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Treatment Integrity of Behavior Intervention Plans (BIPs) in Public School Settings

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A thesis submitted to the faculty of
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Educational Specialist

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ABSTRACT

Treatment Integrity of Behavior Intervention Plans (BIPs) in Public School Settings

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Behavior Intervention Plans (BIPs) are intended to guide educators' efforts to help struggling students succeed in school by reducing the frequency of problem behavior and teaching appropriate, pro-social responses. The impact of a BIP, however, depends on the degree to which the plan is implemented with fidelity. In practice, there are many factors that prevent teachers and other practitioners from strictly adhering to the BIP including having multiple plans to follow, inexperience with the specified intervention(s), or particularly challenging behaviors in the classroom. The purpose of the study was to identify the factors that contribute to the treatment integrity of BIPs implemented by general educators. To accomplish this goal, we graded plans already developed and implemented using the Behavior Intervention Plan Quality Evaluator, Second edition. The BIP evaluations were then paired with survey responses from the practitioners charged with creating and completing the BIPs. A multiple regression analysis was used to predict treatment integrity (TI) outcomes based on BIP quality, in terms of development and features of the written plan, and the coaching or training received by the primary implementer and plan developer.

The purpose of this study was to determine how the qualifications, training, and coaching of the professionals involved in a plan, as well as the development of the plan, and the quality of the BIP influence treatment integrity. Although coaching ended up being an excluded factor and only BIP quality was found to possess some relation to treatment integrity, the study concluded with interesting findings. Training, BIP Quality, and Treatment Integrity were found to possess predictive qualities for student outcomes. A total of 4 school districts in the state of Utah participated in the study and a total of 51 plans were evaluated and 32 survey responses were submitted. Individual BIP practices were assessed, and with more information on the factors that influence treatment integrity, educators will be better prepared to support these factors in their schools and provide better supports and develop higher quality behavior intervention plans as they are implemented with greater integrity.

Keywords: behavior support, implementation fidelity, implementation, behavior support plan, treatment integrity, behavior intervention plan

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DESCRIPTION OF THESIS STRUCTURE AND CONTENT

This thesis, *Treatment Integrity of Behavior Intervention Plans (BIPs) in Public School Settings*, is written in a journal-ready format. No journal has yet been identified for submission or publication. The pages reflect requirements for submission to the university. The literature review is included in Appendix A. Appendix B is the consent form used for all participants as it was approved for use by the Institutional Review Board. This thesis format contains two reference lists. The first reference list contains references included in the journal-ready article. The second list includes all citations used in Appendix A entitled “Literature Review.”

Introduction

One of the most difficult challenges teachers and administrators face is managing students' problem behaviors (Richardson, Caldarella, Young, & Young, 2007). Problem behavior is the single most common reason why students with disabilities are removed from the classroom (Horner, Carr, Strain, Todd & Reed, 2002). Problem behavior such as being out of seat, constant talk-outs, throwing objects, or various forms of verbal or physical aggression also inhibit the natural course of the teaching process, requiring teachers to divert time from instructing large groups of students to addressing individual problem behavior (Ntinas et al., 2006). If the behavior itself does not distract the other students in the classroom, this disruption in the teacher's instruction most certainly would. Studies have suggested that extreme forms of problem behavior such as aggression and violence have reached extremely high prevalence rates (Rutherford & Nelson, 1995). Similarly, less extreme forms of problem behavior such as noncompliance and poor social skills are also increasing (Walker, Colvin, & Ramsey, 1996).

Significant problem behavior might have been thought to be addressed in small classroom settings with various special education services provided. However, there is a clear trend in the National Center for Education Statistics data that shows that problem behavior is found in all school settings as students are increasingly being served in general education classrooms. When addressing the problem behaviors of students with disabilities in all school settings, teachers are legally required to use a problem-solving model. However, the specific process they should use is not mandated or explicitly stated. The Individuals with Disabilities Education Act (IDEA, 1997) and its subsequent reauthorizations have all required the creation of an Individualized Education Program (IEP) by a multi-disciplinary team. In cases where the student with a disability emits problem behavior that interferes with his or her access to or

participation in the classroom, the IEP team is required to oversee the collection of a Functional Behavioral Assessment (FBA) and the development of a Behavior Intervention Plan (BIP). For example, students may shout or get out of their seat to gain their teacher's attention. The BIP would include a specific problem behavior, in this case it is shouting or getting out of their seat, and the FBA would inform a hypothesis about the function or the purpose of the problem behavior. In the example, the function is likely to gain the teacher's attention. Once the problem has been operationally defined and the function determined, the team should identify interventions to reduce the frequency of the problem behavior and teach new behaviors that allow the student to access the same function using prosocial, appropriate responses in their behavior as students. There are six key components of BIPs identified by Browning-Wright, Saren, and Mayer (2013) including the specification of a replacement behavior that serves the same function as the problem behavior, environment changes to prevent the problem behavior, teaching strategies to elicit functionally equivalent acceptable behavior, reinforcing consequences, reactive/disciplinary strategies, and communication protocols between all important stakeholders. In the previous case, an alternative positive behavior that could serve the same function might be to raise their hand and say, "Excuse me." The primary person/people charged with the implementation of the plan and in turn the IEP team, monitor the impact of the interventions used in the plan through the collection and use of data. Lastly, modifying the plan as needed is the concluding step of the ongoing model.

There are aspects of BIPs, namely specific interventions, that have been shown to be effective through strict implementation, however, in the uncontrolled setting of the classroom, plan implementers run into various difficulties following a plan with strict fidelity. However, regardless of these evidence-based interventions, BIPs are only as effective as their

implementation. Many studies by prominent researchers in the fields of education, counseling, and psychology (Cook et al., 2012; Noell et al., 2014; Perepletchikova & Kazdin, 2006) have studied the importance of treatment integrity and the positive outcomes that result from proper adherence to these behavior plans. In not ensuring the integrity of these interventions or treatment plans, the effective evidence-based concepts are lost. Plans not implemented as they were written, regardless of the evidence-based concepts they include, are not going to bring about the potential outcomes like those implemented with integrity. Through multiple studies by Cochrane and Laux (2007, 2008) it is apparent that according to the perceptions of many school psychologists, schools are not implementing BIPs as they should be and if they are, they are not measuring to what degree implementation is being realized. Specifically, the authors reported that only 10.7% of respondents reported that they always measured treatment integrity in one-to-one consultation and only 3.6% reported that they always measured it in group or team consultation.

It is important that educators and practitioners work toward improving the implementation of their BIPs. Understanding the relationship between proper implementation of the BIP and the positive outcomes that can come from it is key to improve efforts of strictly adhering to a behavior plan. In an effort to more fully understand this relationship, Cook et al. (2012) evaluated the relationship between evidence-based aspects of BIPs and positive student outcomes. Evidence-based attributes of BIPs refer to the interventions often included in a BIP that were produced based on research and data collected describing whether and why that intervention works. Therefore, evidence-based refers to the aspects expected to work based on research and practitioner expertise. The study also focused on the intervention integrity of evidence-based qualities under real-world conditions, and to what extent treatment integrity

relates to student outcomes. This study found that the evidence-based interventions found in BIPs corresponded well to uncontrolled educational settings. This is important since research is the root of evidence-based practices and through research, experimental methods are often employed to test interventions in controlled contexts. The study also found that there was a positive relationship to students' outcomes when the plans were implemented with strict fidelity. These topics, namely the use of evidence-based interventions as part of a BIP, and the positive outcomes with a strict fidelity of the plans, relate strongly to the areas previously discussed and have applicable inferences to real life educational settings as this study helped reveal.

A successful plan is always the goal. To help more practitioners achieve success, and limit problem behavior, Bertram, Blase, and Fixsen (2015) added to implementation research by describing a few key components that influence a program's success. The components are called implementation drivers and are described as the "core components needed to initiate and support classroom, building, and district level change." These implementation drivers are important to note for further explanation. These drivers include the qualifications and training of teachers or practitioners who are the primary developers and implementers of the plans, the coaching of the primary plan implementers on plan completion, the complexity of the plan or intervention practices, and support and opinions about the plan by the primary plan implementer and other team members (Bertram et al., 2015). These factors are part of a great deal of research in the realm of implementation science and have been investigated and found to predict the success of a BIP and how well it is completed with a high level of fidelity. As such, the findings of these researchers, particularly in association with what they refer to as implementation drivers, and the frameworks they presented, have been shared as a practical guide for more effective implementation of human service programs and have been incorporated into the current study.

Bertram et al. (2015) concluded that there are three drivers that when integrated yield higher treatment integrity and positive student outcomes. The three drivers include organization, leadership, and competency of the practitioners. The competency drivers also include three sub drivers. As mentioned above, the selection, training, and coaching of practitioners is said to play a large part in how well a plan is implemented and the success that is seen from the given service or intervention. Training refers to the instruction practitioners have received relating to the implementation of BIPs. Selection, which was seen as the choosing of a primary implementer but can also been viewed as picking the implementer due to their specific qualifications that make them a better candidate. Coaching was described as teaching performed by a plan developer to those charged with implementation.

Similar to competency drivers, Owens et al. (2017) studied three factors also thought to increase implementation of classroom interventions. Practitioners knowledge, skills, and beliefs about the given intervention impact their implementation practices. Knowledge and skills can be viewed very similarly to the selection and training items highlighted in the competency driver research discussed above however, practitioners' beliefs about the intervention is an added area worthy of discussion. It is important to highlight this point as we discuss it later in our research. Practitioners charged with the implementation of a given intervention are more likely to follow through with it if they are invested in it, understand it, and feel it has potential to enact change in the problem behavior.

The Cook et al. (2012) study highlighted important aspects mediating treatment integrity on student outcomes. They incorporated a competency driver highlighted earlier and included the professional training of practitioners and overall plan quality, however, that study left out two implementation drivers that were included in the current study. Left out is the coaching and

feedback provided to the primary plan implementer by the plan developer. Also excluded, is how involved all team members were in the development process. In addition to their BIP quality and professional training pieces, our plan development piece as well as coaching/feedback are proposed predictive factors that may influence treatment integrity.

Treatment integrity has been studied in the past. In studies that have touched on it however, have done so in a general manner, researching if or how treatment integrity is important but then recommending the topic for further, more specified research. We have now completed some of the more specified research with this current study and examined which factors predict fidelity in the general education classroom.

The current study set out to answer more specific questions about treatment integrity and student outcomes that have been left unresolved in previous studies. This study contrasts the Cook et al. (2012) study in which their participants included predominantly school psychologists and special education teachers who worked with students with high-incidence disabilities in a special education setting. As more students with IEPs and BIPs are being served in the general education setting, we wanted to more specifically research the treatment integrity of BIPs in that setting and assess specific variables. The current study addresses the following research questions:

1. To what extent do the professional qualifications of members of the BIP team predict the perceptions of treatment integrity?
2. To what extent does participation in the BIP development process predict the perceptions of treatment integrity?
3. To what extent does training predict perceptions of treatment integrity?

4. To what extent does the quality of the BIP predict the perceptions of treatment integrity?
5. To what extent do professional qualifications, training, participation in development process, BIP quality, and treatment integrity predict perceptions of treatment outcomes?

Method

Participants

Members of the research team recruited participants from four mountain west public-school districts and gave them each a pseudonym for research purposes. Selected student demographics and data describing the type and frequency of problem behavior in the districts are presented in Table 1. We received IRB approval from Brigham Young University as well as the school districts. Participants were limited to practitioners in the participating districts who indicated that they were (a) on a BIP team, (b) had direct knowledge of the development and implementation of the selected BIP, and (c) that the target student for whom the BIP was developed was served in general education for 50% or more of the school day.

A total of 33 individuals volunteered to participate in the study and agreed to the terms on the consent form by clicking past it and continuing to the survey. Participants included individuals with a variety of assignments within the school district (e.g., special education, general education, school psychology, behavior support, or administration). A majority of participants had completed graduate programs and had extensive experience in the field. Complete demographic information for research participants is presented in Table 2.

Table 1

Student Demographics from Participating Districts

Demographic Variable	District 32	District 19	District 42	District 37
Total students	36,475	34,945	12,192	6,182
Race (%)				
White	75.9	86.0	42.1	83.0
Hispanic	8.8	10.0	51.4	16.0
Asian/Pacific Islander	3.0	2.0	1.2	1.0
Black	<1.0	1.0	1.76	<1.0
Special Populations				
ELL	5.9	3.0	16.9	10.0
Sped	9.3	11.5	11.9	8.6
Problem Behavior Incidents				
Bullying	144	24	5	0
Assault	392	85	6	3

Note. ELL = English language learners. Sped = Students served in special education. Data on incidents of problem behavior do not include charter or private schools within the district and are reported as the number of incidents that occurred during the 2015-2016 school year.

Table 2

Demographic Information for Participants

Demographic Variable	Participants
Number (n)	33
Years of experience (Ave)	
Average	11.4
Range	1-32
Current Assignment (%)	
Special Educator	9
General Educator	9
School Psychologist	24
Behavior Specialist	54
Administrator	3
Education (%)	
BS degree	33
MS degree	55
PhD degree	12

Measures

Behavior Intervention Plan-Quality Evaluator II (BIP-QE II). The BIP-QE II is a measure of the quality of a BIP based on the presence of key content aligned with IDEA requirements (Browning-Wright et al., 2003). The BIP-QE II is comprised of several rubrics that clarify the components necessary to meet technical adequacy requirements in a variety of areas. The full length original BIP-QE II includes 12 areas. However, for this study the original document was summarized to include seven key areas: (a) defining the behavior, (b) behavior function, (c) behavior change: environmental alteration and teaching strategies, (d) reinforcement, (e) reactive strategies, (f) team coordination and communication, and (g) goals and objectives. The BIP-QE II has been used in multiple published articles and found to be a reliable and valid tool for the rating and evaluation of BIPs (Browning-Wright et al., 2007; Cook et al., 2012; Kraemer, Cook, Browning-Wright, Mayer, & Wallace, 2008).

As mentioned above, the BIP-QE II was modified for use in the current study. Specifically, we used seven of the twelve items from the original BIP-QE II that were carefully selected to help answer our specific research questions about implementer qualifications, training, coaching, and plan development and implementation. According to the BIP-QE II creators, "a well-developed plan embodies a careful analysis of the problem, comprehensive interventions, and a team effort to teach new behavior and remove elements in the environment associated with problem behavior" (Browning-Wright et al., 2003, p. 24). Therefore, the seven items selected were: (a) problem behavior, (b) function, (c) teaching strategies, (d) reinforcement, (e) reactive strategies, (f) team coordination, and (g) goals and objectives.

Each item is used to measure the aspects the BIP-QE II creators stated were important to a well-developed plan as well as aspects such as teaching strategies and team coordination that we included as being related in some way to treatment integrity. Each item is also rated on a 3-point Likert-type scale from 0 to 2 to produce a maximum score of 14.

Practitioner survey. We surveyed each participant regarding their professional background and experience developing and implementing a BIP. Survey items were identical for all participants. We anticipated a portion of the survey respondents to self-identify as the primary plan implementer; however, that did not happen. We had added a few questions to the end of the survey that would only have been accessed by those who self-identified as the plan implementers as to address the aspects of coaching and feedback. However, very few respondents answered those additional items due to the percentage they reported being charged with the implementation of the plan. The survey responses did not end up yielding clear distinctions between the different role each practitioner played in the BIP process.

We wanted to survey more than one person per BIP received in an effort to cross-validate their responses on certain items. We included items in the survey targeted to assess practitioner's perceptions on treatment integrity as well as a report on their professional qualifications, the process for BIP development, BIP quality, and ideally, coaching and feedback. BIP quality was the only predictor assessed using both measures. The BIP- QE II was used to gather a quality score for the plans and the survey was used to gather BIP quality perception data from practitioners. Mean perception data were gathered and results had a standard deviation of 0.58.

Working from the Cook et al. (2012) study, some of their survey questions in reference to treatment integrity and outcomes of behavior change were used to develop the survey items for the current study. On the survey items that were used from the Cook et al. (2012) study,

Cronbach's alpha reliability estimates of scores were computed for each of the factors: student outcomes $\alpha = .84$, and treatment integrity $\alpha = .87$, so we hypothesize similar reliability estimates of scores on those items during this study. The number of response options on some of the survey items were altered for purposes of uniformity. Some of the items from the original survey used a 3-point Likert-type scale response while others used a 4-point Likert-type scale. The lack of uniformity in response options was seen as confusing for responders and may have arbitrarily reduced variation in responses. With more variation in possible responses, we not only access their viewpoint, but also the strength of their opinion.

The revised survey consists of 4-point Likert-type scaled items, and the original items that used a 3-point Likert-type scale were altered so all of the items were on the same scale. The survey also includes questions written to find out more about qualifications and the training/coaching of practitioners. Table 3 contains a list of the survey items by implementation driver. The survey includes five items that assessed the practitioner's qualifications and training, four on their involvement in the development of the plan, six questions about BIP quality and student or practitioner response outcomes, four on the coaching or feedback received on the implementation of the BIP, and five questions on treatment integrity.

To measure the treatment integrity of the selected BIP, practitioners answered the following questions: (a) The behavioral goals of the interventions described in the plan were met how often? (b) To what degree were the supports and strategies specified in the plan implemented as they were written? (c) How often did you refer back to this written BIP? (d) How consistently were the procedures of the BIP used? Cronbach's alpha was computed for these items to evaluate reliability of the modified survey items, $\alpha = .93$.

Table 3

Practitioner Survey Questions by Implementation Driver

	Professional Qualifications	Training	Participation in BIP Development	BIP Quality
BIP Personnel Survey Items	Year in the profession	Have you received training on any of these topics related to BIPs from anyone in your district or school?	Have you attended an IEP meeting for this student?	What is your perception of the quality of this BIP?
	Highest degree completed	Conducting an FBA Writing a BIP Implementing a BIP Evaluating a BIP	Did you provide suggestions for possible strategies to be included in the BIP or give feedback on the plan?	
	How much experience do you have with special education?		Did you provide pertinent knowledge about the student to be included in this BIP? What percentage of the time were you the primary person implementing this BIP?	

Note. Responses were provided in a variety of approaches. Three items were formatted as free responses. There were yes/no items and the remaining items were answered using a 4-point Likert scale ranging from *None* to *High* or from *Never* to *Most of the Time*.

To measure the effectiveness of BIP implementation on student outcomes, practitioners answered the following questions: (a) What was the overall degree of improvement from this BIP? (b) To what degree did the student's academic performance improve as a result of the implementation of the plan? (c) To what degree did the student's behavioral performance improve as a result of the implementation of the plan? (d) What was the degree of adult behavior change that occurred as a result of this BIP? (e) What was the degree of change in the way adults positively interacted with the student as a result of this BIP? Reliability of these items was assessed using Cronbach's alpha, $\alpha = .92$.

Procedures

We worked with the special education directors at the participating districts to identify a recently developed BIP and request a copy of the de-identified BIP. The primary researcher oversaw the rating of these plans using the BIP-QE II by a team of research assistants. Once the coding team received the plans, a link to the survey was sent back to the districts for dissemination to the appropriate professionals. Ideally, more than one professional completed the survey to cross validate their responses on items relating to their training in their profession, involvement in the development of the plan, BIP quality in terms of outcome, coaching performed from the developer to the implementer on the completion of the plan, and overall plan implementation.

Plan coding. Four research assistants were trained on reading and rating BIPs, the seven key concepts, and how to use the BIP-QE II to evaluate the plans we received from the various districts. Once we received the plans, the primary researcher, along with the research assistants who had been trained on using the BIP-QE II by the primary researcher, began scoring the plans to evaluate them on their inclusion of seven out of the original twelve quality indicators that have been selected to correspond to the current study's specific research questions. These seven indicators include a detailed definition of the problem behavior(s); related function of the problem behavior; specific, measurable, and individualized goals and objectives; teaching strategies to be employed; reactive strategies used to encourage replacement behavior; types and examples of reinforcement strategies to discourage target behavior; and an explanation of team coordination including plans for implementation. Since the original BIP-QE II is scored out of 24 total points, including 12 quality indicators, and we evaluated based on the inclusion of 7 of those indicators, our scoring was out of 14 total points with the same three-point intervals for

plans to correspond with four different ratings: Weak Plan, Underdeveloped Plan, Good Plan, and Superior Plan. Using this evaluation system, we were able to see the plans that included more of the evidence-based aspects found to be successful under real educational conditions and those were the ones that received higher ratings.

Training procedures for BIP coding. As four trained research assistants aided in the study, training on the use of the scoring guide and coding procedures were conducted ahead of time. The lead researcher met with the research team once a week for an hour over the course of four weeks and conducted a training on the use of the measures. Practice BIPs were provided for training and once an explanation of the scoring guide was given, research assistants were expected to meet an 80% agreement threshold with each other and then with the lead researcher before continuing. If the threshold was not met, more individual training was conducted until the higher standard was achieved.

Interrater reliability. Once training on the quality evaluator had been completed, trained raters independently scored practice plans until an acceptable threshold of 80% agreement had been met. After the acceptable interrater reliability (IRR) had been met, agreement data were collected for 35% of submitted BIPs. There was 80% agreement with Rater 1, 100% agreement with Rater 2, 100% agreement with Rater 3, and 83% agreement with Rater 4. Agreement was calculated by comparing the numerical score assigned to each plan by the rater and the lead researcher. The total scores were calculated by adding together the given scores for each domain. Each domain is scored on a three-point scale (0-2) and the total can reach up to 14 possible points. The total scores had a possible two-point deviation but had to be within the same classification (Weak, Underdeveloped, Good, Superior) to be considered in agreement. If Rater 1 scored a plan as a 10 and the lead researcher scored the same plan 11, and a plan is considered

"Good" if it falls between 9-11 points, they would be in agreement. If, however, Rater 3 scored a plan a 9 and the lead researcher scored it a 7, they would not be in agreement because a score of 7 is within the "Underdeveloped" classification. Even though the total scores are within two points, they are not within the same classification. Total agreement of plans submitted was 88% using the BIP-QE II. Also, in the event that the research team received multiple plans from a given professional(s), an identifying code was provided for each plan and was disseminated by the district personnel so that the practitioner knew which plan the survey was referencing.

Dissemination of the survey. Upon receiving the plans that met the criteria, the district coordinators were notified to send an online survey via Qualtrics to those associated with the completion of the specific plans that were sent for grading. The primary plan implementers and developers responded to a 20-item survey with an additional five items for those who perceived themselves as being the primary person implementing the plans. As the surveys were submitted, they were coded based on their answers focusing on their training, coaching, and the implementation procedures. Because we had no contact with the individuals and the plans and surveys were de-identified, we assigned each plan an ID and when responding to the surveys, the professionals included the ID, so we had a way to link the submitted survey with the correct plan. The district coordinators aided us in disseminating the plan IDs to the necessary individuals.

Research Design and Analysis

We hypothesized that there are five variables that predict the fidelity of plan implementation and influence student outcomes. These include the amount of training that practitioners receive, their professional qualifications, the involvement in plan development by the primary plan implementer, BIP quality, and the coaching and feedback provided to plan

implementers. Figure 1 is a hypothesized model of these predictive relationships. Model 1, represented in Figure 1 with the solid lines, illustrates the hypothesized predictive factors that may influence treatment integrity and Model 2, represented with dashed lines, illustrates the predictive factors hypothetically related to student outcomes

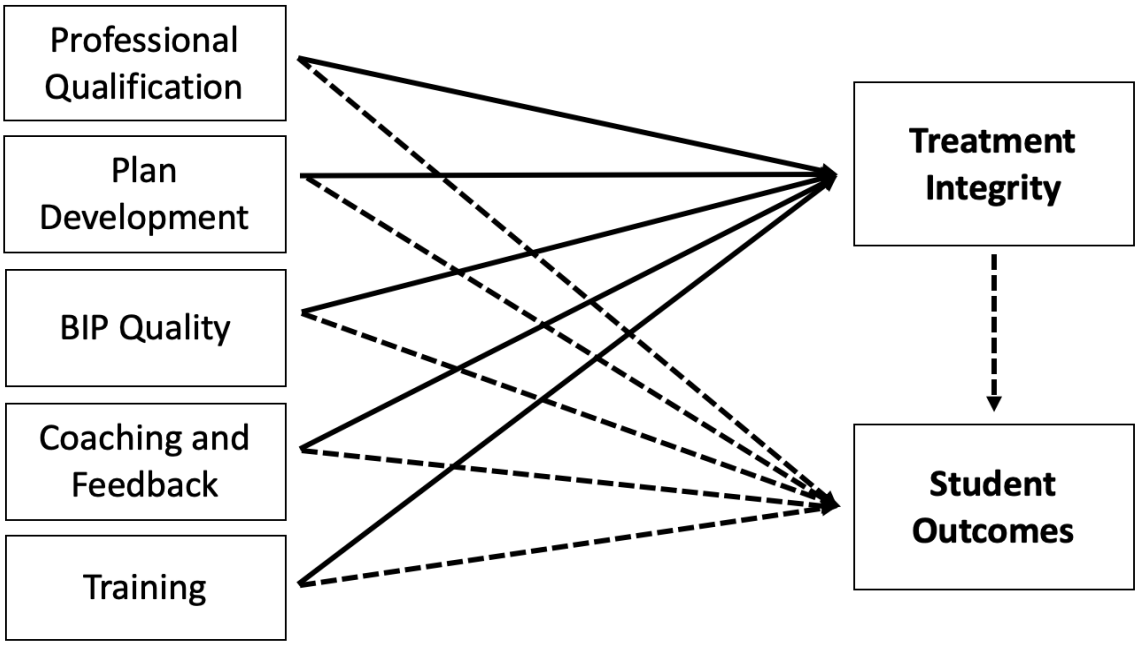

Figure 1. Conceptual model of predictors and treatment integrity.

A multiple regression analysis was used to assess the predictive qualities that five variables have on treatment integrity (TI) and student outcomes. Professional qualifications are described as the educational background of the practitioners, plan development is referring to how and who was involved in the development process, BIP quality is described in terms of features of the written behavior plan itself, coaching and feedback includes what is received by the primary implementer, and training refers to the BIP specific training practitioners have received. The five variables described above are the predictive variables and treatment integrity and student outcomes are the outcome variables. Data on the evidence-based quality of BIPs were collected within two academic years of when the plans were developed, while data on

treatment integrity and practitioner qualifications were collected after the plans had been implemented. BIP quality outcomes were based on the resulting scores of the BIP-QE II and the coaching and training of the practitioners ideally came from the corresponding items on the surveys. Treatment integrity rates were computed from both measures.

Initial descriptive statistics were used to summarize surveys as well as the scoring guide results. Additional analyses were done to check the underlying assumptions of multiple regression (e.g., linear relationships among the data, multivariate normality, homoscedasticity, absence of multicollinearity). Lastly, we had three total variables. The coaching and feedback variable was removed because too few survey responses were collected. We required every variable entered into the model to have at least 15 subjects. The 51 total BIPs and 33 with a corresponding survey response meets the desired threshold.

We ran a hierarchical regression and entered our variables in the order that they appear in Figure 1. This is the sequential order that was believed to be the order in which the predictive variables are built on one another in terms of BIP development and would then predict fidelity of plan implementation. We compared and contrasted the predictors from the point of view of the developers and primary plan implementers. We used the coefficient of determination (R^2) to express the amount of variance explained by the model and examined p-values of the beta coefficients to determine the degree to which specific variables are predictive of TI in this sample. Interaction effects were examined to determine whether the effect of one variable is influenced by other variables (e.g., demographic characteristics). We hypothesized that a combination of each of the predictor variables influenced the treatment integrity of the plans, but this analysis enabled us to also predict which of the variables, or combination of variables, likely

had the strongest influence on the criterion variable (i.e., TI). All statistical analyses were run using IBM SPSS Statistics (Version 24).

Results

To identify the variables that predict treatment integrity, we conducted a series of multiple regressions utilizing the data collected from surveys and permanent products on professional qualifications, participation in BIP development, BIP quality, training and coaching. We had planned to see how these variables predicted practitioners' perceptions of treatment integrity. Coaching ended up being an excluded factor and only BIP quality was found to possess some relation to treatment integrity, however, the study concluded with interesting findings regarding treatment and student outcomes. The following presentation of the results is organized by research question. For all reported regression models, we visually inspected a scatter plot of predicted values and residuals to evaluate homoscedasticity and autocorrelation in the data. Additionally, to check for multicollinearity, we used the variance inflation factor (VIF) and ensured that all values for all variables were below 10 (Cohen, Cohen, West, & Aiken, 2003). In our data, all VIFs ranged from 1.00 to 1.14. All assumptions for multiple regression were met.

Research Question 1: Professional Qualifications and Treatment Integrity

To determine the extent that professional qualifications predict perceptions of treatment integrity, we gathered self-report data on the professional qualifications of all participants (see Table 2). The average years in the field was 11.46 years (*SD* = 6.32, range = 1 to 32). The percent of individuals with each type of degree is as follows. Of the participants, 33% reported that they had a Bachelor's degree, 55% reported having a Master's degree, and 12% had a PhD. Experience in Special Education had a mean of 2.34 (*SD* = .82, range = 0 to 3) indicating that the average participant self-identified as having a low to moderate amount of experience in special

education. The results of a multiple regression evaluating the relationship between the aforementioned professional qualifications and treatment integrity are presented in Table 4. The model was not statistically significant $F(3,29) = 1.40$, $p = 0.26$, $R^2 = .13$.

Table 4

Regression Coefficients of Professional Qualifications on Treatment Integrity

	Coefficients		Std.		
	Unstandardized	Standardized	Error	*t*	*p*
Education	0.814	.198	.798	1.021	.316
Years of Experience	0.058	.108	.098	.592	.558
SPED Experience	0.897	.174	.966	.928	.361

Note. SPED Experience = the extent of time collaborating with special educators or serving as a special educator.

Research Question 2: Training and Treatment Integrity

To explore the relationship between training and treatment integrity we calculated the point-biserial correlations between each of the dichotomous training items, received training on conducting an FBA ($r_{pb} = -0.21$), writing BIPs ($r_{pb} = -0.12$), implementing function-based interventions ($r_{pb} = 0.04$), and evaluating BIPs ($r_{pb} = -0.22$). None of the correlations were statistically significant. Approximately 80% of participants had received training on all four areas. A simple ordinary least squares (OLS) regression was run exploring the relationship between the number of trainings reported by the participant and treatment integrity. The overall model was not statistically significant $F(1,31) = 0.98$, $p = 0.33$, $r^2 = 0.09$. See Table 5 for all results of this analysis.

Table 5

Regression Coefficients of Training on Treatment Integrity

	Coefficients				
	Unstandardized	Standardized	Std. Error	t	p
Training	-0.46	-0.18	0.47	-0.99	0.33

* p<.05.

Research Question 3: Plan Development and Treatment Integrity

To determine the extent to which features of the development process (e.g., written by a team, specialist, teacher) of the BIP predicts the professionals' perceptions of treatment integrity, the mean and standard deviation of their survey responses to four items were calculated. The development items on the survey had a mean of 2.18 and a *SD* of 0.74. Table 6 includes descriptive statistics for all development items.

Table 6

Plan Development Items

	Mean	Std. Deviation	*n*
Attended IEP	0.31	0.47	32
Shared strategies	0.94	0.24	32
Shared student info	0.94	0.24	32
Overall	2.18	0.73	32

A simple regression was run on the aggregate of all development models on treatment integrity. The model was not statistically significant $F = .467$, $p = .680$, $r^2 = .031$. See Table 7 for the results of this analysis.

Table 7

Regression Coefficients of Plan Development on Treatment Integrity

	Coefficients				
	Unstandardized	Standardized	Std. Error	*t*	*p*
Plan Development	0.34	0.08	0.83	0.42	0.68

* p<.05.

Research Question 4: Plan Quality and Treatment Integrity

To determine the extent to which features of the written BIP predict the professionals' perceptions of treatment integrity, the same survey responses were analyzed, and the mean and standard deviation were again computed. The quality of the plan and inclusion of evidence-based features was believed to impact treatment integrity. The quality of the sample of plans was determined by scoring 32 BIPs from four different school districts with the BIP-QE II. For all of the plans, the mean of the BIP-QE II total scores was 7.46 (*SD* = 2.85, range = 0 to14) placing them in the Underdeveloped Plan category. Plan score was used to determine plan quality. The overall model was not statistically significant $F(2,29) = 2.86$, $p = 0.07$, $r^2 = .45$. See Table 8 for the results of this analysis. Plan quality, as determined by the BIP-QE II score, was also found to be inversely related to treatment integrity (*B* = -0.36, SE = 0.20). This means that as plan quality increases, treatment integrity decreases. We also collected data on practitioner's perceptions of plan quality. The mean perception of plan quality was found to be 3.09 (*SD* = 0.58). The unstandardized coefficient associated with perception of BIP quality was 2.013 and the standard error was 0.982 ($p < .05$).

Table 8

Regression Coefficients of Plan Quality on Treatment Integrity

	Coefficients				
	Unstandardized	Standardized	Std. Error	*t*	*p*
BIP- QE II score	-0.36	-0.31	0.20	-1.75	0.09
Perception of Quality	2.01	0.36	0.98	2.05	0.05*

* p < .05

In summary, the only statistically significant predictor of treatment integrity across all models was perception of BIP quality. All other models were not statistically significant nor were any of the predictor variables significantly related to treatment integrity.

Research Question 5: All Predictors and Treatment Outcomes

We computed a final model using all predictor variables to predict treatment outcomes. The regression model was statistically significant, $F(5,26) = 10.38$, $p < .05$, and explained approximately 60% ($R^2 = .61$) of the variability in perceived improvements in student outcomes. The strongest individual predictors of treatment outcomes were treatment integrity ($B = 0.84$, $SE = .12$), training ($B = 0.72$, $SE = .32$), and BIP quality ($B = 0.31$, $SE = 0.14$). Table 9 depicts these results. Although all three variables were statistically significant and substantially larger than the coefficients associated with professional qualification and participation in development, treatment integrity was by far the best predictor of treatment outcomes with a standardized coefficient three times larger than those of the other predictor variables in the model.

Table 9

Multiple Regression on Student Outcomes

	Coefficients		Std.		
	Unstandardized	Standardized	Error	t	p
Intercept	-4.74		2.17	-2.19	0.04
Professional Qualifications	-0.04	-0.09	0.06	-0.69	0.50
Training	0.72	0.28	0.32	2.25	0.03*
Participation in Development	0.12	0.03	0.52	0.23	0.82
BIP Quality	0.31	0.27	0.14	2.25	0.03*
Treatment Integrity	0.84	0.82	0.12	6.71	0.00*

* p<.05.

Discussion

The purpose of this study was to identify variables that predict treatment integrity of BIPs. We explored the extent to which the professional qualifications of members of the BIP team, participation in the BIP development process, training, and the quality of the BIP predict the perceptions of treatment integrity. We also examined the extent to which these variables and perceptions of treatment integrity predict perceptions of treatment outcomes. We found that of these relationships, only perceptions of BIP quality was significantly related to treatment

integrity. Given that the relationship was inverse between treatment integrity and BIP quality, it appears that teacher's perceptions of BIP quality is critically important to their implementation efforts. These findings support the work of Owens et al. (2017) where they report that one predictor of treatment integrity is "teacher's beliefs about the acceptability or feasibility of the interventions" (p. 219). One explanation for our results might be that as BIPs become more technical, thus increasing their technical adequacy, plans can be harder to implement with high treatment integrity. With these results, it was determined that there is a fine line between creating a quality plan that can be implemented with fidelity and creating a plan that is a superior plan in terms of quality but is too complex to be realistically implemented accurately and regularly, making it ineffective. When handed a BIP that includes large amounts of text, a teacher wants to know what the most integral parts are. They want to know what exactly needs to be done and they may not focus on how the intervention matches the function of the behavior or the research supporting the intervention. If a teacher feels like the plan is too complex and is going to be too difficult to incorporate into their current classroom practices, it is likely that the plan will not be implemented. For these purposes, it is crucial that plans be both technically adequate and simple to effectively implement. More on the implications of this finding and limitations of such to follow.

In this study we also hoped to replicate Cook and colleague's (2012) findings associated with the relationship between treatment integrity and student outcomes. We combined the additional data we gathered around our predictive factors and found that training, BIP quality, and treatment integrity were all significantly related to treatment outcomes. These results support two main conclusions. First, the quality of BIPs as well as the training practitioners receive on BIP topics were both found to positively relate to improved student outcomes. This is crucial

because it points to the importance of the development process and the creation of a quality BIP. Training practitioners to create quality BIPs will positively impact treatment outcomes. Training reflects better quality practitioners and better-quality plans, which directly relate to better outcomes. Implementing subpar plans will promote subpar results. These findings support the need for an emphasis on developing good plans. However, training and the development of these plans are things that take place out of the context of problem behavior. Real life situations in the classroom prevent plans from being implemented with 100% accuracy. Regardless of how much training practitioners receive or how technically written a plan is, due to the uncontrolled nature of school settings, human behavior cannot consistently be anticipated and as such, plans are not always implemented with a high level of fidelity.

Through this study it was discovered how much variation there is in the templates used by practitioners. We discovered that templates are lacking various aspects of technical adequacy and as such, by only using what is being provided by a given district, a plan will already be lacking in terms of quality. These templates are setting the practitioners up to fail and are producing fewer quality plans. For example, the BIP-QE II requires quite a bit of specificity for a plan to be considered of superior quality. When discussing positive reinforcements, for example, a plan might have a section titled ‘Reinforcements’ followed by a blank box. To pass legal requirements, a practitioner could merely bullet point reinforcements and include computer time, praise, and positive note home in the box. However, to be considered a superior plan it should also include under what contingency the student receives the reinforcement, have some kind of effectiveness data (e.g., Johnny has expressed a preference towards positive notes home), describe frequency that the student can earn the reinforcement, and include either choice-within variety or immediacy. If this student were to transfer schools or a new practitioner were to be

hired, a superior quality plan would be able to be read and performed the same way from one practitioner to another. The templates currently providing a fill in the blank box are not going to elicit that kind of description. With varying templates there is variation in practices. For this reason, we did not generalize our findings to populations beyond individual districts.

Next, the effects of the BIPs were mediated by treatment integrity. In the Cook et al. (2012) study, they set out to find the link between BIPs, treatment integrity, and student outcomes under real education conditions. They reported that the quality of BIPs was found to positively relate to improved student outcomes and that the effects of the BIPs were mediated by treatment integrity. As mentioned above, those were our findings as well. Just as in their research, our results support that the better the plans are written and implemented as intended, the more likely student outcomes will improve.

Limitations

As briefly mentioned above, the findings from this study should be interpreted with caution due to the small sample size. With 33 survey responses from professionals, it is not possible to definitively rule out professional qualifications, training, plan quality, and participation in BIP development as predictors of treatment integrity. We can be confident that the statistically significant results we found are relevant, but a larger study with more statistical power could provide more insights into the prediction of treatment integrity. Also, we worked only with school districts in the mountain west region of the United States. It is unclear how state and local policies influence our findings and if our results would generalize beyond this area. For example, participating districts offer varying templates for their personnel to use when creating an FBA and then BIP. Some are on the same document, whereas others are independent forms.

We did not request access to the corresponding FBAs. Our initial exploration into the feasibility of collecting the FBA data revealed it would significantly add to the complexity of the project for our district partners and we expected the BIPs to include summary information regarding the function of the behaviors. Electing not to collect this data, was a significant departure from previous research. Not having the FBA data also lead us to adapt the scoring tool (BIP- QE II) to better suit our research needs.

Finally, our survey was based on the survey used by Cook et al. (2012) with some slight adjustments for readability and ease of completion on Qualtrics. For example, we added a few items to better address the additional research questions of this study pertaining to the coaching received by primary plan implementers. However, beyond our own reliability analysis of the survey we have limited data on the reliability and validity of our items. We also asked participants to self-identify as a plan implementer by indicating what percent of the time they were the primary implementer of this plan. Due to perceptions of the roles the practitioners played in the development and implementation of the BIP, too few of our participants indicated they were the primary implementer for greater than 50% of the time and thus not enough of the participants answered the questions regarding coaching. For that reason, we were unable to use coaching as a variable to predict treatment integrity.

Implications for Future Research

We believe that there is more to learn about the complex process of developing interventions and implementing them with fidelity in schools. Thus, researchers should consider replicating this study to increase the number of participants. This could be done by expanding the inclusion criteria to look at BIP implementation in settings outside of general education contexts. Although we believe inclusive classrooms are an essential context for improving services to

students with disabilities, the field may benefit from looking at BIP treatment integrity more broadly to encompass the wide range of contexts in which behavior plans are routinely used. This might expose statistically significant relationships between some of the variables we selected but were unable to carefully examine due to the small number of participants in the current study.

Researchers might also benefit from altering our approach to identifying plan developers from plan implementers using the survey. Finding a way to target the individuals charged primarily with the implementation of the BIPs would allow data to be gathered on the predictive factors of coaching and feedback on treatment integrity. A qualitative approach might be an interesting way to gather such information. This would allow researchers more access to practitioners and would allow them to witness the practices and ask the distinct questions to gather answers specific to coaching and feedback.

With research such as the work of Bertram et al. (2015) and Owens et al. (2017) on practitioner knowledge, skill, qualifications, and training to support the importance of coaching and feedback, editing the survey tool or performing such a case study would provide adequate conduits to insights the field is lacking and greatly needs in regard to coaching and feedback. More specifically, better understanding how coaching personnel on the implementation of BIPs or on providing feedback to the developers of BIPs is related to implementation fidelity. Providing insight and research regarding the contextual fit of the interventions outlined in a BIP would also help to highlight the individual needs of the student supported by a BIP and how that predicts the success of implementation of that plan.

With the glaring finding that the BIP- QE II has an inverse relationship to treatment integrity, we see that perceptions of BIP quality from the survey are showing a different result than the scoring guide. Through our study we have learned that plan quality predicts student outcomes but does not predict plan fidelity, this interesting relationship should be considered for future research. A limitation of our study in relation to this point might be that we relied too heavily on the BIP- QE II as the primary quality evaluator. Researching this tool further might be helpful or alternatively, finding another way to assess for plan quality. There might also be an error in how plan quality was perceived on the survey tool. The items on the survey about plan quality may have been perceived differently than the research had intended. Practitioners might deem a plan a quality plan using different standards. Their standards might be based on whether or not it worked. They might look to the time it took for them to see change as a result of the plan. They might determine whether or not the plan ties back to the perceived function of the behavior and includes evidence-based practices. Further study into the perceptions of plan quality would be beneficial and doing so in a qualitative manner again, would help to tease apart some of these unknowns.

Our study counted on the research and findings of Bertram et al. (2015) and their exploration of organization, leadership, and competency drivers. In their analysis of competency drivers, they included selection, training, coaching, and performance assessment. Their research falls under the umbrella of implementation science and as such, their findings were expected to pertain to the education sector and the implementation science of behavior intervention plans. A limitation of this study could include the assumptions that such implementation drivers address such a setting. Training was found to be positively related to treatment outcomes however, without the coaching and selection pieces, such relational correlations about the treatment

integrity of behavior intervention plans cannot be predicted. As such, more research on these drivers and their application to the field of education, specifically dealing with the implementation of Behavior Intervention Plans may be warranted. A caution to that however, is that coaching be explicitly defined as it has been interpreted differently from the Bertram et al. (2015) research and practitioners and participants of our study.

Implications for Practitioners

From the results of this study, we found that each participating district had elements of technical adequacy missing from their BIP templates. Practitioners could benefit from identifying the components that were lacking and working with district leaders to revise templates, prepare training opportunities, and encourage ongoing evaluation of implementation fidelity. The data provided by this study support the need for such efforts. Of the plans scored, 8% were rated as 'Superior', 45% were rated as 'Good', 39% were rated as 'Underdeveloped', and 8% were considered 'Poor' plans. However, improving templates based on the BIP-QE II may not improve treatment integrity. We recommend that district leaders work with teachers to develop templates that are both technically adequate and easy to use. We hypothesize that ease of use contributes to teachers' perceptions of quality and may enhance treatment integrity.

The findings of this particular study are most relevant for plan developers and their supervisors at the district level to help enact change in the current FBA and BIP practices within their individual districts. There are continuous professional development opportunities in all districts, and it would not be difficult to hold a training on the use of the BIP-QE II as a writing tool or scoring guide to check for technical adequacy and then a follow up training on better implementation practices to ensure higher treatment integrity in the schools. Training on

assessing for treatment integrity and the use of an accountability tool to ensure implementation fidelity is suggested. These trainings are necessary and would bring about positive change.

Lastly, through this research as well as experience in the field, communication between all practitioners on a BIP team is crucial. When the team is effectively communicating what needs to be done and in what manner, roles are clear and best practices occur naturally. Information is shared, training is put to use, varying expertise from all practitioners is best utilized, and positive outcomes are evident. As Owens et al. (2017) discussed, there is powerful impact when effective collaboration takes place and consultation occurs during the problem-solving process. As they found in their research, the beliefs of the practitioners on the BIP team impact their implementation efforts. When the BIP implementation team works together, practitioners feel a sense of ownership to the plan and higher implementation is likely. which we have shown is directly related to positive outcomes.

Conclusion

As an educator working with students with significant problem behaviors, it feels daunting or even impossible to know how to best support these students and their needs all while shaping their behavior to help them experience success at school. Our findings can help educators focus on a few areas including training of the professionals involved, creating a quality BIP, and focusing on the treatment integrity to encourage positive change. Schools and districts nationwide are struggling with the same problems. Knowing how best to help these students with the limited resources available and how to target the specific and individualized needs of each student are difficult tasks. Learning the key aspects of which to target and where to put our resources is what makes this project so special and gives hope to struggling teachers and students for a brighter future.

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APPENDIX A

Literature Review

Behavior Intervention Plans (BIPs) are written documents created by school psychologists and other social behavior specialists to systematize supports across service providers in schools. Despite the quality of these plans, research stresses the importance of treatment integrity in accomplishing the intended behavior change in the BIP. Unfortunately, observations of practitioners and research describing practice suggest that accurate sustained implementation of interventions in schools is not assured (Noell, Duhon, Gatti, & Connell, 2002). With more research on the topic of treatment integrity, the hopes are that practitioners in the schools will be better equipped to provide improved services that match both students' and teachers' needs.

Definition of Terms

For the purposes of this thesis the term 'primary implementer' shall be recognized as the individual who is charged with implementing the interventions and strategies outlined in the BIP 50% or more of the time. The term 'plan developer' is the individual who wrote out and selected the interventions in the BIP. The terms Individualized Education Program (IEP), Functional Behavior Assessment (FBA), and Behavior Intervention Plan (BIP) will also be used throughout the document. An IEP is a legal document created by a team for a student who is eligible for special education services. The document addresses the unique learning issues a student faces and includes educational goals that must be evaluated at least once a year by a team of professionals and other stakeholders. The IEP team, tasked with developing and approving the program, is required to have representatives from special education, general education, school administration, related service providers, and parents. An FBA is an assessment process used to

identify the purpose or factors that influence target misbehaviors of students. A BIP is the plan of support approved by the IEP team to provide additional support a student with a disability. FBAs and BIPs can be used with general education students however if used with students who qualify for special education services, these supports are performed as a function of the IEP team. The terms coaching and training will be discussed throughout the document. Training will be used to talk about the education or credentials the practitioners have received in qualifying for their required careers while coaching will reference the instruction that is completed by the plan developer for the primary plan implementer to better understand the BIP and how to complete the interventions.

Historical Context

The 1997 amendment of the Individuals with Disabilities Education Act (IDEA) introduced supports for students with disabilities who emit problem behaviors that negatively impact access to educational programming. IDEA requires that if a student's behavior impedes his or her learning or the learning of others, then that student's Individualized Education Program (IEP) must address the problem behavior in a proactive manner. Every student has a right to a free and appropriate public education (FAPE), guaranteed by both the Rehabilitation Act of 1973 and IDEA. This right is granted to every student regardless of disability or placement and FAPE is threatened when a student's behavior impedes the learning that should take place in each classroom. According to the data collected by the U.S. Department of Education (U.S. Department of Education, Civil Rights Data Collection, 2019), of the 49 million students enrolled in public schools during the 2011-2012 school year, 3.45 million students were suspended out-of-school and 130,000 students were expelled. With this many students held out of school for disciplinary action, there are regulations in place to ensure an appropriate education

for all students even while not attending regular classroom instruction. The goal however should be to address the behavior concern before it warrants such disciplinary action. Thus, in an attempt to address the problem behavior in a proactive manner, a problem-solving model should be utilized. The IEP team conducts a functional behavioral assessment (FBA), writes an IEP based on the assessment, and develops a behavior intervention plan (BIP).

Throughout the disciplinary process, however, a school might think about the options of suspension or expulsion. If a student has yet to receive special education services or a FBA has yet to be conducted, this situation would be a relevant, applicable, and even legally mandated time to involve the IEP team to conduct an FBA and develop a BIP. Under the law, as covered by the IDEA, IEP team meetings regarding FBAs and BIPs are required within 10 business days from when a student is (a) first removed for more than 10 school days in a school year, (b) removed in a manner that constitutes a change in placement, and (c) is placed in an interim alternative educational setting (IAES) for a weapons or a drug offense. The law does not however, list specific timelines of when an FBA and BIP should be completed, and instead only indicates that this process must be completed as soon as possible. IEP teams must also keep in mind that the law does emphasize the use of positive behavioral interventions, supports, and services for students with disabilities who exhibit problem behaviors. This is to teach appropriate behaviors rather than merely eliminate inappropriate behavior and these interventions or programs must also be included in students' IEPs.

Once the FBA has been completed, the IEP team designs a BIP based on the FBA. IDEA '97 does not stipulate requirements for the content and composition of the BIP beyond indicating that the plan has to be individualized to meet the needs of different students in different educational environments. Thus, the composition of BIPs, similar to the composition of FBAs,

will be determined by individual states, school districts, and IEP teams. Members of Congress expected that "behavioral intervention plan" had a commonly understood meaning in the special education field (Gorn, 1999). The most important requirements regarding BIPs are that they need to be proactive and multidimensional. This means that IEP teams should implement multiple BIP strategies aimed at preventing problem behavior instead of waiting until the behavior is warranting such severe punishments. If it does come to that, and subsequent removals in a school year of a student who already has an FBA and BIP is warranted, the IEP team members individually can review the BIP and its implementation (IDEA Regulations, 34 C.F.R. section 300.520[(c]). This is to say that a strategy could be in place, but it may not be effective if the goals or implementation of the intervention are not adequately matched with the behavior.

Problem behaviors that might be addressed by a BIP could include disrupting the class, being withdrawn, refusing to do classwork, or showing aggression towards classmates or the teacher. The amount of problem behaviors included in a BIP and those occurring in a classroom by a given student can influence the implementation of a behavior plan. Focusing on too many behaviors can be overwhelming for the primary implementer, making it less likely to complete the plan or stick to the interventions. It is suggested that a plan focus on “identifying the behavior or behaviors that most interfere with learning and have the same function. When successful, proceed to develop plan(s) for remaining problem behaviors. Alternatively, consider addressing each selected behavior with each function on separate plans” (Browning-Wright, Saren, & Mayer, 2007, p. 26). To accept this viewpoint, practitioners must see BIPs as a product of a problem-solving model taking place. They are fluid documents, changing as needed to address what is most important, what aspects might not be working, and once an intervention has worked, moving onto the next behavior that requires attention.

Through the IDEA amendments of 1997 and the work of Drasgow, Yell, Bradley, and Shriner (1999) it is evident that these practices are legally mandated and school personnel are required to employ them. Also, implementing aspects of these IEPs and the interventions included in a BIP not only benefit the student, but the teacher, other students, and even other school personnel. There are expectations for IEP teams in the implementation of these interventions but there is currently a discrepancy between the expectations and performance. If the interventions are to be a benefit of everyone involved, then why are they not being implemented with fidelity? And more questions remain, "are these task requirements being competently or reliably performed by IEP teams? Are these requirements an example of public policy that has exceeded the capabilities of the professionals who are expected to implement them?" (Smith, 2000, p. 405).

IDEA '97 intends that functional assessment be used as an intervention planning tool for student behaviors and while learning about BIPs completed in our own state, it is evident that functionally equivalent behaviors are the goal and should replace the problem behavior. This adheres to the positive behavior support model of teaching appropriate behaviors rather than merely eliminating inappropriate ones. Along with the training expressed as a key for proper implementation, Scott and Nelson (1999) also credit teacher buy-in for implementing an intervention with high levels of fidelity. "Although teachers may be reluctant to engage in a practice initially, providing them with support and guidance toward an outcome they perceive as successful facilitates their acceptance of that practice" (Scott & Nelson, p. 250). This makes a lot of sense to anyone who has been in a classroom or knows a teacher personally. But even with

buy-in, they cannot do it alone. Preservice training, ongoing technical assistance, and practical demonstrations of their effectiveness may be necessary to ensure successful implementation of functional assessment procedures.

IEPs are legally binding contracts, and everything included in these programs or plans is therefore also legally binding. If a student presents with a problem behavior and the IEP team does not address the behavior, there is a denial of FAPE and those involved can be held legally responsible. As part of FAPE and IDEA, there is also a requirement that students with disabilities receive their education and are provided services in the least restrictive environment (LRE). This means that for as much time as possible, they should be educated alongside their nondisabled peers. As a result of this federal law, many general education teachers are providing special education services to students in their classrooms. This amounts to BIPs being completed in both general education classrooms as well as special education classrooms. Nationally, there are 31 state statutes and regulations specific to FBAs and BIPs in the special education context (Zirkel, 2011). While only 17 state laws provided definitions of FBAs and/or BIPs, the vast majority of these definitions merely mentioned some of the key elements. Function in terms of FBAs and interventions in terms of BIPs were the most notable. Function, referring to the purpose of the student's behavior or the cause, and interventions. Through IDEA, in all forms and revisions, IEP teams are held to a standard that ensures students an appropriate education.

Critical Components of a BIP

Behavior Intervention Plans are developed by a team of individuals who know the student well and are prepared to commit time and resources toward the goal of helping the child improve his or her behavior. The team often will include teachers, administrators, specialists, parents, and (in many cases) the student. At the development stage of a BIP, it is assumed that

lesser interventions have not been successful. BIPs are appropriate for all students, but if developed for a student with an IEP or 504 plan, this behavior plan becomes a part of those documents. BIPs should "focus on understanding 'why' the behavior occurred (i.e. 'the function' or 'communicative intent') and using this information to develop a plan to teach an alternative behavior that allows the student to achieve the desired outcomes (i.e., access the function) in a more socially acceptable way. In the Least Restrictive Behavioral Interventions (LRBI) Technical Assistance Manual provided to practitioners by the Utah State Board of Education, considerations for developing a BIP are listed in five parts. They include, developing a clear and measurable definition of the target behavior, identifying and planning for teaching more acceptable replacement behaviors that serve the same function, determining the antecedent and setting event manipulations that lessen likelihood that the behavior will occur, identifying the consequence manipulations that make the target behavior ineffective, and considering the contextual fit (e.g., data collection procedures, timeline for implementation, and evaluation and follow-up; Utah State Office of Education Task Force, 2015).

BIP Development Process

Develop an intervention plan. Now that the team is aware that a plan is necessary, finding out how they go about creating one is the next necessary step. Taking what they have learned from the Functional Behavior Analysis they can, by definition, look at the results and analyze information about a student's behavior and accompanying circumstances in order to determine the purpose or intent of the target problem behavior. Taking the purpose of the behavior into account, the team comes up with ways to meet the purpose or function for the behavior in a manner that elicits a more positive behavior from the student. Ervin et al. (2000) suggests that teacher input in the development concerning the function of the negative behavior

likely increases treatment integrity. It makes sense that the individual who knows the student best and sees the problem behaviors most frequently would have a better understanding of the purpose for them and might have some impressions on how best to address them and replace them with more positive ones that meet the same purpose or function. These behaviors are referred to as Functional Equivalent Replacement Behaviors (FERBS) and are the intended outcome for the student along with a more positive and fruitful learning environment for themselves and their peers. As a team, coming up with ways to best serve the child and suggestions for interventions that a primary implementer is likely to employ is an important aspect of the developmental process as we've learned that implementation is key in changing the target behaviors. Having an invested primary implementer who plays an important role in the development process is very important.

As far as which interventions should be used, evidence-based interventions are required as a result of the No Child Left Behind (NCLB) (2002) legislation and are also a requisite of the Every Student Succeeds Act (ESSA) (2015) that is to be replacing NCLB. Through controlled research, there are aspects of BIPs that have been shown to be effective however, bringing the successful applications to fruition in uncontrolled school environments has proven difficult. In practice, schools have run into a problem with treatment integrity. Many studies by prominent researchers in the fields of education, counseling, and psychology (Noell et al., 2014), (Cook et al., 2012), (Perepletchikova & Kazdin, 2006) have studied the importance of treatment integrity and the positive outcomes that result from proper fidelity of these behavior interventions. And as previously mentioned, outcomes of our plans have not been as significant as intended because effectiveness of plans rely on the implementation of the interventions. In developing an intervention plan, the inclusion of interventions is an evident and necessary aspect. In not

ensuring the integrity of these interventions or treatment plans, these effective evidence-based concepts are lost. Through multiple studies by Cochrane and Laux (2007, 2008) it is apparent that according to the perceptions of many school psychologists, schools are not implementing BIPs as they should be and if they are, they are not measuring to what degree implementation is being realized.

In 1992, Utah created the Least Restrictive Behavior Interventions (LRBI) and in the most recent version revised by a state-wide multidisciplinary task force, the LRBI Technical Assistance Manual (2015) provided to the state of Utah, includes two templates of BIPs that districts may use. The first of which includes the student's name, grade, date of birth, school teacher, date of plan development, and date of implementation. The subsections include a summary statement of problem behavior, baseline data of problem behavior, target or problem behavior(s), a checklist of replacement behaviors, instructional interventions for teaching replacement behaviors, proactive support strategies based on the antecedent, consequences (positive and negative), data collection method of both target and appropriate behavior, a checklist of emergency safety interventions and possible side effects, a checklist of the type of data collection, a summary of emergency safety interventions data, a place for all student support team members to sign, and a summary of changes section in the event the initial BIP needs revising.

The second BIP template varies slightly esthetically and is more list based rather than summary or free response based yet it has many of the same components. This template includes the student's name, grade, school, age, current date, and review date. It then has subsections about one target behavior, what it looks like, and the baseline rate that it occurs, the antecedents, and the replacement behavior. Strategies to discourage target behavior and strategies to

encourage replacement behavior are also requested and numbered. The remainder of the template is for planning team signatures and review of progress notes for 2 weeks after implementation and four weeks after implementation. Two more sections for the review of progress are included but do not specify a length of time for the reviews to take place.

The manual also includes a section about recommended implementation and monitoring of behavior intervention practices for IEP teams. Specifically dealing with the monitoring of implementation, the manual suggests, "planning for appropriate data collection and monitoring of both student response to the intervention and staff consistency in implementing the intervention (p.66)." The manual advises that steps be taken for monitoring the implementation, as well as for crisis management, if warranted. In addition, the templates have a review of progress or review meeting section that can be viewed as a form of tracking implementation. However, the ways in which it is tracked or how often it is tracked is relatively unknown. With the introduction of the state-wide document which was created to help practitioners through this process includes these templates of what is expected from teams creating and seeing the plans through, one might think these templates are being used. However, after practicing in the field, it has been discovered that many districts are not using these templates and are using a variety of their own versions, many of which have been created by developers of an information management platform for the education sector. In these cases, the practitioners themselves have little control over changes to the official template or document and they are merely filling in the boxes of a template they have been provided. It has been stated that plans should include methods to monitor the fidelity of implementation and evaluate the effectiveness of the behavior intervention plan (Cipani & Schock, 2011). With this is mind, our efforts are to advocate for the inclusion within the plan itself of a way to do so.

Progress monitoring and feedback. Using the Team Initiated Problem Solving (TIPS) model (Todd & Cusumano, 2012) and the Response to Intervention (RTI)/Multi-Tiered System of Support (MTSS) model of problem solving, the steps to guide the team in how to go about implementing the plan and then monitoring progress are outlined. The first part is the measurement of treatment integrity. As states and school districts are left to decide on their own how this will be done, there remains a dearth of guidance on how progress monitoring should be done (Cochrane & Laux, 2007, 2008). The LRBI manual produced by the Utah State Board of Education suggests including steps in the plan itself to monitor the implementation. Adding a permanent product recording piece to BIPs provides a tangible, detailed, record of what is expected of the primary implementer and everyone is left knowing their roles and when the team will revisit and check on the progress. Referencing the TIPS view on fidelity of implementation, they suggest measuring the degree in which the intervention was implemented as defined and expected by using percent/absolute value/ and rate scale as metric. They also propose striving for 80% fidelity of implementation as measured weekly or biweekly on a scale of 1-5. Making it easy for implementers to record data is highlighted as being critical. TIPS suggest doing this by using a fidelity check board where implementers put an 'X' on a number line, having a fidelity check basket, or by using direct observation. Having a fidelity check routine done either in larger groups as in staff meetings, or smaller groups as an IEP team to self-report where they all do what they say they will do and do it with 80% fidelity is making it a team effort. When people are held accountable to others, it has been found that there is a higher rate of completion.

Since it is a team effort, TIPS team training readiness includes team membership, team data access, team commitment, and coaching commitment. These may be viewed similarly to the implementation or competency drivers found in (Bertram, Blasé, & Fixsen, 2015) which include

selection, training, and coaching. Concepts of Team membership in the TIPS model includes having an admin present at the meetings who has authority to make decisions, and the team being representative of those individuals needed to meet the purpose of the meeting or goals and data access includes making data available for problem solving to all members of the team.

Plan Evaluation is a very important part of the problem-solving model. Analyzing results of implementation can help provide insight on a behavior plans' effectiveness. Evaluating fidelity of implementation compared to the goal and then defining how it was or will be done, when, and the criteria for completion helps explain any aspect that an implementer may have questions about throughout the initial stages of implementation. The outcomes of the intervention or effectiveness of implementation is something that the team must also consider and in what ways they will determine whether or not the plan is working. Frequency of this evaluation process which in built into each step of the process as both the implementation and impact on student behavior is measured on an unknown time frame. Therefore, the problem is that BIP treatment integrity and the monitoring of implementation and evaluation of the interventions is critical to effective behavior support and the literature and our experience suggests that fidelity is not routinely tracked and when it is, the data suggest plans are not always fulfilled. Thus, for the purposes of this study we plan to grade a variety of plans and perform an evaluation of them. As the final step of the problem-solving model is the summary and critique of the intervention plan, we hope to help these teams by providing a summary and evaluation of their current practices with our findings.

Success Criteria

In an article by Horner, Sugai, Todd, and Lewis-Palmer (2000), the authors claim that the effectiveness of BIPs is reliant on plans having four parts. The first of which is referred to as positive contributions. Effective plans build on the strengths of a student which can lead to the process of identifying effective solutions. The second part are operational definitions. Having the whole team agree on the exact behaviors that are being targeted is important. A good definition of a problem behavior will make it possible for anyone who reads the plan to observe and measure the behavior. Focusing on and defining all of the problem behaviors that a student emits is important because it allows the team to then be able to look for similarities and differences among competing challenging behaviors. The third part is problem routines or focusing on the context where problem behaviors occur. "By listing the student's schedule and defining where problems do and do not occur, the team can identify where additional assessment information is needed and identify where the student is doing well. It is as important to learn where a student is being successful as it is to learn where she or he is having difficulty" (Horner et al., 2000, p. 209). The fourth and final aspect that a plan's effectiveness is dependent on is redesigning the environment. Although a change or improvement in student behavior is the ultimate outcome of these plans, the change in environment is just as important with the understanding of how antecedents and consequences impact behavior. A good behavior plan defines clearly what adults (or peers) in the instructional environment will do differently to positively impact the student's behavior.

Meyers and Brandt (2015) state that, "although any lasting judgment of a program rests on its impact on participants, the level of fidelity with which a program is implemented is crucial to understanding whether or not the program works as intended, and to what extent" (p. 1). By

describing, monitoring, and systematically measuring fidelity, the program developer learns about how to improve its application. As such, the school psychologist or other practitioner who acts as the plan developer, cannot effectively improve the plan if it is unclear how the primary implementer is carrying out the plan.

The behavior of the students, however, is not the only behavior that the plan is intended to change. Behavior plans are also intended to address what the professionals will do differently and how we will know if those changes are influencing student behavior. BIPs are a way to keep professionals accountable and have a document that tracks the implementation of the interventions. Both the primary implementer and the student are expected to make changes in response due to the implementation of these plans.

BIP Technical Adequacy Requirements

In a study titled, "Exploring the Link Among Behavior Intervention Plans, Treatment Integrity, and Student Outcomes Under Natural Educational Conditions," Cook and colleagues (2012) proposed an initial study evaluating the relationship between evidence-based aspects of BIPs along with positive student outcomes, the intervention integrity of evidence-based qualities under real-world conditions, and to what extent treatment integrity relates to student outcomes. Cook et al. (2012) found that the evidence-based principles did correspond well to uncontrolled educational settings and there was a positive relationship to students' outcomes when the plans were implemented with strict fidelity. Each of these topics have applicable inferences to real life educational settings however, this study also encourages further research in direct measures of student behavior and treatment integrity. As well as examining with whom and under which conditions BIPs are maximally effective or not effective. According to this study, research to this end will allow educators to more intelligently design and match services to student needs. The

quality indicators presented in the BIP-QE II that are used to grade completed plans and help develop others to include more evidence-based practices aid in doing just that; provide a process to more intelligently design and match services to specific student needs. Producing individualized plans that include a thorough explanation of the problem behavior, explain effective teaching strategies to help adjust the behaviors, describe planned reinforcement techniques, reactive strategies, laid out team coordination efforts including the monitoring of treatment integrity, and thoroughly explaining goals and objectives for an individual student have been found to promote a more positive change in students and have been beneficial in real education settings.

BIP Treatment Integrity

Treatment integrity is described as "the degree to which a program model is instituted as intended" (Meyers & Brandt, 2015, p. 9) and "fidelity or integrity refer to the degree to which a particular program follows a program model" (p. 9). When drafting BIPs, the interventions are intended to be performed in a particular manner, the manner to which the evidence-based strategy has previously been found to work. If not performed the same way, to the same extent, it is hard to say that the intervention itself was faulty and so, looking at the fidelity to which it was implemented should be the next step instead of moving to an alternate intervention.

In an article by Scott and Nelson (1999), ensuring successful implementation and training for a team approach to BIPs is discussed. The article addresses the idea that "competence in functional behavioral assessment will require training in applied behavior analysis and behavioral assessment as well as an understanding of functional intervention procedures" (Scott & Nelson, 1999, p. 250). Such training is not included in the background of most general education teachers which leaves a lot of the development of behavior interventions or plans up to

practitioners such as school psychologists. This article teaches us that there should be a necessary level of training or professional qualification to those developing these plans and there should also be a level of coaching provided to primary plan implementers on the interventions that they may not have much experience with.

The term "implementation" means to put something into action. In a school setting, implementation refers to putting a plan into place. It is referred to as a process that needs to be understood as such. Putting new behaviors into practice is a process that occurs over time. One might refer to the new behaviors being put into practice as both those of the primary implementer and the student. Each are expected to have some kind of behavior change for the plans to be effective. The team puts a plan into place and the primary implementer tests it out. Through the process, interventions may work the first time, but they might not. Either way, monitoring implementation and evaluating and then revising the plan, as needed, is key. "A focus on implementation [i.e., treatment integrity] is critical to any evaluation. Implementation measurement sheds light on the black box situated between a program and its outcomes. It helps us understand what actually happened that led to a given set of program's outcomes" (Meyers & Brandt, 2015, p. xii).

Despite this being the case, we suspect that the treatment integrity of BIPs are not being tracked and therefore it becomes difficult to gauge the outcomes of said BIPs. In an article by Lane, Bocian, MacMillan, and Gresham (2004) the authors wrote, "most treatments are designed with the expectation that they will be implemented exactly as designed however, as interventions are implemented on a larger scale across grade levels, schools, and districts, the strategies or procedures are often altered by teachers and rarely, if ever, documented. When interventions are

modified in unknown ways, it makes it difficult to accurately evaluate the utility of the originally designed intervention" (p. 37).

Factors that may influence treatment integrity. There have been recent changes in BIP policy for two western states regarding their behavior plans. Both California and Utah have altered the ways in which they develop and implement their behavior interventions and in particular, their behavior intervention plans. California updated their state standard of an effective Behavior Intervention Plan in 2013 with the revision of the Behavior Intervention Plan Quality Evaluation Scoring Guide (BIP-QE II) (Browning-Wright, Mayer, & Saren, 2013). Utah similarly went through a revision in 2015 with the introduction of the Least Restrictive Behavior Interventions Technical Assistance Manual (Utah State Office of Education Task Force, 2015). For these reasons, the movement to the "newer" model should have brought about more positive change in how BIPs were being completed and one would hope, the fidelity to which they were implemented. We know that the old system was revamped, but what we do not know yet, is if it was an effective change. Are the new templates of BIPs being implemented and if they are, are they being tracked, measured, and reported?

Selection, training, and coaching. In addition to the BIP- QE II quality indicators used to develop and gauge the strength of a plan, there are other factors that influence the treatment integrity of BIPs. The selection of primary implementers, along with the training and coaching of those involved in seeing a behavior plan through, are such factors. As we intend to focus on behavior plans completed in the general education setting, the selection of implementers is less of a focus as students often do not have the option to move to another class just so an alternate primary implementer can be selected. In a study conducted by the National Implementation Research Network, NIRN introduced these frameworks for application and called them

"competency drivers." The purpose of competency drivers "is to promote competence and confidence of those engaged in implementing the program model so that high fidelity and improved outcomes are both more likely to occur and to be sustainable" (Bertram et al., 2015, p. 482). Such changes in problem behavior are intended to be both likely and sustainable when implementing a behavior plan and the interventions that are included so it's important to assess the factors that may influence the level of fidelity as to account for them and address them from the start.

With the use of behavior plans in a general education setting, the primary implementers are often the general education teachers. From talking to many general educators, the education and training for most is not in special education or the interventions used in Tier II or Tier III services. Over time many teachers do receive Professional Development training in related areas but what happens when the general educator who is acting as the primary implementer is a new teacher with no preservice training either from the plan developer or another professional? Would this not influence the treatment integrity of a BIP expected to be performed in their classroom? "Successful, efficient, and sustainable implementation of any practice model requires behavior change in service providers, their supervisors or coaches, and in the administration. Training and coaching are the primary competency drivers through which this behavior change is developed" (Bertram et al., 2015, p. 483). Preservice training during the installation stage of a plan and then in-service training during different stages of implementation should bring about higher fidelity rates and in turn more positive effects of the plans. In terms of coaching, "best practices in coaching include developing and adhering to the formats, frequency, and focus described in a written plan as well as ensuring that supervisors and coaches are themselves well selected, trained, coached, and held accountable for enhancing staff development" (Bertram et

al., 2015, p. 480). The responsibility is not solely that of the primary plan implementer. It is a team effort to develop and complete behavior plans, and the same is expected of the team in terms of being trained and coached on developing and implementing interventions included in BIPs. Also, in the spirit of teamwork, plan developers should ensure that "coaching supports primary implementers in trying out new skills or abilities and must be encouraged to persist in developing new capabilities rather than reverting to previous approaches that are more comfortable but not as effective" (Bertram et al., 2015, p. 483). Bettering the performance of the primary implementers and providing them support through coaching is also bettering the team's practices as a whole. As a change in behavior is necessary for all parties involved in a BIP, the most important change is arguably that of the practitioners and primary plan implementers, so addressing the training and coaching of the team involved should be considered at the beginning of the development process but also throughout to ensure the plan is causing effective change.

Knowledge, skills, and beliefs. Similar to the NIRN competency drivers addressed above, the research of Julie Owens and her colleagues (2017) supports that comparable to selection and training, the practitioner's knowledge about best practices and skills to implement these practices are predictive of implementation practices. In their article titled, "Using Multi-component Consultation to Increase the Integrity with Which Teachers Implement Behavioral Classroom Interventions: A Pilot Study" they highlight the added importance of practitioners' beliefs about the intervention. They state that "teacher beliefs relevant to intervention integrity include perceptions about acceptability of the intervention, self-efficacy in delivering the intervention, and agency and motivation to implement the strategies" (Owens et al., p. 220). Their findings supported these claims and included results about consultation occurring between members of the BIP team and what a powerful impact that has on implementation practices. They found that

a combination of practitioner knowledge, skills, and beliefs about a classroom intervention impacted their implementation efforts.

Research Examining Treatment Integrity and Effectiveness

In a study by Cook et al. (2012) the link between BIPs, treatment integrity, and student outcomes under real education conditions were studied. As their research inquiries were found to be the most similar to my own, drawing reference to their particular work is necessary and beneficial for my cause.

Their study, published in 2012, highlights the need for "additional research to determine whether there is empirical support for certain legislative mandates" (Cook et al., 2012, p. 4). The FBA-BIP process is one mandate that they suggest has "limited empirical support as to whether it translates into improved student outcomes when carried out in actual practice by everyday educators" (p. 4). The authors refer to a call for more research in the area of instruction of behavioral systems in real-world contexts first made by Horner and Carr (1997) and we would argue that this is still a relevant and necessary call to action. With the regular introduction of more modern behavior interventions along with the recent changes made by the state regarding the qualification requirements of teachers charged as plan implementers, evaluations in such contexts are continually needed. Moving the research forward, Cook and associates (2012) set out to find to what extent (a) the evidence-based, substantive quality of BIPs significantly predict positive student outcomes, (b) the evidence-based quality of BIPs associated with treatment integrity under real-world conditions, (c) there was a significant relationship between the integrity with which BIPs are implemented and student outcomes, (d) treatment integrity mediates the relationship between the evidence-based, substantive quality of BIPs and student outcomes, and (e) are the above relationships cross- validated by a different informant?

They completed their study by gathering BIPs from various educators in California who were either involved in the Positive Environments Network of Trainers (PENT) or were identified by their special education local plan area directors for their work involving development and implementation of BIPs. These individuals provided the plans that they were linked to either as the plan developer or implementer with 99 total participants. The BSP-QE was used to evaluate the plans and rate the quality of the content specified in the BIPs. The participants of the study also received a follow up survey after submitting their BIP and were asked about their demographic information including their experience in the field and their training. The survey was also used to assess student outcomes and aspects of plan implementation involved with each plan. The survey involved obtaining raters' perceptions or judgments of student behavior and plan implementation.

Upon evaluating the plans and analyzing the survey responses, the researchers found that "PENT members, who acted as the plan developers, provided slightly lower ratings on most of the treatment integrity and student outcome variables than the primary implementers. There was also a discrepancy between the two groups' ratings of the percentage of BIP components implemented with integrity" (Browning-Wright et al., 2007, p. 7). In terms of grading the plans, "the mean score for the sample of BIPs was 16 out of 24 possible points" (Browning-Wright et al., 2007, p. 7), which was consistent with previous research on samples of BIPs. Their results suggested that the technical adequacy of the BIP is correlated to positive student outcomes. "The evidence-based quality of BIPs is significantly, positively related to PENT members' ratings of the degree to which the plans were implemented as intended" (Browning-Wright et al., 2007, p. 10). PENT members reported that the better the plans were implemented as written, the more likely student outcomes improved, and more results indicated that "BIP quality was significantly

indirectly related (.34) to student outcomes via treatment integrity ($z = 2.65$, $p < .01$)" (Browning-Wright et al., 2007, p. 10). These results support two main conclusions. First, the quality of BIPs was found to positively relate to improved student outcomes. Second, the effects of the BIPs were mediated by treatment integrity.

The Cook study was a great introductory examination of the relationship among BIP quality, treatment integrity, and student outcomes under natural educational conditions. They contributed to the research of treatment integrity in important ways, but they suggested further research in two main areas. The first suggestion was that "research should examine with whom and under which conditions BIPs are maximally effective or not effective. Research to this end will allow educators to more intelligently design and match services to student need" (Cook et al., 2012, p. 13). Secondly, they suggested extending this research by assessing the impact of training as it relates to improvements in practitioner competency and student outcomes. This research continues to be much needed in the area of BIPs, as prior research has indicated that the vast majority of BIPs developed in actual practice were rated as inadequate and missing key evidence-based components (Cook et al., 2012). We addressed their considerations and did so in the following manner.

We collected BIPs developed for students who receive special education services primarily in general education classrooms. By making this change it was more evident with which population of implementers and students these plans are maximally effective or not effective with. In our study, we also gathered information about plan developers and implementers training in the areas of BIPs and the interventions and techniques used within these

plans. We expected to show a greater incidence of high treatment integrity in those with more training which would then reflect a need for more training provided to those involved in the development and implementation of these plans.

Through the preceding studies discussed, there is a noticeable lack of research on the practical implications of treatment integrity for general education classrooms. In Cook et al. (2012), BIPs developed by school psychologists and implemented in special education classrooms by individuals with extensive experience and training in special education. Also, the research does not clearly identify the features of the development and writing (e.g., written by a team, specialist, teacher, etc.) of the BIP are related to higher treatment integrity; the features of practitioners training, and/or feedback and dissemination of the plan are related to treatment integrity; or the features of the interventionist related to treatment integrity. The purpose of this thesis was to explore the following questions.

Research Questions

1. To what extent do the professional qualifications of members of the BIP team predict the perceptions of treatment integrity?
2. To what extent does participation in the BIP development process predict the perceptions of treatment integrity?
3. To what extent does training predict perceptions of treatment integrity?
4. To what extent does the quality of the BIP predict the perceptions of treatment integrity?
5. To what extent do professional qualifications, training, participation in development process, BIP quality, and treatment integrity predict perceptions of treatment outcomes?

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APPENDIX B

Consent Form

Introduction

This research study is being conducted by Danielle Rigby and Cade Charlton at Brigham Young University to determine the predictive qualities of professional qualification, plan development, plan quality, and coaching and feedback on treatment integrity of Behavior Intervention Plans (BIPs). You were invited to participate because you either provided a BIP to your district's special education director or you were named as a participant in writing and/or implementing the plan that was submitted and were approved for participation by a school/district administrator. A total of sixty professionals will be recruited for this study from participating school districts in Utah.

Procedures

If you agree to be in this research study, the following will occur:

- You will be invited to complete a survey containing questions about your professional experience, professional role in reference to the BIP, education, and what you witnessed in the implementation of the BIP. The survey should take less than 15 min.

Risks/Discomforts

Participation in this study may involve some added risks or discomforts. You will be asked to respond to a survey which may lead to physical and/or emotional discomfort. For example, this additional activity required for participation will slightly decrease time for other responsibilities and may slightly increase the complexity of your schedule. Other risks include the potential loss of confidentiality and other unforeseen risks. The research team will make every reasonable effort to limit these risks by working with district staff to ensure all steps are taken to protect confidentiality. We will also request only the information that is required to complete this study. In addition, we will proactively address conflicts should they arise.

Benefits

There will be few direct benefits to you as a subject. You may acquire or refine behavior plan development or implementation skills that may enhance the quality of your interventions. Possible benefits to society include a better understanding of the factors that influence treatment integrity and the possibility of improving the quality of BIPs for struggling students.

Confidentiality

Research records will be kept confidential, consistent with federal and state regulations. Only the investigators will have access to the data which will be kept in a locked file cabinet or on a password protected computer. To protect your privacy, personally identifiable information isn't being asked in the survey and will be removed from all hard and electronic study documents and replaced with an anonymous study identifier. After the conclusion of the study, all identifying information will be removed and the data will be kept in a locked cabinet within the researcher's office for 5 years.

Compensation
Participants who respond to the survey will receive a $5 gift card for participating. All compensation will be delivered within approximately 6 months of participation.

Participation
Participation in this research study is voluntary. You have the right to withdraw at any time or refuse to participate entirely without jeopardy to your status, employment at the school, good-will at the university, or professional standing.

Questions about the Research
If you have questions regarding this study, you may contact Danielle Rigby at (801)913-7667 or via email at daniellerigby30@gmail.com for further information.

Questions about Your Rights as Research Participants
If you have questions regarding your rights as a research participant contact IRB Administrator at (801) 422-1461; A-285 ASB, Brigham Young University, Provo, UT 84602; irb@byu.edu.

Statement of Consent
I have read, understood, and received a copy of the above consent and desire of my own free will to participate in this study.

Name (Printed):_____ Signature:_____ Date:_____

**You were given two copies of this consent form. Sign both and keep one for your records and to ensure that you know who to contact should the need arise.*

APPENDIX C

Instruments

BIP Quality Evaluation Record Sheet (2.0)

Plan ID: _____

BIP-QE II Evaluator: _____ Date of Evaluation: _____

___ A. Problem Behavior

___ B. Function

___ C. Teaching Strategies

___ D. Reinforcement

___ E. Reactive Strategies

___ F. Team Coordination

___ G. Goals and objectives

___ ***Total Score (X/14)***

Suggestions for improving this plan: _____

_____

_____

_____

A well-developed plan embodies best practice: a careful analysis of the problem, comprehensive interventions and a team effort to teach new behavior and remove elements in the environment associated with problem behavior.

- **Fewer than 5 points = Weak Plan**
  This plan may affect some change in problem behavior, but the written plan only weakly expresses the principles of behavior change. This plan should be rewritten.

- **5 – 8 points = Underdeveloped Plan**
  this plan may affect some change in problem behavior but would require a number of alterations for the written plan to clearly embody best practice. Consider alterations.

- **9 – 11 points = Good Plan**
  This plan is likely to affect a change in problem behavior and elements of best practice are present.

- **12 – 14 points = Superior Plan**
  This plan is likely to affect a change in problem behavior and embodies best practice.

BIP Quality Evaluation Rubric

BEHAVIOR INTERVENTION PLAN QUALITY EVALUATION SCORING GUIDE II **Revised**

Based on the version by Diana Browning Wright, M.S., G. Roy Mayer, Ed.D., with contributions from Dru Saren, Ph.D. the PENT Research Associate Team, PENT Research Team, PENT Cadre and 2006 PENT Research Associates Team

Browning-Wright, D.B., Mayer, G. R., & Saren, D. (2013, November). *Behavior intervention plan quality evaluation scoring guide II: To evaluate behavior intervention plans (See www.pent.ca.gov)*. Retrieved from California Department of Education website: http://www.pent.ca.gov/beh/qe/bipscoringrubric.pdf

Adapted by Danielle Rigby (2019) for Research Purposes

Components to Evaluate	Scoring	Examples: All examples below relate to the same student and same behavior	Key Concepts
A. PROBLEM BEHAVIOR **(Baseline Data of Problem Behavior and/or Target Behavior(s)** **Problem behavior(s) in observable <u>and</u> measurable terms** • **"*Behavior impeding learning is…"*** NOTE: It is best to limit a behavior plan to one or two distinct, separately- occurring behaviors (See three in key concepts column for clarification.) However, if multiple behaviors occur in rapid sequence, all with the same function, they can be adequately addressed in one plan. In the process of developing a behavior plan, the team may decide to list multiple behaviors, but then proceed to address only	**2** = All identified problem behavior(s) are observable and measurable. If a behavioral category is listed, e.g., aggression, it is subsequently defined in observable, measurable terms. **1** = Some of the identified problem behavior(s) are not observable and measurable. **0** = No problem behavior is stated in observable and /measurable terms, e.g., The student's inner attributes are hypothesized instead of a description of behavior.	2 = "Defiance: Billy ignores teacher requests to independently complete a written assignment and continues self-selected activity" (this includes observable/measurable examples) Defiance sequence: Billy continues with a self-selected activity, ignoring teacher requests to complete an assignment; when prompted, he shrugs his shoulders and does not comply, if prompted again, he swears and continues with his activity. (This sequence is in observable/measurable terms) 1= "Billy ignores teacher requests to independently complete a written assignment and continues	Define the problem behavior clearly so you can measure progress. If you use general behavioral category terms such as "defiance", give examples of what the student actually does so everyone understands what the problem looks like when it occurs. If you are addressing more than one behavior, number each behavior to correlate with matched functions, matched interventions and reactive strategies later in the plan. It can be difficult to address more than two behaviors per each BIP form because the plan will

one or a few. It can be helpful, then, to bracket the behaviors not covered, with a note stating: (Other problem behaviors not addressed in this plan include: xxx, xxx) For the purpose of scoring, it can be helpful to bracket behaviors identified in the "Target Behavior(s) or Problem Behavior(s) "section that are not covered later in the plan if that has not already been done by the writers.		with self-selected activity" is listed, but an additional behavior, "Aggressive behavior" is listed (but no further description is given) 0= "Billy is defiant" (but no further description; therefore, this is not observable or measurable); "Billy has a low self-concept and he dislikes the subject" (attributes rather than behaviors are given).	become confusing and difficult to implement. However, if the behaviors form an escalation pattern that occurs in sequence (e.g., student swears under his/her breath, then rocks in chair, then tears paper, then pushes over the chair) they can be readily addressed in the plan.

Components to Evaluate	Scoring	Examples: All examples below relate to the same student and same behavior	Key Concepts
B. FUNCTION OF BEHAVIOR IS LOGICALLY RELATED TO PREDICTORS (Summary Statement of Problem Behavior) **Identified function of the behavior** • *"Team believes behavior occurs because..." (Summary Statement of Problem Behavior) is logically related to "What are the predictors or "triggers" for behavior." (also in the Summary Statement of Problem Behavior)* **Caution:** Simply identifying the function of the problem behavior, e.g., "the behavior is a protest" is not sufficient. WHY is a protest BECAUSE… Dig deeper E.g., Is the assignment too long for this student? Or is the assignment too difficult? Or, does the problem behavior occur to protest that the work looks long and/or hard? Or, has the student stated that	**2** = All identified function(s) specify WHY the behavior occurs in terms of what the student: 1) **gets** or 2) **rejects,** i.e, escapes, protests or avoids AND each identified function is logically related, i.e., consistent with the predictor(s) that address each of the problem behaviors. **Contaminators:** "revenge, vengeance, control, power". Score 0 if present. **Note:** There can be multiple functions for one behavior (e.g., student uses one behavior for attention and the same behavior to escape) OR the student may use multiple behaviors for the same function (e.g., screams, kicks, bites, runs to avoid work) Number behaviors, functions and predictors to aid in scoring. **Note:** A plan may attempt to address multiple problem behaviors with multiple distinct functions. Score 2 points ONLY if each function is logically related to a predictor for	**2 =** "Billy is avoiding independent paper-pencil assignments and protests termination of self-selected activity with profanity because he states he prefers working with a partner on requested activity," when compared to predictors of avoidance: "Whenever Billy is requested to do work without peer support, occurring after recess, when he is by himself, when there is a substitute teacher, or for any seatwork that is longer than 10 minutes. This demonstrates a logical relationship between function and predictor(s). **1 =** "Pat is avoiding doing all written assignments," when compared to "When Pat is seated next to certain students" This does not demonstrate a logical connection between function and predictor. (If a key predictor is the presence of certain students, the "Summary Statement of Problem Behavior" or "Baseline Data" should specify why he avoids written assignments when next to certain students.	Although the Functional Assessment/FERB section of the behavior plan is written by the team after the environmental sections, one must have hypothesized the function before deciding on environmental changes. Hypotheses of function help guide examination of supporting environmental variables to identify causation and need for change. The function is a summative conclusion about sustaining variables and how the consequence of the behavior is related to the antecedents (A-B-C). **All behavior is purposeful.** When a behavior's purpose is understood, alternative FERB(s) can be identified and taught. Building a plan requires identifying positive behaviors we ultimately want, barriers we need to remove and/or supports we will need in order to achieve our goals, and any FERB that we can accept as an alternative to the problem behavior. This FERB still allows the student to get his/her desired

he does not want others to see that he struggles? Thus, he chooses to state that he is protesting the length or difficulty of an assignment so as to prevent peers from knowing about his skill deficit. Careful functional analysis is critical if we are to identify an adequate Functionally Equivalent Replacement Behavior (FERB) and environmental intervention(s) to eliminate or reduce the student's use of the problem behavior.	each behavior. Number all behaviors and match to all functions and predictors. It makes it easier to evaluate. **1 =** All identified function(s) are identified in terms of 1) getting something or 2) escaping, protesting, or avoiding something (Summary Statement of Problem Behavior) <u>but</u> not all are <u>logically related</u> to identified predictors for behavior (also Summary Statement) AND no contaminators are present (see above). **0** = One or more identified function(s) are not specified in terms of either: 1) to get something or, 2) to reject something (escape, protest, or avoid) (Summary Statement of Problem Behavior). OR contaminators are present (see above: revenge, power, control, vengeance).	WHY should be observable and measurable, and not a hypothesis of internal states. E.g., …because Pat states he doesn't want others to see he struggles, NOT …because Pat has low self-esteem. **0 =** "The function is to express a low self-concept" "The function of the behavior is to demonstrate his poor parenting." "The function of the behavior is to demonstrate he doesn't understand verbal directions." "The function is to gain power." "The function is revenge."	outcome, yet now in a more adaptive and socially acceptable manner. Analyzing the function of the behavior requires examining what is happening right before, during and after the behavior. Look at the student's affect and his/her verbal and non-verbal responses in addition to staff and peer responses. This is a critical step in identifying potential predictors and developing a hypothesis about the function of the behavior. **Contaminators:** revenge, vengeance, power and control are not functions that can be used to develop a functionally equivalent replacement behavior (FERB) for conditional use in a plan, e.g., how to get vengeance in a better way would not have social validity. The function should be observable, and not a construct on internal feelings of the student. Consider alternatives: (a) instead of vengeance: function= protest past action of a peer; (b) instead of control: function= gain choice of activities and pacing of activities; (c) instead of power: function= gain sustained peer attention, etc.

Components to Evaluate	Scoring	Examples: All examples below relate to the same student and same behavior	Key Concepts
C. TEACHING STRATEGIES ADEQUATELY SPECIFY HOW TO TEACH AND OR PROMPT FUNCTIONALLY EQUIVALENT REPLACEMENT BEHAVIOR (FERB) Specify how the replacement behavior, that allows the student to meet functional needs in an acceptable way, will be systematically taught.	2 = Teaching strategies for all FERB(s) include at least one detail about how this will be done: for example, materials are listed, a strategy is described, a list of procedures or skill steps is referenced. (The statement can refer the reader to an attached document and need not be fully described on the plan for a score of two.) If Contaminators are present, score 0: (a) if a reactive strategy for the problem behavior is described here, (b) If cathartic strategies for aggression are described, e.g., punch a pillow, not your peer. 1 = Some teaching strategies with at least one detail are specified for one or more general positive behaviors OR Teaching strategies with at least one detail for one, but not all, FERB listed AND no contaminators are present 0 = No strategies with at least one detail are specified to teach either a FERB OR to teach general positive behaviors OR	2 = "Teacher will instruct, provide practice sessions, and cue Billy to request peer buddy assignment assistance using the attached request language and the speech/ language teacher will practice these requesting skills in small group." This includes some detail about requesting a peer buddy as an acceptable protest of the requirement to work independently. No other FERBs are present to evaluate and no cathartic strategy for aggression is described. 1 = "Teacher will instruct Billy on how to request peer assistance." (This directly relates to protesting lack of assistance on seatwork but does not have at least one detail on how to teach him to request assistance. OR "Adam will be taught how to follow a schedule, (see attached document: Teaching of a Schedule Routine,) in order to increase tolerance for non-desired activities. A desired activity will occur periodically in the schedule. (approximately every 30 min." (No strategy for teaching a FERB to Adam for appropriate protesting is given, but an adequately written teaching strategy to increase general positive behaviors is provided with at least one detail and therefore scores 1.) 0 = "Student sent to the office when he	A plan to teach or prompt the FERB must be carefully thought out, with materials or strategies given with enough detail so that all team members will remember what they have decided to do. It is acceptable to minimally mention the teaching strategy and then refer the reader to an attached skill teaching sequence or to a specific curriculum available for plan implementers. The teaching section can include identification of strategies for increasing general positive behavior skills. Some credit is given for this, but full credit requires specific strategies for teaching FERB(s). FERB is a core component of any well-designed behavior plan and therefore, methods of teaching this should be specified with some detail. Contaminators: Cathartic strategies for aggression have been extensively researched and are shown to foster or promote further aggression and therefore contaminate the plan.

	contaminators are present (see above).	protests inappropriately." (Not a teaching strategy for either a general positive behavior or for a FERB, OR "Sam will go to the play room to stab dolls, not peers, with a pencil." (cathartic strategy for aggression)	

D. REINFORCERS **Specified reinforcers the student is known to seek** **A reinforcer is a consequence that increases or maintains a behavior. It "reinforces" the probability of the behavior being repeated.** **A reinforcer** can be a tangible or an event delivered as a conditional consequence: If X behavior occurs, Y consequence will occur; AND for which you have evidence that the student will use X behavior to get Y consequence. **A reward** is a tangible or an event delivered conditionally for which you <u>hope</u> the student will strive to earn it, but for which you do not yet have evidence that this has worked in the past or for which evidence does <u>not</u> currently exists that s/he will strive to attain the reinforcer.	2 = Reinforcer for FERB is complete and any other reinforcer for positive behavior is also complete: (a) specifically stated, (b) contingently given, (c) effectiveness data (d) frequency, AND one additional variable is listed: (either (e) choice-within-variety or (f) immediacy), AND the following contaminator is not present: student loses or reduces access to some reinforcer if the FERB is used in lieu of the problem behavior. (a) **Specifically stated**: What the student will receive, e.g., verbal praise, NOT be positive during interactions. (b) **Contingently given**: If X behavior occurs, then Y reinforcer or token/point, etc. is given (c) **Effectiveness Evidence**: There is evidence that this reinforcer has frequently been sought by the student, or there is current evidence that s/he will actively seek this potential reinforcer. (See line on BIP: reinforce based on_____).	2 = **Specific and contingent**: "Billy will earn time on the new computer game for work completion and requesting peer buddy when needed." (both general positive and FERB are addressed.) 1) **Effectiveness (Power)**: Selection of reinforcer based on: "Billy requests access to the computer to play games and expresses interest in this specific new game." "Billy also requests positive communication with parents and permission to sit next to certain peers." 2) **Frequency**: "Billy will earn computer time at the end of each day" or "Billy will receive a computer ticket for completing 10 minutes of seatwork. Each ticket earns one minute of computer time." 3) **Immediacy**: "Immediately after each episode of peer buddy requesting, Billy will be given a token or a bonus point on his tally sheet." 4) **Choice within Variety**: Billy can select from the following reinforcers: a positive note home or permission to sit near a friend or computer time." 1 = **Specificity, Contingency, Effectiveness and Frequency** (see above) but no additional variable. OR reinforcement for asking for a peer buddy is absent (the FERB) 0 = **Specificity or Effectiveness or Contingency or Frequency** are	Students will not likely change or maintain new behaviors without reinforcement. Determine if a true "reinforcer" has been selected, rather than a "reward." For a reinforcer there is evidence of the student seeking this event or tangible. Providing something we think the student will want without evidence is a "reward." How do you know the student seeks or will seek this reinforcer? **Considerations:** • Can the student wait for this reinforcer, even if it is known to be a highly powerful one? Can less powerful reinforcers be delivered more frequently or can increasing variety maintain effort? • Does the student grasp the connection between the reinforcer and the behavior? If in doubt, increase immediacy and specify the conditions for earning the reinforcer(contingency) to the student more clearly.

	(d) **Frequency**: How often a reinforcer or token is to be given. (e) **Choice-within-Variety**: two or more reinforcers for student selection are specified. (f) **Immediacy** = reinforcer(s) or token symbolizing a reinforcer are delivered immediately after the desired behavior(s) 1 = A through D is given but neither E or F is present OR no FERB reinforcer is identified BUT no contaminator is present 0 = Contaminator is present OR A, B, C, D is missing	missing. (see above)	• If you are using a token system, does the student understand the token symbolizes progress toward earning the reinforcer? If in doubt teach the association systemically. • If s/he does not grasp the connection, a token system will not be effective. Is the student getting tokens as frequently as needed to maintain effort? If not, increase frequency and/or immediacy of token delivery. • Who delivers the reinforcer can be important. From whom does the student most want to receive the reinforcer? Choose adult (teacher, principal, parent, counselor, etc.), or peer(s)

E. REACTIVE STRATEGIES **Reactive strategies are clearly communicated and understood by all implementers** • Analysis: "Reactive strategy employ/debriefing procedures to use if problem behavior occurs again." • Four components are considered: Prompting, Managing Safely, Debriefing, and Consequences All implementers should be consistent in their approach when problem behavior occurs. All stakeholders, e.g., parents, teachers, therapists, specialists, should approve of the reactive strategies. If the student can comprehend the plan, s/he should be aware of all parts of the plan, including what strategies will be used for problem behavior across all problem behavior phases. **Note: For scoring purposes if multiple behaviors are addressed, find one complete reactive sequence for a problem behavior on the plan to score.**	2 = **A Strategy for Managing at least one Problem Safely** must be present, AND any two other components below are present for that behavior, AND no contaminators are present: (a) catharsis for aggression or (b) aggressive verbal or physical behavior is listed, but no strategy for managing safety given. 1 = **A Strategy for Managing at least one Problem Safely** must be present, but two additional reactive strategy components for that behavior are not given AND no contaminator is described on the plan: catharsis for aggression, or no managing safely strategy given on the plan for aggression listed. 0 = **A Strategy for Managing at least one Problem Safely** is absent OR a contaminator is present on the plan: (see above) **Reactive Strategy Components** 1) **Prompting** to the FERB, **or redirecting to task with additional supports:** **Key:** What staff actions are specified to (a) redirect student to the new behavior being taught and reinforced, or (b) staff actions to redirect to the task with additional supports (e.g., reminder of next break, desired activity earned, praise) 2) **A Strategy for Managing the Problem Safely** when problem behavior does not respond to redirection is described. Safety for the student, implementers and peers must be maintained. Caution: Never force compliance through a physical means. Approved physical restraints are only	2 = **2) Managing the problem safely** "During Billy's problem behavior episode (task refusal and profanity) the teacher will sit very close to him, present two choices of which work folder to complete with a peer, using a non-emotional tone, waiting for swearing to end and Billy to choose a task." AND **Other components for that problem behavior are described (2 or more required):** **1. a) Prompting FERB:** "Teacher will non-verbally cue Billy to switch to the FERB, a peer assistance request, using the five hand signals of "stop," "think," "you can make a good choice," "you can make a bad choice" "what will you do?" as taught to the student and practiced previously and followed by hand signals "pat yourself on the back" if student signals "good choice" and switches behavior. **OR** **1.b) Prompting to Redirect, e.g.**, severe disability example: "If Mary begins to rock, (a weak protest, typically occurring prior to screaming and running, show her the "what I'm working for card", then redirect her gesturally to finish only the immediate task before terminating instructional session and providing desired activity." **3) Debriefing method(s):** "Teacher and Billy will analyze the problem behavior occurrence using the attached 'My Inappropriate Behavior Worksheet. Process will occur after student is observed to be calm and ready to talk." **4) Consequences or Punishment:**	Well-designed reactive strategies consider the progression phases in specifying how to respond to a problem behavior. 1. **Prompting** - Can continuation or escalation of problem be averted by using a prompt? Remind the student of how to get desired outcome with the FERB? 2. **Managing safely** - How will staff maintain safety of everyone during escalated behavior? This is critical. 3. **Debriefing** - What procedures, after calm is restored, help identify how to prevent further occurrences and restore rapport and rule-following behavior? 4. **Consequences** - may or may not be required or recommended. Do school safety requirements, outside agency or parent requests require specific consequences? Does the team believe a consequence will result in the student avoiding using the problem behavior in the future? **Debriefing** can be a dialogue or a written process or a behavior practice session. For younger or less cognitively able students, where verbal problem solving has not yet proven successful, "debriefing" can entail a session to model replacement behavior, or guided practice with the student of how to use the FERB, or a review of a picture sequence depicting alternative behavior steps or other

	used to maintain safety of student, peers or adults, <u>never</u> for any other reason. 3) **Debriefing** and/or additional practice of the FERB after the problem is over. **Key**: What should staff do after the problem behavior episode to process or practice with the student what happened? Information on further plan alterations may be gleaned in this process. 4) **Consequences or punishment** may or may not be required or desired. **Key:** What staff actions will occur because of school discipline policy, or a team's decision about a contingent logical consequence's instructive value?	"Billy will not receive tokens for the period due to lack of completing the task which would have earned approximately 5 toward the computer game." or, "If Billy engages in dangerous behavior, such as pushing, hitting or throwing furniture during the protest, he will be referred for immediate school disciplinary response." 1= **Managing problem safely strategy** for at least one problem behavior is present, but two additional components for that behavior are not present. 0 = **Managing problem safely strategy** is absent, e.g., student threatens others but no strategy to handle safely if observed; student hits peers, no strategy to address.	teaching procedures designed to achieve skill fluency, if that is in question, after the behavior episode. **Punishment** is a consequence the student finds aversive and results in elimination or reduction in problem behavior because the student is motivated to avoid that consequence in the future. Caution: Avoid reinforcing the problem behavior. Sending a student to the office may be thought to be punishment, but the student may actually find it reinforcing! **Hint: A student screams (function of scream determined to be to escape a task). If student's task is terminated by the scream, this behavior will become reinforced. Do not allow escape following the scream. Instead, require a very brief compliance prior to the escape ("Raise your hand to leave, Peter.")**

Components to Evaluate	Scoring	Examples: All examples below relate to the same student and same behavior	Key Concepts
F. PROGRESS MONITORING, ELEMENT ONE: **Team Coordination** EVIDENCE OF TEAM COORDINATION IN STRATEGY IMPLEMENTATION, MONITORING SYSTEM, COMMUNICATION PROVISIONS The plan identifies all personnel to implement, monitor and exchange information	2 = <u>All</u> implementers (and those who will be monitoring and exchanging information) are identified AND their responsibilities are discernable in each section of the plan. FERB data exchange with all components must be present (a) who, (b) conditions, (c) manner, (d) content, (e) frequency, (f) reciprocal-two-way receipt of information) ►**Key Concept: Two-way exchanges** for all	Examine to determine if interventions or duties are described and all are correlated with specific assigned team members. For example, teaching strategies clearly states who is responsible for each action: "The teacher will instruct, provide practice sessions, and cue Billy to use peer assistance	All implementers must be clear on their responsibilities which are infused throughout the plan. For each intervention or duty, consider adding team member's initials, names or positions throughout the description so responsibilities can be clearly determined. Sample responsibility designation types: 1. Initials: DBW, GRM 2. Names: Diana Browning Wright, Roy Mayer

The communication segment of the BIP details progress monitoring during the plan's implementation: 1. **Who** will participate in exchanging information? 2. **Reciprocally** exchanging information to monitor progress. Different communication partners (exchange dyads) may require different communication content. 3. **Under what conditions? Conditional or Continuous?** Each exchange dyad can require data about behavior under different conditions, e.g., Conditional- if a dangerous behavior occurs, w and x communicate; Continuous summaries of daily or weekly ontask behavior, requires y and z to communicate, etc. 4. **Manner** of exchange of student progress and staff implementation data (how will data go back and forth?) 5. **Content** of data to exchange about student progress and staff implementation: Include what outbound data to exchange, under which conditions, and what inbound response to that data should occur. Two-way communication is critical. Communication section must include monitoring of student mastery of the FERB. 6. **Frequency** of exchange. Can be time referenced, e.g., each day, each week, or can be conditional, e.g., if X behavior, Y communication exchange occurs.	communication specify both outbound data to exchange and expected inbound response to the data. It cannot be simply a signature signifying a receipt of data. ►**Key Concept to assure implementation**: Well designed and specific communication exchanges result in more consistent implementation of a behavior plan and provide for enhanced on-going progress monitoring and adequate determination of response to the interventions. 1 = Not all implementers (and those who will be exchanging information) are identified or not all responsibilities are discernable in each section of the plan AND One data exchange for any one specified goal includes all components (who, conditions, manner, content, frequency, reciprocity-two way beyond receipt signature) but a complete exchange for a FERB is absent. 0 = No team member responsibilities are identified in each section OR no team members are identified. AND No complete data exchange (who, conditions, manner, content, frequency, reciprocity-two way, beyond receipt signature) for any goal is present.	requests using the language she has taught, and the request strategies will also be taught by the speech/ language specialist who will practice these skills in a weekly small group." 2 = FERB: "Billy's handwritten daily report card will be reviewed by parent and student nightly and will include report on Billy's use of protesting solo written work through peer assistance requesting (FERB for protesting by profanity). (see attached sample card) Parents will return daily report with summary of Billy's response to reinforcer given for adequate progress to the teacher issuing the report. *INCREASE GENERAL*, Continuous: All written daily report card copies will be distributed to the counselor weekly and contain information on task completion rate (see IEP attachment). Parents will report back to school on Billy's independent homework completion and teacher will report to parents on daily report that homework was received and evaluated; IEP team will review all data at next meeting in 3 months." *DECREASE*, Conditional: "If Billy has one	3. Roles: Teacher, Aide, Consultant Establishing effective communication requires a team approach among all stakeholders, people who desire to support positive outcomes for the student, e.g., school staff, family, agencies and support groups, the students themselves, and others. Active exchanges among all stakeholders require each partner to provide information to one another, no one member supplying information to a passive recipient. Exchanges can occur through phone calls, email, notes home, data log copies, etc. Behavior plans frequently fail when ongoing communication is not well designed. Simply waiting for a quarterly report or until an annual IEP meeting is not sufficient to assure the plan is being completely implemented. Continuous 2-way communication on goal progress is necessary to assure all stakeholders have input and continuous teaming occurs. Whenever there are many stakeholders, or when there is doubt that all implementers will continue interventions for the time required to change the behavior, it is especially necessary to fully describe how the communication will occur and how each player will respond to the communication when received. For example, what communication will the parent send back to the teacher after reviewing a daily report card? How will the

		episode of throwing furniture or continues profanity past two minutes in refusing tasks, principal and parent will be notified by phone within one day and a face to face conference held between teacher, principal and parents to analyze and problem-solve additional or other interventions." 1 = "Student will take home a daily report card about FERB behavior (see attached sample card)." (Analysis: no 2-way communication, frequency, manner, and content is specified) 0 = "Teacher will send home notes." (No information on FERB, no conditions, no manner, no content or frequency given)	administrator respond back to the counselor when a report of problem behavior is received? This requires considering the communication dyads, method, frequency, content and manner of the exchange. This well-designed system provides prompting and reinforcement for continued program implementation.

Components to Evaluate	Scoring	Examples: All examples below relate to the same student and same behavior	Key Concepts
G. PROGRESS MONITORING, ELEMENT TWO: **GOALS AND OBJECTIVES** **Every goal requires six components (see key concepts column) to enable adequate progress monitoring. Components can be in any order & grids & tables are acceptable. FERB goals minimally have more than one part as well. However, a FERB goal must also show a clear connection to how this behavioral goal achieves similar functional outcomes to the problem behavior under similar conditions.**	2 = One FERB goal, that clearly represents a FERB, and that includes all six components is used and it is not simply a general positive behavior **Key Concept:** Progress monitoring of the FERB is critical and requires all components to be an example of full adequacy. 1 = One complete monitoring goal, either "increase general positive behavior", or "decrease problem	2 = FERB: "By 6/03, on 3 out of 4 weeks, Billy, instead of being defiant (i.e., ignoring teacher request to complete a written assignment independently and continuing a self-selected activity or using profanity-- words related to toileting, sex or deity) for the purpose of escaping written work required to be performed independently will use a FERB. He will verbally request a peer buddy for the purpose of avoiding independent work. This behavior will occur when there is a substitute teacher, or for seatwork longer than 10 minutes, or after recess when he is by himself. Event behavioral data, using the attached	**Six required components for goals-in any order:** **1. By when?** (final date to achieve desired results) **2. Who?** (the student) **3. Will do or not do what?** (must be observable, measurable, specific behaviors desired, or not desired by team) **4. Under what conditions/situations?** (e.g., location, circumstances, presence or absence of certain people or materials) **5. At what level of proficiency?** (e.g., skill accuracy, frequency-number of times in a time period, degree of

To be observable & measurable, the goal description must clearly state what the behavior looks like with no ambiguity on what is to be measured. To effectively measure progress on improving behavior, in addition to a FERB goal, one or more additional goals for either reduction in problem behavior and/or increase in general positive behaviors should be developed by the team. **►IEP? 504 plan?** Goals may be listed only on a behavior plan if the student does not have an IEP/504 plan. However, if the student has an IEP, goals should be stated on both the behavior plan and the IEP. All IEP goals must be monitored and reported to family members "at least as often as is reported for students without disabilities" (i.e., at report card periods). Behavior plans should be attached to any 504 plan. **Caution:** If this behavior plan is part of an IEP/504, plan revisions require following IEP/504 team reporting and monitoring procedures.	behavior goal" is present AND a FERB is targeted in the BIP to be specifically taught, though no complete FERB goal is present for monitoring. **Key Concept:** Progress monitoring capability is essential for at least one goal and presence of FERB is minimally required to be a partial example adequacy. 0 = No complete goals of any type. **Key Concept:** Progress monitoring capability is not adequately present. **►Scoring for more than one behavior on the plan?** • **Multiple behaviors, different functions:** There must be a FERB goal for each behavior for a score of two. • **Multiple behaviors, same function:** One complete FERB goal required for a score of two.	form, will be collected daily during these conditions, by the teacher or aide, with weekly summary sheets distributed to counselor and parent. *DECREASE:* By 6/03, on 4 out of 5 daily behavior report cards, Billy will have exhibited no task refusals, including profanity (defined as above in FERB) under conditions, measurement method and personnel described in FERB goal above. (These are not repeated in this example due to space limitations.) *INCREASE*: "By 6/03, as reported on 3 out of 4 weekly summaries, Billy will have demonstrated completion of 95% of all written assignments for all subjects, times of day and all teachers, with or without peer assistance, with no cueing or defiance….. (See above) FERB for definitions, measurement methods, and personnel which are not repeated in this example due to space limitations.) 1 = One complete goal is related to problem behavior. (see above) 0 = "Billy will stop wasting time." "Billy will feel less frustrated." (Analysis: No goal contains all necessary parts)	prompting, duration- number of minutes, intensity) **6. How measured and by whom?** (e.g., observation, data recording: event or duration recording, permanent product, momentary time sampling; measured by a specific person) **A Sample FERB goal format to make behavioral functional equivalency readily apparent (note capitals):** **1. By when** **2. Who?** **3. INSTEAD OF WHAT PROBLEM BEHAVIOR?** **4. FOR WHAT HYPOTHESIZED PURPOSE OR FUNCTION?** **5. WILL DO WHAT? (the FERB)** **6. FOR WHAT HYPOTHESIZED PURPOSE OR FUNCTION?** (Repeat the hypothesized function here to make the functional relationship clear.) **7. Under what conditions/situations?** **8. At what level of proficiency?** **9. How measured and by whom?** Note: A FERB may have only 6 parts if analysis demonstrates the desired behavior IS a FERB.

BIP Personnel Survey

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BIP ID

This number should have been provided to you by your district personnel as a way to link your responses with a particular plan. Please have this plan in mind while responding to this survey.

Select the role that best describes your primary professional responsibility:

- Special Educator
- General Educator
- School Psychologist
- Social Worker
- Specialist
- Administrator

Years in the profession

Education

Have you attended an IEP meeting for the target student identified in this BIP?

- Yes
- No

Have you received training on any of these topics related to BIPs from anyone in your district or school?
(Select all that apply)

- Conducting a FBA
- Writing a BIP
- Implementation of BIPs
- Evaluation of implementation

Did you provide suggestions for possible strategies to be included in this BIP or give feedback on the plan?

- Yes
- No

Did you provide pertinent knowledge about the student to be included in this BIP?

- Yes
- No

What is your perception of the quality of this BIP?

Weak plan	Underdeveloped plan	Good plan	Superior plan

What was the overall degree of improvement from this BIP?

None	Low	Moderate	High

To what degree did the student's academic performance improve as a result of the implementation of the plan?

None	Low	Moderate	High

To what degree did the student's behavioral performance improve as a result of the implementation of the plan?

None	Low	Moderate	High

How consistently were the procedures of the BIP used?

Never	Rarely	Some of the time	Most of the time

The behavioral goals of the interventions described in this BIP were met

Never	Rarely	Some of the time	Most of the time

To what degree were the supports and strategies specified in this BIP implemented as they were written

Never	Rarely	Some of the time	Most of the time

What was the degree of adult behavior change that occurred as a result of this BIP

Never	Rarely	Some of the time	Most of the time

What was the degree of change in the way adults positively interacted with the student as a result of this BIP

None	Low	Moderate	High

How much experience do you have with Special Education?

None	Low	Moderate	High

To what extent did the BIP change the regular classroom procedures?

Never	Rarely	Some of the time	Most of the time

What percentage of the time were you the primary person implementing this BIP?

0 10 20 30 40 50 60 70 80 90 100

What percentage?

End of survey for those not self-identified as the primary plan implementer.

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How often did you refer back to this written BIP?

Never	Rarely	Some of the time	Most of the time

How often was your implementation of this BIP observed?

Never	ONE time	A couple of times	Regularly

How often did you receive feedback on your implementation of this BIP from a professional at your school?

Never	ONE time	A couple of times	Regularly

How often did you receive feedback on your implementation of this BIP from a professional in your district?

Never	ONE time	A couple of times	Regularly

How often did someone model the strategies in this BIP to help you use the strategies?

Never	ONE time	A couple of times	Regularly