

CHOICE MAKING

CHARACTERISTICS OVERVIEW CHART

Verbal Skills	Grade Levels	Cognitive Level	Areas Addressed
<input checked="" type="checkbox"/> Nonverbal	<input checked="" type="checkbox"/> PK	<input checked="" type="checkbox"/> Classic	<input checked="" type="checkbox"/> (Pre)Academic/Cognitive/Academic
<input checked="" type="checkbox"/> Mixed	<input checked="" type="checkbox"/> Elementary	<input type="checkbox"/> High Functioning	<input checked="" type="checkbox"/> Adaptive Behavior/Daily Living
<input checked="" type="checkbox"/> Verbal	<input checked="" type="checkbox"/> Middle/High		<input checked="" type="checkbox"/> Behavior
			<input checked="" type="checkbox"/> Communication/Speech
			<input type="checkbox"/> Social/Emotional

BRIEF INTRODUCTION

Research has shown that choice-making opportunities are effective in reducing problem behavior and increasing task engagement. As a preventive intervention, choice making enables students to participate in activities, including non-preferred or less preferred activities.

DESCRIPTION

Choice making is an effective intervention for increasing the active participation of individuals with autism. For example, providing choice-making opportunities has demonstrated successful outcomes to manage problem behavior. Choices indicating personal preferences can also function as powerful reinforcers. Instructors and parents can use various options of choice to encourage individual performance. For example, if a student has a chance to choose preferred rewards, a target behavior is more likely to occur.

Instructors can gradually expand the number of choices based on the student's needs and level of functioning, and students can respond in various ways by pointing at objects or pictures or by verbalizing their choices. Choice making can be a reinforcer as well as a desired behavior associated with other reinforcers (i.e., when a student responds appropriately to making a choice, an instructor allows the student to play with a computer for 10 minutes).

In many cases, choice making is used with other visual supports (i.e., activity schedules or picture boards) and verbal or physical prompts to increase engagement in activities. Peck et al. (1996) described five types of adult responses in their procedure of choice-making treatment: (a) providing choices (i.e., adults give a choice to a student by saying "Which one do you want? You choose"); (b) choice prompts (i.e., adults provide verbal or physical prompts by indicating

the options or by placing the student's hand on the choice board or objects); (c) task prompts (i.e., adults direct the option by saying "Take this" and providing physical guidance); (d) social interactions (i.e., positive social contact with the student, including praise, talking about the objects or activities, smiles, tickles, or hugs); and (e) redirection or block (i.e., restricting the student's hand or correcting his posture to see the options when the student's response was inappropriate or irrelevant to the task).

Examples of choice making include:

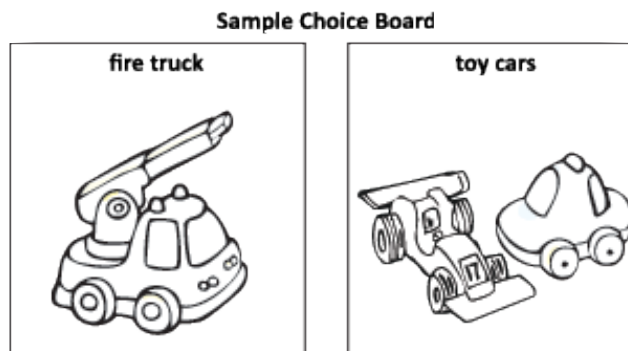
- Choosing own clothes or shoes daily at home
- Selecting own rewards (juice or apple)
- Identifying activities or materials for a given activity
- Deciding menu at a restaurant
- Choosing colors for writing or painting

STEPS

The following are general steps for implementing choice making:

- Assess the student's needs prior to teaching choice making. It may be necessary to teach prerequisite skills if he does not understand the association between a choice (a stimulus) and a consequence of choice making.
- Identify the target behavior to increase or decrease.
- Provide choices.
- Evaluate the procedure and the student's progress.

Illustration 1: Sample Choice Board



BRIEF EXAMPLE

Ashley, a second grader, engages in severe self-injurious behavior (i.e., head or ear hitting), tantrums and meltdowns, and throwing things. During free play time, she usually roams the

room and does not engage in play with her peers. She has limited verbal language and uses simple symbols, such as yes/no pictures, by pointing.

Ms. Collins prioritized the target behavior as head hitting, defined as Ashley using her hand(s) and making forceful contact with her head. Ms. Collins observed Ashley and conducted a functional behavior assessment to identify the antecedent and the consequence of the behavior. She found that Ashley almost always engaged in self-injurious behavior when given a difficult task.

Ms. Collins planned to provide choice-making opportunities for Ashley when she is given a task. The appropriate choice response was defined as pointing to one of two pictures when the teacher presents the picture choice-board to Ashley. Ms. Collins also used verbal and physical prompts based on Ashley's response. When Ashley performs the appropriate response, she is given free time to roam the room for five minutes. After collecting data about the frequency of target behavior, Ms. Collins and paraprofessionals were excited to see how Ashley's self-injurious behavior, as well as emotional meltdowns, had decreased.

TIPS FOR MODIFICATIONS

AAC devices can be very useful, especially for students who have difficulties using verbal communication skills to make their choices. Based on students' abilities, pictures, symbols, and tangible objects may be used.

SUMMARY

Choice making is an effective and commonly used strategy to decrease problem behavior and increase participation in activities. Teachers and parents can use choice making in various situations based on the child's level of language or needs. Prompting is used to encourage the student to perform appropriate responses.

RESEARCH TABLE

Number of Studies	Ages (year)	Sample Size	Area(s) Addressed	Outcome
14	2–28	33	Appropriate behavior, motivation, aggressive/destructive behavior, problem behavior, task engagement, rejections, social play/pragmatic skills	+

STUDIES CITED IN RESEARCH TABLE

- Jensen, C., Lydersen, T., Johnson, P., Weiss, S., Marconi, M., Cleave, M., & Weber, P. (2012). Choosing staff members reduces time in mechanical restraint due to self-injurious behaviour and requesting restraint. *Journal of Applied Research in Intellectual Disabilities*, 25, 282-287.

The purpose of this study was to determine if allowing the participant to choose whom she worked with had an effect on levels on self-injurious behavior (SIB) and subsequent mechanical restraint. The participant was a 28-year-old female diagnosed with autism, bipolar disorder, moderate intellectual disabilities, and static cerebral encephalopathy. The study took place in the state-operated residential center in which the participant resided. Researchers used an alternating treatments design in which some sessions the participant was allowed to choose whom she worked with and then in other alternating sessions the choice was not given. Results showed a significant reduction in the time spent in mechanical restraint (note: mechanical restraint was employed when the participant engaged in or attempted to engage in SIB and/or asked for the restraint to be applied) following the participant being allowed to choose a staff member to work with. The researchers also compared data for when the participant was allowed to make a choice of whom to work with immediately and with whom she wanted to work with later on in the day. The researchers found that it did not appear to matter if the choice was immediate or for the future, as long as the choice was given, the participant's levels of mechanical restraint continued to decrease.
- Koegel, L.K., Singh, A.K., Koegel, R.L. (2010). Improving motivation for academics in children with autism. *Journal of Autism and other Developmental Disorders*, 40, 1057-1066.

The purpose of this study was to determine the effect of integrating choice and preferred activities into math and reading activities for 4 pre- and school aged children with ASD. During baseline the children were asked to complete math and reading tasks with no choice and no integration of preferred items or activities. In a multiple-baseline across participants design, intervention involving offering choices and integrating items and topics preferred by the child into the activities was introduced. Following the introduction of intervention all four children showed reduced rates of disruptive behavior, increased engagement, increased accuracy, and shorter latencies to begin academic tasks. The positive results generalized to novel teachers during follow-up.
- Tiger, J.H., Toussaint, K.A., Roath, C.T. (2010). An evaluation of the value of choice-making opportunities in single-operant arrangements: Simple fixed- and progressive-ratio schedules. *Journal of Applied Behavior Analysis*, 43(3), 519-524.

This study reported the results of an investigation into the effects of offering choice on the

response rates of three children with ASD (3, 7, & 7). Two of the participants showed increased response rates in some conditions in which choice was present while the third participant did not show sensitivity to the presence or absence of choice. The results suggest that choice may play a role in rates of responding for some children with ASD.

4. Carlson, J. I., Luiselli, J. K., Slyman, A., & Markowski, A. (2008). Choice-making as intervention for public disrobing in children with developmental disabilities. *Journal of Positive Behavior Interventions, 10*, 86-90.
Two children with autism and pervasive developmental disorders, aged 5 and 13 years, participated in the study. The intervention gave the children a choice to change into high-preference clothes at scheduled opportunities during the day. Scheduling acceptable opportunities to change clothes appeared to function as an operation that lessened each child's motivation to disrobe. Clinical implications of these findings are discussed.
5. Foxx, R. M., & Garito, J. (2007). The long-term successful treatment of the very severe behaviors of a preadolescent with autism. *Behavioral Interventions: Special Issue: The Treatment and Assessment of the Severe Behavior of Individuals with Autism and Developmental Disabilities, 22*, 69-82.
A program was developed to reduce the severe behavior (aggression, self-injury, dangerous behavior, disruptive behavior, induced vomiting, and inappropriate toileting) of a 12-year-old boy with autism. The program included a high density of positive reinforcement, tokens, choice making, contingent exercise, and overcorrection. Treatment occurred across three sites: home, a community-based site, and a self-contained classroom in a public school. All of the boy's severe behaviors were reduced to at or near zero levels, and at the time of the study these effects had been maintained for two years.
6. Foxx, R. M., & Meindl, J. (2007). The long-term successful treatment of the aggressive/destructive behaviors of a preadolescent with autism. *Behavioral Interventions: Special Issue: The Treatment and Assessment of the Severe Behavior of Individuals with Autism and Developmental Disabilities, 22*, 83-97.
A program was developed to reduce the aggressive/destructive behavior of a 13-year-old boy with autism. The program included a high density of positive reinforcement, tokens, choice making, response cost, overcorrection, and physical restraint. The participant made excellent progress in a number of academic areas.
7. Harding, J. W., Wacker, D. P., Berg, W. K., Barretto, A., & Rankin, B. (2002). Assessment and treatment of severe behavior problems using choice-making procedures. *Education & Treatment of Children, 25*, 26-46.
Two preschool-aged children (aged 4 and 6 years) diagnosed with pervasive developmental disorders who displayed severe problem behavior participated in the study. The results demonstrated that the introduction of choice making embedded within activity schedules increased time on task for both participants.
8. Carter, C. M. (2001). Using choice with game play to increase language skills and interactive behaviors in children with autism. *Journal of Positive Behavioral Interventions, 3*(3), 131-151.
Three participants (two girls both aged 5 and one boy aged 7) exhibited problem behaviors, a lack of engagement in interactive play, and delayed acquisition of grammatical morphemes. Results indicated that when choice was permitted during language intervention within a play context, disruptive behaviors were considerably reduced and levels of appropriate social play/pragmatic skills increased, thereby reducing interventionist redirection.

9. Peterson, S.M.P., Caniglia, C., & Royster, A. J. (2001). Application of choice-making intervention for a student with multiply maintained problem behavior. *Focus on Autism and Other Developmental Disabilities, 16*, 240-246.
A boy with autism (aged 10) with multiple problem behaviors participated in the study. The intervention involved rewarding the participant with breaks from work after he completed assigned tasks. It was concluded that choice making was an effective intervention for young children with autism who display problem behavior for multiple reasons.
10. Moes, D. R. (1998). Integrating choice-making opportunities within teacher-assigned academic tasks to facilitate the performance of children with autism. *Journal of the Association for Persons with Severe Handicaps, 23*, 319-328.
Four children with autism (aged 5-9 years) participated in the study. Results showed that providing students with opportunities to make choices regarding the order of task completion and use of stimulus materials improved participants' accuracy, productivity, and affect as well as reduced their disruptive behaviors.
11. Peck, S. M., Wacker, D. P., Berg, W. K., Cooper, L. J., Brown, K. A., Richman, D., McComas, J. J., Frischmeyer, P., & Millard, T. (1996). Choice-making treatment of young children's severe behavior problems. *Journal of Applied Behavior Analysis, 29*, 263-290.
Five children (aged 2 to 4 years) with developmental disabilities who had behavior problems participated in the study. Treatment packages involving choice making via manding were implemented to decrease inappropriate behavior and to increase mands. Results replicated and extended previous applications of choice making to severe behavior disorders and across behaviors maintained by positive and negative reinforcement.
12. Vaughn, B., & Horner, R. H. (1995). Effects of concrete versus verbal choice systems on problem behavior. *AAC: Augmentative and Alternative Communication, 11*, 89-92.
This study explored the impact of choice making on the problem behaviors of a 21-year-old man with autism and severe intellectual disabilities. The results contribute to the literature supporting the use of choice making as a means of reducing problem behavior, but add the caveat that, to be effective, choice-making procedures must be designed to ensure that the preferences of the individual are defined in a valid manner.
13. Carr, E. G., & Carlson, J. I. (1993). Reduction of severe behavior problems in the community using a multicomponent treatment approach. *Journal of Applied Behavior Analysis, 26*, 157-172.
Three males with autism (aged 16-18) participated in a study designed to evaluate a multi-component approach to remediating problem behavior. Results showed substantial increases in task completion and duration of time spent in supermarkets without problem behavior. Outcomes were socially validated by group-home staff and cashiers.
14. Dyer, K., Dunlap, G., & Winterling, V. (1990). Effects of choice making on the serious problem behaviors of students with severe handicaps. *Journal of Applied Behavior Analysis, 23*, 515-524.
This study assessed the impact of choice making on the serious problem behaviors of students (aged 5 and 11) with severe autism and/or mental retardation. Results showed consistently reduced levels of problem behaviors (i.e., aggression) when participants were given opportunities to make choices among instructional tasks and reinforcers. No systematic differences were found in the rate of correct responding between the two conditions.

REFERENCES

- Carlson, J. I., Luiselli, J. K., Slyman, A., & Markowski, A. (2008). Choice-making as intervention for public disrobing in children with developmental disabilities. *Journal of Positive Behavior Interventions, 10*, 86-90.
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GENERAL RESOURCES

- Autism Internet Modules (AIM) www.autisminternetmodules.org. The Autism Internet Modules were developed with one aim in mind: to make comprehensive, up-to-date, and usable information on autism accessible and applicable to educators, other professionals, and families who support individuals with autism spectrum disorders (ASD). Written by experts from across the U.S., all online modules are free, and are designed to promote understanding of, respect for, and equality of persons with ASD.
- Evidence-Based Practice Briefs
<http://autismpdc.fpg.unc.edu/content/briefs>
- Indiana Resource Center for Autism (IRCA) <http://www.iidc.indiana.edu/index.php?pagelid=32/>. The Indiana Resource Center for Autism staff's efforts are focused on providing communities, organizations, agencies, and families with the knowledge and skills to support children and adults in typical early intervention, school, community, work, and home settings.
 - IRCA Articles: <http://www.iidc.indiana.edu/index.php?pagelid=273>
- Texas Statewide Leadership for Autism www.txautism.net. The Texas Statewide Leadership for Autism in conjunction with the network of Texas Education Service center with a grant from the Texas Education Agency has developed a series of free online courses in autism. Please check the training page, <http://www.txautism.net/trainings>, for updated lists of courses, course numbers, and registration information.
 - Current courses include the following:
 - ❖ Asperger Syndrome 101
 - ❖ Augmentative and Alternative Communication and the Autism Spectrum
 - ❖ Autism for the General Education Teacher
 - ❖ Autism 101: Top Ten Pieces to the Puzzle
 - ❖ Classroom Organization: The Power of Structure for Individuals with ASD
 - ❖ Communication: The Power of Communication for Individuals with ASD
 - ❖ Futures Planning for Students with Autism Spectrum Disorder
 - ❖ Navigating the Social Maze: Supports and Interventions for Individuals with ASD
 - ❖ Solving the Behavior Puzzle: Making Connections for Individuals with ASD
 - Strategies for Working with Students with Autism in the General Education Setting:
 - ❖ Strategy 1: Understanding Students with Autism Spectrum Disorders.

- ❖ Strategy 2: Get to Know the Individual Student.
- ❖ Strategy 3: Create Predictability.
- ❖ Strategy 4: Develop Clear Expectations, Part 1 -- Social and Behavioral.
- ❖ Strategy 5: Develop Clear Expectations, Part 2 --Academic.
- ❖ Strategy 6: Create a Positive Learning Community.
- ❖ Strategy 7: Promote Positive Peer Interaction.
- ❖ Strategy 8: Use Instructional Strategies That Promote Successful Learning.
- ❖ Strategy 9: Use Behavioral Strategies That Promote Success Learning.
- ❖ Strategy 10: Develop a Plan to Address Challenging Behavior.
- ❖ Strategy 11: Borrow from the Special Educator's Toolbox.
- ❖ Strategy 12: Respect Each Student's Dignity and Need for Autonomy
- School-Based Applied Behavior Analysis Programs for Students with Autism Spectrum Disorders:
 - ❖ Course 1: Introduction to Autism Spectrum Disorders, Evidence-Based Practices, and the Basics of Applied Behavior Analysis (45 minutes)
 - ❖ Course 2: Reinforcement and Extinction (1.5 hours)
 - ❖ Course 3: Challenging Behavior Assessment and Treatment (1 hour)
 - ❖ Course 4: Communication and Social Skills Training (1 hour)
 - ❖ Course 5: Instructional Strategies (4 hours)
 - ❖ Course 6: Classroom and Environmental Arrangement (1.5 hours)