

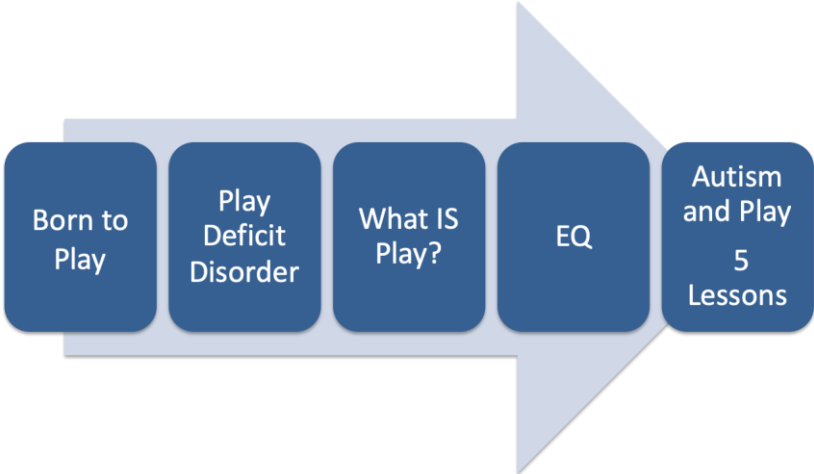


# Born to Play

*5 Practical Lessons from Play Science  
About Autism and Human Development*

“Dr. Rick” Solomon MD, FAAP  
Medical Director  
The PLAY Project

## Born to Play: Overview

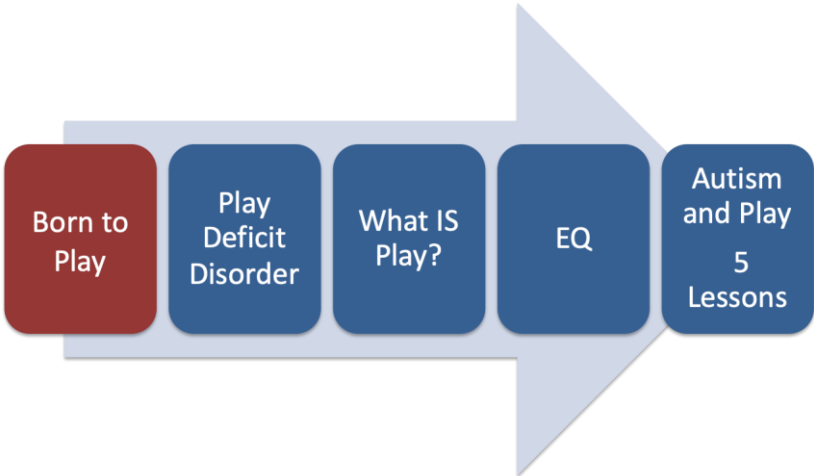


Born to Play

We are born to play  
Science tells us so



Overview



Play and Brain Science

Jaak Panksepp



[YOUR HEALTH](#)  
**Brain Scientists Trace Rat Ticklishness To Play Behavior**  
November 10, 2016 2:01 PM ET

<https://www.npr.org/sections/health-shots/2016/11/10/501447965/brain-scientists-trace-rat-ticklishness-to-play-behavior>



All Mammals are Born to Play

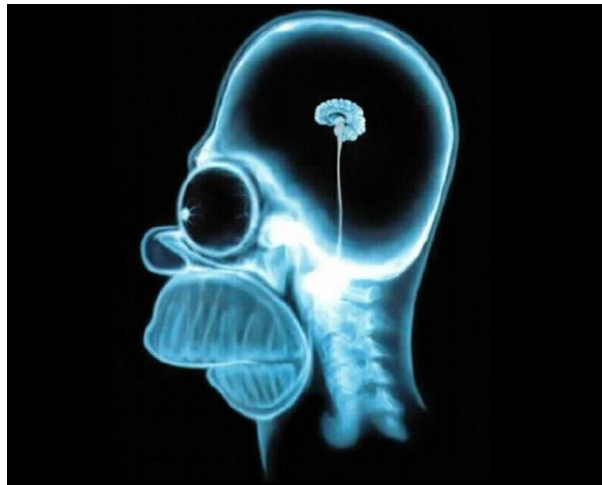
Stuart Brown MD  
National Institute For Play



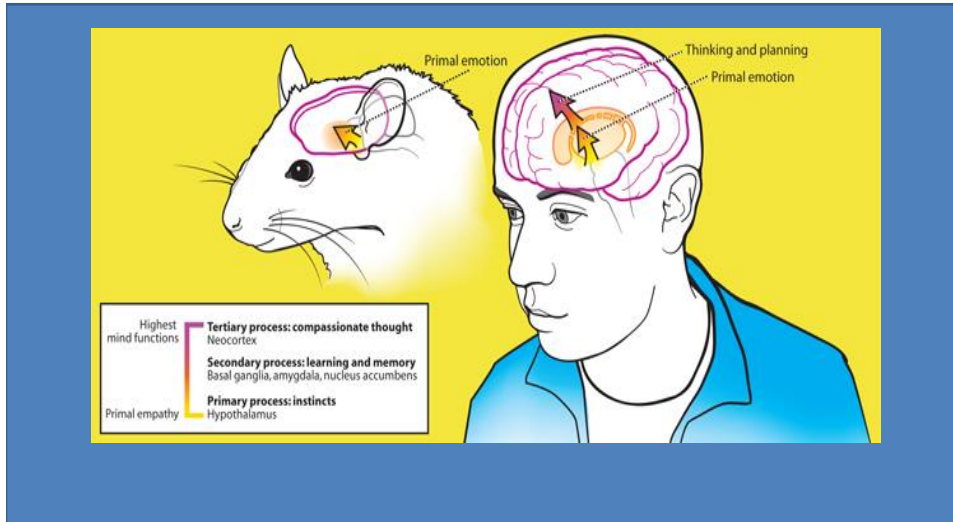
## Evolution and Play

- Eons of natural selection has resulted in all mammals developing playfulness as mechanism of survival
- Deprived of play, animals become emotionally impaired, more aggressive, and fearful
  - When play centers are removed: Rats won't come out of hiding after cat hair exposure
- Humans deprived of play show brain effects

## Evolution and Play



## Panksepp Research Methods



## Panksepp's Research Methods

“I removed the upper brain of the rat pups at 3 days of age. Amazingly the rats still played in a normal way. That meant play was a primitive process... **play helped animals to become socially sophisticated... That's why it's so important to give our kids opportunities for play.**” —Jaak Panksepp

Play and Brain Science

## Panksepp's 7 Basic Emotions

Seeking

Rage

Fear

Lust

Care

Panic/Grief

**Play**



## Panksepp: Play Benefits

“Our best hypothesis is that the primary-process emotional urge to play, when allowed abundant expression helps construct and refine many of the higher regions of the social brain.”

“It may be especially influential in refining our frontal cortical, executive networks that allow us to more effectively appreciate social nuances and develop better social strategies.”

## Evidence for Playful Intervention

- Over the last 5 years there has been a quiet revolution taking place in intensive intervention research
- Intensive means:
  - Start early 18 months-6 years of age
  - 1-2 hours per day
  - 1 on 1
  - Engaging intervention
  - Evidence based
  - Addresses key challenges for autistic youngsters

## Evidence for Playful Intervention

- Evidence for Parent Implemented Models that use a Developmental Relationship-based (PIM DRB) and playful approach is increasing dramatically
- Several review articles since 2015
  - Rigorous, randomized controlled studies
- Pointing to two major findings. . . .

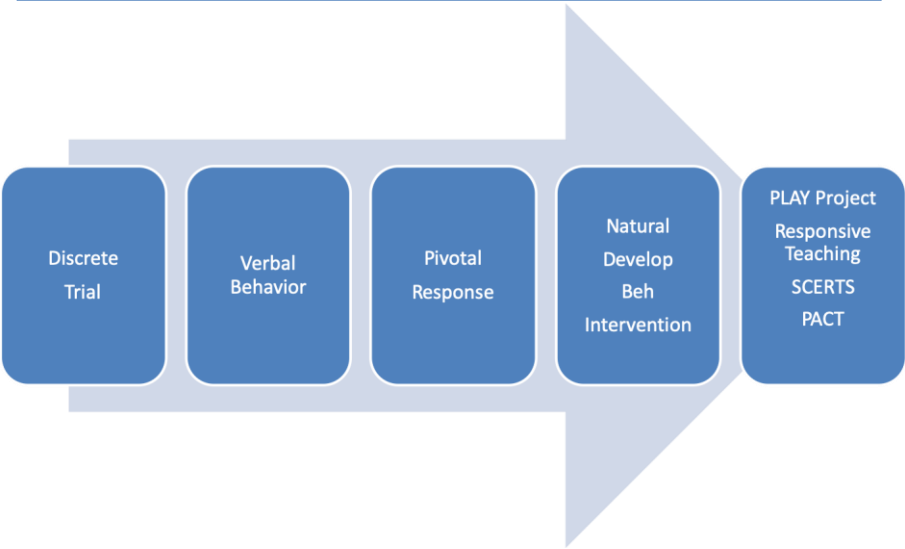
## Evidence for Playful Intervention

- First, parents can be empowered to engage their hard to engage children through coaching and play.
- **Second, children with ASD increased shared attention, engagement, initiation, and two-way back and forth interaction through play.**
- **In short, PIM DRB addresses the social deficits of ASD**

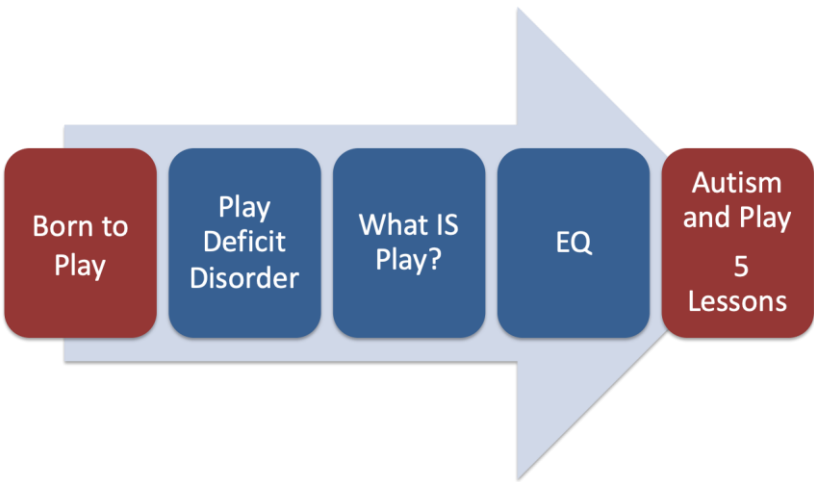
## Evidence for Playful Intervention

- Best Review (open access online):
- A Binns & J Oram-Cardy (2019) Developmental social pragmatic interventions for preschoolers with autism spectrum spectrum disorder: A sytematic review. *Autism & Developmental Language Impairments*. 4(1): 1-18 DOI: 10.1177/2396941518824497

# The Spectrum of Play Intervention



# Lesson #1: We are born to play!



## Lesson #1: We Are All Born to Play

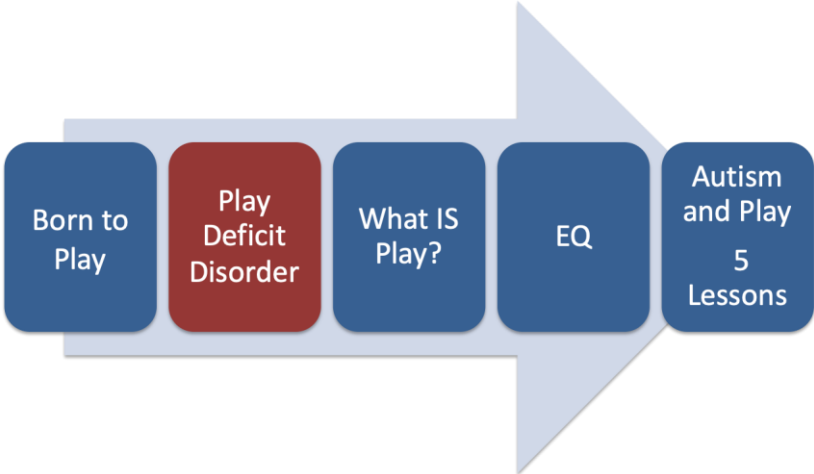
- We are all born to play. Everyone has it built in (whether they know it or not!)
- Play builds the brain circuits that lead to higher level social functioning
- Research shows that parents can learn to play and children with ASD improve in their social interaction. . .

### Born to Play

Even though we are born to play, there is one major threat to play's success....



Play Deficit Disorder



## Are We Really Facing a Play Deficit Disorder?



## Play Deficit Disorder

- Because of work, chores, and other obligations. . .

### ***American Families Spend Just 37 Minutes Of Quality Time Together Per Day, Survey Finds***

- Good news: Parents spend about two hours a day exclusively focused on their children when the kids are 6 years old or younger
- Michigan winters increase time together!
- Screens increasingly occupy more time

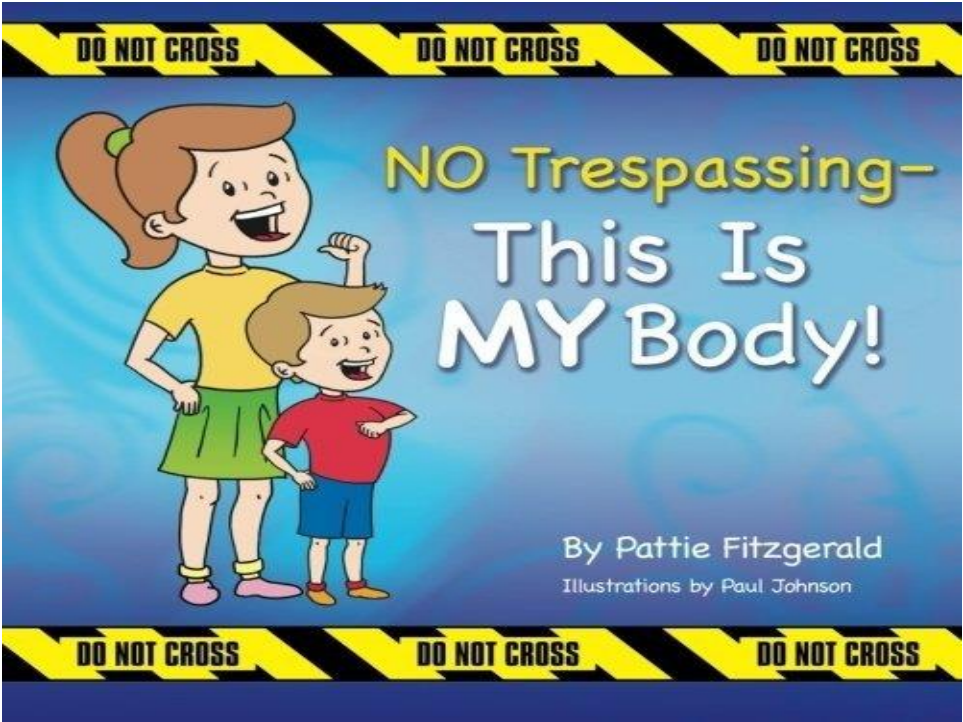
## Play Deficit Disorder

- Amer. Acad. Of Pediatrics recommends no screens until the age of 2 and limited exposure for young children 3-5 years old to 1-2 hours/day
- “The Common Sense Census”: American children ages 0 to 8 use **screen** media for an **average** of 2 hours and 19 minutes each day.
- On average, children ages 8-12 in the United States spend 4-6 hours a day watching or using screens, and teens spend up to 9 hours!

## Play Deficit Disorder

**We are becoming more fearful as a society leading to less play time and fewer play spaces?**





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## Play Deficit Disorder

“Over the decades, there has been a continuous and ultimately dramatic decline in children’s opportunities to play and explore in their own chosen ways.” — Peter Gray, Ph.D.

*Does it matter that we are losing play time?*

## Play Deficit Disorder

“Paradoxically we posit that our fear of children being harmed by mostly harmless injuries may result in more fearful children and increased levels of psychopathology.”



—Sandseter and Kennair,  
Norwegian U of Sci and Tech

## Play Deficit Disorder

- Since the 1950's questionnaires in unchanged form assess anxiety and depression on normative groups of school children in U.S.
- Results: A continuous, linear, increase in anxiety and depression in young people



## Play Deficit Disorder

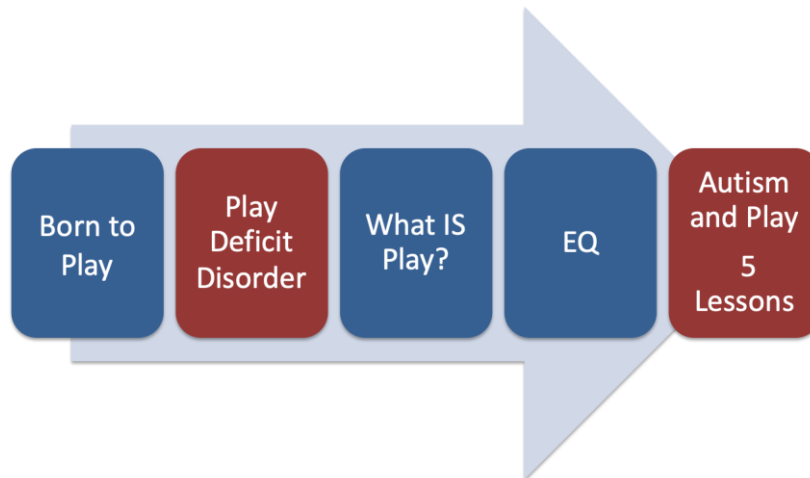
- Generalized anxiety disorder and major depression are five to eight times what they were in the 1950s
- Suicide rate 15 to 24 more than doubled, and for children under age 15 has quadrupled
- Decline in empathy
- Rise in narcissism

## Play Deficit Disorder

**“The rise in mental disorders among children is largely the result of the decline in children’s freedom”**

**—Peter Gray, Ph.D.**

## Overview



## Lesson #2: Reduce Play Deficits

- Beware of ‘over-civilization’
- For all children and especially for with autism there are **big threats**:

1. **Busy-ness, Screens, & Fears (Oh my!)**
2. **Fewer Play Spaces**
3. **Less Play Time**

## Lesson #2: Play Deficit Disorder



**Make time!**

1-2 hours per  
day **for play!**

## Lesson #2: Intensive Intervention

### **National Research Council (2001)**

- **Begin early: 18 month-5 years**
- **10-15 hours/week**
- **1:1 or 1:2**
- **Engaging**
- **Strategic & evidence-based intervention**
- **Address the social and developmental challenges of children with ASD**

## Lesson #2: Turn off the Screen!

- The easy lesson from PDD is to **limit screen time** to 1-2 hours per day max
- Use it when you, the parents, need it
- If or when you use it, join your child in it and make it social (if or when you can)
- PDD can lead to **true addiction**
  - It's okay to simply say 'No' and put tech away
  - But wean by 10%/week. No sudden 'No's'



## Lesson #2: Play Deficit Disorder

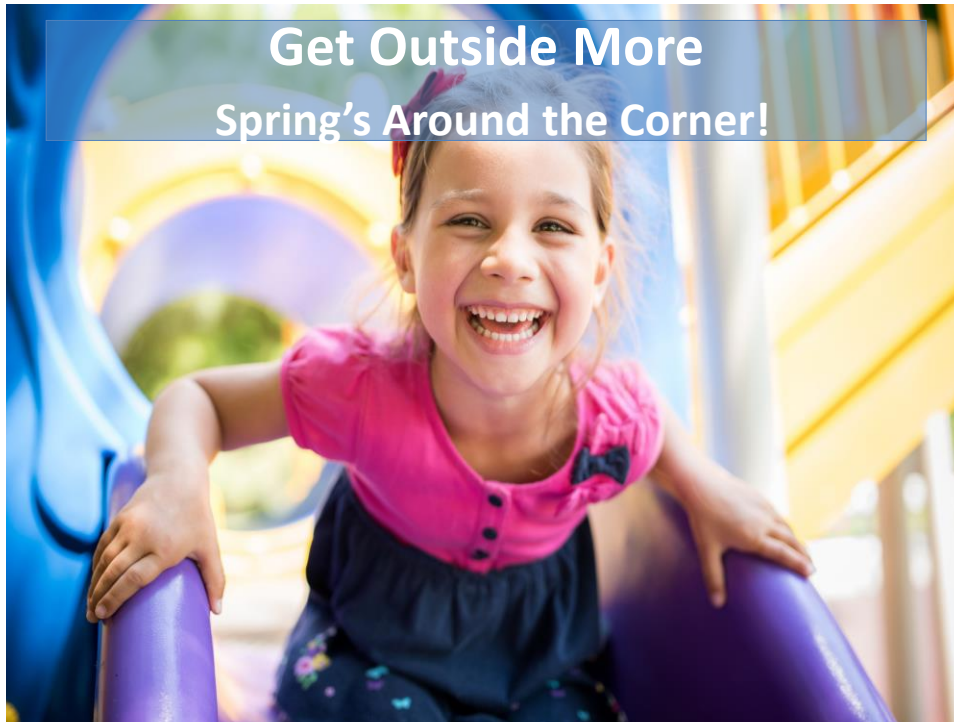
The harder lesson from PDD is to *promote more play spaces and spend more play time together!*

## Take Some Risks



## When I was a boy. . .





Get Outside More  
Spring's Around the Corner!

## Lesson #2: Play Deficit Disorder

- Delicate balance: 'Treatment' versus 'intervention'?
  - “Treatment” can turn the child into an object that must be fixed
  - “Intervention” is more playful & respects the child’s individuality
- PDD can be caused by too much treatment
  - We are *afraid* for our children’s future
    - But more is not necessarily better
- I have children who are ‘in treatment’ at age 2 or 3 for 40 hours per week
  - Children AND parents burn out too

**Lesson #2: Play Deficit Disorder**

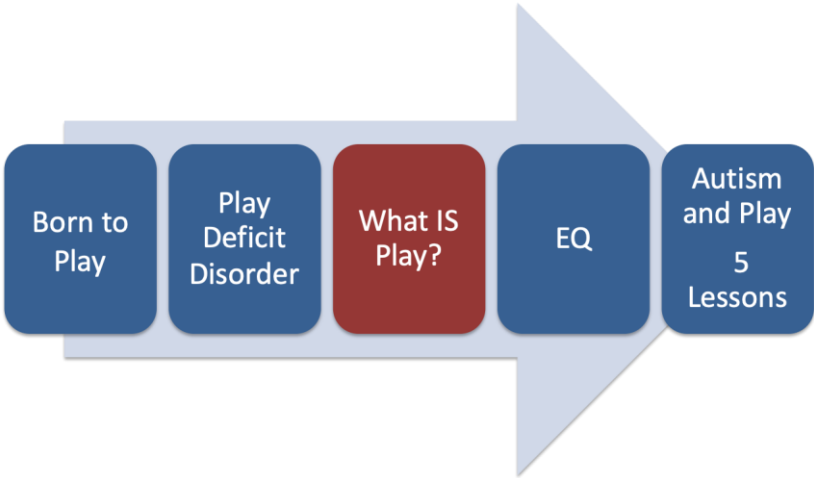
“If parents don’t take of themselves  
They can’t take good care  
of their families!”

—Dr. Rick

\*

Balance is the key  
And the key to balance is play!

**What is play?**



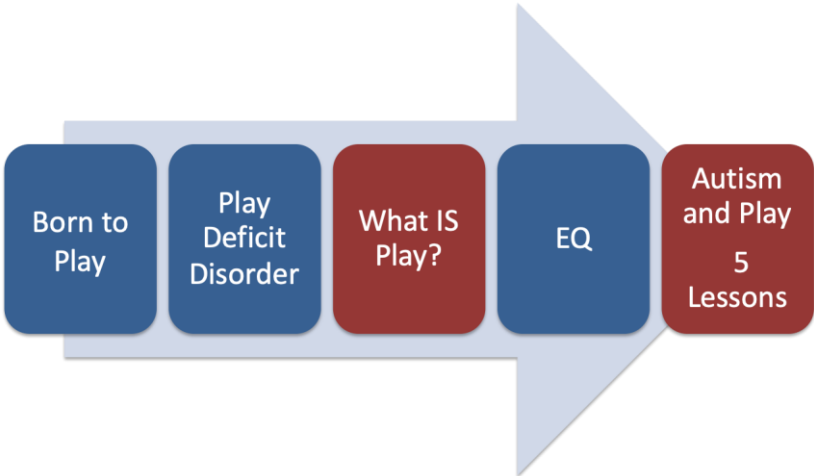
# What is Play?

## Neoteny

The retention of immature qualities into adulthood



# Overview



## What is 'Play': Peter Gray PhD

1. Play is **self-chosen and self-directed**; players are always free to quit.

### Lessons for Children with ASD:

*You can't 'teach' playfulness.*

*It's mostly about the child's idea!*

*(And they change their ideas all the time. You must follow!)*

## What is 'Play': Lessons

*"When you accept your child exactly where they're at, that's the fastest way to help them make progress."*

*—Dr. Rick*

## Definition of Play: Peter Gray, Ph.D.

2. Play is an activity in which *means* are more valued than *ends*.

### Lessons for children with ASD:

It's not about learning; it's about the fun & joy of *engagement*.

(But fun leads to learning!)

## What is 'Play': Lessons

*"When you do what the child loves,  
The child will love to be with you!"*

*—Dr. Rick*

## Definition of Play: Peter Gray, Ph.D.

3. Play has mental rules but **leaves room for creativity.**

### Lessons for children with ASD:

The child’s ideas are most important, but we can build on their ideas and they might like it.

The Child’s Idea of Fun Evolves with Developmental Level	
Lower Level Sensory/Cause and Effect	<ul style="list-style-type: none"><li>• Deep pressure, jumping, lining up</li><li>• Gently squeezing arms, leg, head</li><li>• Swinging in a blanket</li><li>• Up up up down down down</li><li>• Wrestling, rough and tumble</li></ul>
Middle Level Sequences/ Simple Pretend	<ul style="list-style-type: none"><li>• Peek a boo</li><li>• Wrestling, rough and tumble</li><li>• Chase: “I’m going to get you”</li><li>• Don’t wake up Daddy/Mommy!</li></ul>
Higher Level 1&2 Theme Pretend	<ul style="list-style-type: none"><li>• Pretend: crashing cars, tea party, dolly sleeping, sword fighting, dinosaurs chasing a man, etc.</li><li>• Real hide and seek, not just peek a boo</li><li>Real games: Duck, duck, goose</li><li>• Jokes</li></ul>

## Definition of Play: Peter Gray, Ph.D.

4. Play is **imaginative**, removed in some way from 'real' or 'serious' life.

### Lessons for children with ASD:

Paradoxically children with ASD who become imaginative can better understand 'real & serious life'

(More about the Power of Imagination later)

## Definition of Play: Peter Gray, Ph.D.

5. Play involves an **active, alert, but non-stressed frame of mind**.

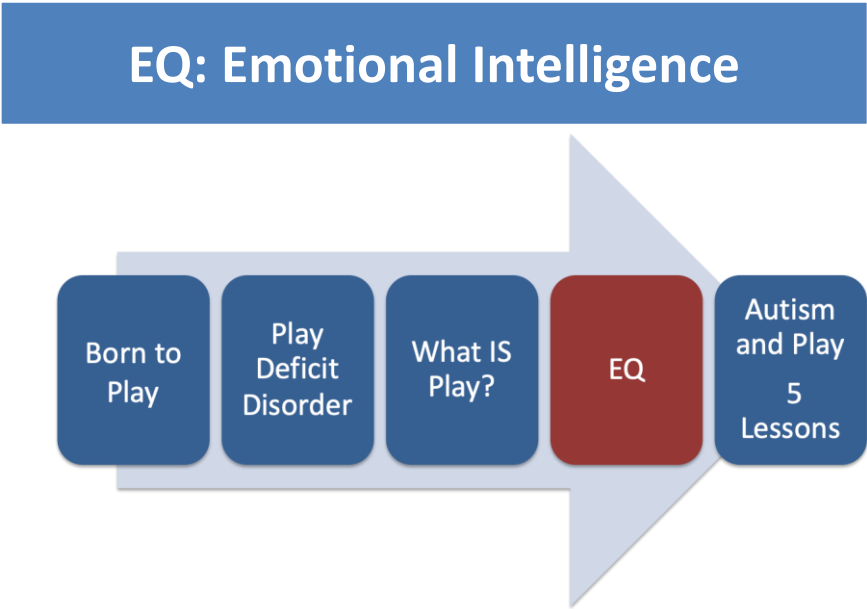
### Lessons for children with ASD:

Play means fully 'being with' the child in the moment and joining the child in a non-demanding, non-prompting, non-teaching, non-stressful, silly way.



Be Sillier





**Autism Spectrum Disorder: DSM 5**

**Challenges in social communication and social interaction:**

- Back-and-forth interaction/conversation
- Non-verbal/gestural communication
- Imaginative play
- Social emotional reciprocity
- Maintaining relationships

**Restricted or repetitive patterns of behavior or interests:**

- Insistence on sameness
- Fixed interests
- Sensory challenges



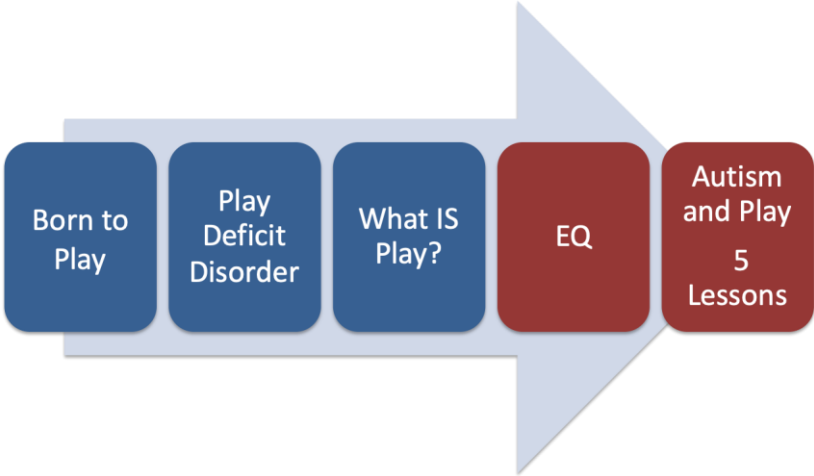
## Emotional Intelligence

- Which is more important to success in life?
- For the child with ASD, **EQ is more important**
- What are the key elements of EQ?

## Key Components of Social Skills



EQ: Emotional Intelligence



Lesson #4: Promote Imagination



## Lesson #4: Promote Imagination

- Imitative pretend
- Simple pretend
- Two idea pretend & role playing
- Ability to imagine the future and recreate the past
- Ability to imagine what others are thinking/feeling based on facial expressions

## What Are They Feeling?

(How Are You Thinking About Feelings?)



## Lesson #4: The Path of Imagination

- Language is now improving
- Simple wh—What, Where, Who
- Why, When, and How emerging
- Ability to tell you what a story is about
- Sense of time
- These children have marched up the language mountain through play

## Climbing the Language Mountain



**Conversations**  
**Expressive: Sentences**  
**Expressive: Single Words**  
**Receptive: Give/get Commands, Routines**  
**Expressive: Gestural Communication**  
**Two Way Back and Forth Interaction**  
**Engagement**  
**Shared Attention**

## Key Components of Social Skills



## The Feeling Life of the Child

- Play and pretend has prepared the way for more complex emotions:
- Role playing
  - Good guys and bad guys
  - Doctor
  - Doll play
  - School
  - Mommy and daddy
  - 100 year old man. . .

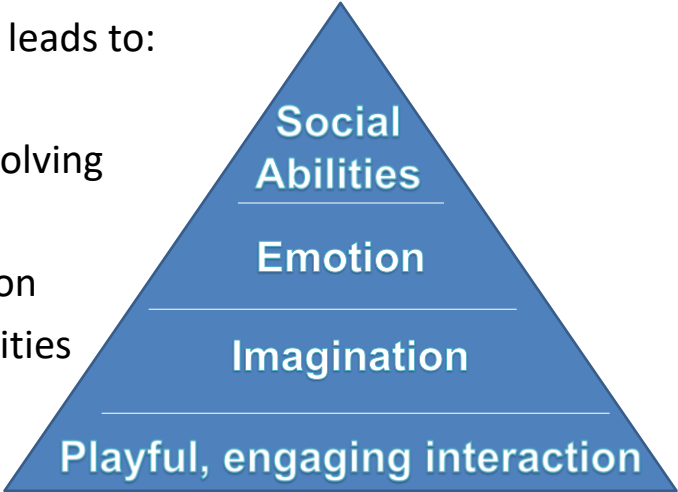
100 year old man



Key Components of Social Skills

Imagination leads to:

- Creativity
- Problem solving
- Empathy
- Compassion
- Social abilities

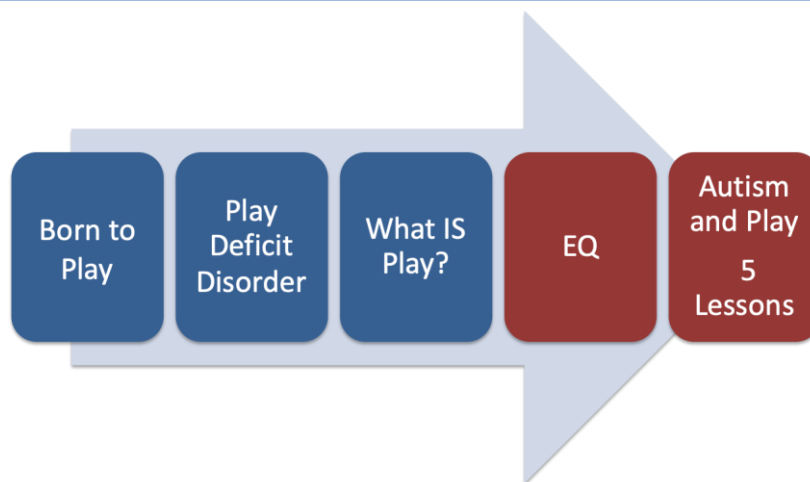


## Human Needs

- The child with autism is no different than any other human in their need for:
  - Attachment/Connectedness/Intimacy
  - Personal growth
  - Joy of living

It is through the growth of *imagination* and *emotion* that makes these possible

## Lesson #5: Value Feelings (And Misbehavior!)



## Play and Culture

**“Children at play reproduce and also recreate the specificities of their cultural environment.”**

Gosso Y. Play in different cultures. In Smith PK. *Children and play*. New York, NY: J. Wiley; 2010: 80-98.

## The Feeling Life of the Child

- Feelings are often dismissed in favor of:
  - Praise/rewards for prompted compliance
  - For going along and getting along
  - For being good, and nice, and kind and well mannered
- What about all those negative feelings of:
  - Wanting and not getting
  - Failing to succeed
  - Frustration, anger, rage!
- For children with ASD especially becoming mature emotionally means accepting all of their feelings

## The Feeling Life

“Misbehavior  
is the immature expression  
of *legitimate* feelings.”

—Dr. Rick

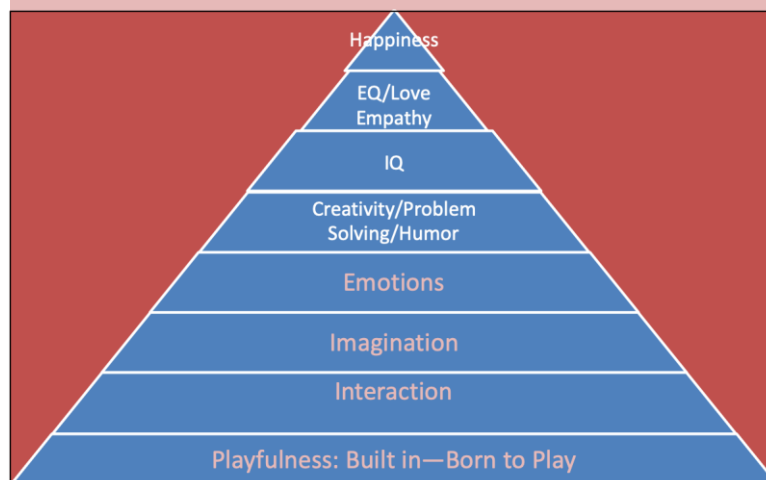
## The Feeling Life of the Child

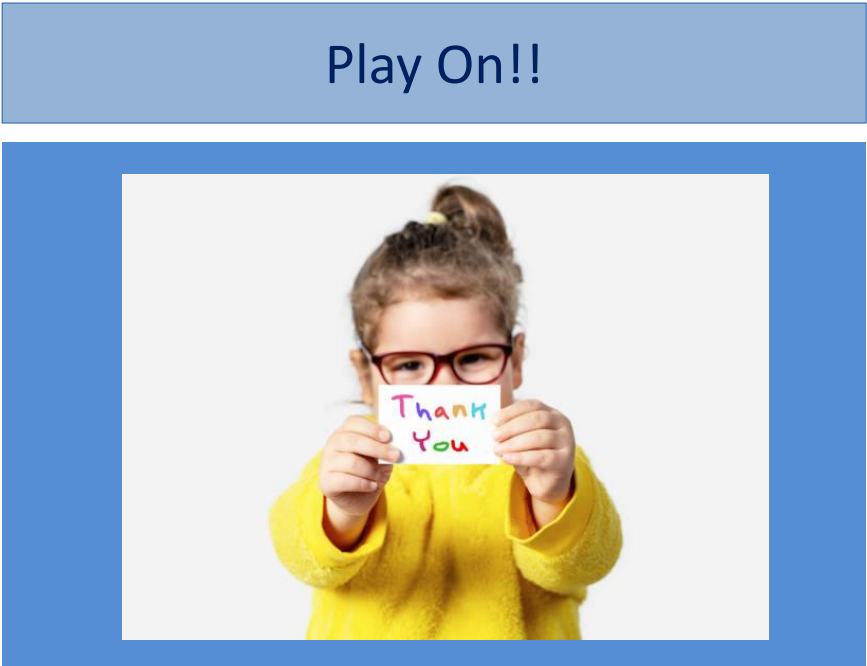
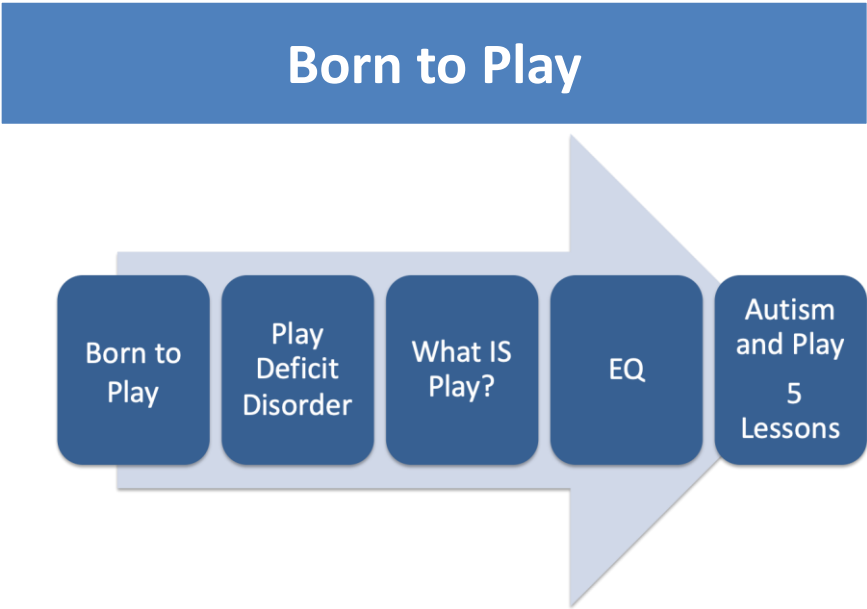
- First, recognize all strong feelings
- Mirror their feelings back in words
- Help them understand the various and complex *causes* of their feelings
- Help them become more mature, complex emotional thinkers

## Life Itself

- Eventually, then, *Life Itself* becomes the child's playground
  - Play merges with daily reality
  - We are no longer *just* playing
- We are helping our children evolve along a path of human potential

### ***The Path*** of Human Potential







[www.playproject.org](http://www.playproject.org)

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