

The Effects of Functional Communication Training on the Appropriate Behavior of a Student with Emotional and Behavioral Disorders

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Abstract

Functional analysis is used to generate and test hypotheses, specific to an individual's appropriate and inappropriate behaviors, by directly manipulating antecedent and consequent events within natural or analog environments. In the case that a function(s) was not determined or the behavior has multiple motivations during the functional analysis, interventions that can address multiple functions may be implemented. One intervention which is flexible to address multiple functions maintaining target behaviors is functional communication training (FCT). The purpose of this study was to assess whether FCT, when implemented to address the traditional functional communicative responses of attention, escape, and tangible, would affect the appropriate behavior of a student with emotional and behavioral disorders during regularly scheduled independent academic activities. During assessment, the functional analysis results suggested that attention was the primary functional variable; however, both tangible and escape functional variables also were effecting the target behavior. The results of the FCT intervention suggest that FCT positively affected his appropriate behavior and influenced the rate of unprompted appropriate communications.

The Effects of Functional Communication Training on the Appropriate Behavior of a Student with Emotional and Behavioral Disorders

Functional analysis methods have been shown to be an effective means of identifying functional relationships between behavior(s) and environment(s). These methods have been applied to the complex behaviors of students with emotional and behavioral disorders (EBD) (e.g., Clarke et al., 1995; Dunlap et al., 1993; Kamps, Ellis, Mancina, Wyble, & Greene, 1995; Kern, Childs, Dunlap, Clarke, & Falk, 1994; Lawry, Storey, & Danko, 1993). Functional analysis methodology can

include both social and academic behaviors and typically consists of the repeated and direct measurement of behaviors under various environmental conditions (Sasso & Reimers, 1988). The resulting information is used to develop interventions designed to address such behaviors (Dolstra et al., 2004; Iwata et al., 1990; Lawry, Storey, & Danko, 1993; Marcus, Ringdahl, Roane, & Vollmer, 1999; Rutherford & Nelson, 1995).

Although the research literature is replete with studies which have utilized functional analysis, the approach does have its limitations. Carr, Yarbrough, and Langdon (1997) suggest that many behavioral problems are motivated and maintained by multiple stimuli which may or may not be identified in the functional analysis process. If the function(s) maintaining an inappropriate behavior is not identified, intervention may be based on the clinical judgment of a practitioner rather than on empirical evidence. However, in cases where a clear function is not identified during a functional analysis, one alternative might be the development and implementation of interventions that may simultaneously address multiple functions.

One intervention which may address both the identified and unidentified function (or functions) maintaining inappropriate student behavior and that provides functionally equivalent behaviors is functional communication training (FCT). FCT is an intervention that teaches individuals to use appropriate communicative behaviors (either verbal or physical) as alternatives to inappropriate behavior (Carr & Durand, 1985; Durand & Carr, 1992; Wacker et al., 1990). The behavioral premise that most behavior communicates a message is the foundation of FCT (Carr & Durand, 1987). For example, inappropriate behaviors may act as a form of nonverbal communication to request specific preferred outcomes (e.g., attention from someone, access to a tangible object, escape from an activity or situation) (Kelley, Lerman, & Van Camp, 2002; Marcus et al., 1999; Sigafos & Meikle, 1996).

Few studies have investigated the utility of FCT to reduce inappropriate behavior controlled by more than a single function. Day, Horner, and O'Neill (1994) studied the effect that FCT had on the target behaviors (i.e., aggression and self-injury) of 2 females aged 9 and 34 years with autism and severe intellectual disabilities, respectively, and 1 male aged 18 years with severe intellectual disabilities. The results of the functional analyses for all three participants suggested that the target behaviors served multiple functions, to escape from difficult tasks and to gain preferred tangible objects. All participants were then taught an appropriate communicative response to escape difficult tasks and a communicative response to gain preferred tangible items. The results of the FCT intervention showed decreases in the target behaviors and increases in the communicative responses. Sigafos and Meikle (1996) studied the effect that FCT had on the challenging behaviors of two 8-year-old males with autism using errorless learning strategies within their classroom. The results of the functional analyses suggested that both participants' inappropriate behaviors were being maintained in order to gain attention and request preferred tangible objects. Both students were taught alternative communicative responses to appropriately request attention and preferred tangible objects from an adult. The results of the FCT intervention showed that both students' challenging behaviors decreased and remained at low levels even when the adult prompts to use the appropriate communicative responses were faded. Kelley et al. (2002) studied the effect of FCT on three students aged 9 and 10 years old with mental retardation who engaged in a variety of inappropriate behaviors (i.e., aggression, disruption). The results of the functional analysis for all three participants suggested that the target behaviors served multiple functions. Each student was taught alternative communicative responses which matched their specific combination of maintaining functions. The results of the FCT intervention showed decreases in inappropriate behaviors for two of three students. These three studies suggest that the teaching of multiple

appropriate, alternative communicative responses can be an effective intervention to manage inappropriate behaviors when the functional analysis data reflect multiple maintaining functions.

The inappropriate behaviors exhibited by students with EBD are complex and may affect the functional analysis results when conducted in applied settings (e.g., special education classroom). For example, the functional analysis data may demonstrate that the inappropriate behaviors are maintained by more than one function, or the data are unclear as to which functions are affecting the behavior (e.g., mixed results). To date, decreases in inappropriate behaviors have resulted when FCT interventions have been implemented to teach alternative communicative responses for both the primary motivating function and to simultaneously address two motivating functions as identified from the functional analysis data. However, FCT may also be effective for decreasing inappropriate behaviors when implemented for more than two motivating functions that may or may not have been identified through functional analysis data. The primary purpose of this study was to assess whether FCT, when implemented to address multiple motivations of student's behaviors, would lead to decreases in the behaviors of a student with EBD during regularly scheduled independent academic activities. The FCT intervention was conducted in a manner that provided the student with communication prompts for appropriate communicative responses that matched not only the primary functions of the student's behavior, but also two additional functions which surfaced during the functional analysis.

Method

Student and Setting

Steve was a 9-year-old third grader with EBD and a speech and language disorder. Teacher reports indicated that Steve's behavior was unpredictable (e.g., frequent elopement, mood swings), explosive (e.g., aggression towards peers, destruction of property) in the classroom, and that he demanded constant adult attention (e.g., constantly talking to adults). Teacher reports also stated that Steve lacked basic social skills (e.g., initiating, sharing), especially when interacting with peers as well as pragmatic language deficits in multiple environments. Teacher ratings using behavioral checklists indicated that Steve was rated high in the areas of aggression and low concentration, and low in the area of social skills. Psychological and academic testing concluded that Steve functioned academically at grade level. Steve performed at the 7th percentile with an overall IQ of 78 on the WISC-III. His verbal IQ was 89 (23rd percentile) and performance IQ was 71 (3rd percentile).

Steve attended a seven week summer program for students with EBD at an alternative public elementary school during this study. Six students (five males and one female) aged 9 to 12 years and three adults (one teacher, two teacher associates) were in Steve's class. During both baseline and the intervention phases, Steve's peers and teachers were present. Steve sat at his regularly assigned desk among his peers for all sessions of both the functional analysis and intervention. Approximately 30 students aged 9 to 14 years of age attended this summer program.

Materials

The materials used for both the assessment and intervention conditions were found in Steve's summer academic curriculum. This curriculum was primarily grade level small group and independent activities in the areas of math and writing. The math and writing activities consisted of photocopied worksheets from a third grade math workbook which Steve had not used during the school year. All the math and writing activities were estimated to require 15 to 20 minutes to complete. These activities were reported by the teacher to be Steve's preferred academic areas. These materials were not adapted for purposes of this study.

Data Collection

Both the functional analysis and FCT intervention sessions were videotaped. Prior to the initiation of the investigation, the first author spent one week in Steve's classroom with the video recorder in order to decrease the likelihood of researcher and video equipment influence. The tripod and video recorder were positioned at a right angle approximately 5 feet from Steve's desk on the side of the classroom. Data for both the student dependent variables and teacher independent variables were scored from the videotaped sessions. Data were coded from a total of twelve 5 min sessions for the functional analysis and from a total of sixteen 15 min sessions for the FCT intervention.

Assessment

Functional analysis. A functional analysis was conducted with Steve prior to the implementation of the FCT intervention. The purpose of the functional analysis was to determine the variables maintaining Steve's inappropriate behavior when presented with independent curricular activities. The functional analysis was conducted during flexible instructional time (e.g., when Steve finished his work early) across three days in Steve's classroom. The effects of the functional analysis were measured using an initial analysis phase with the introduction of free play, attention, escape, and tangible conditions followed by subsequent verification phases alternating between the above conditions until a clear pattern emerged. The first author conducted the functional analysis sessions.

Procedures

During the functional analysis, Steve was presented with an academic activity for the initial conditions of attention, escape, and tangible as well as the subsequent verification conditions (e.g., highest percentage of appropriate behavior and lowest percentage of appropriate behavior). No academic activity was present in the free play condition. Each condition was conducted one at a time. Steve was presented with the academic activity and based upon his behavior (e.g., inappropriate), he was allowed to either access adult attention, discontinue his engagement in the activity, or access a game for a brief period of time. During the free play condition, Steve and the researcher sat at Steve's desk with markers and colored paper. No academic demands were presented to Steve and he received continual social praise (e.g., "You drew a cool picture") while he colored pictures and played games (i.e., tic-tac-toe). During the attention condition, Steve was presented with an academic activity (e.g., worksheet) to complete independently as the researcher sat next to his desk reading a teachers spelling manual. When Steve displayed inappropriate behavior, he was provided with attention with statements disapproving of his inappropriate

behavior (e.g., “I wish you would stop looking around the room”, “I wish you wouldn’t leave your desk”), however, when Steve displayed appropriate behavior (e.g., working on the academic activity) he was ignored.

During the tangible conditions, Steve was again presented with an academic activity while the researcher sat next to him reading. In addition to the academic activity, a preferred game was placed on the corner of Steve’s desk. When Steve displayed inappropriate behavior, the researcher told Steve he could play with the game. Steve was permitted to play with the game for 10 s for each occurrence of inappropriate behavior. After the 10 s, Steve was prompted to work on his academic activity. Steve’s appropriate behaviors were ignored. During the escape condition, Steve was prompted to work on an academic activity that his teacher deemed difficult. The researcher sat next to Steve and read once the activity was presented. When Steve displayed inappropriate behavior, the academic activity was removed for 10 s without approval or disapproval statements from the researcher. After the 10 s, the academic activity was again presented to Steve. Steve’s appropriate behaviors were ignored.

Measures

The dependent variables for the functional analysis were determined based on informal observations of Steve during independent academic assignments with assistance from his teacher. The student dependent variables for the functional analysis were appropriate and inappropriate behavior. Appropriate behavior was defined as working on an activity requested by an adult within 10 s of a prompt to begin the independent curricular activity, eyes and hands on materials specific to the activity, compliance with adult directions, and body either in assigned chair or standing next to assigned chair. Inappropriate behavior was defined as aggression, throwing objects on the floor or at another person, refusal to perform an activity within 10 s of the adult prompt to begin the independent curricular activity, or a period of 5 consecutive seconds in which the student was not engaged in the activity (e.g., looking around the room, staring into space, talking with peers about unrelated topics, placing head on desk), destroying property (e.g., ripping worksheets, breaking pencils), and elopement from the assigned area without adult permission (e.g., leaving the classroom, walking around the classroom). These behaviors were recorded using a 10 s partial interval recording procedure. If Steve displayed inappropriate behavior during any portion of a 10 s interval, that interval was coded as inappropriate.

Results of the functional analysis

The conditions with the highest percentages of inappropriate behavior were considered to be the primary function motivating Steve’s behavior. During the initial functional analysis phase, Steve displayed the highest percentage of inappropriate behavior during the attention condition and the lowest percentage of inappropriate behavior during the free play condition (47% and 0%, respectively). Steve displayed similar percentages of inappropriate behavior for both the escape and tangible conditions (30% and 33%, respectively). The conditions with the highest and lowest percentages of inappropriate behaviors were then reintroduced to verify the initial functional analysis results in a verification analysis. During the verification functional analysis phase, the conditions were conducted three more times each. Since Steve had a history of unpredictable behavior which varied from day to day, it was decided that multiple verifications of the highest and lowest percentages of inappropriate behavior conditions conducted over several school days were more representative than a single verification. Again, Steve consistently displayed higher percentages of inappropriate behavior during the attention conditions as compared to the free play

conditions. In the first, second, and third verification phases for attention, Steve displayed inappropriate behavior in 33%, 40%, and 43% of the intervals. Steve did not display any inappropriate behavior (0%) during the free play verification phases. Since the verification of the attention condition produced percentages of inappropriate behaviors similar to the initial tangible condition, the tangible condition and free play condition were reintroduced during the verification phases. In this final verification, Steve displayed higher percentages of inappropriate behavior during the tangible condition than the free play condition (27% and 0%, respectively).

Steve's inappropriate behavior occurred at its highest level during the attention phase of the functional analysis. However, this analysis also showed that the target behavior occurred under conditions of escape and tangible contingencies. From our interpretation, these data show that the inappropriate behavior displayed by Steve was influenced by multiple variables. Thus, an intervention based solely on an attention variable might not adequately reduce the target behavior.

FCT Intervention

The FCT intervention was designed to teach Steve alternative communication phrases related to the multiple factors associated with his inappropriate behaviors. The intervention sessions were conducted during regularly scheduled independent work activities. Each intervention session was 15 min in length. One to two intervention sessions were conducted daily. The first author conducted the intervention sessions. A withdrawal design (Kazdin, 1982) was used to assess the effectiveness of the FCT intervention on Steve's inappropriate behavior in the classroom to demonstrate experimental control of the intervention.

Baseline

In the baseline condition, no alterations in instruction, directions, or reinforcement occurred. During baseline sessions, the class was instructed by their teacher that it was time to work on their independent assignments and to sit at their desks. Once Steve was situated at his desk, the first author gave Steve either a math or writing activity to complete. After Steve received his independent activity, the researcher walked away and sat at a desk approximately 8 feet away. During the baseline sessions, if Steve appropriately requested assistance with the activity, materials (e.g., more paper) to complete the activity, or time to take a break from the activity, his request was granted. Appropriately requesting assistance, materials, or a break in this classroom occurred when the students raised their hands and waited for a teacher to attend to them. If Steve requested assistance with the activity, the researcher answered his questions and then returned to her desk. If Steve requested additional materials, the researcher brought him the materials and then returned to her desk. If Steve requested a break from the activity, the researcher granted him a break of 15 s during which he sat at his desk quietly. After the 15 s, the researcher verbally prompted Steve from her desk to begin his activity again. During baseline, Steve's inappropriate behaviors (e.g., elopement) were not attended to by either the researcher or his teacher.

Functional communication training

The beginning of the FCT sessions were identical to the baseline sessions. After Steve received his independent activity, the researcher read from a script which prompted Steve to use his appropriate communication skills to gain favorable outcomes during each FCT session. The researcher said: "Steve, if you need help with this (referring to the current academic activity), raise your hand and say 'I need help'. If you want to take break from this, raise your hand and say 'I need a break'. If

you need some materials to do this, raise your hand and say ‘I need some materials’.” After reading the script, the researcher walked away and sat at a desk approximately 8 feet away from his. Given the high frequency of inappropriate behavior displayed by Steve during the baseline conditions, it was decided that frequent noncontingent reading of the script to Steve to use his appropriate communicative responses was necessary. This script was read between 9 and 12 times per FCT intervention session regardless of whether Steve was displaying appropriate or inappropriate behavior. Given the limited summer school days in which to work with Steve, we were unable to fade or decrease the number of times the script was read. The purpose of the script was to standardize the appropriate communication prompt given by the researcher for Steve to use any one of the three functions (i.e., attention, escape, tangible) which may be maintaining his inappropriate behaviors. The order of the three communicative prompts were randomly read. Again, if Steve requested assistance with the activity, the researcher answered his questions and then returned to her desk, if he requested additional materials, the researcher brought him the materials and then returned to her desk, and if he requested a break from the activity, the researcher granted him a break of 15 s during which he sat his desk quietly. After the 15 s, the researcher verbally prompted Steve from her desk to begin his activity again. Steve’s inappropriate behaviors during the FCT sessions were not attended to.

Measures

Data were collected on multiple student behaviors: (a) appropriate behavior, (b) inappropriate behavior, (c) prompted appropriate communication, and (d) unprompted appropriate communication. Data also were collected on the adult behavior of communication prompts. The level of adult prompting were collected to insure fidelity of the intervention. Behaviors were recorded using a continuous 6 s interval recording procedure.

The student dependent variables for the FCT intervention were operationally defined as follows: appropriate behavior and inappropriate behavior were defined the same as used in the assessment phase; prompted appropriate communication, an utterance from the student toward the adult within 6 s of an adult prompt that indicated a specific meaning, such as asking for help, requesting materials related to completing the activity, or requesting a break from the activity; and unprompted appropriate communication, an utterance from the student directed toward the adult, that was not within 6 s from the most recent adult prompt, indicating a specific meaning. Both the prompted and unprompted appropriate communication variables were coded as either attention, tangible, or escape. For example, if the student raised his hand and said, “I need help with this”, attention was scored; if the student raised his hand and said, “I need another piece of paper”, tangible was scored; and if the student raised his hand and said, “I want to take a break”, escape was scored. Such student responses were then scored as either prompted or unprompted depending on how many seconds had passed since the last adult communication prompt was delivered.

The independent variable for the adult was operationally defined as follows: communication prompt, a specific prompt verbalized by the adult for the student to use appropriate communication to indicate the students needs, such as asking for help, requesting materials, or requesting a break from the activity. The adult communication prompt included all three functional communicative responses each time the prompt was delivered to the student.

Interobserver agreement

Interobserver agreement on the occurrence and nonoccurrence of the dependent and independent

variables were assessed for 23% of the sessions (across all conditions). Interobserver reliability was calculated on an interval-by-interval basis by dividing the number of agreements by the total number of agreements plus disagreements and multiplying by 100. Interobserver agreement for student appropriate behavior ranged from 90% to 100% with a mean of 97% and inappropriate behavior ranged from 83% to 100% with a mean of 98%. Interobserver agreement for student prompted and unprompted appropriate communication by function type (attention, escape, and tangible) were 100%. Interobserver agreement for teacher communication prompt behavior was 100%. Interobserver agreement was conducted by a researcher who was trained extensively in behavioral observation.

Results

Figure 1 illustrates the percentages of Steve's appropriate and inappropriate behaviors during baseline and the FCT intervention. During baseline, Steve displayed moderate and variable percentages of appropriate behavior, ranging from 17% to 69% (mean = 42.40). When the FCT intervention was implemented, Steve's appropriate behavior increased to a more steady percentage of appropriate behavior, ranging from 87% to 96% (mean = 90.86). However, when the FCT intervention was withdrawn, Steve's appropriate behavior decreased to 40%. With the reintroduction of the FCT intervention, Steve's appropriate behavior again increased, ranging from 85% to 95% (mean = 90.00).

Table 1 illustrates the number of times Steve used both his prompted and unprompted communication during baseline and the FCT intervention. During the five baseline conditions, Steve had a higher rate of unprompted attention responses ranging from 3 to 12 (mean = 3.20) as compared with both unprompted tangible or escape responses ranging from 0 to 1 (mean = 0.40) and remaining constant at 0, respectively. When the FCT intervention was introduced over a period of seven sessions, Steve's unprompted attention responses ranged from 3 to 9 (mean = 6.14), remained higher than either the unprompted tangible or escape responses, both ranged from 0 to 1 (means were 0.43 and 0.14, respectively). Steve's unprompted attention responses were also higher than his prompted attention, ranging from 0 to 3 (mean = 1.71), prompted tangible responses ranged from 0 to 1 (mean = 0.14), and prompted escape responses remained at 0. An accelerating trend of Steve's unprompted attention communication was evident when the FCT intervention was first introduced. With the return to baseline, Steve's unprompted attention responses, 3, remained higher than that of his unprompted tangible and escape responses, 1 and 0 respectively. When the FCT intervention was reintroduced, Steve's unprompted attention responses, ranged from 10 to 12 (mean = 11.00), were higher than that of his unprompted tangible and escape responses, both were at 0, and his prompted attention responses, ranged from 1 to 2 (mean = 1.33), tangible and escape responses, both were at 0.

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Figure 1

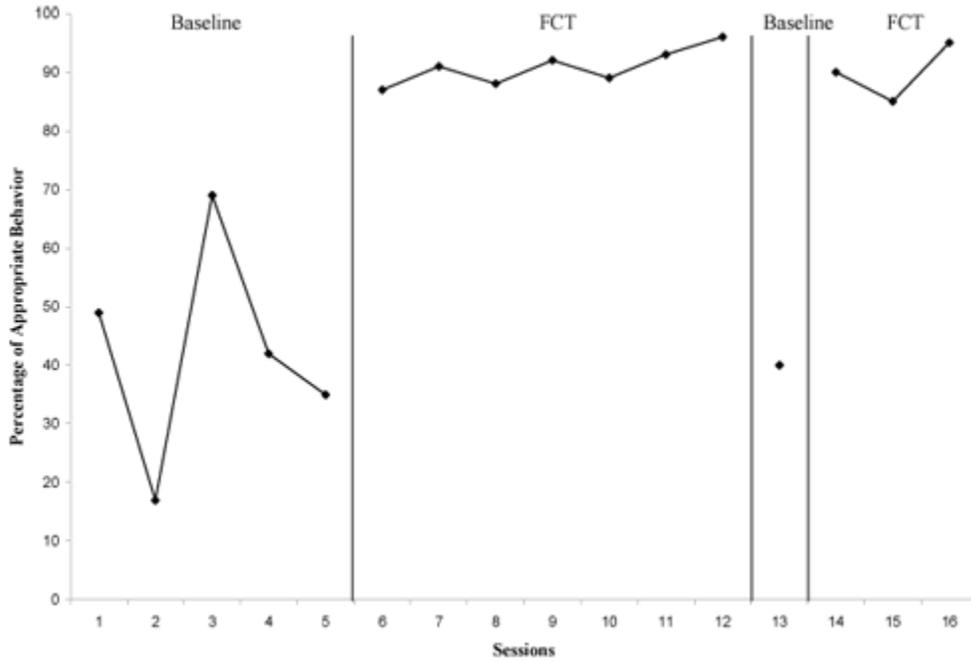


Table 1

Table 2.
Mean Number of student Unprompted and Prompted Communication Responses by Function and Phase

Function	Intervention	Phase			
		Baseline	FCT Intervention	Baseline	FCT
Attention					
	Unprompted	3.20	6.14	3.00	11.00
	Prompted	NA	1.71	NA	1.33
Tangible					
	Unprompted	0.00	0.43	0.00	0.00
	Prompted	NA	0.14	NA	0.00
Escape					
	Unprompted	0.00	0.14	0.00	0.00
	Prompted	NA	0.00	NA	0.00

Discussion

The purpose of this study was to assess whether FCT, when implemented to address the traditional functional communicative responses of the functional motivations of attention, escape, and tangible, would effect the appropriate and inappropriate behaviors of a student with EBD during regularly scheduled independent academic activities. The results of this study showed that the implementation of the FCT, noncontingent prompting, as a multiple function intervention (e.g., attention, tangible, escape) did positively affect Steve's appropriate and inappropriate behaviors even through the intervention was not developed to specifically address his inappropriate behaviors. The decreases associated with the implementation of the FCT intervention were achieved without having to provide additional behavioral management strategies (Sigafoos & Meikle, 1996).

Although other students have used multiple functional forms of appropriate communication (Day et al., 1994; Kelley et al., 2002; Sigafoos & Meikle, 1996), these studies included students with more clearly interpreted functional analysis results. The results of our functional analysis suggested that Steve's inappropriate behaviors were being maintained by up to three variables. That is, the functional analysis showed that some of Steve's inappropriate behaviors were being maintained by attention, escape, and tangible functions. These results highlight the feasibility of using FCT as a possible means to address unclear or multiply motivated behaviors.

There were several interesting observations made during the course of this study. First, it should be noted that Steve almost exclusively invoked the attention communicative response (i.e., raise his hand and say 'I need help'). Steve's choice of a communicative response corresponded with the functional analysis condition with the highest level of inappropriate behavior. There are multiple interpretations of this observation. First, Steve's inappropriate behavior could have been truly motivated by the attention function in that he used his inappropriate behaviors during independent academic activities to gain adult attention. If the academic activities presented to Steve were too difficult, they may have influenced his behavior; however, this was unlikely because the activities were appropriate for Steve's ability and grade level. Second, the FCT intervention provided Steve with functionally equivalent forms of communication from which he could choose and use when he wanted, with or without adult prompts, in order to gain more predictable access to adult attention. It remains unclear as to whether Steve understood that he had a choice between the three functional variables even though all three functional variables were provided in a random order in each adult prompt. Did he know that he could have also accessed the escape or tangible responses? If Steve did understand that he had a choice, then the results of this study may suggest that Steve was specifically choosing the attention communicative response in order to better control his environment or to meet his own needs when presented with independent academic activities.

Future studies are needed to determine if the FCT intervention targeting three functional variables is necessary to affect student behaviors. Perhaps a combination of two functional variables, or just the primary functional variable would lead to improved student behavior when the functional analysis data suggest that more than one variable is maintaining the student's behavior. For example, after the baseline and FCT intervention (as a package) phases are implemented then each separate functional variable and combination of functional variables can be introduced to determine the most effective FCT intervention for the student.

Several experimental limitations occurred in this study. First, the effects of this FCT intervention was assessed with only one student. Replications of this study with other students with EBD are warranted to determine whether or not using FCT in this manner will also positively affect student behavior when assessment data are unclear. Another limitation of this study was that no control for the increased attention provided to Steve occurred. That is, by providing frequent adult prompts to Steve, we may have inadvertently provided Steve with adult attention each time an adult prompt was given. One method of addressing this limitation would be to provide Steve with only a single adult prompt and compare that frequency of adult prompts to the number he received as part of this study to determine if the attention provided during the adult prompting was influencing the decrease in his inappropriate behavior. A third limitation was that only a single sessions was conducted during the second baseline. After the FCT intervention was withdrawn, Steve's appropriate behavior decreased by approximately 50% as compared to his mean levels of appropriate behavior during the FCT intervention. After this session was conducted, Steve's low level of appropriate behavior continued to worsen as the school day progressed. Steve's teacher and other school staff expressed concern that Steve's high levels of inappropriate behavior would continue and he would end the summer school session in a negative behavioral cycle. Given that there were only 3 remaining school days of the summer session and for ethical reasons, the FCT intervention was re-implemented. Future studies will need to demonstrate a stable data pattern prior to the return to intervention.

A practical limitation of this study was that the classroom teacher herself did not implement either the functional analysis or FCT intervention. Prior to this study, Steve's teacher had had no prior experience or training on how to conduct functional analyses in her classroom. By having the investigator conduct the functional analysis and implement the FCT intervention, Steve's teacher was provided with a model and training of how both procedures can be performed in classroom environments without disrupting the classroom routine. It is important that future studies investigate the effectiveness of teachers trained in these procedures using similar student dependent variables. Both functional analyses and FCT interventions show promising results and are both feasible and appropriate for teachers to implement with students with EBD in classroom settings. Future research may also want to fade the adult communicative prompts and delay the reinforcement so as to better mirror the natural classroom environment. For example, the adult communicative prompts could be delivered on different schedules during the various phases and the teacher's response to a functional request by the student could be acted on using longer time delays between the request and response. This study provided a steady rate of adult communication prompts for the intervention phases and immediate teacher responses to the student requests. Some students with EBD may require fewer communication prompts by an immediate teacher response, or vice versa to influence the target behavior(s). Future research should continue to investigate the use of functional analysis methods with students with EBD in order to better match the student's individual needs to appropriate intervention. Especially as more and more classroom teachers are conducting these analyses on their own.

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