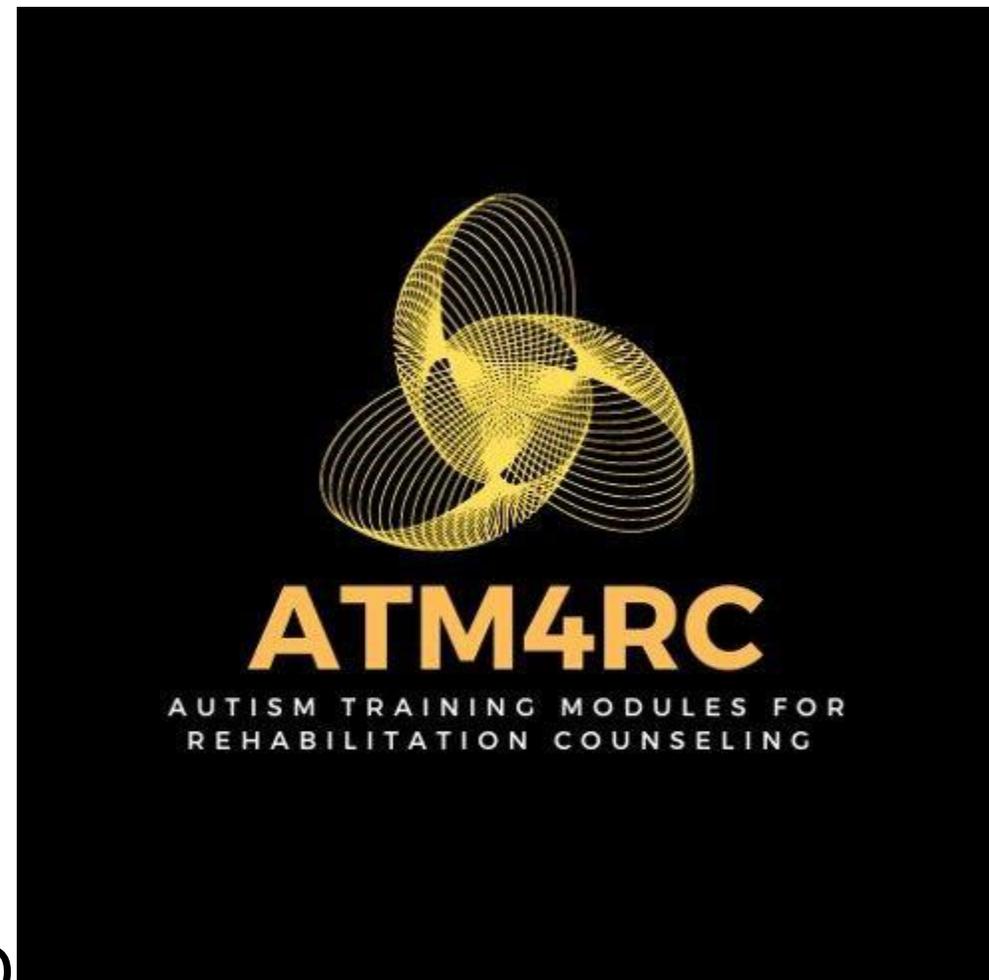


Use of Reinforcement with Autistic Persons

The contents of this training document were developed under grant number CFDA 84.263, H263C190004, for Rehabilitation Training: Innovative Rehabilitation Training Program. from the U.S. Department of Education. However, those contents do not necessarily represent the policy of the U.S. Department of Education, and you should not assume endorsement by the Federal Government.

Module developed by Dr. Marjorie Bock, Ed.D.
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LMHC



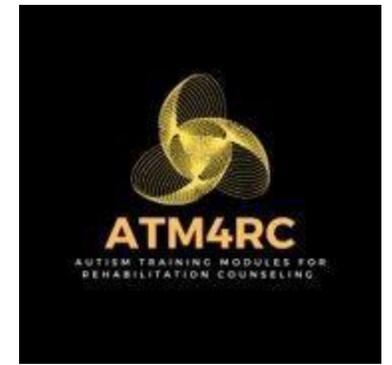
Module Objectives



By the end of this module, participants will be able to:

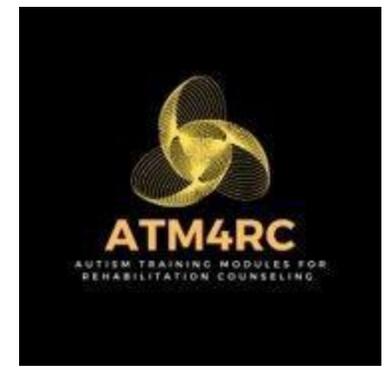
1. Define what reinforcement means and why it is needed.
2. List ways to provide reinforcement to persons with autism when addressing a target behavior or skill.
3. Identify ways to provide reinforcement procedures and implement.

Autism in the workplace: Lucas' Story



- Review the following video:
 - <https://www.youtube.com/watch?v=s-StzjHwsXI>
- After reviewing this video keep it in mind as you review the materials about reinforcement and we will come back to that later.

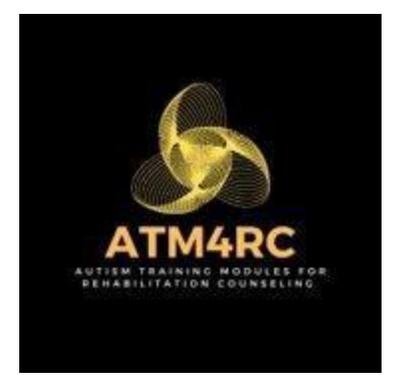
Positive reinforcement is a fact of daily life



Examples:

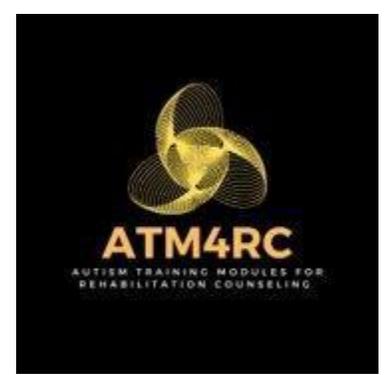
- Paychecks
 - Compliments
 - Going for a treat after exercising or doing a difficult task
 - Receiving attention from a friend or family member
 - Participating in token economies to earn rewards
 - Earning points toward a free coffee
 - Stickers on sticker chart to receive a prize for behaving in certain ways
 - Grades
 - Scholarships
 - Awards
 - Improved health for exercising
- ❖ Reinforcement is used to encourage desired behavior and to increase motivation
- (Coon, D., Mitterer, J., & Martini, T., 2021; Hall, 2018; Kearney, 2015)

Reinforcement: An Evidence-Based Practice for Persons with Autism



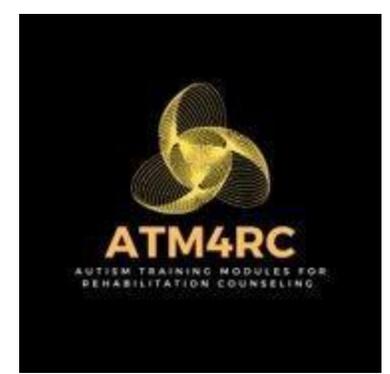
- Reinforcement is generally paired with other Evidence Based Practices (EBPs) such as prompting (i.e. prompt to complete task, complete task, receive reward)
- Steinbrenner et al.'s (2020) review of the literature found:
 - 106 studies (focused on children and adolescents), most of which are single subject design supported use of reinforcement as an EBP.
 - Improved academic, cognition, adaptive, behavior, communication, social, motor, play, and vocational outcomes for autistic persons through use of reinforcement.

Types of Reinforcers (1 of 3)



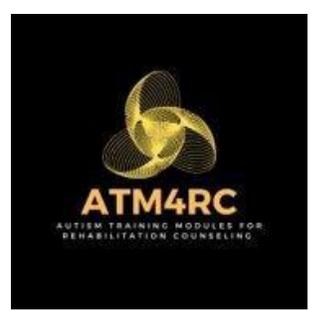
- Primary Reinforcers – “Generally things that keep us alive” such as food or drink and at times affection/social (Kearney, 2015, p. 48)
- Conditioned or secondary reinforcers– thing such as praise that are typically initially paired a primary reinforcer
 - For example- if someone gives you chocolate on a regular basis you may begin to be reinforced just by their presence if they discontinue giving you chocolate (Kearney, 2015).

Types of Reinforcers (2 of 3)



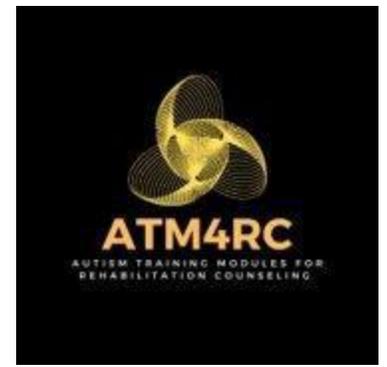
- Extrinsic reinforcers— often tangible items or other things that are observable by others
 - Someone “might eat his vegetables just to get a piece of pie” (Kearney, p. 49)
- Intrinsic reinforcers- internal motivation
 - Someone “might eat her vegetables simply because she like them” (Kearney, p. 49)

Types of Reinforcers (3 of 3)



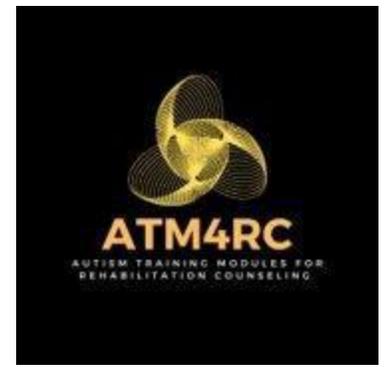
- Identify what type(s) of reinforcer each of the following is:
 - Going fishing with a friend
 - Pizza
 - Feeling good about your self
 - Receiving a paycheck for work you've done
 - Playing video games

Types of Reinforcers (answer key)



- Identify what type(s) of reinforcer each of the following is:
 - Going fishing with a friend- Secondary and Extrinsic
 - Pizza – Primary and Intrinsic
 - Feeling good about your self – Intrinsic and generally secondary
 - Receiving a paycheck for work you’ve done- Extrinsic and secondary
 - Playing video games – secondary, extrinsic or intrinsic

Positive Reinforcement



- Positive reinforcement refers to
 - Increasing or decreasing a desired behavior or skill through rewards, for example
 - Showing up to work and performing work to earn paycheck
 - Going out to lunch after completing a big task
 - May include a token economy
 - Earning a token (sticker, stamp, coin, money) that can later be traded in for a reward

(Kearney, 2015)

Video: Positive Reinforcement

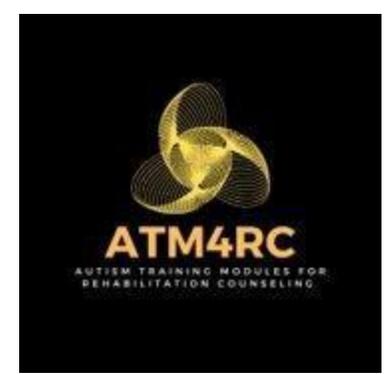


Autism Jargon: Positive Reinforcement

- Review this video provides a description of what positive reinforcement is, and how to implement it with persons with autism. There is a focus on using reinforcements in the workplace.

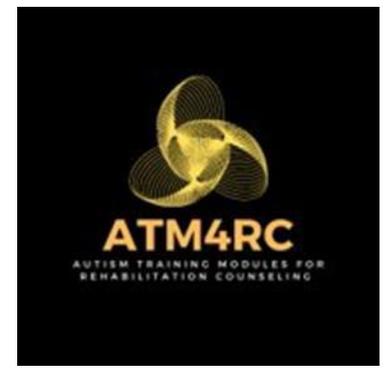
<https://youtu.be/2LDt5N3qU6Q>

Negative Reinforcement



- Negative reinforcement refers to
 - Increasing or decreasing a behavior or skill by removing a negative stimulus
 - Generally, involve escape and avoidance
 - Example: completing a work task to avoid getting reprimanded (Kearney, 2015)
- Generally positive reinforcement has longer lasting success and therefore negative reinforcement is not recommended
- Think of how you respond to negative reinforcement vs. positive reinforcement

The Benefits of Using Positive Reinforcements



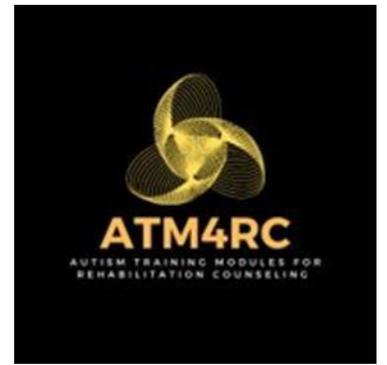
- Focus is on increasing a skill or behavior
- Helps maintain interest and motivation in learning skill or desired behavior
- Addresses the learning needs of the individual – Rewards tailored to their interests and preferences paired with individualized instruction
- Can be used in all settings



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(Coon, D., Mitterer, J., & Martini, T., 2021; Hall, 2018; Kearney, 2015)

Reinforcement Procedures (1/3)



- Positive reinforcement –
 - Determine reinforcement schedule ahead of time
 - How frequently reinforcement will be provided
 - For instance, every time a task, skill or behavior is completed successfully
 - Work with individual to create reinforcement menu of preferred reinforcers/rewards

(Coon, D., Mitterer, J., & Martini, T., 2021; Hall, 2018; Kearney, 2015)

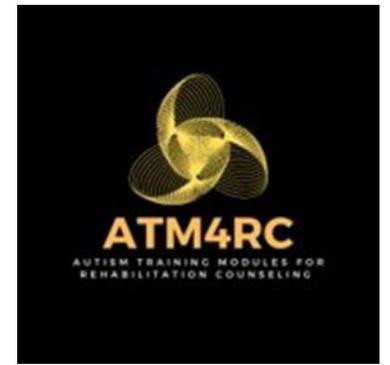
Reinforcement Procedures (2/3)



- Token economy –
 - Utilizes “generalized secondary reinforcers” to provide immediate reinforcement
 - These are often tokens, coins, stickers, checkmarks, smiling faces, etc
 - Think of playing at an arcade and earning tickets to purchase a prize
 - Agreed upon number of tokens must be earned before they are exchanged for another reinforcers which may be either primary or secondary

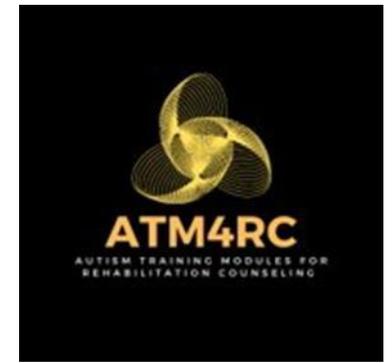
(Coon, D., Mitterer, J., & Martini, T., 2021; Hall, 2018; Kearney, 2015)

Reinforcement Procedures (3/3)



- To learn more about token economies read <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2648534/>
- For step-by-step instructions on implementing token economy <https://autismpdc.fpg.unc.edu/sites/autismpdc.fpg.unc.edu/files/Reinforcement-token-steps.pdf>
- Review this video by Dr. David Fisher <https://www.youtube.com/watch?v=AVIqGNYsYjw&t=2s>

Reinforcer Surveys

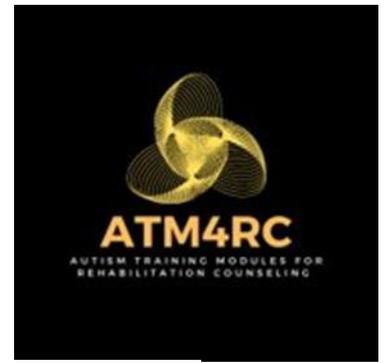


- Collect information on preferences from individuals to inform offered reinforcer menu
 - These may ask questions such as:
 - What is your favorite food or drink?
 - What do you like to do for fun?
 - What words of praise do you prefer?
 - Review these examples (Jaffery, 2015) for more ideas:
 - <https://mayinstitute.cdn.neptuneweb.com/pdfs/presentations/PBIS2019-T-A3C-Preference%20Assessment%20Packet.pdf>
- (Graff & Larson, 2011; Kearney, 2015)

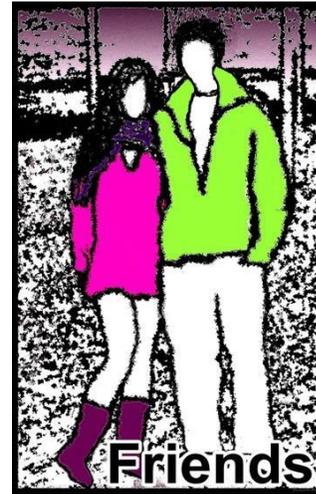
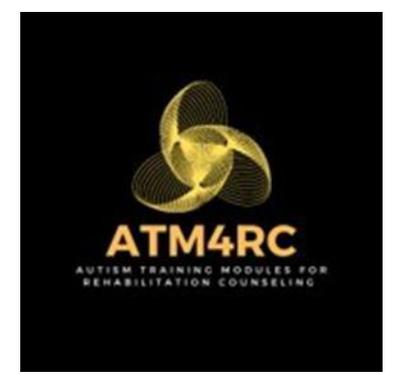
Reinforcer Menus

- Reinforcer menus – a written or pictorial list of reinforcers for individual to select from

(Kearney, 2015)



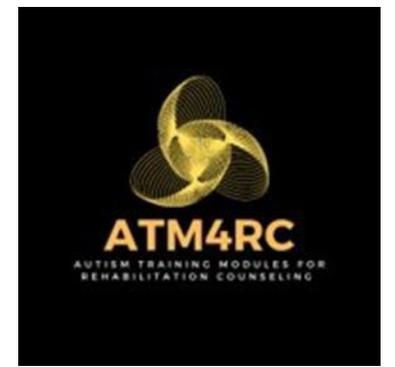
Example of Pictorial Reinforcer Menu



Provide direction to select one prior to engaging in learning task/skill/behavior

Example of Written Reinforcer Menu

Provide direction to select one prior to engaging in learning task/skill/behavior



Pizza	Hanging out with friends	Getting a thumbs up
Video games	Playing Basketball	Playing with dog

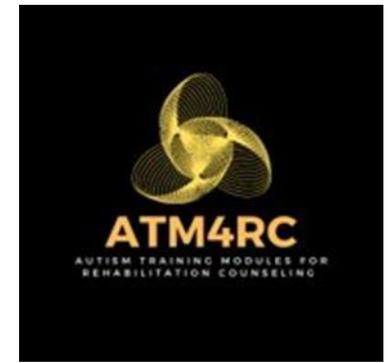
Reinforcement schedules (1 of 2)



- Continuous reinforcement-
 - Reward each successful attempt
- Intermittent reinforcement-
 - Reward some successful attempts
 - For instance 3 of 5 times
 - Types
 - Fixed ratio
 - Variable ratio
 - Fixed interval
 - Variable interval
- Often when teaching a new skill, we begin with continuous reinforcement and then fade to intermittent and eventually to none
 - in employment settings fixed interval reinforcement will be maintained as paychecks follow this pattern

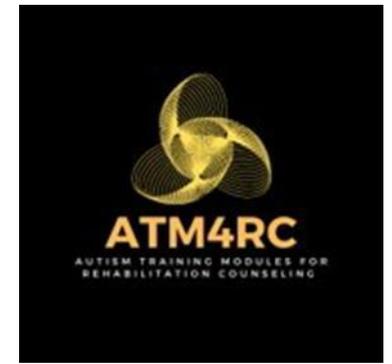
(Kearney, 2015)

Reinforcement schedules (2 of 2)



- Fixed ratio-
 - Reward after a certain number consistently
 - For instance, reward every 3rd successful attempt
- Variable ratio
 - Reward after a varied number of successful attempts
 - For instance, after 3 attempts then after 5 attempts
- Fixed interval-
 - Reward after set amount of time of successful task completion
 - For instance, every 2 minutes
- Variable interval-
 - Reward after a variable amount of time after successful task completion
 - For instance, 2 minutes, then after 5 minutes, etc

Data collection example



Goal/ Target	Selected reinforcer	Reinforcement schedule	Type and # of prompts	Errorless learning	Successful attempt	Reward received
				y/n	y/n	y/n

Implementation Tips



Plan	Use	Monitor
<ul style="list-style-type: none">• Identify target skill• Collect baseline data• Conduct reinforcer survey• Prepare needed reinforcers or other materials	<ul style="list-style-type: none">• Reinforce success using previously selected reinforcer schedule• Vary reinforcers to keep their effectiveness	<ul style="list-style-type: none">• Collect data• Change prompts, reinforcers, teaching methods as needed• Fade as soon as possible

Adapted from Sam & AFIRM team (2015) and Neitzel (2009)
For an in-depth checklist for implementing reinforcement see
https://csesa.fpg.unc.edu/sites/csesa.fpg.unc.edu/files/ebpbriefs/Reinforcement_Checklist-Positive.pdf

Summary

- Be consistent
- Engage individual in development of reinforcement plans (survey, menu, schedule)
- Revisit plan with individual as needed for revision
- Vary rewards to avoid boredom or satiation
- As with prompts, fade when able
- Limit access to rewards outside of learning environment
- Avoid exclusive use of primary reinforcers (Kearney, 2015)



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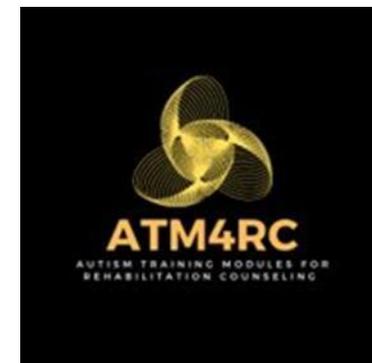
Case study

- Jake is learning to be a barista
 - Jamie is teaching Jake and observing him while he works
 - Jake is unsure of how he is doing at his job
- What can Jamie do to provide reinforcement for Jake?
 - What reinforcement schedule and reinforcer types may be helpful?
 - How can we determine this?
- Who else can reinforce Jake and how?



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Reinforcement Activity (1 of 2)



Creating a Reinforcement System for Autistic Adults

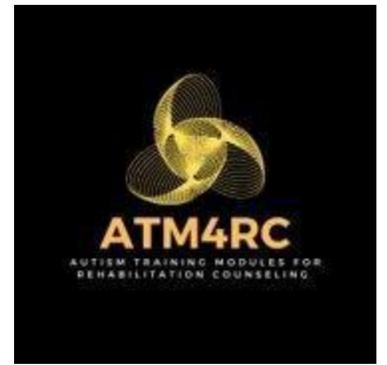
- Purpose: To create a reinforcer system (e.g., reinforcer survey, reinforcer menu, token economy or positive reinforcement) for autistic adults.
- Description: Using the implementation checklist, you will create, implement, and evaluate a reinforcement system for one of your autistic clients.
- Directions:
 - Next page

Reinforcement Activity (2 of 2)



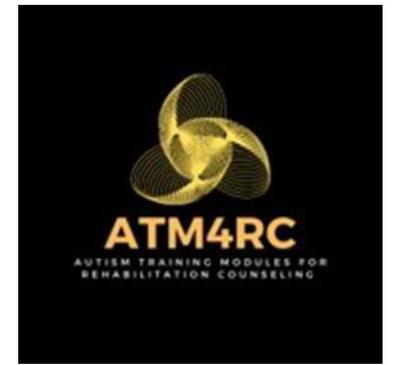
- Directions:
 1. Select one of your autistic clients for whom you think a reinforcement system will improve their performance at work.
 2. Assess the client to determine which sort of reinforcer works best for them.
 3. Identify the reinforcers that will enhance your client's workplace performance.
 4. Using the Implementation Checklist, create, implement, and monitor implementation of the reinforcement system you created.
 5. Evaluate the overall efficacy of the reinforcement system you created.

Revisit: Lucas' Story



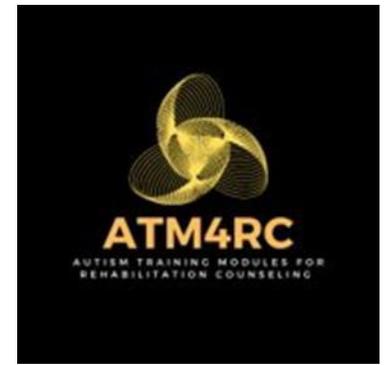
- Again review the following video:
 - <https://www.youtube.com/watch?v=s-StzjHwsXI>
- What types of reinforcement does Lucas mention/what sorts of things seem to reinforce him on the job?

References (1 of 2)



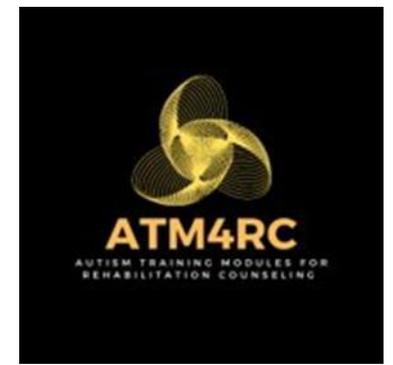
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- Neitzel, J. (2009). Implementation checklist for positive reinforcement. Chapel Hill, NC: The National Professional Development Center on Autism Spectrum Disorders, Frank Porter Graham Child Development Institute, University of North Carolina.

References (2 of 2)



- Sam, A., & AFIRM Team. (2015). Reinforcement. Chapel Hill, NC: National Professional Development Center on Autism Spectrum Disorder, FPG Child Development Center, University of North Carolina.
<http://afirm.fpg.unc.edu/reinforcement>
- Steinbrenner, J. R., Hume, K., Odom, S. L., Morin, K. L., Nowell, S. W., Tomaszewski, B., Szendrey, S., McIntyre, N. S., Yücesoy-Özkan, S., & Savage, M. N. (2020). Evidence-based practices for children, youth, and young adults with Autism. The University of North Carolina at Chapel Hill, Frank Porter Graham Child Development Institute, National Clearinghouse on Autism Evidence and Practice Review Team.

Additional Resources



Autism Focused Intervention Resources & Modules (AFIRM)

- This interactive module provides in-depth training on reinforcement for autistic persons.
- The module is an Open Educational Resource (OER)
- <https://afirm.fpg.unc.edu/reinforcement>

Sam, A., & AFIRM Team. (2015). Reinforcement. Chapel Hill, NC: National Professional Development Center on Autism Spectrum Disorder, FPG Child Development Center, University of North Carolina. Retrieved from <http://afirm.fpg.unc.edu/reinforcement>

Additional Resources: Data Collection Resources



- Autism classroom resources – behavior data collection sheets that will rock your BIPS - <https://autismclassroomresources.com/behavior-data-sheets/>
- RethinkBH – free ABA data sheets & forms – updated 2023 – <https://www.rethinkbehavioralhealth.com/resources/free-aba-data-sheets/>
- Behavior data collection sheets for special education - <https://abainschool.com/behavior-data-collection-continuous/>

Additional Resources: Websites



- Do2Learn - <https://do2learn.com>, specifically Behavior Management - <https://do2learn.com/BehaviorManagement/overview.htm>
- Social emotional workshop - <https://www.socialemotionalworkshop.com/reinforcement-surveys/>
- Teachers pay teachers reinforcer menus - <https://www.teacherspayteachers.com/browse?search=reinforcer%20menus>
- Temple Grandin's Official Website - <https://www.templegrandin.com/>
- Positive behavior treatment - <https://www.positivebehaviorstreatment.com/>
- National center on intensive intervention – reinforcement strategies - https://intensiveintervention.org/sites/default/files/Reinforcement_Strategies_508.pdf

Additional Resources: Apps



ABA Data Collection App

- <https://tallyflex.com/>
- To help individuals reach potential and meet goals
- Streamlines data collection
- Minimizes human error with data entry
- Built in visual timer
- Able to take notes

Tokenat Web App

- <https://tokenatapp.com/>
- Multi-language reward system
- Customize tokens
- Optional token sound effects
- A reward picture gallery
- Learner can win prizes

Additional Resources: Books

- Kearney, A.J. (2015). Understanding applied behavioral analysis: An introduction to ABA for parents, teachers, and other professionals. 2nd ed. Jessica Kingsley Publishers.
- Lara, J. & Osborne, S. (2017). Teaching Pre-Employment Skills to 14-17-Year-Olds. Jessica Kingsley Publishers.