2011

Test-driving interventions to increase treatment integrity and student outcomes

Evan Henry Dart
Louisiana State University and Agricultural and Mechanical College, evan.dart@gmail.com

TEST-DRIVING INTERVENTIONS TO INCREASE TREATMENT INTEGRITY AND STUDENT OUTCOMES

A Thesis

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Master of Arts

in

The Department of Psychology

by
Evan H. Dart
B.S., Louisiana State University, 2007
May 2011

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

Behavioral Consultation is typically an effective way for school psychologists to work with teachers to find an appropriate intervention for implementation in the classroom. While some teachers have no difficulty implementing suggested interventions with high integrity, this is not always the case. The present study attempted to develop a "test-drive" procedure by which resistant teachers were able to implement several interventions briefly in the hope that they found one to their liking and implement it with high levels of integrity. The results indicate that teachers resistant to traditional Behavioral Consultation were able to implement their preferred intervention with high rates of treatment integrity once they were able to "test-drive" several interventions prior to choosing. Higher levels of treatment integrity were also associated with increased student academic engaged time. Implications, limitations, and future directions are discussed.

INTRODUCTION

Behavioral consultation is an effective approach to assist teachers with addressing students with challenging behaviors (Wilkinson, 2003). The traditional model of behavioral consultation consists of four sequential steps: problem identification, problem analysis, plan implementation, and problem evaluation (Bergan & Kratochwill, 1990). When used in schools, this method typically results in the consultant selecting an appropriate intervention for the teacher to implement. While this method can lead to the successful implementation of the selected intervention and remediation of the problem behavior, some teachers demonstrate resistance to this type of consultation. These resistant teachers, for a variety of potential reasons, either do not implement the intervention at all, or implement it poorly.

Treatment integrity refers to the degree to which an intervention is implemented as intended (Peterson et al., 1982). By this definition, resistant teachers appear to have trouble during the plan implementation phase of behavioral consultation, particularly with treatment integrity. Gresham (1989) suggested that teachers may not implement interventions with integrity if the intervention is too complex, takes too long to implement, requires too many materials, or is perceived as ineffective. As evidenced in the literature, when interventions are implemented with lower levels of treatment integrity, students' outcomes are compromised (DiGennaro, 2007; Noell et al., 2002).

Witt and Elliott (1985) proposed a model that offers insight into why teachers may implement interventions with either high or low integrity. Their model includes four-parts that are predicated on the concept of treatment acceptability, with each part sharing a reciprocal interaction with the next (see Figure 1). In their model, Witt and Elliott suggested that treatment acceptability determines the extent to which a treatment will be used, which in turn affects the

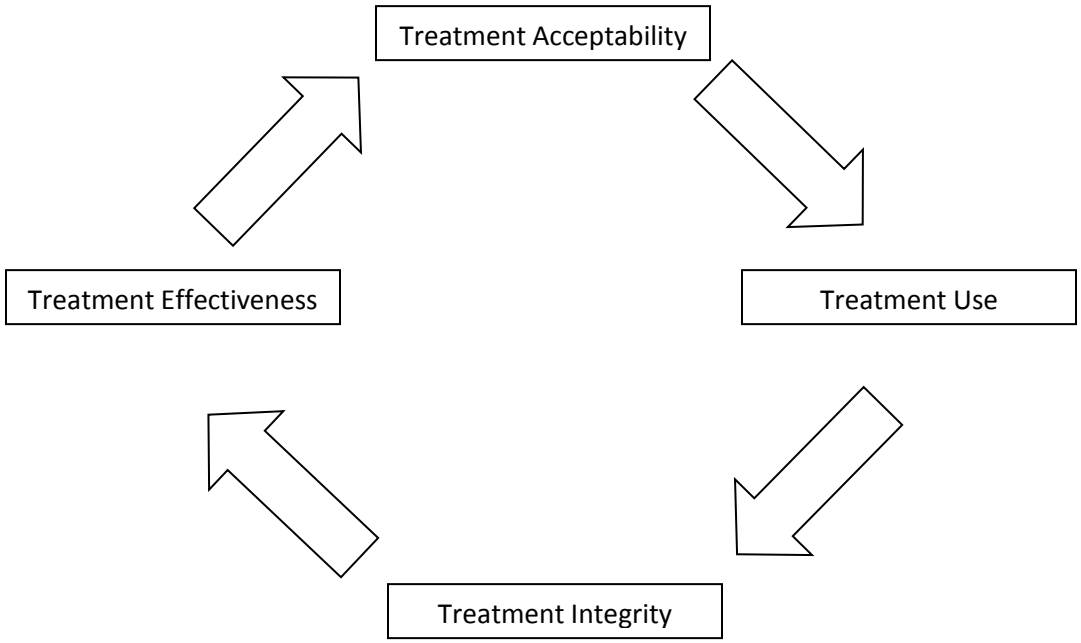

Figure 1. Witt and Elliott's (1985) theoretical model of treatment acceptability

treatment integrity. Treatment integrity then impacts the extent to which the treatment will likely produce desired effects. And last, the actual effectiveness of the treatment will determine how acceptable the implementer finds the treatment.

The first link in the model, treatment acceptability, is a well-studied concept, because there is a high premium in education for *socially valid* interventions that can effectively address students' problem behaviors (Walker et al., 2004). Wolf (1978) introduced the concept of social validity which he described as a subjective measure of an intervention that takes into consideration the consumer's judgment of the "social significance of the goals…, the social appropriateness of the procedures…," and "the social importance of the effects." Kazdin (1980) narrowed Wolf's notion of social validity into treatment acceptability. Treatment acceptability refers to an "evaluation of whether treatment is appropriate for the problem, whether treatment is fair, reasonable, and intrusive, and whether treatment meets with conventional notions about what a treatment should be." In a school setting, where teachers implement the majority of interventions, treatment acceptability is an important construct to take into consideration, because adoption and effective implementation of interventions involves more than just knowing the intervention works. In this way, even the most effective treatments may not be adopted or implemented with fidelity if they are not viewed as acceptable.

Allinder and Oates (1997) demonstrated how treatment acceptability can affect treatment use and treatment effectiveness by showing that teachers who found curriculum-based measurement (CBM) highly acceptable conducted more probes with their students than teachers who found it less acceptable. Also, students who received CBM from teachers who found it highly acceptable showed improved outcome over students who received CBM from teachers

who did not find it acceptable (ES = 1.11). Treatment acceptability, therefore, appears to play a vital role in the successful implementation and outcome of an intervention.

The research attempting to link traditional measures of treatment acceptability with treatment integrity is sparse. A single study by Sterling-Turner and Watson (2002) failed to find a significant correlation between pre- or post-treatment acceptability and integrity. However, this study was conducted in an analogue clinical setting employing undergraduate university students as participants. It is a stretch to assume that an intervention deemed acceptable and well implemented by undergraduates in an analogue clinical setting would be equally acceptable and well implemented by a teacher in a typical classroom environment. Even so, the authors made the distinction between pre- and post-treatment acceptability, which may play a vital role in its link with treatment integrity. That is, assessing treatment acceptability prior to implementation assumes that a teacher has had experience with an intervention. This assumption may lead to inaccurate levels of treatment acceptability for reasons that will are described next.

Treatment acceptability has been likened to the term consumer satisfaction, which is borrowed from industrial/organizational psychology and defined as "the consumer's response to the evaluation of the perceived discrepancy between prior expectations and the actual performance of the product as perceived after its consumption" (Day 1984). Interventions, like any other product, are susceptible to the opinions of individual consumers. It has been proposed that treatment acceptability may be directly related to a teacher's satisfaction of an intervention (Kazdin & Cole, 1981; Witt & Elliott, 1985). If a teacher expects an intervention to take less time to conduct, cost less to implement, or work better than it actually does, he or she may be dissatisfied with the intervention. In this case, it is reasonable to expect treatment acceptability and integrity to suffer as a result. Therefore, allowing teachers to rate an intervention as

acceptable before actually using it may lead to inflated levels of acceptability that mislead a consultant into thinking the intervention will be implemented with integrity.

To circumvent this problem, one approach that can be used is to allow teachers the opportunity to test drive or try out interventions in brief durations to get a feel for the intervention. Ayllon & Azrin (1968) used a similar procedure to increase reinforcer use in patients in a mental hospital. Although they earned tokens for completing various tasks, none of the patients were spending the tokens to participate in the available reinforcers. When the patients were given the opportunity to briefly sample a reinforcer before being asked to redeem tokens for full participation, the rate at which patients fully participated increased. The increase in participation was maintained even after the sampling procedure was removed. This tactic is frequently used in business by sales people. For example, car salesmen often encourage consumers to test drive different vehicles to find one to their liking, which increases the probability that the consumer will purchase one of the vehicles on the lot and be satisfied with their choice. In essence, trying out the product allows the consumer to align their preconceived notions about the product to the actual product performance. To date, nobody has utilized this type of approach to test the impact of trying out (i.e., "test-driving") interventions prior to full implementation to increase resistant teachers' acceptability and integrity of interventions.

The typical behavioral consultation process varies in the degree of teacher inclusion. Often times, the consultant merely prescribes the intervention to a teacher for implementation, which can lead to reduced effectiveness (Fuchs et al., 1990). However, there is evidence to suggest that a more collaborative approach to consultation results in higher teacher satisfaction (Wenger, 1979). Also, this prescriptive approach neglects the extensive literature documenting the positive impact of choice-making behavior (Rokke et al., 1991; Shogren et al., 2004).

Specifically, Dunlap and colleagues (1994) demonstrated that giving students a choice of academic tasks increased their engagement for the preferred task and decreased the students' disruptive behavior. Moreover, the authors implemented a condition that forced a student to engage in a task they had previously identified as preferred. In doing so, it was possible to demonstrate that high task engagement and reduced levels of disruptive behavior were only associated with choice-making, not simply engaging in the preferred task. Since choice-making behavior is associated with increased outcomes in a variety of domains, allowing teachers to test-drive interventions from a menu of recommended evidence-based interventions should result in teachers selecting the most acceptable intervention and implementing it with higher levels of integrity.

Although many methods of altering a teacher's acceptability of an intervention exist in the literature, rarely has treatment acceptability been used proactively for intervention selection (Elliott et al., 1984; Kutsick et al., 1991; Witt et al., 1984). This study proposes a potentially viable behavioral consultation tactic that utilizes brief experimental analysis of treatment acceptability to increase integrity and outcomes. Designed specifically for teachers who are resistant to typical behavioral consultation, this method offers teachers a "test-drive" of several interventions before implementation. This "test-drive" strategy would allow teachers to implement briefly several different interventions that are empirically supported for a given academic or behavioral problem. After this short "test-drive," teachers will rate how acceptable they found each intervention and proceed to implement the one they found most acceptable. This "test-drive" period would be designed to serve three purposes. First, it would allow treatment acceptability, a construct that has been shown to have an effect on intervention implementation and student outcome, to be used as a criterion for intervention selection. Second, it would

function to align teachers' expectations of each intervention with its actual use. To utilize the role that consumer satisfaction may play in treatment acceptability, teachers must be given a chance to see exactly how interventions function prior to implementation. This will allow teachers to assess how the intervention functions within the context of their classroom routine and the target student. The final purpose is to provide teachers with choice in selecting an intervention from a menu of different interventions. This should increase the likelihood of them finding one to their liking, while giving the teachers a sense of control in the behavioral consultation process.

It is hypothesized that teachers who are initially resistant in implementing an intervention effectively using typical behavioral consultation and who are allowed to "test-drive" three different interventions will implement the one they found most acceptable with a satisfactory level of integrity. Also, as a result of using treatment acceptability as an intervention selection tool, teachers will show increased levels of treatment integrity as compared to baseline, which will, in turn, lead to increased student outcomes.

METHOD

Participants

In order to assess student outcome, treatment integrity, and teacher treatment acceptability, participants consisted of teacher-student dyads. Three teachers were employed in general education classrooms East Baton Rouge Parish public schools, while a fourth taught in a general education classroom in the Seattle Public School System. The three East Baton Rouge Parish student participants were enrolled in a Kindergarten, third grade, and fourth grade classroom. The single Seattle Public Schools student was enrolled in a fifth grade classroom. Relevant demographic data can be found in Table 1 and Table 2 for the student and teacher participants, respectively. Teacher-student dyads were identified based on two criteria. First, teachers had to show interest in consultation by referring a student who exhibited behavior problems in the classroom. Second, after initial consultation the teacher had to implement the prescribed intervention with less than 50% integrity across three sessions, identifying her as resistant. None of the student participants had been retained or participated in special education services. Consent to participate in the study was given by the participating teachers, parents of the participating students, while each participating student gave their assent.

Design

To assess the effect of treatment acceptability on student outcome and treatment integrity, a non-concurrent multiple baseline across subjects design was implemented. Within the multiple baseline design, an alternating treatment design was conducted between the baseline and intervention phases. The alternating treatment phase allowed for teachers to "test-drive" interventions, leading to the adoption of the most acceptable treatment.

Table 1

Student Participant Demographic Information

Participants	Gender	Age	Grade	Ethnicity
Hank	Male	6	K	African American
Stephen	Male	11	5th	African American
Bella	Female	9	3rd	African American
Andrew	Male	10	4th	African American

Table 2

Teacher Participant Demographic Information

Participants	Gender	Grade	Ethnicity
Kimberly	Female	K	Caucasian
Molly	Female	5th	Caucasian
Hillary	Female	3rd	Caucasian
Stephanie	Female	4th	Caucasian

Procedures

In the initial baseline phase, teachers referring a student exhibiting behavior problems were engaged in behavioral consultation. As a result of behavioral consultation, the graduate student consultant selected an intervention that was most appropriate for the problem behavior exhibited by the student. To adequately assess treatment integrity, interventions containing multiple components required for implementation will be offered. Four suitable interventions that are commonly used to address behavior problems in the classroom were available to the consultant throughout the duration of the study and were selected on a case-by-case basis.

The four interventions consisted of a self-monitoring protocol, a modified Check-in/Check-out intervention, a response cost system, and a behavior specific praise intervention. Self-monitoring has been suggested as an effective method to reduce disruptive behavior in the classroom (Hoff & DuPaul, 1998). To implement the self-monitoring intervention, the teacher was required to hand the target student a self-monitoring form and vibrating timer and provide instructions for self-monitoring. During the self-monitoring session, the teacher was responsible for simultaneously monitoring the target student's behavior on a separate form. Self-monitoring intervals were set at five minutes. Finally, the teacher was required to complete an honesty check with the student to be sure he or she was truthfully and accurately monitoring their own behavior.

Check-in/Check-out has been successfully used to address many types of behavior problems in the schools (Hawken & Horner, 2003). To be utilized in the study, the traditional Check-in/Check-out protocol had to be shortened to accommodate a thirty minute observation period. To implement this intervention, the teacher was required to meet with the student at the beginning of the session and review expected behavior. The teacher was instructed to be vigilant

of the student's behavioral performance throughout the session. At the end of the session the teacher was required to complete a direct behavior rating of the student's target behaviors. Finally, the teacher had to "Check-out" with the student by reviewing session performance and providing appropriate reinforcers.

Response cost protocols have been successful at reducing disruptive behavior in the classroom (Witt & Elliott, 1982). When implementing this intervention in her classroom, the teacher had to provide the target student with a monitoring form that included expected behaviors as well as five empty boxes. At any time throughout the session, as the student engaged in significant disruptive behavior, the teacher was required to walk over to the student's desk and place an "X" in one of the empty boxes. At the end of the session, the teacher was responsible for delivering a reward contingent on previously agreed upon criteria (three empty boxes, two empty boxes, etc.).

Behavior specific praise is a positive behavior support strategy that has been used to increase appropriate behavior (Sutherland et al., 2000). To implement this intervention, the teacher was simply required to deliver a specific praise statement directed at the target student on a variable interval schedule of five minutes (VI 5).

During the baseline phase the participating teacher was asked to implement whichever intervention was suggested by the consultant, while treatment integrity and student outcome data were collected. The intervention was implemented over a 30-minute period in which the referred student was expected to exhibit the highest rates of problem behavior. Resistant teachers were defined as those who exhibited treatment integrity rates below 50% for the duration of the baseline phase. Four teachers were identified as resistant and asked to continue participation in the study. Two of the resistant teachers were informed of their low rates of treatment integrity

and were asked to participate in a method for selecting a more acceptable intervention. The remaining two teachers exhibiting low rates of treatment integrity acted as yoked control participants and continued an extended baseline phase.

The initial two resistant teachers were then informed that they were going to be "test-driving" three different interventions suitable for their student's problem behavior. The "test-drive" phase utilized an alternating treatment design. During this phase, the teacher was asked to implement briefly each of the three remaining interventions from the original four available to the consultant. The resistant teacher was asked to identify a morning, noon, and afternoon 30-minute block when their student was most likely to exhibit problem behavior. Again, each intervention was implemented for 30 minutes each day, for two days. During this time, no treatment integrity or student outcome data was collected as this phase only served to select the most acceptable intervention. After the two day "test drive" phase, the teacher was asked to determine which intervention she found most acceptable simply by ranking the three interventions in order from most to least acceptable. All materials necessary for intervention implementation were provided by the consultant to ensure that interventions were rated based on ease of implementation and not the amount of work required to gather the necessary components. Finally, the teacher was asked to implement the intervention she found most acceptable for the duration of the study while treatment integrity and student outcome data was collected.

To emphasize the importance of choice on treatment integrity and effectiveness, two of the resistant teachers acted as yoked control participants. That is, after being identified as resistant and completing an extended baseline the teachers were asked to implement the intervention that their paired "test-drive" teacher selected as most acceptable. Using a yoked procedure was especially useful, in that it allowed for experimental control over a potential

confound. Without a yoked design, it would have been possible for all four teachers to select the same intervention after the test-drive procedure. In that case, it would be impossible to differentiate the successfulness of the test-drive procedure from the acceptability of the intervention. The yoked design allowed us to isolate the effectiveness of the test-drive procedure by forcing teachers to implement an acceptable intervention and demonstrating resistance. Because the design was a non-concurrent multiple-baseline, it was possible to determine which intervention the paired teachers selected as most acceptable before beginning consultation with the yoked teachers. That is, the graduate student consultant was able to initially suggest an intervention that was not selected as most acceptable by the "test-drive" teacher for the yoked control teacher to implement in baseline. Similar to baseline, the intervention implemented by the yoked control teachers was implemented in 30-minute blocks identified by the teacher where problem behavior was mostly likely to be displayed by the referred student. Treatment integrity and student outcome data were collected during this phase. After completing this phase, the yoked control teachers then entered their own "test-drive" phase in which they implemented the two remaining interventions across two days and selected the one they found most acceptable from those. Finally, the teachers were asked to implement the intervention they identified as most acceptable for the duration of the study.

Measures

Student outcome was quantified by each student's academic engaged time, which is the percentage of on-task behavior exhibited by the student. Academic engaged time has been repeatedly used as a measure of students' classroom behavior (Daly & Murdoch, 2000). Academic engaged time was targeted over disruptive behavior because simply reducing a student's disruptive behavior does not guarantee academic engagement. However, because

academic engagement is incompatible with disruptive behavior, increasing a student's academic engaged time is guaranteed to decrease their disruptive or otherwise off-task behavior. Systematic direct observation of students' academic engaged time was performed during classroom instruction activities.

Direct observation was also utilized to monitor each teacher's treatment integrity. A graduate student observer completed an intervention-specific checklist during each observation and calculated the teacher's treatment integrity percentage by dividing the completed components of each treatment by the total number of treatment components for that specific treatment. Inter-observer agreement was calculated on 20% of the observations in both the baseline and intervention phases. The mean IOA for treatment integrity was 100% across all participants. The mean IOA for academic engaged time was 84% across all participants.

Although several established measures of treatment acceptability exist in the literature (Martens et al., 1985), the purpose of the current study was to allow teachers to choose their preferred intervention after test-driving them. Thus, each teacher was asked to rank, from most to least preferred, the interventions they were allowed to test-drive. In doing so, the teachers could exercise their choice in selecting the intervention they found most acceptable after implementing them, as opposed to completing an existing treatment acceptability measure for each intervention.

RESULTS

The data was interpreted using a combination of visual analysis and the calculation of nonparametric effect sizes. Specifically, a standardized mean difference effect size (SMDES; Cohen, 1988) measure was utilized to examine the magnitude of intervention effects and differences in teachers' rates of treatment integrity.

Results from the study are interpreted in two ways. First, the treatment integrity of the interventions implemented by the first yoked pair of teachers is presented in Figure 2. The effects of these interventions on the target students' academic engaged time is presented in Figure 3. Likewise, the treatment integrity of the interventions implemented by the second yoked pair of teachers is presented in Figure 4. The effects of the interventions on their target students' academic engaged times is presented in Figure 5.

Test-Drive Effects on Treatment Integrity

Kimberly and Molly, Kindergarten and fifth grade teachers, respectively, were the first yoked pair of teachers to participate in the study. As shown in Figure 2, Kimberly implemented the Behavior Specific Praise intervention suggested by the graduate student consultant. Kimberly was identified as resistant once she failed to implement the intervention with greater than 50% integrity across three consecutive sessions. She implemented the Behavior Specific Praise intervention with an average of 28% integrity. Next, Kimberly was exposed to the test-drive procedure. Following the test-drive procedure, Kimberly selected the Response Cost intervention as most acceptable. She then proceeded to implement the Response Cost intervention. As one can see, following the test-drive procedure, Kimberly implemented the intervention with 100% integrity.

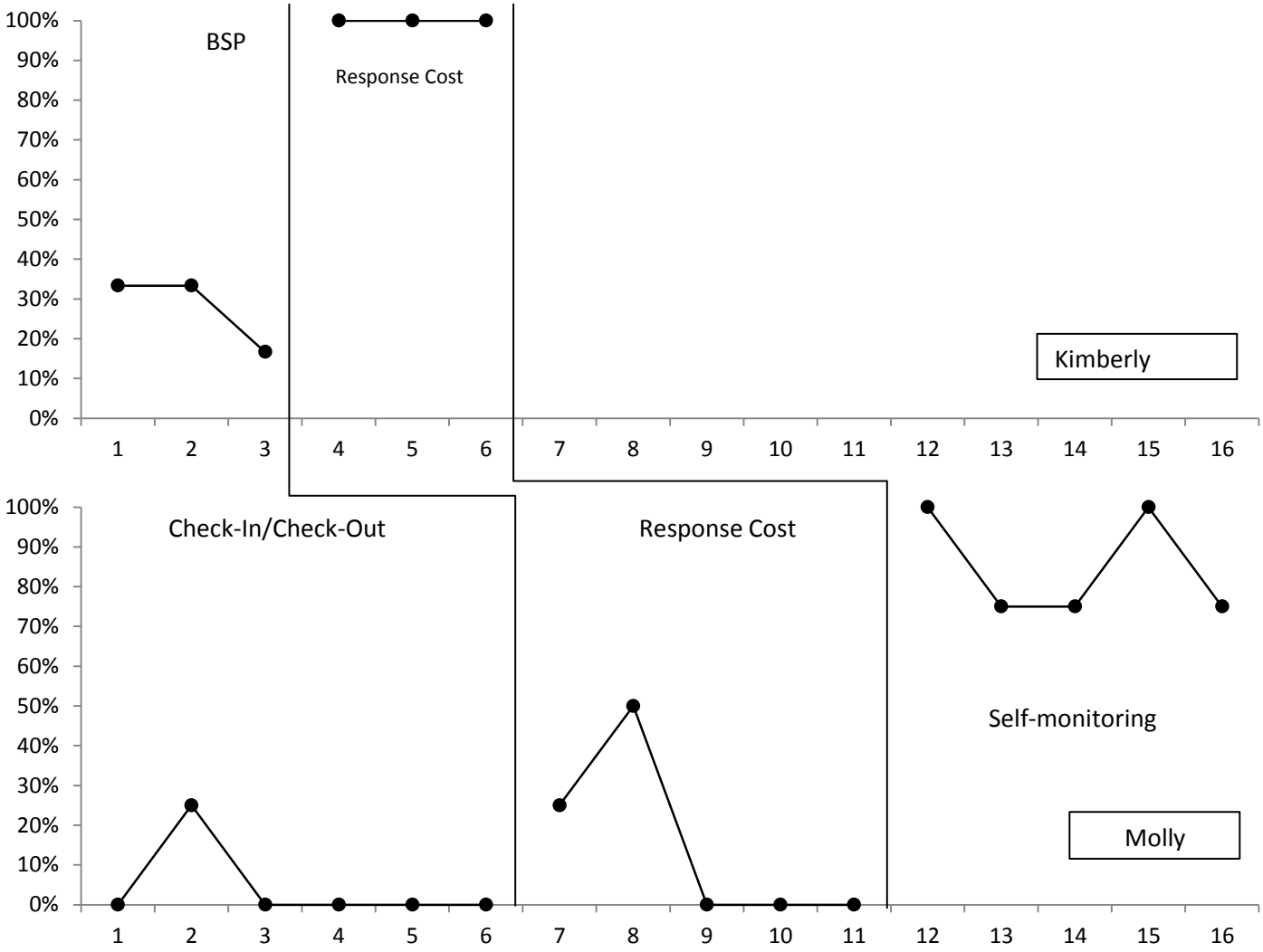

Figure 2. Kimberly and Molly's treatment integrity data.

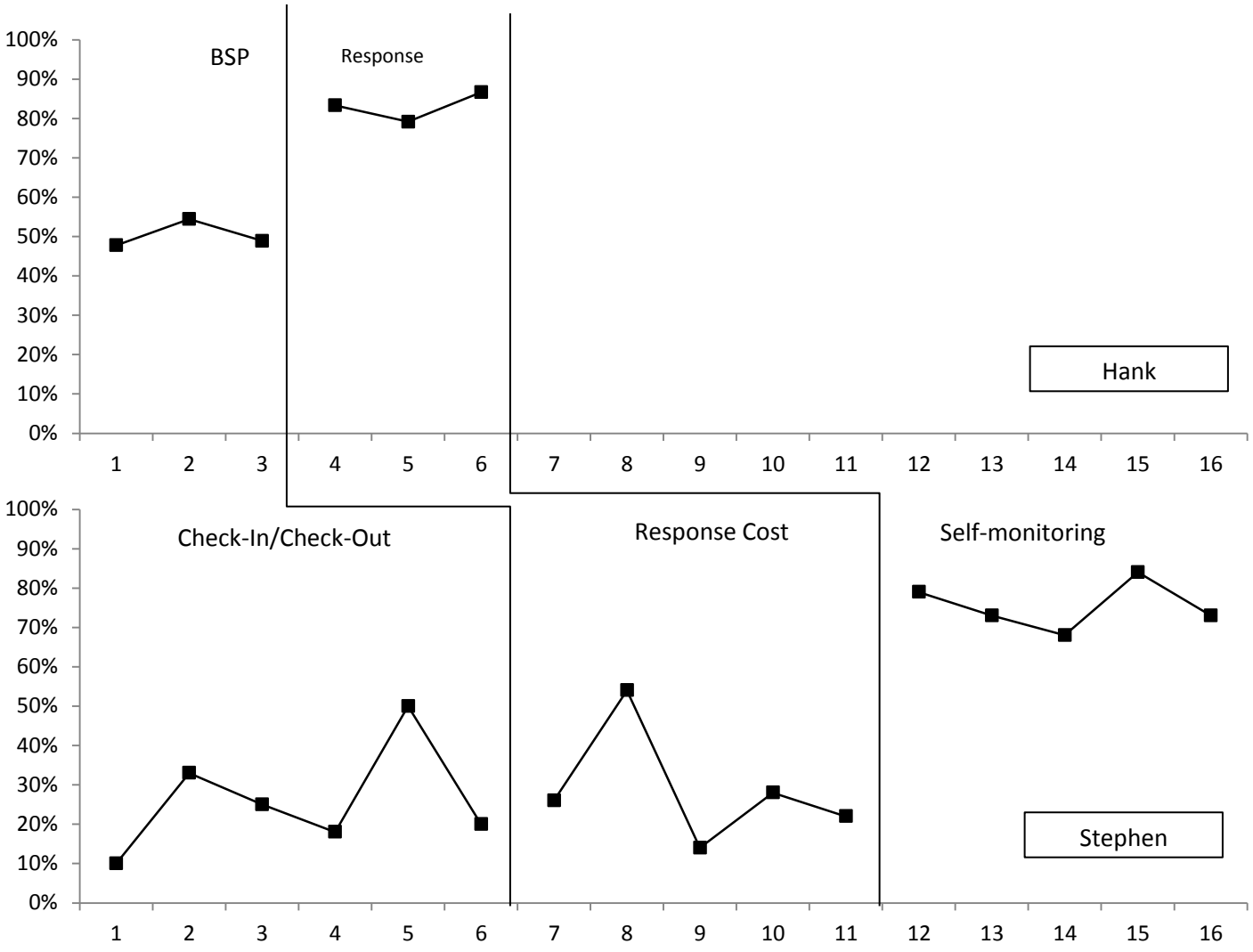

Figure 3. Hank and Stephen's academic engaged time data.

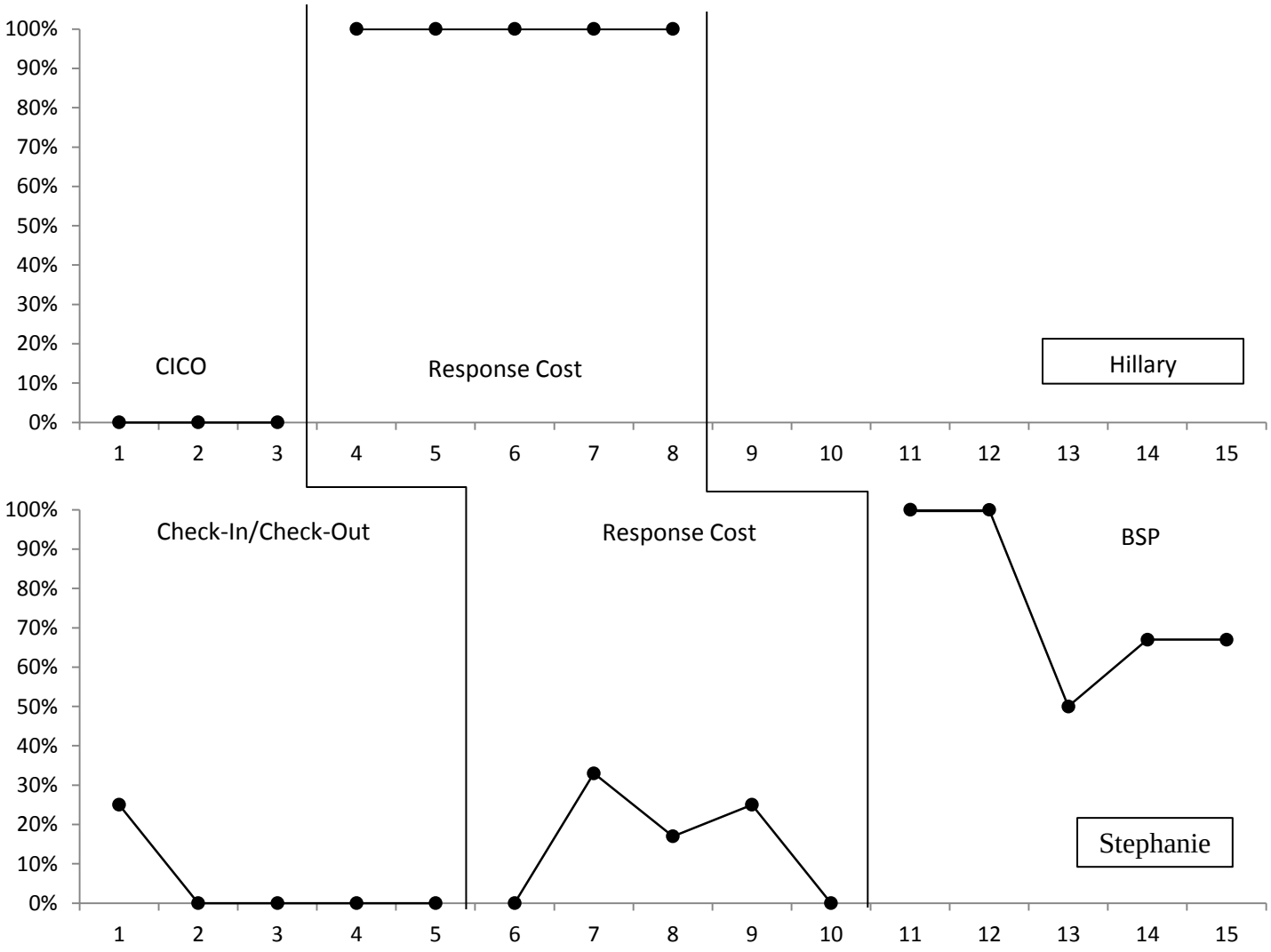

Figure 4. Hillary and Stephanie's treatment integrity data

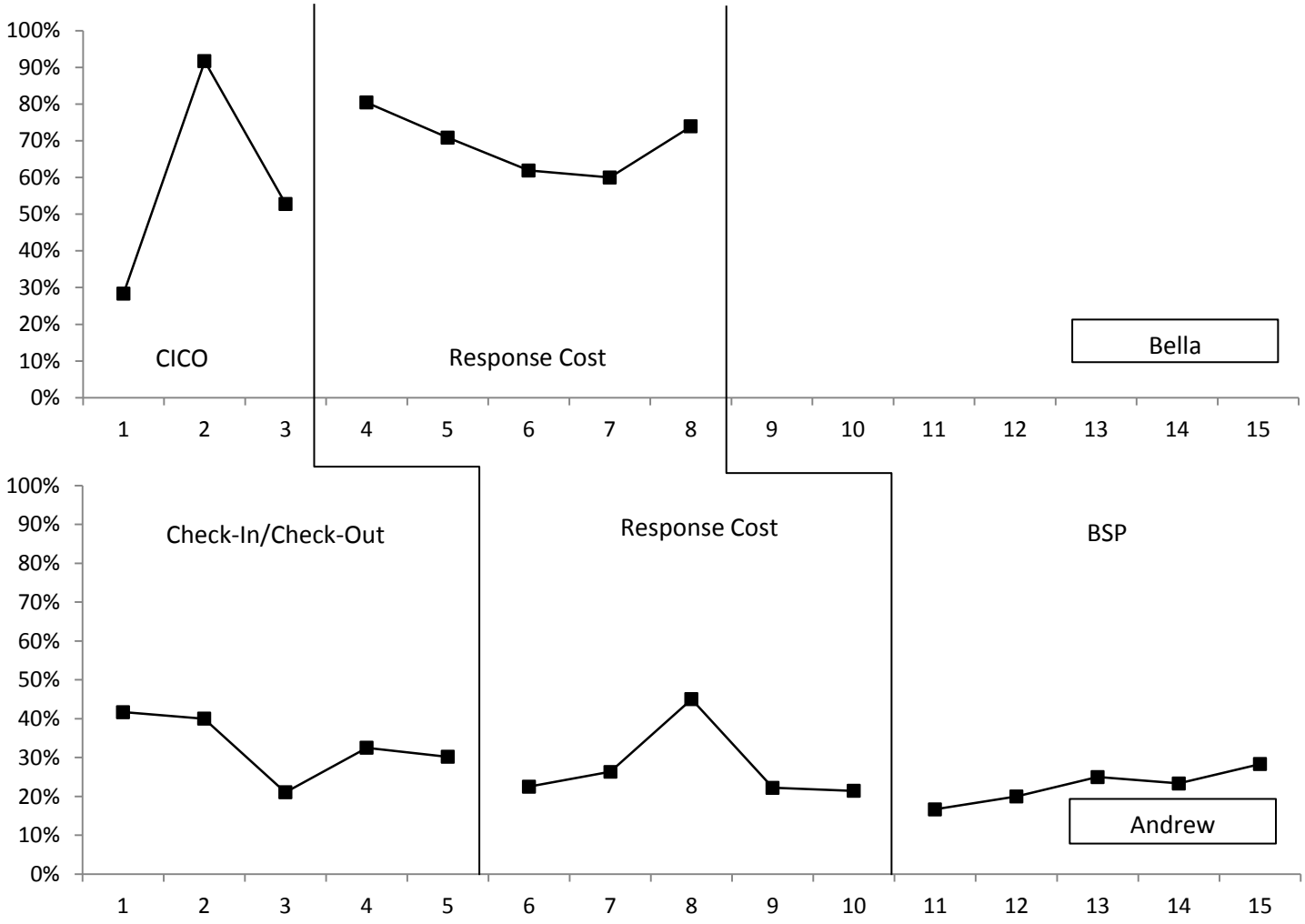

Figure 5. Bella and Andrew's academic engaged time data.

Also in Figure 2 is the data from Molly, Kimberly's yoked pair. Through the behavioral consultation process, Molly was instructed to implement the modified Check-In/Check-Out intervention, which she did with 4% integrity. Molly was then yoked to implement the intervention Kimberly found most acceptable, Response Cost, which she did so with an average of 15% integrity (and three consecutive sessions below 50%). Molly was then exposed to the test-drive procedure, and after this process, she ranked the self-monitoring intervention as most acceptable for implementation in her classroom. As one can see, following the test-drive procedure, there was a notable improvement in treatment integrity, with an average of 85% integrity.

Hillary, a third grade teacher, and Stephanie, a fourth grade teacher, comprised the second yoked pair. Hillary, after initial consultation, was asked to implement the Check-In/Check-Out intervention. As shown in Figure 4, Hillary failed to implement any portion of the intervention throughout baseline. After completing the test-drive session, Hillary selected the Response Cost intervention as most acceptable and implemented it with perfect integrity for the duration of the study. Stephanie was also asked to implement the Check-In/Check-Out intervention initially, which she implemented with an average integrity of 5%. Stephanie was then asked to implement Hillary's preferred intervention, Response Cost, which she implemented with an average integrity of 15%. After proceeding through the test-drive phase, Stephanie selected the Behavior Specific Praise intervention as most acceptable and was able to implemented with satisfactory integrity, averaging 77%.

Treatment Integrity on Student Outcomes

As shown in Figure 3, Hank, a Kindergarten student in Kimberly's classroom, was on-task for an average of 50% while Kimberly was implementing the Behavior Specific Praise

intervention. When Kimberly was able to implement a Response Cost intervention, the intervention she found most acceptable after the test-drive, Hank was academically engaged 83% of the time. These results were associated with an effect size of 9.15. Stephen, a fifth grade student in Molly's classroom, was academically engaged 26% of the time when Molly was implementing the Check-In/Check-Out intervention. When Molly was asked to implement Kimberly's preferred intervention, Stephen's academic engagement was 29%. Finally, one Molly was able to implement her preferred intervention, Stephen's academic engaged time rose to an average of 75%. These results are associated with an effect size of 2.95 and are provided in Figure 3.

Bella, a third grade student in Hillary's classroom, was academically engaged for an average of 58% while Hillary was implementing the Check-In/Check-Out intervention. When Hillary was able to implement the Response Cost intervention, the one she found most acceptable, Bella's academic engaged time rose to an average of 69%. These results were associated with an effect size of .37. Andrew, a fourth grade student in Stephanie's classroom, was academically engaged for an average of 33% while Stephanie was implementing the Check-In/Check-Out intervention. When Stephanie was asked to implement Hillary's preferred intervention, Andrew's on-task behavior averaged 27%. Once Stephanie was able to implement the intervention she selected through the test-drive procedure, Andrew's academic engaged time averaged 23%. These results were associated with an effect size of -.48 and are presented in Figure 5.

DISCUSSION

The present study devised a test-drive procedure based on the concepts of treatment acceptability and choice-making to increase the integrity with which interventions are implemented via a consultative process. The main hypothesis guiding this research was that resistant teachers who were provided the opportunity to test-drive different interventions to better align their beliefs and perceptions with the actual performance of the interventions would not only increase their treatment integrity implementation, but also increase the student outcomes associated with the interventions.

Consistent with the foregoing hypothesis, allowing teachers to try out several interventions before choosing one increased the rate at which the interventions were implemented with acceptable integrity. Furthermore, by utilizing a forced-choice yoked pair design, we were able to demonstrate that the increases in treatment integrity were not associated with a specific intervention but were a function of the ability to choose which intervention was implemented.

The data also provided support for the link between treatment integrity and student outcomes. Interventions implemented with poor integrity were not associated with a predictable increase in student academic engaged time. Conversely, when an intervention was implemented with an acceptable level of integrity, student academic engaged time increased across all four participants.

Implications

Practical applications of these results do not require much translation. In fact, the test-drive procedure utilized in the study could easily be used in behavioral consultation without any modification. School professionals need to be armed with an array of strategies to combat poor

intervention implementation. Strategies such as performance-based feedback are already successful in promoting treatment integrity; however the results of the current study propose another potentially useful approach.

The results also highlighted the importance of documenting treatment integrity throughout the intervention implementation process. Poor treatment integrity is often thought of as one of the biggest barriers to successfully implementing a Response to Intervention (RtI) framework. If the integrity of an intervention is not assessed, it is impossible to tell whether a student's non-response is due to an underlying disability or associated with poor treatment integrity.

Because the study focused on teachers who were initially resistant to implementation, test-driving interventions may not be necessary for all consultation cases. The "test-drive" procedure was designed as another consultation tool to use at the consultant's discretion. If, during consultation, the teacher appears very eager to implement the intervention or has implemented interventions with high integrity in the past, it is unlikely that the "test-drive" procedure will be necessary. Conversely, if the consultee teacher appears hesitant to implement any intervention or, like the teachers in the current study, fail to implement a prescribed intervention, the "test-drive" procedure might be an important first step in the consultation process.

Limitations and Future Directions

As with any study, there are several limitations to take into account when considering the results. Primarily, the interventions selected for the study are just a fraction of the strategies available for implementation in a classroom to address problem behaviors. The results of the current study may have been a function of the specific interventions selected and the experiment

should be replicated with a different assortment of evidence-based strategies. Second, it is unclear how long the increased integrity and student outcome effects will be maintained. Due to time limitations, no follow-up data was collected. Therefore, the participating teachers may have returned to their resistant ways and ceased implementation of their selected intervention at the conclusion of the study. Another experiment examining the maintenance of these effects could shed some light on this issue.

Conclusions

The current study investigated the effects of a test-drive intervention selection process that aimed to provide resistant teachers with some decision-making ability in the consultation process in an attempt to increase their compliance. The results provide evidence for Witt and Elliott's (1985) theoretical model. Specifically, more acceptable treatments were associated with increased treatment integrity, which in turn was associated with an increase in student outcomes. The results also indicate that allowing teachers to try out or test-drive different interventions before fully implementing them not only increased their treatment integrity, but also increased the effectiveness of the associated intervention.

REFERENCES

Allinder, R. M., & Oats, R. G. (1997). Effects of acceptability on teachers' implementation of curriculum-based measurement and student achievement in mathematics computation. *Remedial and Special Education, 18*, 113-120.

Ayllon, T., & Azrin, N. H. (1968). Reinforcer sampling: A technique for increasing the behavior of mental patients. *Journal of Applied Behavior Analysis, 1*, 13-20.

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

Cohen, J. (1988). Set correlation and contingency tables. *Applied Psychological Measurement, 12*, 425-434.

Daly III, E.J., & Murdoch, A. (2000). Direct observation in the assessment of academic skills problems. In E.S. Shapiro & T.R. Kratochwill (Eds)., *Behavioral assessment in schools (2nd Edition): Theory, research, and clinical foundations* (pp. 46 – 77). New York: Guilford.

Day, R. (1984). Modeling choices among alternative responses to dissatisfaction. *Advances in Consumer Research, 11*(1), 496-500.

Dunlap, G., dePerczel, M., Clarke, S., Wilson, D., Wright, S., White, R., et al. (1994). Choice making to promote adaptive behaviors for students with emotional and behavioral challenges. *Journal of Applied Behavioral Analysis, 27*, 505-518.

Elliott, S. N., Witt, J. C., Galvin, G. A., & Peterson, R. (1984). Acceptability of positive and reductive behavioral interventions: Factors that influence teachers' decisions. *Journal of School Psychology, 22*, 353-360.

Fuchs, D., Fuchs, L. S., Bahr, M. W., Fernstrom, P., Stecker, P. M. (1990). Prereferral intervention: A prescriptive approach. *Exceptional Children, 56*(6), 493-515.

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

Hawken, L.H., & Horner, R.H. (2003). Evaluation of a targeted intervention within a schoolwide system of behavior support. *Journal of Behavioral Education, 12 (3),* 225-240.

Hoff, K. E., & DuPaul, G. J. (1998). Reducing disruptive behavior in general education classrooms: The use of self-management strategies. *School Psychology Review, 27*, 290–303.

Kazdin, A. E. (1980). Acceptability of alternative treatments for deviant child behavior. *Journal of Applied Behavior Analysis, 13*, 259–273.

Kazdin, A. E., & Cole, P.M. (1981). Attitudes and labeling biases toward behavior modification: The effects of labels, content, and jargon. *Behavior Therapy, 12*, 56-68.

Kutsick, K. A., Gutkin, T. B., & Witt, J. C. (1991). The impact of treatment development process, intervention type, and problem severity on treatment acceptability as judged by teachers. *Psychology in the Schools*, *28*, 325-331.

Martens, B. K., Witt, J. C., Elliott, S. N., & Darveaux, D. (1985). Teacher judgements concerning the acceptability of school based interventions. *Professional Psychology: Research and Practice 16*, 191–198.

Noell, G. H., Gresham, F. M., & Gansle, K. A. (2002). Does treatment integrity matter? A preliminary investigation of instructional implementation and mathematics performance. *Journal of Behavioral Education, 11*, 51–67.

Peterson, L., Homer, A., & Wonderlich, S. (1982). The integrity of independent variables in behavior analysis. *Journal of Applied Behavior Analysis*, *15*, 477-492.

Rokke, P. D., al Absi, M., Lall, R., & Oswald, K. (1991). When does a choice of coping strategies help? The interaction of choice and locus of control. *Journal of Behavioral Medicine*, *14*, 491-504.

Shogren, K., Faggella-Luby, M., Bae, S. J., & Wehmeyer, M. L. (2004). The effect of choice-making as an intervention for problem behavior: A meta-analysis. *Journal of Positive Behavior Interventions*, *6*, 228–237.

Sterling-Turner, H. E., Watson, T. S. (2002). An analog investigation of the relationship between treatment acceptability and treatment integrity. *Journal of Behavioral Education*, *11*(1), 39-50.

Sutherland, K. E., Wehby, J. H., & Copeland, S. R. (2000). Effect of varying rates of behavior-specific praise on the on-task behavior of students with EBD. *Journal of Emotional and Behavioral Disorders, 8*, 2–8, 26.

Walker, H.M., Ramsay, E., & Gresham, F.M. (2004). *Antisocial behavior in school: Evidence-based practices* (2nd ed.). Belmont, CA: Wadsworth/Thomson Learning.

Wenger, R. (1979). Teacher response to collaborative consultation. *Psychology in the Schools*, *16*(1), 127-131.

Wilkinson, L. A. (2003). Using behavioral consultation to reduce challenging behavior in the classroom. *Preventing School Failure*, *47*(3), 100-105.

Witt, J. C, & Elliot, S. N. (1982). The response cost lottery: A time efficient and effective classroom intervention. Journal of School Psychology, 20,155-161.

Witt, J. C., & Elliott, S. N. (1985). Acceptability of classroom intervention strategies. In T. R. Kratochwill (Ed.), *Advances in school psychology* (Vol. 6, pp. 252-288). Hillsdale, NJ: Erlbaum.

Witt, J.C., Moe, G., Gutkin, T.B., & Andrew, L. (1984). The effect of saying the same thing in different ways: The problem of language and jargon in school based consultation. *Journal of School Psychology, 22,* 361-367.

Wolf, M. M. (1978). Social validity: The case for subjective measurement, or how behavior analysis is finding its heart. *Journal of Applied Behavior Analysis, 11*, 203-214.

VITA

Evan Dart was born in December, 1984, in Gretna, Louisiana. He was raised in Covington, Louisiana, where he lived until leaving for Baton Rouge to attend Louisiana State University in 2003. Evan graduated with his Bachelor of Science in psychology from LSU in 2007 before spending a year as a research assistant. In 2008, Evan returned to Louisiana State University to begin his graduate education in school psychology.