear necessary for positive intervention effects. Previous research has also indicated lack of training, resources, time, competing instructional demands, and lack of support from administrators as barriers to intervention implementation by educators (Wehmeyer, Agran, & Hughes, 2000; Thoma et al., 2002; Karvonen, Test, Wood, Browder, & Algozzine, 2004).

A study by McIntosh et al. (2013) attempted to identify factors related to the sustainability of a School Wide Behavior Support (SWBS) program and their results yielded a variety of factors that influenced interventions. They focused on the priority given to the program by the school, commitment of the staff, support given by the school's administration, integrating the program into existing initiatives, perceived effectiveness, implementer skill and knowledge, the utilization of team-based approaches, the use of data to drive the program and evolve contextual fit, efficiency, and continuously building the capacity of implementers.

Overall, the study found the factors affecting the sustainability of school based practices, specifically for SWBS, were as follows. At the individual school level,

school priority (staff and administrative support, perceptions of effectiveness, efficiency, and importance to the school) and use of data (team skill level, regular meetings, organization, and use of data) were found to exert the most influence on sustainability. At the district level, however, were district priority (district resources provided to the initiative, district and state administrative support, visibility, and incorporation into district policy) and implementer capacity building (providing access to coaching and technical assistance, professional development, and association to the community of practice). In a study by Robinson, Bursuck, and Sinclair (2013) looking at the first year of RTI implementation in two rural schools in the southeast United States, it was found that sustaining implementation and fidelity of the program required effective ongoing professional development, fiscal and administrative support, recruitment and retention of highly qualified personnel, and use of scientifically-based instruction with continuous monitoring of student progress, funding and support for delivery of RTI.

Ensuring that all special needs students are able to access the general education curriculum not only requires teacher commitment, it also necessitates that districts support schools' efforts to advance teacher skills (Bachman, 2001). To enable teachers to meet the needs of exceptional children as described in new legislation, schools must determine ways to eradicate factors previously described as barriers to intervention fidelity. Techniques for improving implementation of IEP related instruction are clearly needed (Peck, Killen, & Baumgart, 1989).

Self-Assessment of Contextual Fit

To obtain a more complete picture of the contextual factors that affect teacher implementation of IEP related interventions, a questionnaire by Horner, Salentine, and Albin (2003), titled Self-Assessment of Contextual Fit in Schools, has been modified for use in this study. The original survey was created to assess contextual fit of behavior support plans teachers were implementing and the extent to which the elements were viable for teachers within a particular school environment. The teachers completed the survey based on a behavior support plan that they were implementing in their classroom.

The survey asked teachers to rate their knowledge of the elements within the behavior plan, how closely they believed the elements of the plan matched with their own values and skills, and how fully the school supported the implementation of the behavior plan. There are 16 items on the original questionnaire each of which is rated on a 6-point Likert-scale, from strongly disagree to strongly agree, for a maximum score of 96 total. The final score indicated the level of contextual fit for the behavior support plan, with16 points being the lowest level of fit and 96 being the greatest fit.

A study by Benazzi, Horner, and Roland (2006) used the survey to assess whether behavior support plans created by a behavior specialist alone, a behavior support team alone, or a support team with a specialist differed in technical adequacy and contextual fit. The study determined that plans rated highly on contextual fit were also the plans that team members indicated they most preferred for implementation. Since then other studies have utilized this survey to evaluate contextual fit of intervention plans (Todd, Campbell, Meyer, & Horner, 2008; Rodriguez, Loman, & Horner, 2009; Campbell & Anderson, 2011).

The modified version of this survey was used in this study to assess the factors teachers identify as influencing the implementation of IEP related intervention in their classroom. Questions focused on factors related to teacher skill level, their knowledge, resources available to them, and their beliefs regarding the intervention. Teachers were randomly assigned to one of two groups. In one group teachers were asked to complete the survey questions based on an IEP they are having difficulty implementing in their classroom. The other group were asked to answer the questions based on an IEP they were not having difficulty implementing. At the completion of the survey teachers were asked questions that helped the researcher to calculate the degree of fidelity with which the teacher was implementing this IEP. The study looked at the extent to which patterns can be identified in the way teachers in the randomly assigned groups and in the high fidelity group versus low fidelity group identify factors as facilitating or impeding IEP implementation.

Study Aims

This study explored whether there are significant differences in the survey scores between teachers assigned to the "difficult to implement group" and the teachers assigned to the "not difficult to implement" group. Contextual fit scores and group assignment were examined to determine if there is a significant relationship between them. It was hypothesized that contextual fit scores would be related to the implementation category, that there would be significant group differences in how each group rated contextual factors, and that survey scores would be lower for teachers in the difficult to implement group.

The present research also examined the extent to which there are group

differences in contextual variables, between teachers that are found to be implementing interventions with high fidelity or low fidelity. Contextual fit scores and fidelity scores were examined to determine if there is a significant relationship between them. Again, it was hypothesized that contextual fit scores would be related to the fidelity category, that there would be significant group differences, and that survey scores would be lower for teachers in the low fidelity group.

Further, answers to survey questions were analyzed to determine if there were differences in how teachers in each group rated the level of importance for each individual contextual factors. It was hypothesized that teachers in the "difficult to implement" group would find contextual factors less important than teachers in the "not difficult to implement" group. This analysis was repeated for the low fidelity verses high fidelity groups. Similarly, it was hypothesized that teachers in the low fidelity group would rate contextual factors as less important overall. Data were then examined to evaluate how teachers rated the importance of contextual factors that affect intervention implementation.

Finally, a secondary aim of the study was to assess the accuracy of the survey to further support the reliability of our data. We also analyzed qualitative data provided by participants to determine if there are factors consistently identified by general education teachers as affecting intervention implementation.

CHAPTER 2

METHOD

Participant Recruitment and Selection

Initially, superintendents of large school districts in each New England state were contacted to request permission to contact teachers in their schools. Once the superintendent agreed the contact emails were distributed to teachers through either the superintendent's administrative assistant or the individual school administrative assistants. There were two criteria for participation in the study. First, the individual had to be employed as an elementary school general education teacher in New England. In addition, the teacher also had to have students in their class for whom they were responsible for implementing IEP related interventions.

Teachers were excluded from the study if they did not meet these criteria. Of the teachers removed from the study, six were removed due to not being general education teachers; 52 participants were removed due to only filling out the demographic information requested and not answering any of the study questions. One participant was removed due to the page indicating her randomization category being missing from her completed packet when it was returned.

There were 150 public school teachers who participated in this study on a voluntary basis. Recruitment involved elementary schools throughout New England; though recruitment was wide spread the final sample consisted of 91 teachers from Connecticut, New Hampshire, and Rhode Island no teachers from any of the other

New England states offered to participate. A copy of the demographics survey questions can be located in Appendices A. In terms of population density, teachers in this sample worked in rural schools (n=27), suburban schools (n=54), urban schools (n=7). Three declined to provide information about their school environment.

Overall, data from 91 participants were collected and analyzed. Of these participants 44 of them were randomly assigned to the group of participants who answered questions based on an IEP intervention they were having trouble implementing and 47 answered questions based on an IEP intervention they were not having trouble implementing. Students are granted IEPs if they have a disability that is adversely impacting their academic performance and the disability falls into 1 of 13 disability categories. For example, one category is Other Health Impaired, which would encompass Attention Deficit/Hyperactivity Disorder. Another is an Autism category.

The teachers' ages ranged from 23 to 65 with the average age being 43 and a standard deviation of 8 years. There were 87 participants who identified themselves as Caucasian, 1 as "multiracial", 1 as "other," and 2 who declined to identify with a specific race or races. Ten of the participants identified as male, 79 as female, and 2 declined to provide their gender identification. The participants taught grades preschool through sixth grade with the majority of them teaching in grades 1 (n=15), 3 (n=20), 4 (n=15), and 5 (n=17). The number of years participants had been teaching ranged from 2 to 36 years with the median being 12 years. Education levels endorsed by teachers indicated that 26 held bachelors degrees, 42 held masters degrees, 20 held masters degrees plus 30 graduate hours, and 1 had earned a Ph.D. Table 1 below

shows demographic information by assigned category of participation and by gender and degree attained.

The majority of teachers in the study had taken at least one class in special education (n=75), some had never taken any special education classes (n=15), with one participant declining to answer the question. Less than half (n=42) of the teachers indicated they received at least 30 minutes of support per week from a special educator, though 5 teachers did not answer this question. Overall, the majority of teachers (n=72) had as few as two and as many as six students in their class who had qualified for special education.

Table 1

Demographics of Teacher Participants by IEP Category, Gender, and Degree Attained

	Difficulty Implementing		No Difficulty Implementing	
Degree Attained	Male (n)	Female (n)	Male (n)	Female (n)
Bachelors	2	6	3	15
Masters	3	19	1	19
Masters plus 30 cr	1	10	0	9
Doctorate of Philosophy	0	1	0	0
Total	6	36	4	43
	n=42		n=47	

Missing = Data for 2 participants in the Difficulty Implementing Group.

Variables Assessed

Demographic Variables - Teacher demographic variables were collected and

analyzed. These variables included grade level teaching, location of school (i.e., rural, urban, suburban), years of teaching experience, age, gender, race, how many hours a day a special education teacher is typically in their classroom, the number of students in their room with IEPs, if the teacher participated in the creation of the IEP, what type of degree they have, if they have received any training in special education or for working with IEPs, and what percentage of the IEP implementation is the teacher responsible for versus a special education teacher or other specialist.

A student demographic variable was also analyzed. This variable was the student's disability as categorized by the DSM-IV. For each student for whom teachers were completing the survey, teachers also were asked to list any/all of the disabilities with which the student had been diagnosed.

Instruments/Materials

Self-Assessment of Contextual Fit of Student IEPs for Individual Teachers.

The Self-Assessment of Contextual Fit of Student IEPs for Individual Teachers measure is a 20-item scale that assesses teachers' knowledge, skill, amount of resources provided to them, and support for implementation of interventions related to a student's Individual Education Plan. Each question contains two parts that are answered based on an actual IEP intervention the teacher is implementing in the classroom. The first part of the question asks that a teacher rate the question based on what they are actually experiencing in their school. The second part of the question asks teachers to identify how important they believed certain aspects of their school experience are in helping them implement an IEP intervention. The survey is completed utilizing a self-report format.

The teacher rates her/his current knowledge, skill, support received for, and the perceived effectiveness of the IEP intervention using a 6-point Likert scale for the first part of each question (see Appendix A). Total scores can range from 20 (low contextual fit) to 120 (high contextual fit). In addition, the participants were asked to rate how important they believed their knowledge, skill, support received for, and perceived effectiveness of the intervention was in implementing IEP interventions on a 5-point Likert scale for the second part of each question (see Appendix A). Total scores for these questions can range from 20 (not at all important) to 100 (not able to implement without it).

This scale was developed by modifying a scale developed by Horner, Salentine, and Albin (2003)—the *Self-Assessment of Contextual Fit in Schools* questionnaire (see Appendix A). The original survey was created to assess the extent to which the elements of a behavior support plan fit the contextual features of a school environment. Each question on that scale was examined individually by the principal investigator of this study, to determine how to incorporate it into the modified scale, based the most needed areas of support for the teacher. Questions were modified based on a review of the literature addressing variables that have been found to influence teacher ability to implement school based interventions with fidelity. The psychometric properties of this survey have not been evaluated to this point.

In the original form of the scale, a teacher is asked to complete the survey based on a behavior support plan they are implementing in their classroom. To complete the survey they rate their knowledge of the elements within the behavior plan, how closely they feel the elements of the plan match with their own values and

skills, and how fully the school supports the implementation of the behavior plan. There are 16 items on the original questionnaire, each of which is rated on a 6-point Likert-like scale from strongly disagree to strongly agree. All of the questions are related to evaluating a teacher's knowledge of the plan, skills for implementing the plan, the values related to the plan, resources available for implementing the plan, administrative support, feelings regarding the effectiveness of the plan and whether it is in the student's best interest, and whether the teacher believes implementation of the plan is efficient. The information gained from the survey is then used to design and/or adjust procedures that will help school personnel support children with problem behaviors. The modifications to the scale made for the present study are intended to help schools determine the contextual supports teachers need for implementing IEP related interventions and which supports teachers feel are most important to implementation.

Fidelity Measure. An implementation fidelity form was created for this study based on a paper by Gresham (1989) (Appendix A). This form provides a method for calculation of the level of fidelity with which teachers were able to implement the components of their student's IEP within a week of completing the form. The form was devised so that teachers listed the components of the IEP they were implementing in their classroom. They were then asked to indicate which days of the week they are supposed to implement the components of the IEP. Next, they were asked to indicate which days in the past week (not including sick days or vacation/snow days) they were actually able to administer the components. The researcher then added up the number of times per week teachers implemented the component and divided it by the number

of times they were expected to conduct that element. This number was used as their fidelity level. For example, if a teacher indicated that he or she was supposed to implement an intervention on Monday, Wednesday, and Friday of the previous week, but they were only able to implement it on Monday and Wednesday, this would represent a fidelity score of 0.67 or 67% (2/3). Similarly, if a teacher was supposed to implement an intervention every day of the week and was only able to implement the intervention on Monday through Thursday the fidelity score would be calculated to be 80% (4/5).

Follow-up interview. A standard interview format was also created for this study. See Appendix A for a copy of the Post Survey Interview Questionnaire format and questions. The format was intended to be used to assess the accuracy of the answers teachers gave on the contextual fit form and to further explore the factors teachers indicated had influenced their IEP implementation. The interview was designed to determine the resources that were/are available to teachers when in need of help implementing IEP related instruction and how useful those resources were to the teacher.

Procedures

Prior to data collection, the Self-Assessment of Contextual Fit of Students IEPs for Individual Teachers survey was subjected to pilot testing to determine face validity and clarity of the questions. Assessment of the measure was conducted by five public school teachers who offered to evaluate the survey, six graduate students in school psychology/education, and three University professors of psychology and education. Changes to the questions were made based on feedback from assessors and the survey

was reviewed one more time for clarity before being distributed.

Once pilot testing of the survey was completed and the study was reviewed and approved by the researchers universities Institutional Review Board, public schools in New England were identified for recruitment purposes by the principal investigator of this study. Superintendents of these school districts were contacted, provided with information about the study, and asked for permission to conduct this study in their schools. When permission was given, information about the study was sent to teachers within these school systems to ask that they participate in this study. Participants were contacted by the researcher either through school e-mail or in person. The purpose of the study was explained to the teachers and if they agreed to participate they were given the option to complete the study in person at their earliest convenience or electronically. Teachers provided informed consent before participating in this study.

Participating teachers were randomly assigned to one of two groups. One group was asked to answer survey questions based on an IEP related intervention they were having difficulties implementing with integrity in their classroom. The second group was asked to answer the survey questions based on the IEP related intervention they believed they were not having difficulty implementing with integrity. After filling out the survey, teachers were asked to complete a scale to allow for assessment of the level of fidelity with which they implemented the IEP they based their survey questions on. After completing the survey teachers were asked if they would consent to be contacted to further discuss the answers they had given to the survey and specifically to discuss in more detail those factors that they believe affect IEP related instruction implementation.

Originally, teachers who consented to voluntarily answer the Post Survey Interview Questionnaire were to be contacted within two weeks of completing their participation in the study. They would be offered the opportunity to complete the interview by phone or in person at their convenience. During the interview process the teachers would have been asked to indicate how accurate he/she felt their answers to each question was on a scale from 1-5, 1 being least accurate and five being the most. Teachers would then be asked open ended questions regarding what factors they believed influence the implementation of IEP related instruction. These questions were focused on the factors that the participants thought were most likely to influence skills, knowledge, resources, and effectiveness of IEPs.

Data Analysis

Survey accuracy and reliability. Data from the follow-up interviews was used to determine accuracy of the survey questions. However, because there were not enough participants who agreed to be contacted for the follow up interview and thus we were not able to collect sufficient data toward that end, it was decided to assess internal reliability instead. To evaluate internal reliability of the survey, Cronbach's Alpha was used.

Analysis of the relationship between contextual factors and intervention fidelity. For the analysis related to questions regarding contextual factors that affect intervention fidelity, descriptive statistics were computed to provide means, standard deviations, and skewedness and kurtosis for all variables. Because the results yielded high levels of skewedness and kurtosis, it was decided that the use of nonparametric statistics was more appropriate, specifically the Mann-Whitney U tests. These

analyses were carried out to determine if there were significant group differences in the levels of contextual fit (both from the overall score, the scores from each subsection, and individual question scores) between the randomized groups and between low fidelity and high fidelity groups based on the actual measure of intervention fidelity. Mann-Whitney U Tests were also utilized to determine if there were significant group differences in the level of importance teachers assigned to the effects of contextual factors on implementation fidelity.

Qualitative analysis. Finally, qualitative analysis was conducted on the information collected through an open-ended comment section on the survey. This analysis was conducted to determine what factors teachers identify as influencing contextual factors affecting IEP implementation. These analyses also explored what resources teachers may be able to use to help increase their IEP implementation and how useful teachers feel those resources are.

CHAPTER 3

FINDINGS

Before the study commenced, G power (Faul, Erdfelder, Lang, & Buchner, 2007) was used to determine the sample size necessary to achieve the required power for the analyses utilized in this study. The program determined that to observe large effect sizes the sample should consist of at least 90 participants. Although initially data were collected from 150 participants, it was the data from 91 participants that met the necessary requirements to be retained and analyzed for the study. After data collection was completed, data were evaluated and cleaned. It was found that 17 participants had missing data (86 data points 1.8% of the overall data). Missing data were completed using mean values. Data cleaning looked for variables containing values falling outside of the possible answer ranges. None were found.

Next, data were evaluated to determine if all study questions could be answered thoroughly using existing variables. It was decided that to answer the study questions fully several new variables should be created for analysis. To gain a more complete understanding of the pattern of differences in contextual fit scores between groups, subcategory variables were included. These variables were composed of the sum of the responses to the survey questions asked within each contextual category (e.g., knowledge, skill, resource, and belief). Two different sets of variables were created for each subcategory for a total of 8 new variables. For example, a new variable representing total knowledge consisted of the sum of the scores for the first

part of questions 1-5 as these were the survey questions related to knowledge.

Each of the new subcategory variables was composed of either the sum of scores from the first question of each question pair in the subset or the sum of the scores from second question of each question pair in each subset. This differentiation was made due to the fact that each survey question asked two different types of questions: questions regarding level of contextual factors available to general education teachers implementing IEPs (the first part of each question, 1-20) and questions asking which factors the participants believed are important for implementation (the second part of each question, 1-20). For example, the first part of question one on the survey asks teachers to rate how strongly they agree with the statement, "I am aware of the elements of this individual education plan". The second part of question one asks teachers to rate how important do you feel this aspect is to your abilities to implement a student's IEP? Therefore analyses were run on both sets of variables separately as these variables are evaluating different questions.

A final set of variables was created to look at the total scores for availability of contextual factors and importance of factors. The first variable, created to assess the overall availability of contextual factors, consisted of the sum of the scores from the first half all of the questions in the survey. The second variable, created to analyze the overall importance teachers placed on contextual factors, consisted of the sum of the second half of each question on the survey.

Descriptive Analyses

Descriptive analyses were used to examine all demographic variables, survey questions, subscale totals, and overall survey totals. Tables 3 and 4 show data from

each group (i.e., variables related to availability of contextual factors and importance of factors as reported by teachers) of survey questions. As there are a large number of variables within these tables, Table 2 has been provided to assist in identifying the information connected to each of the variables related to availability of contextual fit.

Table 2

Descriptions of Each Variable Related to the Availability of Contextual Factors

Variable Name in SPSS	Survey Question Corresponding to Variable Name
AwareElem	Am aware of the elements of the plan.
KnowExpected	Know what is expected of me to implement IEP.
RespClear	My responsibilities for implementing IEP have been clarified.
EasyUnderst	This IEP is easy to understand.
AwarePlan	Was made aware the IEP existed when I received the student.
SkillsNeeded	Have skills needed to implement IEP.
RecTraining	Received training to implement IEP.
ComfImp	Comfortable implementing elements of IEP.
NotStressful	Implementing plan is not stressful to me.
Contracttime	School provides contractual time to implement IEP.
ProvideRes	School provides resources needed to implement IEP.
Supervision	School provides supervision/support to implement IEP.
AdminComm	Administration is committed to invested resources into design and implementation of IEP.
ResourceReas	Amount of resources needed to implement IEP is reasonable relative to effectiveness of IEP.
EasyAccess	IEP is easily accessible to teacher.
EffectiveIEP	Believe IEP will be effective.
PreventOccur	Believe IEP will prevent future reoccurrences of student's difficulties.
Consist	Elements of IEP are consistent with how I believe student should be worked with.
BestInterest	Believe IEP is in best interest of student.
AssistSuc	IEP is likely to assist student success.

Table 3

Descriptive Data for Survey Questions Assessing Contextual Factors Available to Teachers

Implementing	Difficulty Implementing n=44		No Difficulty n=47	
	M	SD	M	SD
AwareElem	5.18	1.206	5.32	1.163
KnowExpected	5.34	0.645	5.38	1.054
RespClear	4.34	1.842	4.43	1.514
EasyUnderst	5.00	1.100	5.23	0.758
AwarePlan	5.33	1.156	5.58	0.866
SkillsNeeded	5.27	1.065	5.57	0.617
RecTraining	4.17	1.656	4.32	1.476
ComfImp	4.91	1.344	5.09	1.039
NotStressful	4.05	1.493	4.66	1.290
Contracttime	4.09	1.395	4.38	1.512
ProvideRes	4.07	1.546	4.47	1.158
Supervision	4.19	1.206	4.49	1.397
AdminComm	4.44	1.277	4.6	1.155
ResourceReas	4.88	0.894	4.94	1.009
EasyAccess	5.44	1.058	5.64	0.640
EffectiveIEP	4.93	0.818	5.17	0.842
PreventOccur	4.37	1.398	4.64	1.276
Consist	5.00	1.121	5.09	1.039
BestInterest	5.14	0.954	5.34	0.939
AssistSuc	5.07	0.974	5.38	0.922

Table 4

Descriptive Data for Survey Questions Assessing Contextual Factors Teachers Feel are Important for IEP Implementation

Implementing	Difficulty Implementing n=44		No Difficulty n=47	
	M	SD	M	SD
ImpAware	4.20	0.632	4.15	0.691
ImpKnow	4.23	0.605	4.24	0.597
ImpResp	3.95	0.806	3.91	0.717
ImpEasy	4.14	0.510	4.21	0.508
ImpPlan	4.26	0.573	4.52	0.500
ImpSkill	4.09	0.520	4.3	0.548
ImpRec	3.88	0.784	4.09	0.620
ImpComf	4.11	0.579	4.13	0.575
ImpNot	3.75	0.811	3.96	0.464
ImpContract	3.98	0.549	4.04	0.464
ImpProvide	4.00	0.431	4.09	0.408
ImpSuper	2.89	0.387	2.94	0.247
ImpComm	4.02	0.340	4.04	0.415
ImpResource	4.02	0.403	4.06	0.323
ImpEasy	4.29	0.692	4.27	0.485
ImpEffective	4.00	0.647	4.15	0.551
ImpPrevent	3.90	0.563	3.98	0.489
ImpConsist	4.10	0.520	4.09	0.408
ImpBest	4.14	0.407	4.21	0.463
ImpAssist	4.07	0.545	4.2	0.448

Analysis to determine whether data met the assumptions for normalcy revealed the skewedness and kurtosis for many of the variables were outside of acceptable

limits (i.e., skewedness was greater than the absolute value of 1 and kurtosis was great than the absolute value of 2) (Harlow, 2005). The skewedness of 26 out of 53 of the variables fell outside of acceptable limits: AwareElem, KnowExpected, ImpResp, EasyUnderst, AwarePlan, SkillsNeeded, ImpRec, ComfImp, Skill, Contracttime, ImpContract, ProvideRes, ImpProvide, Supervision, AdminComm, ResourceReas, EasyAccess, Resource, EffectiveIEP, PreventOccur, ImpPrevent, Consist.Belief, BestInterest, AssistSuc, Belief, Total. The Kurtosis of 27 of the 53 variables fell outside of the acceptable limits: AwareElem, KnowExpected, ImpResp, EasyUnderst, AwarePlan, SkillsNeeded, ImpSkill, ImpRec, ComfImp, ImpNot, Skillfeelimp, ImpContract, ImpProvide, ImpComm, ResourceReas, ImpResource, EasyAccess, Resfeelimp, EffectiveIEP, ImpEffective, ImpPrevent, Consist.Belief, ImpConsist, BestInterest, AssistSuc, Belief, Belfeelimp. In all a total of 35 out of 53 variables were outside of the acceptable limits for skewedness or kurtosis.

Reliability of Assessment

To evaluate the reliability of the survey used to gather these data internal consistency analysis was conducted. A Cronbach's Alpha cut off of .7 was used as suggested by DeVellis (2003). As was mentioned previously, this survey has two distinctly different sets of questions, one assessing the contextual features teachers actually have available to them in schools and one set assessing what contextual factors teachers perceive to be important to have available for support. Thus, an analysis was run on each set of questions separately. The questions asking about what teachers are actually experiencing show very good internal consistency, with a Cronbach Alpha coefficient of .911. The second set of questions asking for the factors

teachers feel are important for implementation also shows good internal consistency, with a Cronbach alpha score of .922. Table 5 and Table 6 show the Cronbach's alpha scores for both sets of the survey questions.

Table 5

Internal Reliability for Survey Questions Related to Contextual Factors Available to Teachers

	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Aware Elem	195.924	.287	.913
Know Expected	195.622	.424	.910
Resp Clear	177.925	.584	.907
Easy Underst	186.046	.773	.903
Aware Plan	196.980	.306	.912
Skills Needed	193.458	.518	.908
Rec Training	178.510	.620	.906
Comf Imp	182.939	.695	.904
Not Stressful	182.402	.584	.907
Contract time	180.314	.623	.905
Provide Res	182.760	.599	.906
Supervision	181.204	.677	.904
Admin Comm	183.695	.658	.904
Resource Reas	191.067	.564	.907
Easy Access	202.215	.154	.915
Effective IEP	191.129	.648	.906
Prevent Occur	184.867	.554	.907

Consist. Belief	185.687	.681	.904
Best Interest	187.980	.690	.905
Assist Suc	189.030	.641	.906

Table 6

Internal Reliability for Survey Questions Related to Contextual Factors Teachers Feel are Important for IEP Implementation

	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Imp Aware	42.723	.523	.920
Imp Know	42.451	.625	.917
Imp Resp	42.321	.485	.922
Imp Easy	43.010	.661	.916
Imp Plan	42.740	.645	.917
Imp Skill	42.545	.683	.916
Imp Rec	42.212	.540	.920
Imp Comf	42.065	.709	.915
Imp Not	42.985	.492	.921
Imp Contract	43.201	.634	.917
Imp Provide	43.483	.726	.916
Imp Super	45.601	.453	.921
Imp Comm	44.932	.511	.920
Imp Resource	44.999	.523	.920
Imp Easy	43.051	.551	.919
Imp Effective	41.908	.695	.915
Imp Prevent	42.586	.703	.915
Imp Consist	43.358	.673	.916

Imp Best	44.386	.533	.919
Imp Assist	43.459	.603	.918

Reliability analyses were also conducted on the subscales and total scales of this survey. A Cronbach Alpha coefficient of .825 was attained for the subscales looking at overall scores for Knowledge, Skill, Resources, Belief, and Total score. The reliability of the subscales and total scale for the questions related to what teachers reported was important for intervention implementation also attained a Cronbach Alpha score of .825. Results from both analyses are shown in table 7.

Table 7

Internal Reliability for Survey Question Subscales Related to Contextual Factors Available to Teachers and Factors Teachers Report are Important for IEP Implementation

	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Knowledge	664.852	.765	.797
Skill	649.802	.810	.787
Resource	597.492	.803	.765
Belief	644.354	.757	.789
Total	206.777	1.000	.852
Knowfeelimp	150.711	.759	.780
Skillfeelimp	157.567	.804	.789
Resfeelimp	154.421	.804	.783
Belfeelimp	155.409	.777	.786
Totalfeelimp	49.761	.998	.858

Group Differences

After data were cleaned and evaluated it was determined, due to much of the data not meeting the assumptions for t-tests, that nonparametric statistics would be appropriate for use in analyzing the data. Specifically, Mann-Whitney U tests were used to evaluate if there were significant group differences in responses to the contextual fit survey questions. Survey data were analyzed in two different ways, one analysis evaluated the data utilizing the randomized groups (difficult/not difficult) as the independent variable and the second analysis was completed utilizing a high fidelity group (90% or more fidelity of implementation) and low fidelity group (89% or less). The fidelity groups were formed based on self reported information. Along with analyzing group differences in data effect sizes were evaluated. To evaluate effect size, standards set by Cohen (1988) were followed. According to Cohen an effect size of .1 should be considered a small effect size, .3 is considered a medium effect size, and .5 should be considered a large effect size when utilizing the Mann-Whitney U test to analyze study data.

The randomized study sample size is small, however, it meets the necessary power for the analyses conducted. The total sample size for the high (n = 32) and low fidelity (n = 16) groups however is 48 in total, see Table 8 for description. This must be taken into consideration when evaluating and discussing the data for these groups. A Chi-square test for independence (with the Yatest Continuity Correction applied) indicated no significant association between the difficulty groups and the fidelity groups $\chi 2(1, n=48)=.86$, $p=.36$, with a small effect size phi=.178. The pattern of the

crosstabs was not surprising as it followed the pattern one would expect. That is, as IEPs are legal documents that must be followed as written, the number of participants in the high fidelity group would be expected to be greater than the number of teachers in the low fidelity group. Also, it would be expected that more teachers from the difficult to implement group would also be members of the low fidelity group due to the fact that they are having difficulty implementing the intervention. This indeed is what is seen in Table 8.

Table 8

Crosstabulations for Participants in the Difficult and Not Difficult to Implement Group and High and Low Fidelity Groups

	High Fidelity	Low fidelity	Total
Difficult	16	11	27
Not Difficult	16	5	21
Total	32	16	48

Group Differences for Contextual Factors Available

Difficult to implement group versus not difficult Group. First, analysis was conducted on the difficult/not difficult groups to determine whether there were group differences in how participants answered survey questions related to contextual factors available to them in school. Mann-Whitney U test results revealed significant group differences in ratings for the survey question asking if the IEP plan was not stressful to implement U=774.5, z=-2.137, p=.033, r=.22. Results indicated the IEP was significantly more stressful to implement for participants in the difficult to implement group (Md 4, n=44) as compared to the not difficult group (Md 5, n=47).

Responses to the question of whether the student's IEP plan will assist the

student in being successful in school approached significance U=821.5, z=-1.832, p=.067, r=.19. Results indicated teachers in the difficult to implement group (Md 5, n=44) held the opinion that the plan assisted students to a lesser extent as compared with the ratings of the teachers in the not difficult to implement group (Md 6, n=47). No other responses to survey questions were found to be significantly different based on group assignment. Figure 1 shows the difference in grouped responses to stress level of implementing their students' IEPs.

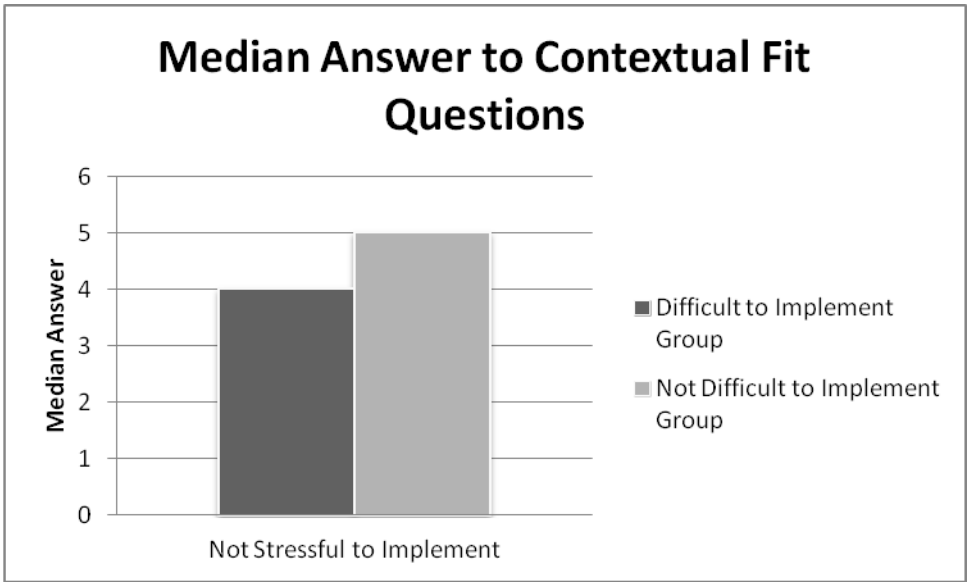

Figure 1. Group differences in responses to stress level of implementation of IEP causes.

High fidelity group versus low fidelity group. Next, analysis was conducted on the high and low fidelity groups to determine whether there were group differences in how participants answered survey questions related to contextual factors available to them in school. The Mann-Whitney U test revealed significant differences in the way responses were dispersed based on the number of special education classes

teachers had taken U=108.0, z=-1.978, p=.048, r=.32, with teachers in the high fidelity group (Md 5, n=24) having taken significantly more special education classes than those in the low fidelity group (Md 2.5, n=14). Significant differences also were found for a categorical variable indicating the number of children with IEPs in the teachers classroom U=163.5, z=-2.112, p=.035, r=.30. Teachers in the high fidelity group (Md 2, n=32) had significantly fewer students in their class with IEPs than teachers in the low fidelity group (Md 3, n=16). Further significant differences were found in responses to whether teachers believed they had the skills needed to implement the IEP U=174.0, z=-2.031, p=.042, r=.29. Teachers in the high fidelity group showed significantly higher levels of confidence in their skill level in implementing the IEP (Md 6, n=32) than teachers in the low fidelity group (Md 5, n=16). Significant differences were also found in teachers' overall skill level according to the totals in the skill subcategory U=157.0, z=-2.179, p=.029, r=.31. Teachers in the high fidelity group had significantly greater scores (Md 20, n=32) than did teachers in the low fidelity group (Md 18, n=18). Finally, a significant difference was found on the question that inquired whether implementing the IEP was stressful to the teacher U=155.0, z=-2.302, p=.021, r=.33. Ratings indicated teachers in the high fidelity group (Md 5, n=32) held the opinion that implementation was significantly less stressful than teachers in the low fidelity group (Md 4, n=16). No other responses to survey questions were found to be significantly different by group. Figure 2 shows the differences in the responses to the significant individual survey questions and Figure 3 shows the differences in total skill level category.

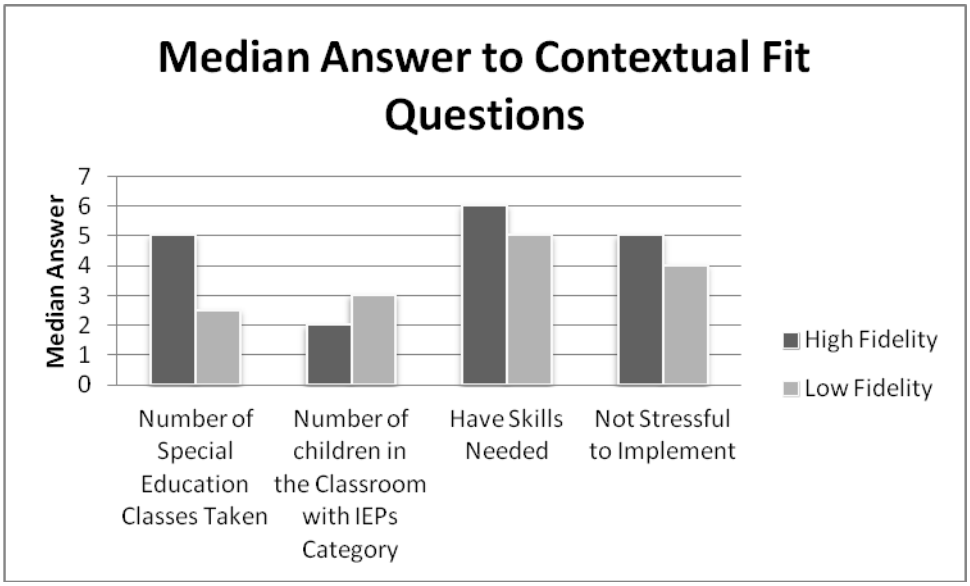

Figure 2. Group differences in responses to individual survey questions.

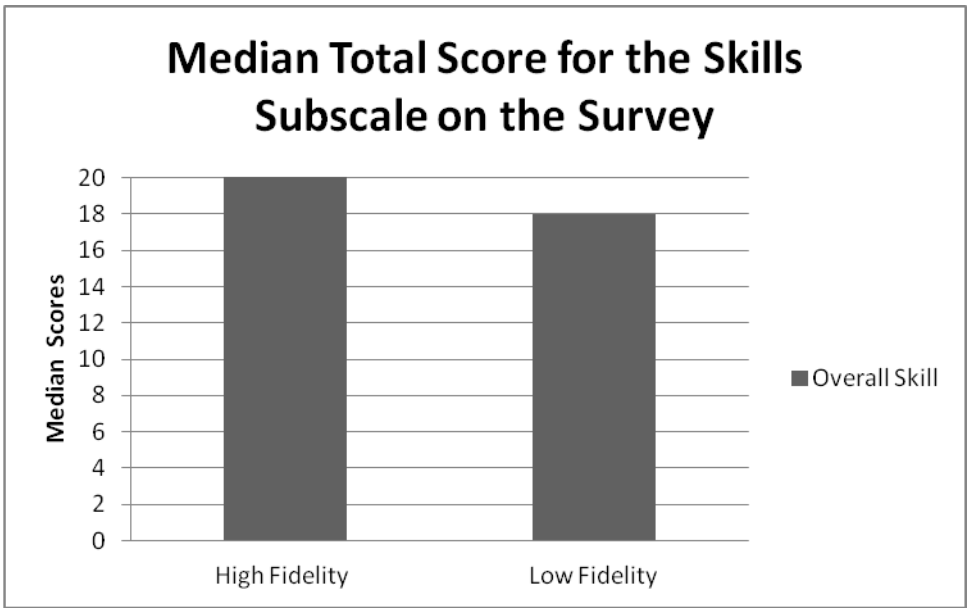

Figure 3. Group differences in responses to the skill level subcategory.

Group Differences for Contextual Factors Teachers Reported were Important:

Difficult to implement group versus not difficult Group. Next, analysis was carried out on the difficult/not difficult groups to determine whether there were group differences in how participants answered survey questions related to contextual factors teachers reported were important to the implementation of IEP related interventions. A Mann-Whitney U test revealed significant differences in responses regarding the importance of being made aware that the student's IEP existed when the student entered the teacher's class U=809.0, z=-2.011, p=.044, r=.21. Teachers in the difficult to implement group (Md 4, n=44) felt it was less important to be made aware of the plan than teachers in the not difficult to implement group (Md 5, n=47). No other responses to survey questions were found to be significantly different. Figure 4 shows the difference in responses to a teacher's feelings on the importance of being made aware that a student's IEP exists.

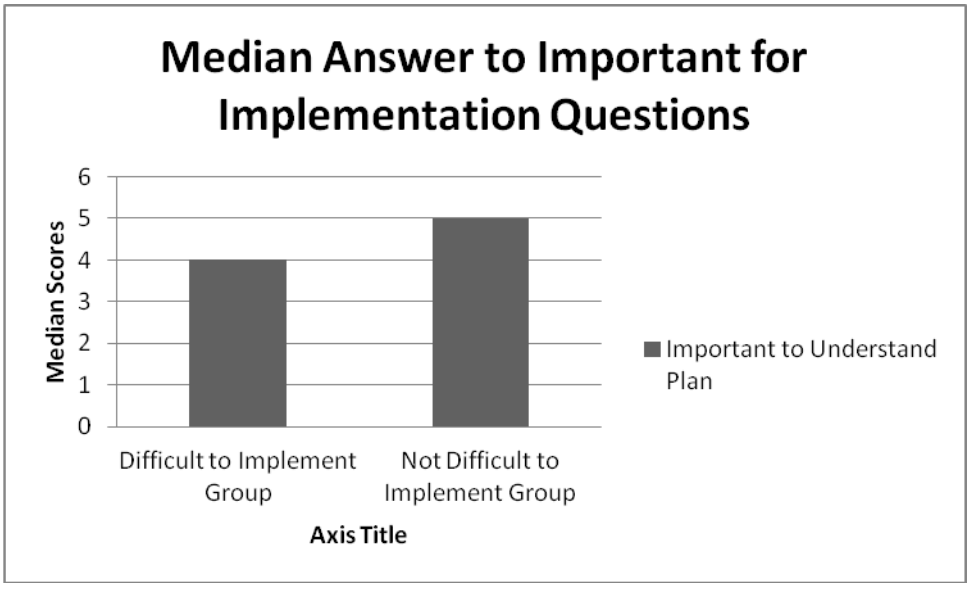

Figure 4. Group differences in responses to importance of being made aware of students' IEPs.

High fidelity group versus low fidelity group. The next analysis examined the high fidelity and low fidelity groups to determine whether there were group differences in how participants answered survey questions related to contextual factors teachers reported were important to the implementation of IEP related interventions. Results of a Mann-Whitney U test revealed no significant differences in the way responses were dispersed.

Ranking of Important Factors

Descriptive analyses were completed to determine the rank order in which teachers believed each contextual factor was important to the implementation of IEP related interventions. Due to the dearth of significant differences found in group responses to what contextual factors teachers perceived were important for intervention implementation, it was decided to evaluate the data as a whole rather than by group. As there was a significant difference in the responses to the question asking the importance of being made aware of the existence of a student's IEP, that variable's mean was looked at by group to determine if its rank order would change depending on group mean. Utilizing the lower of the group mean scores for this variable (M=4.26) would have ranked it the second most important factor rather than being the first. The top three most important contextual factors identified by teachers as affecting the implementation of IEP related interventions were: 1) being made aware a student's IEP exists, 2) the IEP being easily accessible to the teacher, and 3) the teacher knowing what is expected of them regarding implementing the IEP.

Descriptive analyses were also completed to determine the rank ordering of the mean scores for the subcategories of contextual factors. Again, the subcategory means

were evaluated as a whole rather than by group assignment. Analysis showed the mean for the subcategory indicating the importance of resources ranked most highly followed by the means for the subcategories related to the importance of knowledge, belief, and finally skill. Table 9 contains information pertaining to the order of contextual factors teachers found to be important based on mean responses for teachers. Table 10 contains similar information on the order of the subcategory rankings.

Table 9

Rank Ordering of Important Contextual Factors

Questions ranked by Importance to teachers	Mean
1. Made aware IEP existed.	4.40
2. IEP easily accessible to me.	4.28
3. Know what is expected of me.	4.23
4. Have the skills needed to implement IEP.	4.20
5. Am aware of the elements of the plan.	4.18
5. Plan is easy to understand.	4.18
5. Plan is in child's best interest.	4.18
8. Plan will assist child to be successful in school.	4.14
9. Am comfortable implementing the elements of the IEP.	4.12
10. Plan is consistent with my beliefs.	4.09
11. Believe plan will be effective.	4.08
12. School provides resources needed to implement.	4.04
12. Amount of resources needed to implement is comparable to plan.	4.04
14. Administration committed to investing in resources to facilitate implementation.	4.03
15. Provided contractual time to implement IEP.	4.01
16. Received training to implement the IEP.	3.99
17. Believe plan will prevent future problems for student.	3.94
18. My responsibilities have been clarified and questions answered.	3.93
19. Level of stressfulness to implement.	3.86
20. Provided supervision around implementation.	2.91

Table 10

Ranking of Subcategories of Contextual Factors of Importance for Intervention Implementation

Ranking of overall category of importance by teachers	Mean
1. Resources overall	24.41
2. Knowledge overall	20.92
3. Matching Belief overall	20.43
4. Skill overall	16.16

Qualitative Data

Originally, qualitative analysis was to be conducted on follow-up questions that would have been asked of teachers who volunteered to speak further with the principal investigator about factors they believed affected intervention fidelity. It was hoped that enough teachers would consent to be contacted so that ten teachers from each fidelity group could be randomly selected for this process. However, only 3 teachers agreed to speak with the investigator further and thus a random selection process was not possible. Of the three teachers who offered to speak with the researcher at follow up, all three came from the group assigned to answer questions based on an intervention they were not having difficulty implementing and were also in the high fidelity group (teachers identified as implementing their IEP related intervention with at least 90% fidelity). Therefore, qualitative information was collected and evaluated based only on the last question on the survey.

The final question was an open ended question allowing teachers to respond to

the following question: “If you feel there are other factors that were not asked about in this questionnaire that influence a teacher’s ability to follow a student’s IEP please let us know.” In total, 24 participants responded to this question. Of these 24 participants 11 were from the group randomly assigned to answer the survey based on an IEP they were having difficulty implementing and 13 were from the group assigned to answer questions based on an IEP they were not having difficulty implement. The responses from those two groups were further analyzed based on their fidelity group membership. Table 11 shows the number of participants in each group.

Table 11

Group Membership of Participants Used in Qualitative Analysis

	Difficulty	No difficulty	Total
Fidelity	4	7	11
Not Fidelity	5	2	7
Missing	2	4	6
Total	11	13	24

Difficult to Implement Group. Qualitative analysis found that the responses to this survey question from participants in the difficult-to-implement group represented three overarching themes. Specifically, teachers reported their ability to implement IEP related interventions were affected by:

1. Whether they receive support and collaboration from a special education teacher and administration (6 out of 11 teachers).

2. When the teacher and paraprofessional receive or had received training to implement the IEP interventions (2 out of 11).
3. When the IEP goals/expectations were appropriate for the students skill level (2 out of 11).

There were no other comments or factors that were repeated by teachers within this group.

That said, along with the themes delineated above, there were other factors identified that are discussed here and broken out by fidelity group. Responses from participants in the difficult-to-implement group, who also fell in the high fidelity group, believed or reported having support from professionals and assistants and that communication with the special education teacher is important to implementing the IEP. They also reported that collaboration and working as a team with these professionals is important.

Participants from the difficult to implement group, who fell in the low fidelity group, responded similarly to the high fidelity group but in a more negative manner. They reported they were lacking in teacher assistant support and they would be more successful with added support. They also reported the perception that sometimes support services were provided to students based on availability of service personnel rather than student need and that this generally resulted in decreased effectiveness of a student's IEP plan. They further expressed the opinion that there is an adverse impact when a student's IEP goals do not match a student's skill level. The need for collaboration between general education teacher, special educator, and administration was highlighted along with the need for consistency in service delivery. The last

comments from this group included that revisions to IEPs did not happen as often as needed, that there is a lack of training around IEP implementation, and that resources can be slow to reach teachers.

Finally, there were a few participants in the difficult to implement group who did not answer the questions that helped identify which fidelity group they fell into. These teachers identified that it is helpful for teachers to receive special education training to increase their abilities to implement IEP interventions. They also felt it is important for teachers to have special educator support and paraprofessional support. The benefit of being involved in and having input into the creation of the IEP goals was expressed as well as having goals that match student skill level and that are individualized. Finally, the importance of having access to special education files and the actual IEP were discussed.

Not difficult to implement group. Qualitative analysis of the responses to the survey question from participants in the not difficult to implement group also showed 3 overarching themes. Teachers in this group report their ability to implement IEP related interventions were affected by:

1. Support and collaboration with special education teachers and paraprofessionals (7 out of 13).
2. Services being delivered as outlined in the IEP (4 out of 13).
3. The number of students in a class and being serviced by one person (2 out of 13).

No other repeating themes were identified within the data.

That said, along with those themes, there were other factors identified that are discussed here as influencing intervention implementation and are broken out by fidelity group. Responses from participants in the not difficult to implement group, who also fell in the high fidelity group, indicated that the importance of time for the general education teacher to collaborate with special education teachers and specialists regarding the IEP was a commonly-held opinion. They also highlighted the importance of the collaboration itself between the special education teacher and the general education teacher. Along with support from the special education teacher, support from administration and the district was also discussed as being important. The teacher's skill level and experience are also indicated as being important to intervention implementation. Time was noted as a factor affecting implementation and concerns regarding the number of students being serviced by one person and groups being too large were expressed. The benefit of monthly meetings to discuss students as well as reviewing IEPs were noted along with the importance of case managers being as knowledgeable about students IEPs as special education teachers was also expressed.

There were only a couple of participants from the not difficult to implement group who were in the low fidelity group. One response expressed the importance of everyone listed on the IEP actually delivering services as outlined in the plan. The other participant discussed the difficulty in following the IEP as outlined with a student being in a half-day program.

Finally, there were several participants in the not difficult to implement group who did not answer the questions that helped identify which fidelity group they

belonged to. These teachers identified the students' own behaviors as affecting IEP implementation. They also discussed the importance of specialists delivering services as outlined. They noted the need for support and access to special education teachers in the classrooms, if possible throughout the day. The importance of collaboration between the special education teacher and the general education teacher when creating the IEP was noted. Finally, class size was identified as an issue hindering intervention implementation.

CHAPTER 4

Discussion

The aim of this study was to examine differences in the availability of various contextual factors, as well as their importance to elementary school general education teachers implementing IEP related interventions. Specifically, the research sought to determine if there were identifiable differences in contextual factors present for teachers who were having difficulty implementing IEP related interventions as compared to teachers who were not having difficulty implementing these interventions. Also studied was the accessibility of these factors for teachers who were implementing IEP interventions with high fidelity versus low fidelity. Differences in how each teacher group viewed the importance of specific contextual factors in helping to facilitate the implementation of IEP required interventions were also evaluated. A further aim of the paper was to determine the reliability of the contextual factors survey created for this study. Finally, qualitative information offered by teachers was examined to determine what factors teachers identified as influencing IEP related intervention implementation.

Recall that participants were randomly assigned to one of two groups. One group of teachers completed the Self-Assessment of Contextual Fit of Students IEPs for Individual Teachers surveybased on an IEP related intervention they were having difficulty implementing (n = 44). The second group answered questions based on an intervention they were not having difficulty implementing (n = 47). Group differences

in these answers and in demographic information were assessed using nonparametric analyses.

Although the original version of this survey has been used in past studies, apparently it has been used in the absence of established psychometric properties. Due to this lack of information and the fact that the survey was modified for this study, internal reliability of the survey was evaluated using Cronbach's Alpha. Finally, qualitative information was reviewed to determine the most common factors identified by teachers as being important to IEP intervention implementation.

Survey reliability

It was hypothesized that the Self-Assessment of Contextual Fit of Students IEPs for Individual Teachers survey (see Appendix A) would have good internal reliability. Analysis using Cronbach alpha showed very good internal consistency (.911) for the questions asking teachers' to rate how available certain contextual factors were to them. The second set of questions on the survey pertaining to what factors teachers reported as important for implementation also showed good internal consistency, with a Cronbach alpha score of .922. Further a Cronbach Alpha coefficient of .825 was attained for the subscales looking at overall scores for Knowledge, Skill, Resources, Belief, and Total score both for the questions evaluating presence of factors and importance of factors to teachers.

These results were not surprising since, as mentioned previously, the survey was originally created by Horner, Salentine, & Albin (2003) to evaluate the extent to which the elements of a behavior support plan aligned with the presence of contextual factors in school environments and therefore closely relates to the focus of present

study. Further, the survey questions for this study were either retained from the original survey or modified based on existing literature evaluating factors found to be related to intervention implementation (Agran, Alper, Wehmeyer, 2002; Johns et. al., 2002; Han & Weiss, 2005; Roach & Elliot, 2008; Durlak, 2010; Cho, 2010; Azano et. al., 2011; Mcintosh et. al., 2013; Robinson, Bursuck, and Sinclair, 2013). The Self-Assessment of Contextual Fit of Students IEPs for Individual Teachers survey had also been piloted or evaluated by teachers and university professors and students for clarity and acceptability before being used for research purposes, in order to evaluate the face validity of the survey. All of these steps were taken to help ensure a sound measure for the study.

In conclusion this measure showed excellent internal consistency for the questions of accessibility and importance of contextual factors related to intervention fidelity. It also shows good internal consistency for the variables related to Knowledge, Skill, Resources, Belief, and Total survey scores. That ratings of excellent and good are based on suggestions from DeVellis (2003) and George & Mallery (2003) indicating a Cronbach's Alpha cut off of .7 to .8 is acceptable, .8 to .9 is good, and .9 is excellent. This analysis gives the research greater confidence in the reliability of the survey and data collected by it.

Contextual factors correlated with intervention fidelity

The first hypothesis of this study posited there would be detectable group differences in the teachers' survey question answers. It was predicted that teachers who were experiencing difficulty implementing IEP interventions would have lower contextual fit scores on individual survey questions as well as for overall categories of

skill, knowledge, resources, beliefs, and total context as compared with teachers not experiencing implementation difficulties. However, correlational analysis utilizing Mann-Whitney U tests showed significant between-group differences for only one of the twenty survey questions and none of the subcategory scores. The one significant difference showed in a question asking teachers on a scale from 1 to 6, 1 being strongly disagree and 6 being strongly agree, if the IEP plan was not stressful to implement. Results indicated the IEP was significantly more stressful to implement for participants in the difficult to implement group as compared to the not difficult group.

These results did not support the hypothesis that there would be numerous differences between the two groups. Lack of significance may be due to the criterion for group assignment or the manner in which participants were grouped. For example, the researcher did not define "difficult to implement" and allowed each teacher to decide the meaning of "difficult to implement". Further, difficult to implement is not synonymous with implementation fidelity. Rather, it simply is an indicator of teacher perception of the challenge inherent in implementing an IEP intervention. That is to say teachers in the difficult to implement group may not have actually been administering the intervention with low fidelity.

It makes intuitive sense that perceived stressfulness of the implementation of an intervention would be strongly related to difficulties with program implementation as factors that pose difficulties for teachers are likely perceived as stressful and vice versa. That is, teachers who were having difficulty implementing IEP components would likely find the intervention stressful to implement by the very fact that they were having a difficult time implementing the intervention. Also, the fact that there

was not a correlation between group assignment and fidelity category could be interpreted as supporting the possibility that what was actually measured with this particular analysis was the stressfulness of the implementation rather than the fidelity of implementation. Several other factors may have further contributed to the lack of significant findings. These factors are discussed after the next set of findings as they likely influenced both sets of results.

Though the findings do not support the hypothesis that there would be group differences in the pattern of contextual factors as a function of intervention difficulty, the one significant result relating to implementation stress seems useful. Understanding the effects that the level of stressfulness of an intervention has on teachers' is important due to more and more teachers being asked to implement interventions. It highlights the importance of having teachers involved in, if not playing a critical role in, the creation of the IEP interventions they will be implementing. It also further illuminates the need to support teachers who are implementing these interventions through developing their skills and offering them personnel support such as special educators or coaches to further help decrease their stress level (Han, Catron, Weiss, & Marciel, 2005; Forman et. al., 2009, Ransford, et. al., 2009, Wenz-Gross & Upshur, 2012), and presumably increase implementation fidelity. Finally, this finding is not surprising as previous research has found and supports this correlation (Roach & Elliot, 2008).

The next hypothesis posited that there would be significant differences on individual and overall contextual fit scores for participants in a high fidelity versus low fidelity group. Again, it was predicted that teachers in the low fidelity group

would have lower contextual fit scores on individual survey questions as well as for overall categories of skill, knowledge, resources, beliefs, and total context as compared with teachers in the high fidelity group. Correlational analyses utilizing Mann-Whitney U tests were used again and showed significant group differences for 2 of the demographic variables, 2 of the twenty survey questions, and 1 of the subcategory scores. Again, the sample size of participants for this analysis was small and results should therefore be interpreted with caution.

Findings revealed teachers in the high fidelity group had taken significantly more special education classes than those in the low fidelity group. Significant differences also were found for a categorical variable indicating teachers in the high fidelity group had responsibility for significantly fewer students with IEPs (1-2) as compared with teachers in the low fidelity group (3 or more). Teachers in the high fidelity group showed significantly higher levels of confidence in their skill level in implementing the IEP intervention than did teachers in the low fidelity group. Further, significant differences were found in teachers overall skill level according to the totals in the skill subcategory, indicating teachers in the high fidelity group reported having significantly greater overall skills in comparison with teachers in the low fidelity group. Finally, a significant difference was found in the way responses to the question indicating that implementing the IEP was not stressful to the teacher. Ratings indicated teachers in the high fidelity group perceived implementation to be significantly less stressful than did teachers in the low fidelity group.

Again, these results did not fully support the stated hypothesis. That is, the findings that by and large there were no significant group differences in teachers'

ratings of the availability of individual or overall contextual factors in their school, failed to support the primary hypothesis that there would be differences in these teacher ratings and that teacher in the high fidelity group would report greater availability of contextual factors than teachers in the low fidelity group. Lack of significant differences between the teacher groups may be attributable to the characteristics of the majority of the teachers and school districts who participated in this study.

Perhaps the results were indicative of the following. The teacher and school demographics of the sample in each study group were very similar in the two districts within which most participants were teaching. As a result, it is likely that the teachers were receiving the same access to a number of contextual factors such as resources and training, and school and district supports for staff. The homogeneity of these two groups may have been a reason we did not find more significant differences in the availability of contextual resources.

Also, data were collected at the same time that schools were fully implementing the Common Core Curriculum (Common Core State Standards Initiative, 2015) for the first time and that schools and teachers were also following a new teacher evaluation system. Many teachers declined participation in the present study due to the level of stress these changes were causing and the amount of time involved in their implementation. Therefore, it may be the case that the teachers who did participate were more capable and/or confident in their abilities over all, given the willingness to adopt to school changes and participate in the study. If indeed this hypothesis is correct, the data collected in the study may have been influenced by the

homogeneity in the characteristics of the teachers who ultimately were able to participate in the study. The lack of versatility in teacher characteristics may be a reason teachers' in both groups would rate survey questions similarly.

Further, the legal nature of IEPs may have influenced the presence/availability of contextual factors and supports for teachers. That is, perhaps due to the potential legal ramifications on schools of IEP interventions not being implemented as intended, schools are prioritizing these interventions more and teachers in both groups were receiving similar amounts of resources, supports, and skills decreasing the differences between the two groups. Along those lines, teachers and schools may also be increasingly sensitive to the importance of treatment fidelity as there are major repercussions to the school, such as the possibility of being sued if it is determined in a court of law that a student's IEP is not being implemented appropriately as specified in IDEA 2004. Concerns regarding issues of legality also may have affected the truthfulness with which teachers answered the survey questions. Though confidentiality and anonymity were provided to participants it could be the case that they answered in a manner skewed toward "answering the right way" due to concerns of the security of that anonymity. Finally, these data were based on self-report, therefore teachers' perceptions of their knowledge and skill may have had an effect on the data. Teachers' ratings of their own abilities were subjective and therefore may not be accurate or related to their fidelity group. That is, teachers' responses may have reflected that they are more or less skilled than they really are at implementing an intervention.

Though these findings did not highlight a pattern of clear differences between the participant groups, there were several factors and demographic variables found to be significantly correlated with intervention fidelity, and these findings warrant discussion. For example, the present results provide further support for the negative consequences of having too many students in a room who have IEPs (Tilly, 2008). This study found significant differences between the fidelity groups related to the number of students in their classrooms who had IEPs. As mentioned previously, teachers in the high fidelity group had responsibility for significantly fewer students with IEPs (1-2) as compared with teachers in the low fidelity group (3 or more). Unfortunately, it may not always possible to distribute students with special needs in a school equitably, such that there are no more than 2 such students in a classroom. Therefore, it is important that school administrators are aware of and sensitive to the IEP implementation challenges faced by teachers responsible for multiple IEPs, and appropriate teacher support is provided.

Results also show schools, districts, and States' Departments of Education should continue to or should increase their support for teachers pursuing classes in special education. These courses serve to increase teachers' skill and competence in working with students with special needs and implementing their interventions. Finally, these results further highlight the importance of monitoring and alleviating teachers' stress levels around implementing interventions.

Contextual factors identified by teachers as important

The study's second hypothesis posited that there would be group differences in contextual factors identified by teachers as being important to the IEP intervention

implementation process. It was predicted that teachers in the low fidelity group and difficult to implement group would rate contextual factors individually and overall as being less important than teachers in the high fidelity and not difficult to implement groups. Correlational analysis revealed only one significant group difference in ratings. This difference was found for an individual question asking teachers to report the importance of being made aware that the student's IEP existed when the student first entered their classroom. This was found in the analysis of the difficult to implement verses not difficult to implement group.

Significant differences in responses to the importance of being made aware that the student's IEP existed were found and indicated that teachers in the difficult to implement group reported it was less important to be made aware of the plan than it was to teachers in the not difficult to implement group. Though this finding seems a bit concerning considering the aforementioned legal nature of IEPs, this factor was still rated by teachers as the first or second most important factor for implementing IEP interventions depending on group. So although there was a difference in the way each group rated the importance of being informed about the IEP, both groups still identified it as important. No other significant between group differences were found.

The fact that results indicated only one significant group difference in teacher reports of the importance of individual and overall contextual factors on intervention implementation is not necessarily a surprising finding. The factors investigated in this survey were all based in research that found relationships between fidelity and each of the factors (Agran, Alper, Wehmeyer, 2002; Johns et. al., 2002; Han & Weiss, 2005; Roach & Elliot, 2008; Durlak, 2010; Cho, 2010; Azano et. al., 2011; Mcintosh et. al.,

2013; Robinson, Bursuck, and Sinclair, 2013). In a manner similar to the discussion related to the first research question, here again the demographics of the population could have been affecting results. Participating teachers in both groups could simply have the same impressions of what contextual factors are likely to affect intervention fidelity. Thus, when asked what factors they felt are important for intervention fidelity they would answer similarly.

Because few significant group differences were identified for importance of contextual factors on intervention fidelity, analysis was conducted to determine the ranking of perceived importance of individual and overall contextual factors. Across all participating teachers, all contextual factors except supervision around implementation were rated to be moderately important to very important for intervention implementation. Supervision was rated as being only somewhat important. Awareness of the existence of the IEP, accessibility of the plan, and knowing what an individual was expected to do to implement the intervention were ranked as the top 3 individual contextual factors teachers rated as being most important for IEP intervention implementation. For overall categories, having access to needed resources was found to be the number one most important factor. This information is important because it sheds light on what contextual factors teachers feel are important and therefore give insight into how schools could support teachers in a way the teacher may feel is useful.

One unexpected finding was that the level of stress an intervention caused the responsible teacher was ranked as being the second to last (19 out of 20) most important factor related to implementing an intervention and overall skill level was

ranked last among the overall contextual factors categories. Teachers' ratings indicated that having the skills they needed to implement the intervention was the fourth most important factor affecting implementation. Again, previous research has found a link between all of these factors and the fidelity level of intervention implementation (Agran, Alper, Wehmeyer, 2002; Johns et. al., 2002; Han & Weiss, 2005; Roach & Elliot, 2008; Durlak, 2010; Cho, 2010; Azano et. al., 2011; Mcintosh et. al., 2013; Robinson, Bursuck, and Sinclair, 2013).

Factors identified qualitatively as important for implementation

Another aim of this study was to compile factors independently identified, through an open ended question, by teachers as influencing IEP interventions. Analysis of responses suggested teachers in the difficult to implement group identified 3 overarching factors as influencing IEP intervention implementation. Teachers reported their abilities to implement IEP related interventions were affected by: the extent to which they receive support and collaboration from a special education teacher and administration, the extent to which the teacher and paraprofessionals receive or had received training to implement the IEP interventions, and the degree to which IEP goals/expectations were appropriate for the student's skill level. Teachers in the not difficult to implement group also identified 3 main themes. Teachers in this group most often noted that their abilities to implement IEP related interventions were affected by: support and collaboration with special education teachers and paraprofessionals, services being delivered as outlined in the IEP, and the number of students with special needs in a class and being serviced by one person. No other repeating themes were identified within the teachers' responses.

These findings clearly reflected the importance these teachers appeared to place on being supported by and being able to work with special educators and support staff. It is very likely that general education teachers value the extra training special education teachers have regarding working with students with special needs and feel they can learn from this training. Though our results do not demonstrate a relationship between time spent by a special educator in the classroom or type of services provided by the special educator and intervention implementation, it is clear nevertheless that teachers value special educators' expertise. An implication of this finding is that schools should work hard to provide teachers and special educators time to meet and consult about interventions. Again, though our findings do not find a correlation between time with a special educator and intervention fidelity it is possible that there is still a relationship between them. This study only looked at the number of hours the special educator spent in the classroom and the type of support offered. The data collected and analyzed in this study did not evaluate the amount of time the special educator spent with the teacher offering specific assistance for the IEP referred to by the teacher in this study. It is possible that the amount of time and services given for the specific IEP would correlate with intervention fidelity.

Finally, qualitative analysis also identified some of the same factors quantitative analysis identified as being related to fidelity. This included the association between the number of students in a class with IEPs and fidelity and the importance of teacher training on fidelity. Again, as these are areas identified through teacher report both qualitatively and quantitatively within this study, administrators in schools and school districts should be mindful of the effects of these factors on

teachers' abilities to implement IEP interventions in schools and if possible address or reduce these barriers.

Overall Conclusions

Of the possible contextual factors related to IEP intervention implementation examined in this study, level of stress experienced by the teacher during implementation was significantly associated with intervention implementation for teachers across both difficult to implement IEP and not difficult to implement IEP groups. The more stressful an intervention was to implement the more the intervention was perceived as difficult to implement and the lower the implementation fidelity. The number of students with IEPs in a class, number of special education classes taken by the teacher, perceived level of skill needed for implementing the intervention as well as overall skill level of the teacher were also found to be significantly correlated with intervention fidelity.

These results emphasized the importance of monitoring the level of stress interventions cause teachers during implementation. They also highlight the need to monitor the number of students in a class with IEPs thus supporting previous research that shows the challenges associated with having more than 2 students in a class with IEPs and the ability of teachers to work effectively (Tilly, 2008). Results from the present study also indicated the importance of supporting teachers' efforts to pursue coursework and in-service activities relating to special education and to increase teachers' skills around intervention implementation through a variety of methods, including the support of special educators and professional development (Domitrovich et. al., 2008; Landsverk et. al., 2011).

Further findings from this study indicated that in general classroom teachers believed that all contextual factors assessed were important to intervention implementation with the exception of supervision around implementation. It is interesting that for the most part, with the exception of being made aware that a student's IEP existed, there were no significant differences in the ratings of importance teachers felt each contextual factor played in intervention implementation. Because of these findings of non-significant differences, an analysis was carried out to determine teachers' rank ordering of the importance of different contextual factors on intervention implementation. Awareness of the existence of the IEP, accessibility of the plan, and knowing what they were expected to do to implement the intervention were ranked as the three most important factors relating to effective IEP implementation.

Finally, qualitative data were analyzed in an informal manner. This analysis showed that the most often mentioned qualitative factor described by teachers as influencing a teacher's abilities to follow a student's IEP for both study groups was whether teachers receive support and collaboration from a special education teacher. Though our quantitative analysis did not support this finding, it is clear teachers want and value the expertise of specialized education professionals.

Contributions to the Field

This study furthers previous research in the following ways. As RTI becomes prominent, it is concerning that research on IEPs might be diminished in importance as more and more research is focused on evaluating Response to Intervention based programs, behavioral interventions, and research-based programs. This paper serves to

continue the evaluation of IEP related research and to draw attention back to the topic. While research that evaluates programs provided through RTI and positive behavioral supports is very important, IEPs are still the primary written documentation that shows how students receiving special education services are intended to be supported. Given that much IEP related research finds less than satisfactory results when evaluating IEPs, it is important to continue to research methods of improving the utility of the IEP process, specifically through enhancing IEP implementation effectiveness. This study has provided information to help increase the fidelity with which teachers implement IEP interventions. This is the first study to assess the psychometric properties of any version of Horner, Salentine, & Albin's (2003) survey Self-Assessment of Contextual Fit used to evaluate the contextual fit of interventions. Analysis revealed very good internal reliability furthering support for the use of the survey. Though analyses of the data collected through this survey did not identify specific patterns of contextual factors related to fidelity, the survey could be used as a tool to check teachers' needs with regards to an IEP intervention. In addition, there were a handful of factors that were identified as correlated with fidelity, a teacher's skill level in implementing an intervention and that implementation of an intervention is not stressful to teacher. Teachers' low ratings of those factors on the survey could be used as a red flag for those responsible for supporting teachers, that a teacher needs more support with an intervention or that that issue should be explored further through discussion.

Finally, another unique quality of this study was that it used real world interventions. Teachers were not given made up vignettes or scenarios to evaluate.

This method thus allowed teachers ratings and perceptions to be based in real experience as compared to how they think contextual factors would affect fidelity in the abstract.

Limitations and Future Directions

Limitations due to sampling. As with all studies, there are limitations with this study that should be noted that compromise interpretation of the findings. Overall, the sample used in this study was not diverse in terms of gender, ethnicity, and district level characteristics. The majority of participants were Caucasian females from rural school systems. That said, the majority of teachers today are Caucasian females (National Center for Education Information, 2011). Though there were 10 male teachers in the sample, it would have been beneficial to have even more males to allow for analysis of potential gender differences in responding. Also, the teachers who volunteered for this study were likely a select group. The year data were collected for this study the Common Core Curriculum was being implemented for the first time in many of the schools and a new evaluation system was also being launched. It is probable that these activities affected the sample of teachers who were willing to participate in this study, narrowing it to teachers who felt more able and competent to participate and manage their teaching duties. There were also very few teachers working in Urban districts represented in this sample. Future studies looking into the relationship between contextual factors and fidelity in schools should broaden and/or stratify their sample in terms of urban, rural, and suburban schools to further assess the effects of sample demographics on results.

Future studies should also broaden the regions of recruitment. While teachers were recruited from every state in New England the great majority came from Rhode Island and Connecticut. Specifically they came from two school districts, one in Connecticut and one in Rhode Island. The regional and demographic similarities between the schools limit the generalizability of our results. It is plausible these results would not hold for all of New England let alone other areas within the United States. It would be interesting for future studies to look at differences in how teachers in different states, especially top performing education states versus low performing states, rate contextual factors.

Another future direction would be to expand the study past elementary schools. Teachers from middle schools and high schools face different challenges while implementing IEP related interventions than do those in elementary schools (Fuchs, Fuchs, & Compton, 2010). One such difference is that multiple teachers are responsible for implementing the same IEP interventions. It would be interesting to evaluate the effect this dynamic has on intervention fidelity. That is, what differences in fidelity levels and difficulties of implementation of the same IEP intervention can be found by teacher?

Limitations due to analysis. Another limitation of the study was the final statistical analyses that were feasible. Though random assignment was used for group assignment, due to data not meeting assumptions of normality to utilize t-test or ANOVAs, correlational analysis were used; therefore the study is only able to speak to a relationship between fidelity and contextual factors. Also, though adequate according to a calculation conducted through g-power, the overall sample size was

small and limited findings to anything but the strongest effects. Further, the sample size of the participants in the fidelity groups was much smaller and not randomly assigned and therefore results from these analyses should be interpreted cautiously.

The small number of participants who completed the fidelity measure is unfortunate as the measure provided interesting information regarding difficulty of intervention implementation and fidelity levels. It helped identify that there were teachers from the difficult to implement group with high fidelity scores and some teachers from the not difficult to implement group with lower fidelity scores. The fidelity categories are likely more useful when evaluating the relationship between contextual factors and intervention fidelity. Unfortunately, not all participants completed this part of the assessment, as the measure may have been a bit cumbersome for teachers. Future studies should simplify this measure so more people will fill it out or add an observation component to the study during which a researcher determines level of fidelity.

Limitations due to measurement issues. Along with simplifying the fidelity measure future research should look to account for the changing definition of fidelity in research. For example, the fidelity measures used in the present study only looked at how often an intervention was reported to have been implemented. Evaluation did not encompass any of the newer understandings of fidelity such as those that examine how completely it was implemented (Bloom-Hoffman et. al., 2005; Tucker & Blythe, 2008). Simply because teachers said they implemented the intervention does mean they implemented the intervention as it was intended.

A limitation regarding the psychometric properties of the Self-Assessment of Contextual Fit survey is important to note, as the instrument was used in the absence of established psychometric properties. Even though this is the case, historically researchers have been comfortable with the use of this survey as previous studies have used it successfully to identify contextual factors that influence intervention implementation. The present work, however, did examine the internal reliability of the Self-Assessment of Contextual Fit of Students IEPs for Individual Teachers survey, and the results showed good internal reliability. Unfortunately, there were no other measures identified that evaluate fidelity against which this survey could be compared to check validity.

Limitations due to response bias. Finally, legal concerns may have affected the way some teachers answered questions. That is, it is possible that teachers' approaches to answering questions was influenced by perceived potential repercussions of answering some of the questions honestly due to the concerns about anonymity. This may have led to teachers in each group answering in a more legally acceptable manner. This issue may also have diminished the number of teachers who were willing to participate in the interview portion of this study. Future research in this area should strive to develop methods of recruitment that are sensitive to these types of issues. For example, one strategy could involve mailing the survey to teachers and allowing them to return the survey without putting any personal information on the survey or envelope.

Closing Remarks

In closing, though this study had a variety of limitations, the results help evaluate the relationship between contextual factors in schools and IEP intervention fidelity. A survey was used to evaluate general education teachers' perceptions of the degree of availability of contextual factors accessible to them in schools while they were implementing IEP related interventions. Also examined were relationships between IEP implementation and contextual variables and importance of these variables on implementation.

Specifically, this study shows a positive association between a teacher's level of stress in relation to the implementation of an intervention and the level of difficulty the teacher perceives they are having implementing the intervention. It also shows a positive correlation between teacher's level of stress when implementing an intervention and the fidelity with which the intervention is implemented. Further, results show an inverse relationship between the number of students with IEPs in a class and teachers' implementation fidelity. Other findings show a positive relationship between the number of special education classes a teacher has taken and intervention fidelity. Analysis also revealed a positive correlation between whether a teacher reports they have the skills they need to implement the intervention and intervention fidelity. Finally, results indicate a positive relationship between a teachers overall skill level and level of intervention fidelity. Regardless of study group assignment the top three factors teachers reported as the most important for implementation of an intervention were being made aware a student's IEP exists, the IEP being easily accessible to the teacher, and the teacher knowing what is expected of them regarding implementing the IEP. It was also found that regardless of whether a

teacher is having difficulty implementing an IEP related intervention or not, teachers in both groups felt it was important to have the support of a special educator to facilitate their implementation of the IEP intervention. In summary, these results provide valuable information that can be used to help schools and districts to further support teachers' intervention implementation.

APPENDIX A

Measures

Self-Assessment of Contextual Fit in Schools

Horner, Salentine, & Albin, 2003

The purpose of this interview is to assess the extent to which the elements of a behavior support plan fit the contextual features of your school environment. The interview asks you to rate (a) your knowledge of the elements of the plan, (b) your perception of the extent to which the elements of the behavior support plan are consistent with your personal values, and skills, and (c) the school's ability to support implementation of the plan. This information will be used to design practical procedures that will help school personnel support children with problem behaviors. The information you provide will be maintained and reported in a confidential manner consistent with the standards of the American Psychological Association. You will never be identified.

Please read the attached behavior support plan, and provide your perceptions of the specific elements in this plan. Thank you for your contribution and assistance.

Name of Interviewee: _____ Role : _____

Support plan reviewed: _____

Knowledge of elements in the Behavior Support Plan.

1. I am aware of the elements of this behavior support plan.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

2. I know what I am expected to do to implement this behavior support plan.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

Skills needed to implement the Behavior Support Plan

3. I have the skills needed to implement this behavior support plan.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

4. I have received any training that I need to be able to implement this behavior support plan.

   No training needed _____

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

Values are consistent with elements of the behavior support plan

5. I am comfortable implementing the elements of this behavior support plan

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

6. The elements of this behavior support plan are consistent with the way I believe students should be treated.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

Resources available to implement the plan

7. My school provides the faculty/staff time needed to implement this behavior support plan.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

8. My school provides the funding, materials, and spaced needed to implement this behavior support plan.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

Administrative Support

9. My school provides the supervision support needed for effective implementation of this behavior support plan.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

10. My school administration is committed to investing in effective design and implementation of behavior support plans.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

Effectiveness of Behavior Support Plan

11. I believe the behavior support plan will be (or is being) effective in achieving targeted outcomes.

1	2	3	4	5	6

Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

12. I believe the behavior support plan will help prevent future occurrence of problem behaviors for this child.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

Behavior Support Plan is in the best interest of the student

13. I believe this behavior support plan is in the best interest of the student.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

14. This behavior support plan is likely to assist the child to be more successful in school.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

The Behavior Support Plan is efficient to implement

15. Implementing this behavior support plan will not be stressful.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

16. The amount of time, money and energy needed to implement this behavior support plan is reasonable.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

Demographic Questionnaire

1. My sex/gender is:
Male
Female
Transgender

2. My age is:

3. My ethnicity is:
Asian or Pacific Islander
Black or African American
American Indian or Alaskan Native
Hispanic or Latino American
Caucasian
Multiracial
Other (please specify)

4. What is the highest level degree you have attained?
Bachelors level
Masters level
Masters plus 30
Doctoral level

5. I currently teach:
Kindergarten
1st grade
2nd grade
3rd grade
4th grade
5th grade
6th grade

6. How many years have you been teaching?

7. Have you ever taken classes in special education?
No
Yes – How many? ____

8. Have you had professional development or in-service training regarding the implementation of IEP related interventions in the last three years?
No
Yes – How many hours? _____

9. The school I work in is in a:
Rural area
Suburban area
Urban area
Mixed population group (i.e. schools with Ag Sci programs or magnet school).

10. How many hours a day is a special education teacher typically in your classroom?
_____

11. What type of support is this teacher providing (ie consultative, direct services, etc)?
_____

12. How many children in your classroom have an IEP?

_____

Self-Assessment of Contextual Fit of Students IEPs for Individual Teachers

Horner, Salentine, & Albin, 2003 (Modified by Marshall, S. & Stoner, G., 2012)

The purpose of this survey is to assess the extent to which an Individual Education Plan fits contextually with individual general education teachers and classrooms. The survey asks you to rate (a) your knowledge of the IEP, (b) your perception of the extent to which the IEP is consistent with your personal values, and skills, and (c) the school's ability to support your implementation of the plan. This information will be used to design practical procedures that are intended to help schools support teachers of students who have IEPs. The information you provide will be maintained and reported in a confidential manner consistent with the standards of the American Psychological Association. You will never be identified unless you agree to be.

Please think about IEPs within which you are listed as an interventionist and that you are currently implementing in your classroom. In Rhode Island you would be listed in this section of the IEP.

Goal	#Supplementary Aids and Services/Program Modifications/Supports for School Personnel	Frequency	Beginning Date	Duration	Location

Identify an IEP in which you are having difficulty implementing the supplementary aides, services, program modifications, or supports for which you are listed as being responsible (or that you are implementing as intended) and answer the following questions based on that plan. The word element used in the following questions refers to the supplementary aides, services, program modifications, or supports of the students IEP for which you are responsible. Please choose an IEP that contains multiple elements (at least 3) which you are responsible for carrying out in your classroom.

Thank you in advance for your contribution to and assistance in this study.

What is the diagnosis of the student whose IEP you will be answering the survey questions about?

Did you participate in the creation of this IEP? Y or N

How many hours a day of direct service does this child receive from a special educator in a general education classroom? ____

Do you have common planning time as a team that includes a special educator? Y or N

<u>Knowledge of elements in the Individual Education Plan.</u>

1.I am aware of the elements of this individual education plan.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

How important do you feel this aspect is to your abilities to implement a student's IEP?

1	2	3	4	5
Not at all Important	Somewhat Important	Moderately Important	Very Important	Unable to implement without it

2. I know what I am expected to do to implement this individual education plan.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

How important do you feel this aspect is to your abilities to implement a student's IEP?

1	2	3	4	5
Not at all Important	Somewhat Important	Moderately Important	Very Important	Unable to implement without it

3. A special educator reviewed this IEP with me to clarify my responsibilities regarding this plan and to answer any of my questions.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

How important do you feel this element is to your abilities to implement a student's IEP?

1	2	3	4	5
Not at all Important	Somewhat Important	Moderately Important	Very Important	Unable to implement without it

4. I find this individual education plan easy to understand.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

How important do you feel this aspect is to your abilities to implement a student's IEP?

1	2	3	4	5
Not at all Important	Somewhat Important	Moderately Important	Very Important	Unable to implement without it

5. I was made aware that the individual education plan existed when the student entered my class.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

How important do you feel this aspect is to your abilities to implement a student's IEP?

1	2	3	4	5
Not at all Important	Somewhat Important	Moderately Important	Very Important	Unable to implement without it

Skills needed to implement the Individual Education Plan

6. I have the skills needed to implement this individual education plan.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

How important do you feel this aspect is to your abilities to implement a student's IEP?

1	2	3	4	5
Not at all Important	Somewhat Important	Moderately Important	Very Important	Unable to implement without it

7. I have received training that I need to be able to implement this individual education plan.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

How important do you feel this aspect is to your abilities to implement a student's IEP?

1	2	3	4	5
Not at all Important	Somewhat Important	Moderately Important	Very Important	Unable to implement without it

8. I am comfortable implementing all of the elements of this individual education plan.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

How important do you feel this aspect is to your abilities to implement a student's IEP?

1	2	3	4	5
Not at all Important	Somewhat Important	Moderately Important	Very Important	Unable to implement without it

9. Implementing this plan is not stressful to me.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

How important do you feel this aspect is to your abilities to implement a student's IEP?

1	2	3	4	5
Not at all Important	Somewhat Important	Moderately Important	Very Important	Unable to implement without it

Resources available to implement the plan

10. My school provides the faculty/staff contractual time needed to implement this individual education plan.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

How important do you feel this aspect is to your abilities to implement a student's IEP?

1	2	3	4	5
Not at all Important	Somewhat Important	Moderately Important	Very Important	Unable to implement without it

11. My school provides the funding, materials, and space needed to implement this individual education plan.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

How important do you feel this aspect is to your abilities to implement a student's IEP?

1	2	3	4	5
Not at all Important	Somewhat Important	Moderately Important	Very Important	Unable to implement without it

12. My school provides the supervision/support that I need for effective implementation of this individual education plan.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

How important do you feel this aspect is to your abilities to implement a student's IEP?

1	2	3	4	5
Not at all Important	Somewhat Important	Moderately Important	Very Important	Unable to implement without it

13. My school administration is committed to investing resources in effective design and implementation of individual educational plans.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

How important do you feel this aspect is to your abilities to implement a student's IEP?

1	2	3	4	5
Not at all Important	Somewhat Important	Moderately Important	Very Important	Unable to implement without it

14. The amount of time, money and energy needed to implement this individual education plan is reasonable relative to its likely effects on the student's achievement/behavior.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

How important do you feel this aspect is to your abilities to implement a student's IEP?

1	2	3	4	5
Not at all Important	Somewhat Important	Moderately Important	Very Important	Unable to implement without it

15. The individual education plan is easily accessible to me if I need to review it.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

How important do you feel this aspect is to your abilities to implement a student's IEP?

1	2	3	4	5
Not at all Important	Somewhat Important	Moderately Important	Very Important	Unable to implement without it

Effectiveness of Individual Education Plan

16. I believe the individual education plan will be (or is) effective in achieving targeted outcomes/goals.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

How important do you feel this aspect is to your abilities to implement a student's IEP?

1	2	3	4	5
Not at all Important	Somewhat Important	Moderately Important	Very Important	Unable to implement without it

17. I believe the individual education plan will help prevent future occurrences of academic/behavioral problems for this child.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

How important do you feel this aspect is to your abilities to implement a student's IEP?

1	2	3	4	5
Not at all Important	Somewhat Important	Moderately Important	Very Important	Unable to implement without it

18. The elements of this individual education plan are consistent with the way I believe students should be treated/educated.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

How important do you feel this aspect is to your abilities to implement a student's IEP?

1	2	3	4	5
Not at all Important	Somewhat Important	Moderately Important	Very Important	Unable to implement without it

19. I believe this individual education plan is in the best interest of the student.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

How important do you feel this aspect is to your abilities to implement a student's IEP?

1	2	3	4	5
Not at all Important	Somewhat Important	Moderately Important	Very Important	Unable to implement without it

20. This individual education plan is likely to assist the child to be more successful in school.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

How important do you feel this aspect is to your abilities to implement a student's IEP?

1	2	3	4	5
Not at all Important	Somewhat Important	Moderately Important	Very Important	Unable to implement without it

Please take a moment to help us calculate the level at which you have been able to implement the elements of this IEP that you are responsible for.

This form has been created to help you rate how completely you are able to implement the components of the IEP you thought about in order to fill out the survey you just finished. Please use the column marked IEP components to list the elements of the IEP for which you are responsible for implementing in your classroom. After filling in these elements please think about the previous school week. For each day of the week mark an X in the corresponding box if you were able to implement the element. Please mark an O if you were not able to and were supposed. Leave the box blank if you were not supposed to implement the element. For example, you have a student who is having difficulties with math and his IEP indicates he needs 20 extra minutes 3 days a week (M, W, and F) on a math enhancement program. If you were able to give the student the program all three days you would put an X on Monday, Wednesday, and Friday and nothing in Tuesday and Thursday. If you were only able to give the program on Wednesday and Friday (not due to a holiday or student absence) you would put an O in Monday, an X for Wednesday, and Friday, and nothing from Tuesday and Thursday. If there was a holiday or an absence that prevented the program from being administered, leave the day blank.

IEP elements	Monday	Tuesday	Wednesday	Thursday	Friday
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					

If you feel there are other factors that were not asked about in this questionnaire that influence a teacher's abilities to follow a student's IEP please let us know. Also if you have any comments or critiques about this form we are grateful for your input:

If you would be willing to be contacted to further discuss elements of this survey including the answers you provided, please provide a phone number or e-mail address we may contact you with. The contact information is so we can set up a time to talk with you either over the phone or in person. Agreeing to meet with us does not change our confidentiality agreement. No person other than the researcher talking with you will see the answers you provided on our survey.

Thank you for your time and efforts in participating in our study!
If you know other teachers who may be whiling to participate in this study we would greatly appreciate it if you could refer us to them. Thank you for any help you can provide with this.

Post Survey Interview Questionnaire
(Marshall, S. & Stoner, G., 2012)

Hello _____,

Thank you so much for allowing us to contact you regarding the survey you filled out for our study. I would like to start by reviewing the answers you gave on the survey just to determine how accurate you feel they are. For each question, please answer on a scale from 1 to 5 (1 being not at all accurate and 5 being perfectly accurate) how accurate you feel your answers were.

(Go through all of the questions).

Great, thank you for going over that with me. We are trying to assess the accuracy of the information gathered through the survey to decide if it can be used in schools as a way to determine what supports would benefit teachers in their efforts to increase their intervention implementation.

I have several open ended questions I would also like to ask.

1. What are some factors that you feel influence/have influenced your knowledge of how to conduct IEP related interventions? To what extent were those factors part of your teacher training or in-services you have attended?

2. What are some factors that you feel influence/have influenced your skills in conducting IEP related interventions? To what extent were those factors part of your teacher training or in-services you have attended?

3. What are some factors that you feel influence the availability of resources for conducting IEP related interventions? Are there resources that you feel would be beneficial that are not available to you? If so what would they be?

4. What are some factors that you feel influence effectiveness of IEPs? How much training were you provided regarding ways to increase effectiveness of IEPs?

5. If you are having difficulty implementing an element of an IEP for one of your students who can you consult with within the school to get help and suggestions for improving implementation? (For each person listed ask how helpful you find their suggestions to be).

6. When discussing an IEP with another specialist on the IEP team have you found your perception of a child's IEP to be different then another professional you are working with? What factors do you think contribute to this?

Our hope with regards to these questions is that we can identify supports that teachers consistently identify as being beneficial to IEP implementation. Thank you so much for your time and answers to our questions.

BIBLIOGRAPHY

Agran, M., Alper, S., Wehmeyer, M. (2002). Access to the general curriculum for students with significant disabilities: What it means to teachers. *Education and Training in Mental Retardation and Developmental Disabilities,* 37(2), 123-133.

Albin, R. W., Lucyshyn, J. M., Horner, R. H., & Flannery, K. B. (1996). Contextual fit for behavior support plans: a model for "goodness of fit". In: *Positive Behavioral Support: Including People with Difficult Behavior in the Community* (eds. L. Kern Koegel, R. L. Koegel, & G. Dunlap), pp. 81-98. Paul H. Brooks, Baltimore, MA.

Azano, A., Missett, T. C., Callahan, C. M., Oh, S., Brunner, M., Foster, L. H., and Moon, T. R. (2011). Exploring the relationship between fidelity of implementation and academic achievement in a third-grade gifted curriculum: A mixed-methods study. *Journal of Advanced Academics,* 22(5), 693-719.

Beckman, P. (2001). Access to the general education curriculum for students with disabilities. Retrieved from http://www.cec.sped.org/AM/Template.cfm?Section=Home& CONTENTID=5519&CAT=none&TEMPLATE=/CM/ContentDisplay.cfm

Benazzi, L., Horner, R. H., & Good, R. H. (2006). Effects of behavior support team composition on the technical adequacy and contextual fit of behavior support plans. *Journal of Special Education*, 40(3), 160-170.

Briggs, S. R. & Cheek, J. M. (1986). The role of factor analysis in the development and evaluation of personality scales. *Journal of Personality,* 54, 106-148.

Campbell, A., & Anderson, C. M. (2011). Check-in/check-out: A systematic evaluation and component analysis. *Journal of Applied Behavior Analysis*, 44(2), 315-326.

Catone, W. V., & Brady, S. A. (2005). The inadequacy of individual educational program (IEP) goals for high school students with word-level reading difficulties. *Annals of Dyslexia,* 55(1), 53-78.

Cho, H., Wehmeyer, M., & Kingston, N. (2010). Elementary teachers' knowledge and use of interventions and barriers to promoting student self-determination. *The Journal of Special Education,* 45(3), 149-156.

Cohen, J. W. (1988). *Statistical power analysis for the behavioral sciences* (2nd edn). Hillsdale, NJ: Lawerence Erlbaum Associates.

Common Core State Standards Initiative. (2015). Standards in your state. Retrieved from http://www.corestandards.org/standards-in-your-state/

Dane, A. V., & Schneider, B. H. (1998). Program integrity in primary and early secondary prevention: Are implementation effects out of control? *Clinical Psychology Review*, 18, 23-45.

Domitrovich, C. E., Bradshaw, C. P., Poduska, J. M., Hoagwood, K., Buckley, J. A., Olin, S., Romanelli, L. H., Leaf, P. H., Greenberg, M. T., & Ialongo, N. S. (2008). Maximizing the implementation quality of evidence-based preventive interventions in schools: A conceptual framework. *Advances in School Mental Health Promotion*, 1(3), 6-28.

DeVellis, R. F. (2003). *Scale development: Theory and applications* (2nd edn). Thousand Oaks, California: Sage.

Durlak, J. A., & DuPre, E. P. (2008). Implementation matters: A review of research on the influence of implementation on program outcomes and the factors affecting implementation. *American Journal of Community Psychology*, 41, 327-350.

Durlak, J. A. (2010). The importance of doing well in whatever you do: A commentary on the special section, "implementation research in early childhood education". *Early Childhood Research Quarterly*, 25, 348-357.

Educational Vital Signs. (2003). Educational vital signs 2003: U.S. schools in facts and figures. Retrieved from http://www.asbj.com/MainMenuCategory/Supplements/EVS/2002EVS.aspx

Eisenman, L.T., Pleet, A. M., Wandry, D., & McGinley, V. (2011). Voices of Special Education teachers in an inclusive high school: Redefining responsibilities. *Remedial and Special Education, 32(2), 91-104.*

Elliot, S. N., Witt, J. C., Kratochwill, T. R., & Callan-Stoiber, K. (2002). Selecting and evaluating classroom interventions. In M. R. Shinn, H. M. Walker, & G. Stoner (Eds.). Interventions for academic and behavior problems II: Preventative and remedial approaches (pp. 243-294). Bethesda, MD: National Association of School Psychologists.

Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, *39*, 175-191.

Fisher, D., & Frey, N. (2001). Access to the core curriculum: Critical ingredients for student success. *Remedial and Special Education*, 22, 148-157.

Fixsen, D. L., Naoom, S. F., Blasé, K. A., Friedmann, R. M., & Wallace, F. (2005). Implementation research: A synthesis of the literature. Tampa, FL: University of South Florida, Louis de la Parte Florida Mental Health Institute, The National Implementation Research Network (FMHI Publication #231).

Flannery, K. B., Fenning, P., McGarth Kato, M., and McIntosh, K. (2014). Effects of School-Wide Positive Behavioral Interventions and Supports and Fidelity of Implementation on Problem Behavior in High Schools. *School Psychology Quarterly*, 29(2), 111-124.

Forman, S. G., Olin, S., Hoagwood, K., Crowe, M., & Saka, N. (2009). Evidence -based intervention in schools: Developers' views of implementation barriers and facilitators. *School Mental Health*, 1, 26-36.

Fuchs, L. S., Fuchs, D., & Compton, D.. L. (2010). Rethinking Response to Intervention at Middle School and High School. *School Psychology Review*, 39, 22-28.

Gartin, B. C., & Murdick, N. L. (2005). IDEA 2004: The IEP. *Remedial and Special Education*, 26(6), 327–331.

George, D., & Mallery, P. (2003). SPSS for Windows step by step: A simple guide and reference. 11.0 update (4th ed.). Boston: Allyn & Bacon.

Gresham, F. M. (1989). Assessment of treatment integrity in school consultation and prereferral intervention. *School Psychology Review*, 18(1), 37-50.

Han, S. S., & Weiss, B. (2005). Sustainability of teacher implementation of school-based mental health programs. *Journal of Abnormal Child Psychology*, 33(6), 665-679.

Harlow, L. L. (2005). *The essence of multivariate thinking: Basic themes and methods.* Mahwah, NJ: Lawerence Erlbaum Associates.

Horner, R. H. (2000). Positive behavior supports. *Focus on Autism and Other Developmental Disabilities, 15(2), 97-105.*

Horner, R. H., Salentine, S. P., & Albin, R. W. (2003). Self-Assesment of Contextual Fit in Schools. Retrieved from http://www.pbis.org/pbis_resource_detail_page.aspx?Type=4&PBIS_ResourceID=248

Johns, B. H., Crowley, E. P., & Guetzloe, E. (2002). Programming the IEP for students with emotional and behavioral disorders. *Focus on Exceptional Children,* 34(9), 1–12.

Kam, C. M., Greenberg, M. T., & Walls, C. T. (2003). Examining the role of implementation quality in school-based prevention using the PATHS curriculum. *Prevention Science, 4(1),* 55–63.

Karvonen, M., Test, D. W., Wood, W. M., Browder, D., & Algozzine, B. (2004). Putting self determination into practice. *Exceptional Children,* 71(1), 23-41.

Ketterlin-Geller, L. R., Alonzo, J., Braun-Monegan, J., & Tindal, G. (2007). Recommendations for accommodations, implications of (in)consistency. Remedial and Special Education, 28, 194–206.

King-Sears, M. E., & Bowman-Kruhm, M. (2011). Specialized reading instruction for adolescents with learning disabilities: What special education co-teachers say. *Learning Disabilities Research and Practice,* 26(3), 172-184.

Landsverk, J., Brown, C., Rolls, R. J., Palinkas, L., & Horwitz, S. (2011). Design elements in implementation research: A structured review of child welfare and child mental health studies. *Administration and Policy in Mental Health and Mental Health Servi*ces *Research,* 38, 54-63.

McIntosh, K., Mercer, S. H., Hume, A. E., Frank, J. L., Turrin, M. G., & Mathews, S. (2013). Factors related to sustained implementation of schoolwide positive behavior support. *Council for Exceptional Children,* 79(3), 293-311.

Michnowicz, L., McConnell, S., Peterson, C., & Odom, S. (1995). Social goals and objectives of preschool IEPs: A content analysis. Journal of Early Intervention, 19(5), 273–282.

Mildon, R., Wade, C., & Matthews, J. (2008). Considering the contextual fit of an intervention for families headed by parents with an intellectual disability: An exploratory study, *Journal of Applied Research in Intellectual Disabilities,* 21, 377-387.

Mortenson, B. P. & Witt, J. C. (1998). The use of weekly performance feedback to increase teacher implementation of a prereferral academic intervention. *School Psychology Review*, 27(4), 613-627.

Moes, D. R. & Frea, W. D. (2000). Using the family contest to inform interventions planning for the treatment of a child with autism. *Journal of Positive Behavior Interventions,* 2, 40-46.

National Center for Education Information. (2011). Profile of teachers in the U.S. 2011. Retrieved from www.ncei.com/Profile_Teachers_US_2011.pdf

Nelson, M. C., Cordray, D. S., Hulleman, C. S., Darrow, C. L., & Sommer, E. C. (2012). A procedure for assessing intervention fidelity in experiments testing educational and behavioral interventions. *The Journal of Behavioral Health | Services &* Research, 39(4), 374-396.

Nevin, A., McCann, S., & Semmel, M. I. (1983). An empirical analysis of the regular classroom teacher's role in implementing IEP's. *Teacher Education and Special Education,* 6, 235-246.

Noell, G. H., Witt, J. C., Gilbertson, D. N., Ranier, D. D., & Freeland, J. T. (1997). Increasing teacher intervention implementation in general education settings through consultation and performance feedback. *School Psychology Quarterly*, 12(1), 77-88.

Noell, G. H., Duhon, G. J., Gatti, S. L., & Connell, J. E. (2002). Consultation, follow-up, and implementation of behavior management interventions in general education. *School Psychology Review*, 31(2), 217-234.

O'Neill, R. E., Horner, R. H., Albin, R. W., Sprague, J. R., Storey, K., & Newton, J. S. (1997). *Functional assessment and program development for problem behavior: A practical handbook.* (2nd ed.), Pacific Grove, CA: Brooks/Cole.

Pearl, C. E., & Miller, K. J. (2007). Co-taught middle school mathematics classrooms: Accommodations and enhancements for students with specific learning disabilities. *Focus on Learning Problems in Mathematics*, 29(2), 1-20.

Peck, C. A., Killen, C. C., & Baumgart, D. (1989). Increasing implementation of special education instruction in mainstream preschools: Direct and generalized effects of nondirective consultation. *Journal of Applied Behavioral Analysis*, 22(2), 197-210.

Power, T. J., Bloom-Hoffman, J., Clarke, A. T., Riley-Tillman, T., Kelleher, C., & Manz, P. H. (2005). Reconceptualizing intervention integrity: A partnership-based framework for linking research with practice. *Psychology in the* Schools, 42, 495-507.

President's Commission on Excellence in Special Education. (2002). Presidents Commission on Excellence in Special Education: Final report to the president. Retrieved from http://www2.ed.gov/inits/commissionsboards/whspecialeducation/reports/three.html

Ransford, C. R., Greenberg, M. T., Domitrovich, C. E., Small, M., & Jacobson, L. (2009). The Role of teachers' psychological experiences and perceptions of curriculum supports on the implementation of a social and emotional learning curriculum. *School Psychology Review*, 38, 510-532.

Raudenbush, S. W. (2008). Advancing educational policy by advancing research on instruction. *American Educational Research Journal*, 45, 206-230.

Reiher, T. C. (1992). Identified deficits and their congruence to the IEP for behaviorally disordered students. *Behavioral Disorders, 17,* 167-177.

Roach, A. T., & Elliot, S. N. (2008). Best practices in facilitating and evaluating intervention integrity. In A. Thomas & J. Grimes (Eds.), *Best practices in school psychology V* (pp. 195-208). Bethesda, MD: National Association of School Psychologists.

Robbins, L. B., Pfeiffer, K. A., Maier, K. S., LaDrig, S. M., & Berg-Smith, S. M. (2011). Treatment fidelity of motivational interviewing delivered by a school nurse to increase girls' physical activity. *The Journal of School Nursing*, 28(1), 70-78.

Robinson, G. G., Bursuck, W. D., & Sinclair, K. D. (2013). Implementing RTI in two rural elementary schools: Encouraging beginnings and challenges for the future. *The Rural Educator*, 34(3), 1-9.

Rodriguez, B. J., Loman, S. L., & Horner, R. H. (2009). A preliminary analysis of the effects of coaching feedback on teacher implementation fidelity of First Step to success. *Association for Behavioral Analysis International*, 2(2), 11-21.

Ruble, L. A., McGrew, J., Dalrymple, N., & Jung, L. A. (2010). Examining the quality of IEPs for young children with autism. *Journal of Autism Developmental Disorder, 40(12), 1459-1470.*

Sandler, L., Albin, R. W., Homer, R. H., & Yovanorr. (2002). Contextual fit and the viability of behavior support plans. Unpublished manuscript.

Salantine, S. P., & Horner, R. H. (2002). The contextual fit questionnaire. Eugene: University of Oregon.

Savage, R. C., Pearson, S., McDonald, H., Potoczny-Gray, A., & Marchese, N. (2001). After hospital: Working with schools and families to support the long term needs of children with brain injuries. *NeuroRehabilitation,* 16(1), 49-58.

Smith, S. W., & Simpson, R. L. (1989). An analysis of individualized education programs (IEPs) for students with behavior disorders. *Behavior Disorders*, 14, 107-116.

Smith, S. W. (1990). Comparison of individualized education programs (IEPs) of students with behavioral disorders and learning disabilities. *The Journal of Special Education*, 24(1), 85-100.

Smith, S. W., Slattery, W. J., & Knopp, T. Y. (1993). Beyond the mandate: Developing individualized education programs that work for students with autism. *Focus on Autism and Other Developmental Disabilities,* 8(3), 1-16.

Tilly, W. D. (2008). The evolution of school psychology to Science-Based Practice: Problem Solving and the Three-Tiered Model. In A. Thomas & J. Grimes (Eds.), *Best practices in school psychology V* (pp. 17-36). Bethesda, MD: National Association of School Psychologists.

Thoma, C. A., Baker, S. R., & Saddler, S. J. (2002). Self-determination in teacher education: A model to facilitate transition planning for students with disabilities. *Remedial and Special Education,* 23(2), 82-89.

Todd, A. W., Campbell, A. L., Meyer, G. G., & Horner, R. H. (2008). The effects of a targeted intervention to reduce problem behaviors: Elementary school implementation of check in-check out. *Journal of Positive Behavior Interventions,* 10(1), 46-55.

Tucker, A. R., & Blythe, B. (2008). Attention to treatment fidelity in social work outcomes: A review of the literature from the 1990's. *Social Work Research*, 32, 185-190.

Waters, J. K. (2008). Together at last. *T.H.E. Journal*, 35(5), 40-46.

Wehmeyer, M. L., Agran, M., & Hughes, C. (2000). A national survey of teachers' promotion of self-determination and student-directed learning. *The Journal of Special Education*, 34(2), 58-68.

Wenz-Gross, M., & Upshur, C. (2012). Implementing a primary prevention social skills intervention in urban preschools: Factors associated with quality and fidelity. *Early Education and Development,* 23, 427-450.

Yesseldyke, J., Lekwa, A. J., Klingbeil, D. A., & Cormier, D. C. (2012). Assessment of ecological factors as an integral part of academic and mental health consultation. *Journal of Educational and Psychological Consultation,* 22(1-2), 21-43.