

The Practical Importance of the Distinction Between Open and Closed-Ended Indirect Assessments

Mitch J. Fryling¹ · Natalia A. Baires¹

Published online: 17 February 2016
© Association for Behavior Analysis International 2016

Abstract The identification of functional relations is a hallmark of applied behavior analysis. Building upon this foundation, applied behavior analysts have developed and researched a number of practices that fall within the purview of Functional Behavioral Assessment, a framework used to understand factors that influence a target behavior. Indeed, there now exists a wide range of procedures that fall within the purview of Functional Behavioral Assessment, with different procedures being associated with different strengths and limitations. Indirect assessments are commonly featured in most descriptions of the Functional Behavioral Assessment process. This paper focuses on the distinction between open and closed-ended indirect assessments specifically, highlighting their strengths and limitations. After distinguishing between these two types of indirect assessments considerations for practice are provided.

Keywords Interviews · Functional behavioral assessment · Indirect assessment · Behavioral assessment

The identification of functional relationships is central to the practice of applied behavior analysis (Baer et al. 1968). In fact, the term functional analysis has a long history in behavior analysis (e.g., Skinner 1953). Derived from this foundation, the Functional Behavioral Assessment (FBA) model has been

developed as a primary means of understanding factors that influence the occurrence of a particular target behavior within research and practice in applied behavior analysis (ABA). Indeed, methods and techniques associated with FBA are now central to the practice of ABA. This centrality is reflected by content related to FBA being included in academic course sequences approved by the Behavior Analyst Certification Board[®] as well as the task lists for content on the Board Certified Behavior Analyst[®] and Board Certified assistant Behavior Analyst[®] exams.

A wide variety of practices and tools associated with conducting FBAs have been developed over the years, each of which broadly involves obtaining information about factors that influence the occurrence of a target behavior. For example, a number of indirect assessments have been developed, each of which involve obtaining information from an informant about the possible functions of a target behavior (see Kelley et al. 2011).¹ A number of descriptive techniques have been developed as well, all of which involve the observation of behavior in the environment in which it naturally occurs (e.g., Thompson and Borrero 2011). Finally, a range of variations of the experimental functional analysis have also developed over the years, each of which involve the systematic manipulation (or “test”) of a variable to assess the extent to which the variable is related to the occurrence of the target behavior (e.g., Beavers et al. 2013; Hanley et al. 2003).

While much can be said about the FBA process (e.g., Anderson and St. Peter 2013; Hanley 2012), the current paper aims to consider some practical issues related to indirect assessments specifically. Importantly, our aim is not to provide

✉ Mitch J. Fryling
Mitchell.Fryling2@calstatela.edu

¹ Division of Special Education and Counseling, California State University, Los Angeles, 5151 State University Dr., Los Angeles, CA 90032, USA

¹ The extent to which verbal reports should even be considered part of Applied Behavior Analysis may be debated (e.g., Baer et al. 1968). The current article focuses on the practical aspects of indirect assessments rather than conceptual/theoretical issues.

an exhaustive review of various indirect assessments or of the literature on the reliability or validity of indirect assessments, but rather, to highlight some issues to consider when and if practitioners do choose to use indirect assessments. Indeed, while indirect assessments are not without limitation (e.g., Cooper et al. 2007; Hanley 2012), they remain part of the FBA process as described in many ABA textbooks (e.g., Cooper et al.; Miltenberger 2008). The goal of the current paper is to specifically consider the strengths and limitations of two broad categories of indirect assessments; the open and closed-ended types. After highlighting the distinguishing features of each of these methods, considerations for practice are described.

Indirect Assessments

As mentioned above, indirect assessments refer to assessment methods that do not assess behavior directly, but rather, rely on the report of an informant (e.g., a parent, teacher, caregiver, or sometimes the client themselves). Related to this, core texts in ABA often caution that indirect assessments are subjective, and therefore that behavior analysts should always remember that behavioral function cannot be inferred from such assessments (e.g., Cooper et al. 2007, p. 510). Still, indirect assessments are considered a core part of the common FBA process that proceeds from the least to most intrusive assessment method, and several indirect assessments have been developed over the years (see Kelley et al. 2011). Importantly, while all types of indirect assessments are similar in that they rely on information from an informant, they are not all the same. One of the core differences between the various types of indirect assessments pertains to the distinction between open and closed-ended indirect assessments.

Closed-Ended Indirect Assessments

Closed-ended indirect assessments are considered closed-ended because they do not permit the informant to say just anything; possible answers are prescribed a priori. In other words, the informant is given pre-specified options for answers which they must choose from. A number of these instruments have been developed over the years, such as the Motivation Assessment Scale (Durand and Crimmins 1992) and the Problem Behavior Questionnaire (Lewis et al. 1994). For the purposes of illustration, we provide a brief overview of two closed-ended indirect assessments; Questions About Behavioral Function (QABF; Matson and Vollmer 1995) and the Functional Analysis Screening Tool (FAST; Iwata and DeLeon 1996).

QABF Informants who complete the QABF respond to a Likert-type rating scale and are asked to rate 25 items

pertaining to the target behavior in question. Examples of these items include “Engages in the behavior when asked to do something (getting dressed, brush teeth, work, etc.)” and “Does he/she seem to enjoy the behavior, even if no one is around?” The rating scale for the QABF includes X as “doesn’t apply”, 0 as “never”, 1 as “rarely”, 2 as “some”, and 3 as “often”. After all of the items have been rated by the informant, the consultant can then proceed to score the assessment. Each item is assigned to a category of potential function of behavior, which includes attention, escape, non-social, physical, and tangible. A sum for all items that correspond to each given category is obtained, with the highest scoring category(ies) considered to be potential source(s) of reinforcement for the target behavior.

FAST The FAST, consisting of a 16-item questionnaire, begins by obtaining information on the informant-client relationship, how long the informant has known the client, whether or not the informant interacts with the client on a daily basis, and the situations in which the informant interacts with the client. Thus, this first section of the FAST provides descriptive information about the perspective of the informant. The remaining items on the FAST pertain to the possible functions themselves, with items being answered with either a “yes”, “no”, or “N/A”. Upon its completion, a scoring summary is yielded where items are categorized by a potential source of reinforcement that includes attention/preferred items, escape, sensory stimulation, and pain attenuation. As with other closed-ended indirect assessments, the category(ies) with the most items circled “yes” is/are hypothesized as the function/potential source(s) of reinforcement for the target behavior.

Strengths When considering the strengths of closed-ended indirect assessments, a number of benefits seem apparent. First, closed-ended indirect assessments are quick and easy to administer, producing information about potential sources of reinforcement in an efficient manner. Moreover, the assessments are scored relatively easily, which means that hypotheses about possible functional relationships are easily made. Finally, the administration and interpretation of closed-ended indirect assessments does not require extensive training. This means that closed-ended indirect assessments may be used by many, even those without specific training in ABA.

A particular strength of closed-ended indirect assessments is that they guarantee attention to behavior functions that have often been associated with challenging behavior. Response options are based on sources of reinforcement that are commonly identified in experimental/analog assessments (e.g., Iwata et al. 1982, 1994). This means that the opportunity for mentalistic and otherwise irrelevant information is removed (i.e., information that is derived from a dualistic worldview). For example, when conducting an assessment of a child’s aggressive behavior a closed-ended assessment may prevent

distracting conversation related to hypothetical inner problems (e.g., “internalized anger issues”), personalities (e.g., “they have always been a very angry person”), psychiatric explanations (e.g., “oppositional defiant disorder”), and more (also see Skinner 1953, pp. 24–31). This is certainly not a trivial matter, as these different ways of speaking may have large implications for intervention planning (e.g., a child with an assumed anger problem may be asked to attend anger management programs, or a child with an assumed personality problem may be referred to psychological counseling).

Limitations Interestingly, many of the strengths of closed-ended indirect assessments are also related to their limitations. For example, while closed-ended indirect assessments force an informant to choose from common *behavioral* factors, preventing mentalistic ideas from entering the assessment in this way, they may at the same time prevent the identification of other factors that may be functionally related to the target behavior. For example, it may be that the problem behavior most often happens after an argument with a primary caregiver, or when the client does not get adequate sleep (Kennedy and Meyer 1996), and perhaps this only happens when the client is staying at her mother’s house, and not when she is staying with other caregivers. Moreover, perhaps a problem is developing at home because an intervention is now being implemented in another setting such as school, consistent with behavioral contrast (e.g., Wahler et al. 2004). The practical importance of this issue cannot be overstated, as interventions that overlook critical factors may produce poor long-term results.

Related to the first issue is that the only information about possible sources of reinforcement to be obtained from closed-ended indirect assessments will pertain to the sources of reinforcement that were actually assessed. Again, most closed-ended indirect assessments do not include questions about contextual information; they may not ask enough questions or probe for important information. An additional issue is that closed-ended indirect assessments may perhaps be more likely to identify false-positives (this seems likely to be the case for all closed-ended surveys), implying that a target behavior has a particular function when it actually does not. For example, a closed-ended indirect assessment may be more likely to identify attention as a controlling variable when it is in fact not, simply because questions are asked about attention. (See Iwata et al. 2013 for a recent study on the validity of an indirect assessment.)

Also, as closed-ended indirect assessments may be used by many individuals without specific training in ABA, it seems possible that those without specific training may also be the most prone to misuse and/or misinterpret results. While it is true that closed-ended indirect assessments do encourage a focus on common behavioral factors, they do remain subjective and may not identify the *correct* factors. For example,

someone without adequate training in FBA may quickly administer and score an indirect assessment, and, assume a particular function (despite the fact that some of these instruments caution against this directly on the instrument, e.g., the FAST). The mere fact that functions are *scored* with closed-ended indirect assessments may inadvertently encourage this.

For example, someone may use a closed-ended indirect assessment in an attempt to understand factors that influence a client’s challenging behavior and this may result in attention being scored the highest. Based upon this score, an intervention plan may be developed which specifically targets the attention function (such scores may also influence subsequent assessments in important ways). As just mentioned, however, attention may or may not actually influence the target behavior, despite the high score on the indirect assessment. It is possible that the challenging behavior is related to negative reinforcement, for example, and that a more detailed skills assessment and related intervention is required. In this case, while the closed-ended assessment did indeed focus on behavioral factors, the resulting false-positive was distracting and led to ineffective intervention planning. To be clear, this is not necessarily a problem with closed-ended indirect assessments themselves, but with their inappropriate use in practice. It is important to note that these possibilities remain speculative; future researchers should evaluate the manner in which closed-ended indirect assessments are used in practice.

Open-Ended Indirect Assessments

Open-ended indirect assessments are primarily comprised of questions that do not have a pre-specified set of answers, and, in this sense, the informant is open to answer in any way. In addition, questions that open-ended assessments ask often focus on functions in addition to the commonly assessed sources of reinforcement associated with the closed-ended indirect assessments. Interestingly, published open-ended indirect assessments seem to be much less common than closed-ended indirect assessments (for a review of indirect assessments, see Kelley et al. 2011). Of course, any interview that involves open-ended questions about factors that may influence a target behavior might be considered an open-ended indirect assessment. In what follows we provide a brief overview of two open-ended indirect assessments, which might also be considered structured interviews. First, we review the Functional Assessment Interview Form (FAIF; O’Neil et al. 1997), followed by Hanley’s (2012) Open-Ended Functional Assessment Interview.

FAIF Consisting of 10 sections, the FAIF is an open-ended indirect assessment which begins with inquiring about the target behavior and its topography. It also allows the informant to provide the structure of the client’s daily schedule, such as the time, setting, and activity, as well as whether the target

behavior is likely to occur or not in each of these circumstances. Proceeding this section is the Functions of Problem Behavior section, where specific questions about the common functions are asked, such as “Is the student usually noncompliant when asked to perform a task?” and “Does the student engage in this behavior when no one is around or watching?”. The informant is required to circle the item if they answer “yes” to the item (indeed, these particular questions are closed-ended, though may be asked in the context of a discussion). The remaining four sections of the FAIF focus on replacement behaviors, communication skills, preferences, and previous interventions. For every target behavior listed, the informant is encouraged to list behaviors that could serve as alternatives for each respective target behavior. Indeed, information from this section of the FAIF could prove useful when planning to teach functionally equivalent replacement behaviors to the client. Finally, the section on previous interventions asks for descriptions of past procedures, the effectiveness on the target behavior, dates in effect, and data on the target behavior, if available. Importantly, the broad range of contextual information obtained during the FAIF is obtained in the context of a discussion/interview, and thus, a wealth of additional information may also be obtained with follow-up questions.

Open-Ended Functional Assessment Interview Hanley (2012) provides an open-ended indirect assessment comprised of 20 questions, 16 of which aim to specifically inform the design of a functional analysis for the target behavior. To begin, information pertaining to the client’s age, language abilities, and highly preferred items/activities is obtained. After this, the remaining portion of the interview focuses on obtaining information that specifically guides the consultant in the development of an individualized functional analysis for the client’s target behavior. In particular, questions ask about the topography of the target behavior(s), which target behaviors are most concerning (i.e., setting priority), the intensity of the behavior, potential precursors, antecedent events, and consequences, among other variables. For example, when obtaining information related to setting priority the consultant asks, among other things, “What are the top 3 most concerning problem behaviors? Are there other behaviors of concern?”. Similarly, when probing for information about possible antecedents the consultant asks, among other questions, “Under what conditions or situations are the problem behaviors most likely to occur?” and “What seems to trigger the problem behavior?”. When asking about consequences, one of the questions the consultant asks is “How do you and others react or respond to the problem behavior?” As can be seen from this brief overview, all of the questions in this interview are open-ended and are likely to lead to a series of follow-up questions within the context of a discussion type interview.

Strengths There are a number of strengths associated with open-ended indirect assessments. Perhaps the largest strength of open-ended indirect assessments pertains to the range of information that can be obtained from such assessments. For example, informants are asked to elaborate on various factors that may participate in the context of a target behavior, such as activities, preferences, and more. Thus, open-ended indirect assessments may increase the chances of identifying unique, context-specific factors that participate in the occurrence of a target behavior (e.g., allergies, friendships, conflicts with parents, etc.). By contrast, when focusing on the common functions, as in most closed-ended indirect assessments, such factors are overlooked. In addition, open-ended indirect assessments provide more of an opportunity for the consultant to develop rapport with the informant. That is, when the indirect assessment is more conversational in nature, it seems that there is more opportunity for the consultant to develop a collaborative relationship with the informant. This may be key during the remaining phases of the consultation process. Importantly, these strengths remain speculative, and research is needed to explore these issues before more definite conclusions can be made.

Limitations As with closed-ended indirect assessments, the strengths of open-ended indirect assessments are related to their limitations. First, open-ended indirect assessments are likely to take more time to administer. Not only are open-ended assessments more of a discussion, but open-ended indirect assessments are more likely to provide the interviewer with opportunities to probe about additional factors (i.e., more than the commonly assessed functions), and this also adds to the time associated with the administration of open-ended indirect assessments. In addition, as a larger amount of information about the context is obtained from open-ended indirect assessments, it seems likely that more irrelevant information could also be obtained. For example, when conducting an open-ended assessment in a school setting it is possible that an informant will provide extensive information about the child’s family, which may or may not be relevant to understanding the child’s challenging behavior at school. That is, while more information about the context is obtained during an open-ended assessment, this is not to say that all of the information obtained about the context will in fact be *relevant* or functionally related to the target behavior. Added to information that is not functionally related to the target behavior is mentalistic or otherwise distracting theories about the target behavior (see examples above). All of this underscores the need for behavior analytic skills when interpreting open-ended indirect assessments as different interviewers may interpret open-ended assessments in different ways.

Lastly, while open-ended indirect assessments do provide the *opportunity* for developing rapport with the informant, some interviewing skills may be needed on behalf of the

consultant to actually facilitate this. That is, conducting an open-ended indirect assessment in a manner that is likely to promote consultant-informant rapport requires some skill and should not be assumed to develop automatically. Interestingly, the topic of behavioral interviewing skills has not been ignored within the behavior analytic literature (e.g., Iwata et al. 1982; Miltenberger and Fuqua 1985). As with the strengths of open-ended indirect assessments, these limitations should be considered tentative as research is needed to confirm these possibilities.

Thus far, we have provided an overview of some of the distinguishing features between open and closed-ended indirect assessments, including their respective strengths and limitations (see Table 1 for a summary). In the final section of the paper, we describe some considerations for the practice of ABA.

Practice Considerations

Drawing attention to the distinction between open and closed-ended indirect assessments highlights a number of issues to consider in practice. Specifically, the importance of rapport building, gathering a client's history, and considering the population and setting is underscored when thinking about indirect assessments and the early phases of the assessment process more generally.

Rapport building is key during the early stages of the consultation process, and it is important for practicing behavior analysts to consider this as a primary goal of the indirect assessment phase. Open-ended indirect assessments seem especially helpful when considering the development of rapport with informants and other stakeholders. Structured interviews, such as the FAIF (O'Neil et al. 1997), allow for the consultant and informant to have a conversation about the larger context and also give the informant a chance to provide information, possibly in depth, regarding the circumstances surrounding the target behavior. While consultants are not necessarily required to have a pre-set series of questions to ask during an open-ended interview, the use of a pre-specified set of

questions, as with the two interviews reviewed in this paper, can assure that the consultant asks questions related to important factors, and can also set the occasion for further conversation and questioning about specific issues. Given the importance of rapport building, and for obtaining rich information about the context, practitioners are cautioned against attempting to sidestep this phase and quickly rushing into other steps of the assessment process.

It is also important to consider the role of reviewing a client's history in the early phases of an FBA. Indeed, a detailed file review can be a critical step in the FBA process, regardless of the form of the assessment. Informants seem likely to focus on information that they find to be relevant to the behavior in consideration, and thus, even when using an open-ended indirect assessment, it is possible that informants will omit information that is in fact quite relevant to understanding the target behavior. Moreover, informants may not just incidentally omit important information but may be unaware of it themselves. A detailed review of the client's history can often provide a wealth of important historical information. In addition, a detailed file review can often lead to several follow-up questions from the consultant, which may be key to understanding a particular context.

Finally, it is important to consider the population and setting when pursuing an FBA. For example, the vast majority of the research on the experimental functional analysis of challenging behavior has been conducted with individuals with developmental disabilities in specific settings (Beavers et al. 2013; Hanley et al. 2003). In addition, as highlighted by Anderson and St. Peter Pipkin (2013), a large and growing body of literature on assessment and intervention with typically developing children in school-based settings is available and often does not involve an explicit focus on the common functions targeted in the functional analysis literature. Depending on the circumstances, it may be the case that the practicing behavior analyst needs to consult with another helping professional who has expertise with the population and setting (e.g., consulting with a speech-language pathologist to do an oral motor assessment or a school psychologist to conduct a detailed academic assessment). Importantly, this

Table 1 Strengths and limitations of open and closed-ended indirect assessments

	Closed-ended indirect assessments	Open-ended indirect assessments
Strengths	<ul style="list-style-type: none"> -Assures information about common controlling variables with some populations. -Quick and easy to administer. -Few particular skills are required to administer and interpret. 	<ul style="list-style-type: none"> -Information about a wide range of contextual variables may be obtained. -Opportunity to develop rapport with the informant and to listen to their experiences.
Limitations	<ul style="list-style-type: none"> -Only asks questions about pre-determined variables -May suggest a non-function (i.e., false-positives). -May be misused by individuals without training in ABA. -Little opportunity to develop rapport with informants. 	<ul style="list-style-type: none"> -Takes longer than closed-ended indirect assessments. -May include information that is not relevant to the function. -Interpretation requires behavior analytic skills. -Requires clinical interviewing skills to obtain information and develop rapport.

topic also relates to the ethical guidelines provided by the Behavior Analyst Certification Board, which focus on competence (1.02a) and consultation (2.04a) (Bailey and Burch 2011).

Conclusions

The current paper highlighted the distinguishing features of open and closed-ended indirect assessment methods, including their strengths and limitations, and highlighted some considerations for practicing behavior analysts. In addition, while considering possible strengths and limitations associated with indirect assessments a number of areas for further research were identified. Generally, practitioners should be aware of the possible strengths and weaknesses associated with both open and closed-ended indirect assessments. Beyond this, practitioners should carefully weigh the pros and cons associated with using a particular assessment tool in a given situation. While there may be no hard and fast rules about when to use any particular tool, sensitivity to factors associated with different practices seems likely to be beneficial.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

Ethical Approval This article does not contain any studies with human participants performed by any of the authors.

References

- Anderson, C. M., & St. Peter, C. C. (2013). Functional analysis with typically developing children: best practice or too early to tell?: in response to Hanley (2012). *Behavior Analysis in Practice*, *6*, 62–76.
- Baer, D. M., Wolf, M. M., & Risley, T. R. (1968). Some current dimensions of applied behavior analysis. *Journal of Applied Behavior Analysis*, *1*, 91–97. doi:10.1901/jaba.1968.1-91.
- Bailey, J., & Burch, M. (2011). *Ethical for behavior analysts* (2nd ed.). New York: Routledge.
- Beavers, G. A., Iwata, B. A., & Lerman, D. C. (2013). Thirty years of research on the functional analysis of problem behavior. *Journal of Applied Behavior Analysis*, *46*, 1–21. doi:10.1002/jaba.30.
- Cooper, J. O., Heron, T. E., & Heward, W. L. (2007). *Applied behavior analysis* (2nd ed.). Upper Saddle River: Prentice Hall.
- Durand, V. M., & Crimmins, D. B. (1992). *The Motivations Assessment Scale (MAS) administration guide*. Topeka: Monaco and Associates.
- Hanley, G. P. (2012). Functional assessment of problem behavior: dispelling myths, overcoming implementation obstacles, and developing new lore. *Behavior Analysis in Practice*, *5*, 54–72.
- Hanley, G. P., Iwata, B. A., & McCord, B. E. (2003). Functional analysis of problem behavior: a review. *Journal of Applied Behavior Analysis*, *36*, 147–185. doi:10.1901/jaba.2003.36-147.
- Iwata, B. A., & DeLeon, I. G. (1996). *Functional Analysis Screening Tool (FAST)*. Gainesville: Florida Center on Self-Injury, University of Florida.
- Iwata, B. A., Wong, S. E., Riordan, M. M., Dorsey, M. F., & Lau, M. M. (1982). Assessment and training of clinical interviewing skills: analogue analysis and field replication. *Journal of Applied Behavior Analysis*, *15*, 191–203. doi:10.1901/jaba.1982.15-191.
- Iwata, B. A., Dorsey, M. F., Slifer, K. J., Bauman, K. E., & Richman, G. S. (1994). Toward a functional analysis of self-injury. *Journal of Applied Behavior Analysis*, *27*, 197–209. (Reprinted from *Analysis and Intervention in Developmental Disabilities*, *2*, 3–20, 1982) doi: 10.1901/jaba.1994.27-197.
- Iwata, B. A., DeLeon, I. G., & Roscoe, E. M. (2013). Reliability and validity of the functional analysis screening tool. *Journal of Applied Behavior Analysis*, *46*, 271–284. doi:10.1002/jaba.31.
- Kelley, M. E., LaRue, R. H., Roane, H. S., & Gadaire, D. M. (2011). Indirect behavioral assessments: interviews and rating scales. In W. W. Fisher, C. C. Piazza, & H. S. Roane (Eds.), *Handbook of applied behavior analysis* (pp. 182–190). New York: Guilford Press.
- Kennedy, C. H., & Meyer, K. A. (1996). Sleep deprivation, allergy symptoms, and negatively reinforced problem behavior. *Journal of Applied Behavior Analysis*, *29*, 133–135. doi:10.1901/jaba.1996.29-133.
- Lewis, T. J., Scott, T. M., & Sugai, G. (1994). The problem behavior questionnaire: a teacher-based instrument to develop functional hypotheses of problem behavior in general education classrooms. *Diagnostique*, *19*, 103–115. doi:10.1177/073724779401900207.
- Matson, J. L., & Vollmer, T. R. (1995). *User's guide: questions about behavioral function (QABF)*. Baton Rouge: Scientific Publishers.
- Miltenberger, R. G. (2008). *Behavior modification: principles and procedures* (4th ed.). Belmont: Thompson.
- Miltenberger, R. G., & Fuqua, R. W. (1985). Evaluation of a training manual for the acquisition of behavioral assessment interviewing skills. *Journal of Applied Behavior Analysis*, *18*, 323–328. doi:10.1901/jaba.1985.19-323.
- O'Neill, R. E., Horner, R. H., Albin, R. W., Sprague, J. R., Storey, K., & Newton, J. S. (1997). *Functional assessment and program development for problem behavior*. Pacific Grove: Brooks/Cole Publishing.
- Skinner, B. F. (1953). *Science and human behavior*. New York: The Free Press.
- Thompson, R. H., & Borrero, J. C. (2011). Direct observation. In W. W. Fisher, C. C. Piazza, & H. S. Roane (Eds.), *Handbook of applied behavior analysis* (pp. 191–205). New York: Guilford Press.
- Wahler, R. G., Vigilante, V. A., & Strand, P. S. (2004). Generalization in a child's oppositional behavior across home and school settings. *Journal of Applied Behavior Analysis*, *37*, 43–51. doi:10.1901/jaba.2004.37-43.