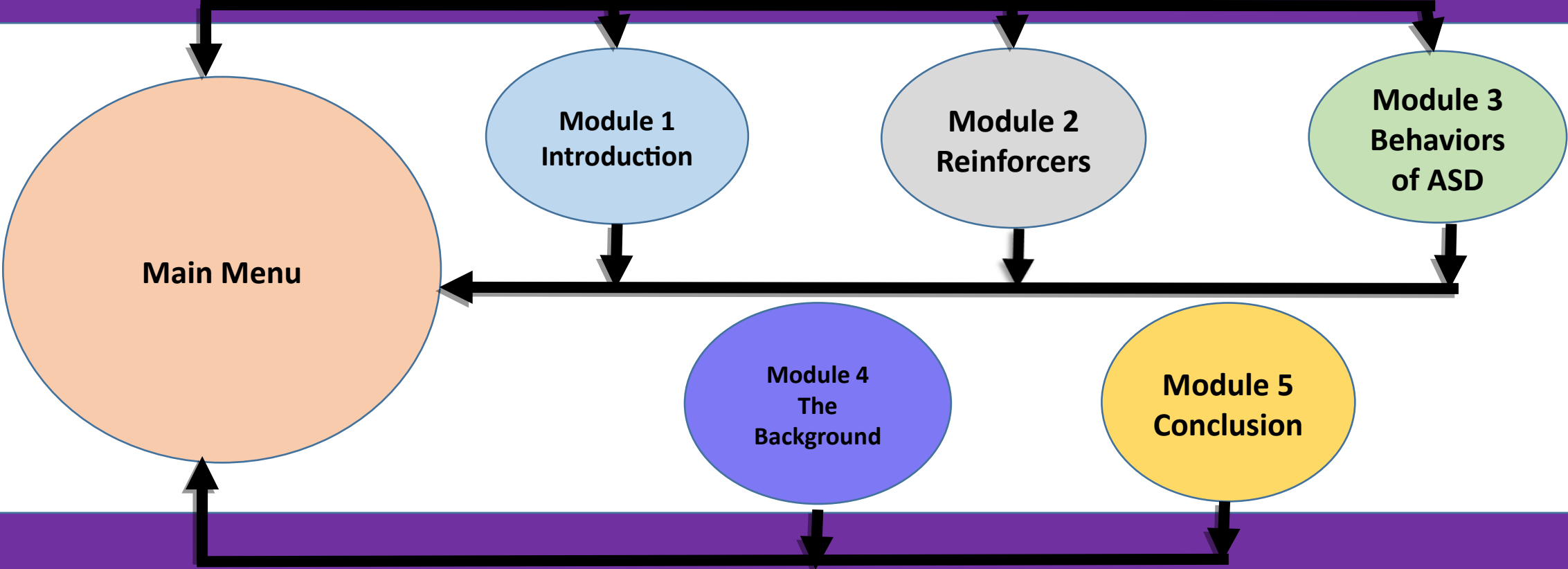
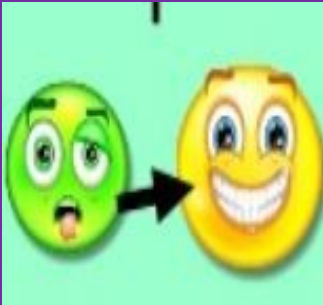


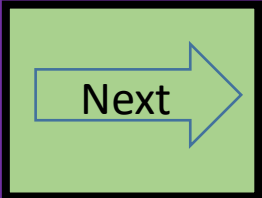
# Outline On Instrumental Conditioning Foundations

## Negative Reinforcement Lesson Draft

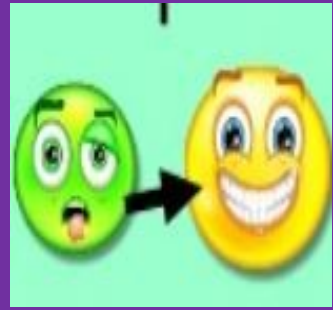


# Autism Spectrum Disorders

By Ronda Nicholson



# About The Author



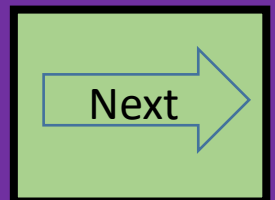
I am seeking a Masters in Design and Educational Technology from University of West Alabama. I will graduate in October 2021. I am working on starting my own Instructional Design business called VerBloom Designs. My plans are to design trainings for schools, corporate offices and stakeholders. I am passionate about helping others and meeting objectives.

I enjoy designing with various platforms and environments like traditional, virtual and online settings. I enjoy playing around with computer programming, building games, and various media platforms.



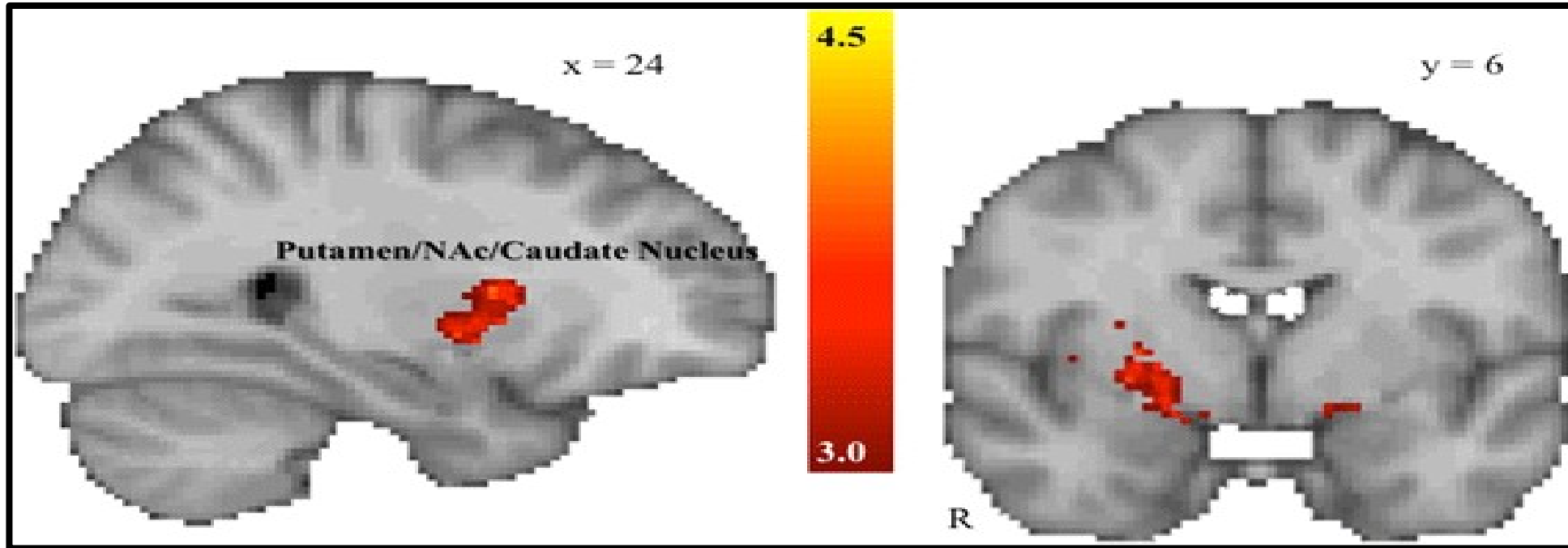
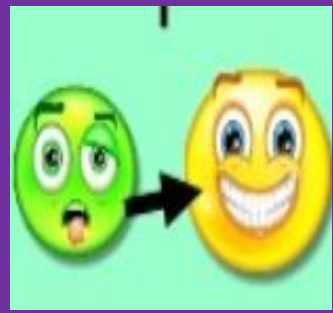
# Autism Spectrum Disorders

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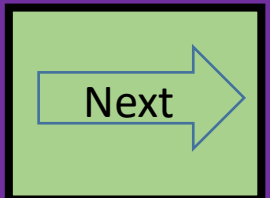
# Instrumental Conditioning Foundations

## Negative Reinforcement



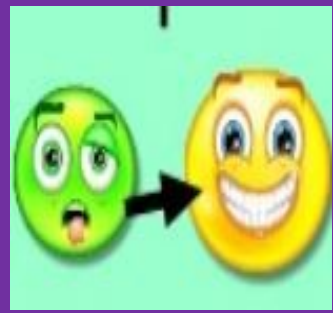
# Autism Spectrum Disorders

By Ronda Nicholson



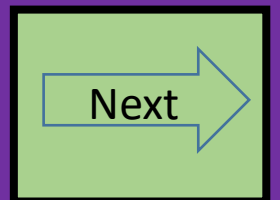
# Overview

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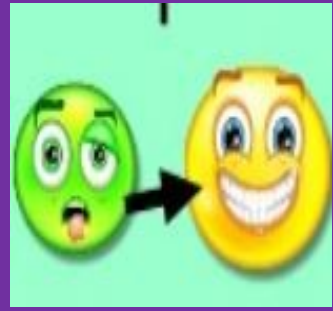
- About the Author
- Title of Lesson
- Overview
- Objectives
- Topic of Discussion
- Module 1- Introduction
- Module 2- Reinforcers
- Module 3- Behaviors Of ASD
- Module 4- Background
- Module 5- Conclusion

# Autism Spectrum Disorders



# Instrumental Conditioning Foundations

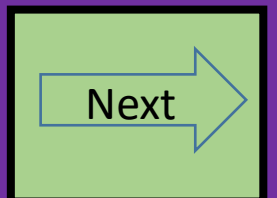
## Negative Reinforcement



### Objectives

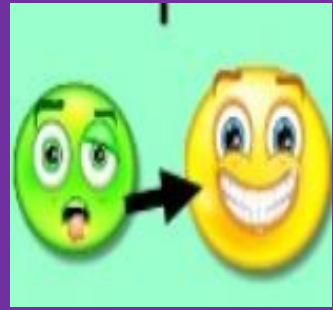
- To define and describe Instrumental Conditioning Foundations, Operant Conditioning and the four types of reinforcements
- To define how neural mechanisms of negative reinforcement in children and adolescents with ASD, are rewarded atypical reward processing.
- How atypical responding to negative reinforcement contributes to social motivational deficits in this population.

## Autism Spectrum Disorders



# Instrumental Conditioning Foundations

## Main Menu



**Module 1**  
**Introduction**

**Module 2**  
**Reinforcers**

**Module 3**  
**Behaviors Of ASD**

**Module 4**  
**Background**

**Module 5**  
**Conclusion**

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**Lesson**

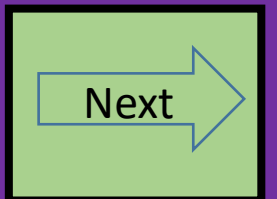
**Back to**  
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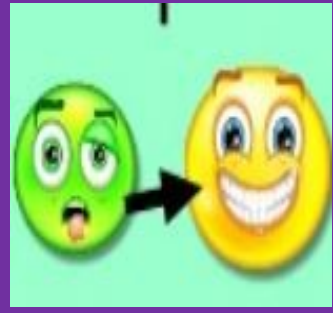
# Autism Spectrum Disorders

**Next**



# Instrumental Conditioning Foundations

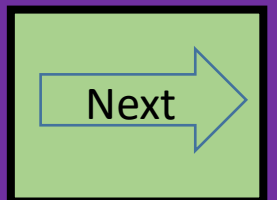
## Negative Reinforcement



### Topic of Discussion

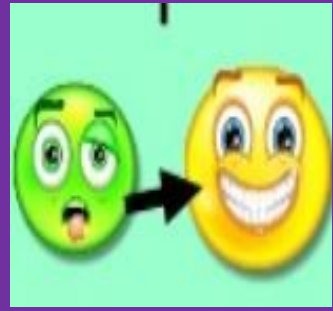
- Neural mechanisms of negative reinforcement in children and adolescents with autism spectrum disorders.

Autism Spectrum Disorders



# Instrumental Conditioning Foundations

## Instrumental Conditioning



## What is Instrumental Conditioning Foundations?

- A method of learning that employs rewards and punishments for behavior.
- Through operant conditioning, an association is made between the behavior and a consequence (negative or positive) for that behavior.

**Autism Spectrum Disorders**  
Negative Reinforcement

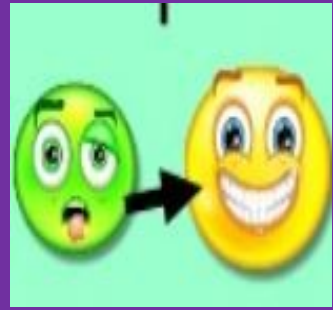
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# Instrumental Conditioning Foundations

## Operant Conditioning



## What is Operant Conditioning?

A type of learning in which behavior is influenced by consequences.

Examples

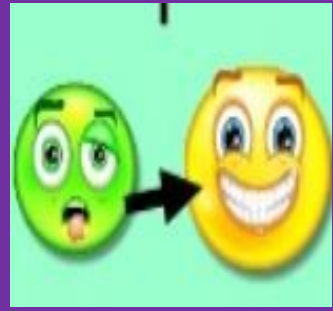
## Autism Spectrum Disorders

### Negative Reinforcement

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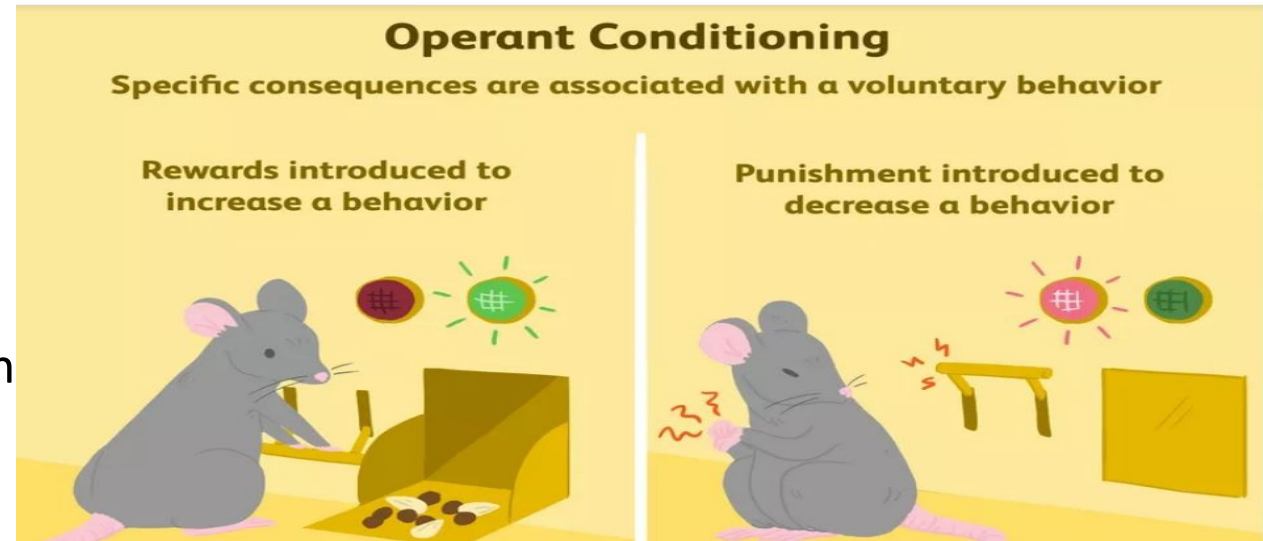
# Instrumental Conditioning Foundations

## Operant Conditioning



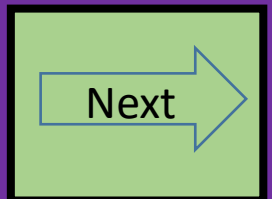
The animal or individual must operate on the environment before consequence can occur.

- Green light- rats receive a pellet as a reward.
- Red light- rats receive an electric shock.
- Result- rats learn to press the lever when the green light is on to avoid the red light.



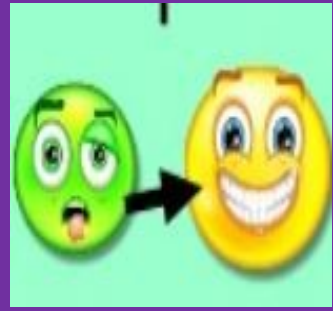
# Autism Spectrum Disorders

## Negative Reinforcement



# Instrumental Conditioning Foundations

## Reinforcers



### Primary Reinforcer

- Consist of reinforcing stimuli that satisfy basic motivational needs.

### Secondary Reinforcer

- Consist of reinforcing stimuli that acquire their value through learning.

## Autism Spectrum Disorders

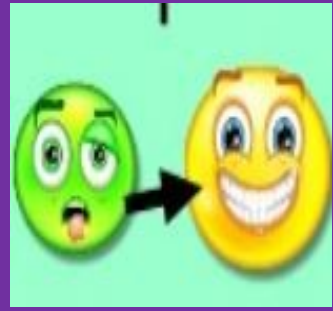
### Negative Reinforcement

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# Instrumental Conditioning Foundations

## Reinforcements

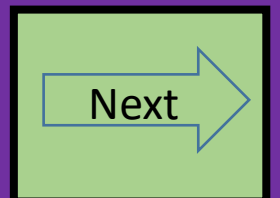


## Types of Reinforcers

- Positive Reinforcement
- Positive Punishment
- Negative Reinforcement
- Negative Punishment

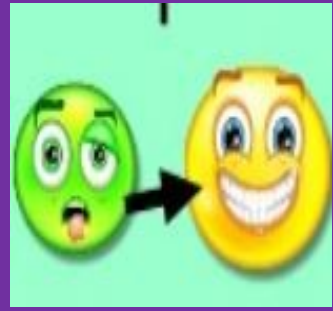
# Autism Spectrum Disorders

## Negative Reinforcement



# Instrumental Conditioning Foundations

## Positive Reinforcement



## Positive Reinforcement

Is the strengthening of behavior after potential reinforcers such as praise, money or nourishment that follows that behavior.

Examples

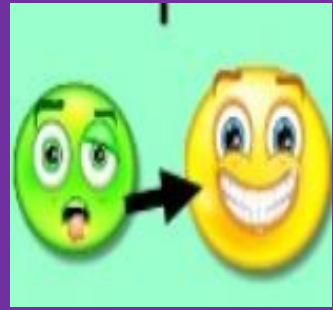
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## Positive Reinforcement

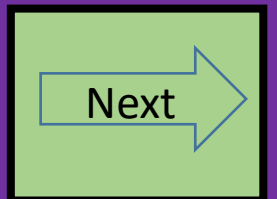


Something is added (Positive) to increase behavior Reinforcement).



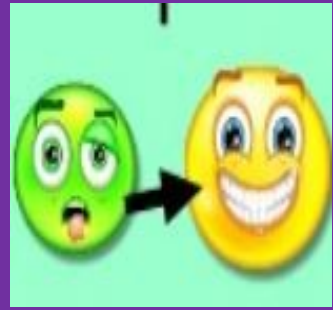
# Autism Spectrum Disorders

## Negative Reinforcement



# Instrumental Conditioning Foundations

## Positive Punishment



Is a process in which a behavior decreases because it adds or increases a particular stimulus.

Examples

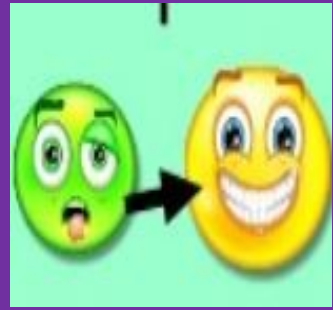
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## Positive Punishment



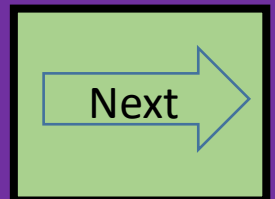
Something is added (Positive) to decrease a behavior (Punishment).



A child touches a hot stove (behavior) and feels pain (aversive stimulus)

# Autism Spectrum Disorders

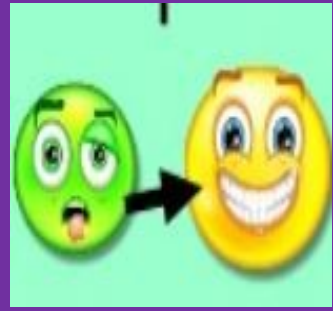
## Negative Reinforcement





# Instrumental Conditioning Foundations

## Negative Reinforcement

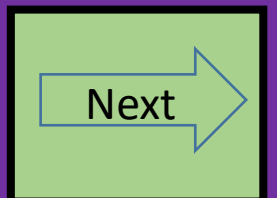


Involves the strengthening of a behavior because it removes or diminishes a stimulus.

Examples

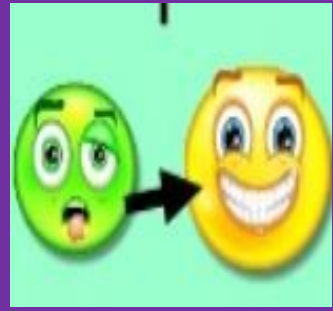
# Autism Spectrum Disorders

## Negative Reinforcement



# Instrumental Conditioning Foundations

## Negative Reinforcement



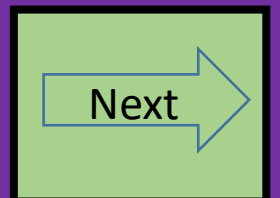
Something is taken away (Negative) to increase a behavior (Reinforcement).

Drying Wet Hands		
Before	Behaviour	After
Wet hands	Rub hands in a towel	Water gone from hands

Future behavior- Will rub hands in a towel when they are wet.

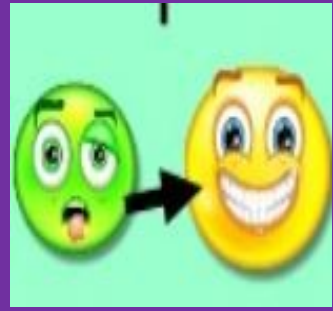
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## Negative Reinforcement



# Instrumental Conditioning Foundations

## Negative Punishment

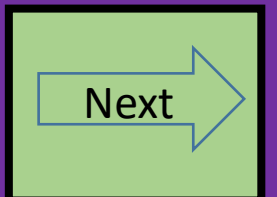


Occurs when a behavior decreases because it removes or diminishes a particular stimulus.

Examples

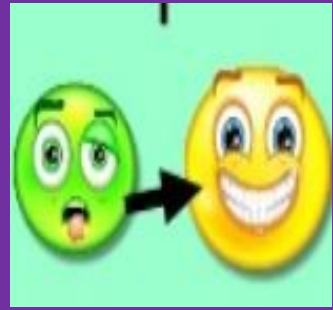
# Autism Spectrum Disorders

## Negative Reinforcement



# Instrumental Conditioning Foundations

## Negative Punishment



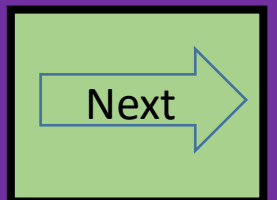
Something is taken away (Negative) to decrease a behavior (Punishment).



Two children fighting over a toy, the mother takes away the toy from both children.

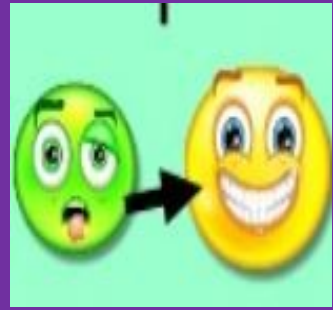
# Autism Spectrum Disorders

## Negative Reinforcement

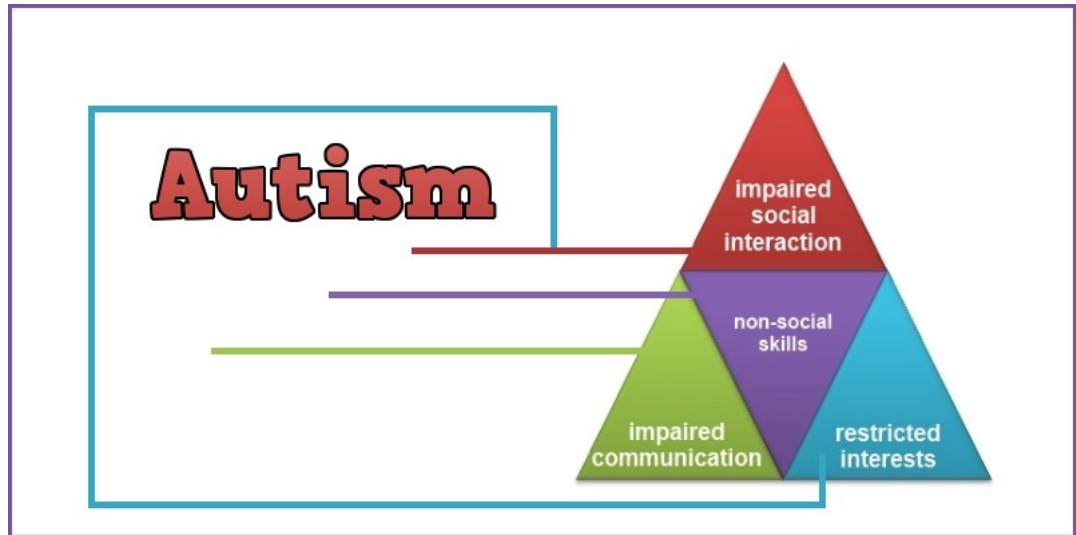


# Instrumental Conditioning Foundations

## Behaviors of ASD



According to Cockrell and Dunlap, the authors in the article, Neural mechanisms of negative reinforcement in children and adolescents with autism spectrum disorders are characterized by deficits in social interaction and communication as well as restricted and repetitive behaviors and interests.



# Autism Spectrum Disorders

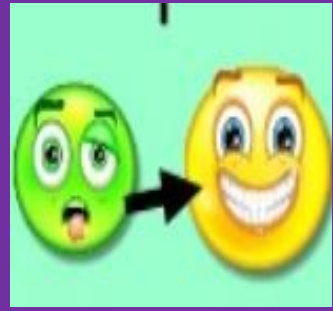
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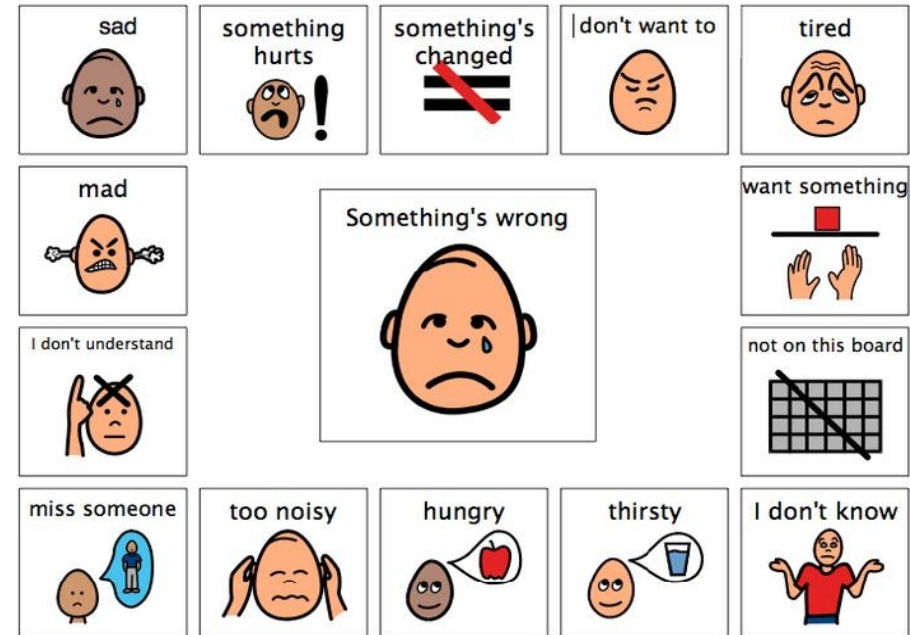
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# Instrumental Conditioning Foundations

## Non-Social Learning

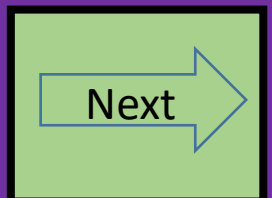


Core social symptoms are related to impaired social motivation which leads to hypo-responsiveness to social rewards, which causes individuals with ASD to decline opportunities for engaging in social learning throughout development.



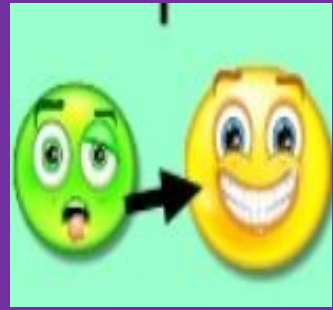
# Autism Spectrum Disorders

## Negative Reinforcement



# Instrumental Conditioning Foundations

## Background



Previous research has found evidence for atypical reward processing in (ASD), for social rewards that focused on positive social reinforcement, while little is known about the processing of negative reinforcement in individuals with ASD.

The next slide is a video that will explain more about [atypical reward processing](#) and negative reinforcement in ASD.

## Autism Spectrum Disorders

### Negative Reinforcement

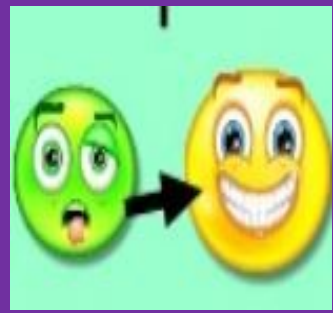
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# Instrumental Conditioning Foundations

## Atypical Reward Processing

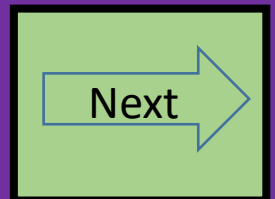


## Negative Reinforcement Example Video



# Autism Spectrum Disorders

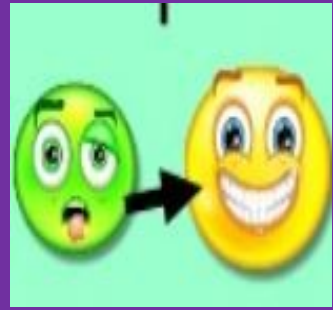
## Negative Reinforcement





# Instrumental Conditioning Foundations

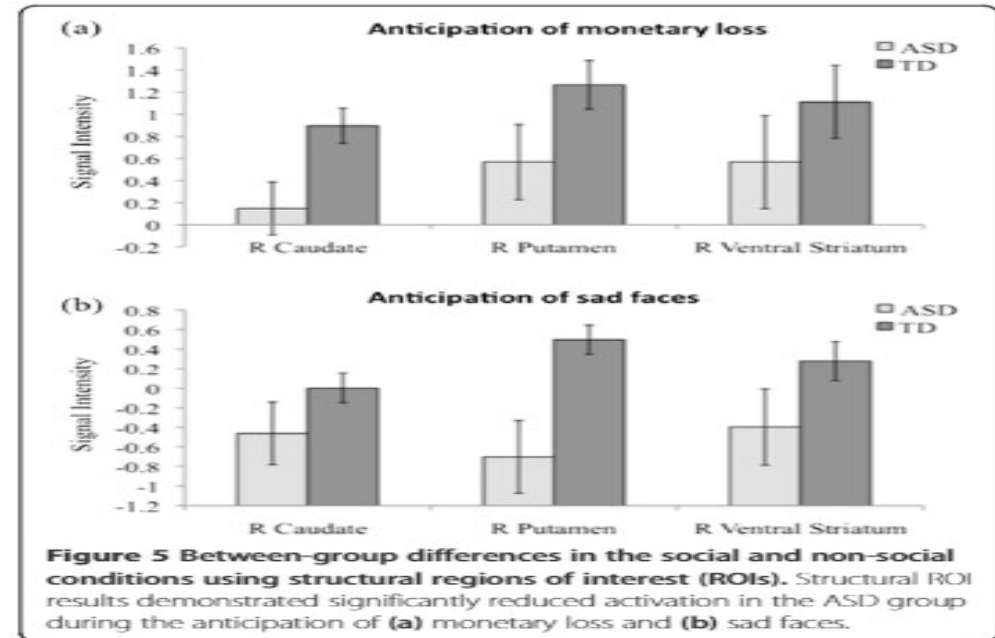
## Background (Continued)



Only two studies to date have addressed negative reinforcement in ASD.

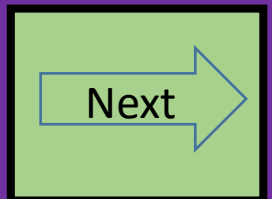
### Study 1:

Colleagues found that children and adolescents with ASD showed different physiological responses when anticipating possible non-social negative reinforcement and reported evidence that individuals with ASD and high levels of anxiety may be motivated to avoid negative reinforcement.



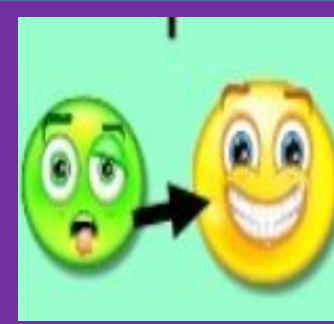
# Autism Spectrum Disorders

## Negative Reinforcement



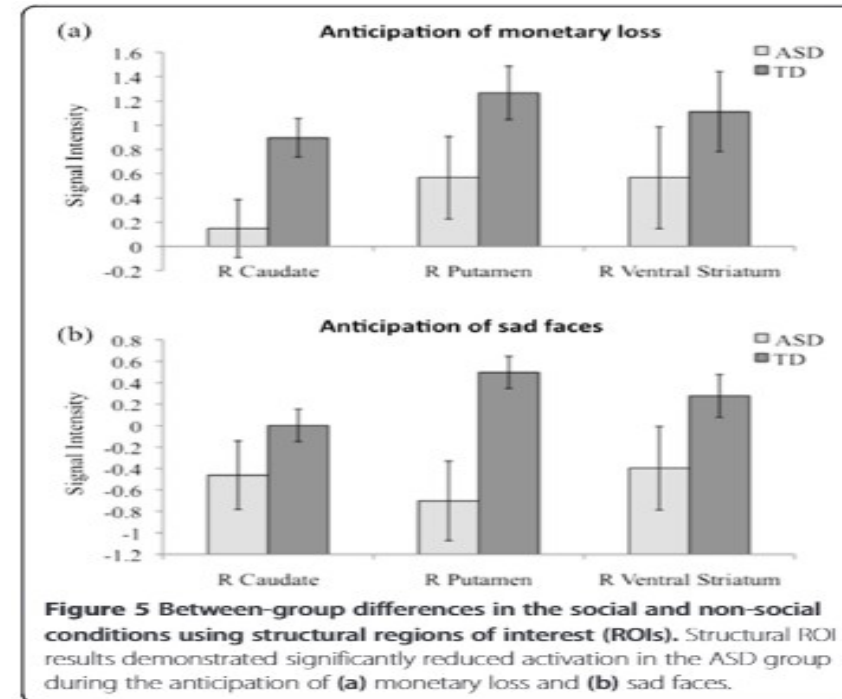
# Instrumental Conditioning Foundations

## Background (Continued)



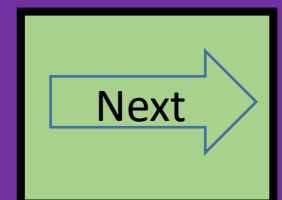
### Study 2:

When examining electrophysiological responses to non-social negative reinforcement in ASD, no group differences were found for negativity amplitude, ERP component was correlated with age in the ASD group, as younger children with ASD demonstrated more attenuated responses to negative reinforcement.



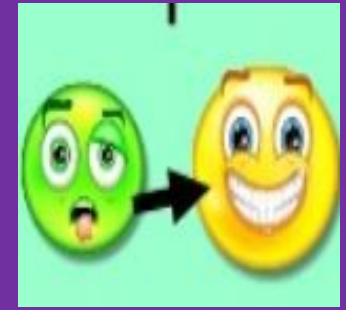
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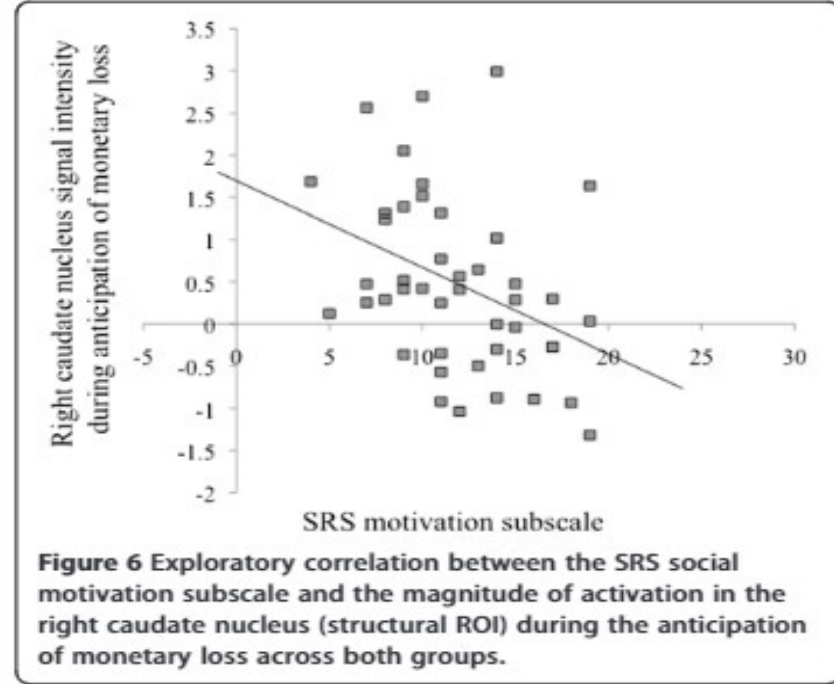


# Instrumental Conditioning Foundations

## Methodology

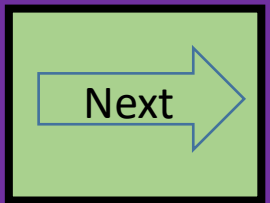


Study(2) examined neural responses to social negative reinforcement (a face displaying negative affect) and non-social negative reinforcement (monetary loss) in children with ASD relative to typically developing children, using MRI imaging.



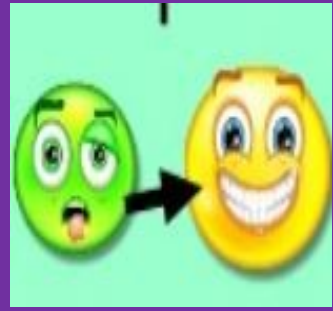
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## Negative Reinforcement

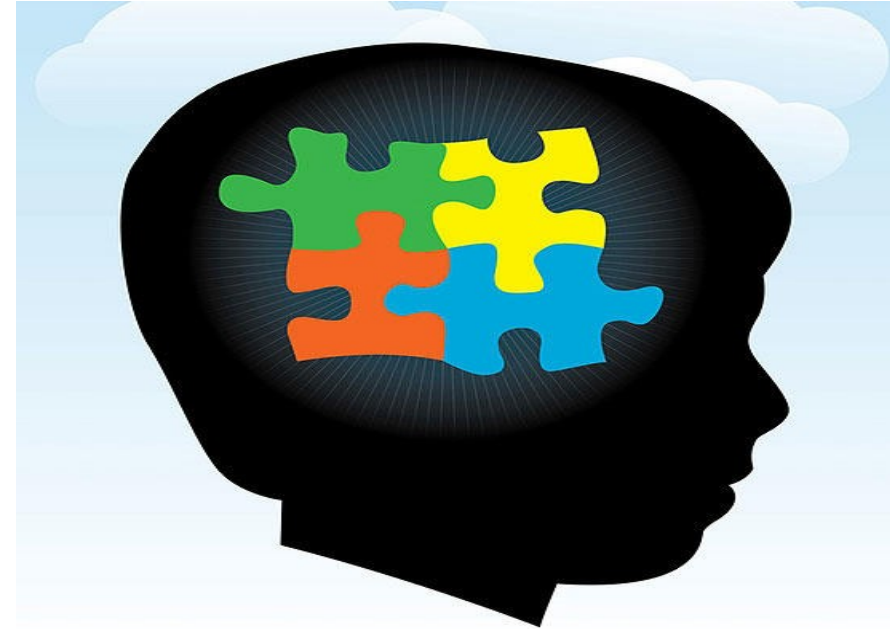


# Instrumental Conditioning Foundations

## Results

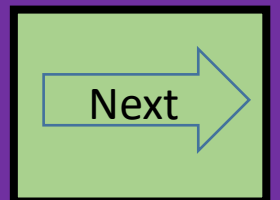


Researchers found that children with ASD demonstrated hypoactivation of the right caudate nucleus and expected non-social negative reinforcement and hypo-activation while expecting social negative reinforcement. In addition, activation of the right caudate nucleus during non-social negative reinforcement was associated with individual differences in social motivation.



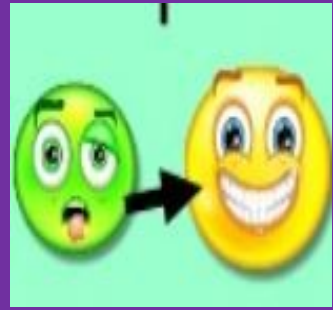
# Autism Spectrum Disorders

## Negative Reinforcement



# Instrumental Conditioning Foundations

## Conclusion



These results suggest that atypical responding to negative reinforcement in children with ASD may contribute to social motivational deficits in this population.

### Common Social Skills Deficits

Social interactions involve:

- verbal communication
- non-verbal communication
- personal space
- social engagement
- social reciprocity
- topic flow
- eye contact
- humor



Scholastic Intervention Solutions (2014)

# Autism Spectrum Disorders

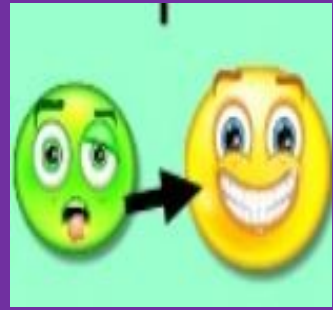
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# Instrumental Conditioning Foundations

## Negative Reinforcement



## Image Resources

Psychologenie. Explaining Operant Conditioning With Examples You Never Heard Of retrieved from <https://psychologenie.com/operant-conditioning-examples>

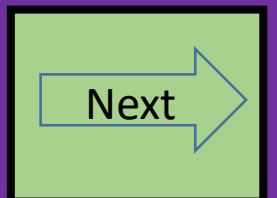
Verywellmind. What Is Operant Conditioning and How Does It Work? Retrieved from <https://www.verywellmind.com/operant-conditioning-a2-2794863>

Dreamstime. Child Touching Hot Stove Stock Photos. Retrieved from <https://www.dreamstime.com/photos-images/child-touching-hot-stove.html>

Educate Autism . Tools to help you teach. Retrieved from <http://www.educateautism.com/behavioural-principles/examples-of-negative-reinforcement.html>

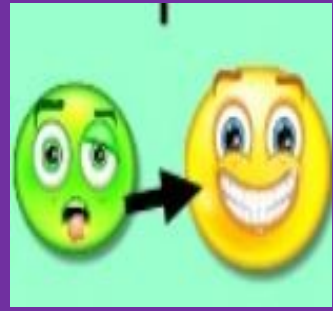
# Autism Spectrum Disorders

## Negative Reinforcement



# Instrumental Conditioning Foundations

## Negative Reinforcement



## Other Resources

Damiano, C.R., Cockrell, D.C., Dunlap, K et al. Neural mechanisms of negative reinforcement in children and adolescents with autism spectrum disorders. Retrieved from <https://rdcu.be/b8ctG>

Domjan, M., & Grau, J. (2014). Chapter 5. Instrumental Conditioning Foundations. *The principles of learning and behavior*. Stamford, CT: Cengage Learning.

This chapter discusses instrumental conditioning and goal-directed behavior. This type of conditioning, obtaining a goal or reinforce depends on the prior occurrence of designated response.

Agentcucumber. Negative Reinforcement [video file] YouTube, Retrieved from [https://www.youtube.com/watch?v=rWEqvRGj\\_EY](https://www.youtube.com/watch?v=rWEqvRGj_EY)

Miller, V. (2020). Module 6: Chapter 5 Power point Lecture. Instrumental Conditioning: Foundations & Motivational Mechanisms. Psychology of Learning (10009) Athens.blackboard.com.

Miller, V. (2020). Module 8: Chapter 6 Power point Lecture. Schedules of Reinforcement and Choice. Learning Recap and moving into Chapter 6. Psychology of Learning (10009) Athens.

blackboard.com

# Autism Spectrum Disorders

## Negative Reinforcement

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