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EFFICIENT IDENTIFICATION OF FUNCTION: A COMPARISON OF DIFFERENT IMPLEMENTERS DURING FUNCTIONAL ANALYSES

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THESIS

A thesis submitted in partial fulfillment of the
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By

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ABSTRACT OF THESIS

EFFICIENT IDENTIFICATION OF FUNCTION: A COMPARISON OF DIFFERENT IMPLEMENTERS DURING FUNCTIONAL ANALYSES

Functional analyses (FAs) are a common tool used in the assessment and treatment of severe problem behaviors and often occur in the context of clinical settings with unfamiliar, trained staff. Previous research suggests that inconsistent outcomes can emerge when caregivers with an existing history of seeing their child's challenging behavior are trained to implement the assessment in place of clinical staff. The purpose of the current study was to expand on existing literature by comparing FA implemented by clinical staff and caregivers in the context of a clinical setting. Results demonstrate that efficient identification of function and differentiated rates of problem behavior given the inclusion of caregivers during assessment may vary based on the child's existing history of responding with those caregivers. Implications of results for researchers and practitioners are discussed.

KEYWORDS: Functional analysis, severe behavior problems, caregiver training, therapist effects, social validity

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Section 1: Introduction

Functional analysis (FA) is a tool used in the assessment and treatment of problem behaviors (e.g., aggression, self-injury, property destruction; Iwata, Dorsey, Slifer, Bauman & Richman, 1982/1994). This method is characterized by systematically introducing environmental changes while preserving experimental control during the assessment. Maintaining functions, why problem behaviors occur and persist over time, are identified during FAs. Common socially medicated functions of these behaviors include positive reinforcement in the form of accessing attention and tangibles or negative reinforcement in the form of escaping from non-preferred demands. Once identified, functions of problem behavior can be addressed through individualized, function-based treatments; the importance of addressing these functions during treatment in relation to achieving therapeutic outcomes has been vigorously researched (Perrin, Perrin, Hill & DiNovi, 2008; Roscoe, Kindle & Pence, 2010; Tarbox, Wallace, Tarbox, Landaburu & Williams, 2004; Wilder, Harris, Reagan & Rasey, 2007).

In comparison to FA, less rigorous assessment methods have been shown to be less accurate in identifying maintaining functions of problem behavior (Thompson & Iwata, 2007), although limitations of FAs have also been cited (Hastings & Noone, 2005). One such argument is that FA assessments rely on evoking and reinforcing inappropriate behaviors which have the potential to cause harm to the child and/or implementer. However, a counterargument to this claim is that assessing already problematic behavior(s) with FA and following up with an effective treatment plan may be less intrusive than allowing these behaviors to continuously occur due to less accurate

assessment methods. In response to such concerns, researchers aim to produce effective, efficient, and socially valid FA procedures.

While the efficacy of FA has been repeatedly documented, concerns have arisen with regard to the social validity of this approach (Huete & Kurtz, 2010). Traditional FA relies on evoking problem behaviors in contrived settings with novel implementers. However, a socially valid FA should capture the conditions under which problem behaviors occur in the natural environment. Therefore, common modifications to FA procedures are the inclusion of stimuli relevant to environments where problem behaviors are said to occur (Hagopian, Rooker, Jessel & DeLeon, 2013). Functions of problem behavior can be effectively identified when including familiar stimuli, such as specific preferred toys and people, during FAs (Carr, Yarbrough & Langdon, 1997; Schlichenmeyer, Roscoe, Rooker, Wheeler & Dube, 2013). However, the degree to which these different idiosyncratic elements need be included in the assessment process remains debated.

Thomason-Sassi, Iwata and Fritz (2013) demonstrated that even under contrived experimental conditions in which the inclusion of novel stimuli were compared to assessments including familiar caregivers and settings, "more consistent than inconsistent outcomes" (p. 84) generally emerge. The implication is that the inclusion of these individualized variables is often not necessary to evoke target behaviors. However, other documented cases where function was either inconclusive or unidentifiable in the absence of these variables are also described in the literature (McAdam, DiCesare, Murphy & Marshall, 2004; Huete & Kurtz, 2010). In some cases, the subsequent inclusion of an

individuals' familiar stimuli following inconclusive FAs was reported to lead to identifiable functions (Kurtz, Fodstad, Huete & Hagopian, 2013).

Comparing the outcomes of caregiver and therapist implemented FAs is one such example of idiosyncratic variables that has already been explored. Researchers have documented that caregivers can be trained to implement FA procedures to fidelity (Stokes & Luiselli, 2008). Differentiation of responding during caregiver and therapist implemented FAs have also been reported. In some cases, low rates of problem behavior have been cited in contrived FA conditions, leading to inconsistent outcomes across implementers or overall inconclusive assessment results (Huete & Kurtz, 2010; Parks, Clark & Call, 2012; Ringdahl & Sellers, 2000). One such explanation for this phenomenon is a lack of reinforcement history with novel implementers or the absence of motivating operations to engage in problem behaviors during therapist implemented assessments (Boelter, Wacker, Call, Ringdahl & Kopelman, 2007). Others have proposed that problem behaviors that have not yet generalized to unfamiliar situations or implementers may not occur in novel contexts (Huete & Kurtz, 2010).

In any case, the inclusion of caregivers during FAs may strengthen the social validity of these assessments in that a history of responding is already established; specifically, responding may be less likely to occur with an unfamiliar implementer. Therefore, the rigidity of FA procedures meant to control for confounding effects could compromise the extent to which those procedures can simulate conditions in the natural environment. Emergent cases in which functions of problem behavior were only identifiable when familiar stimuli were present, such as caregivers serving as FAs

implementers, support the inclusion of caregivers as well as other, similar variables during assessment when available (McAdam et al., 2010; Thomason-Sassi, et al., 2013).

Thomason-Sassi et al. (2013) compared setting and therapist effects on FA outcomes. Problem behaviors of five children were assessed in a clinic or in participant's homes and with either a caregiver or clinic staff member. The researchers showed that functions of problem behavior were identifiable for four of their five participants even when familiar stimuli were not present during the assessment. However, for two of the five participants, different functions emerged across staff and caregiver implemented FAs. Broader implications of these results indicated that while the exclusion of familiar stimuli can lead to conclusions about functions of problem behavior, results are not always consistent across implementers. That is, even when problem behaviors emerge in staff-conducted FAs, false-positive outcomes can occur.

Huete and Kurtz (2010) also compared outcomes of parent and clinic staff-implemented FAs conducted with five young children who exhibited challenging behaviors. For all five of their participants, functions of the target behaviors identified via staff conducted FA were inconsistent with those identified via parent implemented FA. As a whole, rates of problem behavior observed with parent implementers were also higher, producing clearer, more differentiated functions in comparison to staff-conducted FA. Implications of their results suggested that FAs conducted by novel implementers as opposed to caregivers may result in different outcomes, lower rates of problem behavior, or even an overall lack of responding from child participants.

Limitations of the existing research are notable; this comparison has almost exclusively been evaluated using a multi-element design to "assess factors that may be

maintaining challenging behavior" (Wolery, Gast & Ledford, 2018, p. 298). In a multi-element design, at least two conditions are rapidly alternated and the impact on problem behavior is measured. However, these designs cannot demonstrate a functional relation because in a B-C (or C-B) design only a single demonstration of effect can be shown (Gast, Ledford & Severini, 2018). Therefore, despite the commonality of this research design in previous studies to compare implementers during FAs, a multi-element design does not allow for an experimental comparison of different implementers across rates of problem behavior. In the current study, a multi element design embedded into a multi-treatment design will be used. This single case design can experimentally show differences between assessment implementers if an immediate and adequate shift in the data occur following a change in implementer and this relationship is demonstrated at several different points in time. In the context of this design, a B-C-B-C (or C-B-C-B design) there are three opportunities to show a demonstration of effect and therefore a functional relation can be established (Gast et al., 2018).

Overall, idiosyncratic factors within FA procedures may have an impact on some individual's responding and can influence social validity of the assessment (Huete & Kurtz, 2010). FAs conducted by unfamiliar persons may produce poor treatment outcomes in relation to the misidentification of function(s) of problem behavior (Kurtz et al., 2013). Therefore, rather than omit variables such as caregivers as implementers, their inclusion in the initial assessment, when available, may save time and produce clear assessment results. Results that may emerge as ambiguous due to lower rates of problem behavior in therapist conducted FA might be clarified by using familiar implementers in the initial assessment (e.g., Parks et al., 2012).

The inclusion of caregivers as implementers and other, similar variables during FA as a means of efficient evocation of problem behavior is one such route warranting further research. Although a comparison of different implementers during FA assessments has already found that problem behaviors often occur at higher rates with caregivers as implementers and that functions of problem behavior are often inconsistent across implementers, there is limited research considering the use of individualistic variables when seeking to identify function efficiently. This research will experimentally expand on previous studies that have evaluated this comparison using a multi-element design embedded into a multi-treatment design. When examined collectively, previous research also warrants further investigation of caregiver and therapist implemented FA; practical considerations of the practitioner should be kept in mind while also minimizing needless re-exposure to the assessment procedures.

The purpose of the current study is to investigate the differentiated outcomes of caregiver and therapist conducted FA assessments with respect to efficient identification of the functions of problem behaviors. Other considerations such as the time it takes to train caregivers to implement FA procedures and caregiver perceptions of the assessment process will also be considered.

Section 2: Research Question

This study seeks to address the following questions: Do rates of problem behavior differ with caregiver implemented FAs, when compared with therapist implemented analyses in a clinical setting? Will the same function(s) of problem behavior be identified with caregiver implemented FAs in comparison to therapist implemented analyses?

Section 3: Method

Participants

Participants in this study included three children and their caregivers referred to an outpatient clinic for the assessment and treatment of problem behaviors. To take part in this investigation, child participants must have demonstrated problem behaviors on at least a weekly basis. Detailed information about child participants who took part in this research is included in Table 1. Adult participants, caregivers of child participants, were also included in this study. Inclusion criteria for adult participants were that (a) they had to be present with the child participant during caregiver implemented assessment appointments and this caregiver was one with whom challenging behaviors were known to occur and (b) this same caregiver was willing and physically able to adhere to and perform implementer behaviors, as described subsequently. Inclusion criteria were evaluated by interviewing the caregiver then inviting them to participate in the study given that these criteria were met. Child participants were excluded from the study if an alternative method of assessment (e.g., skill assessment, interview-informed synthesized contingency analysis) was identified as better meeting the needs of the child than a FA following evaluation of intake information and an unstructured parent interview. If that same information suggested that problem behaviors were automatically maintained, child participants were also excluded from the study on the basis that undifferentiated responding should occur across all FA conditions at similar rates, regardless of assessment implementer.

Clinical staff with experience implementing FA procedures and who were working toward their master's degrees in applied behavior analysis served as behavior

Table 1: Participant Information

Participant	Age	Sex	Race	Diagnoses	IQ Score	Adaptive Behavior Score	Related Services	Target Behavior(s)	Assessment Implementer
Joe	4	Male	Caucasian	Autism	NA	NA	Speech, OT	Aggression	Biological father and mother
Bobby	8	Male	African American	Autism, ADHD	73[a]	60[b]	Speech, OT, PT	Dropping	Biological mother
Michael	7	Male	Caucasian	ADHD	NA	NA	None	Aggression, Property Destruction	Biological mother

Note. ADHD=Attention Deficit Hyperactivity Disorder, NA=Not Available, OT=Occupational Therapy, PT= Physical Therapy
[a]Stanford-Binet Fifth Edition, [b]Stanford-Battelle Developmental Inventory Second Edition

therapists to participants and acted as the novel assessment implementers. All students were previously trained to implement FA procedures and received continuous supervision by a Board-Certified Behavior Analyst (BCBA) in conducting these assessments. Behavior therapists determined target behaviors for each participant through indirect assessment methods (described below) and served as data collectors throughout the study.

Setting

FAs were conducted in an outpatient, university-based student-training clinic. All clinic appointments lasted 1.5 to 2 hr and assessment sessions were conducted in one 3.7 m by 3.7 m room. For all but one of the child participants, the session room contained one adult-sized table with two chairs, a child-sized table with two chairs, and a windowed air conditioning unit. For one participant, the child-sized table and chairs were removed. Only the child participant and the implementer (i.e., caregiver or therapist) were present in the session room during the FA with the exception of one participant for whom an additional person was present to help manage challenging behavior. Data collectors recorded data through a one-way observation panel via an adjacent room. If elopement was indicated as a risk during the participant's initial intake appointment, an additional person stood outside the door to block the child participant from leaving the room.

Materials

Condition-specific materials were present in the session room during assessment but varied on a case-by-case basis. For example, moderately preferred toys, identified through informal, free-operant observation and information gathered in the initial parent interview, were always present but did not remain consistent across individuals. Highly preferred items were only present during the Tangible condition. See Table 2 for

additional information on materials included during each child's assessment. Additional materials included in the assessment were items with which the implementer used to divert their attention (e.g., paperwork) as well as materials that the implementer used to present demands (e.g., a math worksheet). Color-coded posters acting as discriminative stimuli for child participants, implementers, and data collectors were hung on the

Table 2: Moderate and Highly Preferred Items by Participant

Participant	Moderately Preferred Items	Highly Preferred Items
Joe	Ribbed bouncy ball, dump trucks, Mega Bloks	Tablet playing *Peppa Pig* video, large exercise ball
Bobby	Mega Bloks, magnetic building block tiles, cars, sensory animal figurines	Smart phone playing *Pete the Cat* video or nursery songs
Michael	Stuffed animals, Velcro dart board, animal figurines, Legos	Dinosaur figurines, walkie talkie earpiece

assessment room wall (Conners et al., 2000). These posters labeled and described contingencies for the ongoing condition. Arm guards, shin guards, and blocking pads were present if intake information suggested that there was a reasonable risk to the participant or implementer's safety during assessment. All implementers were outfitted with a two-way radio and wireless Bluetooth headset with which a supervising BCBA and the experimenter used to provide in-vivo coaching and feedback. The *Countee* application (Peic & Hernandez, 2015) was used with smart phones to allow data collectors to record session duration and timestamp the occurrence of targeted problem behaviors across conditions. All other materials in the session room remained consistent across implementers to maintain experimental control.

Target Behaviors

Indirect assessment methods including an intake questionnaire and unstructured parent interview were conducted with the caregiver to gather information about child participant target behaviors prior to assessment. The intake questionnaire was submitted several weeks prior to the first clinic appointment for review by behavior therapists and the supervising BCBA. Based on this intake questionnaire, additional questions were developed with the goal of identifying specific behaviors to be targeted during subsequent assessments. Caregivers met with behavior therapists for a 1.5 hr intake appointment. During this time, information gathered in the intake questionnaire was elaborated on, updated, and clarified. Those behaviors reported as most problematic by caregivers at the time of their first intake appointment were targeted. Table 3 provides further information about specific topographies targeted during the assessment and outlines operational definitions of those behaviors.

Measurement System

Trained student therapists collected primary and inter-observer agreement (IOA) data on target problem behaviors during each session of the assessment. Therefore, rates of problem behavior served as the dependent variable in this study. The application *Countee* (Peic & Hernandez, 2015) was used to collect this data. Data collected through the application were converted to a rate measurement post-assessment and reported as responses per minute. Occurrences of these target behaviors were also summarized on a physical data sheet (see Appendix A).

Table 3: Child Participant Target Behaviors

Participant	Target Behavior(s)	Operational Definitions	Examples and Non-Examples
Joe	Aggression	Any instance or attempt in which Joe's open or closed hand contacted another person from a distance of at least 0.15 m. Each hand was counted as a single occurrence of hitting.	Example: Joe hits the implementer's shoulder from 0.15 m away to get attention Non-Example: Joe high-fives the implementer
Bobby	Dropping	Any instance in which Bobby's body moved from a standing or seated position to lying or sitting on the floor that was not within the context of an ongoing activity. Each of the following transitions counted as a single occurrence: standing to seated, seated to lying on stomach or back, or standing to lying on stomach or back.	Example: Bobby falls from a standing position to his knees Non-Examples: Bobby plays *'Ring Around the Rosie'*, lies on the floor to watch a movie on his tablet, or trips over a toy
Michael	Aggression	Hitting: Any instance or attempt in which Michael's open/closed hand or an item contacts another person from 0.15 m or more. Each hand is an occurrence. Kicking: Any instance or attempt in which any portion of Michael's leg at or below the knee contacts another person from 0.15 m or more. Biting: Any instance or attempt in which Michael's teeth contact another person's skin. Headbutting: any instance or attempt in which Michael's head contacts a person from 0.15 m or more. Body Slamming: any instance in which Michael's midsection contacts another person and alters that person's position.	Examples: Michael knees the implementer in the shin or throws his head backwards into another person Non-Examples: High fives, Michael bars his teeth and growls, dinosaur "bites" the implementer

Table 3 (continued)

Participant	Target Behaviors	Operational Definition	Examples and Non-Examples
Michael	Property Destruction	Any instance in which Michael hits/kicks an item or surface from at least 0.15 m away. Alternatively, any instance in which an item's appearance is altered through contact with Michael's hand or foot (e.g., tearing, crumbling or breaking an item) or Michael throws the item against a surface from at least 0.61 m away. These should occur outside of the context of an appropriate play activity with 3 s of calm between each new occurrence.	Examples: Kicking the door, slamming hands down on the table, throwing a handful of dinosaurs across the room Non-examples: Throws a ball at the Velcro dart board, larger dinosaur "attacks" other dinosaurs during play

Experimental Design

A single case multi-element design embedded into a multi-treatment design was used to compare rates of challenging behavior that emerged across different implementers during the FA (Wolery et al., 2018). Experimental conditions of a FA can be compared to the control condition within a multi-element design; differentiated responding between these data paths indicate maintaining functions of problem behavior. In describing a multi-treatment design, Wolery et al. (2018) explained that "sequential introduction and withdrawal designs are flexible designs that allow for comparisons between two treatments" (p. 292). In this study, rather than compare different treatments as Wolery et al. (2018) described, the multi-treatment design compared the influence of the implementer on child responding. Assessment implementers were randomized and counterbalanced across participants prior to the onset of assessment such that either a

caregiver or therapist implemented the FA procedures. FA conditions were also randomized to minimize the risk of sequential confounding. The implementer was alternated across four separate FAs such that a B-C-B-C (or C-B-C-B) design was achieved, and comparisons were then made across caregiver and therapist conducted assessments. Each FA also occurred across separate days to minimize the risk of a carryover effect from one implementer to the next.

While the caregiver implemented the assessment, the experimenter and supervising BCBA provided in-vivo feedback using bug-in-ear technology. If the caregiver performed less than 80% of the implementer behaviors correctly, additional training would have been provided, but this did not occur. Using the model prescribed in this study (i.e., a combination of instruction and video modeling) the average training time for a single caregiver was 11 min 13 s. Joe's caregivers were trained separately; the first caregiver training lasted 10 min 3 s and the second caregiver training totaled 9 min and 54 s. The duration of Bobby's caregiver training was 11 min 18 s. Michael's caregiver training totaled 12 min 41 s.

Procedures

Caregiver training. Prior to the first caregiver implemented assessment, the experimenter provided a brief in-person training, which consisted of two parts: (a) instruction on the different FA conditions, and (b) detailed information about each FA condition from a handout, focusing only on procedures that corresponded with their child's specific assessment. For example, if information gathered during the intake appointment suggested that attention was not a maintaining function of problem behavior then it was not included in the assessment and therefore was excluded from the training.

A video model of the relevant procedures was then shown after talking through each condition. These videos demonstrated all possible response outcomes (i.e., responding to the absence or presence of target and non-target behavior in each condition). While the video played, the experimenter continued to narrate the appropriate implementer behaviors. Caregivers were encouraged to ask questions throughout the training. The experimenter also recorded the total duration of this caregiver training; duration was defined as the onset of the verbal explanation of procedures and ceased following a presentation of all video models.

Functional analysis. Four FA assessments were run per child participant. Prior to beginning these assessments, calm criteria of 30 s were achieved before starting the assessment and moving between FA conditions. Introduction or removal of condition-specific materials was always followed with this 30 s period of calm. Calm was defined as the absence of target problem behaviors in addition to other disruptive behaviors described in the unstructured parent interview. Following calm criteria, randomized FA conditions were introduced to minimize the risk of sequential confounding.

Each FA assessment consisted of a control condition and at least two experimental conditions. During the control condition, Toy Play, the implementer provided access to attention at least once every 30 s. Acceptable forms of attention during this condition included verbal or physical attention. The attention provided during this time did not include pressing demands or asking questions. Moderately preferred items, which were determined through an informal operant observation in the case of Joe and Bobby or through parent report in the case of Michael, were also present in the room during this time. Moderately preferred items were defined as those items with which the

child participant would redirect to upon the removal or restriction of highly preferred items.

Experimental conditions included in the assessment were based on client information gathered during the initial intake appointment. The order with which experimental conditions occurred within a single FA was randomized prior to the onset of assessment. Randomization occurred by identifying which conditions to include in the assessment (included conditions were defined as a single series) then inserting those conditions into a pre-programmed random generator in Microsoft Excel until multiple series were generated. This same generator was used to counterbalance the assessment implementer across each FA. Each child was exposed to at least two of the following test conditions in addition to the control condition: (a) the Tangible condition in which highly preferred items were introduced for a brief 30 s period of exposure during the previously defined calm period, restricted at the onset of the condition and then returned for 30 s contingent on challenging behavior; (b) an Escape condition in which demands were placed at the onset of the condition, then removed for 30 s contingent on challenging behavior; and/or (c) an Attention condition in which access to the implementer's attention was restricted at the onset of the condition, then a brief reprimand was provided (e.g., “I don’t like it when you hit me.”) contingent on challenging behavior. Specific implementer behaviors scored during procedural fidelity (PF) sessions are explained in more detail subsequently. Both control and experimental conditions lasted 5 min.

B-C conditions in the multi-treatment design were counterbalanced prior to the onset of the study such that each assessment consisted of a caregiver or therapist as implementer. The independent variable in this study was the assessment implementer and

therefore control and test conditions, as well as other variables (e.g., materials, setting) remained constant. Within the multi-element design a comparison of differentiated rates of problem behavior in comparison to the control condition yielded information relevant to identifying maintaining functions of problem behavior which could then be compared across B-C conditions of the multi-treatment design.

Differentiated function assessment data (Roane, Fisher, Kelley, Mevers & Bouxsein, 2013) were derived for participants who responded to the assessment procedures. These data were calculated by setting upper and lower criterion lines (these were one standard deviation above and below the mean rate of problem behavior in the Toy Play condition) then counting the number of data points in test conditions that fell at/above and at/below the criterion lines. The number of data points at or above the upper criterion line was then subtracted by the number of data points at or below the lower criterion line. This resulting number was divided by the total number of data points in the condition and multiplied by 100 for a differentiation percentage. Finally, this number was compared to a standardized value (50% or greater) to determine differentiation.

Reliability. The experimenter and master's level student therapists working at the clinic collected IOA and PF data during the study. Data collectors were trained to take assessment data by the experimenter by exposing data collectors to procedures. These data collectors also had an opportunity to practice data collection using a filmed FA before in-vivo data collection occurred. Criterion of at least 80% agreement or more with the researcher indicated that the data collector had been trained to fidelity.

Dependent variable reliability. IOA data were collected for 100% of assessment sessions using the application *Countee* (Peic & Hernandez, 2015) to record occurrences of

problem behavior during each session of the FA assessment. Data collectors reviewed operational definitions of target problem behaviors prior to assessment. Data were later compared to data collected by a secondary observer to establish a percentage of agreement. Although not necessary during the course of the study, If agreement fell below 80% within a single session, data collectors discussed disagreements, reviewed discrepancies in operational definitions, and recoded using a filmed video recording of the assessment.

The experimenter calculated agreement using point-by-point agreement for free-operant behaviors measured with timed event recording (Ledford, Lane, & Gast, 2018). Occurrences of target behaviors were counted as an agreement only if they were recorded within a 3 s window of the independent reliability data collector. Percentage agreement of occurrences were calculated by counting the number of agreements within 3 s of each other divided by the number of agreements and disagreements, then multiplying by 100.

Sessions in which a single observer did not observe any instances of the target behavior(s), the experimenter divided into 10 s intervals and calculated non-occurrence reliability. The number of agreements for non-occurrence intervals was divided by the agreements and disagreements of non-occurrence intervals, and then multiplied by 100 (Ledford et al., 2018). This was done to calculate point-by-point agreement of non-occurrence.

Implementer procedural fidelity. Procedural fidelity (PF) data on implementer behaviors were collected by the experimenter or a clinic staff member and consisted of marking occurrences or non-occurrences of an error within a set interval. Each 5 min session of the FA assessment was separated into 1 min intervals; an occurrence of target behavior was recorded if the correct implementer behavior occurred across the entire 1

min interval. Erroneous implementer behaviors were addressed with immediate in-vivo feedback from the experimenter using a wireless Bluetooth headset. Additional training for implementers would have been provided if PF fell below 80%; however, this did not occur. PF data were collected for 33% of total sessions and at least once in each condition per assessment. To determine PF, the number of implementer behaviors observed were divided by the total number of planned behaviors. The result was multiplied by 100 for a final PF percentage.

PF behaviors measured included the restriction or delivery of attention, preferred items, and task demands. Attention was defined as the implementer orienting their body toward the child participant or initiating and/or maintaining any verbal or physical interaction. During the Toy Play and Tangible conditions, attention delivery was provided at least once every 30 s. If restricted during the Attention condition, attention was delivered within 3 s of an occurrence of the target problem behavior and was re-restricted within 30 s. Examples included verbal praise and high fives while non-examples included blocking problem behavior from occurring while still restricting other forms of attention, as previously defined.

Item delivery was defined as placing preferred items in view or within child participant reach. During the Toy Play, Attention, and Escape conditions, tangibles were never withheld. If restricted during the Tangible condition, these items were delivered within 3 s of an occurrence of the target problem behavior and were re-restricted within 30 s. Examples included handing the participant a preferred toy upon request or placing the item on the table across the room in their line of sight. Non-examples included telling

the child participant they could have the item but failing to put the item in view or in reach.

Task demands were defined as the use of prompting to lead the participant to complete a clear task directive. During Toy Play, Attention and Tangible conditions, demands were never placed. When demands were placed during the Escape condition, they were removed within 3 s of an occurrence of the target problem behavior and were re-presented within 30 s. Examples included telling the child participant to complete a problem on a math worksheet or physically guiding the child participant to pick up a piece of paper from the floor and place it in a trash receptacle. Non-examples included stating the task demand as a question (e.g., "Can you pick that up?) or making the task overly broad (e.g., "Clean up the room.").

Additional implementer behaviors with a single opportunity to occur were recorded at the onset of the session. These included ensuring that the correct condition-Table 4: IOA and PF Data. Breakdown of data by assessment and implementer specific materials were present, waiting for calm criteria before initiating the condition, and providing a brief verbal discriminative stimulus to indicate the onset of the condition (e.g., "We have to work now."). PF data sheets are listed in Appendices B through E. Point-by-point agreement for free-operant behaviors averaged 89.86% and ranged from 82% to 100%. For assessments in which no responses were recorded, nonoccurrence agreement averaged 100%. PF averaged 95.38%, ranging from 93% to 97.75%. IOA and PF data are broken down by participant, assessment and implementer in Table 4.

Table 4: IOA and PF Data

Participant	Assessment #	Implementer	%Point-by-point IOA for free-operant behaviors	%Point-by-point IOA for non-occurrences	%PF
Joe	1	Caregiver	NR	100%	95%
	2	Therapist	NR	100%	97.33%
	3	Caregiver	NR	100%	93%
	4	Therapist	NR	100%	97%
Bobby	1	Therapist	88%	NC	94.33%
	2	Caregiver	NR	100%	94%
	3	Therapist	94%	NC	95%
	4	Caregiver	100%	NC	95.67%
Michael	1	Caregiver	94%	NC	95.5%
	2	Therapist	82%	NC	95.75%
	3	Caregiver	86%	NC	94.25%
	4	Therapist	85%	NC	97.75%

Note. NC = Not Calculated, NR = No Occurrences Recorded

Social Validity. Social validity data were collected by the experimenter following the completion of all FA assessments. A Likert-type scale questionnaire was completed by the caregiver and used to assess the acceptability of FA procedures (see Appendix F). This questionnaire included 12 questions in total, some of which were adapted from Langthorne and McGill (2011).

Section 4: Results

Figures 1 and 2 show the FA assessment results for Joe, Bobby and Michael. Graphs were interpreted primarily with visual analysis. Changes in level, trend and stability of the data were evaluated within each condition in the context of the multi-element design; differentiation between experimental and control sessions identified maintaining functions of target problem behaviors. As a secondary analysis of function, differentiated functional assessment data were calculated for those participants who responded to the assessment.

Between condition analysis was used to compare results of therapist and caregiver conducted assessments in the multi-treatment design. Specifically, rates of problem behavior and emergent functions across implementers were compared with respect to overlap of the data and consistency of effect. Because variability in the data were expected due to the nature of a FA, immediacy of effect was only evaluated by examining changes in experimental conditions (i.e., attention, tangible, escape) as the assessment persisted over time.

Joe

No differences in the rate of problem behavior were observed across Joe's parent or therapist implemented FA. A zero-celerating trend was observed across all four assessments. Because aggression was not observed during the first caregiver assessment with Joe's father, a second caregiver, Joe's mother, implemented the second caregiver assessment; however, this change had no impact on the rate of problem behavior observed. Due to a lack of responding during the assessment procedures, no conclusions

could be drawn about the maintaining functions of Joe's aggression and differentiated function assessment data were not calculated.

Bobby

Within condition analysis of Bobby's dropping during the first therapist conducted assessment demonstrated low and variable rates of dropping during the escape condition. An accelerating trend was demonstrated in the first two escape conditions before decelerating to zero in the final escape condition. A moderate level of dropping occurred during the final Tangible condition; however, this effect was not replicated. These data indicate that dropping may be maintained by negative reinforcement in the form of escape from demands. Because results could not be replicated in the time allotted to complete this assessment, Tangible was not identified as a maintaining function. These results were demonstrated in comparison to the control condition; Toy Play never elevated from zero during the first therapist implemented assessment.

During the second therapist implemented assessment, an accelerating trend was observed across all escape conditions. Similar to the first therapist conducted assessment, rates of dropping during the tangible condition were variable; however, consistent elevation from Toy Play occurred at two different points in time. This change in the rate of dropping could not be replicated during the last two tangible conditions in which the rate of dropping decelerated to zero. Dropping was also observed during one toy play condition; however, this effect was never replicated in any other control condition. Based on these results, Escape and Tangible were identified as maintaining functions of problem behavior during the second therapist implemented assessment.

Bobby's first caregiver implemented assessment did not yield any information about maintaining functions of problem behavior. A zero-celerating trend was demonstrated across all control and test conditions for this assessment. During the second caregiver conducted assessment, the rate of dropping accelerated during the last two escape conditions of the second caregiver conducted assessment. These data indicate that Escape served as a maintaining function of problem behavior. A tangible function was not demonstrated across either of the caregiver implemented assessments.

Between condition analysis shows consistent differentiation between the Escape and Toy Play conditions during all assessments but the first caregiver assessment. Although variable overall, differentiation between Tangible and Toy Play was reliably inconsistent across assessment implementer. Overall, rates of problem behavior were higher during therapist implemented assessments.

Table 5: Differentiated Functions for Bobby's Assessments

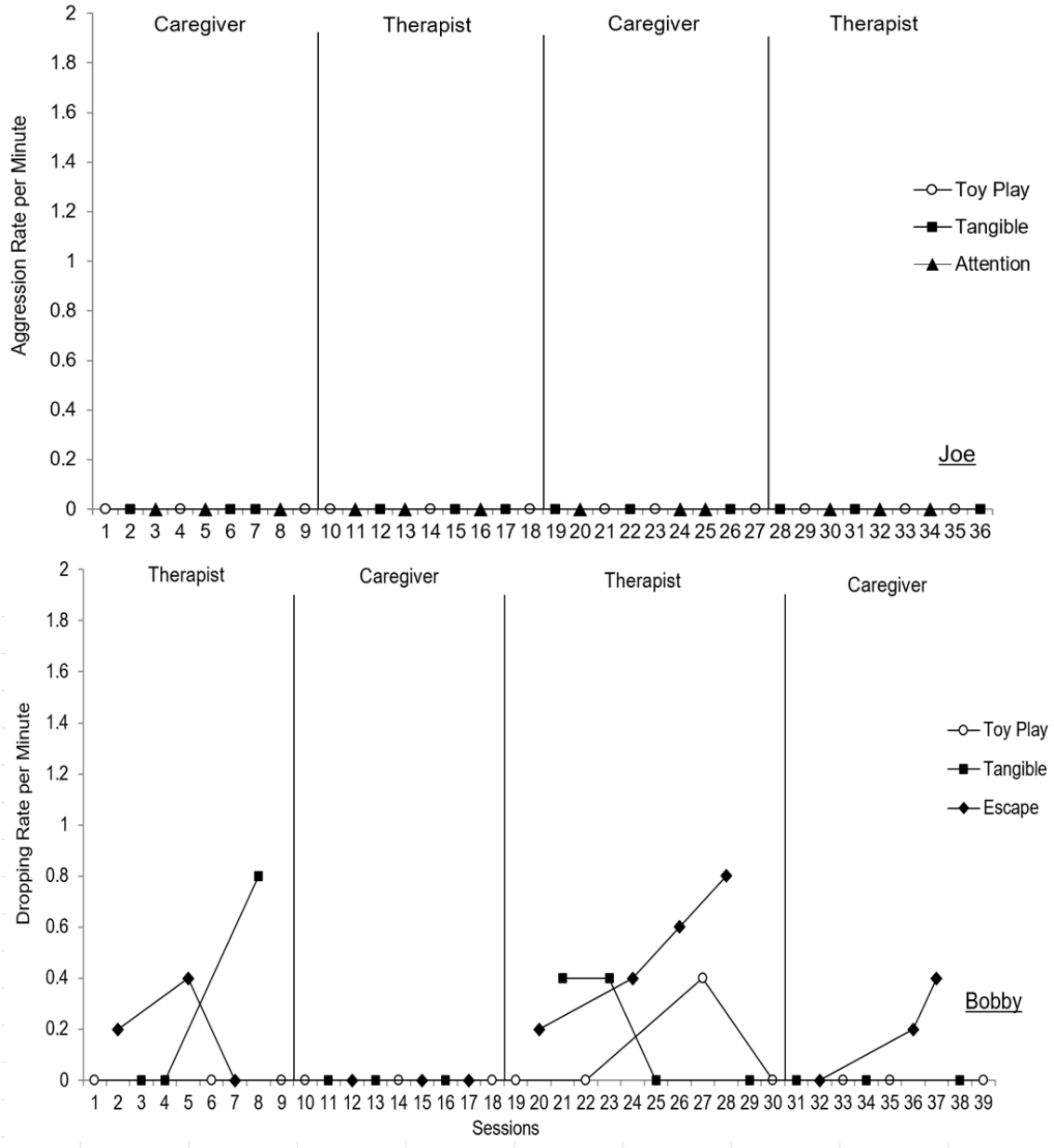
Assessment Type	Tangible	Escape
Assessment A (FA/Therapist)	Mean 0% Range 0%	Mean 66.5% Range 33-100%
Assessment B (FA/Caregiver)	Mean 0% Range 0%	Mean 16.5% Range 0-33%

Note. 50% or greater denotes functional differentiation (Roane et al., 2013).

Differentiated function assessment data (Roane et al., 2013) are shown for Bobby's FAs in Table 5. These secondary data indicate that escape served as a function of problem behavior only during the second therapist implemented assessment. In comparison, Escape was not differentiated enough from the control condition to serve as a function across any other assessment. Because Tangible data were variable, differentiation did not occur consistently across any assessment and therefore data for

both therapist and caregiver implemented assessments suggest that Tangible is not a maintaining function of problem behavior.

Figure 1: Graph of Results for Joe and Bobby

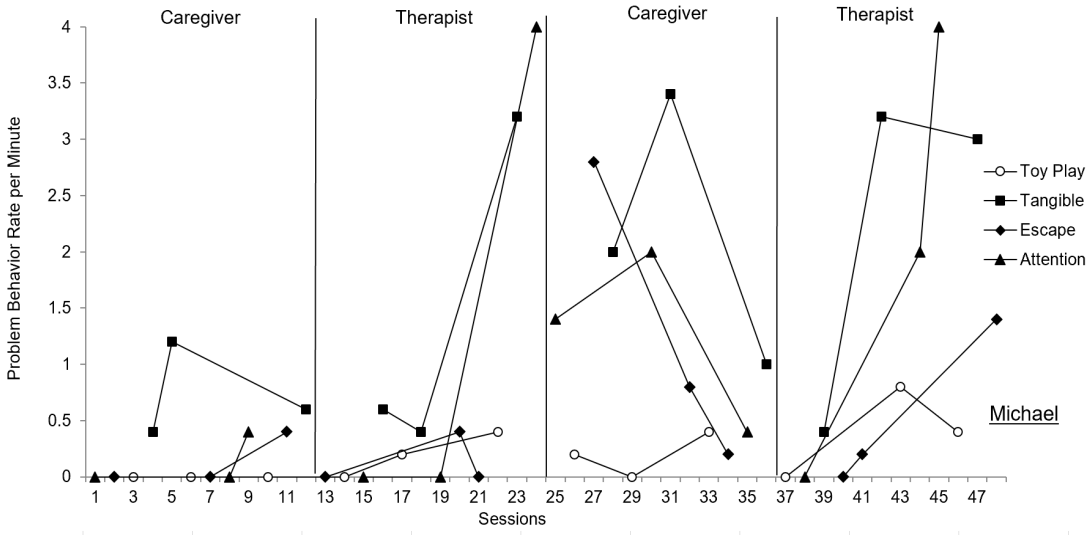


Michael

Within condition analysis of Michael's aggression and property destruction during the first caregiver implemented assessment showed variable responding across all

Tangible conditions, although differentiation from Toy Play was consistent. Low levels of problem behavior occurred throughout the assessment across all conditions. Problem behavior elevated from the control condition during the second escape condition, but this effect was not replicated in the period allotted for the assessment. High levels of problem behavior occurred during the last two conditions of the assessment including once in the attention condition; however, this may have been carryover from the previous tangible condition as attention was not consistently differentiated from Toy Play at any other point in time during this assessment. Based on this information, Tangible was identified as a function of problem behavior for the first therapist implemented assessment.

Figure 2: Graph of Results for Michael



Results of the second therapist implemented assessment were drastically different from the first. Similar to the first therapist implemented assessment, Tangible was consistently differentiated from the control condition, although overall rates of problem behavior in this condition were variable. However, during this assessment, an accelerating trend occurred across all Attention conditions and results were differentiated

from Toy Play during two of three opportunities. Although data appear to accelerate in the Escape condition as well, these data were not differentiated from levels of problem behavior in Toy Play and therefore Escape was not considered a maintaining function of problem behavior. Overall, problem behavior in experimental conditions started at low levels and accelerated to moderate and high levels as the assessment continued. Based on this data, Tangible and Attention were thought to serve as maintaining functions.

Michael's first caregiver implemented assessment was similar to the first therapist conducted assessment. Variable responding occurred across all Tangible conditions, although differentiation from Toy Play was consistent. Low levels of problem behavior were apparent throughout the assessment across all conditions. Problem behavior elevated from the control condition during the last escape and attention conditions, but this effect was not replicated in the period allotted for the assessment. Based on this information, Tangible was identified as a function of problem behavior for the first caregiver implemented assessment.

In the second caregiver conducted assessment, which mirrored the second therapist implemented assessment, problem behavior was elevated at moderate and high levels in experimental conditions at the onset of the assessment and decelerated to low levels as the assessment continued. A decelerating trend is noted in the Escape condition whereas data were more variable across the Tangible and Attention conditions. However, in comparison to Toy Play, all three functions were consistently differentiated indicating that problem behavior was multiply maintained.

Between condition analysis shows consistent results between the first therapist and caregiver implemented assessments. Problem behaviors occurred at similarly low and

moderate rates throughout most of these assessments and the same maintaining function, Tangible, was identified in each case. Comparison of the first caregiver implemented assessment with the second therapist implemented assessment shows different results with regards to the level in which problem behavior occurred and the functions identified. However, evaluating the consistency of effect and overlap of data between the second caregiver conducted assessment and the second therapist implemented assessment shows that problem behaviors occurred at similarly moderate and high rates. The exception is during that of the Escape condition, in which rates of problem behavior were much more elevated from Control during the caregiver assessment. Although rates of problem behavior were similar overall across these two assessments, identifiable functions of problem behavior were inconsistent across implementers. Overall, rates of problem behavior did not appear to differ with respect to assessment implementer.

Table 6: Differentiated Functions for Michael's Assessments.

Assessment Type	Tangible	Escape	Attention
Assessment A (FA/Therapist)	Mean 83.5% Range 67-100%	Mean 0% Range 0%	Mean 16.5% Range 0-33%
Assessment B (FA/Caregiver)	Mean 100% Range 100%	Mean 33.5% Range 0-67%	Mean 50% Range 0-100%

Note. 50% or greater denotes functional differentiation (Roane et al., 2013).

Differentiated function assessment data (Roane et al., 2013) are shown for Michael's FAs in Table 6. These data show that access to tangibles was a maintaining function across all assessments, regardless of implementer. During the therapist implemented FAs, Escape and Attention did not emerge as maintaining functions of problem behavior. In comparison, all functions emerged as functions during the second caregiver implemented assessment, but these results were not replicated during the first

caregiver assessment. Function differentiation data were consistent with results from visual analysis.

Social Validity

The acceptability of FA procedures was assessed using a 5-point Likert scale with five possible responses: (a) strongly agree, (b) agree, (c) neither agree nor disagree, (d) disagree, or (e) strongly disagree. Three caregivers completed the social validity questionnaire. Table 7 shows the mean and range values of caregiver responses. Overall, all caregivers reported FA to be a socially acceptable means of evaluating their child's problem behavior. Caregivers generally perceived the assessment procedures as effective, simple to implement, and representative of situations that would evoke problem behavior in the home. However, one caregiver notably agreed with item eight (M = 2.5, range 1 to 4) in that they felt the assessment was likely to produce a negative change in their child's behavior at home. Moreover, another caregiver indicated on item seven that they believed their child experienced discomfort during the assessment which is not particularly surprising given the nature of FA. Another caregiver could neither agree nor disagree with item ten (M = 4, range 3 to 5) in that their child's behavior was typical of what they see at home; however, it is important to note that this participant (Joe) did not engage in the target problem behavior at any point during assessment.

Table 7: Social Acceptability of Functional Analysis Procedures

Item	Question	*M*	Range
1	I found these methods to be an acceptable means of assessing my child's challenging behaviors.	5	5
2	I believe this assessment is likely to be effective in identifying why my child's challenging behaviors are occurring.	4.6	4-5
3	Implementing the procedures used to assess my child's challenging behavior was easy.	4.6	4-5
4	I believe that this assessment accurately represented the situations in which I typically see my child's challenging behaviors at home.	4.6	4-5
5	I would use these methods again to assess my child's challenging behaviors.	4.6	4-5
6	I liked the methods used during this assessment.	4	3-5
7	I believe my child experienced discomfort during this assessment.	2.3	1-4
8	I believe the assessment procedures are likely to result in a negative change in my child's behavior at home.	2.3	1-4
9	Overall, I had a positive reaction to the assessment procedures.	5	5
10	The behavior seen during this assessment was similar to what I typically see at home.	4.3	3-5
11	I understand my child's challenging behavior better because of this assessment.	4.3	4-5
12	I was comfortable observing my child's reaction to the assessment procedures.	4.6	4-5

Note. All items scored 1 (strongly disagree) to 5 (strongly agree).

Section 5: Discussion

The purpose of the current study was to investigate the differentiated outcomes of caregiver and therapist conducted FA assessments with respect to efficient identification of the functions of problem behavior. Results from this study expand on existing research by demonstrating that caregiver inclusion in assessment does not guarantee improved FA outcomes. This is an important consideration in practice where time to conduct assessments is often limited. A frequently cited finding that increased rates of problem behavior tend to occur in parent implemented assessments (Huete & Kurtz, 2010; Parks et al., 2012; Ringdahl & Sellers, 2000) was not observed in this study. Rather, increased rates of problem behavior appeared to be a product of continued exposure to assessment contingencies. However, another common finding that inconsistent FA outcomes may emerge did occur (McAdam et al., 2004; Huete & Kurtz, 2010).

Joe's therapist implemented assessments yielded no information with regard to the function(s) of his aggression. Including his caregivers in the assessment did not produce differentiated results. This phenomenon can be explained by the reported frequency of Joe's target problem behaviors. Caregivers stated that aggression generally occurred two or three times per week in the home. Future studies may consider using stricter inclusion criteria such that problem behaviors occur on a daily basis rather than a weekly basis to increase the likelihood of responding during the assessment and across settings. Alternatively, inclusion of caregivers with a history of seeing problem behavior on a more frequent basis may have produced the desired outcome. For example, Joe's aggression was reported to occur more frequently at school with his teacher; however, because procedures were implemented in a parent training clinic in which targeted

problem behaviors and treatments were specifically applied to the home setting, this teacher was not recruited to implement an additional assessment.

Data from Bobby's FAs showed differentiated rates of problem behavior based on assessment implementer. Overall, rates of dropping were higher during therapist implemented assessments. This may be explained by the existing history of reinforcement with Bobby and his caregiver. According to the caregiver, the target behavior of dropping was likely on a thin schedule of reinforcement at the onset of assessment. In other words, every instance of dropping in the presence of Bobby's caregiver did not historically result in reinforcement. Therefore, caregiver inclusion in the assessment may have incidentally diluted the results, resulting in less frequent dropping across conditions in which problem behavior occurred. In comparison, the novel implementer did not have this pre-existing history. Each instance of dropping was immediately reinforced with the novel therapist and this limited history may have impacted the second therapist implemented assessment in which rates of problem behavior increased in comparison to the first therapist conducted assessment.

This same explanation may apply to the lack of responding in the Tangible condition with Bobby's caregiver. Anecdotally, Bobby was observed engaging in appropriate alternative behaviors including redirecting to new toys or waiting when the caregiver denied access to highly preferred items. The caregiver disclosed that this responding was typical and further explained that access to these items was almost always provided contingent on these appropriate behaviors at home. Therefore, these appropriate behaviors may not have yet generalized across other people as they were observed in some, but not all therapist implemented Tangible conditions. However, an

alternative consideration, as explained by Thomason-Sassi et al. (2013) is that problem behavior may have generalized to irrelevant test conditions during the therapist implemented FA. However, this effect was not replicated in either of Bobby's caregiver implemented assessments and discriminative stimuli in the form of color-coded posters were used to minimize the likelihood that generalized problem behavior would occur across the different experimental conditions (Conners et al., 2000).

During Michael's assessments, problem behavior appeared to increase as exposure to the assessment contingencies continued regardless of implementer. Anecdotally, it is suspected that these data may have differed in part due to an adaptation effect, as the child participant repeatedly gestured to the camera, knocked on the observation window, and verbally indicated to his caregiver at several points in time that they were being watched. However, regardless of this outcome and given the amount of time available to conduct assessments, different functions of problem behavior appeared to emerge based on assessment implementer, similar to what occurred during Bobby's assessments. During Michael's caregiver conducted assessments, problem behavior appeared to start at higher rates, then accelerate downward whereas during therapist conducted assessments the opposite was true; this suggests that results may emerge faster with the caregiver. However, additional replications would be needed to confirm this theory due to overall low rates of responding during the first two assessments and inconsistent FA outcomes compared to later assessments.

In summary, the inclusion of familiar stimuli, specifically caregivers, during assessment can influence outcomes; however, an important practical consideration is the history of responding that has already been established with those caregivers. This is

especially true when the time allotted to conduct assessment is limited and an efficient method of identifying function is needed. Incorporating questions about the frequency of problem behavior and consistency of potentially reinforcing consequences when gathering intake information is one such method that may serve to address this problem in practice. Alternatively, a brief pre-assessment probe replicating assessment contingencies with a novel therapist could be conducted prior to assessment to indicate whether the inclusion of a caregiver in assessment is needed. Should the inclusion of a caregiver be deemed necessary, secondary data in this study including the short duration of caregiver training, high PF for caregiver implementers, and generally favorable social validity ratings suggest that the inclusion of those caregivers is feasible and should be considered as a viable modification to the traditional analog FA.

Limitations and Future Research

Two research limitations were noted in this study. First, in comparison to the therapist conducted assessments, it was noted that Bobby's caregiver took longer to press demands in the Escape condition during caregiver implemented assessments which resulted in fewer opportunities to engage in the target problem behavior. However, due to the way with which target implementer behaviors were operationally defined, this was not reflected in the PF results. Future studies seeking to replicate this study may take into consideration the rate with which demands are placed in the Escape condition in addition to other idiosyncratic implementer differences when operationalizing implementer behaviors and training caregivers.

A second research limitation is noted with the method in which differentiated function assessment data were calculated (i.e., Roane et al., 2013). These data should be

interpreted with caution due to the limited number of data points collected during each condition of the assessment. Future studies using these statistics should aim to collect additional data in each condition such that identified functions are accurately represented.

Practical considerations should be noted for researchers wishing to replicate this study. One consideration is that the experimental design of this study, although allowing for an experimental comparison of implementers, may also be limiting in the sense that participants were repeatedly exposed to assessment contingencies across multiple FAs. Repeated exposure to these contingencies may have influenced responding in later assessments (e.g., rate of problem behavior). A similar phenomenon occurs when exposing the child participant to the same novel implementer across multiple therapist implemented assessments. Although the child participant was only exposed to the therapist during two FAs, a brief history of reinforcement may have been established during the first assessment, thus impacting results of the second therapist implemented assessment. Although not necessarily a research limitation, future studies may wish to take this phenomenon into consideration when discussing their results.

The impact of outside variables that may have influenced the results of this study is an additional practical limitation meriting discussion. For example, decreased rates of problem behavior resulting from a history effect may have occurred during Bobby's first parent conducted assessment. This is due to a reported change in behavior following a prescribed medication dosage during the allotted appointment time for his assessment. The experimenter attempted to control for this confound by scheduling the second therapist implemented assessment during this same block of time. Future studies should identify times of day in which problem behaviors are reportedly most likely to occur and

implement the assessments during those times. Due to the setting in which Bobby's assessments occurred and limited time slots with which appointments could be scheduled, keeping consistent appointment times was not always feasible.

Conclusion

This study extended previous research by demonstrating that rates of problem behavior and functions identified during assessment can differ with caregiver implemented FA when compared to therapist implemented FA in a clinical setting. These differences may emerge as a function of the existing history of reinforcement. Therefore, taking this history into consideration when deciding who should implement the assessment procedures is necessary, especially when seeking to quickly identify functions of problem behavior. Future studies should attempt to replicate these results across additional participants and may seek to examine the relationship between reported or observed reinforcement histories with caregivers across rates of problem behavior during caregiver implemented assessments.

Appendix A: Analog Functional Analysis Data Sheet

Client:						Behaviors		
Date	Session	Condition	Therapist	Time Start	Time End			
		Acclimate						
	1							
	2							
	3							
	4							
	5							
	6							
	7							
	8							
	9							
	10							
	11							
	12							
	13							
	14							
	15							

Behavior(s)		Definition
1		.

Condition		EO/Antecedent	Consequence
1			
2			
3			
4			

Appendix B: Procedural Fidelity Data Sheet – Toy Play

TOY PLAY

Session #:
Start Time:

Possible responses: *+ = Occurrence, - = Non-occurrence, NA = No opportunity for behavior to occur*

Target Implementer Behaviors	1	2	3	4	5
Provides verbal or physical attention at least once every 30s.					
Preferred item(s) in child reach or unrestricted by implementer.					
Implementer refrains from prompting the child to complete a task directive, including asking questions.					
Implementer ignores all target behavior or other inappropriate behavior.					

End Time:

Other Behaviors	Response
Session-specific materials present in room prior to session start (i.e., preferred toys, correct poster).	
Therapist waits for 30s of child calm prior to session start.	
At onset of session, implementer verbally indicates start of play session to child (e.g., "Okay, let's play).	

Assessment #:
Date:
Client:
Implementer:

Procedural Fidelity	
# Implementer behaviors observed	
# Implementer behaviors planned	
% PF	

Appendix C: Procedural Fidelity Data Sheet – Attention

ATTENTION

Session #:

Start Time:

Possible responses: *+ = Occurrence, - = Non-occurrence, NA = No opportunity for behavior to occur*

Target Implementer Behaviors	1	2	3	4	5
After indicating that attention is unavailable, implementer ceases to provide verbal or physical attention and orients body away from child within 3s.					
Preferred item(s) in child reach or unrestricted by implementer.					
Implementer orients body to child and provides verbal or physical attention within 3s of occurrence of the target behavior.					
Implementer re-restricts verbal and physical attention and orients body away from child within 30s of an occurrence of the target behavior.					
Implementer ignores non-target behavior.					

End Time:

Assessment #:

Date:

Client:

Implementer:

Other Behaviors	Response
Session-specific materials present in room prior to session start (i.e., preferred toys, book/magazine, correct poster).	
Therapist waits for 30s of child calm prior to session start.	
At onset of session, implementer verbally indicates that attention is unavailable (e.g., "I have to go work now).	

Procedural Fidelity	
# Implementer behaviors observed	
# Implementer behaviors planned	
% PF	

Appendix D: Procedural Fidelity Data Sheet – Tangible

TANGIBLE

Session #:
Start Time:

Possible responses: *+ = Occurrence, - = Non-occurrence, NA = No opportunity for behavior to occur*

Target Implementer Behaviors	1	2	3	4	5
After indicating that tangibles are unavailable, implementer restricts access to the item(s) the child is currently engaged with within 3s.					
Provides neutral verbal or physical attention at least once every 30s.					
Implementer ceases restriction and places previously restricted item(s) in child reach or in their line of sight within 3s of occurrence of the target behavior.					
Implementer re-restricts access to item(s) the child is currently engaged with within 30 s of an occurrence of the target behavior.					
Implementer refrains from prompting the child to complete a task directive, including asking questions (unless related to item restriction).					
Implementer ignores non-target behavior.					

End Time:

Other Behaviors	Response
Session-specific materials present in room prior to session start (i.e., preferred toys, correct poster).	
Therapist waits for 30s of child calm prior to session start.	
At onset of session, implementer verbally indicates that tangibles are unavailable (e.g., "I have to put these away").	

Assessment #:
Date:
Client:
Implementer:

Procedural Fidelity	
# Implementer behaviors observed	
# Implementer behaviors planned	
% PF	

Appendix E: Procedural Fidelity Data Sheet – Escape

ESCAPE

Session #:

Start Time:

Possible responses: *+ = Occurrence, - = Non-occurrence*
NA = No opportunity for behavior to occur

Target Implementer Behaviors	1	2	3	4	5
After indicating that it's time to work, implementer uses prompting to instruct or lead the child to complete a specific task directive within 3s.					
Implementer removes task demand within 3s of occurrence of the target behavior.					
Implementer again begins using prompting to instruct or lead the child to complete a specific task directive within 30s of an occurrence of the target behavior.					
Preferred items are within child reach or unrestricted by the implementer.					
Implementer ignores non-target behavior.					

End Time:

Other Behaviors	Response
Session-specific materials present in room prior to session start (i.e., preferred toys, work-related materials, correct poster).	
Therapist waits for 30s of child calm prior to session start.	
At onset of session, implementer verbally indicates that it's time to work (e.g., "Let's trace some letters").	

Assessment #:
Date:
Client:
Implementer:

Procedural Fidelity	
# Implementer behaviors observed	
# Implementer behaviors planned	
% PF	

Appendix F: Social Validity Questionnaire

Directions: Read each question and circle your answer based on how you perceived the functional analysis assessment process.

#	Question	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1	I found these methods to be an acceptable means of assessing my child's challenging behaviors.	1	2	3	4	5
2	I believe this assessment is likely to be effective in identifying why my child's challenging behaviors are occurring.	1	2	3	4	5
3	Implementing the procedures used to assess my child's challenging behavior was easy.	1	2	3	4	5
4	I believe that this assessment accurately represented the situations in which I typically see my child's challenging behaviors at home.	1	2	3	4	5
5	I would use these methods again to assess my child's challenging behaviors.	1	2	3	4	5
6	I liked the methods used during this assessment.	1	2	3	4	5
7	I believe my child experienced discomfort during this assessment.	1	2	3	4	5
8	I believe the assessment procedures are likely to result in a negative change in my child's behavior at home.	1	2	3	4	5
9	Overall, I had a positive reaction to the assessment procedures.	1	2	3	4	5
10	The behavior seen during this assessment was similar to what I typically see at home.	1	2	3	4	5
11	I understand my child's challenging behavior better because of this assessment.	1	2	3	4	5
12	I was comfortable observing my child's reaction to the assessment procedures.	1	2	3	4	5

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