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Prevention Assessment Tool for Classroom Teachers

Abstract approved:

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Schools are continually faced with the challenge of providing students with a

comprehensive system of support. Previous research based on the practices and

systems of Positive Behavior Intervention and Supports (PBIS) suggests that having

effective primary prevention measures in place can help to reduce problem behavior

before it occurs (Ingram, Lewis-Palmer, & Sugai, 2005; Sugai, Lewis-Palmer, &

Hagan-Burke, 1999). Without these preventative measures, low-level, high

frequency behaviors can escalate causing strain on the teacher-student relationship

and impacting the academic success of students. The current study seeks to assess

the usability and effectiveness of the "Guess & Check," a teacher-guided prevention

assessment tool originally created by O'Keefe, Lewis-Palmer, and Sugai (2001).

Teacher-generated hypotheses using the "Guess & Check" were compared to student

researchers' hypotheses, developed from functional behavior assessment interviews

(FBAIs) and descriptive direct observations. Additionally, a withdrawal design was

incorporated to compare pre-intervention student data (baseline) to post-intervention

data (intervention) in order to evaluate the usefulness of the teacher-guided

interventions using the "Guess & Check."

Keywords: *PBIS, "Guess & Check," FBAIs, Withdrawal design*

The "Guess & Check:" Evaluating the Usability and Effectiveness of a Primary
Prevention Assessment Tool for Classroom Teachers

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I understand that my thesis will become part of the permanent collection of Oregon State University libraries. My signature below authorizes release of my thesis to any reader upon request.

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Angus J. Kittelman, Author

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CHAPTER 1: INTRODUCTION

Statement of Problem

A prevalent and growing challenge of schools today involves the struggle to meet the academic and behavioral needs of all students across all situations. While the occurrence of serious violent crimes in schools appears to be steadily declining since 1994 (U.S. Bureau of Justice Statistics, 2009), less serious negative behaviors (e.g., verbal aggression, bullying, disruption) are at an all-time high (McIntosh, Campbell, Carter, & Zumbo, 2009; Sprague, Walker, Golly, White, Meyers, & Shannon, 2001). Further emphasized by Conoley and Goldstein (2004), if these low-level negative behaviors are not addressed effectively, they can escalate creating additional problems affecting the individual's overall stability in school and the home environment. Many schools respond to student exhibiting low-level behavioral problems with reactive punishment measures such as office discipline-referrals, suspensions, and expulsions (Anderson & Kincaid, 2005; Lewis, & Garrison-Harrell, 1999; Osher, Bear, Sprague, & Doyle, 2010). Studies have consistently demonstrated that these types of reactive punishments measures can escalate and even increase the severity of the original problem behaviors (Lewis, & Garrison-Harrell, 1999; Safran & Oswald, 2003; Turnbull et al., 2002).

Alternatively, more proactive behavioral management systems using a function-based approach have proven widely effective in addressing these types of low-level problem behaviors (Safran & Oswald, 2003). Function-based approaches are an integral part of a system of behavior intervention planning practices known as

Positive Behavior Intervention and Support (PBIS) (e.g., Ingram, Lewis-Palmer, & Sugai, 2005; Sugai et al., 2000). These function-based assessments (FBAs), which are designed to help students "achieve socially important behavior change," have been widely successful in developing individualized and comprehensive behavior interventions for students struggling with problem behaviors (Sugai et al. 2000; Sugai, Lewis-Palmer, & Hagan-Burke, 1999).

The FBA process is intended to be carried out by a team of individuals who have experience with particular students (Sugai, Lewis-Palmer, & Hagan-Burke, 1999). This has led to "comprehensive, effective, and efficient interventions" for at-risk students, and those demonstrating high levels of chronic behavioral issues (Carr et al., 1999; Nelson, Roberts, Mathur, & Rutherford, 1999). The process, though, can be time consuming and exhaustive for students exhibiting minor, lower-level behavioral challenges. However, the general FBA problem-solving process is similar across problem behaviors (Gresham, Watson, & Skinner, 2001; Sugai, Lewis-Palmer, & Hagan-Burke, 1999), and addresses the needs of students exhibiting minor behavioral problems as well. Upon further review of the research, a case will be made to develop less rigorous, teacher-guided interventions which incorporate an FBA approach, and which are both useful and efficient.

The following chapters present a review of the literature surrounding the behavioral assessment process and the development of school-wide positive behavior support systems, with an emphasis placed on primary prevention in the classroom context. The literature review is divided into the following three sections: (1) the

application of applied behavioral analysis, (2) a review of the importance of an

emphasis on prevention, and (3) an explanation of functional behavioral assessments.

CHAPTER 2: LITERATURE REVIEW

The Application of Applied Behavioral Analysis

The concept of examining behaviors that are deemed "socially important" has

been studied for more than half a century (Baer, Wolf, & Risley, 1968). Influential

researchers like those aforementioned laid the early foundation for using the

application of behavioral analysis into the applied, natural setting. Baer, Wolf, and

Risley (1968) explained that the scientific investigation of "socially important"

behaviors cannot be fully studied in tightly-controlled laboratory settings, but rather

must be observed in an individual's natural environment. Unlike basic laboratory

research where experimental control is demonstrated through a clear distinction

between cause and effect of two or more variables, in applied research, experimental

control is demonstrated by the manipulation, or change in a subject's behavior in

regards to meeting a more positive, socially desired outcome. Applied research

consists of understanding and implementing what is currently known about specific

variables that can be both effective and efficient in improving the behaviors in

question. It incorporates a greater emphasis on social validity, which examines

behaviors which are not always convenient for study.

To ensure that changes in interventions are socially important, Wolf (1978)

stressed the importance for developing more effective, systematic approaches and

measurements, for asking individuals whether applied researchers are accomplishing

this objective. In other words, an increased focus should be placed on: a) evaluating

the social significance of the goals, b) establishing the social appropriateness of the

procedures, and c) examining the social importance of the effects afterwards (Wolf, 1978). These components of social validity ensure that applied interventions are socially relevant, as well as aimed at improving quality of life of the subjects.

Positive Behavior Support

In response to the seminal article by Baer, Wolf, and Risley (1968), which established the early foundation of applied behavioral analysis (ABA), numerous publications have emerged demonstrating the effects of positive behavioral change in the functional relationships with regards to academic and social changes in both adult and child behaviors in many applied settings (for review, Hanley, Iwata, & McCord, 2003; Sugai & Horner, 2002). Furthermore, since its inception, ABA has played an instrumental role in developing applied evidence-based practices within the educational context (for review, Radford, Aldrich, & Ervin, 2000).

In an effort to address growing challenges that schools routinely face with student's academic and behavioral problems, many have responded by implementing a continuum of positive behavior support (Crone, Horner, & Hawken, 2004). Positive Behavior and Intervention Support (PBIS) is considered an applied science, which emphasizes the importance of social validity in the design and implementation of sustainable interventions and practices (Carr et al., 2002). Interventions included within PBIS umbrella are built and designed using the basic principles of applied behavior analysis (ABA), with an additional emphasis on incorporating more positive, school-focused approaches. The PBIS umbrella incorporates a broad range of systemic and individualized strategies, which can be implemented and used by

school personnel to help achieve important social and learning outcomes for its students.

To validate PBIS as an effective and useful behaviorally-based system of support, a meta-analyses conducted by Marquis et al. (2000) regarding the use of single-subject studies and intervention efficacy, found considerable evidence that PBIS is "highly" effective in reducing problem behaviors. Scott (2001) highlighted that the PBIS initiative has become increasingly popular in schools with its adoption of a Schoolwide System of Positive Behavioral Intervention and Support (SWPBS). Providing further testament to its significance are the amendments to the Individuals with Disabilities Act (IDEA), in 1997, and reauthorization in 2002, which took the policies one step further in requiring that schools incorporate the PBIS initiative into both policy and practice (Gresham, Watson, & Skinner, 2001; Sugai, Lewis-Palmer, & Hagan-Burke, 1999; Sugai & Horner, 2002).

The research undertaken by Lewis-Palmer, Bounds, and Sugai (2004) better stressed the importance of those amendments by noting that SWPBIS becomes integral in providing effective behavioral support to all students. What makes it essential, as McIntosh, Filter, Bennett, Ryan, and Sugai (2010) clarify, is that the SWPBIS model contains three main elements: a) the integration of practices, data, and systems to achieve valued outcomes, b) the capability to address the many environments within schools, and c) a continuum of behavior support. These elements enable the interventions designed using SWBPS to have significant positive impacts on the lives of students.

Within a school-wide adoption of SWPBIS, Walker and colleagues (1996) explain that a three-tiered prevention model is paramount in providing efficient positive behavioral support: These three tiers include: a) Tier I (primary prevention), b) Tier II (secondary prevention), and c) Tier III (tertiary prevention). Crone, Horner, and Hawken (2004) elaborated by mentioning that a triangle-shaped graph can be representative of all students within a school.

Primary prevention, which composes the base of the triangle, consists of universal, school-wide, proactive management systems, aimed at promoting positive social behavioral skills. These general interventions and school strategies apply to about eighty percent of the student population within a school (Crone, Horner, & Hawken, 2004). All students in this level of support are intended to get effective PBIS, in all settings, without the need to be identified or referred for additional support (Turnbull et al., 2002). A secondary, intermediate-level of prevention, is meant to focus on targeted group-support interventions for 15 percent of students. These individuals fall into the category of at-risk of developing academic and social failure. This level of prevention provides support for students who need more intense interventions, but who do not require individualized ones (Anderson & Kincaid, 2005; Crone, Horner, & Hawken, 2004; Turnbull et al., 2002). And lastly, tertiary prevention supports about five percent of students who are placed in the uppermost slice of the pyramid. Students in this level require the most intensive, individualized interventions. Turnbull et al. (2002) further mention that this level of support is usually reserved for students who have disabilities, or those identified for special

education, who need high levels of personalized function-based behavior support planning to increase their opportunity to succeed.

Overall, the SWPBIS model has a set of specific goals, which are inherent to the overall prevention process. These include: a) preventing the future development of problem behaviors from arising in schools, b) decreasing or eliminating currently occurring existing discipline problems, and finally c) increasing positive social behavior of all students (Anderson & Kincaid, 2005; Safran & Oswald, 2003; Turnbull et al., 2002). The model offers a systems application appropriate to addressing all school-wide procedures and expectations in the contexts in which behavior occurs and is observed (Sugai & Horner, 2006). To elaborate, this includes school and classroom-wide, specific settings (e.g., cafeteria, bus, hallways, playground), and systems of individual student support.

All these school-wide and classroom management systems should maintain a common purpose: to guide the general population of students by setting clear and positive expectations for encouraging appropriate behaviors and discouraging inappropriate ones. For example, schools will agree on three to five positively stated rules or expectation to be taught, instruct students on how to follow these rules and expectations, then reinforce desired student behaviors that meet this criteria. If students are not following these schools rules, minor mediation can be implemented to correct inappropriate behaviors. Finally, schools need to be able to use data collected on students on a regular basis to determine effectiveness of the school-wide plan (Crone, Horner, & Hawken, 2004; Turnbull et al., 2002).

The abovementioned positive expectations are intended to be implemented in a variety of settings (e.g., classrooms, cafeterias, playgrounds, buses). Such school-wide management systems are used to evaluate and control student behaviors and classroom procedures in an effort to create a more positive learning environment for students and an effective teaching environment for educators. In summary, function-based planning in regards to effective classroom-management and school-wide discipline practices are proven to reduce the amount of behavioral problems occurring in classrooms and across entire school settings (Colvin, Sugai, Good, & Lee, 1997; Sugai & Horner, 2006).

CHAPTER 3: EMPHASIS ON PREVENTION

To address the challenges facing many public schools regarding ineffective school-wide behavior management (i.e., administering "zero tolerance" and punitive policies), the research suggests that having an effective SWPBIS system in place can provide a more proactive and preventive approach to school discipline (Osher, Bear, Sprague, & Doyle, 2010; Sugai & Horner, 2002, 2006). While SWPBIS incorporates a three-tiered model support, schools rely on the primary prevention level to be directed at all students in all situations, and it becomes responsible for providing the largest amount of student support (Crone, Horner, & Hawken, 2004).

Typically, teachers are directly responsible for upholding the primary prevention level of support within their classrooms by teaching relevant social skills, reinforcing appropriate behaviors, and creating positive teaching and learning environments (Lewis & Sugai, 1999; Sugai & Horner, 2006). A study conducted by Espin and Yell (1994) found that the most effective teachers were those that properly utilized basic classroom management techniques and incorporated appropriate preventative measures (e.g., giving clear and consistent directions, carefully identifying rules and expectations). Along with the aforementioned study, there is a significant body of research which suggests that teachers' ability to properly manage student behavior and uphold classroom organizing is paramount to the development of effective teaching practices and positive educational outcomes (Browers & Tomic, 2000; Espin & Yell, 1994).

To assist teachers, a plethora of research-based (or evidence-based) practices have been developed within fields of ABA, PBIS, and special education. The term 'evidence-based' commonly refers to a specific body of scientific work dedicated similar research practices (Hoagwood & Johnson, 2003). Moreover several committees assigned to identify what constitutes an 'evidence-based practice,' developed specific criteria which consists of: a) containing multiple randomized controlled trials, b) completed by a variety of different researchers, and c) demonstrates significant effects on a range on important student outcomes (Flay et al., 2005; Gersten et al., 2005; McIntosh et al., 2010). The implementation of behaviorally-based evidence-based practices has been largely subsumed within the umbrella of SWPBIS interventions (McIntosh, Horner, & Sugai, 2008; Sugai & Horner, 2006). These evidence-based practices usually go through many rigorous ongoing measurements involved in data-based decision making. McIntosh, Horner, and Sugai (2008), further explain that ongoing measurement and evaluation of specific research base is not only a good idea, but also a critical element of sustainability.

Obstacles in Teachers Using Evidence-Based Practices

While many evidence-based practices have been instrumental in assisting with classroom management, obstacles exist in getting teachers to implement these types of practices with fidelity (Oliver & Reschly, 2010; Wehby, Maggin, Partin, & Robertson, 2012). According to Ransford, Greenberg, Domitrovich, Small, and Joacobson (2009) higher levels of teacher stress may influence whether a teacher

will incorporate new management techniques in his or her classroom, regardless of the documented effectiveness of evidence-based practices. In addition, if teachers are not supported and trainings on the use of evidence-based practices are not encouraged, then these practices become less prevalent in schools (Wehby, Maggin, Partin, & Robertson, 2012).

Many teachers have reportedly acknowledged that they are inadequately prepared for class, often identifying barriers in their own ability to manage student behaviors in the classroom (Wehby, Maggin, Partin, & Robertson, 2012). Intuitively, a teacher's challenges in managing classroom behavioral problems are linked with increases in children exhibiting behavioral outburst and receiving referrals (Donovan & Cross, 2002). These behavioral issues can become taxing on teachers. Browers and Tomic (2000) noted that teachers who struggle with classroom management and upholding expectations have reported much higher levels of stress and workplace burnout. Maslach and Jackson (1986) describe burnout as a three-facet concept, characterized by: a) a psychological syndrome of emotional exhaustion, b) depersonalization, and c) reduced personal accomplishment, which can commonly occur when working with others in extended capacities. It often leads to various negative consequences such as school absences, negative interactions with students, and teacher turnovers (Cooley & Yovanoff, 1996; Guin, 2004; Schwab, Jackson, & Schuler, 1986; Wehby, Maggin, Partin, & Robertson, 2012). Regarding teacher turnovers, Ingersoll and Smith (2003) reported that over forty percent of "less experienced teachers" are leaving the profession within their first five years.

Estimated teacher attrition costs are reportedly over seven billion each year in America's public schools (National Commission on Teaching and America's Future, 2007).

Furthermore, evidence suggests that ineffective classroom management has led to higher numbers of teachers referring students in their classrooms to special education, and additionally to more frequent requests for outside behavioral assistance (Donovan & Cross, 2002; Soodak & Podell, 1993). In one study, an urban middle school administrator reported receiving and processing 5,367 discipline referrals in one academic year (Simonsen, Sugai, & Negron, 2008).

While a growing body of research suggests that the adoption and implementation of comprehensive SWPBIS systems within schools is effective in creating support services (Simonsen, Sugai, & Negron, 2008; Sugai et al., 2000), the previously mentioned barriers (burnout and teacher over-stress) have oftentimes contributed to the lack of use of these practices. For example, maintaining a strong primary level of prevention. Burnout disincentivizes teachers from employing such practices, which requires them to employ additional resources and training. Additionally, Kratochwill, Albers, and Shernoff (2004) describe are large portion of schools as traditionally being disorganized in how they collaborate with staff regarding implementation of prevention/intervention programs. In that regard, many schools do not possess the skills and training necessary to implement effective, behaviorally-based, and evidence-based practice for students without the help of

additional outside behavioral specialists (Chandler, Dahlquist, Repp, & Feltz, 1999; Kratochwill, Albers, & Shenoff, 2004)

The "Guess & Check"

To assist teachers in upholding a strong and effective primary level of support within their classroom, teacher-friendly assessment tools – which require little assistance from external staff – could be useful in decreasing minor behavioral occurrences and requests for outside support (O'Keefe, 2001). Currently, there is relatively little research in the evidence-based SWPBIS practices demonstrating the usefulness of teacher-friendly assessment tools in indentifying and correcting minor, low-level behavioral occurrences.

The purpose of the current research study is to validate one such teacher-friendly assessment/primary prevention tool, titled the "Guess & Check." This tool was designed to assist in decreasing the large amount of referrals from general education teachers, and to assess and intervene upon students in their classrooms who are displaying low-level, high frequency problem behaviors. The "Guess & Check" incorporates a simplified function-based approach to behaviorally-based intervention planning, which can be more easily utilized by teachers than traditional individualized function-based assessments.

A pilot study conducted by O'Keefe (2001) gathered preliminary evidence to validate the "Guess & Check's" efficacy as a teacher-friendly assessment form. In the pilot study, O'Keefe (2001) had several general classroom teachers complete the first half of the form, which asked them to input student information and then

hypothetically select an intervention to resolve a problem behavior of their selected student. A satisfaction survey was given to teacher participants eliciting their responses on the form's simplicity, understandability, and perceived applicability. Preliminary results indicated that teachers perceived that the form contained a high degree of clarity and understandability. Additionally, all the teachers indicted that the form provided useful information, and suggested that if they had the chance, they would use it again.

While the pilot study generated preliminary positive findings in regards to teacher satisfaction it is noted that further analysis is warranted to investigate the actual efficacy of the "Guess & Check" in correcting low-level, high frequency problem behaviors. The author also explained that relatively few studies have examined the efficiency of interventions in the general education classrooms on high-functioning students, displaying low-level behavioral challenges.

CHAPTER 4: FUNCTION-BASED APPROACH TO ASSESSMENT

A function-based approach to the identification and evaluation of problem behaviors is critical to the "Guess & Check." Functional behavioral approaches or assessments (FBAs) are widely recognized as an essential component of effective behaviorally-based interventions (for review, Radford, Aldrich, & Ervin, 2000; Sugai et al., 2000). In an effort to explore the significance of FBAs, a further analysis of the literature is needed.

Historically, FBAs have been a very successful means of intervening and supporting individuals with developmental disabilities (Broussard, Northup, 1995; Carr et al., 1994, 1999; Carr & Durand, 1985; Chandler, Dahlquist, Repp, & Feltz, 1999; Reichle & Wacker, 1993). Due to their usefulness in assisting those with high-intensity behavioral disorders, FBAs were further expanded to students in the public educational system exhibiting behavioral concerns as well. For the past 16 years, since the amendments to the Individuals with Disabilities Education Act (IDEA), FBAs have been instrumental in guiding the development of effective, evidence-based PBIS interventions in schools (Sugai & Horner, 2002). Furthermore, in an effort to create broad systems of support for schools, FBA trainings have aided in the implementation of school-based teams, which are capable of preventing and intervening on students exhibiting challenging behaviors (Chandler, Dahlquist, Repp, & Feltz, 1999).

Sugai, Lewis-Palmer, and Hagan-Burke (1999) described an FBA a systematic process for understanding the causes and consequences of problem

behaviors and what factors contribute to their continuances. The authors explicate that the process has four fundamental components: identification of the problem behavior and the triggering antecedents (events which make the behavior likely to occur), the determination of the maintaining consequences (events which make the event likely to occur again in the future), and finally the discovery of the setting events (which increase the severity of the problem behavior. These steps comprise the basic tenants of an FBA, which aid in both the assessment and the development of individualized behavioral intervention plans (BIPs) (Ingram, Lewis-Palmer, & Sugai, 2005).

To clarify the process further, Cooper, Heron, and Heward (2007) cite FBAs as a four-step procedure. First is the gathering of information through indirect and descriptive assessments, second is the interpretation of information collected indirect and descriptive measures, third is the formulation of hypotheses-based of interpretation of data, and finally the development of an intervention based upon the function of the problem behavior. In summary, the FBA process is a problem-solving strategy for understanding and determining causes of behaviors using an A (antecedent)-B (behavior)-C (consequence) approach to assessment (Gresham, Watson, & Skinner, 2001). Once problem behaviors, and the context in which they occur, are correctly identified, suitable behavioral planning and interventions can be carried out to meet the needs of these struggling students (Sugai, Lewis-Palmer, & Hagan-Burke, 1999).

In keeping with the literature, the "Guess & Check" was created and designed to assess and intervene with students using an FBA approach. A similar four-step procedure to that mentioned above by Cooper, Heron, and Heward (2007) and Sugai, Lewis-Palmer, and Hagan-Burke (1999), will be carried out by classroom teachers to correctly develop targeted interventions for students displaying low-level, high frequency problems behaviors. The "Guess & Check" is a teacher-guided intervention, intended to be easily useable and convenient for classrooms, while still holding true to FBA efficacy.

Purpose Statement and Research Questions

The rationale for the current study is two-fold. First, it aims to validate the previous findings regarding the high usability and clarity of the "Guess & Check" (O'Keefe, 2001). Secondly, the study will determine the efficacy of the "Guess & Check" as a teacher-guided assessment tool. The specific research questions to be addressed are:

1. Is there agreement between teacher-generated hypotheses and alternative functional assessment strategies collected by researchers (i.e., teacher interviews, descriptive direct observations)?
2. Is the primary prevention assessment tool, the "Guess & Check," effective in reducing low-level, high frequency problem behaviors?

CHAPTER 4: METHODOLOGY

The following chapter discusses the procedures used to conduct and carry out two successive studies. Together, the studies sought to answer the critical research questions mentioned in the previous chapter. Study I was descriptive in nature, and aimed to determine whether agreement exists between teacher-generated hypotheses using the "Guess & Check," and other indirect and direct FBA measures used by the graduate student researcher (i.e., teacher and student-guided functional assessment interviews, and direct observations).

Study II was experimental and aimed to validate the teacher's Functional Behavioral Assessment and Behavioral Intervention Plan (FBA-BIP), by examining the effectiveness of the teacher-guided intervention developed using the "Guess & Check," to decrease a student's problem behaviors exhibited within the classroom context. In order to examine the effectiveness of the teacher's FBA-BIP, a single case design, ABAB withdrawal design was implemented to assess and demonstrate experimental control (Barlow & Hersen, 1984; Kazdin, 2011).

The two successive studies attended to the following research questions:

1. Is there agreement between teacher-generated hypotheses and alternative functional assessment strategies collected by researchers (i.e., teacher interviews, descriptive direct observations)?

2. Is the primary prevention assessment tool, the "Guess & Check," effective in reducing low-level, high frequency problem behavior(s)?

Study I

Setting and Participants

Setting

One suburban elementary school (K-5th), located in the Pacific Northwest with a working history of implementing PBIS practices (Dunlap, Carr, Horner, Zarcone, & Schwartz, 2008; Sugai et al., 2000) participated in the two-fold study. A prerequisite for a school's participation was that it must have experience implementing PBIS practices due to the theoretical principles employed within the current study. The PBIS adopted policies in schools are focused on the identification, adoption, and sustained use of research-validated practices (Sugai et al., 2000), which aligns with the goals of the current study.

Participants

Two different participant populations were included: (a) teacher and (b) student. As a requirement for participation, the teacher must have (a) identified a specific student within his or her classroom exhibiting low-level, high frequency behavioral problems, (b) be self-nominated, and (c) provide informed consent to willingly and voluntarily participate. One fourth-grade female elementary school teacher volunteered to participate. The teacher had currently been teaching for seven years and two of those years at this particular school.

The second participant population included one fourth-grade elementary male student. As a requirement for participation, the student had to (a) be enrolled in a elementary school, (b) be identified by his or her classroom teacher as displaying

consistent low-level high frequency behavioral problems (i.e., disruptions, noncompliance, inappropriate location, no work completion), and (c) provide informed parental consent and student assent. It is also important to note, that the student participant was also a former student in the teacher-participant's second grade class, and she had reported that the behavior problems he was having currently were similar to those in second grade.

Experimental Design and Procedures

Design

The two-fold study combined both descriptive and a single case experimental design. Study I, included a descriptive case study which sought to determine if agreement existed between teacher-generated hypotheses using the "Guess & Check," compared to well-established and scientifically-validated functional assessment tools: Functional Behavioral Assessment Interviews (FBAIs) with teacher and student, as well as, direct observational data sheets collected by the student researcher. A table of contents similar to that of Lewis-Palmer (1998), was created to effectively show the combined studies' purpose, research questions, and designs; see Table 1.

Procedures

Once consent forms were obtained from the teacher, student, and student's guardian; teacher interviews were scheduled. During the initial interview, the teacher was first given the "Guess & Check" form to complete (Appendix A). Upon independently completing the "Guess & Check," the teacher was then interviewed

using a structured teacher-guided functional behavioral assessment interview (FBAI)

(Lewis, Wilcox, & Kittelman, 2011) (Appendix B). Following the teacher interview,

a student interview was conducted using a similarly structured elementary student-

guided functional behavioral assessment interview (FBAI) (Place & Lewis, 2013)

(See Appendix C). Lastly, the final data collection approach involved collecting

multiple descriptive direct observations across school days (See Appendix D).

Table 1. Overview of Research Questions and Designs

Purpose	Research Question	Process	Design
Hypothesis Development	Is there agreement between teacher-generated hypotheses and alternative functional assessment strategies	Study I	Descriptive case study
Hypothesis Verification	Is the primary prevention assessment tool effective in reducing low-level, high frequency problem behavior(s)?	Study II: Intervention development and implementation	ABAB Withdrawal study

Information collected from the "Guess & Check" and the teacher and student

interviews was used to determine the setting and time period for the descriptive

direct observational data to be collected. Two settings were determined to be high-

risk, in which the student engaged in inappropriate behaviors most frequently.

Specific classroom settings and high risk antecedent conditions in which

inappropriate behaviors were most likely to occur is presented in Table 2.

Specific questions from the teacher and student FBAIs, and direct observation sheet were compared to the "Guess & Check" to determine if the form provided consistent information, and to determine if there was agreement across student responses. Questions that were compared for agreement across all four measures are provided in Table 3.Together these functional assessment strategies were used to determine the (a) antecedent event(s), (b) descriptions of problem behavior(s), c) maintaining consequence(s), d) setting event(s), and e) the hypothesis statement(s) for the student participant. Agreement upon all similar information obtained from the four measures was analyzed once descriptive data was collected.

Table 2. Summary of High Risk Classroom Settings and Antecedent Conditions

High Risk Classroom Settings	Antecedent Conditions
Math/Literature	Difficult/ hard to understand work (academic demands)
	Completing independent work
	Peer encouragement (peers talking/ close by)

The "Guess & Check"

The teacher was first asked to complete the "Guess & Check" (O'Keefe, Lewis-Palmer, & Sugai, 2001). Her task was to (a) identify the problem behavior, (b) identify/ define triggering antecedent, (c) identify the consequences, (d) identify the setting events, (e) develop a hypothesis statement, and (f) Identify strategies for a support plan.

Table 3. Descriptive Functional Assessment Strategies used in Study I

Type	Source	Questions/Purpose
The "Guess & Check"	O'Keefe, Lewis-Palmer, & Sugai (2001)	1. Identify Problem Behavior(s) 2. Identify Triggering Antecedent(s) 3. Identify Consequence(s) 4. Identify Setting Event(s) 5. Develop Hypothesis Statement 6. Identify Strategies to Implement
Teacher FBAI	Lewis, Wilcox, & Kittelman (2011)	1. Identify/ Define Student's Strengths 2. Identify/Define Problem behavior(s) 3. Identify/ Define Triggering Antecedent(s) 4. Identify Maintaining Consequences 5. Identify Setting Event(s) 6. Develop Hypothesis Statement.
Student FBAI	Place & Lewis (2013)	1. Identify/ Define Student's Strengths 2. Identify Problem Behavior(s) 3. Identify Triggering Antecedent(s) 4. Identify Reinforcers for Student 5. Identify Setting Event(s) 6. Develop Hypothesis Statement 7. Identify Strategies to Implement
Direct Observation	10 Second Partial Interval Sheets	1. Identify Antecedent(s) 2. Identify Problem Behavior(s) 3. Identify the Consequence(s)

Teacher FBAI

Upon completion of the "Guess & Check," the teacher was interviewed using a teacher-guided functional behavioral assessment interview (FBAI) form modified by Lewis, Wilcox, and Kittelman (2011). While completing the structured FBAI interview, the teacher was asked specific questions concerning identifying and defining the student's: a) strengths, b) problem behavior(s) of concern, c) triggering antecedent(s), d) maintaining consequences, e), setting events, f) hypothesis statements, and g) possible behavior support plans.

Student FBAI

Once the teacher interview was complete, a student interview was conducted using a student-guided functional assessment interview (FBAI) form created by Place and Lewis (2013). The student-guided FBAI was useful in providing information regarding problem behavior(s) and the student's academic and behavioral history. The purpose of conducting the student-guided FBAI was to identify and define the student's: a) strengths, b) problem behavior(s) of concern, c) triggering antecedent(s), d) student reinforcer(s), e) setting event(s), f) develop hypothesis statement, and g) and possible strategies for a support plan.

Direct Observation

To record direct observational descriptive data on the student, a 10 second partial interval data system was used to collect information on a) antecedents, b) behaviors, and c) consequences, as well as identify appropriate and inappropriate behaviors. Each observation lasted approximately 10 minutes per each classroom

observation. All information gathered was coded using the coding system developed by Lewis-Palmer (1998), and modified to fit the current student's behavior(s) and consequences. See Appendix E, for the operational definitions of all codes (i.e., behaviors, and consequences).

<div align="center">**Reliability**</div>

Inter-rater Agreement

One other researcher participated in both studies. For Study I, the second researcher assisted in both interviewing and collecting descriptive direct observational data. The secondary researcher also assisted in determining inter-rater agreement between the "Guess & Check," and other FBA forms (i.e., teacher, and student FBAIs). Additionally, she assisted in collecting direct observational data and collecting inter-observer agreement.

Inter-rater agreements were conducted on all three FBA forms used in Study I (i.e., the "Guess & Check," teacher, and student-guided FBAIs). Specifically, Inter-rater agreement was collected and determined by comparing information on each of the forms regarding the (a) student's strengths, (b) setting events, (c) triggering antecedents, (d) target behaviors, (e) maintaining consequences, and (f) behavioral plan recommendations.

Due to the small number of questions on each FBA form, inter-rater agreement checks were completed on 100% of comparisons. All inter-rater agreement comparisons are included on Table 4. High agreements were found for all three form comparisons, with ranges from 85.7%-100% for "Guess & Check"

compared to the teacher FBA, 90.9% -100% for "Guess & Check" compared to student FBA, and 90% -100% for teacher FBA compared to student FBA.

Simple agreements and non-agreements were calculated on open-ended and closed-answer items (i.e., checklist items). Agreement checks were completed for all questions. Firstly, calculating simple agreement on open-ended items involved dividing the number of agreements by the number of agreements plus the number of non-agreements and multiplying by one hundred. Secondly, calculations of closed answer items (i.e., checklist options on forms) involved evaluating the occurrence of agreements and non-agreements. Closed-answer agreement was determined by dividing the number of agreements for occurrences by the number of agreements and non-agreements and then multiplying by one hundred.

Table 4. Inter-rater Agreement on FBA Forms used in Study I

Descriptions	"Guess & Check"- Teacher FBAI	"Guess & Check"- Student FBAI	Student FBAI Teacher FBAI
Strengths	_	_	100%
Setting Events	100%	100%	100%
Antecedents	100%	100%	100%
Behaviors	85.7%	90.9%	90%
Consequences	100%	100%	100%
Hypothesis Statements	100%	93.8%	100%
Support Plan	100%	100%	100%

Interobserver Agreement

Direct observations took place in one classroom during two different subject periods: math and literature. These specific periods were identified by the teacher and student during interviews as being high risk situations. Observations took place for approximately 10 minutes, using a 10 second partial interval recording that coded for (a) antecedents, (b) behaviors, and (c) consequences. Operational definitions for all codes (i.e., antecedents, behaviors, and consequences) were agreed upon by the researchers prior to data collection based on initial interviews with teacher and student (Appendix E).

Interobserver agreement (IOA) was collected and monitored throughout the study, and if agreement was found to be below 85%, additional retraining and review of operational definitions occurred. Only during one observation did IOA drop below 85% for behaviors, while both antecedents and consequences remained above. Researchers met to discuss disagreements and no additional re-training needed to occur.

Interobserver agreement was collected randomly at 25% of observations, and distributed across days and class periods. Calculations for interobserver agreement were determined by dividing the number of agreements plus the number of disagreements and multiplying by one hundred. Interobserver agreements on direct descriptive data collected for Study I and II is presented in Table 5. Overall, average agreement was 95.7% for antecedents, 93% for behaviors, and 93.2% for consequences.

Table 5. Interobserver Agreement on Direct Observations for Study I and Study II

Antecedents	Behaviors	Consequences
87%	83.3%	90.7%
94.7%	96.4%	98.2%
95%	91.6%	85%
96.6%	93.3%	100%
98.3%	96.6%	88.3%
98.3%	93.3%	100%
100%	96.7%	90%
Overall		
95.7%	93%	93.2%

Data Analysis for Study 1

The "Guess & Check" was compared to the other well-established FBA measures. Results were compiled into a table format consistent across questions asked on the FBA measures: which included (a) student's strengths, (b) setting events, (c) triggering antecedents, (d) target behaviors, (e) maintaining consequences, and (f) behavioral support recommendations, once appropriate inter-rater and interobserver agreement was established by the researchers. This information was collected and organized to effectively address the first research question, concerning whether there was agreement on teacher-generated hypotheses using "Guess & Check" compared to the hypotheses developed by the researches using the other well-established FBA forms.

Study II

Setting and Participants

Setting

An intervention was designed and implemented on the student within his fourth-grade classroom, based on the information the teacher selected on the "Guess & Check." The intervention was intended to be implemented during two classroom subjects: math and literature which were located in the same classroom. As mentioned previously, these particular classes were determined to be high risk based on the agreement data gathered from "Guess & Check" and other FBA measures. The classroom had one teacher and 26 students.

Experimental Design and Procedures

Participants

The same participants in Study I also participated in Study II. The primary reason being, that student agreement was found across the "Guess & Check" and other FBA measures, and problem behaviors exhibited by student were considered appropriate for the use of the piloted form.

Experimental Design

Study II, served two purposes. The first was to validate the suggested behavioral intervention for the student, which was selected by the teacher using the "Guess & Check" form. The second was to assess the effectiveness of the intervention, by observing decreases in the occurrence of problem behavior(s) in student participant.

Informed consent and assent protocols carried over from Study I, and Study II data collection had begun while Study I was still in progress. It was initiated promptly in order to protect against extended delay in implementing and testing behavioral support plans. The effectiveness and accuracy of the teacher-generated hypotheses using the "Guess & Check" were assessed by means of an ABAB withdrawal single case design.

Traditionally, an ABAB withdrawal design is considered the most "straightforward and generally most powerful within-subject design for demonstrating a functional relationship between an environmental manipulation and a behavior [change]" (Cooper, Heron, & Heward, 2007, p. 177). The single case design requires at least three repeated measures of behavior in a specific setting, over at least three consecutive phases. Phase I (i.e., baseline) must include at least three measurements of behavior where the independent variable is absent. Phase II (i.e., baseline) must include at least measurements of behavior where the independent variable is introduced and implemented. The following two phases are then repeated in the exact same fashion for phases III and IV. A more detailed, in-depth description of the phases is described below.

For the current student participant, the ABAB design was put in place to monitor the changes in student behavior (i.e., appropriate and not-engaged), based on the plan's recommendations and analysis problem behaviors. During the creation of the behavioral support plan, information gathered from the FBA measures was incorporated into the intervention phases of the study. For example, the student had

previously mentioned that he would like the teacher to check-in with him more often, which was then included in the plan.

Baseline: A Phase

The descriptive direct observation data collected in Study I provided the initial baseline data for Study II. During the initial A phase, behavior is observed before intervention is implemented. Kazdin (2011) explains that there are two important reasons for this, 1) to be able to describe observable behavior prior to intervention, and 2) to predict what behavior would look like if there was no intervention put in place. Being able to predict future behavior in the baseline condition allows the researcher to gain confidence in the intervention (i.e., B phases) by observing a departure in behavior from predictions held prior to the A phases.

Intervention: B Phase

The B phases consisted of the implementation of intervention based upon the teacher-guided hypotheses using the "Guess & Check" measure. The intervention phases are similar to the baseline phases, in that they serve the purpose of describing and measuring behavior and predicting performance of future behavior if conditions were left unchanged (Kazdin, 2011). However, alternatively, during baseline phases predictions are made about future behavior without the influence of interventions, and during the intervention phases the experimenter tests whether behavior changed as compared to the previous condition (Kazdin, 2011).

Procedures

To examine the effectiveness of the intervention on problem behaviors(s), an ABAB single subject, withdrawal design was incorporated. Antecedent and consequence manipulations were incorporated within the intervention (i.e., modified work assignments, and teacher attention) and implemented during the intervention conditions by the teacher. All manipulations were designed to be introduced within the context of the reported high risk settings in the student's classroom (i.e., math and literature).

The behavioral plan was specifically put in place to address the inappropriate behavior that the student was displaying in the classroom. Information collected on the "Guess & Check" and other FBA measures (i.e., teacher and student guided FBA, and direct observation sheets) was incorporated into the plan. Once developed, the plan was presented to the student for feedback and clarification, and then introduced by the student's teacher.

It is important to note that all baseline conditions were reinstated after each return from intervention (i.e., phases B) to baseline phases (i.e., phases A). For example, the student was given a modified work assignment folder to complete during intervention phase, and the modified work folder was not given give during baseline phases.

Dependent Measures

Similar to Study I, the student's behavior(s) were observed and monitored continuously throughout. Behavior was recorded in each conditional phase of the

ABAB withdrawal design, using the same 10 second partial interval recording direct observation sheets as with the previous study. The student's behaviors were recorded and graphed as being either appropriate or inappropriate (i.e., non-engaged) in the classroom context. Based on the teacher and student interviews, and after reviewing direct observational data, non-engaged was deemed as the underlying behavior that other inappropriate behaviors manifested from (i.e., talking with peers, leaving specified area, off-task). To assess the fidelity of implementation, interobserver agreements were taken with the assistance of a secondary researcher.

Reliability

Interobserver Agreement

Interobserver agreement taken throughout Study I and Study II were used to complete the ABAB withdrawal was collected on 25% of all observations and across phases (refer back to Table 6). The additional data collector that assisted in Study I also assisted in collecting data and interobserver agreement comparison for Study II. Since both data collectors had already participated in collecting Study I descriptive data, they did not require additional training for the Study II. However, additional training did occur if interobserver agreement data fell below 80%.

Data Analysis for Study II

Visual analyses were used to make data-based decisions in determining where and when to make appropriate changes within phases. These changes are made based on four recommendations put described by Cooper, Heron, and Heward (2007). The author's suggestions include that data within a specific phase condition

be examined according to (a) the number of data points provided, (b) the nature and extent of variability in the data, (c) the absolute and relative level of behavioral measure [change], and (d) the direction and degree of any trend(s) in the data.

For clarification on the criteria, Cooper, Heron, and Heward (2007) state that the larger "number of data points" per unit of time and the longer the period of time increases the confidence of future estimations of behavior. Secondly, the "degree of variability" within a condition indicates how much control researchers have. For example, if there are high amounts of variability within an intervention (i.e., B phase), the researcher has achieved little control over factors influencing behavior. Third, examining the "level" of behavioral change is determined by finding mean performance during each conditional phase, and illustrating this by inputting it into a mean level line (i.e., a horizontal line drawn from a series of data points within a specific conditional phase). And lastly, "trend" refers to the overall direction the data path has taken (i.e., the rate of increase or decrease in performance overtime).

The student participant's specific behaviors (dependent measures) and the interventions (independent measures) were specialized according information obtained from the "Guess & Check." Besides meeting the aforementioned criteria when evaluating the student's data across each phase, it is crucial to have a clear demonstration of the efficacy of the intervention (independent measure) on at least two occasions of behavior (dependent measure) for a successful ABAB withdrawal design (Barlow & Hersen, 1984).

A main strength of the ABAB single case design is that often times various threats to internal and external validity of the study can be mitigated due to the multiple administrations of the independent variable at different points in time across data phases (Kazdin, 2011). For example, while a threat to the internal validity (e.g., teacher changes child's seating) might cause a coincidental change in behavior at the same time an intervention is put in place, it would be less likely to explain behavioral change at another phase in time.

CHAPTER 5: RESULTS

The results for Studies I and II are separated into two sections. The first

section presents and compares the agreement results across the three FBA measures

used in Study I. The second section presents and describes the results for Study II

involving the implementation of the teacher-guided behavioral intervention plan

(BIP). The teacher intervention is analyzed using a single case withdrawal design.

Study I: Functional Assessment Agreements

Study I compared three different functional assessment procedures: (1) the

"Guess & Check," (2) the teacher-guided FBAI, and (3) the student-guided FBAI.

After inter-rater agreement comparisons were established and determined to be

adequate, agreement comparisons across FBAI forms were analyzed. Agreements

across both closed and open-ended questions, on all three forms, were examined and

compared, which included: (a) student strengths, (b) setting events, (c) antecedents,

(d) behaviors, (e) maintaining consequences, and (f) behavioral intervention plans

(BIPs). The information gathered on the student participant on all three forms is

presented in Table 6.

Table 6. Summary of Information Identified during Interviews

Question Type	The "Guess & Check"	Teacher FBA	Student FBA
Student Strengths	_	Enjoys sports Math (sometimes) Sociable Relationship with guardian	PE Football Math (sometimes) Science
Setting Events	Home conflict Not understanding work	Conflict at home Illness/ pain Conflict at school	Fight with guardian Tired Hungry Doesn't feel well Fight with friend Tease by other Too noisy
Antecedents	Independent work Peers	Specific task (independent work) Peer encouragement	Hard work Literature/ math/science/ music Not understanding work Peers bothering you Too much noise in room Teacher correcting you Teacher busy with others
Behaviors	Disruptive/talk out No work completion Leave area Noncompliance	Disruptive/ talk out No work completion Late to class/ purposefully stalling (procrastination)	Disruptive/ talk out Talking Keeping hands to self Don't do work Don't participate Stay on-task Upset/crying
Consequences	Get peer/adult attention Escape work demands Escape peer/ adult attention	Obtain peer attention Obtain adult attention Avoid teacher demands	Get teacher attention Get peer attention Get different task
Behavioral Plan	Modify amount of work Provide extra assistance Student contract Increase praise/attention Change seating Establish/teach routine	Modify amount of work Provide extra assistance Student contract Increase praise	Give you less work Plan with teacher Complete assignment differently Teacher asks if needs help Help from peer Teacher praises good work Note home to guardian More reminders Take break Visit brother

"Guess & Check" to Teacher FBAI

When comparing the "Guess & Check" to the teacher FBAI, agreement on setting events was determined to be at 40 % (2/5). Agreement on antecedents across the two measures was found to be at 100% (4/4). For behaviors, comparisons revealed 85.7% (6/7) agreement. Agreement on maintaining consequences came to 83.3% (5/6). And, when determining whether agreement existed across BIP recommendations, the forms reached 80% (8/10) agreement.

"Guess & Check" to Student FBAI

Next, when comparing student's setting events on the "Guess & Check" compared to the student FBAI, agreement was at 33.3% (3/9). Agreement on antecedents was at 77.8% (7/9). On behaviors agreement was calculated at 72.7% (8/11). Next, agreement for maintaining consequences between the "Guess & Check" compared to student FBAI reached 83.3% (5/6). And lastly, across BIP recommendations, agreement was determined to be 81.3% (13/16).

Teacher FBAI to Student FBAI

For the last form comparisons, setting events on the teacher FBAI were compared to the setting events on the student FBAI, and agreement reached 90% (9/10). Agreement across antecedents, and behaviors both also reached 90% (9/10). Concerning maintaining consequences, agreement was calculated to be at 100 % (6/6). And lastly, agreement for BIP recommendations was calculated to be at 85.7% (12/14).

Agreement comparisons could not be made regarding student's strengths between the "Guess & Check" and the teacher or student FBAIs due to the fact that information concerning student's strengths was not included on the "Guess & Check form. However, information on student's strengths was included and compared on the student and teacher FBAIs. Agreement between these forms on student's strengths was calculated to be at 62.5% (5/8). A visual representation of all agreements found between the "Guess & Check" and FBAI forms is presented on Figure 1.
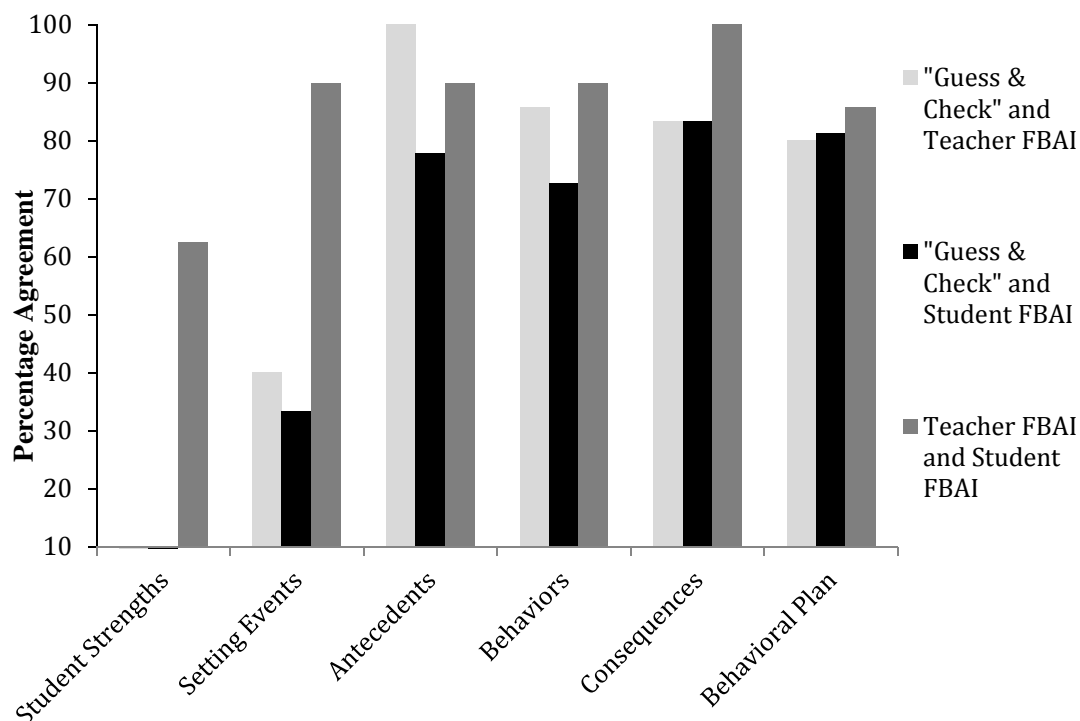

Figure 1. Percent agreement comparing content of the "Guess & Check," teacher and student FBA questions.

Study II: Behavioral Intervention Plan and Implementation

Student-Based Hypothesis Statements

The pseudo name Kyle was given to the student participant in the interest of confidentiality. Through the initial functional assessment interviews, two student-based hypothesis statements relating to problem behaviors were identified and developed. All information regarding the student's problem behavior was collected during the interviews and consolidated into two response classes: off-task and classroom disruption. The primary maintaining function of his engagement in off-task behaviors was to escape academic demands. The primary maintaining function of his classroom disruption was to gain teacher and peer attention. Information relating to Kyle's complete hypothesis statements is presented in Figures 2 and 3.

Setting	Triggering Antecedents	Behaviors	Maintaining Consequences
Home Conflict	Independent work Peers	Disruption	Obtain Teacher/ Peer Attention
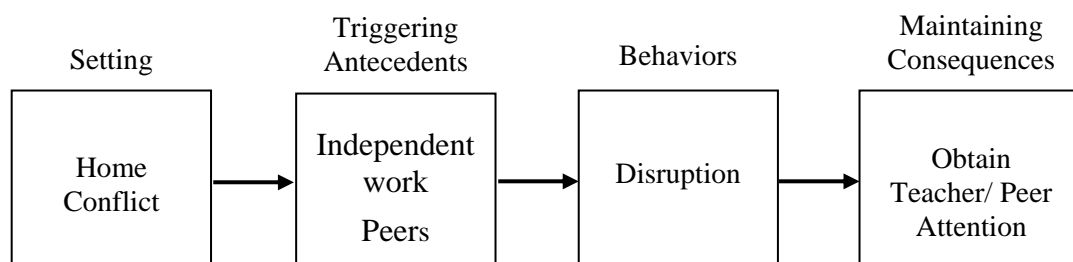
Figure 2. Kyle's first student-based hypothesis statement.

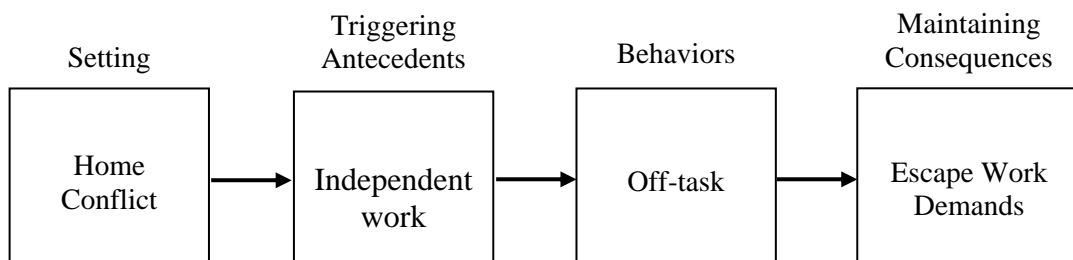| Setting	Triggering Antecedents	Behaviors	Maintaining Consequences
Home Conflict	Independent work	Off-task	Escape Work Demands

Figure 3. Kyle's second student-based hypothesis statement.

Consistency in information provided on FBA forms and through direct observations confirmed these hypotheses. Overall appropriate behaviors were at 58.4% of the intervals, disruptive at 17.9%, and off-task at 23.8% prior to implementation of intervention in math class. While two hypothesis statements were created describing two separate response classes, the first was chosen to be the focus of Study II. The teacher had previously stressed the importance of intervening more immediately on Kyle's disruptive behavior during the FBA interview process, thus this was emphasized as the focus of the study.

Behavioral Intervention Plan

Once baseline data was collected on Kyle, the classroom teacher was provided with a behavior intervention plan summary based on the recommendations she indicated on the "Guess & Check," (See Appendix F). Additionally, Kyle was presented with a student contract (Appendix G), which was read to him, detailing the specific components of how the plan functioned. Kyle's feedback of the student contract was encouraged, and any clarifying information was given. Once Kyle agreed with the specific components of the contract, he and his teacher were instructed to sign it.

Five different elements were included to form the complete behavioral intervention plan (BIP). First, Kyle was presented with an extra work folder to remain on his desk during class time. Based upon the selected hypothesis statement, Kyle struggled with completing independent work because of the level of difficulty, often when Kyle was struggling with class work he would become disruptive (i.e.,

talk out, throw objects at peers, walk around the room, play with items on his desk or in the classroom). The extra work folder was assembled with simpler assignments that Kyle could complete while waiting for the teacher to help him. Secondly, the student was given a "help card," and instructed to place it visibly upon his desk when he needed help and to start completing easier work in the extra work folder (Appendix H). Next, a tracking sheet was also placed on Kyle's desk (Appendix I). The teacher was instructed to award points on the tracking sheet based upon how the student was behaving every 15 minutes of class time. Kyle was awarded 5 points for quietly working on his assignment, 4 points if he was doing the extra work in his folder while waiting patiently for help, and 1 point if he was waiting quietly. No points were awarded for disruptive behavior. By the end of each class period, Kyle needed to earn a total of 10 points to receive a token from the menu list created for him based on feedback from the student and teacher prior to the creation of the BIP (See Appendix J). The menu list included items that Kyle mentioned he would like to earn (i.e., lunch with his brother, 5 minute break, get to work with a friend). Lastly, a Kyle was given a student self-tracking sheet to monitor the points he earned per day (Appendix K).

Math Class

Both participants agreed that math and literature were classes in which inappropriate behavior were most likely to occur. Direct observations were taken on Kyle in both classes throughout Study I and II. Once baseline data was collected, Kyle's BIP was put in place in math class to reduce and stabilize inappropriate

behaviors (i.e., disruptions and off-task). Results of Kyle's BIP are described and visually depicted using the ABAB withdrawal design presented in Figure 4.

In evaluating the visual analysis of the data, researchers examined and compared changes in level and trend between adjacent ABAB conditions, as well as reviewed performance across similar conditions. These multiple measures furthered strengthened the demonstration of experimental control within the study.

During the initial baseline phase (A phase) Kyle's performance in math was observed on four occasions before intervention phase was applied. Kyle had moderately high rates of inappropriate behavior (mean 41.7%) with a high, variable level of responding (range 11.7%). The first four data points demonstrate a high change in level and a slight gradual increase in trend.

Once the student's BIP was administered during the first intervention (B phase), there was a change in both level and trend in behavior. The percentage of inappropriate behavior decreased from 40% during baseline to 13.3%, demonstrating a 26.7% decrease immediately upon intervention. Five total observations were taken during the first intervention phase. While inappropriate behavior was significantly lowered, the first two data points were initially marked by higher, more variable levels of responding. However, the last three days of intervention were followed by a lower level, more stable rates of responses. Overall, the intervention phase demonstrated a gradually decreasing trend, with lower rates of inappropriate behavior (mean 14.5%). Once observations were completed in Kyle's math class and behavior had begun to stabilize, confidence was gained in demonstrating the data

path's "estimation of true behavior change," a phrase coined by Cooper, Heron, &

Heward (2007).

As Kyle's rates of inappropriate behavioral responses lowered and stabilized,

the intervention was withheld for the second baseline (A phase) to restore the

conditions of the initial phase. During the first observation day in the second baseline

phase, no change in either level or trend between the two conditions was observed.

However, the following next three observations represented an extremely high,

rapidly increasing trend with low amounts of variability. The average percentage of

inappropriate behaviors increased to 37.2% during the second baseline phase. Each

of the next three observations showed a marked return to the previous baseline

condition. And, once the percentage of inappropriate behaviors reached 66.7%

during the last observation day the second intervention phase was implemented.

A return to the second intervention (B phase) was marked by a significant

change in trend and level. Four observations were taken during the second

intervention condition. Percentage of inappropriate behaviors dropped from 66.7% in

baseline, to 13.4% when the student's BIP was re-implemented. And, the following

three observations were characterized with a low, stable level of responding and

variability, and a gradually decreasing trend. The mean percentage of inappropriate

behaviors decreased dramatically to 6% during the second B phase. Additionally, a

one month follow-up observation continued to show a lower percentage (10%) of

inappropriate behaviors displayed in math.
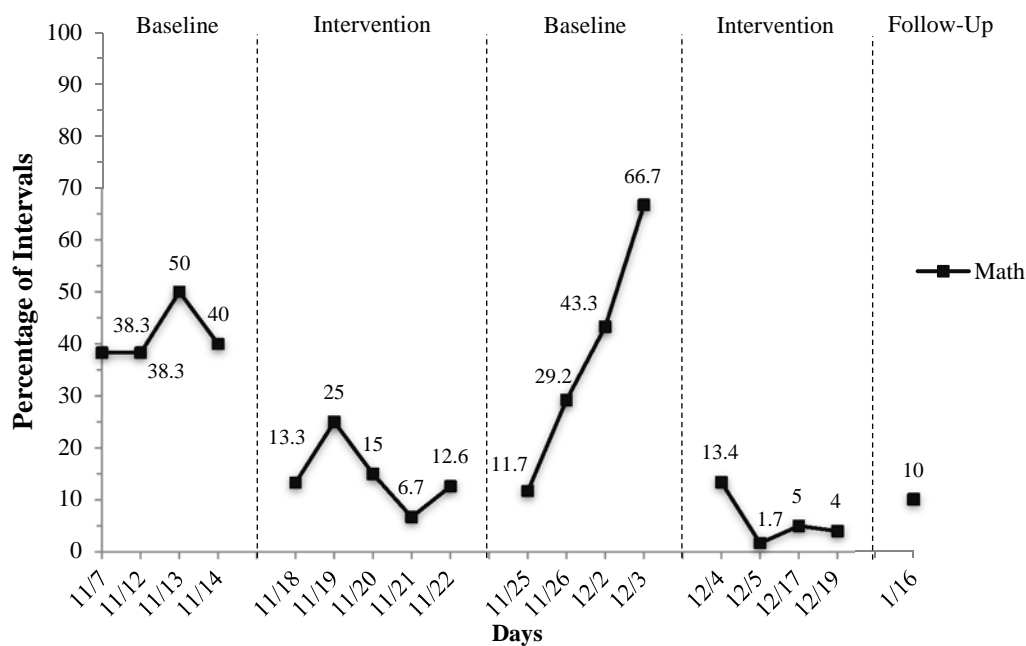
Figure 4. Student's inappropriate behavior (10 second partial interval) across phases of Study II.

Based on the results obtained from the ABAB withdrawal design with regards to gaining experimental control, the BIP was successful in decreasing the percentage of inappropriate behavior that Kyle displayed in math class. Furthermore, while researchers hypothesized that levels of inappropriate behavior in the response class designated for classroom disruption would decline, researchers found that off-task behavior also decreased considerably throughout the study. Figure 5 separates and examines the different inappropriate behaviors displayed by Kyle during each of the ABAB withdrawal phases. It is worthy to mention that disruptive behavior, by the second intervention (B phase), almost completely vanished and was negligible even during the one-month follow up.
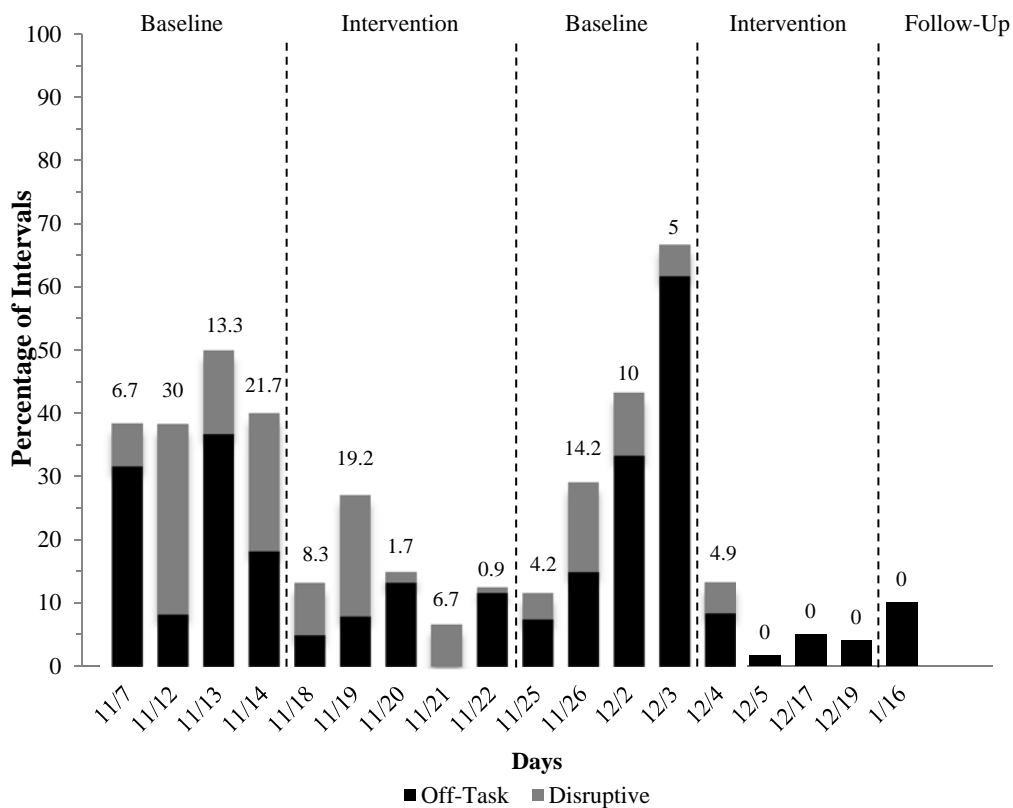
Figure 5. Percentage of Kyle's off-task and disruptive behavior (10 second partial interval) across withdrawal phases of Study II.

Literature Class

Due to the importance of intervening with Kyle in both math and literature classes, it was initially expected that the intervention would be implemented in literature. However, during the first intervention (B phase) in math class, Kyle's level of inappropriate behavior in literature began to decrease. The decrease in inappropriate behavior continued to decrease throughout the implementation in math class. Once problem behavior in literature dropped to 13.3%, it was deemed unnecessary to implement the BIP. Based on the visual analysis of the data presented in Figure 6, changes in level and trend were most evident between November 18 and

November 21st in literature class. Prior to November 18, the data demonstrated high variability and did not indicative of any overall level of change in behavior. However, on November 18 and onward inappropriate behaviors gradually decreased with each observation. This concomitant decline in inappropriate behaviors in literature is hypothesized to be a result of the BIP implemented in math.
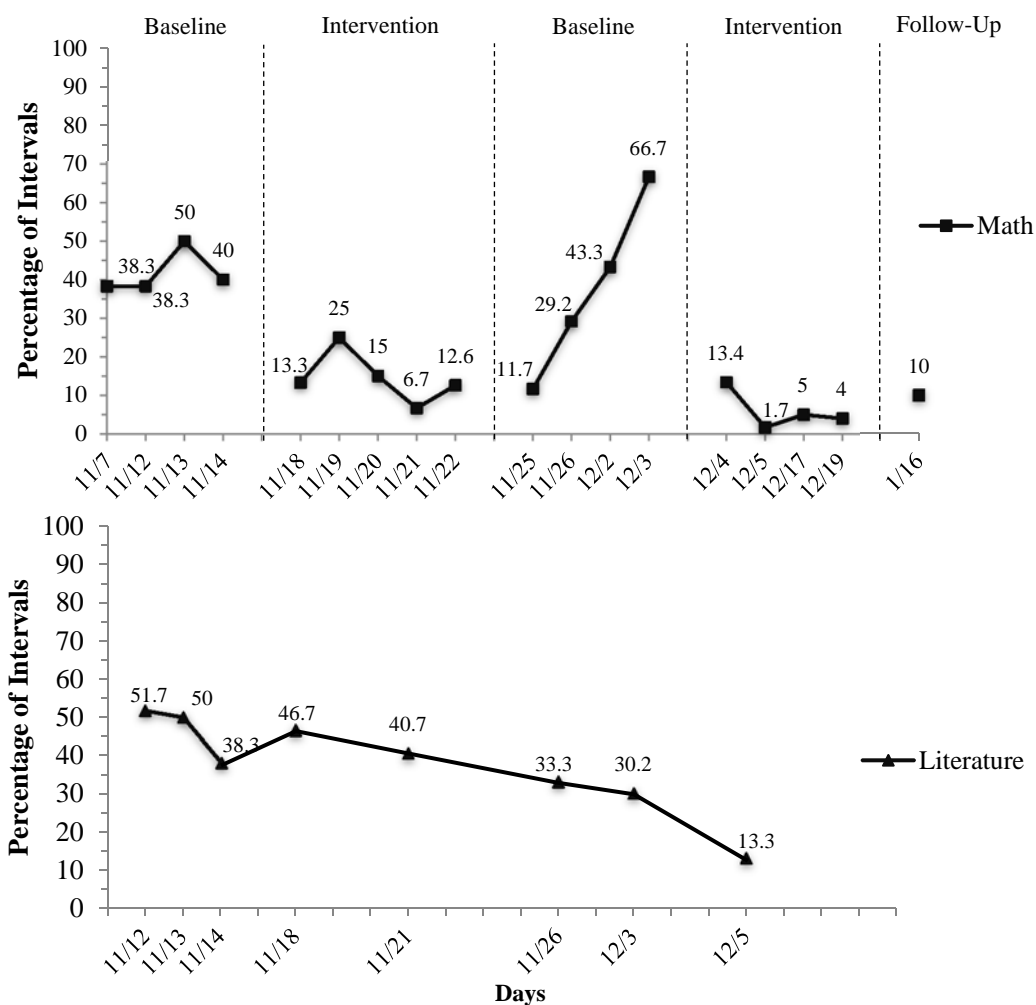

Figure 6. Student's inappropriate behavior (10 second partial interval) across math and literature class.

CHAPTER 6: Discussion

The purpose of this two-fold study was to examine the usability and effectiveness of a teacher-guided prevention assessment tool titled the "Guess & Check" (O'Keefe, Lewis-Palmer, & Sugai, 2001). Two consecutive studies were conducted. Study I sought to compare and validate the measure against other well-established FBAI measures in the field by assessing agreement across student-based information. Study II examined whether the "Guess & Check" was effective in assisting a teacher to develop and implement a successful student BIP.

In this chapter, results of the concurrent studies are further summarized and elucidated. A review of the research questions are discussed in more detail, followed by a discussion of the strengths and limitations of the current study and recommendations for future directions.

Review of Research Question 1

Descriptive indirect FBAI measures were evaluated to determine whether high agreement existed between teacher-generated-hypotheses using the "Guess & Check" compared to alternative hypotheses on the student developed by researchers using established FBAI strategies. While previous research has stressed the importance of establishing reliability among FBAI strategies (Gresham, Watson, & Skinner, 2001; Mace, 1994; Taylor & Romanczyk, 1994), it is worth noting that historically within FBA literature, 'reliability' and 'agreement' are synonymous with each other. Both are established by observers (raters) examining the occurrence or nonoccurrence of behavior (Bear, 1977; Gresham, Watson, & Skinner, 2001;

Johnston & Pennypacker, 1993; Suen, 1990).

Due to the absence of student behavior when using indirect FBAIs, agreement was assessed by comparing open and closed-ended responses across measures. Results of the study indicated that the indirect FBA assessments had relatively high consistency across most questions (i.e., student's strengths, triggering antecedents, behaviors, consequences, and behavioral plan recommendations). These findings are consistent with previous research that examined similar agreements across indirect FBAI assessments (Lewis-Palmer, 1998; Newcomer & Lewis, 2004; Reed, Thomas, Sprague, & Horner, 1997).

Lesser agreement was discovered between forms concerning the student's setting events. For example, when comparing the "Guess & Check" to the teacher-guided FBAI, agreement was at 40 %, and when the "Guess & Check" compared to the student FBAI agreement was at 33.3%. This is also consistent with past literature; Lewis-Palmer (1998) speculated it to be the result of teachers having limited knowledge of distal events in students' lives.

When examining overall content collected on all three forms, the student FBAI identified a larger amount of information than either of the other two. One explanation put forth by Reed, Thomas, Sprague, and Horner (1997) suggests that this is due to teachers reporting only on behaviors observed in the classroom. The teacher FBAI provided more student information than the "Guess & Check" as well, which was expected due to the more open-ended and in-depth questions asked. It was encouraging to discover that while the "Guess & Check" was purposefully

created to be briefer than its counterparts (requiring approximately 10 minutes to administer), similar high agreement was found.

Review of Question II

The second research question addressed the efficacy of the "Guess & Check" at aiding the teacher in implementing a BIP. A large summary of studies have documented the benefit of using multiple sources of FBA data (both indirect and direct) to generate effective, individualized, and comprehensive student BIPs (Radford, Aldrich, & Ervin, 2000; Sugai, Lewis-Palmer, & Hagan-Burke, 1999, for review). Furthermore, previous results have indicated that function-based BIPs, as compared to those created using non-function-based approaches, are superior in decreasing students' problem behaviors (Ingram, Lewis-Palmer, & Sugai, 2005; Newcomer & Lewis, 2004). While these findings are well-documented for students displaying more significant problem behaviors, there is a limited amount of research attesting to the usefulness of FBA-BIP strategies on normal-to-high functioning students engaging in less-severe problem behaviors (Lewis & Sugai, 1996, 1993). These findings suggest that further research is warranted in this domain.

Numerous successful interventions have been documented in schools when incorporating a function-based approach to problem solving. Consequently, as Reinke, Herman, and Stormont (2012) have described, schools now expect classroom teachers to be competent in their use of FBA strategies to support all students, at all times. As the authors note, this can be challenging when teachers do not have the background knowledge and skills needed to implement such strategies.

This being said, teachers are much less likely to put these strategies into practice if they feel unprepared or unskilled. As a result, many teachers who do not have a well-established understanding of FBA practices, may resort to ineffective classroom behavioral management practices which often contribute to negative consequences for both students and teachers (Reinke, Herman, and Stormont, & 2012). Furthermore, findings suggest that the creation and demonstration of effective evidence-based practices in general education do not necessarily guarantee that they will be used by educators (Markow, Moessner, & Horowitz, 2006; McIntosh, Filter, Bennett, Ryan, & Sugai, 2010). These authors elaborate, however, that teachers are more likely to use specific intervention practices which are efficient, and which continue to get easier to carry out over time.

Based on the aforementioned literature, additional research is warranted to examine the effectiveness of primary prevention, function-based systems of support. If these prevention-based strategies are implemented correctly, the need for creating individual, time-consuming, and extensive FBAs would most likely decrease substantially in schools (Safran & Oswald, 2003). These findings further illustrate the need for establishing effective, easier-to-administer teacher-guided FBA prevention strategies. Research is thusly also required to adequately address the need for developing straightforward teacher-guided FBA prevention measures to both decrease the need for more rigorous FBA support, and to increase usability and efficiency of evidence-based practices among educators (McIntosh, Filter, Bennett, Ryan, & Sugai, 2010).

In an effort to address future considerations, the usability and efficacy the "Guess & Check" was investigated and validated through the use of a use of a single case withdrawal design that documented the changes in student behavior upon the implementation of his BIP. The BIP was created and implemented based on student information ascertained from the brief primary assessment tool. Experimental control was established and documented through the change in inappropriate behaviors.

The current study added to the literature base in several ways. First, it helped to validate a primary prevention tool that teachers could use within their general education classrooms, to decrease low level behavior problems as they arise. The "Guess & Check" assessment demonstrated to be efficient and effective in decreasing problem behaviors. These results on the "Guess & Check" are consistent with the initial findings of the pilot study conducted by O'Keefe (2001), which documented high teacher ratings on the relevancy of solicited information, the form usefulness, the clarity and ease of understanding, and the organization of content.

Secondly, the study verified the effectiveness of a teacher-selected BIP based on information using the "Guess & Check" to decrease the level of inappropriate behavioral occurrences. This also adds to the literature by demonstrating the positive effects that an FBA assessment strategy had on the inappropriate behaviors of a normal-functioning fourth-grade student in his general education classroom. The study sought to further validate and confirm that less-intensive FBA assessment strategies can be instrumental in decreasing problem behaviors of normal-to-high functioning students in general education classrooms, before these problematic

behaviors can further escalate. Also, this study was able to compile evidence to suggest that less-rigorous teacher-guided FBA assessment measures could be helpful in assisting teachers to developing function-based BIPs on students displaying low-level problem behaviors without extensive training and practitioner involvement.

Study Limitations

While the preliminary results for both consecutive studies are encouraging, each study is not without its share of limitations. First, the shortcomings of Study I are discussed, followed by those of Study II. Weakness from each study will begin with conceptually broader issues and then narrow down into more fine-grain analysis.

Due to the two-fold study being conducted at one elementary school in the Pacific Northwest, there is a limited amount of generalizability which can be inferred regarding the outcomes. More specifically, results for Study I on agreement between the FBA forms was collected and analyzed based on interviewing one teacher and student couple. While the teacher was able to correctly identify many of the students function-based behavioral information using the "Guess & Check," other teachers may struggle with using the form due to their varying levels of experience with SWPBIS practices, their experience and competency as an elementary classroom teacher, and possible perceived level of support from the school staff. Also, concerning the student participant, Kyle was determined to be a suitable candidate for the study due to his behavioral history with displaying low level, high frequency problem behaviors; however, this form would be unsuitable for students exhibiting

more serious and chronic behaviors.

Another possible limitation is concerning order effect biases which may have influenced the high agreement found on all three forms due to the order with which each form was presented: first the "Guess & Check," second the teacher FBAI, and third the student FBAI. Also, the primary researcher acted as the main data collector when conducting interviews and observations for both studies, which may have contributed to researcher biases. And, lastly concerning Study I, when completing the "Guess & Check" the teacher participant struggled to correctly condense the information she selected from other questions on the form, into the creation of the student's hypothesis statement. She did however select all the necessary, relevant, function-based information which would be included.

Limitations for Study II are more specific to the intervention itself. First, the "Guess & Check" was created with the expectation that it would be useful and effective in collecting function-based student information which would then aid teachers in intervening with student's low-level problem behaviors. While the specific intervention (based on the "Guess & Check") which was created for Kyle was effective in decreasing his specific problem behaviors, it doesn't necessarily mean the same intervention would work for another student with similar behavioral problems.

While Kyle's behavioral intervention was selected by the teacher using the form, researchers conducting the current study assisted in helping to create and implement the intervention in order to maximize effectiveness. A possible

shortcoming of Study II is that the teacher did not design and implement the intervention independently, without the assistance of the researchers. However, it was important for ethical reasons that the student received the greatest possible support to ensure that the teacher was able to create a sustainable and effective intervention.

Also, the teacher and student who participated in the current study were both especially compliant and willing to be part of the study. Having highly motivated participants helped to ensure teacher fidelity of implementation throughout the studies. If teachers were not highly motivated, or were not familiar with the "Guess & Check" process, a lack of teacher motivation might impact teacher fidelity of implementation.

Another possible limitation could be due to the additional attention the student received throughout the both consecutive studies. Concerning the student's first hypothesis statement, it was noted that the student engaged in inappropriate behaviors to gain teacher and peer attention. While the intervention was in place additional attention was given student either through praise or re-directions. There is the possibility that the student's behavior would have improved due to any additional attention given to the student by the teacher, and not solely due to the specific intervention in question.

The single-case ABAB withdrawal design used in Study II is not without limitations, which will need to be addressed. Kazdin (2011) notes that when an intervention is pulled and a return to baseline is expected it is possible that behavior

will not revert back. In this case, it can be ambiguous whether the intervention was responsible for behavioral change in the participant. In the current study, the participant's inappropriate behavior did eventually revert back to a frequency comparable to that of the first baseline condition after intervention, it wasn't until the second observation that researchers began to observe an increase in inappropriate behaviors.

Another limitation concerns the social, educational, and ethical considerations which must be taken into account (Cooper, Heron, & Howard, 2007). For example, once an intervention is put in place and problem behaviors have diminished, the researchers must decide whether removing an effective intervention from a subject is ethical in order to demonstrate experimental control. Due to the high frequency, low-level problem behaviors that were in question with the current participant, it was deemed appropriate to withdrawal the intervention. Researchers predicted that minimal to no harm would come from pulling intervention, causing the participant's inappropriate classroom behaviors to revert back to their higher previous baseline frequency. Both teacher and student participants were informed of intervention withdrawal prior to actual withdrawal.

Suggestions for Practice

The findings of the current study provide further evidence of the efficacy of using both descriptive and experimental methodologies to generate student-based hypotheses and BIPs. The results also suggest that the teacher-guided prevention assessment tool, the "Guess & Check" can be instrumental in both identifying

function-based behavioral information on students and assisting teachers in implementing effective BIPs. However, future research is needed to extend the current finds of the "Guess & Check" in several ways. First, due to the small sample size, more research is needed to demonstrate the efficacy in using the form in different elementary classrooms with students in varying grades and low-level behavior(s). Secondly, more investigations are needed to better understand whether teachers can implement and create effective interventions on students without the assistance of trained researchers familiar with the FBA-BIP processes. Third, the current study used information from multiple indirect FBA sources (the "Guess & Check," Teacher and Student FBAIs) to develop and Kyle's BIP. Additional research is warranted to better understand whether the "Guess & Check" alone is enough to collect and develop effective function-based BIPs.

A positive aspect of the "Guess & Check" is that the measure contains four essential criteria germane to the FBA-BIP process: being able to identify and define 1) target behaviors, 2) antecedent events, 3) consequences or function served by the problem behavior, and 4) strategies that will provide the same utility as the target behaviors (Gresham, Watson, & Skinner, 2001). Additionally, Witt, Daly, and Noell (2000) further recommended that several other questions should be included on functional assessment interviews, including but not limited to: "is there a time during the day when the problem is worse?" and "rank the problems you see from most important to least." These specific questions were included on the "Guess & Check" by O'Keefe, Lewis-Palmer, & Sugai (2001), to give the teachers more

comprehensive information regarding when and which behaviors are most important to intervene with.

It would be worthwhile for future research to compare rates of referrals in general education classrooms, with and without the use of the "Guess & Check." If referrals decrease in specific classrooms whose teachers more frequently intervene on student's displaying low-level problem behaviors with the "Guess & Check," stronger results attesting to the accuracy and effectiveness of the form could be made.

While the current study attested to the effectiveness of implementing on a fourth-grade student, more research is needed to better understand whether the form can be useful for students in other grades. Even though this form was specifically created to be used at the elementary level, could it beneficial for useful for teachers and students in middle schools as well? And, would the form be appropriate for students engaging in more severe behavioral problems. Finally, more research is needed to understand the degree of experience and knowledge teachers need to be able to develop function-based student hypotheses when using the "Guess & Check."

Several changes and alterations to the "Guess & Check" itself may be needed in order to help teachers to correctly identify specific student information and understand certain questions. For example, creating a clearer definition of what student's "setting events" are, and how to correctly condense student information on the form into student-guided hypothesis statements. As previously discussed, the teacher participant struggled to understand and record the student participant's

setting events. To remedy this, a possible explanation and example of a setting event may be advisable to include on a future modified version of the "Guess & Check." Similarly, a walkthrough demonstrating how one should condense information into a hypothesis statement may also be useful to teachers.

CHAPTER 7: Conclusions

The results of this study further extend the literature on using PBIS practices to implement positive and meaningful behavioral changes in individuals within public schools. Incorporated within this systematic approach of addressing problem behaviors, a multitude of evidence-based practices have been established which integrate a function-based approach to effectively address problem behaviors. The current study was undertaken to help supplement the need for usable and effective prevention measures that require the minimum amount of time, effort, and skill while still containing a function-based approach.

The current study extends O'Keefe's (2001) pilot findings by validating the usability and effectiveness of a primary prevention assessment measure. Results from this study further support the use of developing and implementing preventative, straightforward, function-based strategies to support teachers in the general education setting, and further adds to the literature on the implementation of SWPBS practices at the elementary level.

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APPENDIX A

Student:		Date:	
Grade:	Teacher:		Room:

✓ Guess & Check ✓

1. What's the Problem Behavior:

❑ Inapp language   ❑ Disruptive/Talk out   ❑ Upset/Crying   ❑ Noncompliance
❑ No work Completion   ❑ Fighting/aggression   ❑ Runaway/Leave   ❑ Withdrawn
                                                        Area

❑ Other: _____

2. What Seems to Trigger the Problem Behavior (antecedents)?

Time	Activity (Topic and Format) When (Activity and Setting)	With whom	How Likely High Low
			4 3 2 1
			4 3 2 1
			4 3 2 1
			4 3 2 1
			4 3 2 1

3. What Seems to Maintain or Follow the Problem Behavior (consequences)?

❑ Get/Obtain   ❑ Escape/Avoid
__ Adult/peer attention   __ Work
__ Preferred activity   __ Adult/peer attention
__ Preferred object   __ Activity

4. What Sometimes Makes the Problem Behavior Worse or More Likely (setting events)?

❑ Day of Week   ❑ Lack of Sleep   ❑ Illness/Health   ❑ Peer Conflict
❑ Time of Day   ❑ Hunger   ❑ Home Conflict   ❑ Medication
❑ Other: _____

5. Given the Above, What Best Describes the Situation?

4. Setting Events)	2. Antecedents	1. Behavior	3. Consequences

Student:		Date:	
Grade:	Teacher:		Room:

Brainstorm

Academic	Behavioral	Environmental
❑ Modify amount of work	❑ Precorrection	❑ Change seating
❑ Change work difficulty __Easier __Harder	❑ Student contract	❑ Modify Schedule
❑ Provide extra assistance	❑ Increase praise/privilege	❑ Establish/ teach routine
❑ Increase opportunities to respond	❑ Self-management/Check-in/ check-out	❑ Use organizer
❑ Change response form	❑ _____	❑ Keep homework at school
❑ _____	❑ _____	❑ Modify noise/ distractions
❑ _____	❑ _____	❑ _____

Try it out

1. _____

Date Started	Date Ended	Effectiveness
		+ - 4 3 2 1

2. _____

Date Started	Date Ended	Effectiveness
		+ - 4 3 2 1

Appendix B

Brief Functional Behavioral Assessment

Interview

Student:	Interviewer:	Date:
Grade:	Teacher:	Room:

Student Strengths (academic, social, hobbies, interests):

1. Problem Behavior(s) (Consider intensity, frequency, duration, latency, topography):
  (What does behavior look like? How often does it occur? When does it occur?)

___ Late to class/tardy
___ Disruptive/Talking out
___ Disrespectful/defiant
___ Not completing work
___ Threats/Profanity/Aggression
___ Withdrawn
___ Self-injury

2. <u>Triggering Antecedents</u> (situations and settings) (when, where, with whom, with what, etc.) (expectations, routines, etc.).

___ Peer teasing
___ Peer encouragement
___ Teacher correction
___ Difficult/long work
___ Boring/easy work
___ Unstructured time
___ Specific task

3. <u>Maintaining Consequences</u> (attention or avoidance of objects, food, demands, tasks, requests, social contact, peers, adults, activities, etc.):

Escape or Avoid
___ Academic tasks
___ Teacher demands/correction
___ Peer attention/teasing

Gain or Get access to
___ Teacher attention
___ Peer attention
___ Activity/Item

4. <u>Setting Events</u> (what makes the problem behavior or situation worse) (sleep, diet, schedule, home problems, constipation, missed/changed medication, allergies, etc.):

___ Lack of sleep
___ Illness/Pain
___ Conflict at home
___ Conflict at school
___ Hunger
___ Medication/Substances
___ Noise/Distractions

<u>Hypothesis Statement (summarize information from above into most likely):</u>

4. Setting Event	2. Triggering Antecedent	1. Problem Behavior	3. Maintaining Consequence
Need more info? Complete a setting event assessment	*Need more info? Complete a routine analysis*	*Need more info? Complete direct observations*	*Need more info? Consider escalating chain/response class*

Competing Pathway Analysis

Desired Behavior *Outcome/goal*	**Consequence** *Result of desired behavior*

Setting Event *Makes behavior more likely*		Triggering Antecedent *What sets off the behavior*		Behavior *What currently is happening*		Maintaining Consequence *What keeps behavior happening*

Alternative Behavior *More appropriate way to meet need*
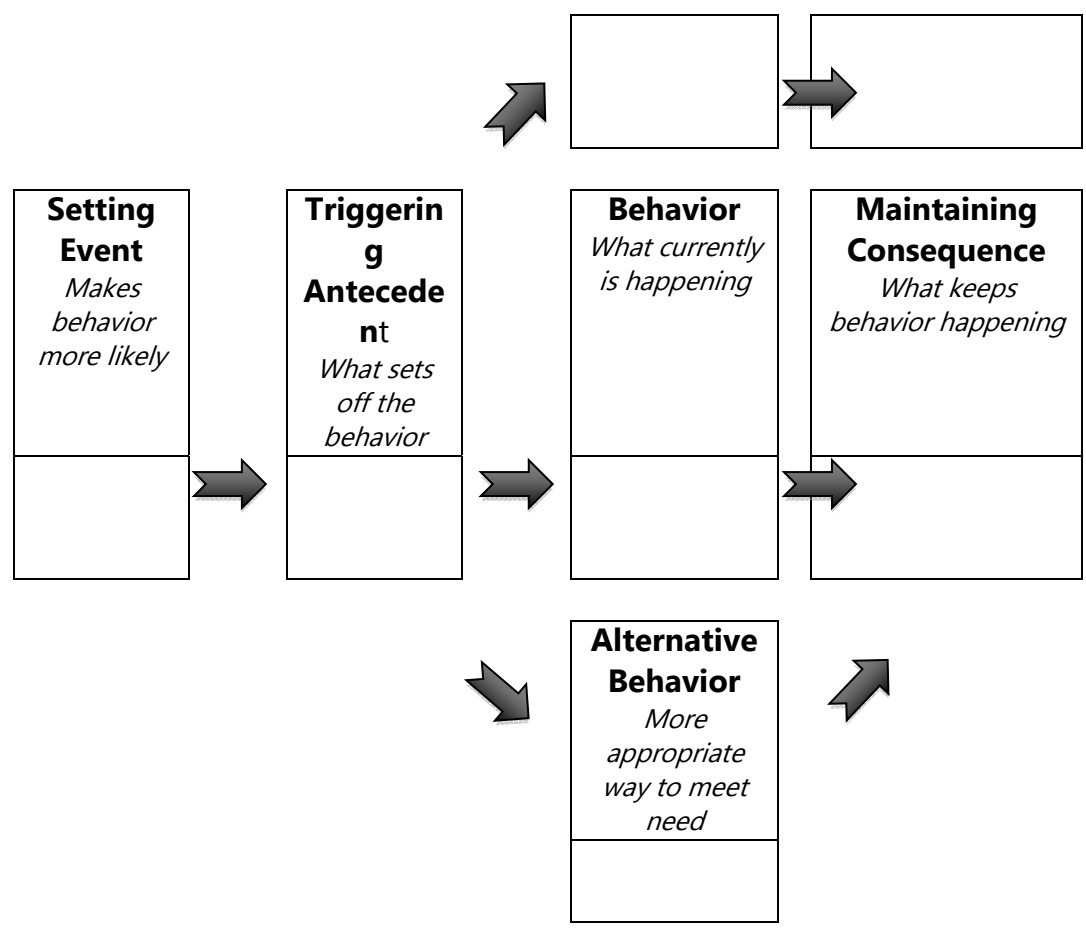
Setting Event Interventions	Antecedent Interventions	Behavior Interventions	Consequence Interventions
Prevent Neutralize Setting events	*Prevent Problem behavior irrelevant*	*Teach Problem behavior inefficient*	*Increase and Decrease Problem behavior ineffective*

Appendix C

Elementary-Student FBA Interview Form

Student:	Interviewer:	Data:
Grade:	Teacher:	Room:

1. **Thanks for meeting with me today. I would like to know more about what you like and don't like about school. First, let's talk about what you like to do at school?**
   a. What's your favorite think to learn about? Why do you enjoy learning about that?

   b. What are you good at?

2. **Now let's talk about what doesn't go well at school?**
   a. What do you find hard to learn?

   b. What do you do that gets you in trouble?

3. **Some other students have told us that they have trouble with the following things. Do you get into trouble for any of these things?**

❑ Touch other people's things   ❑ Disruptive/Talk out   ❑ Upset/Crying   ❑ Don't do what teachers ask

❑ Don't do my work   ❑ Argue with other students   ❑ Runaway/Leave Area   ❑ Don't participant

❑ Other:_____

4. **Which of the things that you get in trouble for do you think is the most important to change?**

   _____.

   Okay, let's talk more about that.

Including Elementary Students

5. **I want to talk about the things that make school hard for you. I am going to ask you some things that make school hard for other students and see is the same for you?**

❑ Hard/long work   ❑ Teacher correcting you   ❑ Other students bothering you

❑ Easy/boring work   ❑ Teacher busy helping other students   ❑ Not sure what you are supposed to be doing

❑ Too much noise in the room   ❑ Other:_____

6. During the day, when do you have the most trouble?

Time	Activity (Topic and Format) When (Activity and Setting)	With whom	How Likely High Low		
			3 ☺	2 ☺	1 ☹
			3 ☺	2 ☺	1 ☹
			3 ☺	2 ☺	1 ☹
			3 ☺	2 ☺	1 ☹

7. What would you like to happen so that you don't do _____ and get in trouble?

a. What does your teacher do when you do _____?

b. What would you like them to do instead?

c. What do other students do when you do _____?

d. What would you like them to do instead?

Including Elementary Students

8. **Here are some things that other students have told us that they like to have happen. Are there any of these that you would like to have happen?**

    Get/Obtain
    ___ Teacher talk or helps you
    ___ Other students talk or help you
    ___ Get to do something different

    Escape/Avoid
    ___ Teacher stops the work
    ___ Teacher leaves you alone
    ___ Other students leave you alone

9. **Sometimes things happen that make us have bad days. Tell me if any of these things make you have a bad day.**

    ❑ Too noisy   ❑ Tired   ❑ Don't feel well   ❑ Fight with a friend

    ❑ Time of day   ❑ Hungry   ❑ Mom/Dad mad   ❑ Teased by other students

    ❑ Other:_____

10. **Let me make sure I understand what you have told me about school. Does this sound right to you?**

9. Setting Events	5. Antecedents	3. Behavior	8. Consequences

Including Elementary Students

What are things that could happen that would make school better or easier for you? Make it less likely that you will get in trouble?

Academic	Behavioral	Environmental
❑ Give you less work	❑ Remind you what you are supposed to do	❑ Change where you sit
❑ Make work __Easier __Harder	❑ Make a plan with the teacher	❑ Modify the schedule
❑ Provide extra help	❑ Give you more praise	❑ Keep homework at school
❑ Let you participate more	❑ Let you work with a friend	❑ Make the room quieter
	❑ Let you help the teacher	❑ Let you take a break
❑ Let you complete the assignment in a different way	❑ _____	❑ _____
❑ Special classroom task	❑ _____	❑ _____
❑ _____		

11. What are things that your teacher could do to let you know that you are doing what are supposed to?

❑ Let me take a break	❑ Tell my parents I had a good day	❑ Let me do _____ (activity)
❑ Let me play with a friend	❑ Give me a snack _____	❑ Tell me I am doing a good job
❑ Let me go visit _____	❑ Let me earn _____	❑ Other: _____

Thank you for talking with me today. Is there anything else that you think would make school better or things that really make school hard for you?

Appendix D

Direct Observation Data Sheets: Study I and Study II

Student _____   Teacher_____
Date_____

Antecedents	Behaviors	Consequences
1= Whole class instruction	1=Appropriate	1=No response
2= Difficult task	2=Not engaged	2=Teacher attention (+/-)
3=Transition	3= Disruptive	3=Peer attention (+/-)
4=Interruption	4=Non compliant	4=Removal from area
5=Independent work	5=Threat/Verbal abuse	5=Decreased demand
6=Peer attention (+/-)	6=Talking	6=_____
7=Teacher attention (+/-+	7=Inappropriate location	
8= _____	8=_____	

Context/Setting description _____

	1	2	3	4	5	6
A						
B						
C						

	1	2	3	4	5	6
A						
B						
C						

	1	2	3	4	5	6
A						
B						
C						

	1	2	3	4	5	6
A						
B						
C						

	1	2	3	4	5	6
A						
B						
C						

	1	2	3	4	5	6
A						
B						
C						

	1	2	3	4	5	6
A						
B						
C						

	1	2	3	4	5	6
A						
B						
C						

	1	2	3	4	5	6
A						
B						
C						

	1	2	3	4	5	6
A						
B						
C						

Appendix E
Operational Definitions for Direct Observations

Category	Operational Definition
Behaviors	
Appropriate	Example: Following class/teacher expectations, reading, listening, participating in class discussion or activities, works with peers, answering questions. Non-example: Talking without permission, sitting at incorrect desk/location, working on activities from different subject.
Not engaged	Example: Playing with glasses, staring out window/across room, wandering around room without interacting, drawing, working on other activities. Not appropriate behavior, however, not inappropriate. Non-example: Disrupting instruction, talking with peers, making noises, wandering around room and interacting with peers or materials in room.
Talk to teacher	Example: Making comments or talking to teacher without raising hand or following classroom protocol if different from hand rising. Non-example: Responding to teacher questions, making comments in class, or asking question by following classroom protocol (e.g., raise hand).
Talk to peer	Example: Talking to peers without permission (e.g., during classroom instruction, films, independent work. Making comments about or to peers in classroom. Talking with peers during group time about non-topic related issues. Non-example: Talking with peers during group activity that is topic related. Responding to peer presentations or answering questions when following classroom protocol (e.g., raise hand).
Noise/Disruption	Example: Making noises verbally or with objects, comments that are not directed toward anyone. Any behavior that disrupts class instruction (e.g., moving desks, collecting papers without permission). Non-example: Talking to peers or teacher when inappropriate but does not disrupt the class instruction.
Consequences	
No response	No visible response to the student by teacher and/or peer. Visible response includes comments, corrections, laughter, eye contact, physical movement (e.g., move away from student, turn away).
Peer attention	Any visible response from peer as a result of student behavior, includes comments, eye contact, laughter, touching, or physical movement (e.g., turning or moving away from peer).
Positive teacher attention	Answering questions, responding to comments, providing the student with academic instruction (1:1), using the student as an example in class.
Negative teacher attention	Any correction or redirection provided by the teacher. Includes warnings, time outs, referrals, prompts (e.g., shhh, saying student's name), proximity, or eye contact.

Appendix F

Plan Summary Based on the FBA Recommendations

Plan Summary	
At the beginning of class period: Math & Literacy	- Remind Kyle of his plan - Make sure he has his help card, tracking sheet and work folder
When he puts his help card on his desk	- If you can, help right away - If you can't help right away let Kyle know you will be there soon and that he has his other work folder
Every 15 minutes	- Check in with Kyle and complete his tracking sheet - If he gets a 4 or 5, give him praise/high five and precorrect him to keep up the good work - If he gets a 0 or 1, remind him that he still can earn points and that he has his help card if he needs help
If he is disruptive (talking, out of seat, etc.)	- Remind him that he has his plan and that he is working on earning a "good day note" and choice from his menu
At the end of the class period	- If he has met his goal for the day, let him choose from his menu - Give him a Super Day Certificate to take home
If Kyle brings in completed homework the next day	- Give him praise and his bonus points on his tracking sheet

Appendix G
Kyle's Student Contract

Super Day Behavior Contract

I _____, starting on November 18, 2013 agree to work on sitting quietly at my desk and doing my best on all my assignments. In particular, I agree to:

1. Try my best on every in class assignment
2. Use my "Help" card and wait quietly when I get stuck
3. Work on some of the work in my Work Folder while waiting for the teachers help

I will be able to earn points during math for working on class assignments or work from my work folder. If I can meet my goal during math I will get to choose an activity and get to take a Super Day Certificate home.

At the beginning of math my teacher will make sure I have my Help Card, my point sheet and my other work folder.

My teacher will check-in with me several times during math to see how I am doing and let me know how many points I have earned.

If I get stuck, I will put my Help Card on my desk and work on other work while I wait quietly for the teacher's help.

If I am being disruptive (talking, out of my seat, bugging other students) my teacher will remind me of my plan and I won't earn points at the next check-in time.

At the end of Math I will add up all my points and record the number of points I earned that day on my graph. If I have met my goal I will get to choose and activity and get a Super Day Certificate to take home.

_____   _____
Student   Teacher

_____
Grandmother

Appendix H

Kyle's Student Contract

Please help me

Appendix I

The Tracking Sheet used to Tract Kyle's On-task Behavior

Name:_____   **Week of:** _____

5 = working on class assignment   4 = working on other work
1 = waiting quietly   0 = not working, being noisy

Math	1	2	3	4	Total
Monday	5 4 1 0	5 4 1 0	5 4 1 0	5 4 1 0	
Tuesday	5 4 1 0	5 4 1 0	5 4 1 0	5 4 1 0	
Wednesday	5 4 1 0	5 4 1 0	5 4 1 0	5 4 1 0	
Thursday	5 4 1 0	5 4 1 0	5 4 1 0	5 4 1 0	
Friday	5 4 1 0	5 4 1 0	5 4 1 0	5 4 1 0	
Homework Bonus	3	3	3	3	

Successes: _____

Assignments: _____

Appendix J

A List of Menu Options that Kyle Could Earn

Super Day Menu

- Visit to brother's class

- Lunch with brother

- 5 minute break

- Free homework pass

- I-pad in class

- Phone call Grandma during the day

- Help teacher with task

- Get to work with friend

Appendix K

Kyle's Self Tracking Sheet

My Super School Day!

	Monday	Tuesday	Wednesday	Thursday	Friday
25					
20					
15					
10					
5					
0					