Positive Behavior Supports for Individuals Who Are Deafblind with CHARGE Syndrome

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Structured abstract: Introduction: The purpose of this study was to identify effective individualized positive behavior support strategies and cognitive behavior therapy strategies for young adults who are deafblind. It discusses findings specific to four young adult students with CHARGE syndrome. *Methods:* This collaborative action research study employed collective case study design and elements of grounded theory analysis. Principles of positive behavior support and modified cognitive behavior therapy supported the identification and implementation of individualized behavioral interventions that addressed environment arrangement, sensory needs and sensitivities, and how adults communicated with the students. *Results:* Eight themes were identified as being important to each of the students, although to varying degrees. These were: provide structure, establish and maintain a positive climate, address students' sensory needs and sensitivities, support on-task behavior, support transitions between activities and environments, support mature behavior, support students in coping with anxiety, and use adult language supports. Each theme included multiple strategies. *Discussion:* Proactive and reactive strategies must be individualized even when children share an etiology. Educational team members must know each student's preferences, likes, dislikes, reinforcers, and unique communication needs in order to identify and effectively implement behavioral supports. Modified cognitive behavior therapy may be helpful in addressing the anxiety experienced by individuals with CHARGE syndrome. Teams require time to collaborate on behavioral assessment, the identification of individualized behavioral strategies, and the effectiveness of behavioral plans. *Implications for practitioners:* Providing well-structured environments and teaching rules and routines can reduce anxiety because students know what to expect. Educational team members should prevent sensory overload, provide structured desensitization opportunities, and teach relaxation techniques to these students. Adult communication must be positive, clarify what will happen next, and redirect behaviors when needed.

CHARGE syndrome is one of the most common causes of congenital deafblindness (National Center on Deaf-Blindness, 2016). Individuals with this syndrome may experience impairments in hearing, vision, smell, balance, and other bodily systems, although the effect of the condition on each varies from mild to severe

(Davenport & Hefner, 2011). Individuals often have higher levels of anxiety (Davenport & Hefner, 2011) and may display more autistic-like behaviors than do individuals who are deafblind due to other causes. Their "behaviors tend to be impulsive, compulsive, and may involve aggression against others or themselves" (Hartshorne, 2011, p. 189). They have difficulties with self-regulation, which includes controlling one's emotions, using social behaviors to reach goals, and sleeping habits (Hartshorne & Salem-Hartshorne, 2011). Many exhibit rapid behavioral shifts in response to sensory overload (Haney, Hartshorne, & Nicholas, 2015). Communication frustrations may trigger the expression of socially inappropriate behaviors (Hartshorne, 2011). All individuals who are deafblind experience fewer opportunities to learn through observation; thus, it is more difficult for them to know what to expect and what is expected of them across environments (Hartshorne & Schmittel, 2016).

Positive behavior support is a values-based scientific approach that applies principles of applied behavioral analysis to address socially unacceptable behaviors that often result in exclusion for individuals with disabilities (Dunlap & Carr, 2007; Horner, 2000). Positive behavior support focuses on proactive rather than reactive strategies, with the goal of improving quality of life across settings (Lucyshyn, Dunlap, & Freeman, 2015), and the plan goes beyond the individual to consider the context, including the sensory demands of the physical environment and the behavior of other people. The plan is grounded in understanding the purpose or purposes of unacceptable behaviors (Haney et al., 2015), as determined by functional behavioral assessment. The plan may suggest changes to the physical environment, changes in the behavior of those who interact with the individual who has a disability, and the teaching of replacement behaviors. Utilizing the expertise of a team of interdisciplinary professionals is critical in determining the least restrictive intervention and as a source of mutual support among colleagues and family members (Bambara & Kunsch, 2015).

Cognitive behavior therapy is an action-oriented form of psychosocial therapy that involves replacing maladaptive thinking and behavior with constructive thinking and behavior. Hughes (1988) described two assumptions that form this theory: perceptions and thinking affect behavior, and individuals affect their environments. Thus, intervention that supports change in thinking may result in measurable changes in behavior (Hughes, 1988). Cognitive behavior therapy is the most common approach to treating anxiety (and associated obsessive compulsive disorder, OCD), and it involves teaching the individual to recognize signs of anxiety, to learn coping skills (such as relaxation and exercise), and to engage in systematic desensitization through repeated exposures to the sources of anxiety (HelpGuide, 2015). These exposures allow the individual op-

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portunities to practice new coping skills as part of the desensitization process.

The application of cognitive behavior therapy with individuals with intellectual disabilities is emerging (Taylor, Lindsay, & Willner, 2008). Pence, Aldea, Sulkowski, and Storch (2011) suggested the following modifications for these individuals: ensure that the caregiver understands the principles of cognitive behavior therapy (especially if the individual with a disability does not); direct the caregiver to model the appropriate behavior in specific situations, use simplified language, use visual supports, provide positive attention for the demonstration of desired replacement behaviors, and teach the individual with a disability to externalize blame for the OCD (such as telling the OCD to go away) as opposed to blaming him- or herself.

The purpose of this collective case study was to use a collaborative approach to identify and implement individualized positive behavior support and cognitive behavior therapy strategies (proactive and reactive) that were most effective for seven young adult learners who are deafblind. This article addresses findings regarding four learners with CHARGE syndrome who are deafblind.

Methods

Action research is a recursive, problem-solving form of research involving multiple cycles of action or instruction, reflection, and revised action or instruction (Bruce & Pine, 2010). This study is a collaborative action research study employing collective case study design and elements of grounded theory analysis (Glaser & Strauss, 1967; Schreier, 2012). The Institutional Review Board of the first author's university approved the study, and approved participant consent procedures were completed. The primary research question was: What positive behavior supports will be used by adults working with each of the young adults who are deafblind? Sub-questions were: How does environmental arrangement and engineering support positive behavior in each student? What sensory and sensory-motor integration strategies are helpful in promoting positive behavior in each student? What language supports, especially adult use of sign language (that is, sign language used by educators and staff members), support positive behaviors in students? Which strategies are important in preventing a negative behavior, and which are important in addressing a negative behavior?

PARTICIPANTS

The student participants were a purposeful sample of four young adults with CHARGE syndrome who are deafblind, aged 18 to 22 years. Pseudonyms are used for all participants. Joe had 20/900 visual acuity, right field restriction, profound bilateral hearing loss, and severe delays in development, and he expressed himself in individual signs and some sign combinations. Jon had 20/300 visual acuity in his left eye and 20/30 in his right eye, superior field restriction, moderate bilateral hearing loss, and moderate developmental delays, and he expressed himself in sign language. Nathan had a visual acuity of 20/60 in his left eye and 20/800 in his right, moderate-severe hearing loss, and moderate developmental delays, and he expressed himself in sign language. Gail had 20/360 visual acuity; superior, inferior, and lateral left visual field losses; severe bilateral hearing loss; and moder-

ate developmental delays, and she expressed herself in speech with sign language as her backup communication form (especially for receptive communication). Behaviors exhibited by all the students included refusing or avoiding work, yelling, hitting and biting themselves, pushing or hitting others, property destruction, and repetitive or ritualistic talk.

Nonstudent participants or coresearchers were three special education teachers, four teacher assistants, a teacher liaison with experience in teaching students who are deafblind, and one developmental specialist with expertise in behavioral interventions and cognitive behavior therapy adapted for individuals with developmental delays and deafblindness. Of significance is that each teacher knew each student and, in some cases, had worked with the student in a classroom setting in previous years. This arrangement allowed the team to examine behaviors that had reoccurred or been resolved.

INTERVENTION

The intervention included elements from positive behavior support and cognitive behavior therapy that were adapted for individuals with developmental delays and individualized for each student. The teacher participants in this study were already knowledgeable and skillful in addressing the behavior of their students. The purpose of the intervention was to support them to further refine their efforts in the context of reviewing data and collaborating with each other in monthly team meetings. The team agreed to focus on interventions that addressed three areas: environmental arrangement and engineering (including changes based on student response); sensory needs (includ-

ing students' responses to sensory input and sensory-motor needs); and adult use of language (how and what educators and staff members verbalized and signed). Behavioral principles applied comprised: consideration of antecedents and consequences, identification of the purpose of individual behaviors, wait time, redirection, and reinforcement. Cognitive behavior therapy principles applied comprised: the individual as an active participant (including in making decisions about behavioral strategies); cognitive rehearsal through social stories; role play; reinforcement of conditioned positive responses; systematic desensitization through carefully controlled exposures; and cognitive restructuring, including making choices, labeling, redirecting, and employing relaxation techniques.

The monthly team meetings included the viewing of videotaped segments selected by either the university researcher or a teacher for troubleshooting. Subsequent to the monthly meetings, additional strategies were implemented. Thus, multiple cycles of action (implementation of positive behavior support and cognitive behavior therapy strategies) and reflection (to evaluate the effectiveness of the supports and strategies) occurred. The length of intervention for the study was six to nine months, with variation (among students) caused by graduations.

DATA SOURCES
Videotaped observations
Each classroom was provided with a flip camera that the teacher participants were directed to turn on at times that often evoked inappropriate behaviors. The team recorded the provision of proactive supports when inappropriate behaviors were more

likely to occur (such as during transitions or nonpreferred activities) and the provision of reactive supports during actual behavioral episodes, which were also recorded on the positive behavior support chart. Video clips of negative student behavior were destroyed after being viewed at monthly meetings.

Teacher and teacher assistant journals

Teachers and teacher assistants were encouraged to record information about both preventative and reactive behavior supports using an open-ended journal. The journals ensured that if a behavior occurred when a flip camera was not recording, there would be a record of the strategies employed.

Positive behavior support chart

Teachers and teacher assistants recorded behavior data on a positive behavior support chart organized by the three themes of environmental arrangement and engineering, sensory needs, and adult use of language, with spaces to describe the specific behavior displayed and the date. The chart provided a space to record student behaviors that occurred when the flip camera was off. Some of the data on the chart was also captured on video.

Existing data sheets (optional)

Two students (Joe and Jon) had pre-existing behavior data sheets that the teacher was required to complete after each behavioral episode. The university researcher accessed those sheets as an additional data source for these students.

Individualized positive behavior support profiles

The research team, including the teachers, developed an individualized positive behavior support profile for each of the students. The profiles detailed which strategies worked and which did not work to support each student's positive behavior. The profiles were structured using the a priori categories of adult use of language, environmental engineering, and sensory needs. These profiles were both a data source and a summary form of documentation. Although we developed one per student during the monthly meetings, revisions were necessary across time. The profiles were then word processed by the researcher, who added content from the analysis of the journals and data sheets and then returned the profiles to the teachers for further input and corrections.

DATA ANALYSIS

Data were analyzed qualitatively using elements of grounded theory, including constant comparison (Glaser & Strauss, 1967; Schreier, 2012) to identify themes or categories within and across data sources. During the intervention period, analysis was conducted at the individual student level to identify specific behaviors and strategies for the profiles. The profiles were included in monthly discussions, with data across all data sources added later. Thus, the profiles captured detailed information from all data sources and were organized by the original three a priori categories. The teachers conducted a member check on the accuracy of the profiles. After the intervention period, collective case analysis (of all profiles) identified themes that were present in all students' profiles. Open coding captured a high level of specificity, and axial coding was used to identify categories or themes (McHatton, 2009). A second rater also conducted a profile analysis, reaching consensus with the first rater on the identified themes.

Results

Data analysis resulted in the identification of the following eight themes or categories that were associated with specific instructional strategies:

1. provide structure,
2. establish and maintain a positive climate,
3. address students' sensory needs,
4. support on-task behavior,
5. support transitions between activities and environments,
6. support mature behavior,
7. support students in coping with anxiety, and
8. adult language supports.

Each of the themes or categories of strategies was important to all four students, but to varying degrees. Examples of strategies within each theme are presented below.

THEME 1: PROVIDE STRUCTURE

Providing structure was an important proactive strategy for each of the students. Well-defined workspaces were found to be important in supporting all of them to remain calm. Joe needed staff members to show him how much of each physical space was his own personal space. He also required a "chill-out" space to be used when he felt overwhelmed. Jon required a designated safe place to leave his unfinished work because he needed to know that it would be where he left it and in the same condition when he returned.

Rules and routines were critical in supporting appropriate behavior in all students. The teachers emphasized the importance of directly teaching the rules, practicing the rules, reminding students about the rules, and giving them opportunities to restate the rules. The best approach for Nathan was to give a direction, step back to allow him time to process it, and avoid repeating the direction. He also benefited from being reminded that everyone has rules to follow. Establishing routines (within and between activities) and teaching those routines were important strategies for all students.

Each student had an individual schedule or calendar system to support their understanding of the daily routine. These enlarged visual schedules were presented on paper or on the computer and were paired with speech or sign language as was appropriate for each student. Individual nuances included the understanding that Joe needed novelty built into his schedule, whereas Jon required that the entire schedule be reviewed whenever an activity was canceled.

THEME 2: ESTABLISH AND MAINTAIN A POSITIVE CLIMATE

Maintaining consistency in the classroom environment (so that students knew what to expect) helped to keep the climate positive. When entering other environments, it was important that students maintained a physical distance from upsetting events. Some students were able to initiate this action of distancing themselves, and others required support. It was also important to adjust an environment to keep it positive. This adjustment might include changing the temperature of the room or providing adaptive equipment that would alter sensory input for a student. The physical position of the teacher was also an important consideration. The students preferred close physical proximity, but their preferences varied in regard to

where they preferred the staff person to be positioned.

The professionals were keenly aware of the effect of their emotions and behaviors on the behaviors of their students. They reported that it was important that staff members remain positive in their words, manual signs, voice, facial expression, and body language. Professionals needed to use reassuring language paired with a reassuring tone to support students to be calm.

Other strategies that supported a positive climate included using appropriate types and levels of reinforcement, honoring student preferences (such as Gail's preference for the computer), and adjusting educators' expectations when a student was having a difficult day. They also found that although it was essential to offer choices to students, each had special requirements (for example, some could respond to open-ended questions, others required a structured choice of two items, and still others liked to select from among options of reinforcers). Offering socialization opportunities was especially important for some students. Joe greatly enjoyed time to be silly with others. Gail needed conversational supports for building relationships.

THEME 3: ADDRESS STUDENTS' SENSORY NEEDS

Each of the four students had unique preferred materials, as well as sensory needs and sensitivities. Being responsive to these needs was identified as an important proactive strategy for educators. Joe felt calm lounging in his "comfy" chair with his body parts touching specific parts of the chair. He also responded well to deep pressure and to wearing a weighted backpack (he even requested additional weight). He sought out a blanket to put over his head because he found it comforting. Joe was sensitive to sound; teachers found it was best to communicate to him, "It's going to be really loud; do you want to leave?" Jon preferred chairs without arms, weighted beanbags, and spinning. A sensory diet that included squeezable objects and spinning objects was implemented with Jon. Nathan was very sensitive to change in temperatures: he disliked both extreme hot and cold. Regular exercise (including on a treadmill and through rough-and-tumble play) and stretching supported Nathan in having a positive attitude. Gail was sensitive to sounds and accidental touching. Because she disliked being jostled by others, crowded spaces and elevators posed challenges for her. She learned strategies to cope with excessive sounds, such as leaving a noisy area, having staff warn her of noises she might hear as she transitioned into the next school environment, or turning down her hearing aids when she felt overwhelmed.

THEME 4: SUPPORT ON-TASK BEHAVIOR

Staff members identified strategies to support on-task behavior. All students benefited from being provided with the correct amount of wait time for responses. They also benefited from variable reinforcement levels, such as higher levels of reinforcement for nonpreferred tasks and reminders of the anticipated reinforcer. Redirection was an effective strategy in supporting on-task behavior. The staff members were mindful of distractions, including those that they might create. Joe benefited from a "counting down" strategy so that he would have a foreseeable end to a nonpreferred activity. He also benefited from knowing that a preferred activity would follow a nonpreferred

activity or series of nonpreferred activities. "First-then language" was important to Jon, which included letting him know that first he would perform the current task, and then he could engage in his desired activity. Reviewing his daily schedule was helpful in supporting on-task behavior. A "token economy," which required the student to perform a specified number of appropriate behaviors in exchange for a privilege, was effective with Nathan, as was allowing him to choose which activity to do first.

THEME 5: SUPPORT TRANSITIONS BETWEEN ACTIVITIES AND ENVIRONMENTS

Transitions were supported by consistent implementation of each student's daily schedule, including consistent use of the "finished" manual sign. The schedule system also allowed for a preview of what would happen in the activity or environment as part of the transition routine. What educators said and signed during transitions was also important (see theme 8). Providing sufficient wait time also supported successful transitions.

THEME 6: SUPPORT MATURE BEHAVIOR

Teachers and teacher assistants often talked about mature behavior (defined as adult-like behavior and being cooperative) because the participants in this study were young adults. They talked with Gail and Nathan about examples of "mature" and "not mature" behaviors (for example, making loud animal noises is not what a 21-year-old student does). Knowing what the students were likely to refuse was helpful in being prepared and in encouraging cooperative adult behavior. Setting limits about what was acceptable and not acceptable was helpful to all students.

Students were expected to increasingly take responsibility to manage their own behavior and to initiate the application of strategies within their repertoire. Staff members reported that offering a sufficient wait time for cognitive processing supported both Joe and Jon in demonstrating mature behavior. Verbal compromise often helped Gail to exhibit mature behavior. Both Gail and Nathan benefited from the use of a mature behavior sheet, which included line drawings for both students and print for Gail. Examples of "mature behavior" included: use quiet voice, keep quiet hands, do good work, make healthy choices, talk about shared interests, sign slowly, pay attention, be nice to people, be polite, talk about work or school, be on time, and share a positive attitude. Gail also used a self-rating behavior sheet, with support from her teacher assistant.

THEME 7: SUPPORT STUDENTS IN COPING WITH ANXIETY

A variety of proactive and reactive strategies supported students in being calm (including strategies discussed under themes 1 and 3). Unexpected or sudden touch by another person was identified as a source of anxiety for all students. The professionals were mindful about individual responses to touch, and sometimes avoided situations when unexpected touch might occur. Having space to one-self (an environmental consideration) was important for staying calm.

Sometimes students engaged in repetitive talk when anxious, and the topic might not have been appropriate to the school setting. Although the professionals tried to identify and address the cause of the anxiety, sometimes they needed to

redirect the talk. Staff members reported that it was important to know the topics of repetitive conversations and how they started. With Jon and Nathan, staff members learned to avoid "trigger words" (such as "workroom" or "deaf") that could lead to anxiety and repetitive talk. The professionals had a keen awareness of Gail's attempts to engage them in excessive conversations about the film *The Wizard of Oz* (see Nannemann, Bruce, & Covelli, 2017). Joe and Gail engaged in repetitive talk about future events (including seasonal events). Strategies for addressing students' repetitive talk included: knowing students' preferred or nonpreferred topics (Nathan and Gail), acknowledging communication, redirecting the conversation to an appropriate time or place (such as asking Nathan to save the topic and telling him when you would talk about it), and reassuring the student. Schedule and calendar systems were helpful when addressing repetitive talk about future events.

Specific cognitive behavior therapy strategies included keeping students informed, providing calm spaces, considering the influence of sensory sensitivities (discussed in theme 3), redirecting to a new activity if the obsessive compulsive behavior was difficult for the student to control, and switching communication forms (for instance, using tactile signing instead of visual signing with Joe and signing instead of speech with Gail). Offering gross motor exercise was especially important for Nathan and Jon. Nathan also benefited from simply being told "not to worry about it right now." Deep breathing, sighted guide, and deep pressure were effective relaxation techniques for Gail. Counting also was an important

strategy for her (such as counting to five to relax and counting first, second, and third for the sequence of events).

THEME 8: ADULT LANGUAGE SUPPORTS POSITIVE BEHAVIOR

The professionals in this study deeply considered the influence of what they said and signed to their students. They emphasized the importance of using positive language as a preventative strategy, and they expressed directives sparingly. The professionals were keenly aware of how to individually phrase spoken or signed feedback to each student. They also found it effective to change the form of communication used, such as changing from visual to tactile sign language.

The adults had a variety of proactive language strategies. Providing vocabulary for student concerns was often an effective strategy. All four students needed adults to provide information about the different environments they were to experience. If they were transitioning to an environment that was noisy, it was best to prepare them. Ample positive facial expression paired with verbal reinforcement were especially important for Jon. Pointing out (to students) how they had been successful in a similar situation was helpful to some. Nathan and Gail benefited from examples of mature and not mature behaviors. Nathan sought information as well, but sometimes used questioning to avoid a task.

Each of the teachers talked about trigger topics and trigger words and the importance of identifying them. Joe would become frustrated if staff members did not have information to participate in conversations with him, so they found it

best to avoid such conversations. The following journal excerpt about Joe illustrates the specificity of adult use of language:

> When he starts having negative behavior (pushing things, ignoring staff members, not [being] aggressive, but maybe on edge), give him a reminder: "If you want to _____ (name preferred activity), you need good behavior." This [strategy] seems to be effective since it gives him an incentive instead of just reminding him about the rules.

Thus, making connections between his behavior and the potential reinforcer helped Joe to regain behavioral control. With him, it was important to use the sign "celebration" instead of "party." He had associated the sign "party" with his bar mitzvah, so using that sign set up unfair expectations for him that led to disappointment. With Nathan, trigger topics and words included people who had disappeared from his life, "deaf," "death," and "skinny" (versus "fat").

Emphasis was placed on teaching Nathan to think before acting. Adult messages included: "I want you to think," "think before," "what's next" (often paired with his daily schedule), "try and think before doing," and "stop and wait." The signs for "slow," "patient," and "one minute" also were helpful to Nathan.

Gail struggled with thinking and talking about events that were not in the present. A journal excerpt from her teacher assistant provided examples of successful language to use in such cases: "Let's save that until June"; "You can ask me in June"; and "When can we talk about that? Why don't we save that for _____ (name month)?" Sometimes Gail talked in great detail about events from the past because she wanted things to happen in exactly the same way. As a result, staff members acknowledged this preference by making remarks such as, "Are you asking if the same people are going or if we're doing the same thing because you like things to be the same?"

Discussion

The strongest finding to emerge from this collective case study is that proactive and reactive behavioral strategies need to be individualized even when students share a specific etiology (such as CHARGE syndrome). Although all the young adult participants in this study demonstrated some similar outward expressions of behavior, the causes behind such expressions were unique to each participant. Educational team members need to know each student well, including his or her preferences, dislikes, triggers, reinforcers, and unique communication needs, in order to effectively implement effective behavioral supports.

The educators and staff members in the study found the process to be useful, as evidenced by their willingness to extend the months of the study, individual comments in journals, and the rich conversations that occurred in the after-school meetings to create the individualized positive behavior support profiles.

IMPLICATIONS FOR RESEARCH

Research specifically targeting the effectiveness of positive behavior support for shaping socially acceptable behaviors (across settings) is warranted (Dunlap &

Carr, 2007), as is research on the applicability of cognitive behavior therapy to students who are deafblind. Anxiety is a common behavioral characteristic of individuals with CHARGE syndrome for which modified cognitive behavior therapy strategies may be effective, including the modifications suggested by Pence and colleagues (2011). Future research on the efficacy of these strategies should be grounded in functional behavior assessments that examine the impact of physical and social factors that may affect behavior.

IMPLICATIONS FOR PRACTICE

Carefully planned educational environments are important in supporting positive behaviors. A well-structured environment reduces anxiety because students know what to expect. Students also benefit from being informed about the characteristics of environments that teachers and others may not be able to control. Consistent implementation of an individualized daily schedule supports students in knowing what to expect and also in engaging in a nonpreferred task with the expectation that a preferred task will follow.

Students with CHARGE syndrome exhibit a large range of sensory abilities, sensitivities, and needs. Educational team members must teach relaxation techniques, ways to prevent sensory overload, and strategies for desensitizing a student to nonpreferred sensory input, while teaching coping mechanisms. Team members should consider individual sensory preferences when selecting reinforcers for each student.

Those who work with students with CHARGE syndrome may provide predictability and reassurance through the language they use, expressed in either speech or signing. A functional behavioral assessment should reveal the trigger topics and words that educators or staff members should avoid or limit. Thoughtful language utilized by teachers will support students in anticipating what will occur next, will redirect their behavior when necessary, and will demonstrate desirable behaviors. Allowing time for the educational team to discuss and problem-solve proactive and reactive strategies is helpful when developing positive behavior support plans for students.

LIMITATIONS

Student sample size ($N = 4$) is the first limitation of this study. Additionally, three of the four participants were male. The nonstudent participants determined when to turn on the video camera and what to record on the positive behavior support chart. It is a limitation that each of these determinations cannot be verified. It was difficult for the researchers to identify clear action research cycles (and connections between specific strategies and specific behaviors), because instructional adjustments were individualized and adjusted frequently in response to a student's demonstrated behaviors.

Conclusion

This study illustrates the importance of considering the effect of environmental arrangements, sensory sensitivities of the students, and how adults use language (when interacting with students) as part of behavioral planning. The results of this study suggest that positive behavior support strategies combined with cognitive behavior therapy strategies may be effectively

implemented with young adults who have CHARGE syndrome in order to facilitate more socially appropriate behaviors and to reduce challenging behaviors.

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significant findings for some statistical tests. The power the authors refer to is the measure of how likely a given statistical test is to find a given size of effect being examined. Given the large sample size used in this study, the authors note that they are confident in their ability to reliably detect very small effects. If taken to the extreme, however, an overly large sample size will lead to arguably meaninglessly small differences winding up being statistically significant. These authors appear to have used a dataset that is large enough to allow for the number of predictor variables they want to use, but not so large that they find everything tested as significant. Thus, they successfully walked the tightrope to the other side of the circus tent.

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