This is a pre-preprint of an article published in *Behavioral Interventions*. The final authenticated version is available online at: <http://doi.org/10.1002/bin.1857>

Concurrent Validity of Functional Analysis, ABC Narrative Recordings, and Open-Ended

Functional Assessment Interviews

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Author Note

This paper was written in partial fulfillment of the requirements of the Ph.D. degree in psychoeducation at the Université de Montréal by the first author. This study was supported in part by a grant and a salary award from the Fonds de Recherche du Québec – Santé (#269462) to the second author. The authors would like to acknowledge Emily Heng, Ioulia Koniou, and Stéphanie Turgeon for their assistance with data collection.

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Abstract

ABC narrative recordings and Open-Ended Functional Assessment Interviews have limited empirical support for their concurrent validity with functional analysis. To address this issue, we conducted a study wherein 176 independent behavior analysts relied on data collected using ABC recordings and Open-Ended Functional Assessment Interviews to identify the function of challenging behavior in four children with autism. Then, we compared the results of their analyses with those of a traditional functional analysis. The analyses of the ABC recordings and of the Open-Ended Functional Assessment Interviews matched one of the functions identified by the functional analyses in 43% and 74% of cases, respectively. These findings suggest that the Open-Ended Functional Assessment Interview may perform better than ABC narrative recording to develop hypotheses on the functions of challenging behavior.

Keywords: ABC recording, autism, challenging behavior, concurrent validity, functional assessment, indirect functional assessment.

Concurrent Validity of Functional Analysis, ABC Narrative Recordings, and Open-Ended Functional Assessment Interviews

Functional behavior assessment is a systematic process to identify the environmental variables that maintain challenging behavior (Hanley et al., 2003; Horner & Carr, 1997; Matson & Nebel-Schwalm, 2007; Tarbox et al., 2009). Practitioners use functional assessments to inform the selection of function-based interventions, which are designed to produce timely and substantial reductions in challenging behavior (Erturk et al., 2018; Gerow et al., 2018; Kurtz et al., 2015). Therefore, researchers consider conducting a functional behavior assessment to select function-based interventions a best practice in the reduction of challenging behavior in individuals with developmental disabilities (Horner & Carr, 1997; Iwata & Dozier, 2008).

By far, the functional behavior assessment method with the most empirical support is the functional analysis (Hanley et al., 2003). Conducting a functional analysis consists of experimentally manipulating specific antecedents and delivering consequences that are hypothesized to function as reinforcers for the challenging behavior (Call et al., 2012; Iwata et al., 1994). Researchers consider functional analysis as the gold standard in the functional assessment of challenging behaviors in individuals with developmental disabilities (Beavers et al., 2013; Iwata & Dozier, 2008). Due to its high internal validity, researchers use the functional analysis to verify the concurrent validity of the other functional behavior assessment methods (Saini et al., 2019). To test concurrent validity, researchers compare the results of the other functional behavior assessment methods to that of the functional analysis for correspondence. When the two functions match, the study considers that the other functional assessment method may be valid (Healy et al., 2013; Lanovaz et al., 2013; Watkins & Rapp, 2013).

Despite its attractiveness and strong internal validity, conducting a functional analysis is a demanding procedure that requires time, money, and trained staff. Functional analyses involve complex and risky procedures that can be challenging to implement in clinical, school, or community settings (Healy et al., 2013). Professionals can experience difficulties implementing functional analyses with low-rate behaviors, multiple topographies, multiple functions, constantly changing reinforcers, or covert challenging behaviors (Hanley, 2012). Furthermore, functional analyses raise some ethical dilemmas for evoking potentially dangerous behaviors for the purpose of assessment while other less restrictive, more efficient, and safer alternatives could potentially achieve the same outcomes (Kahng et al., 2015; Weeden et al., 2010).

Alternatives to the functional analysis are descriptive and indirect methods. Descriptive methods consist of directly observing the challenging behavior and taking data on the associated antecedents and consequences. However, some environmental events may only correlate incidentally with the challenging behavior. Thus, descriptive methods often falsely identify attention as the function of challenging behavior (McKerchar & Thompson, 2004; St. Peter et al., 2005; Tarbox et al., 2009; Thompson & Iwata, 2007). In consequence, most descriptive methods have limited empirical evidence for their concurrent validity. (Kahng et al., 1998; St. Peter et al., 2005; Tarbox et al., 2009; Thompson & Iwata, 2007). Despite these limitations, between 62% and 94% of practitioners continue to use descriptive methods to conduct functional behavior assessment of challenging behaviors in children with developmental disabilities (Oliver et al., 2015; Roscoe et al., 2015).

The ABC narrative recording stands out as a descriptive method that needs further research to examine its validity. ABC narrative recording involves describing in detail the events associated with the occurrence of the challenging behavior. Using ABC narrative recording may

present the advantage of conducting a qualitative analysis which takes into consideration the topography of the challenging behavior and the limitations of other descriptive assessments (i.e., two qualitative variables overlooked by statistical analyses). To our knowledge, a single study has examined the concurrent validity of ABC narrative recording to identify the function of challenging behavior. Lanovaz et al. (2013) reported that behavior analysts using ABC narrative recording identified the same function as functional analyses in 75% of cases. That said, Lanovaz et al. (2013) has not been replicated and only 12 behavior analysts were involved in their assessment, which limits the generality of their findings.

Indirect methods depend on a third party recalling the conditions under which the challenging behavior occurs (Rooker et al., 2015). These assessments include rating scales, checklists, interviews, and questionnaires to collect data from the third party who witnesses engagement in the challenging behavior (Blakeslee et al., 1994; Cone, 1978). The behavior analyst then analyzes the data and formulates a hypothesis on the function of the challenging behavior (Rooker et al., 2015). In general, most indirect methods have limited empirical evidence to support their internal validity (Iwata et al., 2013; Koritsas & Iacono, 2013; Paclawskyj et al., 2001). Nevertheless, some researchers have recently begun using open-ended or semi-structured items in a functional behavior assessment questionnaire to guide the design of conditions for functional analyses (Beaulieu et al., 2018; Hanley et al., 2014; Jessel et al., 2018; Slaton et al., 2017). The Open-Ended Functional Assessment Interview developed by Hanley (2012) is the questionnaire used by those researchers during functional behavior assessment. The Open-Ended Functional Assessment Interview involves 20 open-ended or semi-structured items that can be used to collect information about a challenging behavior. The behavior analyst analyzes the data collected, formulates a hypothesis about the function of the challenging

behavior, and verifies that function in a functional analysis that tests only the interview-informed hypothesis and a control condition. Hanley et al. (2014) described this procedure as the interview-informed synthesized contingency analysis (IISCA).

Several researchers have reported that the Open-Ended Functional Assessment Interview was an efficient and valid functional behavior assessment method across a variety of topographies of challenging behaviors, participants, and settings (Beaulieu et al., 2018; Jessel et al., 2018; Santiago et al., 2016; Slaton et al., 2017). Except for Beaulieu et al. (2018), these previous evaluations involved the same research lab that initially developed the Open-Ended Functional Assessment Interview. Other independent investigations should examine the concurrent validity of the Open-Ended Functional Assessment Interview. A recent independent study with four participants with developmental disabilities found that the Open-Ended Functional Assessment Interview had a low concurrent internal validity (i.e., 50%) with the results of subsequent functional analyses (Saini et al., 2019). However, Saini et al. (2019) experimentally tested only the behavioral functions hypothesized as a function of the challenging behavior following the analysis of the data in the open-ended interview instead of conducting a standard functional analysis that tests all possible hypotheses. Thus, Saini et al. (2019) used a procedure that carried the risk of Type II error (i.e., false negatives) about behavioral function.

Both the ABC narrative recording and the Open-Ended Functional Assessment Interview rely on the qualitative judgment of behavior analysts. As suggested by Lanovaz et al. (2013), behavior analysts may produce more accurate predictions than quantitative analyses as they can consider the actual strengths and limitations of the assessment method. Behavior analysts need to further examine the internal validity of the ABC narrative recording and the Open-Ended Functional Assessment Interview. Thus, the purpose of our study was to verify the concurrent

validity of the ABC narrative recording and the Open-Ended Functional Assessment Interview with functional analysis.

Experiment 1 – Conducting the Functional Assessments

Method

The initial experiment involved conducting the functional behavior assessments with children and their families. First, a research assistant administered the Open-Ended Functional Assessment Interview to the parents and trained them to use ABC narrative recording to collect data on their child's challenging behavior. Second, the first author and a second research assistant conducted functional analyses to identify the function of the child's challenging behavior.

Participants and Target Behaviors

Four children with autism and one of their parents participated in the study. We recruited the participants and their parents by posting a Facebook advertisement that invited families with children with autism or intellectual disability who engaged in challenging behavior to participate in our study. The advertisement included the phone number and the email of the first author, which the parents used to contact our research team. James was a 10-year-old boy with autism who attended a special education school for students with moderate to severe intellectual disability. According to his mother, James engaged in physical aggression, defined as hitting, kicking, scratching, or throwing objects at another person. He used approximately two-dozen spoken words to request preferred items and respond to basic questions. Tom was a 10-year-old boy diagnosed with autism, moderate to severe intellectual disability, and attention deficit hyperactivity disorder. Tom's mother reported that he engaged in screaming, defined as producing high pitched vocal sounds. The screaming occurred throughout the day across

different activities and settings. The screaming disrupted his learning in class and had triggered unwanted reactions in public areas. When prompted, he used a picture-based communication system to mand for some preferred items.

Finn was a four-year-old boy with autism who attended daycare. According to his mother, Finn engaged in tantrums defined as screaming, crying, throwing and rolling his body on the floor. His tantrums could last up to a half-hour, and occurred in different settings including home, daycare, car, and store. Leo was an eight-year-old boy with autism who attended a private special education school for students with moderate to severe intellectual disability. Leo's mother reported that he engaged in tantrums, which were defined as instances of crying, screaming, hitting objects, and running in the hallways. The tantrums disrupted his own learning and family activities. Leo's repertoire included ten spoken words. All the assessments took place in each participant's home in the presence of their parent.

Procedures

Following parental informed consent, a research assistant administered the Open-Ended Functional Assessment Interview to the parent and trained them to use the ABC narrative recording to collect data on their child challenging behavior. The parent collected data for approximately two weeks. Following these two weeks, we conducted the functional analysis to identify the function of the child challenging behavior.

ABC Narrative Recording. The research assistant used behavioral skills training to teach the parent to use ABC narrative recording to collect data on their child's target challenging behavior. During the behavioral skills training, the trainer provided the parents with oral and written instructions on how to use the ABC narrative recording to collect data on challenging behaviors. The trainer then modeled the procedures three times while viewing pre-recorded

video vignettes in the presence of the parent. Then, the parent independently rehearsed ABC recording by viewing other pre-recorded video vignettes while the research assistant observed.

During practice, the parent had to complete all sections of the ABC narrative recording including the child's name, the date, the time, and the detailed narrative description of the antecedent, target behavior, and consequence. During rehearsal, the parent received positive comments for data recorded correctly and corrective feedback for data recorded incorrectly. The training continued until the parent recorded the antecedent, the target behavior, and the consequence correctly on three consecutive video vignettes with an integrity of 100%. When the parent met the previous criterion, the research assistant reviewed with the parent the definition of the target behavior for their child, gave them copies of ABC narrative recording sheets, and instructed them to collect data on at least 20 instances of the challenging behavior. The research assistant contacted the parent every week to respond to questions and check on their progress.

Open-Ended Functional Assessment Interview. The same research assistant administered the Open-Ended Functional Assessment Interview to the parent of the participant according to the rubric described by Hanley et al. (2014). During the interview, the research assistant questioned the parent about the child's language skills, the conditions in which the challenging behavior occurred, and the parent reaction following its occurrence. The interview lasted 35 min on average.

Transcription. We transcribed the ABC narrative recordings and the Open-Ended Functional Assessment Interviews using procedures similar to those previously described by Lanovaz et al. (2013). First, the lead author removed all identifying information (i.e., names) to protect the identity of the participants. Then, he produced four sets of transcripts: the original ABC narrative recordings, the original Open-Ended Functional Assessment Interview, a

modified ABC narrative recording where the topography of the behavior was omitted, and a modified Open-Ended Functional Assessment Interview. We manipulated the data in this manner to test the hypothesis that knowing the topography of a target behavior could influence the subsequent analyses. For the modified ABC narrative recording form without the topography of the challenging behavior, the “Behavior” column remained blank. For the modified Open-Ended Functional Assessment Interview, we deleted the first nine items of the questionnaire so that the transcript only included the last 11 items.

Functional Analysis. Following data collection with ABC narrative recording and the Open-Ended Functional Assessment Interview, the first author and a second research assistant (both blind to the content of the Open-Ended Functional Assessment Interview and the ABC narrative recording forms) interviewed the parent and conducted another observation of the participants in their home to learn about their challenging behaviors. The information collected during this observation and interview was used to set up conditions likely to evoke the challenging behavior during functional analyses. We conducted the four tests conditions (attention, demand, tangible, and no-interaction) and the control condition for Tom and Leo. For James, we did not test the no-interaction condition as his physical aggression implied the presence of another person. We did not conduct the no-interaction condition with Finn as his mother reported that his tantrum occurred only in the presence of another person. The trainer randomly alternated the conditions in a multielement design. Each condition lasted for 5 min.

In the attention condition, the participant had access to mildly preferred items and the research assistant first provided noncontingent attention to the participant for 2 min prior to the start of the conditions. After the 2 min elapsed, the research assistant discontinued his attention and engaged in another activity (i.e., reading). When the participant engaged in the target

challenging behavior, the research assistant delivered some form of attention (e.g., “Don’t do that”, “Please be nice”). The experimenter trained the parents of Tom, Finn, and Leo to run the attention condition as challenging behavior may be more sensitive to parental behavior (Kurtz et al., 2013).

In the demand condition, the research assistant presented demands to the participant every 30 s. If the participant did not comply within 5 s, the research assistant used a three-step least-to-most compliance procedure to achieve compliance. When the participant exhibited the target behavior, the research assistant immediately discontinued the demand and took away the material associated with it for 30 s. In the tangible condition, the participant had 2 min of noncontingent access to the preferred item prior to the beginning of the condition. At the beginning of the condition, the trainer removed access to the preferred item, but contingent on the occurrence of challenging behavior, the participant regained access to the preferred item for 30 s. We exposed all participants to the tangible condition because all parents reported that their child’s challenging behavior could be maintained by access to preferred items. In the no-interaction condition, the participant had no access to either preferred stimuli or social consequence, and all challenging behaviors were ignored. In the control condition, the participant had access to preferred items, and the research assistant delivered attention on a fixed-time schedule of 30 s. The research assistant ignored challenging behaviors.

In all conditions, the first author collected data on the frequency of physical aggression and on the duration of screaming for James and Tom, respectively, and used partial interval recording (10-s intervals) to measure tantrums for Finn and Leo (see definitions in the descriptions of the participants). Another research assistant independently reviewed the video recordings of the functional analyses for at least 25% of all conditions for each participant. We

calculated interobserver agreement (IOA) using the block-by-block method with 10-s intervals (Mudford et al., 2009) for James' physical aggression and Tom's screaming, and the interval-by-interval IOA method for Finn and Leo. The mean IOA was 98% (range: 86%-100%) for James, 98% (range: 93%-100%) for Tom, 98% (range: 97%-100%) for Finn, and 98% (range: 93%-100%) for Leo.

Fidelity observers reviewed video recordings of the functional analysis and scored the implementation of procedural steps. To measure fidelity integrity, our team first conducted a task analysis of the functional analysis procedures. Observers reviewed video recordings of the functional analysis and scored the trainer behavior as the opportunities to implement the procedures present. Scorers measured trainer fidelity on implementing procedures using a 15-step procedural fidelity checklist, according to responses relevant to each condition and the challenging behavior (Flynn & Lo, 2016). The procedural fidelity checklist included each session type, trainer-specific behavior as antecedent and consequence to the challenging behavior, and the correctness of each step. Procedural fidelity was calculated by dividing the number of times the trainer implemented a correct procedure by the total number of opportunities and multiplying by 100%. Fidelity was evaluated during 33% of all functional analysis sessions for each participant and averaged 96% (range: 94%-100%).

Results and Discussion

Figure 1 shows the results of the functional analyses. James (top left panel) engaged in higher rates of aggression in the tangible condition relative to the control and other test conditions, suggesting that his physical aggression was maintained by access to preferred items. The duration of Tom's screaming (top right panel) was initially high in the no-interaction, attention, and control conditions. In the second half of the assessment, this level of responding

persisted in the no-interaction condition but decreased to near-zero levels in the attention and control conditions. This pattern of responding suggests that Tom's screaming had a nonsocial function.

The level of tantrums for Finn (bottom left panel of Figure 1) was higher in the attention condition relative to the others, which indicates that attention was a function of his challenging behavior. In the second half of the assessment, engagement in tantrums also remained higher in the tangible and demand conditions relative to the control condition. This pattern of responding suggests that tangible and escape from demand were also functions for his tantrums. Leo (bottom right panel of Figure 1) engaged in higher levels of challenging behavior in the demand and tangible conditions than in the control and other test conditions. The level of responding suggests that escape from demand and access to tangible were the functions of his tantrums.

Experiment 2 – Indirect and Descriptive Analyses by Behavior Analysts

Method

Behavior analysts analyzed the transcripts of the ABC narrative recordings and the Open-Ended Functional Assessment Interviews to identify the function of the challenging behaviors. We examined the correspondence of the functions identified by the behavior analysts with the results of the functional analyses.

Participants

The research team recruited Board Certified Behavior Analysts (BCBA and BCBA-D) to participate in our study. Potential participants received an e-mail distributed by the Behavior Analyst Certification Board (BACB) that invited them to complete our survey. The email included the link to the survey. The BACB sent the email to 40,022 behavior analysts and 176 respondents fully completed the survey.

Materials

The participants completed a survey on LimeSurvey, which contained 18 items organized in two sections. The first section included basic socio-demographic items such as number of years of professional experience, primary work setting, and clinical population served. The second section guided the behavior analysts to analyze the data included in the transcripts and to select the main function of the challenging behavior solely based on the information provided in them. We set up the survey so that behavior analysts could only select one function per set of transcripts. Each participant had to analyze one set of transcripts per child (i.e., four sets in total). LimeSurvey randomized so that each participant analyzed one original ABC recording, one modified ABC recording (i.e., without topography), one original Open-Ended Functional Assessment interview, and one modified Open-Ended Functional Assessment Interview.

Procedure

The behavior analysts had access to the survey for five weeks, but they were granted access to it only once via the initial email. After the initial access to the survey, the behavior analysts could save and complete the survey at any time during the five-week period. Two weeks after we sent the initial invitation email, we sent a second email to thank the behavior analysts for completing the survey and to remind those who had not submitted their response yet about the closing date of the survey.

Data Analysis

First, the analysis involved comparing the functions identified by the functional analyses with the functions identified by the behavior analysts to examine their correspondence. Second, we examined whether knowing the topography of the challenging behavior would influence the behavior analysts in their analyses and selection of the function of the challenging behavior using

a z-test for two proportions. Third, we conducted a Spearman ranked test to determine whether number of years of professional experience predicted correspondence with functional analyses when analyzing the ABC narrative recording forms and the Open-Ended Functional Assessment Interviews.

Results and Discussion

One hundred seventy-six behavior analysts fully completed the survey. The majority were BCBAs (91%), held full-time positions (79%), and had 5 years or less of professional experience (57%). Most behavior analysts worked with children who attended elementary schools (80%) and who had autism spectrum disorder (96%) or intellectual disability (61%). Tables 1 and 2 depict the demographic data of the behavior analysts and their clients, respectively.

Figure 2 shows the proportion of behavior analysts who identified one of the functions correctly using the descriptive and indirect methods for each participant. The behavior analysts performed 704 analyses of transcripts in total. Of the 352 analyses of ABC narrative recordings, the behavior analysts identified functions that matched the single outcome (James and Tom) or one of the outcomes (Finn and Leo) of the functional analyses in 43% of cases. Table 3 (upper section) depicts the distribution of survey results per functional behavioral assessment method and topography manipulation. When the ABC narrative recording included the topography, the analyses of the behavior analysts corresponded with one of the functions of the functional analyses for 33% of cases. This percentage of correspondence increased to 53% when the transcripts did not include the topography. The result of the z-test indicated that having access to the topography of the challenging behavior had a significant impact of function identification (z

= -3.77, $p = .0002$). Specifically, having access to the topography decreased correct function identification.

Of the 352 analyses of the transcripts of the Open-Ended Functional Assessment Interview, the behavior analysts identified the function that matched the outcome (or one of the outcomes) of the functional analyses in 74% of cases. When the Open-Ended Functional Assessment Interview included the topography of the challenging behaviors, the analyses of the behavior analysts corresponded with the function (or one of the functions) of the functional analyses for 72% of cases. When the questionnaire did not include the topography, the correspondence increased to 77% (see lower section of Table 3). The results of our z-test suggest that having access to the topography of the challenging behavior did not significantly influence the analysis of the Open-Ended Functional Assessment Interview data ($z = -0.98$, $p = .33$).

Finally, we examined the contribution of the number of years of experience, which could potentially explain the differential results observed across behavior analysts when analyzing ABC narrative recordings and Open-Ended Functional Assessment Interviews. The Spearman rank correlation revealed no statistically significant relations between the variables ($r_s(174) = -.01$, $p = .93$). That is, years of experience was not associated with correct function identification in our sample.

General Discussion

The Open-Ended Functional Assessment Interview produced higher correspondence with functional analysis than ABC narrative recording. Our findings contrast with those of Lanovaz et al. (2013) that showed that ABC narrative recording was a valid method to produce hypothesis about behavioral functions. Our sample included considerably more reviewers than that of Lanovaz et al. (2013), which provides additional support for the generality of our findings.

Furthermore, our results are consistent with prior investigations that reported that descriptive functional behavior assessment methods have low convergent validity (Hall, 2005; Tarbox et al., 2009; Thompson & Iwata, 2007). Therefore, behavior analysts should proceed very cautiously if they choose to integrate ABC narrative recordings to identify the consequences maintaining challenging behavior. At best, behavior analysts could use ABC recordings to collect information to set up conditions likely to evoke the challenging behaviors during the standard functional analysis.

The results of our study are different from those reported by Saini et al. (2019) which detected correspondence between the functional analysis and the Open-Ended Functional Assessment Interview in 50% of cases. However, our results about the concurrent validity of the Open-Ended Functional Assessment are consistent with those of Beaulieu et al. (2018), Jessel et al. (2018), Santiago et al. (2016) and Slaton et al. (2017). Unlike most prior studies, our investigation was independent from the lab that developed the open-ended interview, which provides further support for its use in generating hypotheses about the function of challenging behavior prior to conducting a functional analysis.

The correspondence of the Open-Ended Functional Assessment Interview was considerably higher than that of the ABC narrative recording. This difference suggests that the Open-Ended Functional Assessment Interview could generate more accurate behavioral functions than the ABC narrative recording. This result is consistent with studies that indicated that indirect functional assessment methods are more valid than descriptive ones (Hall, 2005; Tarbox et al., 2009). The inclusion of open-ended items in the questionnaire could explain this difference in concurrent validity. The Open-Ended Functional Assessment Interview provides

more qualitatively rich details that allow the practitioner to understand the function of the challenging behavior (Saini et al., 2019).

Our analyses revealed a statistically significant relation between having access to the topography of the challenging behavior and accurately identifying its function using ABC narrative recording, which is inconsistent with the findings of Lanovaz et al. (2013) that found no difference. Unexpectedly, having access to the topography of the behavior worsened the decision-making process. One potential hypothesis to explain these results is that behavior analysts hold preconceived ideas about how topography relates to function, which may have influenced responding. In contrast, the analyses found no significant difference between having access to the topography of the challenging behavior and using Open-Ended Functional Assessment Interview to identify its function. Because the Open-Ended Functional Assessment Interview had considerably less questions for the transcripts without topography, this observation suggests that it may be possible to reduce the length of the interview while still maintaining good validity. Furthermore, we found no statistically significant relations between number of years of professional experience and accuracy in identifying behavioral function. This result was also unexpected as one would anticipate that highly trained and experienced behavior analysts would more accurately analyze indirect and descriptive functional behavior assessment data.

Our study has at least four limitations that should be discussed. First, the small sample of four children with developmental disabilities restricts the generality of our findings. Second, the survey in Experiment 2 asked the behavior analysts to select a single function of the challenging behavior. As half challenging behaviors in our study had at least two functions, our results could have been different if we had given the option to behavior analysts to select more than one function. Third, we did not verify the reliability of the ABC narrative forms following training.

The lack of reliability has been an issue in prior research, which further questions the validity of ABC narrative recordings (Lerman et al., 2009). Nevertheless, our team used behavioral skill training to teach parents how to collect ABC narrative data, which could improve the procedural integrity and reliability of the data collection (Lewon et al., 2019). Fourth, having parents collect data could create some disadvantage for the ABC narrative assessments. Our results could have been different if qualified professionals implemented all assessments. Future studies should consider the previous limitations while examining the concurrent validity of the ABC narrative recording and the Open-Ended Functional Assessment Interview with a large sample of diverse clinical populations and topographies of challenging behavior.

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Table 1*Behavior Analyst Characteristics*

Characteristic	n	%
Certification		
BCBA	161	91
BCBA-D	15	9
Employment status		
Full time	139	79
Part time	22	12.5
Student/Postdoc	8	4.5
Not working	2	1.2
Other	6	3.4
Setting of work		
Center/clinic	46	26.1
Client home	46	26.1
School	48	27.3
Residential facility	11	6.2
College or university	10	5.7
Hospital	3	1.7
Community	6	3.4
Other	6	3.4
Years of experience		
0-5 years	100	56.8
6-10 years	51	29
11-15 years	15	8.5
16-20 years	6	3.4
More than 21 years	4	2.3

Table 2*Client Characteristics*

Characteristic	n	%
Age group		
Early childhood (0-5)	114	64.8
Elementary school (6-13)	140	79.5
High school (14-18)	83	47.2
College age (19-22)	45	25.6
Adult (23-55)	43	24.4
Senior (55+)	15	8.5
Population served		
Autism spectrum disorder	169	96.0
Intellectual disability	107	60.8
Child welfare	4	2.3
Gerontology	2	1.1
Emotional behavioral disorders	78	44.3
Special education	72	40.9
Brain injury	13	7.4
General education	23	13.1
Mental health	27	15.3
Organizational behavior management	12	6.8
Typically developing individuals	17	9.7
Other	5	2.8

Table 3

Number of Correct and Incorrect Function Identifications in the Presence and Absence of Topography

ABC Narrative Recordings

Function Identification	Topography	
	Present	Absent
Correct	58	93
Incorrect	118	83

Open-Ended Functional Assessment Interviews

Function Identification	Topography	
	Present	Absent
Correct	127	135
Incorrect	49	41

Figure 1*Functional Analysis Results for James, Tom, Finn, and Leo*

Figure 2

Percentage of Participants who Identified One of the Child's Function Using the Open-Ended Interviews and the ABC Narrative Recordings