Toward Effective and Preferred Programming: A Case for the Objective Measurement of Social Validity with Recipients of Behavior-Change Programs

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ABSTRACT

The adoption of effective behavioral interventions and teaching strategies for young children is largely influenced by the extent to which stakeholders find the procedures appropriate and the effects important. Stakeholder values have been described by measures of social validity in applied behavior analysis, and these measures have been a part of behavior-analytic research and practice since their important characteristics were described in the late 1970s. The typically subjective nature of the social validation process appears, however, to have marginalized children and other usual recipients of behavior-change procedures (i.e., individuals with autism or intellectual disabilities) from social validation processes. Therefore, the importance of including recipients of behavior-change procedures in the social validation process and methods for doing so are described in this paper.

Keywords: Autism, choice, concurrent chains, intellectual disability, preference, recipient inclusion, social validity

The adoption of effective behavioral interventions and teaching strategies for young children is largely influenced by the extent to which stakeholders find the procedures appropriate and the effects important. Stakeholder values have been described by measures of *social validity* in applied behavior analysis, and these measures have been a part of behavior-analytic research and practice since their important characteristics were described in the late 1970s (Kazdin, 1977; Wolf, 1978). A social validation process provides answers to questions like: Are we focusing on the right thing? Is what we are doing or recommending okay with you? Is this type or amount of change sufficient; are you satisfied with the effects?

Based on his experience developing effective programs for rehabilitating delinquent youth, Wolf (1978) asserted that "…if the participants don't like the treatment then they may avoid it, or run away, or complain loudly. And thus, society will be less likely to use our technology, no matter how potentially effective and efficient it might be" (p. 206). Because he then focused on developing socially validated programs, his Teaching Family Model, which is based on the principles and procedures of behavior analysis, continues to be implemented across the country and around the world today (Fixsen, Blasé, Timbers, & Wolf, 2001).

Like Wolf and the Teaching Family Model, I think today's behavior analysts are at a similar crossroad with many of our best technologies for addressing a range of socially important behavior problems, such as early intensive behavioral intervention (EIBI) for the unique problems associated with autism spectrum disorders (ASD). We are confident that EIBI based on the principles and procedures of behavior analysis works. We still have a lot of refining to do with regard to the most efficacious aspects of EIBI, and we still have not identified all of the moderators of the effects of EIBI (Herbert, Sharp, & Gaudiano, 2002; Rogers & Vismara, 2008; Smith et al., 2006), but the intervention improves the developmental trajectories of those who receive it (Campbell, 2003; Cohen, Amerine-Dickens, & Smith, 2006; Eldevik, Eikeseth, Jahr, & Smith, 2006; Helt et al., 2008; Howard, Sparkman, Cohen, Green, & Stanislaw, 2005; Lovaas, 1987; Morris, 2009, National Institute of Mental Health, 2007; Odom et al., 2003; Smith, Groen, & Wynn, 2000). We know much less, however, about the acceptability of various components of EIBI to the children experiencing them (e.g., most-to-least or least-to-most prompting, amount and pace of prompting, amount of teacher directedness during instruction, types of error correction procedures, highly structured versus more naturalistic instructional conditions, types of motivational systems). It is these data and our responses to these data that I believe will have the greatest impact on children to be diagnosed with ASD in the upcoming decades. It will essentially determine whether effective practices are experienced by these children or not.

This same general assertion applies to all of our effective behavioral technology (e.g., functional analysis for determining the variables influencing

problem behavior; Iwata, Dorsey, Slifer, Bauman, & Richman, 1982/1994; match-to-sample procedures as a means to develop concept classes; Sidman & Tailby, 1982). Efficacy without adequate social acceptability is a recipe for marginalization. The unfortunate back story regarding Project Follow Through is but one example (Watkins, 1988). Project Follow Through, one of the largest educational experiments in our nation's history, was an attempt to disrupt the cycle of poverty by improving education in kindergarten through third grade. Multiple models for teaching basic academic skills were compared in schools across the country. Only two of the nine models showed consistently positive effects; they were both the behavioral models (the Direct Instruction model developed by Siegfried Engelmann and the Behavior Analysis model developed by Don Bushell at the University of Kansas). Despite the overwhelming evidence supporting the utility of the behavioral models, widespread adoption of the models loosely based on cognitive and developmental theories of learning persists in American schools today (Stone, 1996; Watkins).

Why Include Recipients of Behavior-Change Procedures in the Social Validation Process?

You may be wondering: Is it not sufficient to program behavior-change procedures that work, that can be implemented with fidelity, and that caregivers and interventionists find acceptable? I don't think so. I will offer but a few arguments for including the recipients of behavior-change procedures in the social validation process. If we take the perspective of the child or the adult without strong language skills, we might conclude that we should include them in the social validation process because it is how we would like to be treated by others were we in their shoes; it conforms to the Golden Rule: "Do unto others as you would have them do unto you."

It is important to consider that the Irish playwright, George Bernard Shaw, as well as others, criticized the Golden Rule suggesting that it may not be golden if their tastes are not the same as yours. But, this supposed limitation of the Golden Rule only underscores the assertion that recipient's values should be determined and considered because the values of those taking care of members of dependent populations are not necessarily the values of the person being served. In other words, we would probably agree that if someone was charged with improving our behavior, we would like to have a say in how that change would be achieved, rather than exclusively rely on the values of others.

Allowing recipient participation in social validation processes also allows for members of dependent populations to exert countercontrol in an acceptable manner (Skinner, 1972). Doing so is not only humane, it is also practical. Allowing children with ASD or intellectual disabilities to essentially select the contexts they will routinely experience via the social validation process may result in less problem behavior serving to escape or avoid habilitative, educational, and "therapeutic" contexts (see correlations between preferred contexts and presumed escape behavior in Dunlap et al., 1994, and Heal & Hanley, 2007).

Why Are Recipients of Behavior-Change Procedures Not Involved in the Social Validation Process?

A review of the social validity literature with regard to behavior-change procedures applied to young children revealed that recipients of the behavior-change procedures were not well represented (less than 3% of applications; Heal & Hanley, 2008). Why are recipients of behavior-change procedures not involved in the social validation process? It is not because professionals do not agree that recipients of the behavior-change procedures should have influence over their selection. There is an abundance of shared advocacy for involving recipients in decisions regarding behavior-change procedures; such inclusion has been advocated by many different people in many different ways and for quite some time (self-determination movement: Bannerman, Sheldon, Sherman, & Harchik, 1990; positive behavioral support systems: Carr et al., 2002; person-centered planning: Holburn, 1997; a children's rights-based approach: Lundy & McEvoy, 2009; right to effective treatment: Van Houten et al., 1988). Another main finding of the social validity review (Heal & Hanley, 2008) seems pertinent here: 90% of social validity assessments involve indirect measures (e.g., verbal responses to questions about the appropriateness of procedures). Perhaps it is because of this historic reliance on subjective or indirect measures that the recipients of behavior-change procedures are not involved in the social validation process. In other words, if someone's language skills are not intact or strong, it is unlikely they will be asked their opinion as to the appropriateness of a given behavior-change procedure.

How Can Recipients of Behavior-Change Procedures be Involved in the Social Validation Process?

Including recipients of behavior-change procedures in the social validation process simply involves giving them the opportunity to experience and then choose among several viable behavior-change procedures. The opportunity to choose, in general, is usually reinforcing because it results in greater access to items and contexts that are momentarily or typically valuable to the person choosing (Fisher & Mazur, 1997). Furthermore, studies on the value of choosing show that the opportunity to choose, in and of itself, is highly reinforcing, in that children will work much more for conditions involving the opportunity to choose even when the same outcome is available for much less effort (Schmidt, Hanley, & Layer, 2009; Thompson, Fisher, & Contrucci, 1998; Tiger, Hanley, & Hernandez, 2006). Considering that the act of expressing biases (choosing) is reinforcing is another reason why recipients of our behavior-change technology should be involved in the social validation process.

The technology for allowing persons with intellectual disabilities to choose from among two or more items, often referred to as preference assessments, has steadily advanced over the past 20 years (DeLeon & Iwata, 1996; Fisher et al., 1992; Pace, Ivancic, Edwards, Iwata, & Page, 1985). However, preference assessments usually allow people to choose only from

among items that can be placed in one's hand or on a table top (e.g., toys, candy, etc.). Determining the acceptability of behavior-change procedures with young children or those with ASD is complicated by the facts that behavior-change procedures can't be placed in one's hand or on a table, we are asking questions about temporally extended interactions with individuals who often show limited verbal abilities and who have a limited history with the procedures in question. But, it is indeed possible to do. One appropriate method is called a concurrent-chains schedule. This method was adapted from basic behavioral research (e.g., Catania & Sagvolden, 1980) and provides an objective assessment of children's preferences for behavior-change procedures.

A General Description and Discussion of a Method for Determining the Values of Recipients for Behavior-Change Procedures

In applied studies involving concurrent-chains schedules, different colored poster boards are correlated with different behavior-change procedures (e.g., teaching strategies, behavioral interventions). First, children repeatedly experience the procedures in the presence of colored poster boards (or some other salient cues such as different colored T-shirts worn by the behavior analyst). During this time, measures regarding the influence of the different procedures on target behaviors are collected to determine the relative efficacy of the procedures (i.e., here, we answer the question of which one works better in changing target behaviors). Smaller colored cards or microswitches, one associated with each procedure, are then made available to the children outside of the room in which the procedures were experienced, and the child is prompted to select the one he likes best. When the child hands a colored card to the adult (or presses a microswitch), the adult and child enter the room and briefly experience the procedures associated with the selected color. This process of handing cards (or pressing switches) and experiencing correlated procedures is repeated until the child selects one option on a regular basis. Thus, preferences for behavior-change procedures, which are difficult to describe to young children, are directly assessed by recording each child's selections of cues correlated with the behavior-change procedures. Considerations when implementing this sort of procedure can be found in the Table and in the articles described below.

Routine use of this procedure allows for self-determination (Bannerman et al., 1990) and for the person to be at the center of the planning

Table. Frequently Asked Questions Regarding Concurrent Chains Arrangements

How many behavior-change procedures should be evaluated at once?	Incorporate at least three options in your assessment: two should be target behavior-change procedures (those of interest); a third option should be a control context devoid of reinforcement and therefore unlikely to be preferred. Inclusion of this third context will allow you to distinguish between ambivalence (fairly equal responding to the two target options) from indiscriminate performance in the assessment (fairly equal responding to all options).
How should initial link responses and correlated stimuli be chosen?	Choose initial-link responses that are discrete and easily prompted. Choose initial-link stimuli that are likely discernable, but that are not highly preferred themselves. The former consideration will allow for discriminated selections to emerge; the latter will ensure that the behavior-change procedures in the terminal links influence selections and not particular features of the initial-link stimuli.
What else should be considered to minimize other sources of bias from affecting the results?	After each initial link selection, the positions of the initial-link stimuli should be randomized to prevent position bias from affecting results. The same person should implement the different behavior-change procedures in the terminal links to avoid selections for or away from particular people.
How long should the terminal link experiences be?	The published examples include terminal link durations of 2 to 20 minutes. The terminal link duration should be long enough for the recipient to repeatedly experience the fundamental differences between each behavior-change procedure during each terminal link visit.
Are multiple rooms necessary to conduct the assessment?	No, the assessment can be conducted in a single room. To do so, arrange for initial link selections of small colored cards, for example, to be made in one area of the room. Move to another area of the room to implement the different behavior-change procedures and implement them in the presence of larger colored cards (e.g., poster boards) that are correlated with the initial-link stimuli.
How should the data be graphed, and when should the assessment end?	In order to stay in close contact with the preference data and increase the efficiency of the assessment, consider graphing each initial-link response cumulatively rather than by number per session. The assessment should end when visual inspection of the data shows that there is a clear difference in the amount of responding towards one or more terminal links.
What should be done if the recipient selects each behavior-change procedure a similar number of times and this continues to occur for some time?	If indiscriminate initial-link selections persists: (a) expand the selection array by including a control option if you have not yet done so, (b) consider conducting one trial per day to avoid recipients emulating response patterns modeled when the associations were developed during training, or (c) consider making the differences between the options in the terminal links more extensive while retaining the core features of the behavior-change procedures.

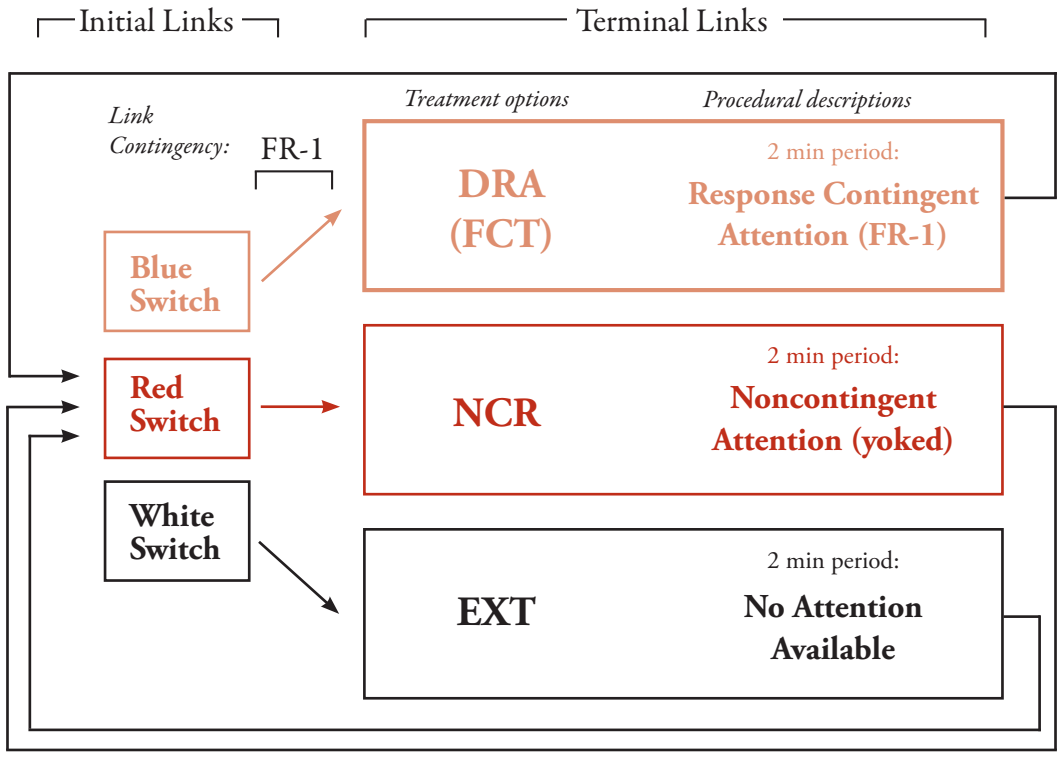

Figure 1. A schematic of a concurrent-chains arrangement for detecting the preferences of children for, in this case, function-based interventions (treatment comparison from Hanley et al., 1997; FCT is functional communication training, which is a type of DRA [differential reinforcement of an alternative behavior], NCR is noncontingent reinforcement, and EXT is extinction). Each time the child pressed a switch in the initial link, she experienced the associated treatment in the terminal link for 2 min. Overall switch presses in the initial link of the chain were used as an indication of children's preference for the treatments arranged in the terminal links.

process (Holburn, 1997), and provides the means to achieve the humane goals set forth in other advocacy calls (Carr et al., 2002; Lundy & McEvoy, 2009; National Autism Center, 2009; Van Houten et al., 1988). However, it is important to note that concurrent-chains arrangements are designed to provide an *objective* measure of children's preferences for behavior-change procedures, and do not require any particular language ability. A child's preference for a given procedure is detected by measuring the extent to which the child selects and experiences a particular procedure. It is not detected by measuring that which the child (or anyone else) says about a procedure or by measuring indices of happiness while the child experiences each procedure; these types of data that may or may not be indicative of a child's preference for a given context.

Although the extent to which the context reduces undesirable behavior and increases desirable behavior is measured to determine the effectiveness of the behavior-change procedures, these measures are not used as indices of preference. There are two important *and independent* questions to be asked when developing a procedure to address a socially important behavior problem—they are: does it work *and* is it preferred by those experiencing it? It is vital to consider the former question of efficacy prior to asking the latter question regarding recipient preference. In other words, there should be some evidence of the efficacy of at least one of the behavior-change procedures prior to assessing its importance to the recipients because there is no value in a preferred (or practical) behavior-change procedure that is altogether ineffective. Actions to be taken if recipients prefer ineffective behavior-change procedures are described below.

Successful behavior change procedures need to be acceptable to intervention agents as well. Methods relying on verbal reports to determine the acceptability of behavior-change procedures with intervention agents have served us well so far and their continued use is recommended (e.g., Reimers, Wacker, Cooper, & De Raad, 1992; Witt, Elliott, & Martens, 1984), but it is feasible and possible to apply these objective procedures with the interventionists as well (see Hanley, Cammilleri, Tiger, & Ingvarsson, 2007, for an example).

Adding an initial link requires little time or effort, so these preference procedures should be considered anytime two or more treatments are being directly compared in an efficacy assessment. Assessing recipient preferences for behavior change procedures also seems important to do when: (a) two treatments are similarly effective for an individual, (b) two or more treatments have similar empirical support in the research literature, (c) the more effective behavior-change procedure is controversial (e.g., it involves an obvious punishment contingency) (d) the more effective behavior-change procedure is less preferred by one or more stakeholders (e.g., a school administrator), or (e) the added value of an effortful component of a behavior-change procedure is either unknown or too easily dismissed.

Some Examples of Objective Determinations of the Values of Recipients for Behavior-Change Procedures

Single-Person Applications

An objective model for addressing questions of efficacy and preference was originally described by Hanley, Piazza, Fisher, Contrucci, and Maglieri (1997) when attempting to identify treatments for the problem behavior of two young children with intellectual disabilities. After learning via functional analysis (Iwata et al., 1982/1994) that the two children's aggression and disruption were maintained by adult attention, two function-based treatments were designed. One provided the reinforcer for a socially desirable alternative behavior (functional communication training; FCT), the other provided the same type and amount of attention independent of behavior (i.e., according to time; noncontingent reinforcement [NCR]). Both treatments were similarly effective in reducing aggression and disruption of both children to near-zero levels. When the children were then allowed to choose between FCT, NCR, and extinction in a concurrent-chains arrangement (see Figure 1), both children chose FCT. We think that children chose FCT because it allowed them to access social reinforcers at times they were most valued (a probable plus for FCT) and because some appropriate responses went unreinforced during NCR (a probable minus for NCR). This study provides an example of the use of an objective social validity assessment with the recipients of the behavior-change procedures when those procedures were similarly effective. As an aside, this preference for contingent over noncontingent reinforcement also has some generality. Luczynski and Hanley (2009) recently showed that 7 of 8 children of typical development preferred contingent to noncontingent social reinforcement using the same assessment procedures (one child was indifferent).

For some children, FCT results in an acceptable reduction in problem behavior only when a punishment procedure is added to the treatment (Fisher et al., 1993; Wacker et al., 1990). This was also the case in a study by Hanley, Piazza, Fisher, and Maglieri (2005), who showed that FCT was ineffective for two children with intellectual disabilities and autism, whereas FCT plus punishment (e.g., a 30-s hands-down procedure) was effective in reducing severe self-injury, aggression, and disruption. When the two children were provided with repeated opportunities to choose between FCT, FCT plus punishment, or punishment only, both children consistently chose FCT plus punishment. These results underscore the fact that if treatment options were restricted to those considered nonaversive or positive, the children in this study would have been prescribed treatments that were both ineffective and non-preferred. Taken together, the studies by Hanley et al. (1997, 2005) suggest that the values guiding the selection of treatment strategies can be data-based. That is, treatment decisions need not be based on the name or structure of the intervention; they can be based on measures of efficacy and child preference.

Children's values with respect to teaching procedures have also been assessed in a similar manner (Heal, & Hanley, 2007; Heal, Hanley, & Layer, 2009). In Heal et al., the preferences of 4 children of typical development for teaching strategies that varied in the amount of teacher directedness were evaluated. The results showed that children preferred the strategy that involved teacher-led, direct teaching in addition to embedded and discovery-oriented teaching over strategies that were devoid of direct teaching (discovery or embedded teaching only). The preferred strategy also was the most effective in teaching target relations. Teaching strategies like discovery-oriented and embedded teaching are often labeled as child-led teaching (Wolery & Wilburs, 1994), and it is often assumed that following the child's lead via these teaching tactics is enjoyable to the children. It is therefore somewhat ironic that children preferred the strategy in which they were at least partly required to follow the teachers lead. These results suggest that including children in the social validation process is the more accurate way to follow their lead.

> Objective evidence based on children's choices will likely be a better guide for developing adoptable behavior-change procedures than the pervasive *advocacy based on inference* model

It seems important for this study to be systematically replicated with young children with ASD. Multiple teaching tactics based on learning principles are currently used to teach young children with ASD social and language skills, but the conditions under which each is more or less effective and the extent to which each teaching tactic is valued by those experiencing them (i.e., young children with ASD) remains unknown.

Group Application Example

Because children often experience behavior-change procedures simultaneously (e.g., class-wide or group contingencies, classroom policies), Layer, Hanley, Heal, and Tiger (2008) examined the accuracy of a group-oriented concurrent-chains assessment. This assessment essentially involves all children making independent selections of an option and then simultaneously experiencing the same one that was randomly selected from those that were chosen. Despite the group assessment being associated with probabilistic and delayed outcomes (children *may* experience their selected option and only *some time after* all children have made their selections), this group assessment was shown to be accurate and efficient for determining preferences for behavior-change procedures.

Layer and Hanley (2008) then used this group assessment to determine preschoolers' preferences for three behavior management strategies commonly used during free-play periods. An efficacy evaluation showed that rule reminders following the

aggressive or disruptive behavior of four preschoolers resulted in the highest levels of these problem behaviors. Talking about the behavior and practicing an alternative behavior in addition to the rule reminders resulted in a decrease in problem behavior, but to unsatisfactory levels. Inserting a brief time out (formally consistent with a "sit and watch" approach; Porterfield, Herbert-Jackson, & Risley, 1976) between the rule reminder and talk and practice resulted in near elimination of problem behavior for all four preschoolers during free play. To assess preference for these behavior-change procedures, children each privately selected different colored tokens correlated with the different group-wide behavior management strategies. Each selected token was placed in a bag, and the one selected from the bag by the teacher was implemented with all children. When given these choice opportunities, two preschoolers were indifferent, and two preferred the strategy involving time out in addition to rule reminders and talk and practice (in other words, time out added value to the class-wide strategies often used by preschool teachers). These data show that social validity assessments can be conducted with groups of children simultaneously and that children's preference for contexts involving punishment has some generality.

Counter-Intuitive Findings: Some Context and Implications

Although I am starting to not be surprised when children prefer conditions involving punishment, I am confident that children's preference for time out and other punishment procedures are limited to specific conditions, like those we arranged in the studies described above (Hanley et al., 2005, Layer & Hanley, 2008). The first important feature of these conditions is that other sources of reinforcement are available for functionally equivalent responses. I imagine that if there was no other way to satisfy a want or need and the only effective behavior was punished, we would create a non-preferred condition involving punishment. Therefore, conducting an adequate functional assessment of problem behavior (Iwata & Dozier, 2008) and strengthening a functionally equivalent alternative response (Tiger, Hanley, & Bruzek, 2008) is important when punishment is to be used. The second important feature is that the punishment is contingent on specific responses, making it predictable, and thus avoidable. I imagine that if the punisher was provided noncontingently or unpredictably and thus could not be avoided, as in situations involving mentally ill or drug-dependent parents where an aversive interaction can occur at anytime irrespective of the child's behavior, we would create a non-preferred condition involving punishment.

Furthermore, the conversations in our field about the aversiveness of procedures are typically myopic (e.g., Holburn, 1997; LaVigna, & Donnellan, 1986). We can dispense with the conversations entirely and simply ask the children as we have done here about the utility of certain behavior-change procedures. And, if we, as advocates, are going to talk at all about aversives, we should widen our perspective and talk about the aversiveness of contexts, not the aversiveness of procedures.

As members of *non*dependent populations, we routinely experience contexts that involve punishers for certain behaviors every day: when we choose to drive a car, drink hot coffee, converse with strangers, or ski down a mountain. People choose to ski, for example, despite the fact that hitting a fellow skier or a tree head on at 20 miles per hour would be pretty darn aversive. The context on the mountain contains several aversive elements, but because many responses are reinforced and because the aversive elements are mostly avoidable, the context itself is not aversive, and thus we frequently choose to go up the mountain. It seems that one of our primary goals as practitioners should be to provide the same sort of freedom to those we are trying to help.

Other Procedures for Objectively Evaluating Preferences

It is important to point out that concurrent-chains arrangements are but one way to objectively determine children's values for our behavioral programming (for alternative procedures, see Dozier et al., 2007; Grace, Thompson, & Fisher, 1996; Harding et al., 1999; Lancioni, O'Reilly, Campodonico, & Mantini, 1998; Peck, Wacker, Berg, & Cooper, 1996). Another means of objectively evaluating preferences is to simply observe where children or adults with autism allocate their time when multiple activities or contexts are concurrently available. For example, we used a momentary time sampling procedure to record the location and engagement level of 20 preschoolers in order to detect their preferences for 9 simultaneously available activities (Hanley et al., 2007). When we discovered that the majority of the children did not prefer our direct instructional, science, and library activities, we added more effective prompting and higher quality reinforcers to those activities while keeping the other activities as they were (Hanley, Tiger, Ingvarsson, & Cammilleri, 2009). By doing so, we were able to shift children's preference toward these educationally important activities while still respecting their original choices. This study shows that the value of our behavior-change procedures can be determined by designing learning environments so that children can routinely choose among activities (e.g., you can allow them to "vote with their feet"). In addition, when children make less-than desirable choices, we encourage them, but do not require them, to make good choices by improving the quality of important activities that are not preferred initially while leaving other options intact.

Increasing the reinforcing value of our effective, but non-preferred, behavior-change procedures results in alignment of efficacy and preference data, which is a necessary condition for prescribing a behavior-change procedure. Recipient preference data may also be at odds with interventionists' acceptability reports. This risk of disagreement is not a good excuse for avoiding acceptability measurements with either stakeholder. These disagreements could be addressed by modifying one or the other treatments until it was acceptable to both or by combining the preferred aspects of each treatment into a single behavior-change procedure.

Conclusions

In sum, it is possible to objectively determine the acceptability of multiple types of behavior-change procedures with any person (irrespective of language abilities; see Hanley, Iwata, & Lindberg, 1999) and any size group experiencing the behavior-change procedures.

In an attempt to better understand individuals with ASD or intellectual disabilities, people often turn to written first-person accounts. Arguably one of the most influential of these books was authored by Catherine Maurice (2001) and is titled, *Let me hear your voice*. In short, she described how her two children with autism learned to speak and engage in a host of other developmentally appropriate behavior following two years of EIBI, which essentially involved dedication to 30 plus hours a week of teaching skills that other children learn through more typical (unplanned) interactions. This is a wonderful book, but I would simply like to add that, as professionals, we can and should be trying to *hear their voices* every step along the way of our educational or clinical commitment to children and not just as a result of 2 or more years of intervention. If the outcomes of large scale analyses of EIBI are taken into consideration (e.g., Cohen et al., 2006; Eldevik et al., 2006; Lovaas, 1987, which show that only a proportion of children are indistinguishable from their same-aged peers with respect to language abilities following years of EIBI), waiting will result in our "hearing" less than half of their voices.

By asking and listening using the methods described herein, we might even build a set of empirically derived values that can guide our future practices with young children with autism. Objective evidence based on children's choices will likely be a better guide for developing adoptable behavior-change procedures than the pervasive *advocacy based on inference* model. In addition, if we ask and listen often enough when those on the autism spectrum are children, they will be more capable of expressing their biases and preferences for important contexts when they become adults.

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